

CASE STUDY / **BROWNFIELD TERMINAL EXPANSION**

## A ROBUST EFFORT TO FUEL A GROWING COMMUNITY

The Denver region is bustling with tourists and a consistently growing population. Recognizing the profit potential in fueling this active community, a confidential client began a multipronged project to increase low-grade gasoline and diesel capacity at its existing terminal station.



# EFFECTIVE COORDINATION DELIVERS A EXTENSIVE PROJECT ON TIME AND UNDER BUDGET

A dedicated and fully integrated team designs a three-pronged plan for a valuable expansion.

## CHALLENGE

Recognizing the revenue potential in a booming Denver market, a confidential client sought a way to transport and store more low-grade gasoline and diesel at an existing terminal site. To support a seamless expansion, our team designed a three-pronged project plan — reversing flow in an existing pipeline, adding a new storage tank and upgrading the ancillary systems.

## SOLUTION

Our fully integrated team began design work on all three aspects of the project in parallel to adhere to the client's schedule. We designed a pipeline junction to reverse the flow of refined fuel from the southern U.S. to the Denver region. This allowed the site to receive more fuel, and provided an opportunity to establish a new fuel supply contract with a third party, increasing revenue for the client.

To accommodate the added volume of refined fuel at the brownfield terminal, we worked with the client and the city to secure the necessary permits for a new 130,000-barrel tank, now the largest structure on-site. Design of the tank included an internal floating roof, a tie into

existing subgrade and fill lines, and a jumper from the new suction line to the suction side of a recently installed pump. We also installed tank-level instrumentation, modified the existing fire water loop system and added fire monitors. With several tanks on-site already, our design determined the right head pressure from the new tank to the existing system — allowing seamless circulation between all tanks at the terminal.

We designed all supporting systems for the large-capacity tank, including a 98% efficient vapor combustor unit (VCU), a 12-inch vapor line connecting to the truck loading rack, and all associated power and communications cables from the existing switch rack. Three new loading arms were also incorporated to transfer product to trucks as needed.

## RESULTS

Despite the common challenges associated with working on an active brownfield site, we were able to complete design of all three aspects of this program on time and under budget. With this multifaceted project complete, the client will be able to provide fuel for the active Denver community for years to come.

## PROJECT STATS

**CLIENT**  
Confidential

**LOCATION**  
Colorado

# 130K

**BARRELS OF  
CAPACITY ADDED**

# 98%

**EFFICIENT VAPOR  
COMBUSTOR UNIT**

# 3

**PRONGED PROJECT PLAN**