



**Monitoring Review of  
Construction Change Orders from  
April 1, 2024 through September 30, 2024**

**Project # 25-04**

**Prepared by  
Office of the Inspector General**

**J. Timothy Beirnes, CPA, Inspector General**



## SOUTH FLORIDA WATER MANAGEMENT DISTRICT

December 12, 2024

Governing Board Members

Re: Monitoring Review of Construction  
Change Orders – April 1, 2024 through  
September 30, 2024 - *Project No. 25-04*

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 April 1, 2024 through September 30, 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.

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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. Our previous review covered the period from October 1, 2023 to March 31, 2024.

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## OBJECTIVES, SCOPE, AND METHODOLOGY

This review includes all contracts with change orders approved during the period April 1, 2024 through September 30, 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 September 30, 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;
- Running the “Approved Change Orders by Contract” report in eBuilder for the period from April 1, 2024 to September 30, 2024.
- 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.

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## REVIEW RESULTS

Seventy-two (72) change orders were executed during the Reporting Period, encompassing 16 different contracts. Ten (10) 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:

<b>Change Order Summary for the Period 4/1/2024 - 9/30/2024</b>			
	<b>All Change Orders</b>	<b>Outliers</b>	<b>Excluding Outliers</b>
<b>Original Contract Amount</b>	<b><u>\$ 526,242,958</u></b>	<b><u>\$ (238,563,759)</u></b>	<b><u>\$ 287,679,199</u></b>
<b>Approved Prior Periods</b>	<b>\$ 111,567,839</b>	<b>\$ (102,062,587)</b>	<b>\$ 9,505,252</b>
<b>Approved Current Period</b>	<b><u>17,262,443</u></b>	<b><u>(13,755,410)</u></b>	<b><u>3,507,033</u></b>
<b>Cumulative Approved</b>	<b><u>\$ 128,830,282</u></b>	<b><u>\$ (115,817,997)</u></b>	<b><u>\$ 13,012,285</u></b>
<b>Percent of Original Contract</b>	<b>24.5%</b>		<b>4.5%</b>

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 24.5% with all contracts included, and 4.5% with outlying contracts excluded. The calculation, excluding the outliers, is within the industry average of 8-14%.

Cumulative change orders for three (3) contracts, 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 4/1/2024 through 9/30/2024							
Project Name (notes)	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	8/20/2024	\$ 1,006,994	\$(11,347,210)	\$ (10,340,216)	-29.4%
CEPP New Waters EAA A-2 STA, Palm Beach County, Florida (2)	4600004380	\$ 175,844,000	9/26/2024	\$ 539,524	\$112,669,921	\$ 113,209,445	64.4%
S9 and S9A Trash Rake and Pump Station Refurbishment, Broward County, Florida (3)	4600004514	\$ 27,492,651	9/30/2024	\$ 12,208,892	\$ 739,876	\$ 12,948,768	47.1%
<b>Total Outliers</b>		<b>\$ 238,563,759</b>		<b>\$ 13,755,410</b>	<b>\$102,062,587</b>	<b>\$ 115,817,997</b>	<b>48.5%</b>

- (1) C-139 Annex Restoration Phase 2 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. Adding this work to the STA contract and removing it from the reservoir contract prevents having to shut down the STA to build in this seepage canal feature and cause possible dry out in the STA in the future.
- (3) S9 and S9A Trash Rake and Pump Station Refurbishment, Broward County, Florida change orders were a scope increase by adding work to the contract. During the required construction activities to dismantle the existing pump components, pump system components were observed to show significant corrosion and wear from almost 70 years of use. In order to be proactive and prevent a potential pump station failure in the near future, these components needed to be replaced now while the pumps are being refurbished. Change Order No. 7 included pre-purchase of the new pump shafts for S-9 and fabrication of four flap gates and discharge pipes for S-9A. Change Order No. 8 includes the refurbishment of impellers and replacement (installation) of the three 2-piece pump shafts and associated hardware at S-9 and four flap gates and discharge pipes at S-9A. Additionally, corrosion and damages were discovered that required repair of the service bridge and lead abatement at S-9. The contractor has demobilized off the site until the fabrication in Change Order No. 7 is complete, and the extended overhead in Change Order No. 8 covers the timeframe when they remobilize to completion of the work.



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 four (4) change order resolutions. We noted that all four (4) 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 \$13,094,781 and the total amount of change orders executed for these four (4) resolutions was also \$13,094,781, as summarized in the following table.

Contract Changes Through Board Resolution April 1, 2024 Through September 30, 2024				
Project (1)	Board Meeting Date	Resolution #	Board Approved Amount	Executed Change Order
C-23 Estuary Discharge Diversion	4/11/2024	2024-0408	\$803,518	\$803,518
S-9 and S-9A Trash Rake and Pump Station Refurbishments Project	4/11/2024	2024-0411	\$3,305,511	\$3,305,511
STA-1E Cell- Outflow Structure Emergency Power Generator Project	4/11/2024	2024-0412	\$216,784	\$216,784
S-9 and S-9A Trash Rake and Pump Station Refurbishments Project	7/11/2024	2024-0707	\$8,768,968	\$8,768,968
<b>Total</b>			<b>\$13,094,781</b>	<b>\$13,094,781</b>

(1) Excludes design-build contracts.

## APPENDIX

Approved Change Orders April 1, 2024 through September 30, 2024							
Project name	Contract #	Original Commitment Value	CO Approved Date	Approved Current Period	Approved Prior Periods	Cumulative Approved CO's	CO %
BBCW Cutler Flow Way Phase 1 Pump Station S-701, Miami-Dade County, Florida	4600004658	\$ 35,847,000	06.18.2024	148,351	0	148,351	0.4%
Agricultural Area Stormwater Rerouting, Hendry County, FL	4600004336	\$ 35,227,108	08.20.2024	1,006,994	(11,347,210)	(10,340,216)	-29.4%
C-23 Estuary Discharge Diversion Project, Martin County, FL	4600004680	\$ 46,227,152	05.14.2024	819,460	594,724	1,414,185	3.1%
C-43 Canal Water Quality Treatment and Testing Project, Glades County, FL	4600004685	\$ 24,623,410	08.05.2024	962,565	0	962,565	3.9%
CEPP New Waters EAA A-2 Stormwater Treatment Area, Palm Beach County, Florida	4600004380	\$ 175,844,000	09.26.2024	539,524	112,669,921	113,209,445	64.4%
CEPP North S-620 Gated Culvert and L-6 Improvements, Palm Beach County, FL	4600004686	\$ 13,603,585	09.24.2024	450,477	0	450,477	3.3%
LOWRP Aquifer Storage and Recovery (ASR) C-38N Test Well Construction and Testing, Glades County, FL	4600004399	\$ 7,996,750	09.27.2024	(163,325)	290,853	127,528	1.6%
LOWRP Aquifer Storage and Recovery (ASR) C-38S Test Well Construction and Testing, Glades County, FL	4600004398	\$ 7,086,300	09.27.2024	(99,035)	2,291,808	2,192,773	30.9%
LOWRP Aquifer Storage and Recovery (ASR) L-63N ASR Test Well, Okeechobee County, Florida	4600004677	\$ 8,934,954	05.23.2024	0	950,043	950,043	10.6%
LOWRP Aquifer Storage and Recovery (ASR) L-63N ASR Test Well, Okeechobee County, Florida	4600004677	\$ 8,934,954	09.19.2024	311,515	638,529	950,043	10.6%
S-2, S-3, S-4, S-7 and S-8 Monitoring Panels Project, Palm Beach, Glades and Broward Counties, FL	4600004593	\$ 16,877,000	07.25.2024	43,477	227,088	270,565	1.6%
S-6 Pump Station Refurbishment Phase 1, Palm Beach County, Florida	4600004495	\$ 1,830,385	08.05.2024	142,294	422,101	564,395	30.8%
S9 and S9A Trash Rake and Pump Station Refurbishment, Broward County, Florida	4600004514	\$ 27,492,651	09.30.2024	12,208,892	739,876	12,948,768	47.1%
STA 1W Expansion #2 G-780 and G-781 Pump Stations, Palm Beach County, Florida	4600004334	\$ 76,122,514	09.09.2024	277,005	1,576,333	1,853,338	2.4%
STA 1W Expansion #2 G-782 Pump Station, Palm Beach County, Florida	4600004335	\$ 37,418,195	09.09.2024	91,867	1,792,679	1,884,547	5.0%
STA-1E Cell 2 -Outflow Structure Emergency Generator Project, Palm Beach County, Florida	4600004792	\$ 2,177,000	07.15.2024	522,382	721,094	1,243,476	57.1%
	<b>Totals</b>	<b>\$ 526,242,958</b>		<b>17,262,443</b>	<b>111,567,839</b>	<b>128,830,282</b>	<b>24.5%</b>
	<b>Outliers</b>	<b>\$ (238,563,759)</b>		<b>(13,755,410)</b>	<b>(102,062,587)</b>	<b>(115,817,997)</b>	
<b>Totals Excluding Outliers</b>		<b>\$ 287,679,199</b>		<b>3,507,033</b>	<b>9,505,252</b>	<b>13,012,285</b>	<b>4.5%</b>