

APPENDIX E
BASELINE CONTROL MEASURES INSTALLED OR TO BE INSTALLED

INTRODUCTION

Pursuant to the requirements set forth in NPDES Permit No. NM0030759 (Permit), five (5) types of non-numeric technology-based effluent limits (Part 1.A.1-5), also referred to as baseline control measures, are to be installed at all Los Alamos National Laboratory (LANL) Site Monitoring Areas (SMAs) within six months of the effective date of the Permit. The five baseline control measure types addressed are:

1. Erosion and Sedimentation Controls;
2. Management of Run-on and Run-off;
3. Employee Training;
4. Unauthorized Discharges; and
5. Other Controls, where applicable:
 - a. Implement controls to ensure no waste, garbage, or floatable debris are discharged to receiving waters, except as authorized by a permit issued under Section 404 of the Clean Water Act (CWA);
 - b. Minimize generation of dust, along with off-site vehicle tracking of raw, final or waste materials, or sediments;
 - c. Minimize introduction of raw, final, or waste materials to exposed areas; and
 - d. Place flow velocity dissipation devices at erosive discharge locations and along the length of any discharge channel if the flows would otherwise create erosive conditions.

The purpose of Appendix E is to identify the baseline control measures that are installed or planned for installation within six (6) months of the effective date of the Permit. Further discussion of each of the control measure types is provided in Section I. Additional information describing control measures can be found at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>.

Table E-1 provides detail about the structural baseline control measures, installed or planned for installation, at each Site Monitoring Area (SMA) in accordance with the Permit requirements, as applicable. The table also identifies the purpose of the structural control measure, i.e., for erosion control, sediment control, run-on control, and/or run-off control. If all of the listed baseline control measures have been installed at an SMA, the "Installations Complete?" column is checked. Planned baseline control measures may be modified, as necessary, to address changes in site conditions that warrant a different type of control measure or change in location. All baseline control measures, including any changes thereto, will be specifically documented upon installation and certified as required by Part I.B.1 of the Permit.

I. BASELINE CONTROL MEASURES

1. *Erosion and Sedimentation Controls*

The purpose of erosion and sedimentation controls is to minimize the potential for erosion occurring when storm water runoff flows across an area and to retain transported sediment onsite.

Baseline control measures used for erosion control at LANL include the following major categories: cap, channel/swale, established vegetation, gabions, and seed and mulch.

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- Caps can be composed of earth, rock, or asphalt.
- Subcategories of channel/swale include: earthen, concrete/asphalt, rock, culvert, vegetated swale, rip rap, and water bar.
- Subcategories of established vegetation include forested needle cast, grasses and shrubs, and vegetation buffer strip.
- Gabions can include gabion blankets.
- Subcategories of seed and mulch include erosion control blanket and seed, hydromulch and seed, seeding, wood straw and seed, and gravel mulch.

Baseline control measures used for sediment control include the following major categories: berms, check dams, established vegetation, gabions, and sediment traps and basins.

- Subcategories of berms include asphalt, base course, curbing, earthen, gravel bags, log, retaining walls, straw wattles, Terra Tubes, and Triangular Silt Dikes.
- Check dams can be composed of juniper bales, logs, or rock.

2. *Management of Run-on and Run-off*

The purpose of run-on/run-off control measures is to divert, infiltrate, reuse, contain or otherwise reduce storm water run-on/run-off. Baseline control measures used for managing run-on and run-off at LANL include the following major categories: berms, channel/swale, check dams, established vegetation, gabions, and sediment traps and basins. Subcategories, where they exist, were described above.

3. *Training*

Project personnel receive both formal and informal training in the execution of baseline control measures. Formal training, which covers all aspects of the developed Site Discharge Pollution Prevention Plan (SDPPP), is conducted each spring prior to the field season and documented in the SDPPP. During the field season, weekly tailgate meetings are conducted to inform personnel of impending changes and issues related to work for the upcoming week.

4. *Unauthorized Discharges*

Visual surveys are conducted as part of the Permit-required site inspections to identify the potential for non-storm water discharges at each SMA. There are no identified sources of unauthorized discharges at this time, including process wastewater, spills or leaks of toxic or hazardous materials, contaminated groundwater, or any contaminated non-storm water associated with the monitored areas.

5. *Other Controls: additional controls implemented, as applicable*

During the course of the Permit, the following control measures will be implemented in response to a triggering event, e.g., soil disturbance.

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- (a) **Litter and Debris:** No waste, garbage, or floatable debris will be permitted to be discharged to receiving waters. SMAs adjacent to or within urban areas have the greatest potential for impacts due to off-site litter sources. Sites will be inspected for litter, and visible, potentially floatable debris as part of the Permit required site inspections. Any litter, and visible, floatable debris will be removed and managed in appropriate containers and in accordance with LANL waste management policies. SMAs exhibiting problems with litter or other floatable debris, as identified in site inspections, will have signage or other structural controls installed to address these areas.
- (b) **Dust Minimization:** The potential for generating dust, along with off-site vehicle tracking of raw, final or waste materials, or sediments is primarily at SMAs subject to construction activity involving ongoing soil disturbance. As identified in Permit required site inspections, dust generation and the tracking of materials shall be minimized with the application of water and/or an approved soil stabilizer. Water and soil stabilizer used to suppress dust generation will be applied at a rate to avoid discharge from the site.
- (c) **Waste Materials Minimization:** The introduction of raw, final, or waste materials to exposed areas will be minimized. Good housekeeping practices will be maintained and materials introduced or removed from the areas will be managed or disposed of properly at the end of each workday in accordance with LANL waste management policies.
- (d) **Flow Dissipation:** Flow velocity dissipation is addressed through the implementation of baseline control measures. Virtually all of LANL's control measures dissipate the velocity of flow across an area. Discharges from culverts and other charged conveyances have, or have planned, specific control measures installed to dissipate the resultant flow velocity.

II. SUMMARY

Sixty-five (65) SMAs currently meet all baseline control measure requirements (Table E-2). Certification documentation for these 65 SMAs, as described in the Permit (Part I.B.1), will be submitted to EPA within 30 days of the effective date of the Permit.

Baseline control measure installation at the remaining SMAs is ongoing. Certification documentation of baseline controls installed after the effective date of the Permit, for the remaining 185 SMAs, will be submitted within 30 days of completion as described in the Permit (Part I.B.1). All SMAs will have completed baseline controls within six (6) months of the Permit effective date.
