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November 12, 2008

MEMORANDUM



To: Naomi Davidson, Reviewer
Robert George, Team Leader, (Domestic Waste)
George Schuman, Manager, GWQB/PPS

From: Charles Thomas, P.E., Engineer, District 1 – GWQB *CT*

Re: **Evaluation: Cannon Air Force Base, Effluent and Raw Waste Water Storage Basins, DP-873**

I received the submittal on September 23, 2008. The submission of plans and specifications is required pursuant to the New Mexico Water Quality Control Commission Regulations (WQCC), Section 20.6.2.1202 NMAC. The project referenced in the submittal consists of:

- Construction of two 8 million gallon basins to be lined with reinforced polypropylene. One basin will be used as the raw wastewater storage, and the other will store treated effluent. Project also includes installation of a new disk filter unit, pressure class sanitary sewer piping, manholes, and appurtenances.

I have reviewed the submitted plans and specifications to determine if the proposed construction or modification contains deficiencies that may impact approval of the discharge permit pursuant to Section 20.6.2.3109 NMAC or compliance with Section 20.6.2 NMAC. Based on the review, I have the following comments:

1. This construction appears to be taking place in the presence of existing wastewater flows. No specification outlining the sequence of work was provided to delineate how any existing wastewater flows will be handled. Any proposal to discharge in a manner not currently permitted must be submitted to the Ground Water Quality Bureau (GWQB) for approval prior to discharge and the plans should address this point. Note that pursuant to 20.6.2.1201

- NMAC, any unauthorized discharges resulting from the construction activities must be reported to GWQB and appropriate corrective actions taken.
2. Section 3.3.2 of Specification 33-47-13, "Pond and Reservoir Liners", references the use of seaming adhesive for field seams. In accordance with the Geosynthetic Research Institute Specification for Seam Strength and Related Properties (GM-19), the use of heat seaming, specifically dual wedge welding, is highly recommended to be used instead of seaming adhesives. Please provide verification that the manufacture or installer will warranty adhesive seaming.
 3. Section 3.5 of Specification 33-47-13, "Pond and Reservoir Liners", does not address destructive or non-destructive testing of the completed seams. Sheet C-002 does reference field testing of seams, but the method and frequency of testing is not included. Sheet C-504 references field seam testing using the air-lance method, but no destructive seam testing is included. Section 3.5 of Specification 33-47-13 should be modified to include destructive testing of completed field seams and should list the frequency of testing and indicated what constitutes a passing test.
 4. Sheet M-505 lists a detail of a parshall flume to be installed. The proposed installation does not appear to ensure a stable laminar flow entering the flume, which will result in inaccurate flow measurements. The upstream channel from the flume should contain a minimum of 5 feet of straight channel the width of the flume throat to ensure accurate readings. A modified design proposal or alternate method of measuring the flow should be submitted.

A review of the plans, specifications and contract documents has shown that the proposed construction or modification will not impact approval of the discharge permit pursuant to Section 20.6.2.3109 NMAC or compliance with WQCC Regulations (20.6.2 NMAC). No further review of materials submitted pursuant to Section 20.6.2.1202 NMAC is required.

Please let me know if you have any questions.