



Monitoring Review of Construction Change Orders as of March 31, 2024

Project # 24-16

Prepared by
Office of the Inspector General

J. Timothy Beirnes, CPA, Inspector General



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

July 11, 2024

Governing Board Members

Re: Monitoring Review of Construction
Change Orders - *Project No. 24-06*

This review was performed pursuant to the Inspector General's authority set forth in Chapter 20.055, F.S. The review assessed whether change orders during the review period were negotiated in accordance with contract terms and conditions, calculated accurately, and whether the change order percentage is within industry averages. During this review, we also identified all construction contract change orders that the Governing Board authorized through resolutions during the period October 1, 2023 through March 31, 2024.

Sincerely,

A handwritten signature in blue ink, reading "J. Timothy Beirnes".

J. Timothy Beirnes, CPA
Inspector General

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BACKGROUND

A contract change order is created when a project requires an adjustment for time, scope of work, or cost of the project. Without monitoring, change orders can significantly increase a project's budget or timeline. At the request of the Governing Board, a report was created that expresses construction change orders as a percentage of original contract amounts. The Engineering and Construction Bureau of the Ecosystem Restoration and Capital Projects Division provided a reporting of the progress of construction contracts as well as the amount and percentage of change orders for projects between 2015 and 2020 to the Division Director in November 2020. This report showed an average change order amount of 4% for District contracts. Although the types of construction projects at the District are not typical of industry construction, the industry standard for change order percentages is approximately 8-14%. In FY 2020 our office performed the *Audit of Construction Change Orders*, (Project No. 21-07). Since the initial report, we have monitored the ongoing percentage for change orders since Fiscal Years 2020, which covers the time period since the initial audit report was issued.

Each contract is led by a project manager, who is responsible for negotiating changes with contractors and moving necessary change orders through the approval process. Currently, all the District's change orders, along with approvals and supporting documentation, are maintained in a construction project management information system, eBuilder, which the District began using in 2018. eBuilder is a cloud-based Software as a Service (SaaS) product that tracks the project's performance through the project's entire life cycle. Users access eBuilder by logging into the software online. Each user is provided a dashboard showing details of their projects, outstanding tasks, and communications with other project members. Construction project documentation was migrated to eBuilder in 2018. The entire life of the project can be monitored through the software, including:

- Site visits,
- Quotes,
- Negotiations of change order amounts (documented through correspondence)
- Change order documents
- Resource management,
- Invoices, and
- Project closeout.

Monitoring of the construction change order process and percentage will typically occur on a biannual basis. Monitoring reviews consist of calculating the change orders as a percentage of original contract and reviewing documentation and management authorization controls for the change orders that have been executed since the previous review.

OBJECTIVES, SCOPE, AND METHODOLOGY

This review includes all contracts with change orders approved during the period October 1, 2023 through March 31, 2024 (the “Reporting Period”). This includes contracts that are still active as well as contracts that were completed and closed out during the Reporting Period. The review encompassed identifying all the change orders, associated with such contracts, approved during the period as well as the total cumulative contract change orders through March 31, 2024. The change order percentage calculation was determined based on total cumulative contract change orders to date. This was deemed the most appropriate method of assessing change order activity since many projects often span over several fiscal periods.

Our review also assessed whether change orders during the review period were negotiated in accordance with contract terms and conditions, calculated accurately, and whether the change order percentage is within industry standards. This review also included identifying all construction contract change orders that the Governing Board authorized through resolutions during the Reporting Period to ensure that all authorized change orders were included in the eBuilder system. It should be noted that the approval date in eBuilder represents the date that the staff finalized the approval process for a change order and not the Governing Boards authorization date. To accomplish our objectives, our audit methodology entailed performing the following procedures:

- Interviewing pertinent District staff;
- Reviewing any updates to Change Order policies and procedures;
- Reviewing reports and documentation of authorized change orders for accuracy;
- Reviewing Governing Board meeting agendas and minutes to identify all authorized change orders; and
- Other procedures as deemed necessary.

Details regarding all contracts with change order activity during the Reporting Period are included in the Appendix on Page 7.

REVIEW RESULTS

Fifty-eight (58) change orders were executed during the Reporting Period, encompassing 21 different contracts. Eight (8) of these change orders had no dollars associated with them, which are typically changes to contract completion time periods. This change order activity is summarized in the following table:

Change Order Summary for the Period 10/1/2023 - 3/31/2024			
	All Change Orders	Outliers	Excluding Outliers
Original Contract Amount	<u>\$ 633,575,371</u>	<u>\$ (211,071,108)</u>	<u>\$ 422,504,263</u>
Approved Period Periods	\$ 104,025,466	\$ (88,972,117)	\$ 15,053,349
Approved Current Period	<u>17,772,557</u>	<u>(12,618,140)</u>	<u>5,154,417</u>
Cumulative Approved	<u>\$ 121,798,023</u>	<u>\$ (101,590,257)</u>	<u>\$ 20,207,766</u>
Percent of Original Contract	19.2%		4.8%

Documentation for a sample of 10 of these change orders was reviewed to ensure that the change order internal control processes were followed and that the eBuilder contained the necessary documentation. Change order average percentage for the Reporting Period was 19.2% with all contracts included, and 4.8% with outlying contracts excluded. The calculation, excluding the outliers, is within the industry average of 8-14%.

The two change orders shown in the table below were considered as outliers by the Engineering and Construction Bureau Management and not indicative of a change order rate resulting from design and technical review errors or omissions. Additionally, design-build contracts were excluded from our analysis since they would also be considered outliers due to the nature of such contracts.

Change Orders Outliers For the period 10/1/2023 through 3/31/2024							
Project Name	Contract #	Original Contract Value	CO Approved Date	Approved Current Period	Approved Prior Periods	Cumulative Approved Changes	CO %
C-139 Annex Restoration Phase 2 and Agricultural Area Stormwater Rerouting, Hendry County, FL (1)	4600004336	\$ 35,227,108	1/3/2024	\$(11,347,210)	\$ 0	\$ (11,347,210)	-32.2%
CEPP New Waters EAA A-2 STA, Palm Beach County, Florida (2)	4600004380	\$ 175,844,000	7/7/2023	\$ 23,965,350	\$ 88,972,117	\$ 112,937,467	64.2%
Total Outliers		\$ 211,071,108		\$ 12,618,140	\$ 88,972,117	\$ 101,590,257	48.1%

- (1) C-139 Annex Restoration Phase 2 and Agricultural Area Stormwater Rerouting Hendry County 2 change order was due to a scope reduction by removing areas of work to provide time for invasive vegetation management.
- (2) A-2 STA change order was a scope increase by adding work in the STA inflow canal that doubles as the reservoir seepage canal. It adds the seepage management treatment in that canal and expands the cross section to allow the treatment to be added and not impact the original design section required for flow.

During this review, we identified all construction contract change orders the Governing Board authorized through resolutions during the Reporting Period, which covers the period since our last change order monitoring review report. During the Reporting Period the Governing Board approved three (3) change order resolutions. We noted that all these change orders were entered into eBuilder along with all necessary documentation and management authorizations. The total amount of change orders authorized by Governing Board resolution for the Reporting Period was \$24,121,803 and the total amount of change orders executed for these three (3) resolutions was also \$24,121,803, as summarized in the following table.

Contract Changes Through Board Resolution October 1, 2023 Through March 31, 2024				
Project (1)	Board Meeting Date	Resolution #	Board Approved Amount	Executed Change Order
STA-1W Expansion #2 G-780 & G781 Pump Stations Project	12/14/2023	2023-1214	\$298,307	\$298,307
STA-1W Expansion #2 G-782 Pump Stations Project	12/14/2023	2023-1215	\$898,892	\$898,892
CEPP New Waters EAA A-2 Stormwater Treatment Area, Palm Beach County, Florida	12/14/2023	2023-1220	\$22,924,604	\$22,924,604
Total			\$24,121,803	\$24,121,803

(1) Excludes design-build contracts.

APPENDIX

Approved Change Orders October 1, 2023 through March 31, 2024							
Project name	Contract #	Original Commitment Value	CO Approved Date	Approved Current Period	Approved Prior Periods	Cumulative Approved CO's	CO %
8.5 SMA Limited Curtain Wall, Miami Dade County, Florida	4600004395	\$ 13,922,858	12.11.2023	\$ 696,885	\$ 799,298	\$ 1,496,182	10.7%
Big Cypress Basin SCADA Site Developments, Collier County, FL	4600004619	\$ 649,620	01.16.2024	\$ 250,000	\$ 78,238	\$ 328,238	50.5%
C139 Annex Restoration Phase 2 and Agricultural Area Stormwater Rerouting, Hendry County, FL	4600004336	\$ 35,227,108	01.03.2024	\$ (11,347,210)	\$ -	\$ (11,347,210)	-32.2%
C-23 Estuary Discharge Diversion Project, Martin County, FL	4600004680	\$ 46,227,152	02.19.2024	\$ 594,724	\$ 803,518	\$ 1,398,242	3.0%
C-43 Canal Water Quality Treatment and Testing Project, Glades County, FL	4600004685	\$ 24,623,410	02.22.2024	\$ -	\$ -	\$ -	0.0%
CEPP New Waters EAA A-2 Stormwater Treatment Area, Palm Beach County, Florida	4600004380	\$ 175,844,000	03.15.2024	\$ 23,965,350	\$ 88,972,117	\$ 112,937,467	64.2%
L-28 Power Conduit Project, Miami-Dade County, Florida	4600004818	\$ 1,965,099	01.09.2024	\$ -	\$ -	\$ -	0.0%
LOWRP Aquifer Storage and Recovery (ASR) C-38N Test Well Construction and Testing, Glades County, FL	4600004399	\$ 7,996,750	02.12.2024	\$ -	\$ 290,853	\$ 290,853	3.6%
LOWRP Aquifer Storage and Recovery (ASR) C-38S Test Well Construction and Testing, Glades County, FL	4600004398	\$ 7,086,300	02.12.2024	\$ -	\$ 2,291,808	\$ 2,291,808	32.3%
LOWRP Aquifer Storage and Recovery (ASR) L-63N ASR Test Well, Okeechobee County, Florida	4600004677	\$ 8,934,954	03.20.2024	\$ 638,529	\$ -	\$ 638,529	7.1%
Pump Station S3 Concrete Repairs and Coating Project, Hendry County, FL	4600004765	\$ 349,375	11.07.2023	\$ 6,337	\$ -	\$ 6,337	1.8%
RS-G341 Conveyance Improvements Phase 1: Bolles East (L16) Canal Conveyance Improv - Segment 5, Palm Beach County, Florida	4600004592	\$ 7,307,200	01.24.2024	\$ 180,628	\$ 119,806	\$ 300,434	4.1%
S-290 and S-285 SCADA Retrofit and Automation, Glades County, Florida	4600004486	\$ 3,090,600	10.04.2023	\$ 23,871	\$ 38,360	\$ 62,231	2.0%
S-470 Caloosahatchee River (C43) West Basin Storage Reservoir Pump Station S-470, Hendry County, FL	4600003780	\$ 58,510,200	01.04.2024	\$ 122,903	\$ 3,287,353	\$ 3,410,256	5.8%
S-6 Pump Station Refurbishment Phase 1, Palm Beach County, Florida	4600004495	\$ 1,830,385	01.26.2024	\$ 7,606	\$ 414,495	\$ 422,101	23.1%
S9 and S9A Trash Rake and Pump Station Refurbishment, Broward County, Florida	4600004514	\$ 27,492,651	12.15.2023	\$ 415,288	\$ 3,630,099	\$ 4,045,387	14.7%
STA 1W Expansion #2 G-780 and G-781 Pump Stations, Palm Beach County, Florida	4600004334	\$ 76,122,514	03.26.2024	\$ 276,808	\$ 1,299,525	\$ 1,576,333	2.1%
STA 1W Expansion #2 G-782 Pump Station, Palm Beach County, Florida	4600004335	\$ 37,418,195	12.21.2023	\$ 1,189,745	\$ 602,935	\$ 1,792,679	4.8%
STA 1W Expansion #2 STA, Palm Beach County, Florida	4600004295	\$ 96,800,000	11.29.2023	\$ 30,000	\$ 1,120,320	\$ 1,150,320	1.2%
STA-1E Cell 2 -Outflow Structure Emergency Generator Project, Palm Beach County, Florida	4600004792	\$ 2,177,000	12.21.2023	\$ 721,094	\$ 276,742	\$ 997,836	45.8%
		\$ 633,575,371		\$ 17,772,557	\$ 104,025,466	\$ 121,798,023	19.2%
	Outliers	\$ (211,071,108)		\$ (12,618,140)	\$ (88,972,117)	\$ (101,590,257)	
Totals Excluding Outliers		\$ 422,504,263		\$ 5,154,417	\$ 15,053,350	\$ 20,207,767	4.8%