



Monitoring Review of Construction Change Orders

Project #22-12

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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. 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%.

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 detailing 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 occur on a biannual basis. The monitoring review consists of calculating the change order percentage and reviewing documentation and management authorization controls for the change orders which have been authorized since the previous review. There was no planned or requested report of change orders pending, therefore, there were no reports for which to determine accuracy.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our 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 standards¹. The review scope covers the change orders which were approved between October 1, 2021, and March 18, 2022. The change order average percentage was calculated using projects which were open between Fiscal years 2020 to present.

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; and
- Other procedures as deemed necessary.

¹ See Project #21-07, Audit of Construction Change Orders. Although the types of construction projects at the District are not typical of industry construction, we referred to the industry standard for change order percentages for comparison, which is approximately 8-14%.

REVIEW RESULTS

The project documentation in eBuilder appeared complete and accurate. There were 20 change orders which were completed during the time of this review (October 1, 2021 and March 18, 2022). The population of change orders totaled \$2,588,195. We tested four of the 20 change orders, totaling \$1,432,631 (or, 55% of the total population). The change orders tested appeared in accordance with contract terms and conditions. All four of the change orders reviewed were accurately input into eBuilder, authorized appropriately, and accurately calculated.

The current change order average percentage for this review period is calculated at 13% with all contracts considered, and 4% with outlying contracts removed. Both calculations (with and without outliers) were within the industry average of 8-14%.

There were six change orders which are 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. Outlying change order instances such as these were discussed previously in the Construction Change Orders audit 21-07.