



NEW MEXICO
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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 20, 2009

David Gregory, Federal Project Director
Department of Energy
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David McInroy
Remediation Services Deputy Director
Los Alamos National Security, LLC
P.O. Box 1663, Mail Stop J591
Los Alamos, New Mexico 87545

**RE: APPROVAL WITH MODIFICATIONS
SUPPLEMENTAL INTERIM MEASURE WORK PLAN (SIWP)
TO MITIGATE CONTAMINATED SEDIMENT TRANSPORT
IN LOS ALAMOS AND PUEBLO CANYONS
LOS ALAMOS NATIONAL LABORATORY
EPA ID# NM0890010515
LANL-HWB-08-004**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the Los Alamos National Security, L.L.C. and U.S. Department of Energy (the Permittees) document entitled *Supplemental Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons* dated October 2008 and referenced by LA-UR-08-6588/EP2008-0519 (SIWP). The SIWP was submitted in response to NMED's July 18, 2008 Approval with Modifications (Approval) for the *Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons* dated February, 2008 (LA-UR-08-071/EP2008-0084). NMED hereby issues this Approval of the SIWP with the following comments and modifications:

1. Page 1, Section 2.0, Characterization of Sediment Upstream of Los Alamos Canyon Low-Head Weir

The characterization, removal and disposition of sediment accumulated behind the Los

Alamos Canyon Low-Head Weir was addressed in NMED's letter entitled *Approval With Modifications for Sediment Removal at the Los Alamos Canyon Low-Head Weir* dated January 7, 2009.

2. Page 2, Section 3.1, DP Canyon Grade Control Structure

NMED's Approval stated that the Permittees must provide "[a] detailed design of the installation of a grade control structure to be constructed at the east end of Reach DP-2 in DP Canyon to reduce flow velocities during flood events resulting from storm water drainage to DP Canyon. The structure must be capable of reducing flow rates to levels that will result in a decrease in surface water contaminant concentrations to less than the surface water quality standards included in Order Section VIII.C." NMED approves of the proposed location for the DP Canyon Grade Control Structure. While the profiles provided in Figures 3.1-2 and 3.1-3 generally appear to indicate that the elevation of the structure will result in the accumulation of sediment and reduction of erosion, the Permittees did not submit a detailed design that would allow NMED to evaluate whether the proposed structure is adequate for the intended purpose. In addition, the Permittees did not submit an estimate of the time needed to complete construction of the structure. The Permittees must provide NMED with the engineering design drawings for the DP grade control structure, including the identification and placement of all construction materials and the exact location and footprint of the structure relative to the current stream channel.

3. Page 3, Section 3.2 Cross Vane Structures

The cross vane structure depicted in Figure 3.2-1 does not match the cross vane structures identified on pages 8-20 to 8-22 of *Applied River Morphology*" (Rosgen, 1996) referenced in the Approval. The construction of the cross vane structures must be configured as shown in Rosgen Figure 8-22, if the stream channel is less than 40 feet wide, with the rocks placed in a V-shape and with the sides of the "V" angling upstream at a 20-30 degree angle away from the stream bank and meeting near the middle of the channel. If the stream channel is greater than 40 feet wide, the rocks must be configured in a W-shape as shown in Rosgen Figure 8-26. In either case, the rocks must be placed in contact and aligned so that they are partially behind one another in the direction of stream flow. The upstream end of the structures must be positioned at elevations above the current stream grade and taper upward toward the stream bank at angles three to seven degrees from the horizontal. The structures must direct flow toward the center of the channel and be designed to trap sediment along the stream banks. The three cross vane structures must be constructed at the approximate locations shown on Figure 3.0-1.

NMED representatives were told by Los Alamos County officials in a meeting on December 22, 2008 that the County will repair the channel banks and exposed sewer line downstream of the confluence of Acid Canyon and Pueblo Canyon. The Permittees may therefore defer construction of the cross vane structure at that location until after the repairs are completed.

4. Page 4, Section 3.4 Pueblo Canyon Grade Control Structure

The Permittees must provide NMED with the engineering design drawings for the grade control structure in Pueblo Canyon in the vicinity of the intersection of New Mexico Highways 4 and 502, including identification and placement of all construction materials and the exact location and footprint of the structure relative to the current stream channel and all other surrounding physical features.

5. Page 4, Section 3.5 Pueblo Canyon Pilot Wing Ditch Willow Planting

The Permittees shall plant willows along the stream banks for distances approximately 1000 feet upstream and downstream from the head-cut in reach P-4W to stabilize the current bank and enhance the wetlands. The Permittees shall install surveyed cross-sections at 100-foot intervals where the willows are planted to allow for monitoring of the stabilization measures. Monitoring shall begin in June 2009 and be conducted annually in June of each subsequent year. The proposed monitoring shall be included in the monitoring plan referenced in the July 18, 2008 Approval.

6. Page 4, Section 3.5 Pueblo Canyon Pilot Wing Ditch Willow Planting

NMED recognizes that washouts of the access road to the Bayo Canyon Waste Water Treatment Plant have occurred over the past few years and that road maintenance is Los Alamos County's responsibility and not the Permittees. The Permittees shall therefore coordinate with Los Alamos County in maintaining the wetlands located immediately downstream of the channel crossing on the access road to the new Los Alamos County wastewater treatment plant. The Permittees shall construct a pilot wing ditch to divert surface water back into the wetlands on the south side of the channel crossing on the access road to the new Los Alamos County wastewater treatment plant no more than 250 feet downstream from the road crossing. The wing ditch must be designed to disperse flows from the existing single incised stream channel onto the wetlands by creating an anastomosed channel system.

7. South Fork Acid Canyon Bank Stabilization

Section 4.5 (page 10) of the *Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons* (IMWP) dated February, 2008 addresses bank stabilization measures that includes installation of jute matting, willow plantings and rock armoring. In accordance with the actions proposed in the IMWP, the Permittees shall install rock armoring to stabilize the stream banks in the South Fork of Acid Canyon for a distance of approximately 300 feet upstream from the confluence with Acid Canyon.

8. Monitoring

The Permittees must submit a monitoring plan that complies with the requirements outlined in NMED's Approval dated July 18, 2008.

9. Schedule for Submittals

The schedule for submittals proposed in the SIWP or required by this letter is listed below.

- a. The engineering design drawings for the DP Canyon grade control structure referenced in Item 2 above must be submitted to NMED by **August 31, 2009**. Documentation of the completed DP Canyon grade control structure must be submitted to NMED by **March 1, 2010**
- b. Documentation of the completed construction of the three cross vane structures referenced in Item 3 above in Pueblo Canyon must be submitted to NMED by **October 1 2009**.
- c. The engineering design drawings referenced in Item 4 above and adequate for use in obtaining all necessary permits and construction contracts for the Pueblo Canyon grade control structure must be submitted to NMED by **August 31, 2009**.
- d. Construction of the Pueblo Canyon grade control structure must be completed by December 31, 2009 and documentation of the completion of construction of the Pueblo Canyon grade control structure and the replacement of monitoring station E060 must be submitted to NMED by **March 1, 2010**.
- e. Documentation of the completion of the willow plantings and the surveyed cross-sections in Reach P-4W referenced in Item 5 above must be submitted to NMED by **June 1, 2009**.
- f. Documentation of the completed pilot wing ditch located downstream of the access road to the new Los Alamos County wastewater treatment plant referenced in Item 6 above must be submitted to NMED by **September 1, 2009**.
- g. Documentation demonstrating the completion of rock armoring of the stream banks in the South Fork of Acid Canyon above the confluence with Acid Canyon referenced in Item 7 above must be submitted to NMED by **April 30, 2010**.

Messrs. Gregory and McInroy

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Please contact Dave Cobrain of my staff at (505) 476-6055 if you have questions.

Sincerely,



James P. Bearzi

Chief

Hazardous Waste Bureau

JPB:dc

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