

VA Office of Inspector General

OFFICE OF AUDITS AND EVALUATIONS



Department of Veterans Affairs

*Review of
the Replacement of the
Denver Medical Center,
Eastern Colorado Health
Care System*

September 21, 2016
15-03706-330

ACRONYMS

AE	Architect Engineer
AIB	Administrative Investigation Board
CBCA	Civilian Board of Contract Appeals
CD	Construction Documents
CFM	Office of Construction and Facilities Management
CO	Contracting Officer
DBB	Design Bid-Build
DD	Design Development
ECCA	Estimated Contract Cost at Award
ECMS	Electronic Contract Management System
FFP	Firm-Fixed-Price
FY	Fiscal Year
GAO	Government Accountability Office
IDc	Integrated-Design and Construct
JVT	Joint Venture Team
KT	Kiewit-Turner
OALC	Office of Acquisition, Logistics, and Construction
OGC	Office of General Counsel
OIG	Office of Inspector General
SA	Supplemental Agreement
SD	Schematic Design
SOP	Standard Operating Procedure
SRE	Senior Resident Engineer
UCH	University of Colorado Hospital
USACE	United States Army Corps of Engineers
VA	Department of Veterans Affairs

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EXECUTIVE SUMMARY

The Chairman and Ranking Member of the Senate Committee on Veterans' Affairs; the Chairman and the then Ranking Member of the House Committee on Veterans' Affairs; Congressman Mike Coffman, Chairman, Subcommittee on Oversight and Investigations, House Committee on Veterans' Affairs, and Congresswoman Ann Kirkpatrick, former Ranking Member, Subcommittee on Oversight and Investigations, House Committee on Veterans' Affairs; Senator Michael Bennet; and Congressman Ed Perlmutter requested the Office of Inspector General (OIG) evaluate the significant events that led the cost for the Denver Medical Center, Eastern Colorado Health Care System project (Denver project) to increase from the originally budgeted \$800 million to the current estimated cost of \$1.675 billion and to the major delays in construction.

We conducted our review from July 2015 through May 2016. We reviewed applicable laws, construction documentation, policies, and procedures for the Denver project. We obtained and reviewed prior audits, reviews, and extensive supporting documentation for this project. We visited the VA headquarters in Washington, DC, and the Denver project construction site. We interviewed numerous VA officials and staff responsible for the construction and contracting processes, U.S. Army Corps of Engineers (USACE) officials, and other officials of outside contractors involved in this project who were available to us. For additional information regarding the extent of our review, see Appendix B.

Results of Our Review

The Denver project has experienced significant and unnecessary cost overruns and schedule slippages. The concept for the project dates back to the late 1990s and was in response to the region's growth in the veteran population and the need to replace an aging and inadequate facility built in 1951. The new facility will be larger than the current facility by approximately 600,000 square feet. The Denver project will provide additional functional capability, such as more examination, treatment, and dental procedure rooms, as well as 30 beds designated for Spinal Cord Injury patients. (The existing hospital has none.) The project took years to start due to decisions under five former VA Secretaries that resulted in extensive changes to the concept, scope, and design of the project from 2000 through 2009. By October 2008, VA acquired approximately 30 acres of land in Aurora, CO, as the site of a new, stand-alone facility. In 2010, VA contracted with Kiewit-Turner (KT)¹ for pre-construction services and an option to construct the facility.

Congress appropriated \$800 million between 2004 and 2012 for the new medical center, which included funds for land acquisition, design, construction, and consultant services. VA's 2009 acquisition plan initially estimated approximately \$536.6 million in construction costs

¹ Kiewit Building Group and Turner Construction formed "Kiewit-Turner, a Joint Venture," for the Denver Replacement Medical Center, Eastern Colorado Health Care System.

alone for the Denver project, with construction planned to be finished in 2013.² However, current estimates for the project place the final cost at \$1.675 billion or more than twice VA's fiscal year 2009 approved \$800 million project budget. In addition, under the current plan, VA has eliminated a number of items in the original plans, including the Community Living Center (\$45 million), a solar photovoltaic system (\$20 million), interior signage (\$1.3 million), reductions in planned Clinic Building South renovations (from \$6.7 million to \$2.0 million), and \$5 million in other reductions such as landscaping. If any of these items are included in the future, VA will need to identify additional funds in its budget or seek additional appropriations.

Congress authorized VA to spend the necessary funds to complete the project on September 30, 2015. In addition, VA issued a task order to USACE to provide construction oversight of this project in October 2015. At that time, the construction was a little more than half completed. The project was estimated to be completed in January 2018, approximately 2 years after a new contract was awarded to KT on October 30, 2015. According to a VA official, activation³ of the hospital was estimated to take up to an additional 6 months from the completion of construction and cost an additional approximately \$315 million. This means veterans will not likely be served by a fully functioning facility before mid-to-late 2018 or almost 20 years after VA identified the need to replace and expand its aging facility in Denver. See Appendix C for a chronology of significant events in this project.

The Denver project's escalating costs and schedule slippages are primarily the result of poor business decisions, inexperience with the type of contract used, and mismanagement by VA senior leaders. This report summarizes the significant management decisions and factors that resulted in a project years behind schedule and costing more than twice the initial budget. We identified major points of failure that encompass a series of questionable business decisions by VA senior officials concerning planning and design, construction, acquisition, and change order issues involving the Denver project.

The following provides details, by phase of the project, of the various factors that we identified as significantly contributing to delays and rising costs in the Denver project.

Planning and Design Phase Issues

- VA senior leadership delayed the Denver project on multiple occasions by making extensive changes to the concept, scope, and design of the project. The frequently changing VA plans for serving veterans in eastern Colorado resulted in numerous delays in settling on a basic design plan and site. VA's indecisiveness delayed completion of the project to at least mid-to-late 2018 or almost 20 years since the need for the facility was established.
- Despite the fact VA set a budget for the project, VA failed to ensure its designer produced a design that could be constructed to meet the Estimated Construction Cost at Award (ECCA).

² The \$800 million appropriated included all costs associated with the project, including land acquisition, design, consulting services and construction. The Estimated Construction Cost at Award (ECCA) represents the target for the construction portion of the project. VA revised the ECCA from approximately \$555.8 million to about \$582.8 million in July 2010.

³ Activation comprises initial outfitting and transition activities such as furniture, fixtures, and equipment planning and procurement; operational and transition planning (including staffing); move management; installation testing and training; and project management and closeout.

According to many VA officials, the Joint Venture Team (JVT)⁴ designed the project beyond the needs of serving veterans. The design overly focuses on aesthetic features without adequate regard for associated costs or construction complexities. The design included elements that were considered by the construction contractor as well past the standard of care for a healthcare facility, such as custom glass, custom walls and wood, and custom floors.

- Although other more conventional and potentially simpler-to-construct options were considered by VA, a more complex design was chosen, which had implications for cost, constructability, and potential future expansion of the facility. The design chosen consists of many narrow 3-story buildings spread out on the Aurora site. Among other issues, in our opinion, it could potentially cause greater challenges for veterans, their families, and other visitors to access various services across the campus compared with a compact, multi-storied building with elevators.

Aside from failing to ensure a design that could be constructed to meet the ECCA, VA missed opportunities to reduce the cost. Among the more significant missed opportunities were the following:

- Senior VA officials disregarded warnings of rising costs on the project. VA officials disregarded warnings, internally and externally, that cost estimates were exceeding its budget.
- VA did not enforce the reconciliation of widely divergent cost estimates between its designer (the JVT) and construction contractor (KT), as contractually required. The reconciliation process is a tool for VA to obtain reasonable assurance the project could be built for the budgeted amount. However, VA did not enforce reconciliation provisions in the contract, thus limiting VA's ability to ensure the design could be constructed within project budget parameters.
- VA officials did not properly oversee the JVT. VA construction officials did not enforce contract provisions to ensure the JVT designed the Denver facility to meet the ECCA. VA officials indicated the JVT was both difficult to work with and not cooperative in making necessary design changes to meet the budget. VA officials suggested that the JVT resisted the changes because, under the contract terms with VA, the JVT would have to fund the re-design of the project, not VA. Therefore, the JVT had a vested interest in not engaging in a large and potentially expensive redesign of the project. Regardless of the difficulty in dealing with the JVT, in our opinion, VA should have enforced the contract provisions to meet the ECCA.
- Significant cost reduction suggestions resulting from a summit of VA and contractor personnel in early 2013 to bring the project back to within budget were mostly rejected by VA, and the few changes that VA agreed to were not incorporated into project designs. Although the meeting identified \$402 million in cost-savings proposals, construction progress combined with VA's slow decision-making progress resulted in most of the identified saving proposals being no longer feasible to include in the designs.

⁴ In 2006, VA signed a contract with the JVT to act as the project's Architect and Engineering (AE) firm. The JVT consisted of Skidmore Owings and Merrill Architects, S.A. Miro Inc., Cator Ruma and Associates, and H+L Architects, and has been under contract with VA for design services for the Denver project since January 2006.

- VA inadequately staffed the project in key areas, and VA senior staff did not respond to warnings that more staff was needed. Two USACE reports on the Denver project (2011 and 2015) identified the need for more staffing, such as contracting and engineering staff for the project. Gross mismanagement of staffing levels by Office of Construction and Facilities Management (CFM) officials and VA project managers left only one certified Contracting Officer's Technical Representative for the project, a junior Resident Engineer, from the summer of 2011 until the summer of 2012.

Construction Phase Issues

- In November 2011, responding to pressure to finish the project, VA senior leaders prematurely exercised the construction option of the contract with KT without complete designs. This option, embodied in Supplemental Agreement (SA)-07, was flawed as detailed in pages 26-29, and led to immediate disagreements and ultimately a 17-month lawsuit by KT against VA that resulted in a significant delay in the schedule, and increased costs for the project.
- Although the former Principal Executive Director of the Office of Acquisition, Logistics, and Construction, Mr. Glenn Haggstrom, possessed information that the Denver project was moving toward significantly exceeding the budget, he did not share this information with Congress while testifying in May 2013 and April 2014.⁵

Acquisition Strategy

- VA's decision to change its acquisition strategy from a Design Bid-Build (DBB)⁶ contract to an Integrated-Design and Construct (IDc) contract mid-stream was a significant factor in the Denver project's mismanagement, delays, and cost overruns. VA made this decision in 2010, or about 4 years into the project. The benefits VA hoped to derive from adopting the IDc approach, as described on pages 31-33, were largely not realized primarily because:
 - VA was inadequately experienced with IDc contracts.
 - Staff assigned to the project were inadequately trained on the IDc contract type.
 - VA brought KT onto the project too late for KT to be able to provide effective input to the design.
 - VA inhibited effective teamwork and communication among the parties involved in the IDc process, which hindered the IDc implementation.

⁵ Although Mr. Haggstrom possessed information that construction project was exceeding the budget, on both occasions when he testified before Congress, VA maintained that KT was contractually bound to complete the project within the ceiling price of \$610 million contained within SA-07. Ultimately, VA lost this argument when the Civilian Board of Contract Appeals rendered its final decision on December 9, 2014, *CBCA 3450*.

⁶ VA has historically used the DBB contract for major construction projects. With DBB contracts, the general contractor is not hired until the design documents are 100 percent complete.

Change Order Processing

According to numerous sources, a consistently identified weakness of the Denver project was the untimely processing of construction changes that increased the project's cost and resulted in delays. Our analysis validated this concern by the Government Accountability Office (GAO) and others (see pages 35-39). The data show that VA took from less than a day to 1,086 days, or almost 3 years, to process 633 of the 1,080 change requests (59 percent). Because VA lacked adequate and complete data, we were unable to quantify and analyze timeliness data for 447 change requests (41 percent). On average, VA took just under 264 days to process change requests (see pages 35-37, analysis of change request data). A complex review and approval process that lacked timeliness standards, insufficient staffing, significant increases in the quantity of change requests, and a lack of agreement on requested changes contributed to the delays. VA processed change requests that increased project costs by approximately \$44.1 million or about 7.6 percent of the ECCA.

Conclusion

The deficiencies of the management of the Denver project by VA have cost taxpayers hundreds of millions of dollars in increased project costs, and prevented veterans from having the use of a new medical center at an earlier time. Although VA contracted with USACE, at Congress' direction to turn over management of its largest construction projects to a non-VA Federal entity including management of the Denver project going forward, there are many important "lessons learned" that VA can apply to VA's remaining and future construction projects. Accordingly, we have offered a series of recommendations to VA, based on our work in Denver, to improve future major construction efforts. These recommendations include ensuring that cost estimates are reconciled as required; sufficient, adequately trained and experienced staff are assigned to major construction projects; disputes are resolved before proceeding when cost and schedule milestones exceed established thresholds; adequate acquisition plans for major construction projects are completed at each appropriate acquisition stage; and change requests are processed timely.

Agency Comments

The Principal Executive Director, Office of Acquisition, Logistics, and Construction concurred with our recommendations. Our summary of additional improvements taken by VA is included in Appendix G. In addition, the Principal Executive Director provided technical comments on our report, which we considered and addressed in the relevant sections of this report. The full text of the Principal Executive Director's response is included in Appendix H.



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INTRODUCTION

Objective

The replacement of the Denver Medical Center, Eastern Colorado Health Care System (Denver project) has experienced significant cost overruns and schedule slippages. Congress initially appropriated \$800 million for the project with completion estimated in September 2013. Current cost estimates for the project have more than doubled to \$1.675 billion, and project completion is now estimated to be in mid-to-late 2018.

The Chairman and Ranking Member of the Senate Committee on Veterans' Affairs; the Chairman and the then Ranking Member of the House Committee on Veterans' Affairs; Congressman Mike Coffman, Chairman, Subcommittee on Oversight and Investigations, House Committee on Veterans' Affairs, and Congresswoman Ann Kirkpatrick, former Ranking Member, Subcommittee on Oversight and Investigations, House Committee on Veterans' Affairs; Senator Michael Bennet; and Congressman Ed Perlmutter requested the Office of Inspector General (OIG) evaluate the significant events that led to major cost increases and schedule slippages for the Denver project.

We conducted our review from July 2015 through May 2016. We reviewed applicable laws, construction documentation, policies, and procedures for the Denver project. We obtained and reviewed prior audits, reviews, and extensive supporting documentation for this project. We visited the VA headquarters in Washington, DC, and the Denver project construction site. We interviewed numerous VA officials and staff responsible for the construction and contracting processes, U.S. Army Corps of Engineers (USACE), and other officials of outside contractors involved in this project who were available to us. Appendix B provides additional information regarding the extent of our review.

Background

The Denver project dates back to the late 1990s in response to the region's growth in the veteran population and the need to replace an aging and inadequate facility built in 1951. The new facility will be larger by 600,000 square feet and will provide additional functional capability, such as more examination, treatment, and dental procedure rooms, as well as 30 beds designated for Spinal Cord Injury patients (the existing hospital has none). In 2006, VA signed a contract with the Joint Venture Team (JVT)⁷ to act as the project's Architect and Engineering (AE) firm. After numerous revisions to the original plan, by October 2008, VA had acquired for the facility approximately 30 acres of land for about \$60 million in Aurora, CO.

⁷ The JVT consisted of Skidmore Owings and Merrill Architects, S.A. Miro Inc., Cator Ruma and Associates, and H+L Architects, and has been under contract with VA for design services for the Denver project since January 2006.

In 2010, VA contracted with Kiewit-Turner (KT)⁸ for pre-construction services and an option to award KT with the new facility's construction. VA exercised the construction option with KT in late 2011 for approximately \$604 million and construction began shortly thereafter. Disagreements with KT and issues related to the design resulted in a 17-month dispute before the Civilian Board of Contract Appeals (CBCA) beginning July 8, 2013.

The CBCA found, on December 9, 2014, that VA had breached its contract with KT, concluded that VA had not provided a design capable of meeting the Estimated Contract Cost at Award (ECCA), and that by requiring KT to continue performance without funding the cost increases, VA had unfairly forced KT to fund the project. The CBCA concluded that KT was not required to continue performance and was entitled to stop work because of the likelihood that VA would not obtain congressional approval for additional funding or to redesign the project. KT began demobilizing from the project.

Ten days after losing the lawsuit to KT, VA negotiated a new agreement with KT, which resulted in continued construction work on the project while seeking an additional \$775 million to fund completion. The agreement contained the following conditions:

- Funds were set aside to be used to resolve subcontractor liabilities created by VA breaches, acts, and omissions as found in the CBCA decision
- USACE assumed immediate presence on the project to advise, support, and consult
- An interim cost-reimbursable plus fixed-fee contract for \$70 million was established

In June 2015, VA informed Congress that the estimated cost to complete the project would be \$1.675 billion and that VA would need an additional \$775 million to finish the project. To arrive at the \$1.675 billion estimated cost, VA eliminated items in the original plans such as the Community Living Center (\$45 million), a solar photovoltaic system (\$20 million), interior signage (\$1.3 million), reductions in planned Clinic Building South renovations (from \$6.7 million to \$2.0 million), and \$5 million in other reductions such as landscaping. If any of these items are included in the future, VA will need to identify additional funds in their budget or seek additional appropriations.

⁸ Kiewit Building Group and Turner Construction formed "Kiewit-Turner, a Joint Venture," for the Denver Replacement Medical Center, Eastern Colorado Health Care System.

Given the significant criticism from Congress, Veterans Affairs committees, and others for cost overruns and schedule slippages, VA appointed an Administrative Investigation Board (AIB) in March 2015 to investigate VA senior leadership decisions and actions related to the Denver project. The AIB report found flawed execution of management decisions made by VA senior leaders and other factors that contributed to project delays and cost overruns, and provided 10 recommendations. The AIB conclusions are consistent with our findings.

According to VA's Office of Construction and Facilities Management (CFM) senior officials, in late August and early September 2015, VA had only enough funding to continue work on the project through the first week of October 2015. However, on September 30, 2015, the President signed the *Department of Veterans Affairs Expiring Authorities Act of 2015*. Under this law, Congress increased the authorized funding for the Denver project from about \$1.1 billion to \$1.675 billion. It further authorized VA to fund this increase by transferring discretionary unobligated balances appropriated for fiscal year (FY) 2015 and discretionary advance appropriations for FY 2016.

This law also directed the VA Secretary to enter into an agreement with an appropriate non-VA Federal entity to provide full project management services for any "super construction projects" (projects estimated to cost over \$100 million). In anticipation of the congressional requirement for another entity to manage its construction projects, VA signed a \$5 billion Interagency Agreement with USACE in July 2015 for completion of the Denver project and other super construction projects.

In addition, under a prior Interagency Agreement with VA, USACE would provide project assessments to VA in support of VA's interim contract with KT and plan a new contract to complete the Denver project. In October 2015, VA issued a task order to USACE to provide oversight of the Denver project for an estimated cost of \$40 million. At the time, the project was a little more than half completed. On October 30, 2015, USACE finalized a new contract with KT for approximately \$570.7 million of additional funds to complete the project with an estimated construction completion date of January 2018.

**Other
Information**

- Appendix A provides additional background information on construction contracts.
- Appendix B provides details on our scope and methodology.
- Appendix C provides a chronology of the major project events.
- Appendix D provides details on key organizations and individuals.
- Appendix E provides a summary of external reports on the Denver project.
- Appendix F provides design submittal phases.

- Appendix G provides recent efforts to improve major construction project management.
- Appendix H provides the Principal Executive Director of VA's Office of Acquisition, Logistics, and Construction comments on our report.

RESULTS AND RECOMMENDATIONS

Finding 1 VA Inadequately Planned and Designed the Denver Replacement Medical Center

We determined that one of the most significant factors affecting the Denver project's substantial and unnecessary cost overruns and schedule slippages was caused by VA's failure to ensure its designer produced a design that could be constructed to meet the Estimated Construction Cost at Award (ECCA).⁹ These issues were largely due to poor business decisions and mismanagement by VA senior leaders concerning project planning and the design of the Denver Replacement Medical Center. Specifically:

- **Plans changed frequently.** The project took years to start due to decisions under five former VA Secretaries that resulted in extensive changes to the concept, scope, and design of the project from 2000 through 2009. The frequently changing VA plans for serving veterans in eastern Colorado resulted in numerous delays in settling on a basic design plan and site.
- **The design concept was complex and costly.** According to many VA officials, the JVT designed the project beyond the needs of serving veterans. The design overly focused on aesthetic features without adequate regard for associated costs or construction complexities. Although other more conventional and potentially simpler to construct options were considered by VA, a more complex design was chosen, which had implications for cost, constructability, and potential future expansion of the facility. The design included design elements that were well past the standard of care for a health care facility, such as custom glass, custom walls and wood, and custom floors.
- **Senior VA officials disregarded warnings of rising costs on the project.** VA officials disregarded warnings, internally and externally, that cost estimates were exceeding its budget, and did not reconcile varied cost estimates between its designer (the JVT) and construction contractor (KT), as contractually required.
- **VA did not adequately manage the design team.** Despite the fact that VA set a budget for the project and had a contract with its design team (the JVT) that required a design to conform to the ECCA, VA did not ensure the JVT produced a design that could meet the ECCA target.

⁹ The \$800 million appropriated included all costs associated with the project, including land acquisition, design, consulting services, and construction. The ECCA represents the target for the construction portion of the project. VA established the ECCA in August 2009 at approximately \$555.8 million. VA revised the ECCA to about \$582.8 million in July 2010.

VA's lack of enforcement of contract terms with the JVT was one of the primary reasons cost estimates for the project continued to increase.

- **Cost-reduction efforts failed.** Cost-reduction efforts (value engineering) organized by VA in early 2013, which were efforts to change or eliminate design elements to reduce costs, failed to bring the design back to budget.
- **Staffing was inadequate.** VA inadequately staffed the project in key areas, but VA senior staff did not respond to warnings. The September 2011 USACE preliminary report on the Denver project identified the need for more contracting and engineering staff.¹⁰ In December 2011, USACE recommended VA add additional contracting professionals to the project and identified a need for administrative support for management of correspondence, technical management, and document control for the project. USACE reported again in June 2015 that shortages of local VA staffing, particularly contract management staff, could affect the completion of the Denver project because of its vast size and major changes in scope.

VA's 2009 acquisition plan initially estimated that the Denver project would cost approximately \$536.6 million to build, with final construction completed in 2013. The total budget, including the costs associated with land acquisition, facility design and construction, and consultant services, was \$800 million and appropriated by Congress from 2004 through 2012. The total estimated cost for the project, however, has more than doubled, from \$800 million to \$1.675 billion. Construction is now estimated to be completed a little more than 2 years after the new contract was awarded to KT on October 30, 2015.

¹⁰ USACE provided a preliminary report to VA in September 2011 and a final report in December 2011.

Table 1 shows the cost increases by building based on the difference between the estimated construction cost attributed to each building by KT in January 2011 and CFM in June 2015.

Table 1. Construction Cost Increases by Building and Other Element Increases
(in millions)

Building/Element	KT (January 2011)	VA (CFM) (June 2015)	Increase (dollars)	Increase (percent)
Inpatient North	\$50.7	\$124.4	\$73.7	145%
Inpatient South	\$52.7	\$141.1	\$88.4	168%
Clinic Building North	\$38.0	\$90.1	\$52.1	137%
Clinic Building Center	\$35.8	\$88.0	\$52.2	146%
Clinic Building South	\$26.8	\$51.6	\$24.8	93%
Diagnostic and Treatment	\$109.4	\$299.4	\$190.0	174%
Research	\$29.2	\$79.6	\$50.4	173%
Concourse	\$81.4	\$120.7	\$39.3	48%
Energy Center	\$47.7	\$118.6	\$70.9	149%
Parking Staff	\$27.7	\$63.2	\$35.5	128%
Parking Visitor North	\$22.2	\$78.3	\$56.1	253%
Parking Visitor South	\$16.6	\$39.1	\$22.5	136%
Site Development	\$38.2	\$187.2	\$149.0	390%
Community Living Center	\$13.4	\$0.0	N/A	N/A
Total Construction***	\$589.8	\$1,481.3	\$904.9	153%
Non-Construction*	\$210.2**	\$193.7	(\$16.5)	(8%)
Totals	\$800.0	\$1,675.0	\$888.4	111%

Source: VA OIG analysis of KT Design Development 1 costs estimated in January 2011 and VA (CFM) in June 2015

Note 1: Percentages and amounts have been rounded for reporting purposes.

Note 2: According to the Denver Medical Center Director, a Posttraumatic Stress Residential Rehabilitation Program Facility was planned using minor construction funding. Therefore, it was not included in KT's January 2011 cost estimate nor JVT's May 2011 cost estimate. According to the June 2015 letter to Congress, VA has deferred the construction of the facility.

* Non-construction costs include the cost of land, design, and construction support costs.

** The initial non-construction costs are the difference between KT's construction estimate and the budget of \$800 million.

*** Total construction for VA (CFM) (June 2015) and total increase (dollars) does not include the Community Living Center, which was removed from the initial contract. In June 2016, CFM estimated that the cost of the Community Living Center would have been \$45 million.

According to a VA official, activation¹¹ of the hospital is estimated to take up to an additional 6 months and cost approximately \$315 million, which is in addition to the \$1.675 billion budget. This means veterans may not have a fully functioning facility before mid to late 2018. This will be almost 20 years after VA first identified the need to replace and expand its existing facility in Denver to serve a growing veteran population.

***Frequent
Changes in
Plans Delayed
Start of the
Project***

The project took years to start due to decisions by senior VA leaders that resulted in extensive changes to the concept, scope, and design of the project from 2000 through 2009. The frequently changing VA plans for serving veterans in eastern Colorado resulted in numerous delays in settling on a basic design plan and site. Significant changes to the plans occurred under five former VA Secretaries.

- The initial concept to replace the Denver VA Medical Center began in the late 1990s after the announcement that the Fitzsimons Army Medical Base in nearby Aurora, CO, would be closed. In 2000, during the tenure of then VA Secretary Togo West, Jr., VA and the University of Colorado Hospital (UCH) began discussions to build a shared facility on the newly available land.
- In March 2002, a VA consultant's report recommended VA share a hospital with UCH. VA prepared a formal request that Congress fund a 753,000-square-foot shared medical center. However, VA did not submit the request.
- In 2004, then VA Secretary Anthony Principi announced that VA would share a facility with UCH. VA estimated the facility on the Fitzsimons site would be approximately 1.4 million square feet with VA's estimated portion of the project cost being about \$328 million. Congress began providing appropriations for the project in 2004.
- In December 2004, VA Secretary Principi ended the joint venture with UCH and decided to build a stand-alone VA medical facility on the Fitzsimons site in Aurora, CO.
- In April 2007, then VA Secretary Jim Nicholson announced plans to build a new medical facility. VA estimated that the approximately 1.4-million-square-foot facility would cost about \$621 million.
- However, according to a Veterans Health Administration official, in November 2007, the JVT submitted a schematic design¹² for a

¹¹ Activation comprises initial outfitting and transition activities such as furniture, fixtures, and equipment planning and procurement; operational and transition planning (including staffing); relocation management; installation testing and training; and project management and closeout.

¹² Schematic design documents develop the concept plan selected by VA to a level of detail that includes specific functional requirements and establishes the aesthetics of the design. This was about 380,000 square feet more than VA eventually settled on. See Appendix F for details about each design submittal phase.

1.58-million-square-foot campus they estimated would cost \$1.1 billion. According to VA officials, then VA Secretary James Peake rejected the plan in early 2008 as too costly.

- By October 2008, VA had procured approximately 30 acres of land for about \$60 million on the edge of the Fitzsimons site. VA opened discussions with UCH to build an approximately 807,000-square-foot facility, and shared inpatient, emergency room, surgery, and research with UCH. Despite these discussions, VA requested \$769.2 million in its FY 2009 budget request to build a 1.4-million-square-foot medical center.
- In March 2009, VA once again discontinued plans for a shared facility with UCH and then VA Secretary Eric Shinseki approved a full-service replacement medical center with a total estimated cost of \$800 million, which included items such as the cost of land acquisition, design, construction, and consultant services. To meet VA's 2009 acquisition plan budget, which initially estimated the Denver project construction costs at approximately \$536.6 million with final construction completed in 2013, VA reduced the JVT's schematic design submitted in November 2007 to about 1.1 million square feet.
- VA held the ceremonial ground breaking on August 22, 2009.

***Complex and
Costly Design
Concept***

VA did not choose a conventional model for the project, which had implications for cost, constructability, and potential future expansion of the facility. The JVT design, delivered to VA in August 2012 for the chosen linear model, was difficult to construct, costly to build, and went well beyond VA's patient needs, according to many VA officials. The expensive features of the design, detailed below, were one of the primary reasons this facility could not be built within VA's \$800 million budget.

***Complex
Design
Concept***

According to the JVT's October 2008 Master Plan and Design Concept for the project, three options were developed:

- Conventional Tower Model—a central tall tower with shorter buildings attached resulting in a small footprint, which is a typical hospital configuration
- Campus Model—a group of rectangular buildings close together
- Linear Model—buildings in a single row with a connecting corridor

The JVT advanced the linear model for the Aurora site because they believed it “best responded to the Guiding Principles” of the project, which concerned holistic needs, such as the overall well-being, physical, psychological, and social needs of the veterans served by the facility and their families. The proposed linear model consisted of many, narrow, 3-story buildings spread out across the Aurora site, connected by an approximately 1,100-foot, 3-story curved concourse. Among other issues, in our opinion, the campus

configuration could potentially make it more challenging for veterans, their families, and other visitors to access various services across the campus compared with a compact, multi-storied building with elevators. The JVT provided the following description of the goal of its design plans.

Using narrower footprints and courtyards means that no one has to spend an entire workday out of reasonable proximity to a window. The exterior spaces between the buildings will be landscaped gardens, designed for either casual use by veterans and staff or for particular use by individual patient groups. The interior landscaping and the exterior landscaping will weave together visually, creating a sense of continuity with nature.

According to the former senior resident engineer (SRE), VA accepted the JVT's design recommendation with the assurance from the JVT that the design could be constructed within the budget. However, the unique features of the JVT's linear model drove the cost of the Denver project significantly beyond the cost of constructing a more traditional and cost-effective design. In addition, this design resulted in a larger footprint than using a simpler, conventional design that would have required less horizontal space on the approximately 30-acre parcel. In an April 2015 interview conducted by the AIB, VA's former SRE on the project noted that, in October 2010, he informed the former Principal Executive Director of the Office of Acquisition, Logistics, and Construction, Mr. Glenn Haggstrom, that the design essentially filled up the landlocked site, limiting future expansion potential.

*VA Warned
Design
Would Be
Costly*

The VA project team was warned that the JVT's design would likely be costly, before the design was completed in August 2012. In spring 2011, VA's construction manager consultant, Jacobs Engineering Group (Jacobs), began assisting with the day-to-day management of the project. VA had previously contracted with KT to perform pre-construction services on the project. Members of both firms independently warned VA that the design would not result in the most economical use of construction funds. (Pages 18 through 20 of this report provide detailed information on rising cost estimates).

In an April 2015 AIB interview, a Jacobs employee stated that in early 2011, he studied the plans for the project that was partway through design development. He noted the expensive configuration of the project and stated that he discussed his concerns with members of the VA project management team. He stated that the response from VA officials was that it was too late to make sweeping changes to the design. KT claimed the designer was including design elements that were well past the standard of care for a health care facility, such as custom glass, custom walls and wood, and custom floors.

*Expensive
Design
Elements*

The JVT's design included unnecessarily expensive and complicated elements, including the use of underground parking to preserve mountain views, natural lighting, and extensive landscaping of garden patios in between and around buildings. It also used natural materials for interior finishes, such as stone for paving, to enhance the environment and convey the sense of being outdoors while in the facility. Figure 1 provides an overview of some of these expensive elements, such as curved walls and the concourse, that were part of the JVT's design and resulted in both constructability issues and higher costs.

Figure 1. Denver Replacement Facility Overview



Source: Skidmore, Owings & Merrill LLP Web site

*Multiple
and Curved
Buildings*

VA's decision to support the design of many smaller buildings (3-story) built far apart (as compared to fewer, taller buildings), and the use of curved walls on some of the buildings affected the cost and constructability. The horizontal layout increased exterior wall surface area, and more exterior wall square footage added to the construction cost. According to the SRE, the JVT assured VA it was within budget despite the design, so VA officials did not question the multi-building approach.

The curved wall feature of some of the buildings was put into place for aesthetic purposes only. CFM's Director of Facility Planning stated that a rectangular design would be much more flexible to meet future health care needs and building a curved wall did not offer the speed or ease of prefabrication that existed with rectangular buildings. In addition, the SRE stated that curved walls also complicated the interior finish designs to complete the gaps created when placing a long, straight interior element,

such as a light fixture, across the point where the steel connects to make the curve. The interior finishes had to be designed and engineered to fill those gaps, which would not be necessary if the exterior walls had been straight. KT also stated in February 2011, in a cost estimation document, that it applied a 40 percent labor rate to the structural steel and exterior closures rather than the standard 20 to 33 percent due to the curved configuration of the concourse and the intricate detail.

Curtain Walls

The facility design also included many segmented glass exterior walls, which are known as curtain walls. Curtain walls were used to provide additional light and exterior views. They are made of multiple glass panels that are manufactured offsite and arrive onsite in large sections. VA used small paneled sections, which are installed by lifting individual panels by crane and sliding them individually into brackets. Project officials stated that a limited number of fabricators were able to manufacture the panels and at significant cost. During an April 2015 AIB interview, VA's former project executive estimated that VA paid about \$30 million more for the curtain walls than for a standard wall system.

There were also delays due to unresolved issues caused by the complexities of installing the curtain walls. The unfinished design of the curtain wall created delays in pouring wall foundations and caused delays in the manufacture and installation of the curtain wall panels. This lack of design continued to have repercussions as late as September 2015 as KT continued to rework the placement of the wall mounts embedded in the concrete foundations.

Figure 2 shows the curved curtain walls of the Inpatient Building South.

Figure 2. Curved Curtain Wall Along Inpatient Building South



Source: Jacobs Engineering Group onsite inspection, October 9, 2015

Zig-Zag Walls

The JVT designed the buildings using curtain wall paneling in different ways. While many of the curtain walls appear flat, the western side of the concourse contains curtain walls that have a saw-tooth, zig-zag appearance.

The purpose of the zig-zag wall in the design was described by the JVT as shading devices to modulate the effect of the sun while still providing daylight and views.

VA, Jacobs, and KT officials considered the zig-zag wall unnecessary. Inclusion of this design feature was driven more by aesthetics than function. However, no action was taken in the early design phase to make changes. Figure 3 shows side (left photo) and top views (right photo) of the zig-zag wall along the concourse.

Figure 3. Zig-Zag Curtain Walls Along Concourse



Source: Jacobs Engineering Group onsite inspection, October 9, 2015

Concourse

One of the most commented upon features of the Denver project design is a multi-level, curved, glass-walled, concourse. The JVT described the concourse as “Main Street” in its October 2008 Master Plan and Design Concept for the project. It is approximately 1,100-feet long, with a 3-story high, arched roof and Rocky Mountain views. This concourse serves as the connector between the various facility wings. The concourse also includes a curved roof, high ceilings, and walkways across the concourse at various levels. Plans for the concourse also include a multi-purpose room, dining area, and amenity areas such as retail space and a coffee shop.

A Jacobs official told the former VA Denver project executive that the layout of the hospital was unusual, more closely resembling a shopping mall than a hospital. The Jacobs official also advised the same executive that the concourse would be expensive to build. In January 2011, KT estimated the concourse would cost about \$81.4 million. In 2015, CFM estimated the cost of the concourse had ballooned almost 50 percent to approximately \$120.7 million. Figure 4, the exterior view (left photo) shows the glass exterior concourse curtain wall during installation. The interior view (right photo) shows the high ceilings, glass interior walls, and the curve of the concourse.

Figure 4. Concourse During Construction



Sources: Exterior view photo taken by Jacobs Engineering Group onsite inspection staff and provided October 9, 2015. VA onsite project staff took the interior view photo on October 6, 2015.

Parking Structures

The facility includes three parking structures—two above ground and one underground. KT’s original price estimate prepared in January 2011 shows the cost of the originally designed three structures to be approximately \$66.5 million. The current VA estimate for completing the three garages is about \$180.7 million or approximately three times higher than KT’s initial estimate.

Part of the reason for the high construction cost of the parking garages is the inclusion of an underground parking structure built in the center of the facility to create a plaza and to preserve the mountain views from the rest of the structure. The questionable choice by VA to construct an underground garage for largely aesthetic reasons resulted in higher costs to the project and additional project delays. The JVT described the plaza as a front door to the outpatient facility and an iconic entry for the south end of the medical center.

The SRE stated that, typically, the cost to build a parking garage is approximately \$10,000 per stall. The cost for the below ground structure is closer to about \$50,000 per stall. Originally, the structure was designed to be three levels underground, with the third level below the water table. Although the water table was known at the time of design, it was not known that the water was contaminated and had to be treated before work could proceed. Eventually, the structure had to be redesigned causing an approximately 10-month delay in completion, and had a ripple effect on other parts of the facility’s construction. Since the steel for the south end of the concourse directly connects to the parking structure, delays in progress of

the garage concrete structure resulted in delays constructing the concourse and the adjacent buildings. Figure 5 shows the plaza area and landscaping walls, which cover the underground parking structure.

Figure 5. Parking Visitor South (Underground Parking)



Source: Jacobs Engineering Group onsite inspection, October 9, 2015

In addition, a VA resident engineer estimated the two above ground garage structures would cost twice as much as the adjacent and recently completed Children’s Hospital Colorado parking garage. The VA resident engineer noted that the Denver project’s garages have exterior precast concrete walls that add costs significantly greater than in traditional parking garage construction.

**VA Has
Experience
With Less
Expensive
and Complex
Designs**

VA has recent experience building a major medical center with a simpler design that cost less than half of the Denver project’s estimated construction costs. In contrast to Denver, the new VA Southern Nevada Healthcare System facility was built in North Las Vegas, NV, for about \$620 million. This facility, which broke ground in 2006 and was dedicated in August 2012, was constructed using tall, attached buildings. This is a more commonly used design for hospitals. In the spring of 2011, Jacobs suggested a similar design with fewer buildings be used in Denver to reduce costs, which would eliminate the large concourse structure to connect the buildings. The SRE also suggested stacking the inpatient and outpatient buildings to save costs because it would reduce the exterior wall surface area of the Denver project’s multiple building design. During our exit conference with VA officials in April 2016, the executive director of CFM agreed that if VA had chosen a similar, simpler design for the Denver facility, the price would not have been as high as it appears it will ultimately cost.

The Las Vegas facility is 1.3 million square feet, slightly larger than the Denver facility at 1.2 million square feet. However, the Las Vegas facility cost significantly less than the Denver facility, in part, due to the simpler design.¹³ Figures 6 and 7 show the design layout of the recently completed Las Vegas facility.

Figure 6. Aerial View of the VA Southern Nevada Healthcare System



Source: VA Southern Nevada Healthcare System Web site

Figure 7. Ground Level View of the VA Southern Nevada Healthcare System



Source: Las Vegas VA Medical Center design contractor RTKL Associates, Inc. Web site, retrieved on October 5, 2015

¹³ The current estimated cost for the Denver project is \$1.675 billion less about \$60 million for land and the roughly \$180 million for parking structures. The Las Vegas facility did not incur these costs, which results in \$1.43 billion versus about \$620 million for the Las Vegas facility.

**VA Officials
Disregarded
Warnings That
Costs Trended
Above the
ECCA**

Senior VA officials disregarded numerous project cost estimates and information from various sources that VA could not build the Denver project as designed for the ECCA amount of about \$582.8 million. The cost estimates and sources indicated the project was over budget from the initial stages of the project. The information showed an increasing gap between the design estimates and the initial budget estimate. Nevertheless, VA construction officials proceeded with construction of the facility. Most of the construction cost estimates for the Denver project received during different stages of the project exceeded the about \$582.8 million ECCA, one estimate by more than \$300 million, as discussed below. The JVT and KT were contractually required to provide construction cost estimates for each design submittal phase.¹⁴

VA obtained independent cost estimates from Jacobs, which also exceeded the ECCA, as discussed below. The former VA contracting officer (CO) on the project testified that VA paid Jacobs about \$1 million to provide independent construction cost estimates. However, VA chose to use the JVT's cost estimate as the Independent Government Estimate,¹⁵ which was lower and closer to the ECCA. A Jacobs official questioned the independence of JVT's cost estimate and testified that he discussed his concerns with the former project executive, former SRE, and former CO.

**KT's Cost
Estimates**

KT's construction cost estimates from 2011 through 2013 for the different stages of the project ranged from around \$589.7 million to \$897.6 million. These estimates were about \$6.9 million to \$314.7 million more than the about \$582.8 million ECCA. KT's estimates increased significantly as the design progressed, showing an increasing gap between the design estimates and the initial budget estimate.

**Jacobs'
Cost Estimates**

Jacobs provided two construction cost estimates. The first one, completed in 2011, had an estimated cost of approximately \$677.7 million. In January 2013, Jacobs provided an estimate based on the purported 100 percent design documents, which totaled about \$785 million or approximately \$202.1 million over the about \$582.8 million ECCA. When informed of the estimate, the former director of Acquisition Support, National Region, sent an email, with the subject line, "*Bad News – Denver 3rd Party estimate,*" and which read:

¹⁴ The different cost estimates we reviewed were from the Design Development (DD) 1 to the 100 percent design stage and included one parametric estimate, which was based on multiple levels of design. See Appendix F for details about each design submittal phase.

¹⁵ According to the Government Accountability Office, an Independent Government Estimate is conducted to check the reasonableness of a contractor's cost proposal and to make sure that the offered prices are within the budget range for a particular program. It also documents the Government's assessment of the program's most probable cost and ensures that enough funds are available to execute it.

I just heard that the prelim [preliminary] estimate from Jacobs is between \$150-\$180M [million] over the \$604M! We have a more difficult road ahead.

[The Director, CFM, Western Region, Mr. Leonardo Flor, responded] *Here is the way forward the PDT [Project Delivery Team] has discussed:*

- 1. Issue a task order to one of the AE IDIQ [Indefinite Delivery Indefinite Quantity, a type of contract under which task orders are issued] to review Jacobs estimate. Until this is done, we should not consider this estimate as an IGE [Independent Government Estimate].*
- 2. Have Leo Daily [another AE firm] do a review of the JVT's estimate.*
- 3. Per Glenn [former Principal Executive Director, Office of Acquisition, Logistics, and Construction (OALC), Mr. Glenn Haggstrom] as a follow on to the Jacobs estimate effort, we need to have Jacobs also do a comparison between the DD2 documents and the CD2 documents to determine extent of "scope growth" claimed by KT.*

If there is a bright side to this latest, it is that we have added leverage to direct the JVT to redesign at their expense.

Glenn, [former Principal Executive Director of OALC, Mr. Glenn Haggstrom] I am sure Lynette [former Denver Medical Center Director] is rearing to hear about Jacobs estimate. Can Tim [former Project Executive] go ahead and tell her, but in the context as outlined above?

[Mr. Haggstrom, then responded to Director, CFM, Western Region, Mr. Leonardo Flor] *Leo...ok, but this is very sensitive and it goes no further than her at this time please... thx [thanks].*

*The JVT's
Cost
Estimates*

The JVT's cost estimates tended to conform to the ECCA and were far less than estimates provided by either KT or Jacobs. From 2010 through 2014, the JVT's cost estimates ranged from about \$578.6 million to \$630.9 million. Jacobs expressed concerns regarding the independence of the JVT's construction cost estimates. A Jacobs official questioned whether the JVT would be influenced by the design-to-budget clause in its contract. Furthermore, the Jacobs official believed an owner would never ask an architect for an estimate because there is an inherent conflict of interest, especially if that architect has a design-to-budget clause in its contract.

In an April 2014 letter signed by Mr. Haggstrom, former Principal Executive Director of OALC, despite concerns about the independence of the JVT's construction cost estimate, VA informed KT that VA had accepted the JVT's about \$630.9 million estimate as the Independent Government Estimate.

***Other Indicators
Project Would
Exceed ECCA***

VA project officials also received other indications from internal and external sources that the project may exceed the ECCA. In September 2011, VA's Project Management Plan reported that there was a high probability the Denver project would go over budget. VA planned to address this risk through value engineering and a possible modification to the budget. In December 2012, a VA staff member working on the project estimated the construction cost would be more than \$200 million over the ECCA.

In March 2013, VA's risk assessment of the project reiterated budget concerns stating that there was a risk of a significant price increase ranging from \$200 million to \$300 million. During a March 2014 deposition, the former Principal Executive Director of OALC acknowledged that in March 2013, his subordinates recommended seeking \$100 million in re-programmed funds for the Denver project. However, he stated that he did not take this recommendation forward because, at that point in time, there was nothing to substantiate moving forward with a re-programming action.

At VA's request, USACE conducted a review of VA's cost management practices and methodology, to include those used for the Denver project. In its September 2011 preliminary report and December 2011 final report, USACE indicated its concerns to VA about the initial cost estimate and contract award type used for the Denver project. USACE reported that the typical footprint used to generate initial cost estimates for medical center replacements assumed fewer structures than designed for the Denver project. USACE also reported that the square foot costs used for the Denver project appeared to substantially understate the probable costs at contract award. USACE further noted that the goals of the JVT performing the design might not have been aligned with the project goals of delivering a functional facility at the lowest price.

***Construction
Cost
Estimates
Were Not
Adequately
Reconciled***

VA did not ensure that the JVT's and KT's construction cost estimates were fully reconciled, as required. The JVT and KT were contractually required to provide construction cost estimates for design submittal milestones, follow general guidelines when developing their construction cost estimates, and reconcile their construction cost estimates within 5 percent of each other.

VA attempted to reconcile the JVT's and KT's construction cost estimates on three occasions. In January 2011, during the first Design Development (DD) submittal phase, the JVT and KT adequately reconciled both direct and

indirect costs within 5 percent as required.¹⁶ However, in May 2011, the JVT and KT reconciled direct costs, but not indirect costs, which had a variance of 114 percent. In 2012, during the Construction Documents (CD) submittal phase of the project, neither direct nor indirect costs were reconciled, which had variances of 12.8 percent and 80 percent respectively.

The reconciliation process is a tool for VA to obtain reasonable assurance the project can be built for the budgeted amount. However, VA's former CO did not enforce the reconciliation provisions in the contract, thus limiting VA's ability to ensure the design could be constructed within project budget parameters, as discussed on page 22. Nevertheless, VA allowed the project to proceed because VA believed it was in the best interest of the Government for the project to move forward.

VA Did Not Adequately Manage the JVT

A primary reason the adopted design did not meet VA's budget was that VA construction officials did not enforce the contract provisions described below to ensure the JVT designed the Denver facility to meet the ECCA. VA officials, on numerous occasions, indicated that the JVT was both difficult to work with and not cooperative in making the changes necessary to the design to meet the budget. As the estimated cost to complete the project continued to increase, the VA project team increasingly sought design changes to meet its ECCA. The JVT resisted making changes to reduce the project cost and VA did not consistently ensure the JVT incorporated VA-approved changes into the final designs. Regardless of the difficulty in dealing with the JVT, in our opinion, VA should have enforced the contract provisions to meet the ECCA.

In September 2011, the former CO's performance evaluation of the JVT stated that the JVT's current architectural design was well above the need of the client, and the JVT refused to change to a simpler design. The former CO also commented in the evaluation that some JVT design team members were overprotective of their design choices and were defensive and sensitive to any questions or recommendations on their design.

Despite the evaluation comments and the fact that third-party estimates of the project's construction costs rose dramatically during 2012 and 2013, the JVT continued to refuse to make design changes to bring the project back to the ECCA. The JVT argued that it had met the contractual requirements and demanded additional compensation to implement cost-saving requests.

Several VA officials suggested that the JVT resisted the changes because, under the contract terms with VA, the JVT would have to fund the redesign of the project, not VA. Therefore, the JVT had a vested interest in not engaging in a large and potentially expensive redesign of the project.

¹⁶ Direct costs are such items as labor and materials. Examples of indirect costs are payroll taxes, insurance, supervision, and delay.

*VA Did Not
Enforce
Contract Terms
With the JVT*

The contract with the JVT in 2006 included certain enforcement remedies for VA by including the standard references to Federal Acquisition Regulation contract clause 52.236-22, *Design Within Funding Limitations*. This provision states that “When bids or proposals for the construction contract are received that exceed the estimated price, the contractor shall perform such redesign and other services as are necessary to permit contract award with the funding limitation. These additional services shall be performed at no increase in the price of this contract.”

The contract also contained a termination clause (Federal Acquisition Regulation 52.249-7), which would allow the Government to terminate the JVT contract if the JVT did not conform to the contract terms and have the work completed by another AE firm. The original AE firm, the JVT, would be liable for any additional cost to the Government. In addition, the contract also stipulated that VA could also provide unsatisfactory ratings or withhold payments to ensure the JVT provided the quality, timely documents required by the contract.

In January 2013, the former CO tried to implement the contract enforcement provisions by writing a memo to the JVT stating that VA estimated the project to be about \$200 million in excess of the ECCA. The former CO directed the JVT to meet the contract requirement to redesign the project to meet the ECCA. However, according to the former CO, the former VA project executive and the former director of Acquisition Support, National Region, persuaded him not to pursue further action. VA’s reluctance to aggressively enforce contract provisions with the JVT to provide a design that could be constructed within VA’s budget led to a growing funding gap on the project.

*Cost
Reduction
Efforts
Unsuccessful*

At the end of January 2013, VA officials requested the JVT and KT attend a meeting known as “Blue Ocean,” a cost reduction meeting, which a KT official described as a “radical redesign” meeting. The goal of the meeting was for the JVT, KT, and VA project staff to work together to establish a list of options to reach total cost reductions of \$200 million to bring the project within the \$582.8 million ECCA.

The Blue Ocean meeting identified about \$402 million in cost-saving proposals, more than double the goal of \$200 million. Staff from the Denver Medical Center prioritized the value engineering list and considered about \$140 million of the cost reduction ideas acceptable and over \$100 million undesirable, but acceptable. These items would require some re-design, such as modifying the concourse to reduce the height and other technical changes, such as modifying walkways and pedestrian bridges. The VA project team rejected other proposals to eliminate buildings or congressionally mandated features because VA was unwilling to reduce the scope of the project or to request waivers from Congress.

The effort also failed, in part, because it was not done timely. By March 2013, KT had already made significant progress on constructing several facility buildings. As construction progressed, the proposed re-design changes could cause uncertainty and delays to current work. In addition, manufactured elements, such as structural steel and the curtain wall panels, needed to be designed and manufactured months in advance of installation. This combined with VA's slow decision-making concerning proposed design changes resulted in most of the identified savings no longer feasible to include in the designs because of the lack of timely action by the VA project team. In June 2013, the former CO instructed the JVT not to incorporate any of the changes, including roughly \$10 million in changes from the Blue Ocean meeting, which a VA official stated had been previously approved.

**Project
Staffing
Issues**

CFM did not ensure the project had sufficient staff to adequately manage and provide effective oversight of either KT or the JVT. The shortfall of needed staff, expertise, and certifications severely delayed the VA project staff's ability to provide appropriate, timely guidance in response to requests for changes or clarification. This was a significant factor in the project's cost increases and schedule delays throughout the project.

Key officials outside and inside of VA agreed that the project was understaffed from the beginning. VA requested USACE perform an external review of cost management practices. USACE, in its preliminary report in September 2011 and final report in December 2011, identified the need for more contracting and engineering staff and administrative support for management of correspondence, technical management, and document control for the project. USACE reported again in June 2015 that shortages of local VA staffing, particularly contract management staff, could affect the completion of the Denver project because of its vast size and major changes in scope.

CFM and the Denver Medical Center were responsible for providing the construction management support staff, including COs and resident engineers. However, CFM's staffing model did not consider complexity, contract type, or size for projects over \$30 million. When VA moved the project to an Integrated-Design and Construct (IDc) type contract in 2010, it did not increase the project staff size to facilitate the collaboration needed under the new IDc type of contract. For example, the JVT project executive stated that during the design phase, VA only had 2 staff assigned to the project, and the JVT would expect at least 12 for a project of that size. Additionally, the former CO stated that for 3 years, he was the only CO for four project-related contracts.

Mr. Haggstrom did not adequately monitor CFM to ensure that CFM officials had sufficiently staffed the Denver project. Mr. Haggstrom received the September 2011 USACE preliminary report that noted staffing shortages.

However, he testified in March 2015, as part of VA's administrative investigation into the Denver project, that he had never reviewed the September 2011 preliminary report nor was he briefed on its contents. Mr. Haggstrom also testified that he did not recall seeing the USACE December 2011 report. As a result, he took no steps to ensure that CFM officials had addressed these concerns. He finally became aware of USACE concerns about the project's staffing levels in the spring of 2013.

*Staff Lacked
Adequate
Authority*

In June 2015, USACE reported that the Denver project lacked enough onsite staff with proper delegation authority to address Change Orders, Requests for Information, and submittals with the contractor and designer. Although the Project Manager's Guide required the SRE to approve or reject any submittals and process contract changes, the SRE lacked certification and contracting authority to do his job effectively for 2 years. This requirement could have been met through a one-time, 40-hour training course. However, CFM did not ensure the SRE received this required training and the SRE did not become a CO's technical representative until August 2012. This gross mismanagement of staffing levels by CFM officials and VA project managers left only one certified Contracting Officer's Technical Representative for the project, a junior resident engineer, from the summer of 2011 until the summer of 2012.

Conclusion

Planning and design decisions made from 2010 through 2013 were the most significant reasons the project is currently more than double the planned budget and years behind its original schedule. VA's lack of enforcement of contract terms, which required the JVT to produce a design to meet the budget, was complicated by VA officials not enforcing reconciliation of cost estimates, as required. VA also ignored internal and external warnings that the project was at risk of being over-budget, and not adequately staffed with experienced and trained VA personnel. These failures were the direct result of flawed decisions made by VA senior construction personnel.

Although it is too late for VA to undo its poor management decisions concerning the Denver project, important lessons can be learned from this experience. We have made the following recommendations that VA can apply to remaining and future construction projects still under VA's supervision.

Recommendations

1. We recommended the Principal Executive Director of Office of Acquisition, Logistics, and Construction ensure required reconciliations of cost estimates be performed prior to releasing construction design documents for all major construction projects.
2. We recommended the Principal Executive Director of Office of Acquisition, Logistics, and Construction provide sufficient, adequately

trained and experienced staff to ensure appropriate oversight is provided over all phases for future major construction projects.

**Management
Comments
and OIG
Response**

In response to our draft report, the Principal Executive Director, Office of Acquisition, Logistics, and Construction, concurred with Recommendations 1 and 2. The Principal Executive Director's response to Recommendation 1 noted that the OALC Office of Construction and Facilities Management (CFM) previously identified constructability reviews as a best practice for recognizing and resolving design issues that could cause construction cost at award to exceed cost estimates. CFM published a Policy Memorandum for Constructability Reviews in October 2014, which was further updated and codified on March 15, 2016, in a Standard Operating Procedure (SOP). OALC has a target date of August 2016 to revise the SOP to include the requirement for reconciliation of costs before release of bid documents. A copy of the current SOP is included in the full text of the Principal Executive Director's response in Appendix H.

The Principal Executive Director's response to Recommendation 2 recognized that the Denver project staff were not sufficient and lacked the specific experience needed to be successful on that project. CFM has developed a new staffing model with a target date of September 2016 for finalization. The Principal Executive Director requested the training portion of Recommendation 2 be closed based on actions taken to make training a high priority. We consider the planned actions for Recommendations 1 and 2 acceptable, and will consider closure after follow-up on implementation of actions taken by CFM.

Finding 2 VA Initiated Construction Phase Without Adequate Design Plans

We determined that another significant factor in the Denver project's cost overruns and schedule slippages was the decision by VA senior leaders to exercise prematurely the construction option of the contract with KT. Although KT agreed to construct the Denver project for a Firm Target Price of approximately \$604 million, VA exercised the construction option without complete design plans that met VA's final ECCA of about \$582.8 million. The agreement, embodied in Supplemental Agreement¹⁷ (SA)-07, which exercised the construction option, contained flaws and led to immediate disagreements and, ultimately, a 17-month lawsuit filed by KT against VA that resulted in additional construction delays and increased costs for the project.

***SA-07
Negotiated
and Signed
in November
2011***

In November 2011, VA and KT signed SA-07, which was the agreement that exercised KT's construction option. KT provided VA with qualifications and revisions to the JVT design plans that KT believed were necessary to construct the project for approximately \$604 million plus an economic price adjustment. The former director of Acquisition Support, National Region, would not accept KT's revisions despite a JVT executive's statement that VA going forward with KT while at odds over the construction price baseline could result in cost overruns and significant claims against VA. Ultimately, on November 11, 2011, VA's former CO and KT signed SA-07, which contained three main points:

- VA agreed to have the JVT produce a design that met VA's ECCA of about \$582.8 million.
- KT agreed to construct the Denver project for a Firm Target Price of approximately \$604 million in about 41 months, or almost 3.5 years.
- Both parties agreed to expend resources to keep the project cost at the Firm Target Price of approximately \$604 million with a Ceiling Price of \$610 million.

VA issued KT a notice to proceed with the construction work a week after SA-07 was signed. The SA-07 was flawed and resulted in confusion, disagreements, delays and, ultimately, a 17-month battle with KT that VA lost before the CBCA.

***SA-07 Was
a Flawed
Agreement***

The agreement was flawed in the following ways:

- It did not reference any specific set of design documents to be used for construction.

¹⁷ Supplemental Agreements are negotiated and mutually agreed upon by both parties to the contract and are finalized changes to the contract.

- Complete 100 percent design documents necessary to execute the agreement were not released for more than 9 months after SA-07 was signed and were found to have many flaws.
- It did not provide detailed requirements regarding how the parties would determine whether the JVT produced a design that met the ECCA.
- It did not establish a time frame when the parties would determine whether the design met the ECCA or the parties' rights in the event the design was determined not to have met the ECCA.

*SA-07 Did Not
Reference
Design
Documents*

One of the significant decisions made by Mr. Chris Kyrgos, the former director of Acquisition Support, National Region, was to remove references to specific design documents from the draft version of SA-07. Since the final SA-07 did not refer to specific documents, KT and VA could not agree on a starting point to determine what, if anything, had changed between the design KT agreed to build versus the design KT actually put out for bid to subcontractors.

*Construction
Documents
Were Delayed
and Flawed*

VA expected to release completed construction documents for the bulk of the project work by the end of January 2012, after completion of a required peer review.¹⁸ However, VA officials reported that the peer review was delayed by 7 months primarily because VA management had allowed the applicable peer review contract to lapse.

Consequently, the peer review was not completed until July 2012. The lead for the peer review team stated that the documents contained significant deficiencies and needed excessive clarification to be constructible. Despite these deficiencies, Mr. Timothy Pogany, the former project executive released the construction documents to KT to begin construction prior to the receipt of the final report from the peer review, as required under its contract with VA.

Following KT's subsequent receipt of "100 percent" construction documents from VA in August 2012, KT initiated its own review of the documents. Plan Check Associates, an independent company with expertise in design standards and constructability reviews, performed this review. The December 2012 Plan Check Associates' report identified over 10,000 issues with the design documents. In their opinion, the major problem was a lack of one complete, current set of plans, which might, ultimately, become a large determinate of timeline delays and additional costs.

¹⁸ An independent architect engineer (AE) firm performs a peer review of construction documents to ensure the documents meet reasonable professional performance and VA uses it to manage the design review and quality assurance for major construction projects.

Other Weaknesses in SA-07

In addition, SA-07 did not provide detailed requirements regarding how the parties would determine whether the JVT produced a design that met the ECCA. SA-07 also did not establish a time frame when the parties would determine whether the design met the ECCA, or the parties' rights in the event the design was determined not to have met the ECCA. These weaknesses in the SA-07 agreement became apparent when disputes began regarding the cost of specific bid packages.¹⁹

Since KT and VA could not agree on the proper pricing methodology for the bid packages, it was unclear under SA-07 whether VA was required to provide a design that met the estimated cost for each bid package, or whether SA-07 only required VA to provide designs that taken together met the ECCA. Since these issues were not settled timely, VA and KT were unable to resolve KT's requests for additional funding timely when bid packages exceeded their estimated amounts.

SA-07 Led to Immediate and Lengthy Disputes With KT

Using VA issued design documents, KT submitted a firm-fixed-price (FFP) proposal of almost \$898 million in March 2013. Negotiating a FFP contract with KT would have superseded SA-07. However, VA's former CO rejected this proposal, leaving SA-07 and the conflicting interpretations by VA and KT in place. KT insisted they price and construct the facility according to the designs as VA issued them. VA insisted, based on the legal interpretation of the contract by the VA Office of General Counsel (OGC) that additional funds would be provided only if KT shared detailed information to demonstrate or explain the reasons for the increased cost.

However, VA's continued inability to provide construction documents that could be built for the approximately \$610 million agreed-upon ceiling, while insisting KT proceed with construction without additional funding, was the primary reason KT filed a Civilian Board of Contract Appeals (CBCA) lawsuit in July 2013 to be relieved from performing under the contract.

In December 2014, the CBCA ruled VA was in breach of contract. The CBCA concluded that since SA-07 did not refer to any specific design, KT's responsibility was to construct the facility according to the designs as VA issued them and it was VA's responsibility to manage the budget by providing designs, which could be built for the ECCA. This led to plans by KT to demobilize from the site immediately, which further delayed and continued the uncertainties of completing the Denver project.

¹⁹ General Contractors use bid packages to solicit subcontractor bids for construction projects. Since construction-contracting companies specialize by discipline, such as electrical, mechanical, and steel, bid packages are divided by discipline to allow competition among the contractors in each discipline.

**Testimony on
Rising Cost
Estimates**

In May 2013, Mr. Haggstrom stated, before the House Committee on Veterans' Affairs Subcommittee on Oversight and Investigations that VA was within the appropriated amounts that Congress provided to VA to construct projects that were currently under construction.²⁰ He made this representation despite the following events that had occurred on the Denver project in the previous 5 months.

- January 2013—Mr. Haggstrom, according to meeting notes of an onsite briefing, concluded that VA did not have sufficient funding to complete the project.
- January 2013—Mr. Haggstrom was informed by email that Jacobs had estimated the Denver project would cost about \$785 million or \$181 million over the \$604 million target set by SA-07. Mr. Haggstrom directed another senior VA official to not spread this information further.
- March 2013—KT submitted their FFP bid for \$898 million or \$294 million over the SA-07 target.
- March 2013—Mr. Haggstrom communicated to other VA officials that the construction costs could reach \$770 million, or \$166 million over the SA-07 target.

In April 2014, more than a year after multiple warnings, including some after March 2013, about the rising estimated cost of the project, Mr. Haggstrom again testified before the House Committee on Veterans' Affairs, Subcommittee on Oversight and Investigations. As part of his oral statement, he stated:

But clearly, there has been no change in the project scope or complexity dramatic enough to justify the contractor's alleged cost of over \$1 billion nor has the contractor provided the required supporting documentation to VA to justify their estimated cost increase.

As a result, Congress was not informed of the possible need to provide additional funding or spending authority.²¹

Conclusion

In an October 11, 2011 memo from the JVT director to VA's CO, the JVT executive stated that VA going forward with KT while at odds over the price baseline for construction of the facility could result in cost overruns and significant claims against VA turned out to be prophetic. VA senior officials' decision to start construction prematurely by signing SA-07, which did not include a reference to a specific design, led to pricing disputes, conflicts, delays, a 17-month lawsuit, and additional costs to the project. Moreover, because of Mr. Haggstrom's testimony, Congress was not

²⁰ VA reported that approximately \$532.5 million was appropriated for major construction activities for FY 2013.

²¹ See footnote 5.

informed at an earlier date that there were strong indications that significant additional funding for the project would be needed.

Recommendation

3. We recommended the Principal Executive Director of the Office of Acquisition, Logistics, and Construction establish policies and procedures to ensure disputes are resolved before proceeding with projects when actual cost and schedule milestones exceed established planned thresholds.

***Management
Comments
and OIG
Response***

In response to our draft report, the Principal Executive Director, Office of Acquisition, Logistics, and Construction, concurred with Recommendation 3. The Principal Executive Director's response noted that CFM implemented a Departmental initiative, which outlines specific milestones requiring a decision before proceeding to the next phase. Based on the information provided, OALC requested this recommendation be closed. We consider this recommendation closed based on the information provided. However, we will consider follow-up evaluation of the process during future audits of major construction projects.

Finding 3 Acquisition Strategy Contributed to Delays and Increased Costs

We determined that VA's decision to change its acquisition strategy from a Design Bid-Build (DBB)²² contract to an Integrated-Design and Construct (IDc) contract mid-stream was a further significant factor in the Denver project's mismanagement, delays, and cost overruns. VA made this decision in 2010, or about 4 years after VA contracted with the JVT to design the project. IDc contracts are used when the primary goal of the project is to expedite the schedule, and cost containment is necessary. An expedited schedule is obtained by involving the general contractor early in the design stage with the AE firm so the contractor can provide input into the schedule, site, scope, and any other potential challenges it can see with the project.

The benefits VA hoped to derive from adopting the IDc approach were not realized primarily because:

- VA was inadequately experienced with IDc contracts.
- Staff assigned to the project were inadequately trained on the IDc contract type.
- VA brought KT onto the project too late for KT to be able to provide effective input to the design.
- VA inhibited effective teamwork and communication among the parties involved in the IDc process, which hindered the IDc implementation.

**VA
Inexperienced
With IDc**

As an organization, VA lacked adequate experience and training on the use of IDc contracts. This made it very risky to adopt this type of contract for as large and complex an undertaking as the Denver project. Prior to awarding the construction option for the Denver replacement project, VA had only completed one project using an IDc contract, which was at the Audie L. Murphy VA Polytrauma Rehabilitation Center in San Antonio, TX, dedicated October 2011. This was a smaller construction project, which cost roughly one-tenth the original budget of the Denver project. VA, however, was also in the midst of using an IDc contract for the New Orleans hospital replacement project.

None of the senior VA personnel assigned to the Denver project had sufficient experience to manage the construction phase of an IDc contract. The former CO acknowledged that the Denver project was his first administration of the construction phase of an IDc contract.

²² VA has historically used the DBB contract for major construction projects. With DBB contracts, the general contractor is not hired until the design documents are 100 percent complete.

In addition, the Denver project was the largest project managed by the former VA project executive and his first time using the IDc approach. Although the SRE had managed many construction projects during his tenure in the Air Force, he had never worked on an IDc type contract or a project for VA.

Inadequate Training

In early 2009, VA hired a third party, Vali Cooper International, to provide training on the IDc contract process. Vali Cooper International's IDc training is normally 1 week. However, VA gave 27 staff only an 8-hour training session provided by Vali Cooper International.

Moreover, only three of the nine key VA Denver project personnel at the time attended the IDc training—the former director of Acquisition Support, National Region; the former CO; and the former project executive. Officials who did not attend were the former Principal Executive Director of OALC, CFM Director of the Western Region, the former Associate Executive Director of Operations-CFM, the SRE, and two resident engineers on the project.

VA Implemented IDc Too Late To Receive Benefits

VA implemented the IDc contract too late to realize the benefits of an expedited schedule and cost containment. VA typically uses the traditional DBB type contract in which the designer and VA work together to develop a design. The design documents are not bid out until they are 100 percent complete, at which point VA bids the project out to the market to solicit a general contractor.

In contrast, IDc contracts are created to bring the designer and general contractor together at about the same time to collaborate on the project's design. If the designer and general contractor are brought in together early, the IDc provides opportunities to realize the benefit of improved design and performance potential by enabling the construction contractor to identify issues earlier, minimize change management costs, and accelerate the construction process. However, KT was not brought into the project until after the schematic design was complete and design documents were in process.

The VA SRE, members of KT, and a 2015 USACE report agreed VA implemented the IDc contract too late to receive the full benefits of an expedited schedule and cost containment. VA's decision to bring in KT late in the process significantly reduced the benefits that could have been derived if KT had been brought in earlier.

Parties Did Not Adequately Collaborate

In addition to VA bringing KT too late to obtain significant benefit from an IDc contract, VA created further problems by not creating the collaborative team envisioned by the IDc concept. The IDc contract type relies heavily on active and cohesive communication, as well as constant interaction between the owner (agency), the architectural firm, and the general contractor. The

IDc contract is meant to create a team of owner, architect, and contractor who collaborate, and it is the responsibility of the agency to ensure this communication and interaction is occurring.

The KT director stated that the VA project staff were reluctant and struggled to take input from the general contractor and apply it to the design. VA's current CFM Associate Executive Director of Operations acknowledged that VA's onsite team did not adequately get the contractor and design firm to collaborate as intended. One obstacle to better collaboration was that VA hindered and discouraged communication between the JVT and KT by prohibiting them from communicating without VA present.

Conclusion

The change from the DBB contract to the IDc contract type was an example of a regrettable VA management decision made too late to be effective. This led to VA losing the benefits associated with using an IDc contract. The IDc contract was mismanaged, and staff assigned to the project were inexperienced with this contracting approach. The inappropriate decision to use an IDc contract on VA's largest construction project without having the necessary experience of using IDc contracts resulted in subsequent management decisions, which led directly to project delays and cost overruns.

Recommendation

4. We recommended the Principal Executive Director of the Office of Acquisition, Logistics, and Construction implement mechanisms to ensure that adequate acquisition plans for major construction projects are completed at each appropriate acquisition stage.

**Management
Comments
and OIG
Response**

In response to our draft report, the Principal Executive Director, Office of Acquisition, Logistics, and Construction, concurred with Recommendation 4. The Principal Executive Director's response noted that acquisition strategy is one of the factors considered at each acquisition phase as demonstrated on slide four of attachment 4 (page 63) included in the full text of the Principal Executive Director's response in Appendix H. Based on the information provided, OALC requested this recommendation be closed. We consider this recommendation closed based on the information provided. However, we will consider follow-up evaluation of the process during future audits of major construction projects.

Finding 4 VA's Change Request Processing was Untimely

VA processed change requests that increased project costs by approximately \$44.1 million or about 7.6 percent of the ECCA. According to numerous sources, a consistently identified weakness of the Denver project was the untimely processing of construction changes that increased the project's cost and resulted in delays. Our analysis validated this concern. The data shows VA received 1,080 change requests by December 9, 2014, totaling approximately \$386.7²³ million. The data showed VA took from less than a day to 1,086 days, or about 3 years, to process 633 of the 1,080 change requests (59 percent). On average, VA took just under 264 days to process a change request. Because VA lacked adequate and complete data, we were unable to quantify and analyze timeliness data for 447 change requests (41 percent).

Changes can occur for a variety of reasons, including modifications to the design or to account for unforeseen conditions. According to VA policy, either VA or the construction contractor can initiate change requests to the construction contract. The AIB, USACE, the CBCA decision, and VA officials commented on VA's challenges processing change requests timely for the Denver project and noted its negative effect on project costs and schedule. However, none of these sources quantified those costs in their reports nor were any VA officials we contacted able to provide data quantifying the costs or effect to the project schedule associated with delayed request processing.

Untimely processing of changes occurred due to:

- Complex multi-level reviews and approval processes that lacked timeliness standards
- Insufficient staffing
- Substantial increases in the number of submitted construction changes
- Lack of agreement between VA and KT on the resolution of change requests

Change Request Process

Construction projects may require some degree of change to the construction contract as the project progresses. VA policy establishes the process for changes to the contract. Changes are implemented through a Change Order or an SA. For those changes that cannot be agreed upon, a Settlement by Determination is issued, which is a unilateral decision by the Government and can be appealed by the contractor.

²³ Figures and percentages have been rounded for reporting purposes.

**Untimely
Change
Request
Processing
Affected Costs**

According to various sources, a consistently identified weakness of the Denver project was the untimely processing of construction changes that increased the project's cost. For example, in April 2013, the Government Accountability Office (GAO) reported VA's time-consuming process for construction changes resulted in extensive delays and increased costs for some of VA's major medical facility projects. In December 2014, the CBCA determined VA delayed the progress of construction by the untimely processing of construction changes. According to the CBCA, VA did not process changes for approximately 1 year. In July 2015, the AIB concluded the delayed processing of construction changes contributed to cost overruns. Although the various sources above noted untimely processing of change requests affected project costs, none quantified the additional costs.

**Change
Request
Process
Revisions**

VA revised the change request process in 2013 and 2015 to improve efficiency. Prior to August 2013, VA did not have timeliness standards for processing change requests. In August 2013, VA issued a handbook for construction contract modification processing that included milestones for completing processing of modifications based on dollar value.

In an effort to promote efficiency and improve quality, VA created Contract Review Teams in March 2015. These teams are responsible for reviewing contract modifications valued at less than \$2 million to minimize vulnerabilities leading to potential protests, disputes, claims, and litigation against VA. According to CFM officials, reviews for contract modifications less than \$2 million are performed at the regional level.

The VA Deputy Secretary released a policy memorandum in September 2015, which named CFM as the decision authority for all user requested design or construction changes. It also authorized the use of strategic partnerships, including USACE, for project execution of major construction programs. In October 2015, VA placed an order under an Interagency Agreement for USACE to provide management services for completion of the Denver project. USACE negotiated a contract with KT to complete the project in the same month. USACE will provide management over the project design, acquisition, construction, and contract changes. See Appendices G and H for additional information on VA improvements to major construction management.

**Analysis of VA
Change
Request Data**

We requested and obtained several data packages from various VA sources in an attempt to quantify timeliness and costs associated with untimely processing of change requests. However, we determined the data VA provided were not complete and did not track the processing of all change requests from receipt to termination. Consequently, we were unable to quantify processing timeliness for all change requests and the resulting effect to project costs.

Table 2 provides VA’s data and the results of our analysis of change orders on the Denver project.

Table 2. Change Request Analysis-November 2010 Through December 2014

Data Reviewed	All Requests*	Requests More Than \$100,000	Requests Less Than \$100,000
Number of Requests	1,080	154	926
Requests With Timeliness Data	633	103	530
Percentage of Requests With Timeliness Data	59%	67%	57%
Average Days To Process	264	371	243
Requests With No Timeliness Data	447	51	396
Percentage of Requests With No Timeliness Data	41%	33%	43%

Source: VA OIG analysis of VA construction change requests from VA’s Prolog construction project management system data

Note: Averages and percentages have been rounded for reporting purposes

*Does not include SA-04, which was primarily for the renovation to Clinic Building South; SA-07, which was primarily for initial construction and adjustments to the target and ceiling prices; and Change Order P00772 for the removal of the Community Living Center.

Our analysis of the available VA change request data showed:

- VA received 1,080 change requests by December 9, 2014, that totaled approximately \$386.7 million.
- Of the 1,080 change requests, VA processed 901 change requests that increased project costs by approximately \$44.1 million or about 7.6 percent of the ECCA.
- For 80 of the 103 change requests over \$100,000 with timeliness data (78 percent), it took VA more than 180 days, which is the maximum processing time permitted for all change requests.
- For 390 of the 530 change requests for less than \$100,000 with timeliness data (74 percent), it took VA more than 60 days²⁴ to process.

²⁴Sixty days is the milestone to process change requests valued at less than \$100,000.

**Causes of
Untimely
Processing**

Untimely delays in processing changes occurred due to a complex multi-level review and approval process that lacked timeliness standards, insufficient staffing, substantial increase in the number of construction change requests, and lack of agreement on requested changes.

**Change
Request
Process
Caused Delays**

VA’s change request process generally required multi-level reviews and approvals. VA Construction Review Council consistently heard that VA’s modification review and approval process was time-consuming for major construction projects. USACE indicated in 2015 that construction changes were often subject to lengthy reviews at VA headquarters. In 2011, USACE stated the very detailed matrix for management levels of review for contract actions in excess of \$100,000 was an onerous requirement that would inundate not only the project executive teams, but also the vertical management review team.

USACE added that, ultimately, this could result in significant cost growth due to delays that could be several orders of magnitude greater than the actions being scrutinized. In 2015, USACE stated successful construction demands rapid approval of mandatory changes and prompt action to approve or disapprove user changes. Table 3 shows the concurrence and approval requirements for construction changes in the Denver project.

Table 3. Concurrence and Approval Level Required by Modification Dollar Amount

Concurrence and Approval Level	Less Than \$100,000	\$100,000 to \$250,000	\$250,000 to \$350,000	More Than \$350,000*
Onsite	✓	✓	✓	✓
OGC		✓ **	✓	✓
CFM Regional Office		✓	✓	✓
CFM Headquarters			✓	✓

Source: Project Management Plan for Replacement Medical Center, Eastern Colorado Health Care System, Aurora, Colorado, dated September 2011

Note: The chart above does not include the approval process for increased construction time requests.

*Modifications over \$650,000 also require Cost/Price certification and a DCAA audit.

**VA Acquisition Regulation 801.602-83 requires OGC review for all unilateral changes for \$100,000 or more. In July 2012, VA increased the OGC review threshold from \$100,000 to changes over \$250,000 for the project.

*Staffing Issues
Delayed
Change Order
Processing*

As stated previously, staffing issues affected the processing timeliness of change requests according to various sources. A former CO indicated administration of the construction contract was understaffed for approximately 1 1/2 to 2 years from the start of construction in calendar year 2011. A USACE report, dated December 2011, noted there may be a shortfall of project control staff with expertise in construction “cost estimating (change orders).” USACE followed up in its June 2015 report, noting shortages of local staffing, particularly the contract management staff, proved extremely challenging toward completion of the Denver facility.

In an April 2013 report, Jacobs cited a lack of sufficient support had a detrimental effect on turnaround time for processing requested changes. According to the former CO, additional staff from other projects were temporarily assigned to the Denver project to assist in processing construction changes.

*Increasing
Volume of
Change
Requests
Delayed
Processing*

A substantial increase in the number of construction changes VA received, contributed to processing delays according to VA officials. The current Denver Project Executive stated KT’s number of change requests steadily increased. The former CO stated that in early 2012 KT began “flooding” VA with change requests. The Plan Check Associates’ December 2012 report prepared for KT identified a lack of one complete current set of plans. The report stated that contractors cannot price what they cannot find or has not been issued. In their opinion, the harder the contractor has to hunt for information, the higher the change order rate. Our analysis of VA provided data determined that, as of December 9, 2014, VA received 1,080 change requests from 2010 through 2014.

Table 4 shows the number of change requests and annual percentage increase.

Table 4. Number of Change Requests Submitted by Calendar Year

Calendar Year	Number of Requests Submitted	Volume Percentage Increase From Prior Year
2010	2	N/A
2011	17*	750%
2012	169	894%
2013	402	138%
2014	490*	22%
Total	1,080	

Source: VA OIG analysis of VA construction change requests from VA’s Prolog construction project management system data

Note: Percentages have been rounded for reporting purposes.

*Does not include SA-04, which was primarily for the renovation to Clinic Building South; SA-07, which was primarily for initial construction and adjustments to the target and ceiling prices; and Change Order P00772 for the removal of the Community Living Center.

Lack of Agreement on Resolution of Requested Changes

VA’s and KT’s lack of agreement regarding resolution of construction change requests in which the price and terms were not agreed upon in advance also contributed to processing delays. According to the former CO, beginning around September 2013, KT did not sign approximately 90 to 95 percent of the bilateral SAs due to the terms. By this time, KT had requested the CBCA decide whether a breach of contract occurred and if KT was entitled to stop work. The former CO further stated that, ultimately, KT requested the bilateral agreements be reissued as Settlements by Determination, which required additional processing time.

Conclusion

VA did not timely process construction changes. A complex review and approval process that did not have timeliness standards, and had insufficient staffing, significant increases in the quantity of change requests, and a lack of agreement on requested changes contributed to the delays. While we were unable to quantify effects to the project due to VA’s lack of adequate data, the CBCA decision determined that VA’s untimely processing resulted in increased construction costs and delays to the project schedule. In an effort to improve processing, VA modified existing policy in 2013 and 2015, increased staffing, and developed milestones for processing construction

changes. USACE negotiated a contract with KT to complete the project and will manage future contract changes.

Recommendation

5. We recommended the Principal Executive Director of the Office of Acquisition, Logistics, and Construction ensure adequate controls are implemented and monitored to verify change requests are processed timely.

Management Comments and OIG Response

In response to our draft report, the Principal Executive Director, Office of Acquisition, Logistics, and Construction concurred with Recommendation 5. The Principal Executive Director's response noted that Deputy Secretary Gibson issued a memo on roles and responsibilities for major construction projects. In addition, the CFM Executive Director issued a memo regarding the management of user-requested changes on major construction projects. Both memos are included in the full text of the Principal Executive Director's response in Appendix H. CFM also issued a Change Order Handbook in 2013. OALC's target date for revising the Change Order Handbook is September 2016. We consider the planned actions acceptable, and will consider the recommendation closed after follow-up on implementation of actions taken by CFM.

The Principal Executive Director's technical comments requested OIG revise page 32 to include a Policy Memorandum issued May 5, 2016, which established responsibilities and authorities for evaluating and approving user requested changes to major construction projects.²⁵ Accordingly, we have included this Policy Memorandum in the full text of the Principal Executive Director's response in Appendix H.

²⁵ The page numbers identified in the technical comments included in the full text of the Principal Executive Director's response in Appendix H do not align with this report due to subsequent reorganization of the sections.

Appendix A Additional Background on Construction Contracts

Design Bid-Build Contracts

Design-bid-build (DBB) contracts are a common contracting method used to manage construction projects. In the DBB method, an AE firm provides 100 percent complete documents to the project owner prior to soliciting bids for construction contractors. The cost of construction using this method is determined by competitive bidding, usually with a Firm-Fixed-Price (FFP) type contract.

Integrated- Design and Construct Contracts

Integrated-design and construct (IDc) contracts are a construction contracting method whereby the owner enters into separate contracts with an AE firm and a construction contractor early in the design phase. The AE and construction contractor are to collaborate on the development of the design, giving the construction contractor an opportunity to provide input to lower the cost and improve the efficiency of the project. IDc contracts may also allow construction to begin prior to the completion of the 100 percent construction documents, shortening the overall time of the project. The owner generally negotiates an initial Firm Target Price contract with financial incentives to begin construction. Once the designs are complete, an FFP contract may be negotiated to replace the Firm Target Price contract.

FFP Contract

Under FFP contracts, the construction contractor agrees to build the project as designed for the contracted cost regardless of the actual cost of construction. This places the construction cost risk on the construction contractor. The owner pays the costs for any changes to the design in addition to the agreed-upon firm-fixed-price.

Firm Target Price Contract

Firm Target Price contracts are used in construction as an incentive contract to reduce the cost and shorten the construction schedule. The owner and the construction contractor negotiate a target price. If the construction costs are lower than the target price, the construction contractor and owner share the savings at negotiated rates. If the costs are higher, there is a reduction in the construction contractor's negotiated profit rate to share in these costs.

Peer Review

An independent AE firm performs peer reviews of construction documents at various stages of design development. VA uses peer reviews to manage the design review and quality assurance for major construction projects to ensure that the design documents meet engineering standards, contain no apparent major deficiencies, and represent reasonable professional performance.

Appendix B Scope and Methodology

Scope

We conducted our review from July 2015 through May 2016. We reviewed applicable laws, construction documentation, policies, and procedures for the Denver project. We conducted visits to VA's headquarters in Washington, DC, and to the Denver project construction site. We interviewed VA officials and staff responsible for the construction and contracting processes, U.S. Army Corps of Engineers (USACE), and other officials of outside contractors involved in this project.

We obtained electronic change request and modification data from the Prolog program management system for the Denver project, from its inception in calendar year 2010 to subcontractor liability settlements in calendar year 2015. The scope of our detailed analysis included 1,080 change requests totaling approximately \$386.7 million submitted by December 9, 2014, the date of the CBCA decision. There were 1,110 proposed change requests totaling just over \$1 billion that resulted in close to \$657.2 million in contract modifications, including:

- SA-07 general construction for approximately \$580.2 million
- SA-04 Clinic Building South renovation for just under \$22.5 million
- Approximately \$14.4 million deduction for the removal of the Community Living Center²⁶
- Subcontractor liability settlement funding, \$25 million

Methodology

We obtained and reviewed prior audits, reviews, depositions and extensive supporting documentation for this project. We interviewed VA officials, contracting and CFM construction personnel, and officials of outside contractors involved in this project. We conducted research to obtain comparative data on another VA medical facility. We conducted site visits to the Denver project and conducted interviews with contracting personnel to gain an understanding of the change request process. We reviewed the Project Manager's Guide, and Contract Modification and Resident Engineer's Handbooks.

In order to determine whether VA's contracting personnel processed change requests timely, we reviewed the milestones established in the Contract Modification Handbook. Milestones are based on the Government estimate of the contract modification amount, beginning when a Request for Proposal is established. We reviewed Prolog data and subtracted the initiated date from the completed date to determine the length of time it took to process the

²⁶ KT's cost estimate in January 2011 for the Community Living Center was \$13.4 million. The September 2014 modification to remove the Community Living Center from the construction was for \$14.4 million.

change requests. We entered formulas to determine subtotals, percentages, averages, and maximum days to complete the finalization of the contract modification. We excluded approximately \$580.2 million for general construction (SA-07) and just under \$22.5 million for the Clinic Building South renovation (SA.04). We also excluded approximately \$14.4 million deduction for the removal of the Community Living Center and \$25 million in subcontractor liability settlement funding.

**Fraud
Assessment**

The audit team assessed the risk whether fraud, violations of legal and regulatory requirements, and abuse occurred during the replacement of the Denver Medical Center. We exercised due diligence in staying alert to fraud indicators by taking actions such as:

- Reviewing key documentation to ensure compliance with project operations
- Conducting interviews with VA officials responsible for various aspects of the Denver project and the Major Construction Program
- Expanding review testing when fraud indicators were present

**Data
Reliability**

A VA official at the Denver construction site informed us of the use of the Electronic Contract Management System (eCMS) for the Denver project. ECMS is a Vendor Portal application, which allows industry partners to access VA procurement actions, provide responses and receive contract awards and orders, provide acknowledgement and shipping information, and submit invoices via the Internet. Another VA official at the Denver site confirmed our analysis of the status of specific modifications we obtained from eCMS.

We also received computer-generated data downloaded from Prolog, a construction project management system that provides complete records for managing project information. We were unable to observe the extraction of these data. However, to test the reliability of data, we reconciled totals and various line items to three other independently created spreadsheets obtained from different sources working on the Denver project. We also compared 144 modifications totaling just over \$654.8 million of the close to \$657.2 million modifications (99.6 percent), with source documentation present in the eCMS. We did not identify any material inconsistencies with the reviewed records or reconciled totals. As a result, we determined the computer-generated data to be sufficiently reliable for the purposes of our analysis and findings.

**Government
Standards**

We conducted this review in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

Appendix C Chronology of Major Events for the Denver Project

May 2004	VA Secretary Principi announced VA would build a medical center with some shared facilities with the University of Colorado.
June 2004	VA estimated the project cost at \$328 million.
Dec 2004	VA Secretary Principi decided to build stand-alone medical center.
Jan 2006	VA signed a contract for the JVT to act as the project's Architect and Engineering firm.
June 2006	VA suspended design efforts until VA acquired a site.
April 2007	VA Secretary Nicholson announced a stand-alone VA medical center of approximately 1.4-million-square-feet.
Nov 2007	The JVT submitted a schematic design for a 1.58-million-square-foot campus estimated cost \$1.1 billion. VA Secretary Peake rejected this plan in early 2008 as being too costly.
Oct 2008	VA procured an approximately 30-acre site for about \$60.4 million.
March 2009	VA Secretary Shinseki approved a stand-alone, 1.1-million square-foot medical center capped at \$800 million.
March 2009	Acquisition plan estimated the cost of construction at \$536.6 million.
Aug 2009	Groundbreaking ceremony.
Aug 2009	VA established the Estimated Construction Cost at Award (ECCA) at approximately \$555.8 million.
July 2010	VA increased the ECCA to about \$582.8 million.
Aug 2010	VA awards an Integrated Design and Construct (IDc) contract for pre-construction with a construction option to Kiewit-Turner (KT).
Jan 2011	KT's cost estimate for construction is \$589.8 million.
April 2011	VA executed Supplemental Agreement-04 (SA-04) for KT to renovate Clinic Building South and other services.
Nov 2011	VA executed Supplemental Agreement-07 (SA-07). SA-07 stipulated that VA would ensure the design produced would meet the ECCA of about \$582.8 million. SA-07 also set a Firm Target Price of \$604 million and a Ceiling Price of \$610 million for construction.
Aug 2012	The JVT provided final design documents to VA.
Dec 2012	Report prepared by outside reviewer identified over 10,000 issues with the design documents.
Jan 2013	VA's consultant, Jacobs Engineering, estimated the project was \$200 million over budget.
Jan 2013	"Blue Ocean" (cost-reduction) meeting identified \$402 million in potential cost reductions to bring the project back to budget.

March 2013	KT submitted a firm-fixed-price proposal of about \$898 million that was rejected by VA. VA continued to hold KT responsible for the Firm Target Price of \$604 million, a Ceiling Price of \$610 million, and continue construction.
April 2013	KT requested final decision from VA's Contracting Officer (CO) as to whether KT had the right to suspend work because VA had breached its obligation to provide a design that could be built for the Firm Target Price of \$604 million.
June 2013	VA instructed the JVT not to incorporate any of the changes from the Jan 2013 'Blue Ocean' meeting (construction too far along by March 2013).
June 2013	VA's CO issued a final decision denying VA breached the contract.
July 2013	KT filed notice of appeal with Civilian Board of Contract Appeals (CBCA) requesting declaratory relief. KT proceeded with construction to avoid charge of contract default.
Dec 2014	CBCA determined VA breached the contract with KT and construction ceased. Ten days after CBCA decision, VA awarded a new \$70 million "interim" cost-plus-fixed-fee contract to KT for continued work on the project, with U.S. Army Corps of Engineers (USACE) to provide management services.
March 2015	VA advised Congress that \$1.73 billion would be the total cost for the project.
March 2015	VA's Administrative Investigation Board (AIB) was tasked to investigate senior leadership decisions on the project.
June 2015	VA total cost estimate for the project is \$1.675 billion by deferring some items from the original plans.
July 2015	The AIB's report to VA identified senior management decisions and other factors that contributed to project delays and cost overruns, and provided 10 recommendations.
July 2015	VA signed a \$5 billion Interagency Agreement with USACE for construction management services.
Sept 2015	Congress authorized VA to spend the additional funds to complete the project.
Oct 2015	VA issued a task order under the Interagency Agreement for USACE to provide management services for completion of the Denver project.
Oct 2015	USACE negotiated a contract with KT for approximately \$570.7 million to complete the project, with an estimated construction completion date of January 2018.

Appendix D Key Organizations and Individuals

Office of Acquisition, Logistics, and Construction (OALC)

OALC is a multifunctional organization responsible for directing the acquisition, logistics, construction, and leasing functions within the Department of Veterans Affairs. The Principal Executive Director of, OALC, is also the Acting Chief Acquisition Officer for VA. OALC provides direct operational support to the Department's administrations and staff offices through its three major organizational components:

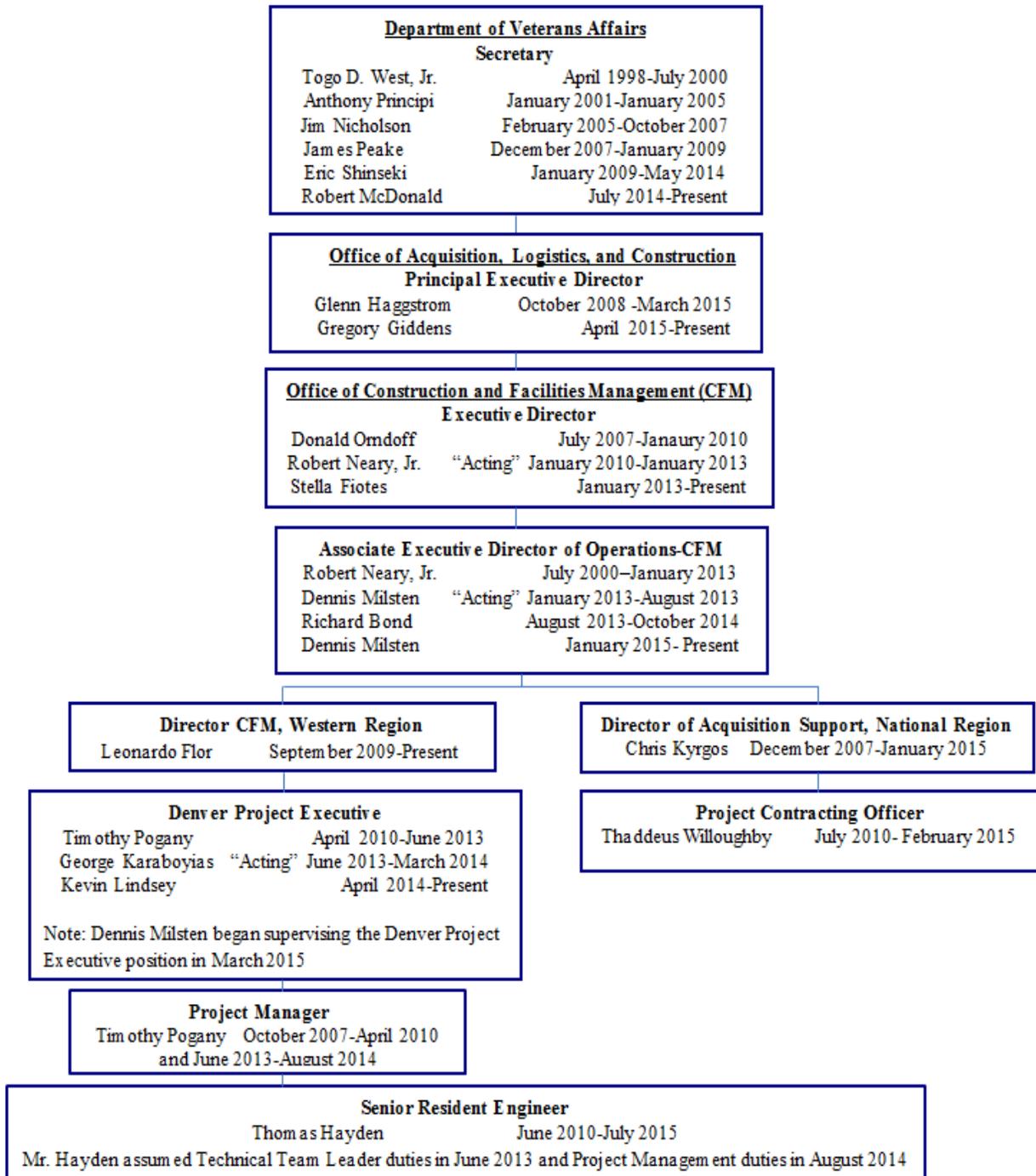
- Office of Acquisition and Logistics
- Office of Acquisition Operations
- Office of Construction and Facilities Management

Office of Construction and Facilities Management (CFM)

An element of OALC, CFM consists of a team of engineers, architects, contracting officers, and real estate professionals. CFM is responsible for the planning, design, and construction of all VA major construction projects greater than \$10 million.

The organizational chart provides the chain of authority and the numerous personnel that have occupied those positions throughout the construction of this facility.

ORGANIZATION CHART



Appendix E Summary of External Reports for the Replacement Medical Center, Eastern Colorado Health Care System

**USACE
Independent
Review of Cost
Management
Summary
Report –
December
2011**

The U.S. Army Corps of Engineers (USACE) identified the need for more contracting and engineering staff with proper contracting authority to address change orders, Requests for Information, and submittals with the contractor and designer. USACE also found that VA's decision to use an Integrated Design and Construct (IDc) contract type might not have been appropriate for the Denver and New Orleans sites based on seemingly no value gained from a schedule standpoint. VA's decision to use an IDc contract after project initiation did not permit the IDc contractor to integrate with the designer to achieve the benefits related to this contract type. USACE recommended VA evaluate the use of the IDc contract methodology before using it for future major construction projects and that project staffing is evaluated to ensure it aligns with the procurement methodology used. USACE issued a preliminary report to VA in September 2011.

**GAO Review –
April 2013**

Government Accountability Office (GAO) reviewed 50 of VA's major medical facility construction projects and evaluated changes to cost, schedule, and scope. It found significant cost overruns and schedule delays in many of VA's construction projects. In particular, VA's largest medical center construction projects were the most affected. These were located in Denver, Colorado; New Orleans, Louisiana; Las Vegas, Nevada; and Orlando, Florida. At the time of their report, GAO reported that cost increases of these four projects varied from 59 percent to 144 percent with an average schedule delay of 35 months. GAO attributed the schedule delay and cost increases to site acquisition issues and changes in veteran needs. Additionally, GAO found that actions taken by VA to address issues managing major construction projects still needed further improvement. The GAO recommended that VA use medical equipment planners, establish roles and responsibilities for construction management staff, and implement guidance to streamline the change order process.

**CBCA Ruling –
December
2014**

The Civilian Board of Contract Appeals (CBCA) decided in case number 3450, *Kiewit-Turner, A Joint Venture v. Department of Veterans Affairs*, on December 9, 2014, that the Government breached its contract with KT. This occurred when VA did not provide a design capable of meeting the Estimated Contract Cost at Award and required KT to continue performance thereby forcing KT to fund the project. CBCA found that KT was not required to continue performance and was entitled to stop work because of the likelihood that VA would not obtain congressional approval for additional funding or redesign the project. VA management acknowledged it knew about these issues, but that it never moved forward with the request for additional funding or fully applied other actions to reduce construction costs.

**USACE
Assessment –
March 2015**

The USACE assessment chronicled the background of VA's selection of the design contractor, the JVT for the Denver replacement medical center, and VA's award of an IDc contract to KT in August 2010. In August 2012, KT received the final design documents, but there was contention on whether the design was complete. USACE determined that the contract designs available in March 2015 were constructible. However, an updated set of contract design documents did not exist and VA did not manage change control effectively. During the course of USACE's assessment, combined leadership (USACE, VA, and KT) requested that the JVT provide an updated set of design documents. This posted set was delivered on time to the team.

**USACE
Assessment –
June 2015**

USACE performed a diagnostic evaluation of VA major construction process, structures, and oversight controls. USACE found that multiple changes in project scope, size, major partners and functionality occurred with the Denver project. Even as the design matured and construction started, the contractual relationships between VA, the designer, and the construction contractor deteriorated. Establishing and maintaining rational cost and schedule baselines became exceedingly challenging. Factors adversely affecting the completion of the Denver VA Medical Center project were:

- Selecting the IDc contracting option for an organization with little experience using it
- The lack of delegated authority to the onsite project executive to provide adequate authority to oversee inputs and execution by all onsite parties (hospital administration, designer, contractors and subcontractors)
- Controlling change modifications that proved adverse
- Complicated and conflicting lines of authority between Veterans Health Administration and Office of Construction and Facilities Management were detrimental to well-defined, tier governance

**Administrative
Investigation
Board –
July 2015**

The AIB was tasked on March 12, 2015, to investigate senior leadership decisions related to the Medical Center Building Construction in Aurora, Colorado. The investigation focused on the contracting mechanisms used, key decision points leading to the award of the initial contract on August 31, 2010, and other contracting and leadership actions up to the decision of the CBCA issued in December 9, 2014. Ten AIB recommendations targeted a wide range of cultural and policy issues to enable VA to implement lessons learned with new ideas, and provide adequate staffing and funding to meet project requirements.

Appendix F Design Submittal Phases

Pre-Design

VA uses four major design phases, as described below. The Pre-Design Phase results in a conceptual design depicting the general dimensions and site location of the facilities. The conceptual design selected by VA is further developed during two Schematic Design (SD) submissions, two Design Development (DD) submissions, and two Construction Documents (CD) submissions.

The purpose of the Pre-Design Phase is to align project goals with major project parameters of functional and physical design program, quality, cost, and schedule. The Architect and Engineering (AE) firm, using an integrated design process, refines conceptual design alternatives to create functionally viable design solutions. VA selects the final concept and identifies the approved scope to be further developed.

Schematic Design

SD documents further develop the concept plan to a level of detail that includes specific functional requirements and establishes the aesthetics of the design. The purpose of SD1 is to develop the concept selected by VA in Pre-Design. The purpose of SD2 is to refine the solution developed in SD1 and to validate that the design reflects project goals and parameters in the design, which is further developed at a room-by-room level of detail. SD is a design, which is approximately 35 percent complete.

Design Development

The final approved SD2 documents are the basis for the DD phase. The purpose of DD1 is to add an increased level of detail for all aspects of the project to define the design further. During DD1, the team refines visualization of the project to communicate the character of interior and exterior space. The DD2 phase encompasses adding an increased level of detail for all aspects of the project to define the design further. No functional changes are anticipated after the DD2 review. DD is a design, which is approximately 65 percent complete.

Construction Documents

The CD phase involves the production of complete drawings, specifications, and other documents prepared from the approved DD2 documents. The purpose of the CD1 phase is to add the level of detail required for construction of the project. During the CD2 phase, the AE revises and updates all CD1 submissions based on VA review comments. CDs are 100 percent design.

Appendix G Recent Efforts to Improve Major Construction Project Management

VA identified improvements to the major construction program through internal and external reviews of operations. About half of these actions occurred subsequent to May 2015, with many actions occurring in August and September 2015. Some actions were scheduled for completion in FY 2016, such as a new organization-wide staffing model under development by CFM.

According to the Secretary's June 2015 Letter to Congress, actions taken related to major construction projects include:

- Establishing an Activation Office—implemented November 2011
- Integrating Medical Equipment Planners into the construction project teams—implemented August 2013
- Requiring at least 35 percent design completion prior to requesting construction funds—implemented August 2013
- Using a Project Management Plan—implemented August 2015

Additionally, USACE completed external assessments from June through August 2015. According to CFM management, actions taken in response to these assessments included implementing an independent peer review process for project design prior to issuing a solicitation for a construction proposal and providing staff with specialized training in engineering and construction contracting techniques.

Appendix H Management Comments

Department of Veterans Affairs

Memorandum

Date: June 13, 2016

From: Principal Executive Director, Office of Acquisition, Logistics, and Construction (003)

Subj: OIG Draft Report Review of the Replacement of the Denver Medical Center, Eastern Colorado, Health Care System, Project Number: 2015-03706-R9-0261 (VAIQ 7698759)

To: Assistant Inspector General for Audits and Evaluations (52)

1. The Office of Acquisition, Logistics and Construction (OALC) appreciates the comprehensive review by the Office of the Inspector General (OIG) of the Department of Veterans Affairs (VA) Denver Replacement Hospital. OALC has reviewed the draft OIG report on the Denver project and concurs with the findings. The draft OIG report identified key factors that contributed to the cost and schedule overruns during design and construction of this VA project. These findings are consistent with earlier assessments and reviews conducted on this project, including the United States Army Corps of Engineers (USACE) Diagnostic Assessment from June 2015 and the VA Administrative Investigation Board (AIB) investigation from July 2015. OALC has previously taken responsibility for these issues in testimony to Congress and in communications with Veterans Service Organizations and the media.
2. The report findings and recommendations will be used to support our on-going efforts to improve the way we do business and to provide Veterans and their families with the first-class facilities they deserve. However, VA has not waited for the release of this report or other reports to take action. To ensure that previous challenges are not repeated, and to lead improvements in the management and execution of our major construction program, VA has adopted best-management practices and controls including:
 - a. Incorporating integrated master planning to ensure that the planned acquisition closes the identified gaps in service and corrects facility deficiencies.
 - b. Requiring that major medical construction projects achieve at least 35 percent design prior to cost and schedule information being published and construction funds requested.
 - c. Implementing a deliberate requirements control process, where major acquisition milestones are identified to review scope and cost changes based on the approved budget and scope. Any significant changes in project scope or cost need to be approved by the Secretary prior to submission to Congress.
 - d. Institutionalizing a Project Review Board (PRB). VA worked with USACE to establish a PRB for VA that is similar to the structure at the USACE District Offices. The PRB regularly provides management with metrics and insight to indicate if/when a project requires executive input or guidance.

- e. Using a Project Management Plan to outline a plan for accomplishing the acquisition from planning to activation to ensure clear communication throughout the project.
 - f. Establishing a VA Activation Office to ensure the integration of the facility activation into the construction process for timely facility openings.
 - g. Conducting pre-construction reviews – major construction projects must undergo a "constructability" review by a private construction management firm to evaluate design and engineering factors that facilitate ease of construction and ensure project value.
 - h. Integrating Medical Equipment Planners into the construction project teams – each major construction project will employ medical equipment planners on the project team from concept design through activation.
3. These improvements are being applied to our ongoing and upcoming major construction projects. Depending on the stage of development, some projects like the Denver Replacement Medical Center did not benefit from many of these improvements.
 4. Furthermore, in July 2015, the Department established a master interagency agreement (IAA) with USACE. The scope of that IAA allows VA to engage USACE to provide planning, acquisition, design, engineering, and construction management services and related work, including all levels of contracting, planning, and project management support for any of the "super construction projects" (projects over \$100 million), bringing VA in line with Public Law 114-113, the Consolidated Appropriations Act of 2016.
 5. Specifically for the Denver Replacement Medical Center, VA entered into an IAA with USACE as its Federal construction agent to provide construction management for the completion of the Denver project. VA and USACE are working collaboratively on managing this project with the least amount of delay and additional cost. USACE awarded a contract to Kiewit-Turner (KT) on October 30, 2015, to complete construction on this project. As of June 3, 2016, USACE reports 69 percent construction complete for the project. While the overall anticipated construction completion date is January 2018, USACE, VA, and KT are working on a resequencing plan that will result in substantial completion of the Research Building, Clinic Building Center, Clinic Building North, and all Garages by December 2016. This effort will reduce overall expenditures. The Energy Center is also expected to be complete by December 2016.
 6. The Department's collective commitment to completing this project has never wavered. Our main priority is to complete the facility without further delay. VA has also made a commitment of accountability for the mismanagement on the Denver project. Based on the findings presented in the AIB report and all related documentation, it was determined that the greatest accountability for the key decisions that led to the problems of this project rested with executives and staff, all of whom retired from VA prior to the issuance of the AIB final report. Moving forward, VA has every confidence that the improvements already made, the current ongoing improvements and the clear delineation of responsibility and accountability inside VA, will ensure that we deliver high quality projects, do right by Veterans, and be good stewards of taxpayer dollars.
 7. OALC concurs with all the recommendations and provides general comments on the report. We have also attached technical comments to the report for your

consideration (Attachment 1) and a consolidated list of additional improvements implemented (Attachment 2). We would be pleased to meet with you to discuss any of these comments. The following provides the implementation statuses of each recommendation:

a. **Recommendation 1:** We recommend the Principal Executive Director, Office of Acquisition, Logistics, and Construction ensure required reconciliations of cost estimates be performed prior to releasing construction design documents for all major construction projects.

OALC Response: OALC concurs with this recommendation.

OALC Office of Construction and Facilities Management (CFM) previously identified constructability reviews as a best practice for recognizing and resolving design issues that could cause construction cost at award to exceed cost estimates. CFM has engaged in the practice of constructability reviews of major construction projects since 2013. CFM published a Policy Memorandum for Constructability Reviews in October 2014, which was further updated and codified on March 15, 2016, in a Standard Operating Procedure (SOP). The SOP establishes that constructability reviews will be conducted by an independent third-party consultant at the completion of Schematic Design (SD), Design Development (DD), and Construction Documents (CD) of all major projects. The primary purpose of these reviews is to identify constructability and cost issues and force resolution during the design phase, to reduce the number and severity of constructability issues during the construction phase. CFM intends to enhance the current SOP by adding the requirement for a third-party construction cost estimate and reconciliation of costs before release of bid documents. A copy of the current SOP is attached (Attachment 3).

The OALC target date for revising the SOP to include cost reconciliation is August 2016.

b. **Recommendation 2:** We recommend the Principal Executive Director, Office of Acquisition, Logistics, and Construction provide sufficient, adequately trained and experienced staff to ensure appropriate oversight is provided over all phases for future major construction projects.

OALC Response: OALC concurs with this recommendation.

CFM recognizes that the Denver project staff was not sufficient and lacked the specific experience needed to be successful on that project. CFM has implemented several practices to ensure projects are adequately staffed with individuals with the appropriate training and experience. CFM has developed a new staffing model based on the project size, scope, complexity and expected duration. This model will allow CFM to proactively plan for the number of staff and level of experience and expertise required for a specific project. The staffing model is currently being tested against existing projects and will be finalized in the near future.

The OALC target date for finalizing the staffing model is September 2016.

Over the past three years, CFM has made training a high priority for project staff, even in an environment of limited resources. CFM will continue to train staff through the ongoing Resident Engineer Immersion Program, Senior Resident Engineer Development Program, and Senior Resident Engineer Refresher Training. In addition, we pursue training venues by leveraging other Federal agency and construction industry partner training programs and opportunities to expose our staff to best industry practices.

OALC recommends closure on the training portion of this recommendation.

c. **Recommendation 3:** We recommended the Principal Executive Director, Office of Acquisition, Logistics, and Construction establish policies and procedures to ensure disputes are resolved before proceeding with projects when actual cost and schedule milestones exceed established planned thresholds.

OALC Response: OALC concurs with this recommendation.

Beginning in 2013, CFM became an early implementer of the VA Acquisition Program Management Framework (APMF), a Departmental initiative targeted to establish a governed, repeatable, consistent, effective and transparent life cycle process for management and oversight of major acquisitions. The Principal Executive Director, OALC is responsible for the implementation of the APMF department-wide. In the context of the APMF, the Executive Director, CFM is the Acquisition Decision Authority (ADA) for major construction acquisitions. The APMF outlines specific milestones in the project life cycle requiring ADA decision before the project can proceed to the next phase. Factors considered at each phase include project scope, schedule, budget and acquisition strategy, as well as a project risk analysis and other execution considerations. To date, CFM has applied this methodology to 16 projects. A copy of a recent APMF Decision Briefing is attached (Attachment 4).

Based on the information provided above, OALC requests closure of this recommendation.

d. **Recommendation 4:** We recommended the Principal Executive Director, Office of Acquisition, Logistics, and Construction implement mechanisms to ensure that adequate acquisition plans for major construction projects are completed at each appropriate acquisition stage.

OALC Response: OALC concurs with this recommendation.

The acquisition strategy is one of the factors considered at each acquisition phase in the APMF decision briefing, as discussed above. This can be demonstrated on slide four (4) of attachment 4.

Based on the information provided above, OALC requests closure of this recommendation.

- e. **Recommendation 5:** We recommend the Principal Executive Director of the Office of Acquisition, Logistics, and Construction ensure adequate controls are implemented and monitored to verify change requests are processed timely.

OALC Response: OALC concurs with this recommendation.

On September 2, 2015, Deputy Secretary Gibson issued a memorandum entitled, "VA Major Construction Policy- Roles and Responsibilities," (Attachment 5) to enhance VA's ability to deliver safe and functional facilities in a timely and cost effective manner. The memorandum established roles and responsibilities for VA Administrations and CFM for identifying and developing project requirements, and for managing the execution of the design and construction of the major projects. It also placed accountability and authority on CFM to manage the design, scope, cost, schedule and quality of the major projects, and to direct the change process throughout design and construction, designating CFM as the decision authority for all design and construction changes.

In furtherance of the Deputy Secretary's memorandum, the Executive Director, CFM issued a Memorandum on May 5, 2016, entitled, "Management of User Requested Changes in Major Construction Projects" (Attachment 6). This memorandum establishes the responsibilities and authorities for evaluating and approving user requested changes on major construction projects. The guidance is intended to minimize schedule and cost growth, and outlines a tiered process for decision making on all user requested change. The memorandum is attached.

Finally, to address timely and effective processing of change orders during construction, CFM issued a Change Order Handbook in 2013. The handbook provides procedures and timelines for timely execution of modifications. CFM is currently revising its Handbook to include additional guidance on reporting and control of modifications, and to incorporate the processes outlined in the CFM memorandum above.

OALC's target date for revising the Change Order Handbook is September 2016.

8. If you have any questions regarding this submission, please contact Melanie Griffin at (202) 461-6626 or melanie.griffin@va.gov.

*(original signed by
Shana Love-Holman for:)*

GREGORY L. GIDDENS

Attachments: (6)

TECHNICAL COMMENTS

OALC provides the following technical comments, for consideration and inclusion in the final report.

1. OALC recommends revision of the draft report at Page ii, under "Planning and Design Phase Issues" by changing "leadership" to "senior leadership." This would be consistent with the reference to "senior VA leaders" on page 4.

2. OALC recommends revising the fourth paragraph on page 32, to include the following discussions: VA's Office of Construction and Facilities Management Executive Director signed a Memorandum, "Management of User Requested Changes in Major Construction Projects" on May 5, 2016. This policy establishes the responsibilities and authorities for evaluating and approving user requested changes to major construction projects. The intent of this policy is to minimize schedule, cost growth, and delays of major construction projects. The Executive Director is required to consult with and seek consensus on decisions with appropriate leadership levels in VA Administrations. This policy augments the Deputy Secretary's September 15, 2015, memorandum "VA Major Construction Policy."

3. Please correct the organization chart on page 44 to reflect the following changes:

"Senior Resident Engineer" Box:

Thomas Hayden was SRE from June 2010 to May 2013, and assumed Project Manager duties in August 2014 until his retirement in July 2015.

4. On page 8 of the report, please correct "VA's Senior Resident Engineer (SRE)" to "former VA's Senior Resident Engineer" and "Denver Project Coordinator" to "former Denver Project Manager". VA does not employ Project Coordinators for construction.

Office of Acquisition, Logistics, and Construction
June 2016

IMPROVEMENTS IMPLEMENTED IN MAJOR CONSTRUCTION PROGRAM

1. Requiring major medical construction projects to achieve at least 35 percent design prior to establishing cost and schedule estimates or requesting funds.
(Nov 2012: Construction Review Council Report)
2. Institutionalizing a PRB similar to that used by USACE.
(Nov 2012: Construction Review Council Report)
3. Implementing rigorous requirements control and change management Processes.
(Apr 2013: GAO Report "Additional Actions Needed to Decrease Delays and Lower Costs of Major Medical-Facility Projects" Implemented Nov 2013)
4. Integrating Medical Equipment Planners into construction project teams from concept through activation.
(Apr 2013: GAO Report "Additional Actions Needed to Decrease Delays and Lower Costs of Major Medical-Facility Projects" Implemented Nov 2013)
5. Aligning project deliverables with the APMF to ensure authoritative project decision making at key acquisition milestones.
(May 2013, Deputy Secretary Decision Document)
6. Piloting a performance metrics dashboard and predictive analysis tool that will help monitor and manage performance and identify and mitigate emerging risks on large projects.
(Pilot Completed July 2015)
7. Conducting pre-construction reviews of major construction projects. A private construction management firm evaluates design and engineering factors to ensure constructability within given budget and schedule parameters.;
(CFM SOP, Requirements for Constructability Reviews for Major Construction Projects, issued March 15, 2016)
8. Ensuring that VA's major construction program balances the need to deliver facilities on time and within budget with user requested changes identified during project execution, while avoiding schedule and cost growth.
(CFM Memorandum May 2016: Management of User Requested Changes in Major Construction Projects)

**Department of Veterans Affairs
Office of Construction and Facilities Management**

Title: Constructability Reviews for Major Construction Projects

CFM Standard Operating Procedure: 003C1-CFM006:

Date Issued: March 15, 2016

Recession Date:

Responsible Office: Office of Operations

1.0 PURPOSE AND OVERVIEW

This Standard Operating Procedure (SOP) establishes Constructability Review processes within the Office of Construction & Facilities Management (CFM) for all major construction projects.

CFM recognizes the need for contract documents that will ensure rational bids and minimize problems during construction. Constructability Reviews have the potential to minimize the number and magnitude of changes, disputes, cost overruns, and delays during construction. This SOP covers the Constructability Reviews at the completion of Design Development (DD) and Construction Document (CD) phases.

2.0 SCOPE: All CFM staff involved with major construction projects.

3.0 REFERENCES:

Construction Review Council - Capital Programs Improvement Plan (CPIP) Action Report on Peer Review, dated June 30, 2013

4.0 CFM POLICY:

- 4.1 CFM Policy Memorandum 003C-2014-16, Requirements for Constructability Reviews (October 6, 2014)
- 4.2 SOP for Acquisition of Construction Management Services Nationwide against GSA Blanket Purchase Agreements
- 4.3 CFM Policy Memorandum 003C-2014-29 Establishing a Value Management Program (December 18, 2014)
- 4.4 SOP 003C2-CFM001 Conducting a Value Management Study for Major Construction Projects (March 10, 2015)
- 4.5 CFM Policy Memorandum 003C-2015-6 Corporate and Regional Matrixed Budget System (CRMBS) (July 14, 2015)

5.0 DEFINITIONS:

- 5.1 Rational bids: Clarity of the acquisition documents, the soundness of the Government's evaluation and selection criteria for negotiated acquisitions, and the ease of bidders or proposers to understand the Government's requirements, allowing the submission of a competitive bid or proposal that is responsive to the Government's requirements.
- 5.2 Constructability: The ease of constructing a specified or designed project according to the Government's requirements, including the proposed construction duration and the ease of understanding and administering the contract documents during their execution.

6.0 RESPONSIBILITIES:

- 6.1 Project Manager (PM): Ensures Constructability Review activities are integrated in the project development process. Coordinates scheduling of Constructability Reviews. Tracks, reviews and approves Constructability Review recommendations in ProjNet DrChecks and implements Constructability Review recommendations that are accepted. Works with the Director, Facilities Operation Support on the scope of work (SOW). Works with the budget analyst to verify funds. Submits request in CRMBS for approval for the Constructability Review.

- 6.2 Director, Facilities Operations Support: Identifies Senior Resident Engineer assigned to participate in the Constructability Review. Provides the contract specialist or contracting officer (CO) with SOW and proof of funding available for the request. Evaluates technical proposals for each offeror, submits a technical evaluation summary to the CO and assists the CO in preparing an award package for the applicable approvals.
- 6.3 Senior Resident Engineer: Participates in the Constructability Reviews at both the DD and CD phases.
- 6.4 Contracting Officer (CO): The CO awards and oversees the administration of the task order.
- 7.0 PROCEDURES:
- 7.1 Each fiscal year, the Office of Operations estimates the number of Constructability Reviews that will take place and coordinates the reviews with the Office of Facilities Planning Cost Estimating Service. Constructability Reviews on new projects will be performed at the DD-2 and CD-1 phases.
- 7.2 Depending on time and resources, reviews may be done internally in CFM or by an outside consultant.
- 7.3 The PM works with the Director, Facilities Operations Support to develop the SOW.
- 7.4 Once the number of reviews has been identified, the Director, Facilities Operations Support submits a request in CRMBS for a review to be funded using Advance Planning and Design Funds through the appropriate supervisory chain for approval. The request shall include, at a minimum:
- Justification to fund the review for the project;
 - A Statement of Work;
 - An Independent Government Cost Estimate; and
 - The approved CFM Policy Memorandum establishing the requirements for Constructability Reviews.
- 7.5 Once the funding for the review has been approved, the Director, Facilities Acquisition Support coordinates with the CO, using existing construction management indefinite delivery/indefinite quantity contracts. For more information, see the SOP, "Acquisition of CM Services Nationwide against GSA Blanket Purchase Agreements" which is located on the SOP/Policy page of the CFM Intranet site, <http://vawww.cfm.va.gov>.
- 7.6 The CO or CO's representative will provide guidance and direction to ensure the VA contractor participates in the Constructability Reviews at the DD and CD phases and ensures comments are entered in ProjNet DrChecks.
- 7.7 The PM ensures all Constructability Review comments are addressed; approves the changes to allow the project to move onto the next phase; and implements Constructability Review recommendations that are accepted.

8.0 APPENDICES:

8.1 Flow chart

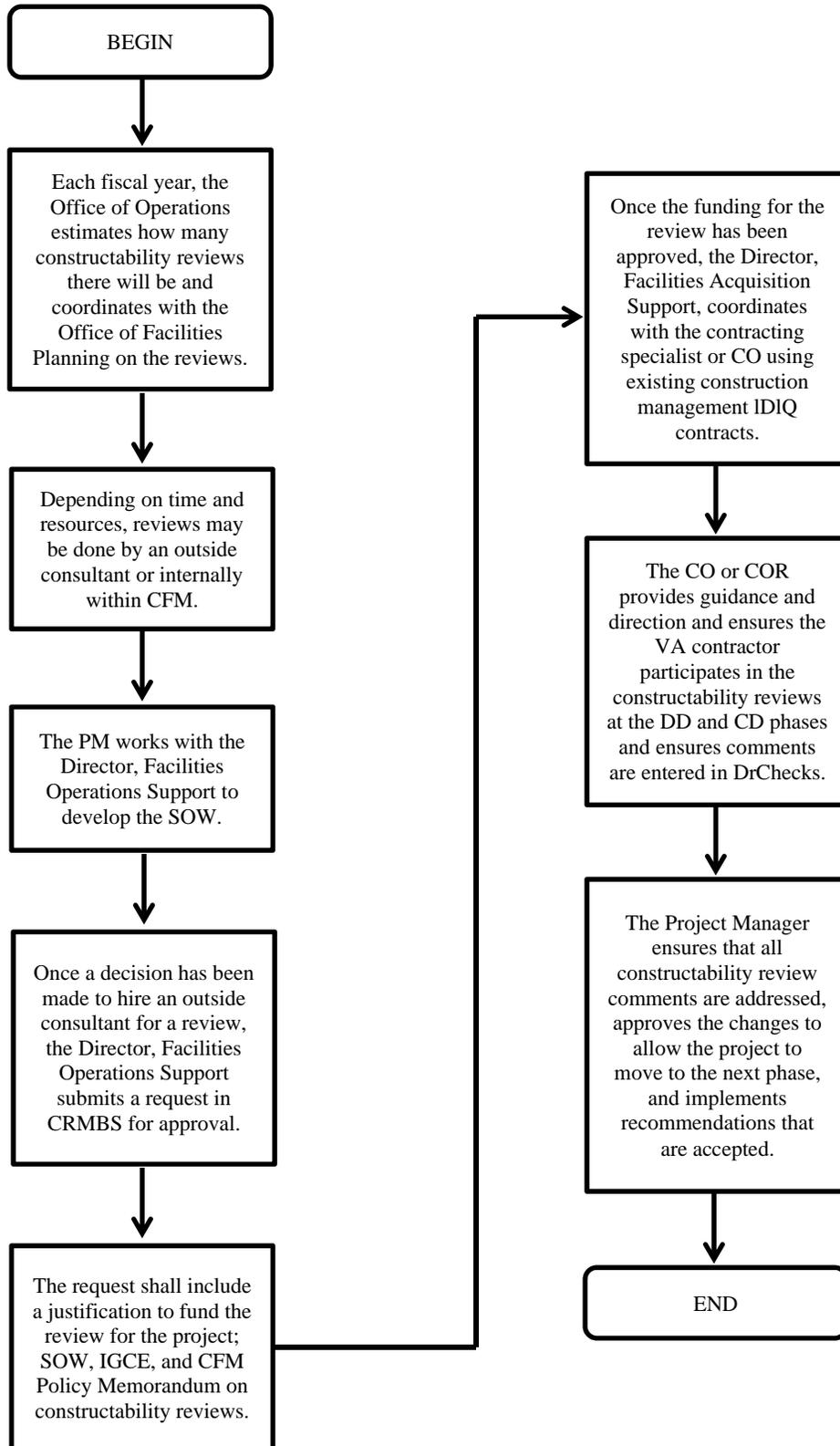
Approved:

(original signed by:)

STELLA S. FIOTES, AIA

Executive Director

8.1 Flow chart



 **APMF Mandatory Decision Briefing**
for
Progression to Next Project Phase

Replacement Community Living Center (CLC)
Perry Point, MD
512-173

Presentation to:
Stella S. Fiotes, AIA
Acquisition Decision Authority

Presentation by:
Michael Butler
PM



April 14, 2016

6/10/2016 Working Draft, Pre-Decisional, Deliberative Document – Internal VA Use Only 1

Slide 1

 **APMF MANDATORY DECISION BRIEFING**
Replacement Community Living Center (CLC), Perry Point, MD
512-173

CHECK ONE: SD2 Submission (Pre-35%) CD1 Submission (95%) Proposed Contract Modification

PROJECT MANAGER: Michael Butler DATE: April 14, 2016

CURRENT APPROVED PROJECT DESCRIPTION/SCOPE:
The project will include the construction of:

- A new 155-bed Community Living Center (CLC) of approximately 172,000 square feet
- A new tunnel connecting the existing center-wide service tunnel/corridor system
- Demolition of existing building 9H

Other major features of work include:

- Expansion of the existing chiller plant to house one new chiller
- Construct a new geothermal well field
- Construct a new solar photovoltaic array
- Replace a bridge at the alternate truck entrance

6/10/2016 2

Slide 2



APMF MANDATORY DECISION BRIEFING

Replacement Community Living Center (CLC), Perry Point, MD 512-173

SCHEDULE DATES

MILESTONES	CURRENT APPROVED	PROPOSED
Project Start	11/02/09	
NEPA & Sec 106 Complete	06/14/14	
Land Acquisition Complete	N/A	
Final Budget Review/Approval(35%)	N/A	
Submit CD1 Design (95%)		02/22/16
Approval to Solicit Construction (RTA)		
Construction Contract Award		12/13/16
Substantial Completion		03/08/19
Activation (20 weeks)		07/26/19
First Use	07/26/19	
Construction Contract Closeout		
Project Closeout		

Justification for Change

Change 1:
Justification 1:

Change 2:
Justification 2:

Change 3:
Justification 3:

Change 4:
Justification 4:

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APMF MANDATORY DECISION BRIEFING

Replacement Community Living Center (CLC), Perry Point, MD 512-173

BUDGET SUMMARY

	TEC _(\$000)
Rec'd thru FY15	\$ 9,000
Requested FY16	\$ 83,700
Future Need	\$ 0
TOTAL TEC	\$ 92,700

ACQUISITION STRATEGY

DESIGN:
Current Strategy: AE Contract Awarded
Small business set aside

Proposed Strategy: no change

Change Justification: n/a

RESOURCE CONSTRAINTS

Funding:
Constraint – Design will be completed in June 2016.
Construction funding has been appropriated in FY2016 but not authorized.
Proposed Action - Request authorization

Personnel:
Constraint – Staff a resident engineer office.
Action – Announcement has been made to the REAB. One RE has been scheduled for reassignment

6/10/2016

CONSTRUCTION:

CLC
Current Strategy: Design-bid-build
Request-for-proposal
Full and open competition

Demolition of Building 9H
Current Strategy: Design-bid-build
Request-for-proposal
SDVOSB set aside

Upgrade Bridge
Current Strategy: Design-bid-build
Request-for-proposal
SDVOSB set aside

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VA OIG 15-03706-330

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APMF MANDATORY DECISION BRIEFING

Replacement Community Living Center (CLC), Perry Point, MD 512-173

AE DELIVERABLES

All Documents Received:
Yes X No ___

Documents Not Received:

Issues(s):

Resolution:

Project Risk Analysis

Risk Issue	Potential Impact	Mitigation
Construction Funding Not Available for use.	Construction Contract Solicitation cannot be released.	Request Authorization Release solicitation with "award subject to authorization of funds" clause
Bids over estimate	Delay of construction contract award.	Include one or more optional bid items in the solicitation documents.
Change in MDE Stormwater Management Requirements	Delay award of construction contract	Meet with MDE to resolve comments. Proceed to CD2 based on MDE tentative approval of concept.
Change in floodplain data and incorporation of Executive Order.	Future flooding of lower houses.	Raise Finished Floor Level by 1 ft

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APMF MANDATORY DECISION BRIEFING

Replacement Community Living Center (CLC), Perry Point, MD 512-173

ACQUISITION DECISION AUTHORITY ACTIVITY DECISION CHECKLIST

- Is the Project Scope adequately defined?
➤ Have key stakeholder needs been addressed?
- Are resources available to attain the Scope?
➤ Are affected organizations for this phase engaged?
- Are funds available for the next phase?
➤ Has a comprehensive Risk Analysis been performed?
- Is the Schedule logical and achievable?
➤ Are technical documents approved for sufficiency?
- Is the Acquisition Strategy appropriate?
➤ Does VA wish to invest resources to complete the Project?

ACQUISITION DECISION AUTHORITY ACTIVITY DECISION

Approved Unconditionally to Proceed With Next Phase

Approved With Conditions to Proceed to Next Phase

Disapproved to Proceed to Next Phase; Correct and Resubmit

Stella S. Fiotes, AIA – CFM Acquisition Decision Authority

(Date)

6/10/2016
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 **APMF MANDATORY DECISION BRIEFING**
Replacement Community Living Center (CLC), Perry Point, MD
512-173



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**Department of
Veterans Affairs**

Memorandum

Date: September 2, 2015
From: Deputy Secretary (001)
Subj: VA Major Construction Policy – Roles and Responsibilities
To: Under Secretaries, Assistant Secretaries, Other Key Officials

1. Purpose. The purpose of this policy is to enhance the ability of the Department of Veterans Affairs (VA) to deliver safe, functional facilities that meet Veterans' needs in a timely and cost effective manner. It is also to ensure enterprise-wide alignment for execution for the Major Construction Program, and to authorize the use of strategic partnerships, including the United States Army Corps of Engineers (USACE), to improve Major Construction Program performance.

2. Policy. This memorandum establishes Department policy and roles and responsibilities for the identification of facility needs, the development of project requirements, and the execution of the design and construction to meet those requirements and needs.

3. Background. VA commissioned USACE to evaluate certain aspects of VA's Major Construction Program. USACE evaluated the Las Vegas Medical Center, the New Orleans Replacement Medical Center, the Orlando Medical Center, and the Denver Replacement Medical Center. USACE identified a fundamental need for VA to undergo a "transformative change in organizational process" to effectively control cost and schedule growth in the Major Construction Program. VA's internal evaluations have also identified that organizational; processes (i.e., how VA identifies needs, manages the requirements, develops an executable design, and controls the construction process) lacked sufficient discipline and clearly defined roles and responsibilities.

4. Roles and Responsibilities.

a) Each VA Administration (Veterans Benefits Administration, Veterans Health Administration, and National Cemetery Administration) shall propose and submit, through the Strategic Capital Investment Plan (SCIP), Major Construction Program needs.

Each VA Administration is responsible for and authorized to:

- Develop a 10-year plan, which closes all SCIP-identified gaps including capital solutions by proposed budget year of planned execution.
- Develop requirements for a capital project for the planned budget year, and ensure all preliminary studies and engineering analyses are completed to establish a viable set of requirements. The development of the budget submission package will lock in requirements.

- Participate in Major Construction Program project design reviews and review sessions.
- Provide prioritization and justification for User Request Changes, and assist in the evaluation of impacts to the program cost and schedule.
- Engage appropriately during construction as well as be an essential party during the commissioning and acceptance phases of Major Construction Program projects.

b) The Office of Construction and Facilities Management (CFM) is responsible for and authorized to:

- Assist Administrations in completing all planning, environmental, and engineering studies to develop requirements.
- Manage the design, scope, cost, schedule, and quality of the construction project.
- Submit a package to support the project budget request, prepared at 35 percent design milestone and including applicable environmental and engineering studies and an appropriately validated project estimate. The conclusion of the budget submission package locks in requirements and establishes the budget for the capital project.
- Ensure the design meets the requirements within the established budget, including applicable VA design standards, guides, manuals, alerts, and specifications.
- Conduct design reviews that include the respective Administration(s) as well as architectural/engineering peer reviews and construction management constructability reviews.
- Execute the design and construction or enter into a partnership with an outside Federal entity such as USACE to manage the design and/or construction execution.
- Ensure requirements and scope are adhered to and the design can be constructed within the established budget and construction schedule.
- Direct the change process throughout design and construction. CFM is the decision authority for all user requested design or construction changes to the project. In the event of consequential or irreconcilable disagreements between parties, CFM in collaboration with the Administrations will elevate these to the Deputy Secretary for final decision.

5. In collaboration with the Administrations, CFM is responsible for the development of any further definition or process to support this policy, which remains in effect until rescinded.

6. Should you have any questions regarding this Policy Memorandum, please contact Stella S. Fiotes, Executive Director, CFM.

(original signed by:)

Sloan D. Gibson

**Department of
Veterans Affairs**

Memorandum

Date: May 5, 2016
From: Executive Director, Office of Construction & Facilities Management (003C)
Subj: Management of User Requested Changes in Major Construction Projects
To: All CFM Staff
Thru: Acting Deputy Under Secretary for Health for Operations and Management (10N)
Deputy Under Secretary for Management, National Cemetery Administration (43)
Deputy Under Secretary for Field Operations, Veterans Benefits Administration (20F)

1. Purpose: The purpose of this policy is to ensure that the Department of Veterans Affairs (VA) Major Construction Program balances the need to deliver facilities on time and within budget with user requested changes identified during project execution. This augments the Framework Principles for the Delivery of Major Construction Projects issued September 17, 2015 (Attachment 1). This policy establishes the responsibilities and authorities for evaluating and approving User Requested Changes to major construction projects.
2. Background: Changes are part of the design/construction process. Changes can be disruptive and costly, and should be avoided to the maximum extent possible. Approved changes for design and construction must be identified, and appropriately negotiated in order to avoid impact to the project schedule/cost and potential contractor delay claims. This is especially true for User Requested Changes.
3. Policy: User Requested Changes at any point in project delivery will generally be considered to ensure a) compliance with Joint Commission or other accrediting body requirements; b) patient or staff safety; c) compliance with code change requirements (e.g., life safety or security); or d) critical operational functionality (e.g., significant surgical procedure technological advancement). However, every effort must be made to assure that schedule and cost growth is avoided. This is an area where strict discipline is needed, in both the design and construction periods. Managing for no scope and/or cost growth is one of our principal responsibilities.
4. Responsibilities and Authorities: The Office of Construction & Facilities Management is the decision authority for user requested design or construction changes to the project (Deputy Secretary memorandum, dated September 2, 2015). The Executive Director, CFM will consult with and seek consensus on decisions with

appropriate leadership levels in VA Administrations. In the event of consequential or irreconcilable disagreements between parties, Executive Director CFM, in collaboration with the Administrations will elevate these to the Deputy Secretary for final decision.

5. Process: User Requested Changes that fall in one or more of the four categories in Paragraph 3 above will be identified by the using service (Medical Center, Veterans Benefits Administration, Regional Office Director, Cemetery Director) and provided to the CFM Project manager (PM) or Senior Resident Engineer (SRE). The using service will also provide justification and impact if the change is not implemented.

The PM and SRE will discuss the requested change with the user to understand the issues generating the request and potential alternatives to resolving the concern, such as deferring the change until after completion of the major project. The PM or SRE will determine if the requested change results in a change of the approved scope of the project; develop a cost estimate and an impact assessment on cost and schedule for the project; conduct a risk analysis if the change were implemented; and establish if monies are available within allocated project contingency funds. The PM or SRE will notify the CFM Regional Office Director of their findings along with a recommended course of action.

User Requested Changes shall be evaluated and resolved for decision, as follows

POSITION	APPROVAL AUTHORITY LEVELS	NOTES
Regional Director, CFM Office of Operations	≤ \$25,000 (single change) (≤ \$100,000 aggregate per project) and/or ≤ 5 days additional time (single action) (≤ 15 days aggregate per project)	Recommends action to Associate Executive Director, CFM Office of Operations, above approval threshold
Associate Executive Director, CFM Office of Operations	\$25,001 - \$250,000 (single change) (100,001 - 750,000 aggregate per project) and/or 6-30 days additional time (single action) (16-90 days aggregate per project)	Recommends action to Executive Director, CFM and above approval threshold
Executive Director, CFM	≥ \$250,001 (single action) (no aggregate limit) and/or ≥ 31 additional days (single action) (no aggregate limit)	Recommends action to Deputy Secretary in the event of consequential or irreconcilable disagreements between parties
Deputy secretary	No limit	Resolves disputes

All approved User Requested Changes will be briefed at the monthly CFM Project Review Board and the quarterly Office of Acquisition, Logistics, and Construction program reviews.

In collaboration with VA Administrations, CFM is responsible for the development of any further definition or process to support this policy, which remains in effect until rescinded. CFM anticipates a detailed process will be developed providing timeliness for execution.

6. If you have any questions, please contact Dennis Milsten, Associate Executive Director, CFM Office of Operations, at (202) 632-5358 or by email at dennis.milsten@va.gov.

(original signed by:)

STELLA S. FIOTES, AIA

Attachment

CONCUR / ~~NONCONCUR~~

(original signed by:)

JANET P. MURPHY, MBA (10N)

Date: 4-22-16

CONCUR / ~~NONCONCUR~~

(original signed by:)

ANITA R. HANSON (43)

Date: 4-25-16

CONCUR / ~~NONCONCUR~~

(original signed by

Lisa Pozzebon for)

BETH McCOY (20F)

Date: 5-2-16

This is the attachment identified in the aforementioned Executive Director for the Office of Construction & Facilities Management memo, dated May 5, 2016.

**Department of
Veterans Affairs**

Memorandum

Date: September 17, 2015
From: Executive Director, Office of Construction and Facilities Management (CFM)
Subj: Framework Principles for the Delivery of Major Construction Projects
To: CFM Staff

1. The recently issued VA Major Construction Policy (attached) establishes clear roles and responsibilities for the Administrations (our customers) and CFM. Most importantly, the policy places accountability and authority on CFM to manage the design, scope, cost, schedule and quality of the project, and identifies CFM as the decision authority for design and construction period changes. With this authority comes great responsibility and, as the U.S. Army Corps of Engineers (USACE) noted, "... a fundamental need for a change in VA culture to drive discipline into the major construction program" in order to succeed.

2. It is imperative for each of you to understand that a considerable component of this required change is at the planning, design and construction execution level. VA has historically struggled to balance customer requested changes with the need to control scope and cost growth. The problematic results of that strain are highlighted in the USACE reports recently shared with you. For these reasons, the fundamental changes referenced above must be implemented now. While there is considerable work ahead to develop a full implementation plan for VA's Major Construction Policy and our working processes/procedures with the USACE, I draw your attention to these basic framework principles:

a. Defining requirements and managing design. CFM's involvement starts early during requirements development. This includes all planning activities in an integrated process. For example, it is essential to identify supporting systems, utilities, historic and environmental issues, and project risks at the earliest possible phase to avoid preventable surprises. We should advise the customer regarding the consequences of various alternatives considered in these early phases and assist decision making.

Designs must be developed in accordance with the approved Strategic Capital Investment Plan (SCIP) scope, as defined in the Business Case. The design is locked in at the 35 percent design milestone, and forms the basis for the project budget request. We are responsible for assisting the customer in progressing from concept to activation, and for managing both the design efforts and the customer's expectations in a manner that prevents budget and time increases.

b. Baseline and Re-baseline of Major Construction Project Schedules. The CFM Integrated Master Schedule (IMS) Standard Operating Procedure (SOP) is nearing publication. This SOP prescribes how projects are baselined for schedule, and specific steps and authority to re-baseline. It is absolutely critical that these procedures are diligently followed . (An SOP for leases will follow.)

c. Customer Requested Changes. Customer requested changes at any point in project delivery will generally be considered to ensure (1) The Joint Commission or other accrediting body requirements are met, (2) patient or staff safety, (3) code change requirements (e.g., life safety or security) are met, or (4) critical operational functionality (e.g., significant surgical procedure technological advancement) is provided. However, every effort must be made to assure that schedule and cost growth is avoided. This is an area where strict discipline is needed, in both the design and construction periods. Managing for no scope and/or cost growth is one of our principle responsibilities. Additional guidance will follow on this topic.

d. Communication. This is an area that requires significant improvement. We must ensure that customers are timely apprised of schedule or cost changes. At the other end of the communication line, the CFM chain of command must be fully cognizant of proposed schedule extensions or proposed cost increases, and their associated impacts, before decisions or commitments are made. Failure to do so places us in untenable or even indefensible positions, which severely damages CFM's credibility and our ability to manage the project.

e. Timely Contract Modifications. Contract Modifications for design and construction must be identified and timely negotiated in order to avoid unilateral change orders that may result in protracted efforts to definitize time and cost. This is a team effort, and we must engage the members of the project team early to drive timely resolutions of Requests for Equitable Adjustments as well. We must develop and maintain trustful relationships with our contractor partners in order to promote fair and equitable change order pricing agreements. Absent this discipline, we have found ourselves in defenseless positions with our customers, Senior Executive Leadership as well as the Congress. This is not acceptable, and I expect us to work together to ensure we avoid such painful outcomes.

f. Business-based Decision Making. Our work in CFM is governed by our fair share of government laws, regulations and policies. That notwithstanding, we must become more principle-driven and less rule-driven in our processes and decisions. We cannot allow narrow interpretations, entrenched ways of doing things and differences of opinion to cause protracted organizational indecision or paralysis. At times, it is exceptionally difficult to balance the financial , regulatory and other external factors without some form of reasonable compromise. When this occurs, an appropriate organizational level business-based decision becomes necessary to ensure the best overall outcome in consideration of all available facts-at-hand.

g. Activation. There is much work yet to be done in order to establish clear roles and responsibilities for activation. The Administrations bear principal responsibility for activation. At a minimum, however, we have to reach out and assist the customer in activation planning. In the coming months, additional guidance will be developed and shared. In the meantime, we should work together to ensure successful outcomes, to protect the investments the government has made in these projects, and to ensure the facilities can quickly, safely and efficiently open to Veterans for their use.

3. I believe the principles above reflect an honest assessment of where we can, and must, improve. At the same time, I would be remiss if I did not remind everyone that USACE noted numerous strengths in VA's construction program and highlighted the quality and commitment of the project staff. I sincerely echo those sentiments.

4. An opportunity has presented itself, and the Deputy Secretary has expressed his confidence in CFM by giving us the commensurate authority to accomplish the task. Now it is up to us; so please consider this guidance in the spirit with which it is expressed – to ensure our success. I again thank you for everything you do each day – I am proud to be at the head of our organization.

(original signed by:)
STELLA S. FIOTES, AIA

Attachment*

For accessibility, the format of the original documents in this appendix has been modified to fit in this document.

OIG Note: The attachment to this attached memo was not included with documents received from the OALC.

Appendix I Contact and Staff Acknowledgments

OIG Contact	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
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Acknowledgments	Timothy Crowe, Director Maria Afamasaga Dennis Capps Debra Cato Charles Chiarenza Kevin Day William Diaz Marisa Fantasia Barry Johnson Kristopher Kasey Valerie Kimball Johnny McCray Thomas McPherson Mark Mullery Anne Mullett Brandon Parrinello Susan Popp Bryan Shaw Steven Toom Keila Tugwell-Core Craig Ward
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Appendix J Report Distribution

VA Distribution

Office of the Secretary
Veterans Health Administration
Veterans Benefits Administration
National Cemetery Administration
Assistant Secretaries
Office of General Counsel
Office of Acquisition, Logistics, and Construction
Board of Veterans Appeals

Non-VA Distribution

House Committee on Veterans' Affairs
House Appropriations Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
House Committee on Oversight and Government Reform
Senate Committee on Veterans' Affairs
Senate Appropriations Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
Senate Committee on Homeland Security and Governmental Affairs
National Veterans Service Organizations
Government Accountability Office
Office of Management and Budget
U.S. Senate: Michael F. Bennet, Cory Gardner
U.S. House of Representatives: Ken Buck, Mike Coffman, Diana DeGette,
Ann Kirkpatrick, Doug Lamborn, Ed Perlmutter, Jared Polis, Scott Tipton

This report is available on our Web site at www.va.gov/oig.