



## **Pump Stations**

Approximately 16 pump station facilities would be required to overcome static lift requirements associated with the pipeline elevation changes and the friction losses associated with the flow of water through the pipeline. Each pump station would be capable of providing approximately 500 feet of static lift, with varying allowances for pipeline friction losses, depending on length of pipe downstream of the pump station until the next hydraulic facility (i.e. pump station, vent relief structure, etc.). In total, each pump station site would require approximately 10 acres of permanent disturbance and an additional 10 acres of disturbance for construction. Pump station locations will be determined as part of the engineering design for the pipeline system.

The pump station sites would include the following general components:

- Above-grade storage tank to serve as a forebay for the pumping station;
- Pump station building to house the pumping equipment and associated mechanical, electrical and control systems;
- Surge control building to house the surge tanks and associated systems;
- Generator building to house the natural gas engine generators and associated systems; and
- Storage yard for use by the pipeline maintenance crews.

The pumps would be provided either with natural gas engines with right angle gear drives or electric motor drives powered by on-site natural gas engine generators. The surge control building may not be required if natural gas engine drives are used on the pumps, as these types of engines typically provide the necessary loss of pump speed dampening during an unexpected pump shutdown.