

Audit at a glance

Construction Manager/ General Contractor Project Delivery Method

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ABOUT | Northfield Fire Station No. 39 in Denver's Central Park neighborhood was completed in July 2020 and cost about \$8.8 million.

The Department of Transportation & Infrastructure used the "construction manager/general contractor" project delivery method to build the fire station.

Under this method, a project has three contracts: a design contract, a preconstruction contract, and a construction contract. The city hires both a designer and a contractor, who work together from early on in the project to plan, design, and build the project. The contractor first serves as the construction manager during preconstruction before transitioning to be the general contractor to oversee construction.



In the report

FINDING: The Department of Transportation & Infrastructure Inadequately Managed the Northfield Fire Station Construction Project and Did Not Effectively Monitor Costs to Ensure the City Was Not Overcharged

- Inadequately managing city construction projects means the City and County of Denver potentially wastes taxpayer money. The city might not receive all contractually required services and deliverables it is paying for, and it risks paying too much for the services it does receive.
- While we did not find any concerns with the city not getting what it paid for on the Northfield project, we identified numerous issues with the city's management of the construction project. Specifically:
 - The Department of Transportation & Infrastructure over-relied on the contractor, PCL Construction Services Inc., to determine the guaranteed maximum price — the most the city should have paid for construction. Staff did not validate the contractor's cost estimates to ensure they were fair or accurate.
 - Staff did not ensure PCL Construction Services provided the city with all its cost estimates, and the construction team members did not sufficiently collaborate as the contractor developed those estimates.
 - Transportation & Infrastructure staff did not adequately oversee how the contractor hired subcontractors — specifically to ensure PCL Construction Services followed a fair and reasonable bidding process, as required by the construction contract.
 - Furthermore, staff didn't oversee how PCL Construction Services awarded itself a subcontract for certain work. We found the company exceeded the amount it had proposed for the work it subcontracted to itself, and the city paid the company twice for some services related to preconstruction.

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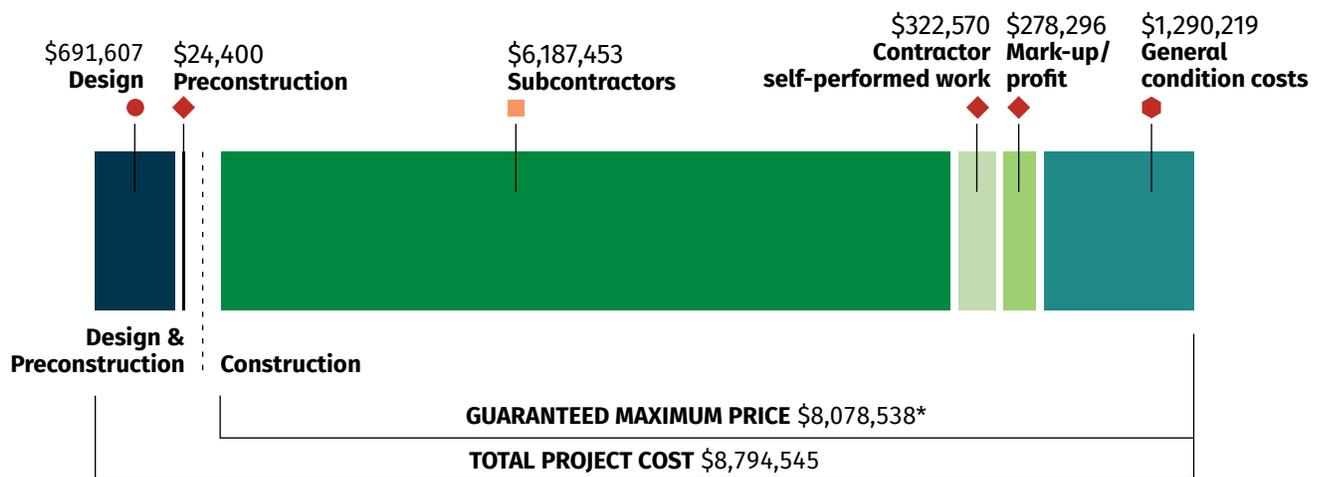


- Transportation & Infrastructure staff did not ensure that all costs it paid to the designer, OZ Architecture Inc., were accurate. We found several inconsistencies related to the firm’s billing rates when comparing the contract terms and the billed costs on the firm’s invoices to the city.
- As a department, Transportation & Infrastructure lacks policies and procedures for managing technically complex construction projects — namely those that use the “construction manager/general contractor” method.
- The department also lacks a process to determine which project delivery method to use on a given project. The department needs written guidance so decisions are made consistently and the optimal project delivery method is selected for a given project.

- Transportation & Infrastructure staff did not collaborate with the entire construction team to identify, manage, and monitor construction-related risks specific to the Northfield Fire Station project.
- Staff also did not verify the accuracy of PCL Construction Services’ billings for certain costs. Specifically, they did not require the company to submit supporting detail that the city could use to verify about \$1.29 million in costs.
- Staff did not ensure the designer and the contractor complied with contract terms related to submitting detailed invoices each month.
- Lastly, Transportation & Infrastructure did not verify the accuracy of costs on the project’s single change order for \$82,404 in additional construction work needed to conform with the Denver Fire Department’s requests and for minor repairs.

Project Costs, Guaranteed Maximum Price, and Payment Terms for Northfield Fire Station No. 39

- Cost-plus contract between Department of Transportation and Infrastructure and OZ Architecture Inc.
- ◆ Lump-sum contract between Department of Transportation and Infrastructure and PCL Construction Services Inc.
- Lump-sum subcontracts between PCL Construction Services Inc. and subcontractors
- Direct costs reimbursed to PCL Construction Services Inc. for managing and overseeing the project on actual cost basis



*\$7,996,134 (original guaranteed maximum price), plus \$82,404 (city-initiated change order)

Note: Under the terms of a “lump-sum” contract, the project owner pays a set price in exchange for contracted services, no more and no less. Under the terms of a “cost-plus contract,” the designer or contractor bills the owner for the actual cost of their services and labor, plus a percentage for profit.

Source: Auditor’s Office analysis of information from contractor-submitted invoices from the Northfield Fire Station project.

