

Project Scope:

Great Northern Engineering was contracted by Petro Star to complete the Greenfield design for the storage and transport of 80,000 barrels of ULSD, Jet-A fuel, and gasoline in Fairbanks, Alaska. The work included extensive design changes throughout the project, RFI responses, and construction engineering support.

Project Detail:

- Completed an initial site visit and a subsequent site assessment report. The report documented the current status of the site, soil conditions, locations for utility tie-ins, rail-spur, and drainage.
- Completed an existing documents review and Gap Analysis to determine the status of the initial design effort.
- Provided a Level III engineering and construction schedule, and Total Installed Cost estimate necessary to complete the work.
- Worked with Great Basin Industrial (GBI) engineers to complete the site prep, civil, and tank farm design. The tank farm included eight new 10,000-barrel tanks and the required containment.
- Completed the design for site wide structural steel. Steel included all piping and tank supports, piperacks, framing, structures, ladders, catwalks, access, and stiles.
- Assisted with the design and code analysis for two 12-by-16-foot pre-engineered metal buildings and the main office-warm storage building.
- Provided the designs for all site mechanical, electrical, and instrumentation systems including power feed, transformers, lighting, electrical shelter, equipment, compressed air, valves, process, piping, HVAC, leak detection, fire and gas, fire water loop and pumps, and site SCADA.
- Assisted with the designs for the oil-water separator, fueling skids, VCU, Railcar Loading Rack, and Vapor Combustion Unit.
- Assisted with the designs for site security, telecom, and CCTV.
- Completed the design for the Tanker Truck Loading Rack.
- Worked with specialty subcontractors and acted as the design lead to complete all final battery limits and tie-ins necessary for the final IFC design drawings and specifications. Contractors included AK Railroad, GBI, John Zink, SafeRack, ASRC Builders, Burkhardt Croft, FMC Technologies, Travis-Peterson, and Golden Heart Utility.
- Provided designs for several design changes during the project.
- Provided permitting submittal assistance, RFI responses, and construction engineering support through to start up and commissioning of the site.

