

FINAL PROJECT REPORT

Contract No. ML16056A

FY 2018-2019

CNG Facility Expansion Project

City of Ontario

Expand the Number of Time Fill Hoses at the City's Municipal Services Center



April 2019

Prepared for: **Mobile Source Air Pollution Review Committee**

Under the AB 2766 Discretionary Fund Work Program

Prepared by: **City of Ontario**

ACKNOWLEDGEMENTS

This report was submitted in fulfillment of ML16056A and Expand the number of CNG Time Fill Post by 24 under the partial sponsorship of the Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was completed as of July 7, 2018.

DISCLAIMER

The statement and conclusions in this report are those of the contractor and not necessarily those of the Mobile Source Air Pollution Reduction Review Committee (MSRC) or the South Coast Air Quality Management District (SCAQMD). The mention of commercial products, their sources or their uses in connection with material reported is not to be construed as either an actual or implied endorsement of such products.

PROJECT DESCRIPTION AND WORK PERFORMED

The City of Ontario owns and operates a CNG vehicle fueling facility located at 1440 South Cucamonga Ave. Ontario, California 91761; which provides fuel for City vehicles, Ontario-Montclair School District buses and public use. The facility, built in 1994 was in need of additional time fill connections in order to support the City's existing and future CNG-fueled vehicle fleet.

The increasing demand of services for the community while continuing our efforts to improve air quality increased the need for clean fuel vehicles. Without the upgrades to the CNG fueling infrastructure, the City would not have the ability to adequately fuel its growing CNG fleet.

The gradual growth of the City is expected to continue for years and the failure to add capacity to our time-fill infrastructure would have had a negative impact on the City's programs due to an inability to fuel the CNG Fleet of vehicles overnight in preparation of daily operations.

The equipment has enabled the fueling of twenty-four (24) additional vehicles and allows the City to continue replacing petroleum-fueled vehicles with additional CNG vehicles.

Prior to July 2018, the City had seventy-six (76) time-fill post; at the time enough for the CNG Refuse and Utility Department vehicles. In the last eight (8) months the City has added seven (7) new CNG -fueled vehicles. The City's plan is to replace the remaining on-road diesel powered vehicles within the year; displacing the use of approximately 3,000 gallons of diesel per year.

The projected cost of the original projects scope was \$1,101,041. Since there were other improvement project being performed on the property in areas adjacent to this project a majority of the improvements were incorporated into those projects and we were able to reduce the cost significantly. The actual final cost of the project was \$213,130.

PROJECT PURPOSE

The purpose of the project is to provide the City the ability to increase number of modern, safe, and efficient compressed natural gas (CNG) fueling connections to meet existing and future needs of its CNG Fleet.

The objectives included excavating to install underground conduits to connect to the existing CNG fueling system, installing a new K-Rail with 2 one hose posts and 11 two hoses posts, piping, electrical wiring, valves, hoses, connectors, retractors, emergency shut-off buttons, safety signage and fire extinguishers to facilitate ease of use and function for CNG time-fill users.

Figure 1: The City's Newly Installed CNG Time-Fill Rail



GOAL

The goal of this project is to provide more CNG time-fill hose that can meet existing and future fueling needs of the City, reduce greenhouse gas emissions, and decrease particulate matter emissions.

OBJECTIVE

The objectives included placing a new CNG fueling rail infrastructure on a recently paved area on our property with modern, safe, and efficient equipment that will facilitate ease of use and function for CNG station users.

Figure 2: New CNG Time-Fill Rail & Post



PROJECT APPROACH

Engineering and Design

The work performed under the Design Contract generally consists of installing approximately 14 new concrete K-rail mounted dual hose time-fill dispensers, including 5 new ESD/fire extinguisher posts, Install safety signs, fire extinguishers and ESD pushbuttons as required. Install/repair equipment grounding system as required. Complete testing of gas piping and tubing.

This project was designed by Robert Borders & Associates in association with Katahdin Environmental. Mr. Timothy Nelligan, PE was the project manager for Katahdin Environmental, and as such provided technical support to Robert Borders & Associates in the design of the CNG facility upgrades. The new CNG facility was essentially designed around the City's existing infrastructure (gas/power supply etc.), which optimized the costs of the new, upgraded facility.

CNG Equipment Procurement

After completing engineering and design of the CNG facility, the City proceeded to advertise the project for receipt of public bids through the City's electronic bid management system.

The bid documents were prepared so that the interested bidder would be able to select the best CNG equipment for his bid. In the Contract Documents, potential bidders were required to identify the manufacturer or supplier of the CNG equipment to assist the City in choosing the best responsive bidder.

CNG Equipment Installation Contractor

Installation construction contract was awarded to Fueling and Services Technologies (Fastech) on April 3, 2018 with a Notice to Proceed on April 9, 2018. Installation of the CNG facility commenced May 2018 with a project completion date of July 7, 2018. The CNG fueling infrastructure was commissioned in July 2018.

Infrastructure

The following equipment was installed on this project:

1. CNG Time-Fill Dispenser: 11 each Fastech dual hose CNG post with signage.
2. CNG Time-Fill Dispenser: 2 each Fastech single hose CNG post with signage, 3 Coalescing filters, filter stand with appurtenances.
4. K-rail barrier system for mounting CNG fill posts.
5. Fire extinguisher and ESD post.

CNG Station Start-up and Commissioning

Prior to commissioning it was necessary for Fastech to provide the City with a completed pre-commissioning check list. This document contains pertinent information that enabled the City to approve the commissioning of the facility. The new CNG infrastructure was commissioned in July 2018 and 1 training sessions was provided to City personnel. Fastech provided operation and maintenance manuals to City personnel for guidelines in the proper operation of the CNG facility.

PROBLEMS ENCOUNTERED

At the time Contract No. ML16056 was executed in April 2016; we anticipated no problems completing the project by October 2017. The original design estimate was more than anticipated so additional time was required to coordinate scheduled on site projects and tasks with the CNG expansion work; the City was granted an extension ML16056A. By modifying the design and deferring some tasks to other on site projects the estimate and final cost was reduced.

OUTREACH

To promote our newly rehabilitated facility, we have announced it on our website informing of our completed project. We posted logos of the grant funding received on entrance gates and at the new time-fill rail.

SUMMARY AND CONCLUSION

This project, funded by Mobile Source Air Pollution Reduction Review Committee through AB 2766 grant ML16056A, has achieved its goal. The primary objective was to increase the number of CNG time-fill connections to fuel future City vehicles. The City of Ontario is scheduled to add eight (8) new CNG vehicles within a year replacing three (3) diesel units, increasing the total number of City CNG-fueled vehicles to ninety-six (96).