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Transforming Challenges into Solutions



“ This EA is well written, concise, issues related . . . Excellent!!!! ”

— Matt Freeman, FAA Alaska Region

#### Client:

State of Alaska  
Department of Transportation & Public Facilities  
Northern Region

#### Location:

Deadhorse, Alaska

#### Project Completion:

In Progress

#### PDC Involvement:

- NEPA Process
- Environmental Assessment
- Preliminary Design Engineering (Civil and Structural Engineering)
- Integration of Pre-Engineered On-Site Wastewater Treatment System

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## Deadhorse Airport Rescue & Firefighting Facility Expansion with Sand Storage Bay Environmental Assessment

**Background:** Deadhorse lies on Alaska’s North Slope, 5 miles south of the Prudhoe Bay oilfields. Access is either by road up the 500-mile James Dalton Highway (the “Haul Road”) or by air. The State-owned Deadhorse Airport provides the primary transportation to the North Slope oil fields. Year-round operation of the airport is essential to work force crew changes, medical evacuations, and transport of vital supplies.

One of the support facilities vital to operating and maintaining Deadhorse Airport is a combined Airport Rescue and Fire-fighting Facility/Snow Removal Equipment Building/Flight Service Station shared by the State and the Federal Aviation Administration (FAA). The existing building, designed by PDC and constructed in 2000, measures 164 feet by 80 feet and houses vehicle maintenance bays, warm storage, and offices and dormitories for State and Federal employees. Expanding this facility will provide space for more equipment, sand and deicing chemicals, and living quarters for additional personnel.

**Environmental Issues:** Deadhorse is an environmentally sensitive area for birds. Spectacled eiders, a Federally listed threatened species, breed near the airport. Careful attention to construction timing and adherence to guidance from the U.S. Fish & Wildlife Service are necessary to protect avian habitat. Cumulative impacts (primarily to wetlands) were the most difficult to determine, because there is no local government to ask for a list of projects in the area. We asked oil companies, private businesses, and State agencies to identify past, present, and reasonably foreseeable future actions.

**On-Site Wastewater Treatment and Disposal:** In 2006, PDC studied the feasibility of a proposed on-site wastewater treatment system ([Lifewater Engineering’s ExtremeSTP](#)) for the domestic wastewater generated at the workers’ living quarters as compared to the current holding tank/pump/haul operations. The study, which considered existing site conditions, usages, environmental conditions, and cost, found that the on-site system would cost significantly less to operate and maintain than hauling wastewater – its initial capital cost would be recovered in 1 year. The Extreme STP is a pre-engineered unit with three chambers dedicated to pre-treatment, treatment and disinfection, and effluent flow control. Effluent from the unit meets or exceeds the surface water discharge requirements set by the Alaska Department of Environmental Conservation, so it does not require a leach field but can be discharged to the ground surface.