# **Treatment Equipment at McKay Field**





### Vapor Treatment Equipment

## NORTHROP GRUMAN

#### Vapor Treatment Equipment

#### Vapor-Liquid Separation Equipment

This equipment separates liquid from the vapor stream coming from the ballfield to improve removal of VOCs in the vapor treatment vessels that follow.

The equipment consists of a collection tank to separate vapor from liquids, a heat exchanger to reduce the vapor temperature, and a moisture separator to remove any remaining liquid from the vapor. The separated liquid is treated in the liquid treatment equipment.

#### Blowers

Two blowers pull vapor from the ballfield through the vapor-liquid separation equipment and blow vapor through the vapor treatment vessels.

#### Vapor Treatment Vessels

Cooled vapor is treated in three activated carbon vessels and a potassium permanganate vessel to remove VOCs.

#### **Effluent Stack**

Treated air is discharged 40 feet above ground surface through an effluent stack.

#### Liquid Treatment Equipment

#### Liquid – Solids Separation Equipment

This equipment removes solids and condensed VOCs from the liquid streams coming from ballfield groundwater and the vapor treatment equipment to improve removal of VOCs in the liquid treatment vessels that follow.

The equipment consists of a heat exchanger to reduce the liquid temperature, bag filters to remove solids, and a gravity separator to remove condensed VOCs.

#### Liquid Treatment Vessels

Liquid is treated in two activated carbon vessels to remove dissolved VOCs.

#### **Storage Tanks**

Treated liquid is stored in storage tanks before discharging to an existing Groundwater Treatment Plant at McKay Field.