

## CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFO) PROJECT CAPSULES

### 1. Confidential Client - Loveland, Colorado

#### CAFO Compliance, CAFO Discharge Permits and Technical Assistance

Paragon personnel coordinated an aerial survey to develop a topographic map for the facility and performed geotechnical testing to document on-site soils conditions. Paragon prepared pond-liner seepage-rate certification documentation relative to CAFO compliance for submittal to the client and Colorado Department of Public Health and Environment (CDPHE) and prepared standard operating procedures (SOPs) for manure and sludge removal from the facility's process-water lagoons. Paragon also provided recommendations to expand one (1) of the facility's process-water lagoons as part of the CAFO discharge application permitting process. Paragon designed and reviewed the installation of emergency spillways at the facility's process-water lagoons as part of the CAFO discharge permit application process. Paragon prepared and submitted a CAFO Discharge Permit Application and Nutrient Management Plan (NMP) and two (2) renewal CAFO Discharge Permit Applications at approximate five (5) year intervals. Paragon prepares and submits annual reports relative to the discharge permit and NMP. Paragon coordinated with CDPHE, local agencies and outside experts relative to an alleged discharge of CAFO water onto adjacent property. Paragon provides ongoing technical assistance relative to CAFO compliance on an as-needed basis. Paragon has attended several CDPHE inspections and coordinated follow-up activities and reporting to CDPHE. The project is ongoing since 2005.

### 2. Confidential Client – Fort Collins, Colorado

#### CAFO Compliance, CAFO Discharge Permits and Technical Assistance

Paragon personnel coordinated topographical surveys to develop topographic maps for the facility and performed geotechnical testing to document on-site soil conditions and materials. Paragon prepared pond-liner seepage-rate certification documentation relative to CAFO compliance for submittal to the client and CDPHE and prepared SOPs for manure and sludge removal from the facility's process-water lagoons. Paragon coordinated removal of material from an existing facility lagoon and testing of the lagoon after material removal. Paragon also designed an additional process-water lagoon for the facility to meet CAFO capacity requirements and performed in-situ testing of the facility lagoons to document in-situ seepage rates and designed and reviewed the installation of the emergency spillway at the facility. Paragon coordinated regarding the construction and testing of an additional lagoon required as part of facility expansion. Paragon prepared and submitted a CAFO Discharge Permit Application and NMP and a renewal CAFO Discharge Permit Application at approximate five (5) year intervals.

Paragon prepares and submits annual reports relative to the discharge permit and NMP. Paragon coordinated with EPA, CDPHE and local agencies relative to an alleged discharge of CAFO water at the facility. Paragon provides ongoing technical assistance relative to CAFO compliance on an as-needed basis and has attended several CDPHE inspections and coordinated follow-up activities and reporting to CPDHE. The project is ongoing since 2007.

### **3. Confidential Client – Carr, Colorado**

#### **CAFO Compliance and Technical Assistance**

Paragon personnel performed geotechnical testing which included test pits and piezometer installation to document on-site soil conditions and design a process-water lagoon for the facility. Paragon reviewed the installation of the process-water lagoon and prepared pond-liner seepage-rate certification documentation relative to CAFO compliance for submittal to the client and CDPHE. Paragon prepared SOPs for manure and sludge removal from the facility's process-water lagoon and prepared and updated the CAFO Facility Management Plan (FMP) for the facility. Paragon also designed and reviewed the installation of the expansion of the process-water lagoon after a facility expansion. Paragon coordinated with CDPHE, local agencies and outside experts relative to an alleged discharge of CAFO water at the facility. Paragon provides ongoing technical assistance relative to CAFO compliance on an as-needed basis and has attended several CDPHE inspections and coordinated follow-up activities and reporting to CPDHE. The project is ongoing since 2008.