



**Los Alamos**  
NATIONAL LABORATORY  
EST. 1943  
*Environmental Programs*  
P.O. Box 1663, MS M991  
Los Alamos, New Mexico 87545  
(505) 606-2337/FAX (505) 665-1812

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*National Nuclear Security Administration*  
Los Alamos Site Office, MS A316  
Environmental Restoration Program  
Los Alamos, New Mexico 87544  
(505) 667-4255/FAX (505) 606-2132

Date: August 28, 2009  
Refer To: EP2009-0408

James P. Bearzi, Bureau Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303

**Subject: Documentation of Installation of Stormwater Controls at Los Alamos Site Monitoring Area 2**

Dear Mr. Bearzi:

Los Alamos National Laboratory (the Laboratory) is herein documenting enhancements to the stormwater control measures in the Los Alamos Site Monitoring Area 2 (LA-SMA-2) drainage, as directed by the New Mexico Environment Department (NMED) approval with modifications letter dated May 5, 2009. Per the NMED letter dated July 29, 2009, the Laboratory has installed interim stormwater-control measures but will delay construction of the retention ponds to coordinate construction activities with the removal of contaminated soils and tuff in the drainage. The following interim measures were completed by August 1, 2009, except as noted.

- Juniper bales were staked in the main flow channel as small check dams. The upstream juniper bales were staked into place in the channel to capture heavier organic material. A second set of filter-wrapped juniper bales was staked into place approximately 20 ft downstream of the initial juniper bale installation to capture finer sediments. Existing downstream juniper bales were staked, and every other one was wrapped in filter fabric.
- Sediment retention in the deposition zone outside the channel was enhanced with the use of straw wattles as wings from the juniper bales.
- Terra-Tubes (designed to trap, filter, and treat [with polymer] sediment-laden runoff) were installed along the first juniper bale/wattle check dam and at the head of the channel. They were ordered and installed as soon as they were available (August 3, 2009), as per discussions with NMED.
- Downed logs just below the upper channel section were removed to allow stormwater to disperse out over the well-vegetated deposition zone.
- The upstream culvert is being monitored and maintained to ensure it is not plugged (ongoing).



The stormwater control measures are currently inspected on a weekly basis. Additional controls will be deployed, as needed, and in consultation with NMED. Please refer to the attached map for the placement of site controls and the photographs for examples of the installed control measures.

Per the July 29, 2009, NMED letter approving the Laboratory's extension request, the installation of the retention ponds will be completed by December 31, 2009, and documented in the report due to NMED by May 1, 2010.

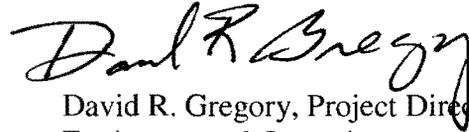
If you have any questions, please contact Becky Coel-Roback at (505) 665-5011 (becky\_cr@lanl.gov) or Cheryl Rodriguez at (505) 665-5330 (crodriguez2@doeal.gov).

Sincerely,



Michael J. Graham, Associate Director  
Environmental Programs  
Los Alamos National Laboratory

Sincerely,



David R. Gregory, Project Director  
Environmental Operations  
Los Alamos Site Office

MG/DG/DM/BCR:sm

Attachments: (1)Two hard copies with electronic files – Map of site controls and photographs of control measures installed at LA-SMA-2 (LA-UR-09-5312)

Cy: (w/enc.)

Neil Weber, San Ildefonso Pueblo  
Cheryl Rodriguez, DOE-LASO, MS A316  
Becky Coel-Roback, EP-CAP, MS M992  
RPF, MS M707 (with two CDs)  
Public Reading Room, MS M992

Cy: (Letter and CD and/or DVD only)

Laurie King, EPA Region 6, Dallas, TX  
Steve Yanicak, NMED-OB, White Rock, NM  
Kristine Smeltz, EP-WES, MS M992

Cy: (w/o enc.)

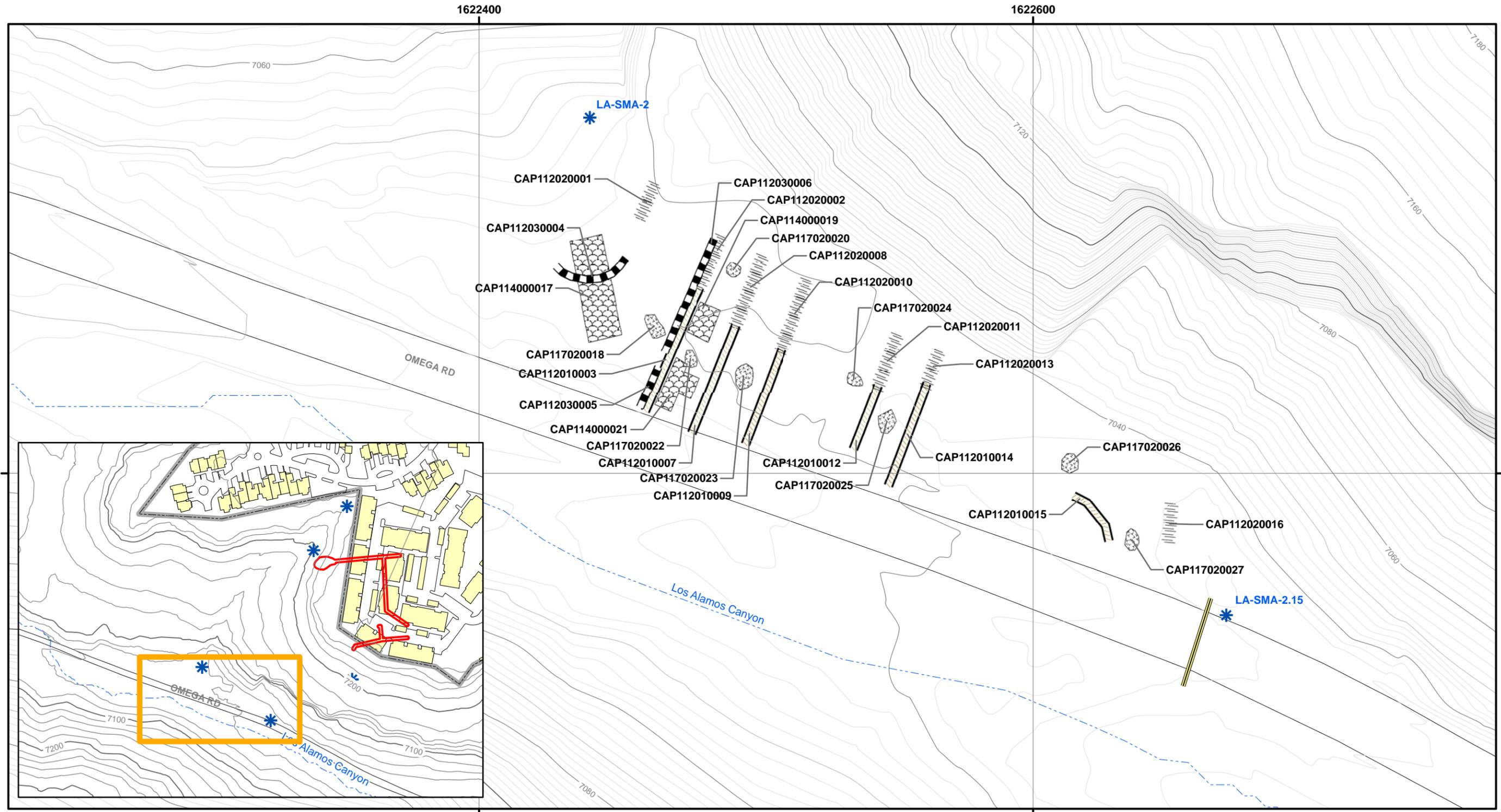
Tom Skibitski, NMED-OB, Santa Fe, NM  
Keyana DeAguero, DOE-LASO (date-stamped letter emailed)  
David McInroy, EP-CAP, MS M992  
Paul Huber, EP-LWSP, MS M992  
Steve Veenis, EP-LWSP, MS K490  
Michael J. Graham, ADEP, MS M991  
Alison M. Dorries, EP-WES, MS M996  
IRM-RMMSO, MS A150 (date-stamped letter emailed)



**Juniper bale installations**



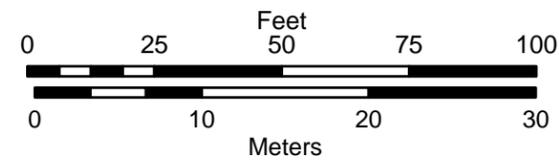
**Juniper bales and straw wattles**



- Sampler location
- Gage station
- Non-storm water discharge**
- NPDES outfall
- Fire hydrant
- Storm water discharge**
- Industrial MSGP Outfall
- Site drainage
- Direction of flow
- Main drainage
- Perennial drainage
- Storm drain/culvert
- Wetland
- Monitored SWMU/AOC
- Fence
- Paved road
- Dirt road
- Paved parking
- Structure
- LANL boundary

- BMP's**
- Gravel mulch
  - Wood Mulch
  - Vegetative buffer strip
  - Seed and Mulch
  - Sediment trap
  - Sediment basin
  - Rock check dam
  - Rip Rap
  - Gabions
  - Earth cap
  - Rock cap
  - Asphalt cap
  - Hydromulch
  - Erosion control blanket
  - Rock channel/swale
  - Earthen channel/swale
  - Concrete/asphalt channel/swale
  - Asphalt berm
  - Earthen berm
  - Base course berm
  - Log berm
  - Retaining wall
  - Log check dam
  - Curbing
  - Straw wattle
  - Juniper bale
  - Terra tubes
  - Culvert

State Plane Coordinate System  
 New Mexico, Central Zone, US Feet  
 NAD 1983 Datum  
 Grid Interval = 200ft  
 Contour Interval = 2ft



This map was created for work processes associated with the NPDES Individual Permit.  
 All other uses for this map should be confirmed with LANL EP-WES staff.

## Interim Stormwater Control Measures Installed at LA-SMA-2 Drainage

Los Alamos Canyon

LA-UR-09-5312

Map Created By: Brad McKown, EP-WES-EDA GIS Team, August 20, 2009, Map Reference #09-0085-01-CAP1-LA2.15-R1  
 Letter Number EP2009-0408