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MSGP Stormwater Pollution Prevention Plan
TA-60 Roads and Grounds Facility, Sigma Mesa
Staging Areas, and Asphalt Batch Plant
Triad National Security, LLC (Triad)

A Requirement of the
NPDES MULTISECTOR GENERAL PERMIT
NMR050013 (Triad)
for Stormwater Discharges associated with Industrial Activities

January 2019
Revision 0

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**TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt
Batch Plant
STORMWATER POLLUTION PREVENTION PLAN**

PREFACE

This Stormwater Pollution Prevention Plan (SWPPP) was developed in accordance with the provisions of the Clean Water Act (33 U.S.C. §§1251 et seq., as amended), and the United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) (U.S. EPA, June 2015) issued by EPA, and using the industry specific permit requirements for Sector P: Land Transportation and Warehousing and Sector D: Asphalt Paving and Roofing Material and Lubricant Manufacturing as a guides. The applicable stormwater discharge permit is EPA General Permit Tracing Number NMR050013 [Triad National Security, LLC (Triad)]. Click here to view contents of the [2015 Multi-Sector General Permit](#).

This SWPPP applies to discharges of stormwater from the operational areas of the TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt Batch Plant at Los Alamos National Laboratory. Los Alamos National Laboratory (also referred to as LANL or the “Laboratory”) is owned by the Department of Energy (DOE), and is operated by Triad. Throughout this document, the term “facilities” refers to the TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt Batch Plant. The current MSGP expires at midnight on June 4, 2020.

1.0 FACILITY DESCRIPTIONS

1.1 Facility Information

TA-60 Roads and Ground

Name of Facility: TA-60 Roads and Grounds		
Street:		
City: Los Alamos	State: NM	ZIP Code: 87545
County: Los Alamos		
NPDES ID (i.e., permit tracking number): NMR050013		
Primary Industrial Activity SIC code, and Sector and Subsector (2015 MSGP, Appendix D and Part 8): Sector P		
Estimated area of industrial activity at site exposed to stormwater: 20.38 acres		

Discharge Information		
Name(s) of surface water(s)/segment that receives stormwater from your facility: Sandia Canyon (Sigma Mesa to NPDES Outfalls 032, 036, 039 and 042) and Mortandad Canyon (Sigma Mesa to NPDES Outfall 031) (within LANL).		
Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)? <input checked="" type="checkbox"/> Yes No		
Pollutants causing the impairment: Adjusted Gross Alpha, Dissolved Copper, PCB (Aroclors), and Mercury		
Pollutants causing the impairment (see above) that may be present in industrial stormwater discharges from this Facility:		
Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes, which guidelines apply? Not applicable.		

TA-60 Asphalt Batch Plant

Name of Facility: TA-60 Asphalt Batch Plant		
Street:		
City: Los Alamos	State: NM	ZIP Code: 87545
County: Los Alamos		
NPDES ID (i.e., permit tracking number): NMR050013		
Primary Industrial Activity SIC code, and Sector and Subsector (2015 MSGP, Appendix D and Part 8): Sector D		
Estimated area of industrial activity at site exposed to stormwater: 2.3 acres		
Discharge Information		
Name(s) of surface water(s)/segment that receives stormwater from your facility: Mortandad Canyon (within LANL) (Sigma Mesa to NPDES Outfall 043).		
Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)? <input checked="" type="checkbox"/> Yes No		
Pollutants causing the impairment: Adjusted Gross Alpha, Dissolved Copper, PCB (Aroclors), and Mercury		
Pollutants causing the impairment (see above) that may be present in industrial stormwater discharges from this Facility:		

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)? Yes No

If Yes, which guidelines apply? TSS, Oil and Grease: MSGP ELG 2015 Daily Max and 30 Day Average and PH: MSGP ELG 2015

1.2 Stormwater Pollution Prevention Team

The TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt Batch Plant are part of the Utilities and Institutional (UI-DO) Facilities Facility Operations Director at Los Alamos National Laboratory with day to day management provided by Logistics Division-Heavy Equipment Roads & Grounds (LOG-HERG), which has established a PPT whose members are responsible for assisting the facility manager in developing and revising the facility’s SWPPP as well as maintaining control measures and taking corrective actions when required. All PPT members will have access to either a hard copy or an electronic version of this SWPPP.

The specific duties of individual team members of the PPT are listed below:

Staff Names	Individual Responsibilities
Team/Group Leader: Russell Stone, ESH Manager, DESH, UI	Responsible for the management of all environmental, safety, health, and quality programs for the buildings and facilities listed within this Plan. This includes performing oversight and periodic walk downs to ensure implementation of the requirements of the MSGP and this SWPPP including overseeing the assigned duties of other PPT members. The Group Leader is responsible for ensuring that problems noted in inspections are corrected. The Group Leader must also ensure funding is established to cover compliance requirements of the MSGP and this SWPPP.
Deployed Environmental Professionals (DEPs): Leonard Sandoval (primary), Jillian Burgin (backup), DESH-UI	Responsible for the management of all environmental programs and issues for the buildings and facilities listed within this Plan. The DEP is responsible for training, recordkeeping, and SWPPP revision. The DEP will ensure that all PPT, operations site workers (as appropriate), and applicable supervisors receive annual MSGP and SWPPP training. The DEP will ensure that inspection documents and other required MSGP records relative to the SWPPP are managed in accordance with the permit and established document control procedures and that the SWPPP is kept current. The DEP provides technical and regulatory support to facility personnel regarding implementation of the MSGP and this SWPPP. Lastly, the DEP conducts routine inspections and visual assessments as required by the MSGP. Identified corrective actions from routine inspection are entered into the EPC-CP Corrective Action Report

	(CAR) database. The DEP is responsible for tracking and updating the status of corrective actions that cannot be implemented immediately.
FOD Manager: Lawrence Chavez, Operations Manager, UI-DO	Responsible for managing the operation and maintenance of all aspects of the buildings and facilities listed within this Plan. The Operations Manager shall provide review and ensure coordination with core personnel and the PPT, as appropriate, when tenants within the UI FOD propose a new process or a new site or operation that may be subject to the MSGP.
ENV Core: Holly Wheeler, MSGP Team Lead, EPC-CP	The MSGP Project Lead is responsible for managing and administering the Multi-Sector General Permit Storm Water Program for all industrial facilities within Los Alamos National Laboratory. The MSGP Project Lead advises and provides guidance to facility personnel on NPDES MSGP regulations/requirements. The MSGP Project Lead also acts as the institutional point of contact for all interactions with the regulatory authority (EPA) and supervises personnel implementing storm water monitoring requirements for the facility.
Facility Staff: Larry Velasquez, Logistics Superintendent Field Work Execution (LOG-SUP)	Responsible for day-to-day operations at the facility. Assisting DEPs and EPC with inspections; and implementing, installing and maintaining BMPs at the facility for MSGP compliance. Spill reporting; providing documentation as requested by other team members. Coordinating SWPPP training and briefings as requested by DEP/EPC.

1.3 Site Description/Industrial Activities

Roads & Grounds/Sigma Mesa

Activities at Roads & Grounds/Sigma Mesa fall under Industrial **Sector P, Land Transportation and Warehousing, of the 2015 MSGP.**

Roads & Grounds/Sigma Mesa includes two locations; the main facility, Roads & Grounds, where operations personnel, trucks, equipment and materials used for deicing and maintaining Laboratory roads and grounds are stored and the east location, Sigma Mesa, where trucks, equipment and construction materials (sand, gravel, rock and clean soil) are staged.

Sigma Mesa is 0.9 miles east of Roads & Grounds. Most of the staging area is located north of Eniwetok Road, with a smaller parking and storage area located south of Eniwetok. Miscellaneous equipment parts (loading buckets, blades, etc.) are stored on both sides of the staging area.

Activities include the following:

- Storage of equipment and supplies used to maintain Laboratory roads and grounds.
- Storage of trucks and heavy equipment used to transport/haul material or move debris.
- Storage of bulk potassium acetate and other liquids applied for deicing.
- Staging of clean soil prior to reuse.
- Potholing and culvert cleanout staging area.
- Staging of asphalt millings prior to reuse.
- Sediment catchment in the basin.
- Salt retention in the lined retention pond.
- Storage of sand, gravel, rock, landscaping materials, and herbicides related to grounds keeping and road maintenance.

Roads & Grounds covers approximately 8.4 acres, including 5.35 acres (about 65% of the total) of impervious surfaces such as roofs and paved areas. The area immediately surrounding the Roads & Grounds Building (TA-60-250) is paved with asphalt. The entire area within the fence of the pesticide storage shed is covered in asphalt and concrete. The areas immediately to the north and south of the salt shed are paved with asphalt. The entire heavy equipment storage yard is covered in asphalt. The remainder of the facility, with the exception of stormwater basins and drainage swales, is covered in gravel and/or recycled asphalt millings. These include the employee parking area, truck parking areas, storage sheds and transportainers, sign storage area, and the access roadways.

Sigma Mesa consists of approximately 10.55 acres, with less than 1% covered by impervious asphalt (Eniwetok Road). The remainder consists of gravel, dirt surface, and undisturbed land.

Asphalt Millings Staging Area at TA-61 consists of approximately 0.58 acres with 100% impervious asphalt surface.

Asphalt Batch Plant

Industrial activities at the Asphalt Batch Plant fall under **Sector D – Asphalt Paving and Roofing Material and Lubricant Manufacturing.**

The facility, located at the eastern edge of Sigma Mesa, contains an office trailer for the facility operator and a BDM Model TM2000 Asphalt Plant with associated oil tanks. The primary function of the facility is to produce asphalt for the Laboratory as needed using the “batch” process. Asphalt batches are then trucked to project sites.

The following is an overview of the plant's operational process:

- Aggregate material, used as feed stock for the asphalt production, is stockpiled on the west side of the property. There is at least one and sometimes more piles of material stored on the ground. The volume of stockpiled aggregate material on site at any given time is approximately 3,000 cubic yards.
- Front-end loaders transfer the aggregate material from stockpiles to a hopper/feeder unit and the material is then mechanically fed to the asphalt processing plant. The processing plant (a BDM Model TM2000 Asphalt Plant) includes a Hopper/Feeder Bin attached to a conveyor belt (Structure 60-234) and a Batch Tower with drop and dryer unit (Structure 60-236).
- Asphalt emulsion oil and heated aggregate are mechanically mixed in the Batch Tower (Structure 236).
- Processed asphalt is transferred (dropped) from the Batch Tower into delivery trucks.
- Air emissions are controlled by the Bag House (Structure 60-235). Air emissions from the facility (including NOx, SOx, particulate matter) are regulated and currently in compliance with applicable air quality permits issued to LANL.

1.4 General Location Maps

Roads & Grounds/Sigma Mesa

A general location map for Roads & Grounds and Sigma Mesa may be found in Figure A. The map shows the locations of all receiving waters associated with stormwater discharges from the facility. About 40% of the main site flows to Sandia Canyon. Runoff from Sigma Mesa goes primarily to Sandia Canyon, with a small percentage flowing south to Mortandad Canyon. Sandia Canyon is a perennial stream that eventually flows into the Rio Grande approximately 10 miles southeast of the site.

Asphalt Batch Plant

A general location map for the Asphalt Batch Plant may be found in Figure A. The map shows the general/regional location of the facility.

1.5 Site Maps

The site maps in Figure B show facility activities, property boundaries, structures, impervious surfaces, operational areas, drainage patterns, stormwater and erosion control structures, potential pollutant sources, and nearby receiving streams. Figure B also contains a map showing threatened and endangered habitat for the Mexican spotted owl.

Per the 2015 MSGP, the following information specific to each facility is shown either on the site map or as part of additional information provided in this SWPPP.

Roads & Grounds/Sigma Mesa

Site boundaries and acreage

- Roads & Grounds covers 8.4 acres. Sigma Mesa covers 10.55 acres.

Significant structures and impervious surfaces

- Roads & Grounds is 65% impervious. Sigma Mesa is less than 1% impervious.

Direction of stormwater flow and site drainage

- Direction of flow is shown by arrows in the site map in Figures B-1 and B-2.

Locations of structural stormwater control measures

- See site map in Figures B-1 and B-2.

Locations of all receiving waters in the immediate vicinity of the facility

- See site map in Figures B-5 and B-6; none are impaired.

Locations of all stormwater conveyances (including all ditches, pipes, and swales)

- See site map in Figures B-1 and B-2.

Locations of potential pollutant sources

- See site map in Figures B-1 and B-2.

Locations of significant spills or leaks

- See Section 2.2

Locations of all stormwater monitoring points

- See site map in Figures B-1 and B-2.

Locations of stormwater inlets and outfalls

- See site map in Figures B-1 and B-2. The facility is not associated with a municipal separate storm sewer system.

Areas of designated critical habitat for endangered or threatened species

- None in immediate vicinity of the site. See Figure B-9 for Map of Threatened and Endangered Species on LANL Property.

Non-stormwater discharges

- None. See certification in Attachment 3.

Locations of activities exposed to precipitation

- Vehicle and equipment maintenance and/or cleaning areas.
- Loading/unloading areas.
- Locations used for the treatment, storage, or disposal of wastes.
- Liquid storage tanks.

- Processing and storage areas.
- Immediate access roads and used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility.
- Transfer areas for substances in bulk.
- Machinery locations.

Locations and sources of run-on

- Sigma Mesa Road is paved. Run-on is judged possible, but with low erosion potential and little potential impact on receiving waters.

Asphalt Batch Plant

Site boundaries and acreage

- Approximately 2.3 acres.

Impervious surfaces:

- Roofs, paved areas, base-course structures, and other surfaces and structures – less than 0.1 acre.

Significant structures:

- One office trailer (60-233) and two portable storage trailers.
- Hopper/feeder attached to conveyor belt (60-234).
- BDM Model TM2000 Asphalt Plant including Asphalt Batch Tower (with Drop) and Dryer Unit (60-236).
- Above-ground oil storage tanks – 15,000 gallon and 115 gallon (60-237).
- Bag House (60-235).
- ZEP truck-spraying structure.

Directions of stormwater flow and site drainage

- Direction of flow is shown by arrows in the site map in Figure B-3.
- The site has a gentle downward grade toward the south-southeast. Drainage and stormwater flow are in that direction.
- Stormwater flow across the site is directed towards the stormwater retention pond at the southeast corner.

Locations of structural stormwater controls and conveyances

- An engineered stormwater retention pond is located in the southeast corner of the site. Parshall Flume on the east side of the pond helps monitor Outfall 60-043 and serves as the only outlet structure.

- In 2015 a fabric liner previously installed in the bottom of the pond and a layer of 3/4 inch river rock added in 2011 were removed. At the same time, to increase pond holding capacity and stormwater retention time, pond depth was increased by 2 ft.
- A one-foot high berm made of base-course and earthen materials and located along the east, west and south boundaries of the site serves to redirect stormwater flow toward the retention pond.
- Two check dams of angular rock were installed in 2014 at the west end of the retention pond to reduce the sediment load in the stormwater collected in the pond.
- A stormwater ditch along a portion of the east boundary conveys drainage to the retention pond.
- Concrete containment pads with 3-in curbs surround the oil storage tanks (Structure 60-237), providing containment for potential oil leaks.

Locations of receiving waters

- Receiving waters in the immediate vicinity of the facility are shown in Figures B-7 and B-8. Impaired waters information is provided on the map and also in the paragraph below this section in the SWPPP.

Locations of potential pollutant sources and locations of activities that are exposed to precipitation and potential sources of pollutants

- Processed asphalt is loaded/ transferred from the Batch Tower (Structure 60-236) into delivery trucks.
- Liquid (asphalt emulsion oil and heating oil) is stored in two above ground storage tanks (Structure 60-237).
- Oil loading/fueling operations take place at the oil storage tanks (60-237).
- Bare soil and dirt roads on the site are potential sources of sediment and erosion.

Location of significant spills or leaks

- See Section 2.2

Location of all stormwater monitoring points

- Stormwater is monitored at Outfall 043.

Locations of stormwater inlets and outfalls

- Outfall 043 is associated with this facility. See site map in Figure B-3.

Location of discharge/outfalls to municipal storm sewer systems

- The facility has no connections or outfalls to a sewer system or an MS4.

Non-stormwater discharges

- No non-stormwater discharges have been identified for the facility. See Non-Stormwater Discharge Certification Attachment 3.

Locations of the following activities where such activities are exposed to precipitation

- Fueling stations – none at the facility. Asphalt emulsion oil, heating coil oil, and propane are delivered by truck.
- Vehicle and equipment maintenance and/or cleaning areas – none at the facility.
- Loading/Unloading areas. Asphalt is dropped from the Batch Tower (Structure 60-236) into trucks parked directly below the tower. Aggregate is loaded into the hopper/feeder unit (Structure 60-234) by a front-end loader.
- Liquid storage tanks. 2 liquid storage tanks: 15,000 gal and 115 gal tanks for asphalt emulsion oil. A 16,000 gal propane tank formerly on the site is no longer present.

Processing and storage areas

- Asphalt processing takes place inside the Asphalt Batch Plant. Two transportainers on the east side of the site are used for storage. Aggregate is stored outdoors in multiple piles.

Immediate access roads

- Sigma Mesa Road (an extension of Eniwetok Road) is used by trucks and other vehicles accessing the site. Asphalt is picked up at the site by trucks and then transported to off-site locations.

Transfer areas for substances in bulk

- See processing and storage areas above.

Machinery

- BDM Model TM2000 Asphalt Plant.

Locations and sources of run-on

- Sigma Mesa Road is paved. Run-on is judged possible, but with low erosion potential and little potential impact on receiving waters.

Areas of designated critical habitat for endangered or threatened species

- None in immediate vicinity of the site. See Figure B-9 for Map of Threatened and Endangered Species on LANL Property.

Asphalt Millings Staging Area at TA-61

Site boundaries and acreage

- Asphalt Millings Staging Area covers 0.58 acres.

Significant structures and impervious surfaces

- Asphalt Millings Staging Area is 100% impervious.

Direction of stormwater flow and site drainage

- Direction of flow is shown by arrows in the site map in Figure B-4.

Locations of structural stormwater control measures

- See site map in Figure B-4.

Areas of designated critical habitat for endangered or threatened species

- None in immediate vicinity of the site. See Figure B-9 for Map of Threatened and Endangered Species on LANL Property.

1.6 Impaired Receiving Waters

Roads & Grounds/Sigma Mesa

Mortandad Canyon, located south of Roads & Grounds/Sigma Mesa, is the primary receiving water body for site drainage. Another major portion, about 40%, flows north to Sandia Canyon.

Runoff from the Sigma Mesa goes primarily to Sandia Canyon, with a small percentage flowing south to Mortandad Canyon.

Because of a berm recently installed at the clean soil staging area and another berm installed at the potholing staging area, it is highly unlikely there will be discharges from these areas. But the soil staging area does have three constructed weirs with rock run-downs towards the top of the berm to allow stormwater flow to discharge from the staging area if it reaches that high. The canyons have ephemeral or intermittent stream flow and eventually flow into the Rio Grande approximately 10 miles southeast of Roads & Grounds/Sigma Mesa. This facilities do not discharge to Tier 2, Tier 2.5, or Tier 3 waters.

Both Mortandad and Sandia Canyons are on the New Mexico Environmental Department's 303d list for non-attainment of their designated uses. EPA has not approved or established a Total Maximum Daily Load (TMDL) for either stream. Potential contaminants leading to the inclusion of Sandia Canyon on the 303d list are Aluminum, Copper, Adjusted Gross Alpha, Dissolved Thallium, and PCBs and for Mortandad Canyon are Aluminum, Copper, Adjusted Gross Alpha, and PCBs. These listings are based primarily on stormwater data.

1.7 Outfalls

Roads & Grounds

Outfall 031: Stormwater flows south of building TA-60-250, the employee parking area, and from the south truck parking area to a sedimentation basin/detention pond, which drains west towards this outfall. Stormwater from the area south of the salt shed flows into the drainage channel south of the lined retention pond and then east toward the outfall. It then travels through a culvert that runs south under Sigma Mesa Road before discharging into Mortandad Canyon.

Outfall 030: Small amounts of stormwater from the Heavy equipment storage yard driveway drain to the southeast corner of the yard, where they first enter an asphalt drainage swale along Sigma Mesa Road, then travel through a culvert under the road and discharge into Mortandad Canyon.

Outfall 032: Stormwater flows from the area north of the Salt Shed through the north heavy equipment storage and parking area to a riprap-lined channel that discharges via sampling station E123.4 (which is also known as Monitored Outfall 032) and then to the north towards Sandia Canyon.

Outfall 033: Stormwater flows north from the west side of the small equipment storage area and through the north parking lot where it discharges at a point north of the facility and then drains towards Sandia Canyon.

Outfall 034: Stormwater flows north from the east side of the small equipment storage area, west side of Bldg. 250 (main Roads & Grounds Facility building) and north vehicle parking area located northwest of Bldg. 250 where it discharges at a point north of the facility and then drains towards Sandia Canyon.

Outfall 035: Stormwater flows north from the east side of Bldg. 250, the north parking area behind the building, and from several transportainers on the northern site boundary. Stormwater discharges at a point on the northwest side of the transportainers and then flows north towards Sandia Canyon.

Sigma Mesa

Outfall 041: Stormwater flows southeast through a base course equipment staging area and discharges to a vegetated area that flows southeast towards Mortandad Canyon.

Monitored Outfall 042: Stormwater flows northeast from the north equipment staging and stockpile area to a pond. Water in the pond discharges to a riprap lined channel that flows northeast towards Sandia Canyon.

Outfalls 040, 039, 038, 037 and 036: These outfalls are identical riprap lined weirs, which serve as discharge points for stormwater runoff that would accumulate along the berm that extends along the north end of the soil staging area. Stormwater, if

discharged, would flow to the north, be collected in a swale located along the base of the berm and, if accumulated to an appropriate depth, would discharge through one of the weirs to Sandia Canyon.

Substantially Identical Outfalls

The following outfalls at Roads & Grounds and Sigma Mesa have been identified as substantially identical based on common potential pollutant sources, drainage areas, activities within the drainage areas, and general site topography and characteristics. Information supporting this outfall determination for monitoring requirements is given in Section 4.3 and includes outfall locations, facility activities and associated potential pollutants, runoff coefficients and control measures.

Outfalls 031 and 030: Both of these areas receive stormwater runoff to the south of the main facility, discharge stormwater that may come in contact with heavy equipment or trucks, and both have the potential to discharge stormwater runoff to Mortandad Canyon.

Outfalls 032, 033, 034, and 035: All of these outfalls receive stormwater runoff from the central portion of the main facility, discharge to Sandia Canyon, and discharge stormwater that may come in contact with vehicle or heavy equipment parking or storage. All outfalls at the facility are inclusive of monitoring performed at gage station E123.4 located at Monitored Outfall 032. This outfall receives runoff from all central areas of the main facility and is the outfall with the highest runoff coefficient. Therefore, monitoring at this outfall is representative of the remaining outfalls at the main facility discharging to Sandia Canyon.

Outfalls 041 and 042: These outfalls receive stormwater runoff from truck parking and equipment storage area and from construction material staging piles.

Outfalls 040, 039, and 038: All of these outfalls may receive stormwater runoff from the east clean soil staging area. Each of these outfalls is a weir situated towards the top of an earthen berm with riprap to prevent erosion at the discharge point. These three outfalls are identified as substantially identical outfalls because all soil staged within the area is clean, with the potential pollutants being sediment, hydraulic fluids, or diesel fuel should the heavy equipment leak during loading and unloading operations. All stormwater from these outfalls eventually discharges to Sandia Canyon.

Outfalls 037 and 036: All of these outfalls may receive stormwater runoff from the west clean soil staging area. Each of these outfalls is a weir situated towards the top of an earthen berm with riprap to prevent erosion at the discharge point. These two outfalls are identified as substantially identical outfalls because all soil staged within the area is clean, with the potential pollutants being sediment, hydraulic fluids, or diesel fuel should the heavy equipment leak during loading and unloading operations. This yard is

separated by a compacted earthen berm from the east Potholing and Culvert Clean-out staging areas. All stormwater from these outfalls would discharge to Sandia Canyon

Asphalt Batch Plant

Outfall 043: Stormwater on the site primarily flows southeast or, from the east drainage ditch, due south. Outfall 043 is a pond overflow outlet (with Parshall Flume) at the east end of a stormwater retention pond on the southeast boundary of the site. Overflow first flows east and then southeast toward Mortandad Canyon. No stormwater is discharged to Tier 2, 2.5, or 3 waters.

2.0 POTENTIAL POLLUTANT SOURCES

2.1 Potential Pollutants Associated with Industrial Activity

Roads & Grounds/Sigma Mesa

Storage of equipment and supplies used to maintain Roads & Grounds at LANL

The main Roads & Grounds facility has a yard to store four-wheelers, lawn tractors, lawn mowers, snow blowers, and miscellaneous small-engine equipment. There are approximately 100 pieces of equipment stored in the area although the inventory will vary depending upon how much equipment is deployed and/or in the shop for repairs or maintenance. Potential pollutants from this activity are fuel and oil from leaking equipment.

Storage of trucks and heavy equipment, used to transport/haul material or move debris.

Large trucks are parked at three locations in the parking lots around the main facility. Dump trucks, van trucks, and flatbed trucks are parked outside the south and/or east corner of TA-60-0029 and to the north of the small equipment storage area. Road salt spreading trucks are parked to the north of the Salt Shed. Heavy equipment is stored in the heavy equipment yard identified on the map and as of December 2017 also includes the fenced area that is paved to the north. This yard is west of the lined retention pond. Maintenance is performed off site at the Heavy Equipment shop. In addition, passenger cars are parked in the gravel lot north of the sediment pond. Potential pollutants for this activity include spills of salt from the salt spreading trucks, and leaks or spills of fuel, oil, fluids (transmission and hydraulic), and anti-freeze.

Storage of bulk potassium acetate, GeoMelt™ and other liquids and road salt applied for deicing.

Two 5000 gallon storage tanks with salt brine (potassium acetate) are located north of Bldg. TA-60-0178. Four 10,000 gallon storage tanks are located south of Bldg. TA-60-0178. They contain potassium acetate, calcium chloride, protein, super mix (anti-icing/pre-wetting solution), and CRYOTECH CF7- Potassium Acetate and Corrosion Inhibitors. The salt shed provides indoor storage for road salt and Ice Slicer™. The

potential pollutant sources are leaks or spills during refilling or transfer of liquid or solid product including sodium chloride and Ice Slicer (which is naturally occurring complex chlorides including magnesium, calcium, sodium, and potassium).

Staging of clean soil prior to reuse

Soil pre-screened as originating from uncontaminated areas throughout LANL is transported by dump truck, or end-dumps to the east soil staging area located at the SMSA. One potential pollutant source would be sediment if it was transported with stormwater runoff from the site. The compacted earthen berm, weir, and riprap prevent sediment migration from this location. A gravel surface is no longer effective at preventing sediment transport off site from the south central portion of the SMSA and therefore at the end of the day when loading and unloading operations cease the area affected by sediment transport is sweep with a vacuum truck. Other potential pollutants include leaks or spills of fuel, oil, fluids (transmission and hydraulic), and anti-freeze from heavy equipment performing work in the area.

Asphalt Millings Staging Areas on Sigma Mesa and at TA-61

Asphalt millings pre-screened as originating from uncontaminated areas throughout LANL is transported by dump truck, or end-dumps to the staging area located at the SMSA. Potential pollutants include leaks or spills of fuel, oil, fluids (transmission and hydraulic), and anti-freeze from heavy equipment performing work in the area.

Potholing and Culvert Cleanout Staging Areas

Soil and mixture of water pre-screened as originating from uncontaminated areas throughout LANL is transported in a potholing machine to the far west staging area located at SMSA. One potential pollutant source would be sediment if it was transported with stormwater runoff from the site. A compacted earth berm and a vegetated buffer strip where water is allowed to evaporate from the mixture preventing sediment migration from this location. Other potential pollutants include leaks or spills of fuel, oil, fluids (transmission and hydraulic), and anti-freeze from heavy equipment performing work in the area.

Heavy Equipment Operator Training Area

Located east of the potholing and culvert cleanout staging areas and used to assess the skill level of newly hired operators on various pieces of heavy equipment. Activities include blading, trenching, and locating mock utilities that have been buried. One potential pollutant source would be sediment if it was transported with stormwater runoff from the site. A compacted earth berm and a vegetated buffer strip where water is allowed to evaporate from the mixture preventing sediment migration from this location. Other potential pollutants include leaks or spills of fuel, oil, fluids (transmission and hydraulic), and anti-freeze from heavy equipment performing work in the area.

Sediment catchment in the detention basin

Soil/sediment from the main facility could travel with stormwater runoff to the detention basin located south of the facility. However, it is unlikely that sediment would discharge from the pond.

Salt retention in the lined retention pond

Road salt and other deicing liquids could migrate to the lined retention pond. However, these pollutants will not migrate off-site since the retention pond was designed to fully contain a 100 year storm event.

Storage of sand, gravel, rock, and other landscaping materials

Other potential pollutant sources

Pesticide Storage Shed (TA-60-29) Outfall 033

Other Sector P Specific Concerns

- On-site waste storage or disposal.
- Parking areas for vehicle awaiting maintenance. NoneSolid Waste Management Units (SWMUs)

The following two areas—which are either within the boundaries of Roads & Grounds or could potentially be affected by stormwater runoff from it—have been designated as Solid Waste Management Units (SWMU's) in LANL Operable Unit 1148, RCRA Facility Investigation (RFI) Work Plan for Environmental Restoration (May 1992):

- 60-001(d) – Bermed storage area next to the Pesticide Storage Shed. Approved for No Further Action (NFA) status in 1994.
- 60-002 – This SWMU comprises several piles of asphalt, concrete, and debris located throughout Sigma Mesa. One of the piles is located within the current boundaries of Roads & Grounds. This pile was removed and disposed of before construction of the Roads & Grounds Facility and confirmation samples were collected from beneath the pile.

Data will be included in the report for the final disposition of the entire SWMU once all piles comprising the SWMU have been remediated and/or sampled. In the interim, there is no exposure of this SWMU to stormwater from Roads & Grounds since the portion included within Roads & Grounds Facility has been removed.

Asphalt Batch Plant

The following activities at the Asphalt Batch Plant are potential pollutant sources to stormwater discharges:

- Material loading and unloading operations.
- Outdoor storage of material.
- Waste handling and storage activities.
- Earth/soil moving.

Material loading/unloading operations

Material loading and unloading routinely occurs at the oil storage tanks (Structure 60-237), the hopper/feeder unit (Structure 60-233), the ZEP tank, and the Batch Tower (Structure 60-236).

- Asphalt emulsion oil and heating oil are delivered to the two oil storage tanks (15,000 gallon and 115 gallon) by tanker trucks and the oil product is pumped directly into the tanks. Oil in the 15,000 gallon tank is consumed during asphalt batch processing and the tank is refilled as needed throughout the year.
- The heating oil in the 115 gallon tank is non-destructively used. Potential sources of exposure from this operation include spills from the tanker truck, leaks from hose or valve connections, overfilling/overflow of product, and draining of hose lines after refilling; the potential pollutants of concern are asphalt emulsion oil and heating coil oil.
- Front-end loaders are used to load and unload aggregate material from stockpiles to the batch plant's Hopper/Feeder Unit (Structure 60-234). The pollutant of concern from this operation is the generation of dust during the unloading activities at the hopper/feeder bin. Overflow or spillage of the aggregate material is not considered a pollutant source since the material is generally picked up and re-fed into the process; the gravel material is not a significant source of sediment or pollutants. Other potential pollutants of concern from this equipment are leaked hydraulic fluids or diesel fuel.
- Loading of asphalt takes place at the Batch Tower drop location (Structure 60-236) where processed asphalt is dropped into trucks for delivery to a job site. Potential sources of pollutants from this operation include overflow or spillage of processed asphalt, including waste aggregate, tar slag, and asphalt chunks; the material is semi-solid in form and after cooling becomes solid with no tendency to percolate. These wastes are scooped up and placed into a New Mexico Special Waste area offsite by Waste Management Coordinators. P409 and an MSDS for ZEP Asphalt Release Agent R-6690 can be found in the Referenced Documents.

Outdoor storage of material

Outdoor storage of other materials includes two oil storage tanks, asphalt oil in the 15,000 gallon tank (Structure 60-237) and heating coil oil in the attached 115 gallon tank. The two tanks are co-located in a concrete spill containment basin that provides secondary containment.

Potential sources of exposure from this location include spills and leaks from the tanks and associated piping that might leak into or overflow the containment basin and contaminate stormwater runoff in the area. Pollutants of concern include asphalt emulsion oil and heating coil oil.

Waste handling

Small amounts of waste generated from truck-loading operations at the Batch Tower—including solid or semi-solid aggregate, tar slag, and asphalt chunks—are scooped up and placed into an offsite New Mexico Special Waste area under the direction of Waste Management Coordinators. A potential source of exposure from this operation would be the breach of drums and consequent release of solid or semi-solid waste material into the containment basin. Potential pollutants include waste aggregate, tar slag, and asphalt chunks. These materials are properly characterized and disposed of offsite per P409, Waste Management.

Asphalt oil and heating oil

Asphalt emulsion oil is stored in a 15,000-gallon aboveground storage tank (Structure 60-237). The asphalt oil is heated and used in the production of the asphalt.

A second oil storage tank, which is a 115 gallon tank (also Structure 60-237), is attached to the emulsion oil tank and stores heating oil that is used non-destructively for heating.

The two oil storage tanks are co-located in a concrete spill containment basin, with an estimated surface area of 350 square feet. A 3-inch curb provides secondary containment. A 2-inch drainpipe with a locked valve provides controlled drainage of the contents.

Asphalt oil and heating oil are delivered to the facility by an off- site contractor via tanker trucks and pumped directly into the storage tanks.

Waste clean-up

The process of dropping or transferring material into delivery trucks could result in overflow or spillage of tar slag and asphalt chunks. These waste materials (slag) are scooped up and placed into a New Mexico Special Waste area offsite by Waste Management Coordinators.

Truck beds sprayed with ZEP

Before loading asphalt, truck beds are coated with ZEP, a non-hazardous, bio-degradable product designed to minimize the sticking of asphalt to truck beds. ZEP is applied by a hand-held spraying device to minimize release to the environment.

Other operations on site include a trailer used as the Control Center/Office (Structure 60-233) and two portable trailers for storage. There are no buried tanks, piping, or transfer stations at the facility.

Earth/soil moving.

Solid Waste Management Unit (SWMU)

One SWMU is located within the Asphalt Batch Plant boundary: 60-002. This is an area used at one time to store up to 50 piles of broken cured-asphalt chunks prior to recycling. Since the materials have been removed and the site upgraded for Asphalt Batch Plant operations, there is little potential for pollutants to be released into surface water runoff. Inorganic constituents including aluminum, arsenic, barium, cadmium, calcium, chromium, cobalt, iron, magnesium, nickel, selenium, vanadium, magnesium, lead, iron, copper, and beryllium are present in the subsurface at depths ranging from 1.5 ft to 15 ft. Organic constituents including acetone, diesel range organics, fluoranthene, fluorene, pyrene, and hexanone[2-] are present in the subsurface at depths ranging from 1.5 ft to 17 ft.

2.2 Spill and Leaks

Roads & Grounds/Sigma Mesa

Past Spills and Leaks

Table 1A presents a list of Roads & Grounds/Sigma Mesa areas where spills and leaks could occur.

Spills and leaks at Roads & Grounds/Sigma Mesa during 2016–2018 are summarized in in Attachment 10. Spills and leaks prior to 2016 are documented in earlier Roads & Grounds/Sigma Mesa SWPPP revisions.

Table 1A: Roads & Grounds/Sigma Mesa – Areas Where Spills/Leaks Could Occur

Location	Outfalls
Heavy equipment Storage Yard	032
Heavy equipment Storage Yard	032, 033
Small equipment Storage Yard	032, 033, 034
Craft storage Buildings	032, 033, 034, 035
Vehicle storage at Sigma Mesa	041, 042

In the event of future spills or leaks, Attachment 10 will be revised to include them along with the nature of the spill or leak. The revision will be performed immediately upon completion and documentation of the spill response and cleanup.

The probability of spills or releases at the facility is minimized by the application of good housekeeping procedures and appropriate operational methods. As this facility regularly repairs heavy equipment and vehicles, spill protection is readily available on site. Appropriate response measures for a spill or release of hazardous materials are applied when addressing spills. The specific spill response and cleanup procedures will depend on the nature of the spilled material. Specific spill response and reporting procedures for LANL are listed in Section 3.1.4.

Asphalt Batch Plant

Table 1B presents a list of Asphalt Batch Plant areas where spills and leaks could occur.

Table 1B: Asphalt Batch Plant – Areas Where Spills/Leaks Could Occur

Location	Outfall
15,000 gallon & 115 gallon oil storage tanks (60-237)	043
Drum of tack oil (located east of 60-237)	043

Past Spills/Leaks

Spills and leaks during 2016–2018 are summarized in Attachment 10. Spills and leaks prior to 2016 are documented in earlier Asphalt Batch Plant SWPPP revisions.

Records of spills are also entered into the EPC-CP MSGP CAR database. Information recorded includes type of material spilled, quantity of spilled material, corrective actions taken, and the location and date of the spill event. This information is maintained for a period of three years from the date the permit expires or the date the permittee’s authorization is terminated.

2.3 Unauthorized Non-Stormwater Discharges

Non-storm water discharges are also identified in the “Non-Storm water Discharge Assessment and Certification” that is located in Attachment 3. This certification form certifies that all storm water outfalls have been evaluated for the presence of non-storm water discharges. This form will be updated whenever a change in possible non storm water discharges is determined.

2.4 Salt Storage

Roads & Grounds/Sigma Mesa

Salt Shed, Super Mix Blending Station, and Associated Storage Tanks TA-60-178.

- Salt storage: The Salt Shed provides indoor storage for road salt and Ice Slicer. Bags of Ice Melt on wood pallets are also stored in a closed Transportainer (60-287) SE of TA-60 building 250. Potential Pollutants: Road salt is primarily sodium chloride and Ice Slicer is naturally occurring complex chlorides including magnesium, calcium, sodium, and potassium.
- Salt and brine loading area.

Asphalt Batch Plant/TA-61 Asphalt Millings Staging Area

No salt storage or piles that contain salt are present at the facility.

2.5 Historical Data Summary

CY 2016 TA-60 Roads and Grounds

No stormwater discharge occurred at monitored outfalls 036 and 039 in 2016. Therefore, no samples were collected and no data are available.

Monitored Outfall	Discontinue Monitoring		Continue Monitoring				
	Average of four monitoring values did not exceed benchmark; quarterly monitoring discontinued per Section 6.2.1.2	Impaired water constituent was not detected in storm water discharge; annual monitoring discontinued per Section 6.2.4.1.	Fewer than four quarterly samples have been collected in current sequence. Average concentration is not mathematically certain to exceed benchmark.	Average concentration mathematically certain to exceed benchmark.	Average of four quarterly monitoring values exceeded benchmark.	Impaired water constituent was detected, but did not exceed New Mexico Water Quality criterion	Impaired water constituent exceeded New Mexico Water Quality criterion.
031	N/A ¹	Total Aroclor	N/A	N/A	N/A	—	Al, Cu, Adjusted Gross Alpha
032	N/A	Total Aroclor, TI	N/A	N/A	N/A	Cu, Adjusted Gross Alpha	Al
042	N/A	Total Aroclor, TI	N/A	N/A	N/A	Cu	Al, Adjusted Gross Alpha

¹N/A – No quarterly benchmark monitoring required.

CY 2017 TA-60 Roads and Grounds

No stormwater discharge occurred at monitored outfall 036 in 2017. Therefore, no samples were collected and no data are available.

Monitored Outfall	Discontinue Monitoring		Continue Monitoring				
	Average of four monitoring values did not exceed benchmark; quarterly monitoring discontinued per Section 6.2.1.2	Impaired water constituent was not detected in storm water discharge; annual monitoring discontinued per Section 6.2.4.1.	Fewer than four quarterly samples have been collected in current sequence. Average concentration is not mathematically certain to exceed benchmark.	Average concentration mathematically certain to exceed benchmark.	Average of four quarterly monitoring values exceeded benchmark.	Impaired water constituent was detected, but did not exceed New Mexico Water Quality criterion	Impaired water constituent exceeded New Mexico Water Quality criterion.
031	N/A ¹	—	N/A	N/A	N/A	Al, Adjusted Gross Alpha	Cu
032	N/A	—	N/A	N/A	N/A	Adjusted Gross Alpha	Al, Cu
039	N/A	Total Aroclor, TI	N/A	N/A	N/A	—	Al, Cu, Adjusted Gross Alpha
042	N/A	—	N/A	N/A	N/A	Al, Cu	Adjusted Gross Alpha

¹N/A – No quarterly benchmark monitoring required.

CY 2018 TA-60 Roads and Grounds

No stormwater discharge occurred at monitored outfall 036 in 2018. Therefore, no samples were collected and no data are available. Insufficient volume was collected in 2018 to analyze for all parameters. No data are available for Al and Adjusted Gross Alpha at outfalls 031 and 039.

Monitored Outfall	Discontinue Monitoring		Continue Monitoring				
	Average of four monitoring values did not exceed benchmark; quarterly monitoring discontinued per Section 6.2.1.2	Impaired water constituent was not detected in storm water discharge; annual monitoring discontinued per Section 6.2.4.1.	Fewer than four quarterly samples have been collected in current sequence. Average concentration is not mathematically certain to exceed benchmark.	Average concentration mathematically certain to exceed benchmark.	Average of four quarterly monitoring values exceeded benchmark.	Impaired water constituent was detected, but did not exceed New Mexico Water Quality criterion	Impaired water constituent exceeded New Mexico Water Quality criterion.
031	N/A ¹	—	N/A	N/A	N/A	—	Cu
032	N/A	—	N/A	N/A	N/A	—	Al, Cu, Adjusted Gross Alpha
039	N/A	—	N/A	N/A	N/A	—	Cu
042	N/A	—	N/A	N/A	N/A	—	Al, Cu, Adjusted Gross Alpha

¹N/A – No quarterly benchmark monitoring required.

CY 2016 TA-60 Asphalt Batch Plant

No stormwater discharge occurred at monitored outfall 043 in 2016. Therefore, no samples were collected and no data are available.

CY 2017 TA-60 Asphalt Batch Plant

Effluent limitation guidelines parameters must be monitored annually and may not be discontinued.

Monitored Outfall	Discontinue Monitoring		Continue Monitoring								
	Average of four monitoring values did not exceed benchmark; quarterly monitoring discontinued per Section 6.2.1.2	Impaired water constituent was not detected in storm water discharge; annual monitoring discontinued per Section 6.2.4.1.	Fewer than four quarterly samples have been collected in current sequence. Average concentration is not mathematically certain to exceed benchmark.	Average concentration mathematically certain to exceed benchmark.	Average of four quarterly monitoring values exceeded benchmark.	Impaired water constituent was detected, but did not exceed New Mexico Water Quality criterion.	Impaired water constituent exceeded New Mexico Water Quality criterion.	Effluent limitation guidelines constituent was detected, but did not exceed daily limit.	Effluent limitation guidelines constituent exceeded daily limit.	Effluent limitation guidelines constituent was detected, but did not exceed 30-day average limit.	Effluent limitation guidelines parameter exceeded 30-day average limit.
043	—	Total Aroclor, Adjusted Gross Alpha	TSS	—	—	Al, Cu	—	—	TSS	Oil and Grease, pH	—

CY 2018 TA-60 Asphalt Batch Plant

No stormwater discharge occurred at monitored outfall 043 in 2018. Therefore, no samples were collected and no data are available.

3.0 STORMWATER CONTROL MEASURES

3.1 Non-Numeric Technology-Based Effluent Limits

3.1.1 Minimize Exposure

Control measures at the facility are designed to minimize the potential for spills, releases, exposure of materials, or any other events that could adversely affect the quality of water and sediment that may be transported out of the area by stormwater runoff.

Roads & Grounds/Sigma Mesa

The Salt Shed provides indoor storage for road salt and Ice Slicer that is protected from coming in contact with stormwater by keeping three roll-up doors closed.

Small containers of fuel and oils are stored in a flammable cabinet located just inside the entrance to the small equipment storage area. Pesticides are stored inside a building.

Asphalt Batch Plant

Standard operating procedures and maintenance procedures at the facility are designed to stabilize exposed areas and contain runoff using structural and/or nonstructural control measures to minimize onsite erosion, sedimentation, and the resulting discharge of pollutants.

Material loading/unloading activities

Loading and unloading operations at the oil storage tanks (Structure 60-237), the hopper/feeder unit (Structure 60-234), and the Batch Tower (Structure 60-236) are the most likely areas where potential pollutants may be released and exposed to runoff. BMPs used at these locations include the following:

- Spills from heavy equipment resulting in diesel or hydraulic fluid leaks are addressed in accordance with the Spill Prevention Control and Countermeasures Plan for the Asphalt Batch Plant. The plan specifies that the Principal Operator at the Facility is the designated person responsible for spill prevention, reporting and maintenance of the spill control equipment at the Facility. All spills require response and several facility operations personnel are trained annually to the plan. Any spills that have the potential to enter a water course require immediate response and must be reported immediately to the Security and Emergency Operations (SEO), Emergency Response Group (SEO-1). In addition, appropriate cleanup procedures will be followed and the appropriate individuals or organizations responsible for the completion of appropriated spill reports will be notified.

- Bulk delivery of oil is supervised by the Facility Site Superintendent or other designated personnel.
- Prior to a fuel transfer, supervising personnel verify that the correct product is being delivered to the correct tank and that the volume of material to be transferred does not exceed the available space in the receiving container.
- Lines, hoses, and valve settings are inspected for leaks before and during transfers; dry disconnects or leak pans are used on hoses and connections when practical;
- Any spills or releases during oil loading/unloading operations are immediately responded to in accordance with the SPCC Plan and ENV-DO-QP 101.1, Environmental Reporting Requirements for Releases or Events.
- Containment structures are in-place for the above ground oil storage tanks.
- Spill control equipment is available in the Control Room trailer (60-233).
- Overflow of asphalt material (tar slag and asphalt chunks) during loading of delivery trucks is minimized by careful supervision during loading operations. Overflow material is cleaned up as it occurs on site and is scooped up and placed into a New Mexico Special Waste area offsite by Waste Management Coordinators. P 409 for this process is located in the Referenced Documents.
- Loading and unloading areas are kept clean and maintained to minimize collection of dust, debris, and potential pollutants.
- Fluids from unused heavy equipment, vehicles, and other equipment stored onsite for longer than 6 months will be drained.

Outdoor storage of materials

BMPs used to control pollutants from these sources include the following:

- The two oil storage tanks (Structure 60-237) are co-located in a concrete secondary containment unit. The concrete containment unit has a 3-inch curb that has a sufficient volume to contain the 115 gallon tank's contents with ample freeboard for storm flow. The full volume of the 15,000 gallon tank cannot be contained by the basin; however, it was not deemed necessary to provide full containment for this tank since the product will solidify on the surface with little to no soil penetration.
- Secondary containment will be provided for any materials containing liquids and stored on site
- Material or products that are stored in bags, boxes, or other perishable containers will be stored inside or under cover to prevent exposure.
- Whenever practical, materials and activities at the facility are protected to prevent exposure to rain, snow, snowmelt, or runoff.

Waste handling activities

BMPs used to control pollutants from these sources include the following.

- P409, Waste Management, specifies methods for handling waste containers to minimize leaks and exposure to stormwater. Inspections are conducted to ensure that procedures are properly followed and that no potential contaminants are present in exposed areas
- Small amounts of waste generated from the truck-loading operations at the Batch Tower, which includes solid or semi-solid aggregate, tar slag and asphalt chunks, is scooped up and placed into a New Mexico Special Waste area offsite by Waste Management Coordinators.

Earth/soil-moving activities

Construction or other activities at the site that disturb more than 1-acre of land will be separately addressed in accordance with the NPDES Construction General Permit (CGP).

3.1.2 Good Housekeeping

Roads & Grounds/Sigma Mesa

Good housekeeping practices specifically applicable to the prevention of stormwater contamination include the following:

- Individual mixing operations take place in closed vessels, so that the potential for exposure of stormwater to materials is limited to loading and unloading activities. When possible, the road salt is stored inside the Salt Shed to prevent exposure to stormwater. The use of a brine solution for deicing operations is also being transitioned in to reduce the use of road salt.
- All storage areas are kept clean and neat. Vehicles and other equipment are stored and maintained in specified areas and heavy equipment repair and maintenance is never performed at this site.
- Garbage and floatables are routinely picked up by facility personnel. All garbage containers are covered to prevent windblown debris.

Asphalt Batch Plant

Routine operations at the facility are geared toward keeping the site clean, avoiding spills, and immediately attending to any spilled material according to LANL response guidelines.

Good housekeeping practices used at the facility to prevent stormwater contamination include the following.

- Routine inspections are performed for leaks and to check the condition of the tanks.
- Operational areas are maintained in a clean and orderly state.
- Containers holding raw material or product are kept closed when not in use and containers are not stored in areas that are exposed to precipitation or run-on.
- Containers and materials are properly labeled.
- Stormwater containment structures are kept clean of debris and trash; the drainage ditch and berm around the site are kept clear of debris and trash.
- Access to the facility is controlled by a gate, which is located less than a quarter mile west of the Asphalt Batch Plant on Sigma Mesa Road. The facility is locked when unattended. A sign-in/out procedure is not required at the facility. However, visitors must notify the Facility Operator (upon arrival to the plant) that they are on site to perform specified work or inspections.
- Spills or leaks are cleaned as soon as possible.
- Activities that damage or destroy existing vegetation are kept to a minimum.
- Employees are trained about these and other good housekeeping practices and their impact on stormwater discharge.
- Non-hazardous waste (e.g. trash) generated at the site is collected in a dumpster, which is picked up for disposal when it becomes full.
- No vehicle maintenance or vehicle washing is performed on site.

3.1.3 Maintenance

If control measures are in need of routine maintenance, it must be conducted immediately in order to minimize pollutant discharges. If a control measure is found to need repair or replacement, all reasonable steps to prevent or minimize the discharge of pollutants must immediately occur until the final repair or replacement is implemented including cleaning up any contaminated surfaces so that the material will not be discharged during subsequent storm events. Temporary BMPs will be installed to serve as backup controls while a control measure is offline. Final repairs/replacement of stormwater controls should be completed as soon as feasible but must be no later than the timeframe established in Part 4.3 of the 2015 MSGP for corrective actions, i.e., within 14 days or, if that is infeasible, within 45 days. If the completion of stormwater control repairs/replacement will exceed the 45 day timeframe, the site will take the minimum additional time necessary to complete the maintenance, provided that the EPA Regional Office is notified of the intention to exceed 45 days, and documentation of the rationale is contained in this SWPPP. Note: "All reasonable steps" means that the permittee has undertaken initial actions to assess and address the condition causing the corrective action, including for example, cleaning up any exposed material that may be discharged in a storm event (e.g., through sweeping, vacuuming) or making arrangement (i.e., scheduling) for a new best management practice to be installed at a

later date. If a control measure was never installed, was installed incorrectly or not in accordance with Part 2 and/or 8 of the 2015 MSGP, or is not being properly operated or maintained site personnel must conduct corrective action as specified in Part 4 of the 2015 MSGP. The retention pond is cleaned at the end of every March prior to the beginning of the new sampling season in April or when the depth of sediment or debris reached two-thirds (2/3) of the depth of the pond and when and if debris is at least six inches from the outlet pipe. According to the manufacturing specifications the functional longevity of the floc logs is 6 months to a year and they will be replaced as soon as they deteriorate to the point where they no longer function properly. According to the manufacturing specifications the functional longevity for the Enviro-soxx with Metal-Loxx wattles is also 6 months to a year and they will be replaced at the end of every March prior to the beginning of the new sampling season in April.

3.1.4 Spill Prevention and Response

The application of good housekeeping procedures and regular visual inspections minimize the probability of a spill or release. Also, LANL's institutional procedures P 409 Waste Management and P 101-14 Chemical Management require labeling of wastes, used oils, and chemicals stored on-site to facilitate the proper handling and response if spills or leaks occur.

In general, the approach to spill cleanup is to secure the spill area and contact the Operations and Maintenance Coordinator (OMC) and/or the Security and Emergency Operations (SEO) Emergency Management & Response (EM&R) Team (if necessary). For incidental releases, Micro-Blaze or dry absorbents can be used and the contaminated absorbents disposed of properly.

The facility operators shall report all spills or releases. All uncontrollable spills or releases must be reported to the SEO/EM&R Office or Facility Duty Officer by calling 667-6211 or, after hours, at 667-7080. If fire or explosion is present, or if the potential for such exists, the situation must be reported by dialing 911. In the event of a spill, the SEO/EM&R Office will determine appropriate cleanup procedures and will notify the individuals or organizations responsible for completing spill reports or fulfilling regulatory reporting requirements.

Spills are reported to EPC-CP for documentation and reporting purposes. The completion of a spill report is required in the event of a spill. The spill report will be submitted to EPC-CP personnel and handled according to internal spill record keeping procedures. Spills may be "reportable" (requiring external agency notification) depending on the nature of the spilled material and the location of the release. External agency notification may consist of verbal or written notification to the National Response Center, Environmental Protection Agency Region VI, or the New Mexico Environment Department (NMED). The determination for the type of reporting will be made by the SEO/EM&R Office, FOD and EPC-CP in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements. Copies of internal spill reports are maintained by the responsible organization.

Additional EPC-CP procedures (documents provided in Attachments 21 and 22) for spill reporting and response include:

- ENV-CP-QP-007, Spill Investigations
- EPC-DO-QP-101.3, Environmental Reporting Requirements for Releases or Events

3.1.5 Erosion and Sediment Control

Roads & Grounds/Sigma Mesa

Erosion and sediment are controlled at Roads & Grounds by preventing erosion through the use of pavement, compacted millings, and stabilized ditches and by trapping sediment. Velocity dissipation devices are installed at each discharge point.

General structural controls include the following:

- Runoff from the north side of the facility is collected in a drainage swale/base course berm and released to the canyon through rock check dams.
- Sediment traps/check dams: A sediment traps/check dams is located at the northeast corner of SMSA to trap sediment from the stone stockpile area.

Sigma Mesa

Several control measures are used at Sigma Mesa, including compacted earthen berms on the north, east, and west sides of the east and west soil staging areas. The northern berm of each staging area has riprap lined weirs, which serve as discharge points for stormwater runoff that would otherwise accumulate along the berm. There is a berm along the east central portion of Sigma Mesa and on the north side in the same general area. The gravel surface is no longer effective at preventing off-site sediment transport from the south central portion of Sigma Mesa and therefore, at the end of the day, when loading and unloading operations end, the area affected by sediment transport is swept with a vacuum truck.

To retain stormwater runoff and to minimize the potential for off-site transport of material within the potholing and culvert clean-out staging areas, two primary control measures are implemented: a compacted earth berm and a vegetated buffer strip. The earth berm is approximately 430 ft long, extending across the entire length of the north side of the area, 2 ft or higher, with side slopes of approximately 2:1, and 2 ft wide across the top. It was sized to hold stormwater runoff from a 25-yr 2-hr storm event. The vegetated buffer strip, comprising existing perennial vegetation and woodchips obtained from on-site material and located immediately upslope from the compacted earth berm, is 50-ft wide. See the Sigma Mesa map in Figure B-2).

North of Eniwetok Rd. at the portion of Sigma Mesa farthest east, stormwater flows into a retention pond with riprap-lined discharge point located adjacent to the automated stormwater sampler at Outfall 042. Sediment is cleaned out of the retention pond when two-thirds full.

The south-central portion of Sigma Mesa (south of Eniwetok Rd.) contains a riprap-lined area and straw waddle leading to Outfall 041. A berm controls stormwater runoff velocity and direction prior to discharge at the outfall. The staging area is 0.9 miles east of the main facility, with most of it north of Eniwetok Rd. while a smaller parking and storage area is south of Eniwetok Rd. The area is primarily used for Teamster vehicle parking and materials (sand and gravel) storage.

Miscellaneous equipment parts (loading buckets, blades, etc.) are stored on both sides of the staging area, along with gravel and sand piles, soil for use as clean fill and potholing staging, vehicles, and miscellaneous equipment pieces. Leaks are prevented or contained through the use of drip pans, inspections, and routine maintenance.

Asphalt Batch Plant

Structural controls shown on the Asphalt Batch Plant site map in Figure B-3 includes the following:

Stormwater retention pond: A stormwater retention pond at the southeast corner of the site collects and manages stormwater run-off and provides an opportunity for sediments to settle out in the basin and not be transported off-site. Runoff from across the facility is directed toward the pond, and the water is held in the pond until it is released through the controlled outlet structure, evaporates, or infiltrates into the surrounding soil. In 2015 a fabric liner at the bottom of the pond and a layer of ¾-inch river rock added in 2011 were removed. To help increase the holding capacity and retention time of stormwater, the depth of the pond was increased by 2 ft.

Parshall Flume is located at the east side of the retention pond, which is part of stormwater monitored Outfall 043 and serves as the pond's outlet structure. This structure is used for sampling runoff and controlling runoff releases from the pond to provide better erosion control at the discharge. Riprap located at the flume discharge further slows down and disperses stormwater overflow from the pond.

Riprap: Riprap at the east and west entrances of the stormwater retention pond reduces erosion in these areas and minimizes sediment transport into the pond.

Site grading: The facility grounds have been graded to produce a gentle downward grade toward the south-southeast so that site drainage and stormwater flow is directed towards the stormwater retention pond. Most of the facility is stabilized with gravel.

Berms: The site is bounded by base-course and earthen berms on the west, south, and east boundaries. The berms serve to redirect storm flow and site drainage toward the

retention pond, minimizing sediment transport and runoff. The berms also prevent run-on to the site from adjacent lots not part of the facility.

Check dams: Two check dams made of angular rock were installed in 2014 at the west end of the retention pond to reduce the sediment load in stormwater collected in the pond.

Stormwater conveyance ditch: An earthen ditch is located along a portion of the site's east boundary to convey storm flow and site drainage to the retention pond. This ditch works in combination with the base-course berm (also along the eastern boundary) to prevent run-on from the adjacent lot.

Secondary containment basin: The above-ground oil storage tanks (Structure 60-237) rest in a concrete basin with a 3-inch curb, thus providing containment for potential oil leaks. The basin is equipped with a 2-in drainpipe and valve to permit drainage of the basin. The valve is kept locked to prevent accidental or unauthorized drainage. While run-on and site drainage into the basin is thus minimized, precipitation and snowmelt may still accumulate in it. Stormwater accumulations are usually small and can be left to evaporate. But on occasion it may be necessary to drain the basin to ensure sufficient storage capacity to handle a tank leak or spill. Draining requires visual inspection of the accumulated material and notification, approvals, and testing by EPC-CP. These structural controls have been selected, designed, and installed to work together to reduce the potential for sediment transport, to manage stormwater runoff and run-on, and thus reduce the potential for pollutants in stormwater discharges.

Inspections

UI-PROC-41-20-001, Asphalt Plant Operation, includes regular inspection and maintenance of the facility's equipment, operational systems, and grounds. A copy is included in Referenced Documents. Facility personnel at the Asphalt Batch Plant conduct informal walk-around inspections daily to check the facility equipment and facility grounds. During these informal inspections, facility personnel take note of maintenance needs and initiate appropriate corrective actions. These routine activities help minimize the chance of failures, shutdowns, and other abnormal conditions that could result in leaks, spills, or other releases.

Items checked during inspections:

- Facility grounds in orderly condition
- Stormwater structures free of debris, floating material, and other obstructions
- Maintenance needs for equipment or stormwater BMPs
- Signs of new erosion
- Signs of leaks, spills, or other releases

If a problem cannot be immediately remedied, the inspection and response are documented per standard facility procedures.

All facility equipment, tanks, transfer piping and associated valves are located above ground and easily available during the monthly inspections. Integrity tests and in-service inspections are not required for the Asphalt Batch Plant oil tanks because as flow-through process tanks, they are exempt per NMED Petroleum Storage Tank (PST) Regulations (Section 20.5.1.7, Definitions), but the tanks and berms are checked for evidence of leaks or failure during SPCC and SWPPP inspections.

3.1.6 Management of Runoff

Roads & Grounds/Sigma Mesa

Runoff from the salt storage area goes to the lined retention pond where up to a 100 year storm is fully contained.

Asphalt Batch Plant

The site has a gentle downward grade toward the south-southeast, and site drainage and stormwater flow is in that direction. Stormwater flow across the facility is directed towards the stormwater retention pond at the southeast corner of the site boundary.

Asphalt Millings Staging Area at TA-61

The site has an asphalt berm that runs from east to west at the southwest corner of the staging area that serves as an access point for heavy equipment. Another asphalt berms runs along the east perimeter of the staging area.

3.1.7 Salt Storage Piles or Piles Containing Salt

Roads & Grounds/Sigma Mesa

See Section 2.4.

Asphalt Batch Plant

No salt storage or piles containing salt are present at the facility.

3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials

Roads & Grounds/Sigma Mesa

Dust is controlled throughout the site through the use of pavement, compacted millings, gravel, speed limits, and (as needed) sweeping with a street sweeper or dust suppression with potable water.

Asphalt Batch Plant

The area at and surrounding the facility is covered by asphalt and/or gravel. Care is taken to replenish the gravel layer when it gets thin from heavy equipment traffic. Dust suppression with potable water is performed as needed.

3.2 Numeric Effluent Limitations Based on Effluent Limitations Guidelines

Roads & Grounds/Sigma Mesa

Part 8 of the 2015 MSGP identifies sector-specific requirements for Sector P – Land Transportation and Warehousing, in addition to the numeric limits outlined in this Section. The facility must comply with requirements associated with the primary industrial activities described in Section 1.3 and any co-located industrial activities as defined in Appendix A of the 2015 MSGP. Sector-specific requirements apply only to areas where sector-specific activities occur.

The following Sector-Specific Non-Numeric Effluent Limits are addressed at this facility:

Pesticide Storage Shed (TA-60-0029)

- Product mixing area: Mixing is performed outside the building in a containment area located north of the shed.
- Pesticide application equipment storage and maintenance: Spill prevention, containment and control and drip pans and good housekeeping.
- Stormwater trapped in the secondary containment is usually allowed to evaporate. In order to release stormwater from the secondary containment it must have a PH between 6.5 and 7, no odor or visible oily sheen, and the release must be documented on a liquid discharge form and submitted to EPC-CP.

Heavy Equipment Storage Yard

- The equipment storage yard is located west of the Salt Shed and also includes the fenced area that is paved to the north.
- Storage of heavy equipment: Leaks are contained by drip pans and routine maintenance. Maintenance is performed off-site at the Heavy Equipment shop.

Small Equipment Storage Yard

- Small containers of fuel and oils are stored in a flammable cabinet located just inside the entrance to the small equipment storage area.

Vehicle Parking Lots

- Large trucks are parked at three locations in the parking lots around the facility. Dump trucks, van trucks and flatbed trucks are parked outside the southeast corner of TA-60-29 and to the north of the small equipment storage area. Road

salt spreading trucks are parked to the north of the Salt Shed. Leaks are contained by drip pans and routine maintenance.

- Passenger cars are parked on asphalt north of the sediment pond. Leaks are contained by drip pans and routine maintenance.

Clean Fill Yards

- 2.8 acres clean fill yard is located in between the Potholing and Culvert Cleanout and Asphalt Millings staging areas. Equipment hauls fill into and out of these areas. There is also equipment involved in working the fill and soil.

Asphalt Millings Staging Areas on Sigma Mesa and at TA-61

- The 0.3-acre asphalt millings staging yard is located east and adjacent to the clean fill yard. The asphalt millings staging area at TA-61 is south of East Jemez road and 0.58 acres. Equipment is used to haul millings into and out of the area and to load the asphalt millings.

Potholing and Culvert Cleanout Staging Yard

- The 2.6 acre potholing and culvert cleanout staging yard is located west and adjacent to the clean fill yard. The staging area consists of three open pits: the first 27 ft wide by 25 ft long, the second 14 ft wide by 45 ft long, and the third 15 ft wide by 35 ft long. They are 4–8 ft deep. Equipment is used to haul potholing material into the area and to move it out when dry.

Operator Training Area

- The 2.6 acre heavy equipment operator training area is located east of the potholing and culvert cleanout staging areas and used to assess the skill level of newly hired operators on heavy equipment. Activities include blading, trenching, and locating buried mock utilities.

Fueling Areas

- There are no fueling stations at Roads & Grounds.

Material Storage Areas:

- Except as described under Small Equipment and Salt Storage, there are no material storage areas.

Vehicle and Equipment Maintenance Areas

- No vehicle or equipment maintenance is performed at this facility.

Employee Training

- See Section 4.5.

Asphalt Batch Plant

The following Sector-Specific Non-Numeric Effluent Limits are addressed at this facility:

Production of Asphalt Using the Batch Process

- See Sections 3.1.1 - 3.1.8 for specific controls.

Employee Training

- See Section 4.5.

3.3 Water Quality-based Effluent Limitations and Water Quality Standards

Impaired Receiving Waters/TMDLs

Impaired waters monitoring is performed annually at the facilities as listed in Section 4.7. The pollutants sampled can change yearly based on the requirements of the MSGP. The table in Section 4.7 lists the current year's sampling requirements and parameters.

Stormwater from Roads & Grounds discharges to Sandia Canyon. Certain stream reaches within Sandia Canyon have been identified as impaired waters by the NMED Surface Water Quality Bureau (SWQB). According to the 2014-2016 State of NM Clean Water Act 303b/305b Integrated Report and Final List of Assessed Surface Waters, pollutants causing the impairment are listed as: *Gross Alpha, Aluminum, PCB (Aroclors), Copper, and Thallium*. Primary potential pollutant sources have been identified as post development erosion/sedimentation and urban runoff (NMED 2014). EPA has not yet approved or established TMDLs for Sandia Canyon.

4.0 SCHEDULES AND PROCEDURES

4.1 Good Housekeeping

See Section 3.1.2 of this SWPPP.

4.2 Maintenance

See Section 3.1.3 of this SWPPP.

4.3 Spill Prevention and Response

See Section 3.1.4 of this SWPPP. All referenced procedures will be provided in Attachments 21 and 22 of this SWPPP.

4.4 Erosion and Sediment Control

See Section 3.1.5 of this SWPPP.

4.5 Employee Training

Employee training is essential to effective implementation of the SWPPP. The goals for the training program are to ensure that employees are more capable of preventing spills, responding safely and effectively to an accident when one occurs, and recognizing situations that could lead to stormwater contamination.

Per section 2.1.2.8 of the 2015 MSGP, training relevant to the SWPPP is required for all operational workers at the facility who work in areas where industrial materials or activities are exposed to stormwater (MSGP sites); managers and supervisors who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel); and all members of the PPT. Training provided and assigned to these personnel cover both the specific control measures used at the facility; along with monitoring, inspection, planning, reporting, and documentation requirements described in this SWPPP. Training is conducted at least annually.

Training activities are documented in accordance with LANL's Training Standards. In cases where training is formalized enough to require specific curricula and reoccurrence, the training activity will be recorded in LANL's official U-TRAIN database. Informal briefings, such as those included in group safety meetings are not typically recorded in U-TRAIN. Sign-in sheets are used to document attendance and will be kept on file in Appendix I of this SWPPP.

The topics in this SWPPP that are covered in the latest version of LANL's training (EPC-CP-QAPP-MSGP Attachment 15), Multi-Sector General Permit for Industrial Activities Program) include the following:

- Overview and goals of the SWPPP;
- Spill response and cleanup procedures, good housekeeping, maintenance requirements, and material management practices to prevent stormwater pollution;
- The location of all controls on the site required by this permit and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.

4.6 Routine Facility Inspections and Quarterly Visual Assessments

4.6.1 Routine Facility Inspections

Routine inspections at this facility will be conducted and documented monthly and per EPC-CP-QP-023, MSGP Routine Facility Inspections: (document provided in Attachment 16).

At least once each calendar year, the routine inspection will be conducted during a period when a stormwater discharge is occurring. The inspection will be performed by a qualified member of the Stormwater PPT (typically the DEP or EPC-CP Technical Lead). The 2015 MSGP consolidates the different and separate documentation requirements in the Comprehensive Site Inspection Procedures and Routine Facility Inspection Procedures from the 2008 MSGP. EPC-CP will perform at least one routine inspection per year in order to evaluate corrective action status for the Annual Report requirements.

Routine inspections will evaluate the following areas, at a minimum:

- Areas where industrial materials or activities are exposed to stormwater;
- Areas identified in the SWPPP and those that are potential pollutant sources;
- Areas where spills and leaks have occurred in the last three years;
- Discharge points(outfalls/SIOs); and
- Control measures used to comply with the effluent limits contained in this permit.
- Specific areas of the facility to be inspected are described in Sections 3.1.5 through 3.1.8.

During routine inspections the following must be examined and looked out for:

- Industrial materials, residue or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks and other containers;
- Offsite tracking of industrial waste or materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas; and
- Control measures needing maintenance, repairs or replacement.

The Stormwater PPT member performing the inspection will document the inspection and will note potential storm water pollution problems that were encountered on the routine facility inspection form. Any required corrective actions identified during the inspection will be addressed in accordance with Section 6.0 Corrective Actions and Deadlines of this plan. Facility personnel or the DEP may also perform daily, weekly, or

other periodic facility surveys in between monthly routine inspections to further ensure compliance with the SWPPP. The routine inspection form can be found in Attachment 7 of this SWPPP and meets the requirements listed in the 2015 MSGP (Section 3.1.2.).

4.6.2 Quarterly Visual Assessments

Visual inspections are conducted in accordance with EPC-CP-QP-064, MSGP Stormwater Visual Assessments: (document provided in Attachment 18).

Once each quarter (April 1-May 31, June 1-July 31, August 1-September 30, October 1-November 30) a sample and visual assessment must be collected and performed at each outfall. The visual assessment will be conducted by a qualified member of the Stormwater PPT (DEP or EPC-CP Technical Lead). The visual assessment must be:

- Of a sample in a clean, clear colorless glass or plastic container and examined in a well-lit area;
- On samples collected within the first 30 minutes of an actual discharge from a storm event or as soon as practical thereafter. Or document why it was not possible to collect the sample within the first 30 minutes (i.e. adverse conditions, not enough flow, etc.)
- Conducted at least 72 hours since the last storm event; or document that the 72-hour period is representative of your local storm events during the sampling period.

The visual assessment will inspect for the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids foam, oil sheen, and other obvious indicators of stormwater pollution.

Exceptions to visual assessments:

- Document rationale if a visual assessment is unable to be collected in a quarter (no precipitation event or adverse conditions, etc.);
- Perform an additional assessment during the next qualifying storm event if unable to perform in a particular quarter; and
- Perform one quarterly assessment during snow melt discharge (taken during a measurable discharge from the site).

For facilities with significantly identical outfalls, quarterly visual assessments may be performed at only one of the outfalls; provided that you perform visual inspections on a rotating basis at each outfall.

The Stormwater PPT member performing the visual assessment will document potential stormwater pollution problems that were observed during the assessment on the Quarterly Visual Assessment form (Attachment 8). Any required corrective actions identified during the assessment will be addressed in accordance with Section 6.0 Corrective Actions and Deadlines of this plan.

4.7 Monitoring

Outfall: 031 (60-RG-1)

Monitoring Requirement	Industrial Sector	Assessment Unit	Analyte	Filtered/Unfiltered	Regulatory Standard	Units	Regulatory Standard Type	Regulatory Standard Reference
Impaired Waters	-	NM-9000.A_042	Total Aroclor	UF	0.2	ug/L	2007 EPA R6 MQL	20.6.4.900 NMAC Subpart J
Impaired Waters	-	NM-9000.A_042	Hg	UF	0.77	ug/L	NM 2010 Aquatic Acute 80 mg	20.6.4.900 NMAC Subpart I
Impaired Waters	-	NM-9000.A_042	Cu	F ¹	11	ug/L	NM 2010 Aquatic Acute 80 mg	20.6.4.900 NMAC Subpart I
Impaired Waters	-	NM-9000.A_042	Adjusted Gross Alpha	UF	15	pCi/L	NM 2010 Livestock Watering	20.6.4.900 NMAC Subpart J
Quarterly Benchmark	P	No Benchmark Monitoring Required						

¹F - 0.45 µm filter

Outfall: 043 (60-ABP-1)

Monitoring Requirement	Industrial Sector	Assessment Unit	Analyte	Filtered/Unfiltered	Regulatory Standard	Units	Regulatory Standard Type	Regulatory Standard Reference
Impaired Waters	-	NM-9000.A_042	Total Aroclor	UF	0.2	ug/L	2007 EPA R6 MQL	20.6.4.900 NMAC Subpart J
Impaired Waters	-	NM-9000.A_042	Hg	UF	0.77	ug/L	NM 2010 Aquatic Acute 80 mg	20.6.4.900 NMAC Subpart I
Impaired Waters	-	NM-9000.A_042	Cu	F ¹	11	ug/L	NM 2010 Aquatic Acute 80 mg	20.6.4.900 NMAC Subpart I
Impaired Waters	-	NM-9000.A_042	Adjusted Gross Alpha	UF	15	pCi/L	NM 2010 Livestock Watering	20.6.4.900 NMAC Subpart J
Quarterly Benchmark	D	-	TSS	UF	100	mg/L	MSGP QBM 2015	NMR050013 Sect 9.6.2.1
Effluent Limitations Guidelines	D	-	TSS	UF	23	mg/L	MSGP ELG 2015 - Daily Max	NMR050013 Sect 8.D.4

TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt Batch Plant
 MSGP Stormwater Pollution Prevention Plan
 Revision 0, January 2019

Effluent Limitations Guidelines	D	-	TSS	UF	15	mg/L	MSGP ELG 2015 - 30-Day Avg	NMR050013 Sect 8.D.4
Effluent Limitations Guidelines	D	-	Oil and Grease	UF	15	mg/L	MSGP ELG 2015 - Daily Max	NMR050013 Sect 8.D.4
Effluent Limitations Guidelines	D	-	Oil and Grease	UF	10	mg/L	MSGP ELG 2015 - 30-Day Avg	NMR050013 Sect 8.D.4
Effluent Limitations Guidelines	D	-	pH	UF	6-9	SU	MSGP ELG 2015	NMR050013 Sect 8.D.4

¹F - 0.45 µm filter

5.0 DOCUMENTATION FOR ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

5.1 Endangered Species

The Final Site-Wide Environmental Impact Statement for the Operation of Los Alamos National Laboratory (DOE/EIS-0380) was issued in May 2008, and a Record of Decision in September 2008. Stormwater issues and associated pollution prevention requirements and activities at LANL are analyzed in Chapters 4 and 5 of the 2008 Site-Wide EIS. These activities are integrated into environmental reviews on a project-specific level through LANL's Integrated Review Tool (IRT), which incorporates both the Excavation Permit (EX-ID) and Permit Requirements Identification (PR-ID) process. Stormwater issues are identified and pollution prevention activities are implemented during the design and construction phases of all LANL projects, and as part of facility operations, including routine maintenance. LANL staff monitor stormwater pollution prevention compliance at the MSGP sites in accordance with Section 4.7 Monitoring of this plan. Corrective actions are taken as necessary as described in Section 6.0 Corrective Actions and Deadlines of this plan.

5.2 Historic Properties

In August, 2015 and December 2008, the Cultural Resources Team (using GPS spatial data as well as conducting visual inspections), reviewed the Laboratory industrial sites (see list below) and their associated outfalls and monitoring stations subject to the 2015 Multi-Sector General Permit (Permit #NMR050000) for effects on historic properties. All of these sites were found to be undertakings of no effect and in compliance with Section 106 of the National Historic Preservation Act (i.e., Criterion B).

- TA-3-22 Power and Steam Plant
- TA-3-38 Metals Fabrication Shop
- TA-3-38 Wood Shop
- TA-3-39 and 102 Metal Shop
- TA-3-66 Sigma Complex
- TA-60 Asphalt Batch Plant
- TA-60-1 Heavy Equipment Yard
- TA-60 Material Recycle Facility
- TA-60 Roads and Grounds
- TA-60-2 Warehouse
- TA-54 RANT

6.0 CORRECTIVE ACTIONS AND DEADLINES

When any of the following conditions occur or are detected during an inspection, monitoring or any other means, this SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation and implementation of control measures) will be reviewed and revised (as appropriate) so that the effluent limits of the 2015 MSGP permit are met and pollutant discharges are minimized:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this or another NPDES permit to a water of the U.S.) occurs at the facility;
- A discharge violates a numeric effluent limit;
- Control measures are not stringent enough for the discharge to meet applicable water quality standards or non-numeric effluent limits;
- An inspection identifies that a required control measure was never installed, was installed incorrectly or is not being properly operated or maintained; and
- Whenever a visual assessment shows evidence of stormwater pollution.

If the event triggering corrective action is associated with an outfall that is identified as an SIO, the review of the need for action must encompass all related SIOs.

6.1 Immediate Actions

If a corrective action is required, immediate steps must be reasonably taken to minimize or prevent discharges from occurring (i.e. spill clean-up, scheduling repairs) until a permanent solution (if needed) can be implemented. Immediate action means all reasonable steps must be taken the same work day or no later than the following work day (when it is too late in the day to take corrective action).

6.2 Subsequent Actions

If further corrective actions are required (e.g. installing or making operational a new or modified control, completing repairs, ordering BMPs) they must be completed by the next storm event, if possible or within 14 calendar days (from initial discovery). If it is infeasible to complete corrective actions within 14 days, documentation of why it is infeasible must be provided in the SWPPP. This documentation must also include a timeframe and schedule for completion of the work, which must be completed no later than 45 days (from initial discovery). If time needed to make corrective actions will exceed 45 days, EPA must be notified and provided a justification of why actions will exceed the timeframe.

6.3 Corrective Action Documentation

Upon discovery, required corrective actions will be documented by the DEP (or EPC-CP) and entered into the Corrective Action Database (CAR). The action will be kept open in the database until the issue has been resolved. Documentation of maintenance and repairs of control measures (BMPs) will be kept in this SWPPP. Where corrective actions result in changes to procedures or controls documented in this SWPPP, modifications to the SWPPP will be made accordingly within 14 days of completing the corrective action(s).

7.0 ACRONYMS

BMPs: Best Management Practices

CAR: Corrective Action Report

DO: Division Office

DEP: Deployed Environmental Professional

DESH: Deployed Environmental Safety and Health

EPC-CP: Environmental Protection and Compliance – Compliance Programs (Division)

FOD: Facilities Operations Directorate

MSGP: Multi Sector General Permit

NPDES: National Pollutant Discharge Elimination System

PPT: Pollution Prevention Team

SWPPP: Stormwater Pollution Prevention Plan

UI: Utilities and Institutional Facilities (Utilities Division)

SIO: Substantially Identical Outfall

TSS: Total Suspended solids

ELG: Effluent Limitation Guidelines

CGP: Construction General Permit

8.0 SWPPP CERTIFICATION

**STORMWATER POLLUTION PREVENTION PLAN
TA-60 Roads and Grounds Facility, Sigma Mesa Staging Areas, and Asphalt
Batch Plant
Los Alamos National Laboratory**

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature  _____
Date _____

Digitally signed by ANDREW ERICKSON (Affiliate)
Date: 2019.01.30 08:26:32 -07'00'

Andrew W. Erickson
Facility Operations Director
Utilities and Institutional Facilities, UI-DO

FIGURE A: REGIONAL LOCATION MAP

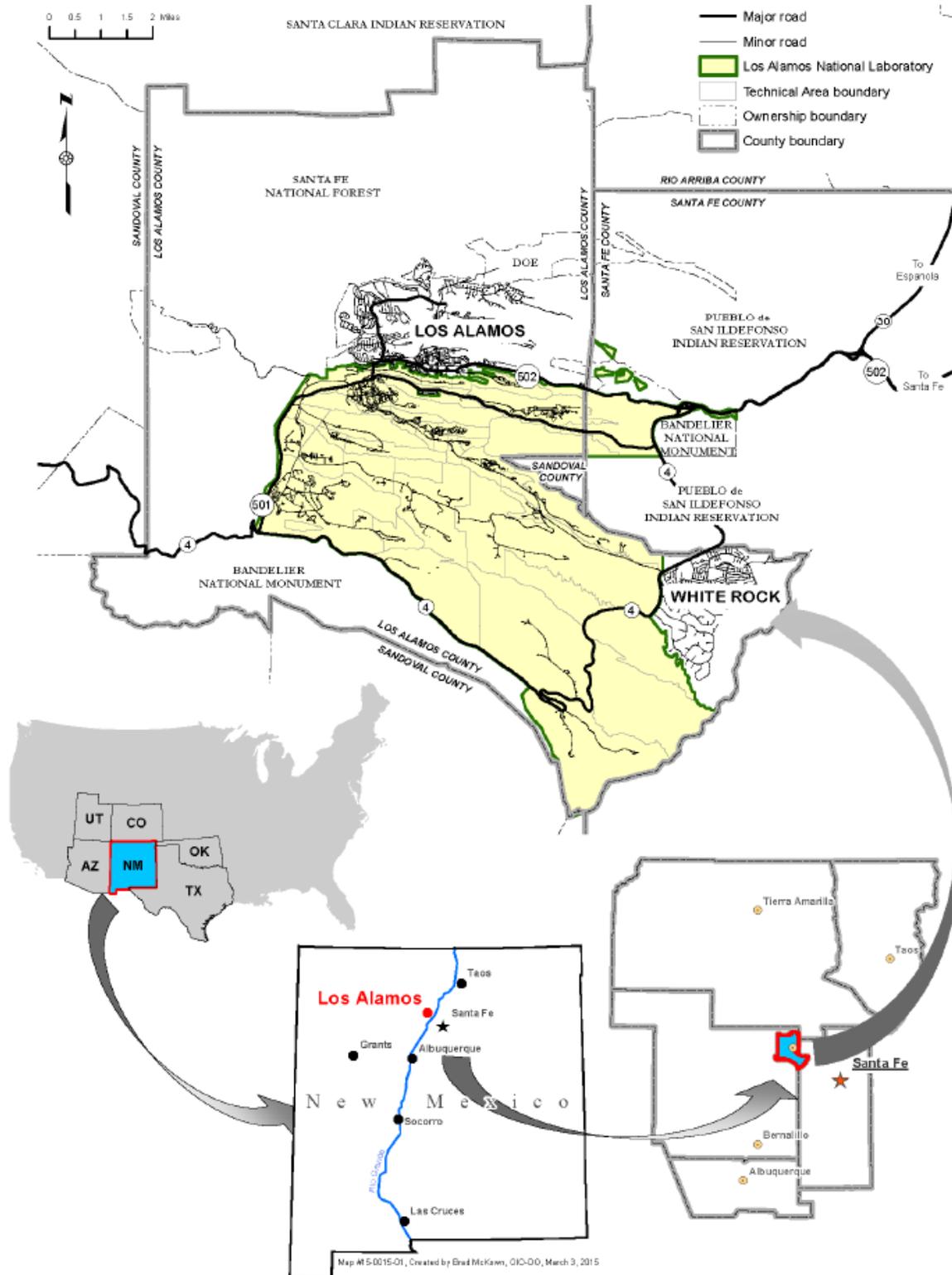


FIGURE B: SITE MAPS

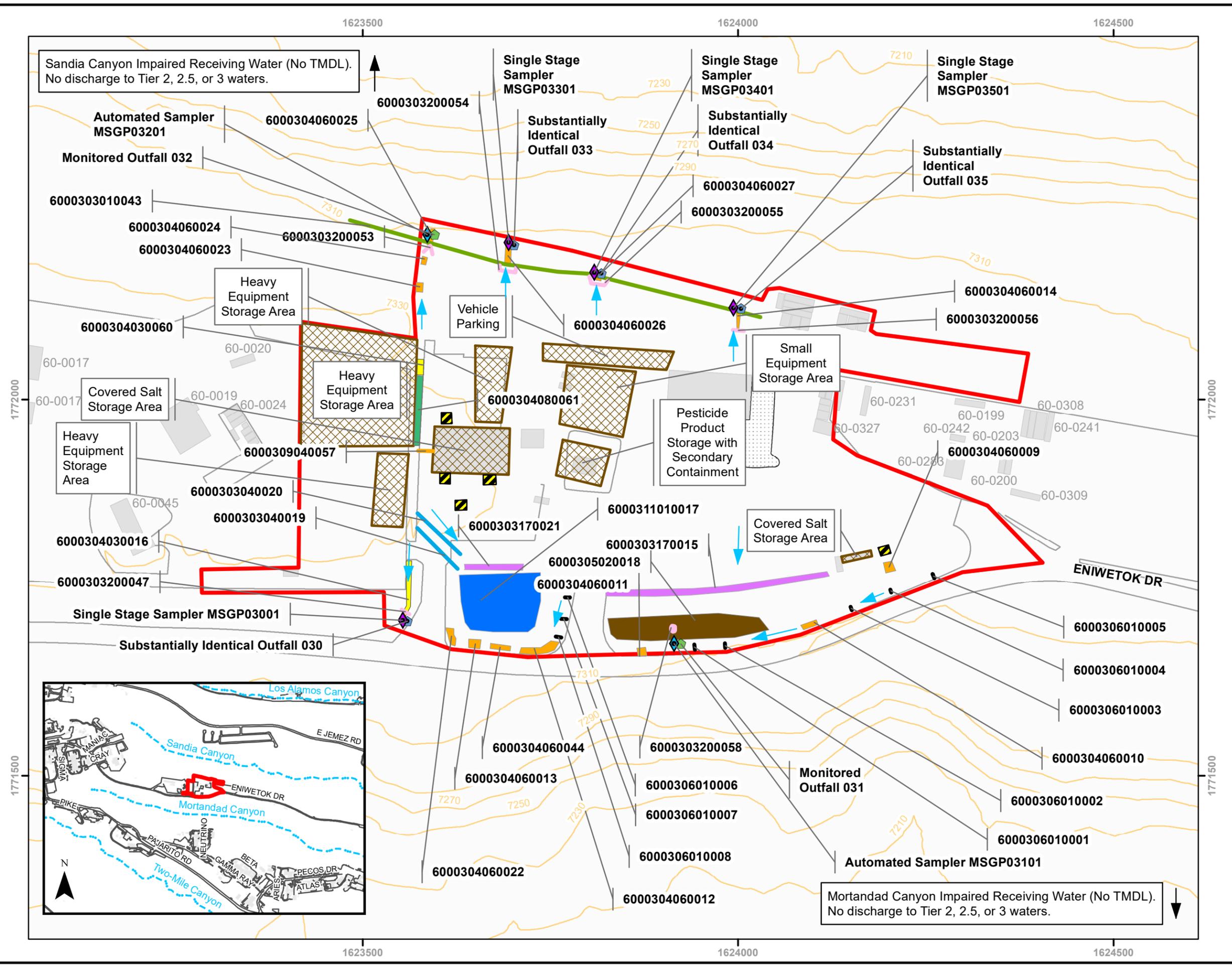
Figures B-1, B-2, B-3, and B-4: General Location Maps

Figures B-5, B-6, B-7, and B-8: Facility Site Maps

(Includes nearby surface waters and receiving waters)

Figure B-9, Endangered Species Habitat within LANL

TA-60 ROADS AND GROUNDS WEST
FIGURE C2 SITE MAP



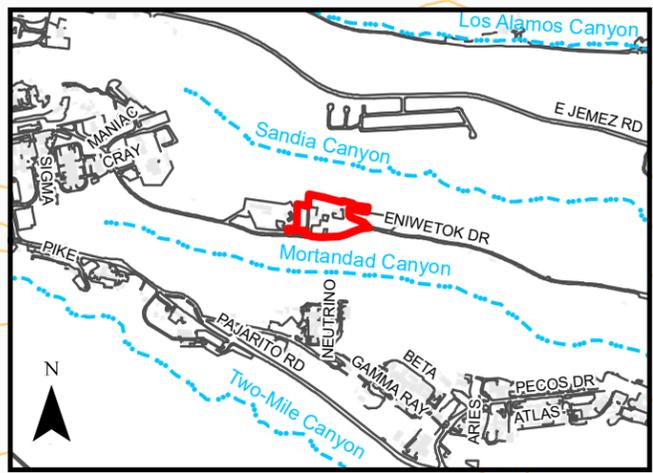
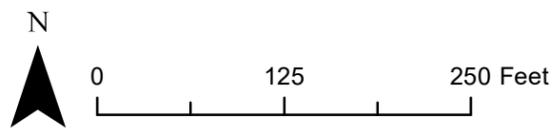
- Automated Sampler
- Single Stage Samplers
- Monitored Outfall
- Substantially Identical Outfall
- Rock Check Dam
- Trench Drain
- EnviroSoxx w/ MetalLoxx
- Earthen Berm
- Asphalt Berm
- Drainage
- Paved Roads
- 10 ft Contour
- Boundary of Industrial Activity
- Jersey Barrier
- Retention Pond
- Rip Rap
- Rock Channel/Swale
- Sediment Basin
- TRM-Lined Swale
- Industrial Activity Areas
- Loading/Unloading Areas
- LANL Structures
- Paved Parking
- Flow Direction

8.6 Acres, 65% Impervious Surface.
 Note - No Critical Habitat Areas.

Map number: 16-0015-TA-60 Roads and Grounds West
 Map created by: Ben Sutter, OI-FD
 Date: Oct. 4, 2018
 Version 4

New Mexico State Plane Coordinate System Central Zone (3002)
 North American Datum, 1983 (NAD 83)
 US Survey Ft

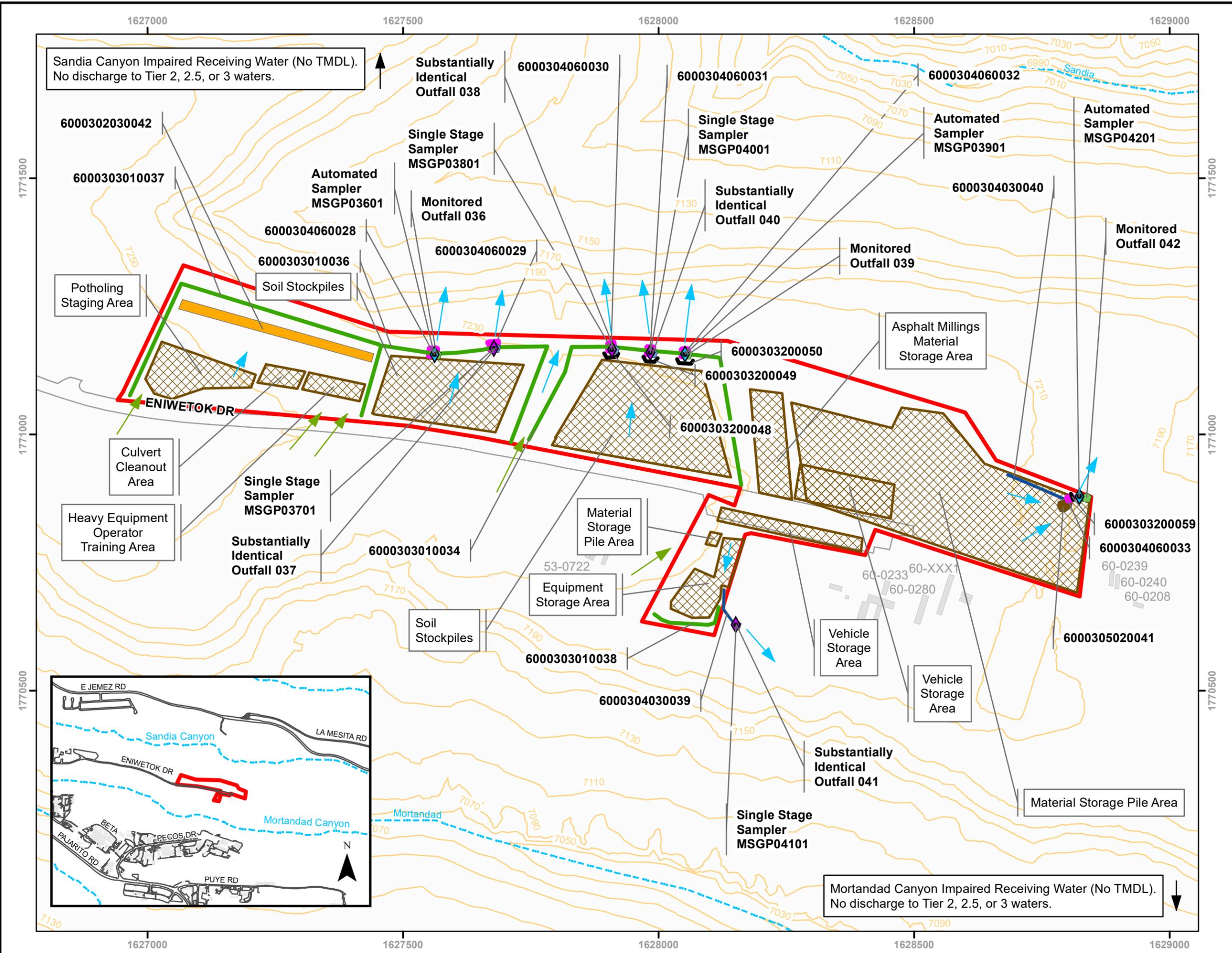
DISCLAIMER: This map was created for work processes associated with the Multi-Sector General Permit. All other uses for this map should be confirmed with LANL EPC-CP staff.



Sandia Canyon Impaired Receiving Water (No TMDL).
 No discharge to Tier 2, 2.5, or 3 waters.

Mortandad Canyon Impaired Receiving Water (No TMDL).
 No discharge to Tier 2, 2.5, or 3 waters.

**TA-60 ROADS AND GROUNDS EAST
FIGURE C2 SITE MAP**



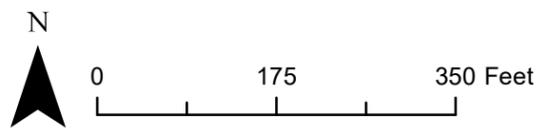
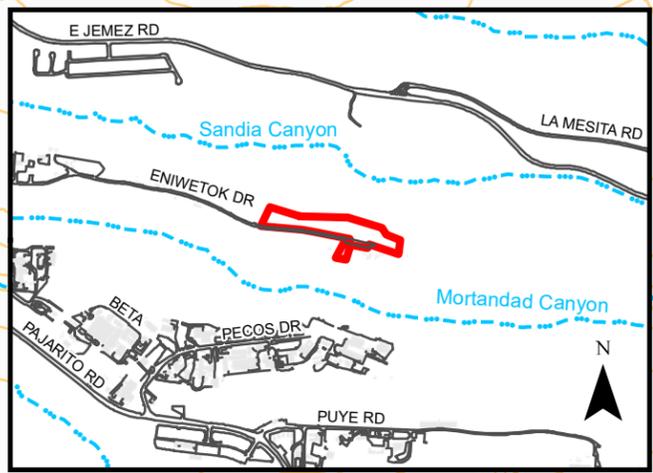
- Automated Sampler
- Single Stage Samplers
- Monitored Outfall
- Substantially Identical Outfall
- EnviroSoxx w/ MetalLoxx
- Earthen Berm
- Drainage
- Paved Roads
- 10 ft Contour
- Boundary of Industrial Activity
- 50 ft Vegetated Buffer Strip
- Rip Rap
- Rock Channel/Swale
- Sediment Basin
- Industrial Activity Areas
- LANL Structures
- Flow Direction
- Runon

11.2 Acres, <1% Impervious Surface.
Note - All Areas Within Developed Buffer Mexican Spotted Owl Habitat

Map number: 16-0015-TA-60 Roads and Grounds East
Map created by: Ben Sutter, OI-FD
Date: Oct. 4, 2018
Version 4

New Mexico State Plane Coordinate System Central Zone (3002)
North American Datum, 1983 (NAD 83)
US Survey Ft

DISCLAIMER: This map was created for work processes associated with the Multi-Sector General Permit. All other uses for this map should be confirmed with LANL EPC-CP staff.

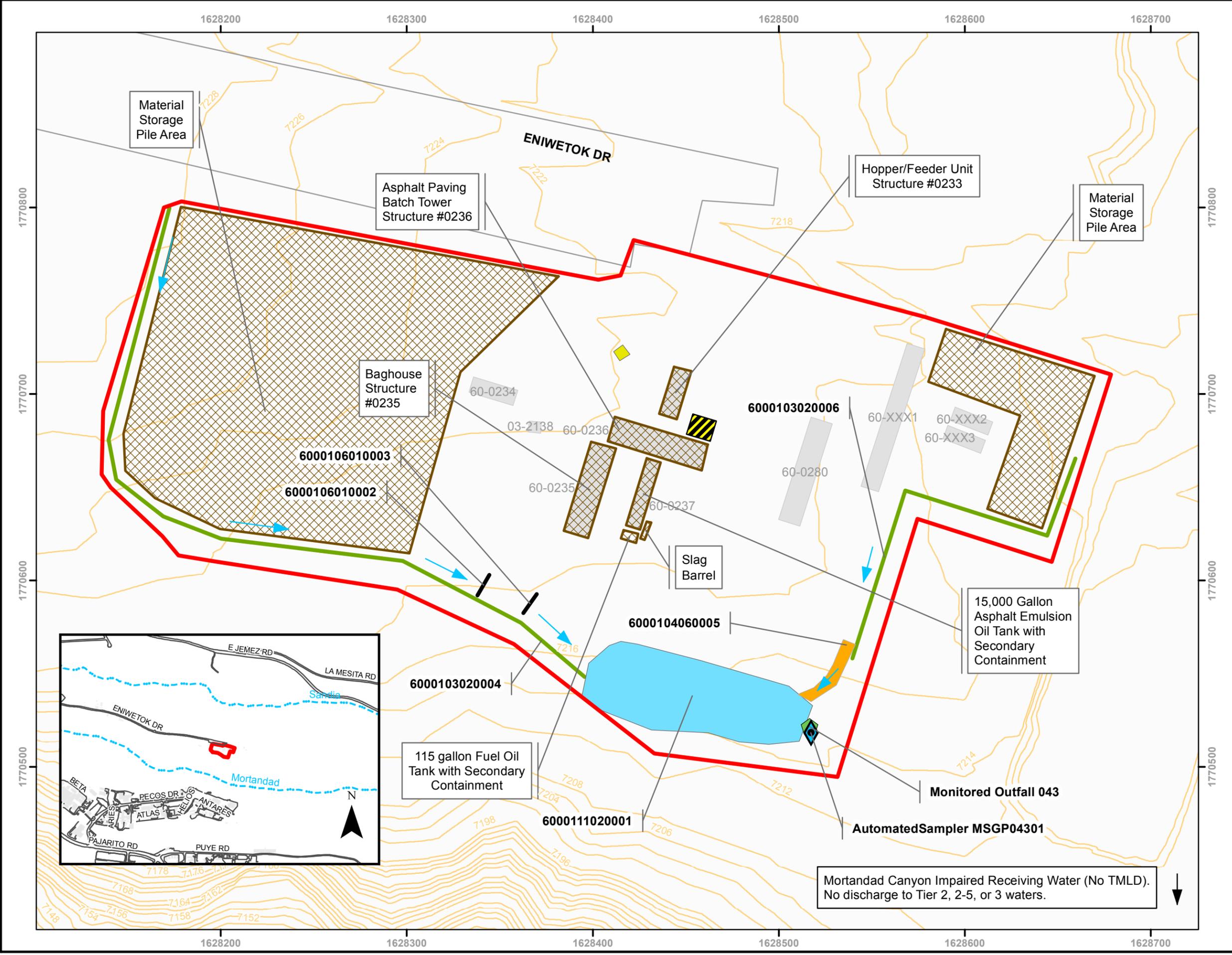


Sandia Canyon Impaired Receiving Water (No TMDL).
No discharge to Tier 2, 2.5, or 3 waters.

Mortandad Canyon Impaired Receiving Water (No TMDL).
No discharge to Tier 2, 2.5, or 3 waters.

TA-60 ASPHALT BATCH PLANT

FIGURE C2 SITE MAP



- Automated Sampler
- Monitored Outfall
- Base Course Berm
- Rock Check Dam
- Drainage
- Paved Roads
- 2 ft Contour
- Boundary of Industrial Activity
- Detention Pond
- Rip Rap
- Industrial Activity Areas
- Loading/Unloading Areas
- Dumpster
- LANL Structures
- Paved Parking Lot
- Flow Direction

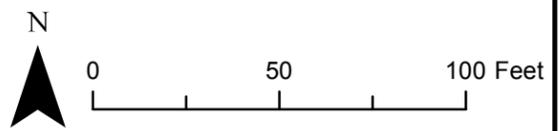
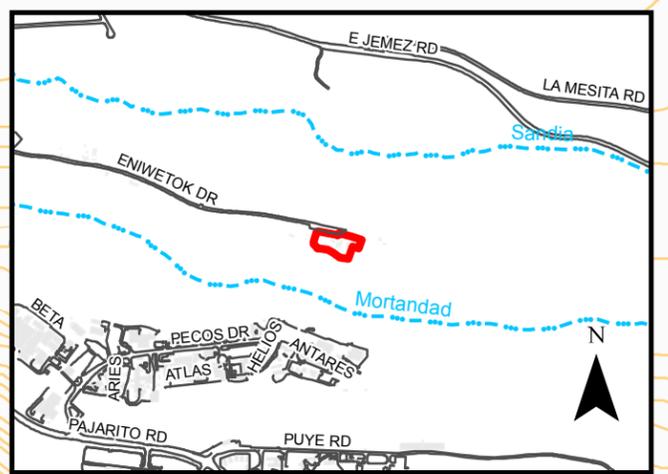
2.3 Acres, 4% Impervious Surface.
Note - No Critical Habitat Areas.

Map number: 16-0015-TA-60 Asphalt Batch Plant
Map created by: Ben Sutter, ADBI-SI-DO
Date: June, 8, 2016
Version 1

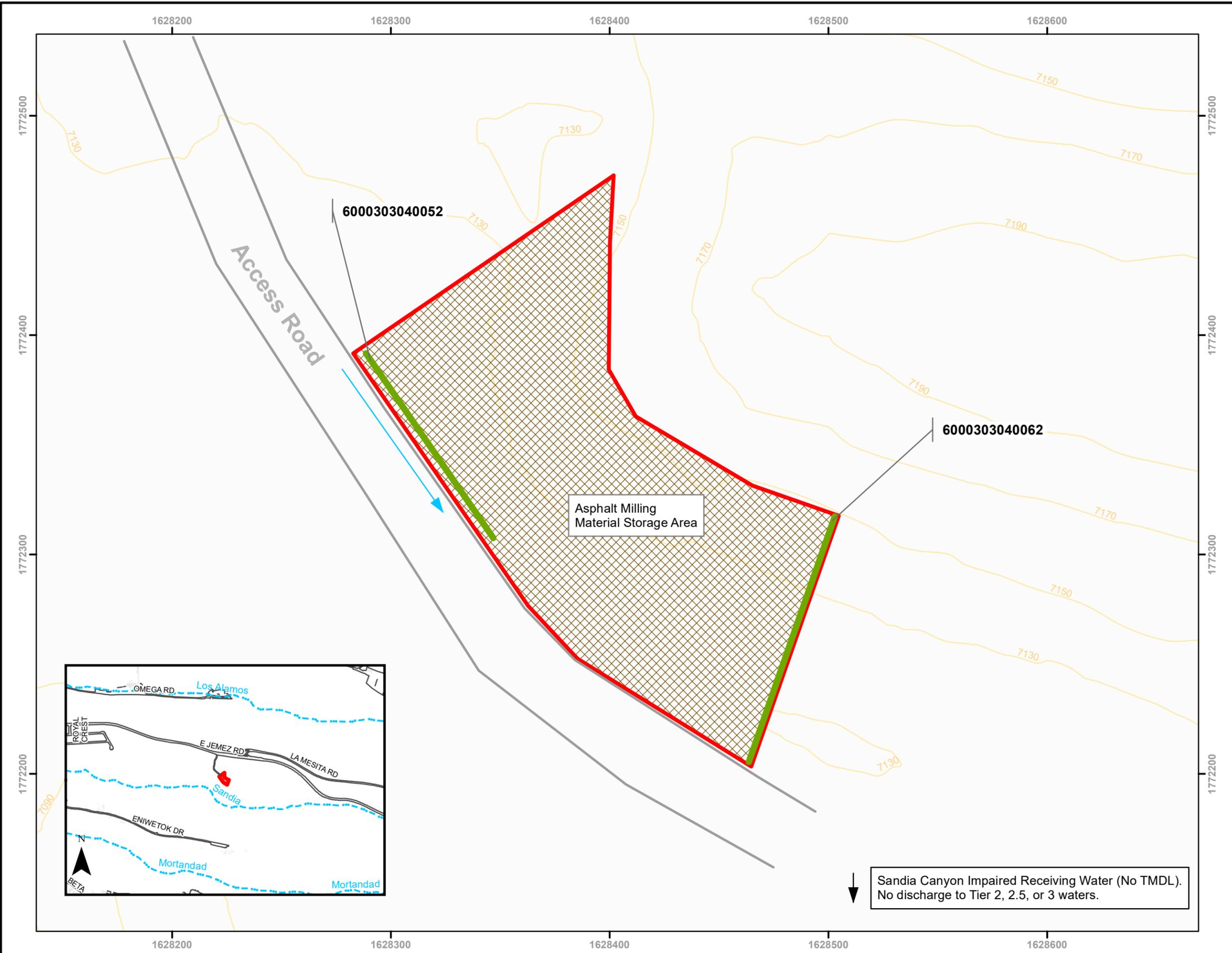
New Mexico State Plane Coordinate System Central Zone (3002)
North American Datum, 1983 (NAD 83)
US Survey Ft

DISCLAIMER: This map was created for work processes associated with the Multi-Sector General Permit. All other uses for this map should be confirmed with LANL EPC-CP staff.

Mortandad Canyon Impaired Receiving Water (No TMLD).
No discharge to Tier 2, 2-5, or 3 waters.



**TA-61
ASPHALT MILLINGS STAGING AREA
SITE MAP**



-  Asphalt Berm
-  Drainage
-  Boundary of Industrial Activity
-  Industrial Activity Areas
-  Flow Direction

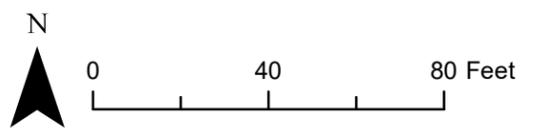
0.58 Acres, 100% Impervious Surface.
Note - No Critical Habitat Areas.

Map number: 16-0015-TA-61 Asphalt Millings Staging Area
Map created by: Ben Sutter, IFPROG
Date: January 23, 2019
Version 2

New Mexico State Plane Coordinate System Central Zone
(3002)
North American Datum, 1983 (NAD 83)
US Survey Ft

DISCLAIMER: This map was created for work processes associated with the Multi-Sector General Permit. All other uses for this map should be confirmed with LANL EPC-CP staff.

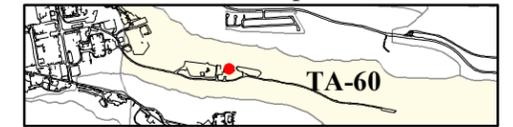
↓ Sandia Canyon Impaired Receiving Water (No TMDL).
No discharge to Tier 2, 2.5, or 3 waters.



SANDIA CANYON impaired receiving water (noTMDL).
Does not discharge to Tier 2, 2.5, or 3 waters.

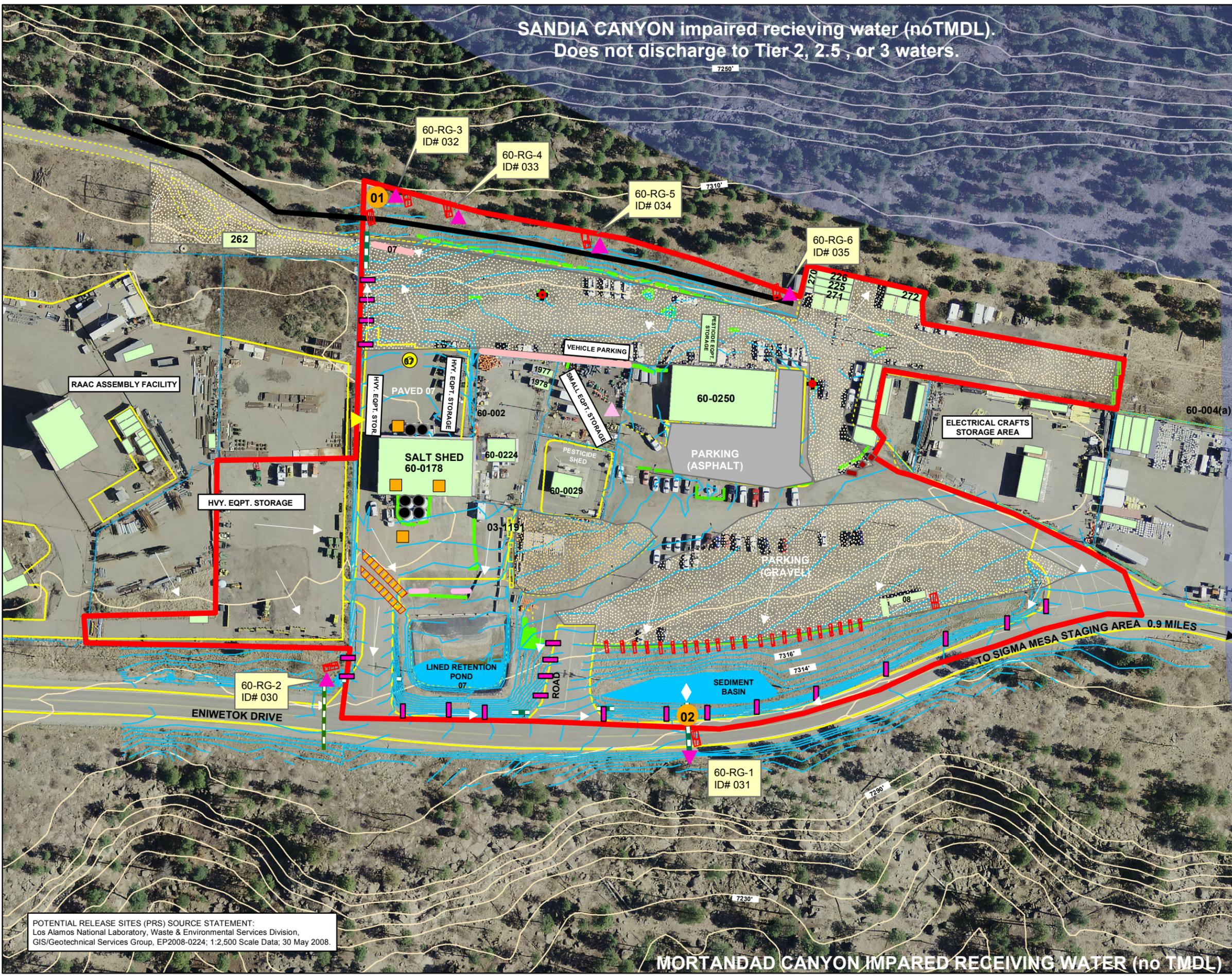
**ROADS AND GROUNDS
OPERATIONAL SWPPP**

8.4 acres ; 65% impervious surface



LEGEND

- DRAINAGE PATTERN
- DIRECTION OF FLOW
- 6-SNOW TRT. MIX TANKS
- PRS
- FIRE HYDRANTS
- FLAMMABLE CONTAINMENT
- STAND PIPE
- DISCHARGE PTS.
- MSGP SAMPLER (E123.4)
- MSGP SAMPLER
- BASE COURSE BERM
- FACILITY BOUNDARY
- MANHOLE
- RUN ON POINT
- PAVED ROADS (ASPHALT)
- FENCES
- 20 FT CONTOURS
- DRAIN PIPE
- CULVERT
- JERSEY BARRIER
- WATTLE (S)
- LOADING AREAS
- SPEED BUMP BERMS
- STRUCTURES
- ROCK CHECK DAM
- GRAVEL
- ROCK RUN DOWN
- DUMPSTER
- DEVELOPED BUFFER MEXICAN SPOTTED OWL HABITAT



POTENTIAL RELEASE SITES (PRS) SOURCE STATEMENT:
Los Alamos National Laboratory, Waste & Environmental Services Division,
GIS/Geotechnical Services Group, EP2008-0224; 1:2,500 Scale Data; 30 May 2008.

0 50 100 200 Feet

UTILITIES AND INSTITUTIONAL FACILITIES

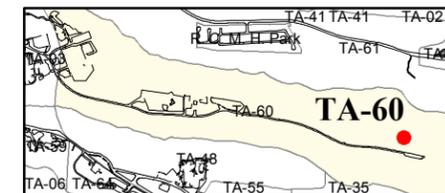
U07001.rev1

MORTANDAD CANYON IMPAIRED RECEIVING WATER (no TMDL)

SANDIA CANYON impaired receiving water (noTMDL).
Does not discharge to Tier 2, 2.5, or 3 waters.

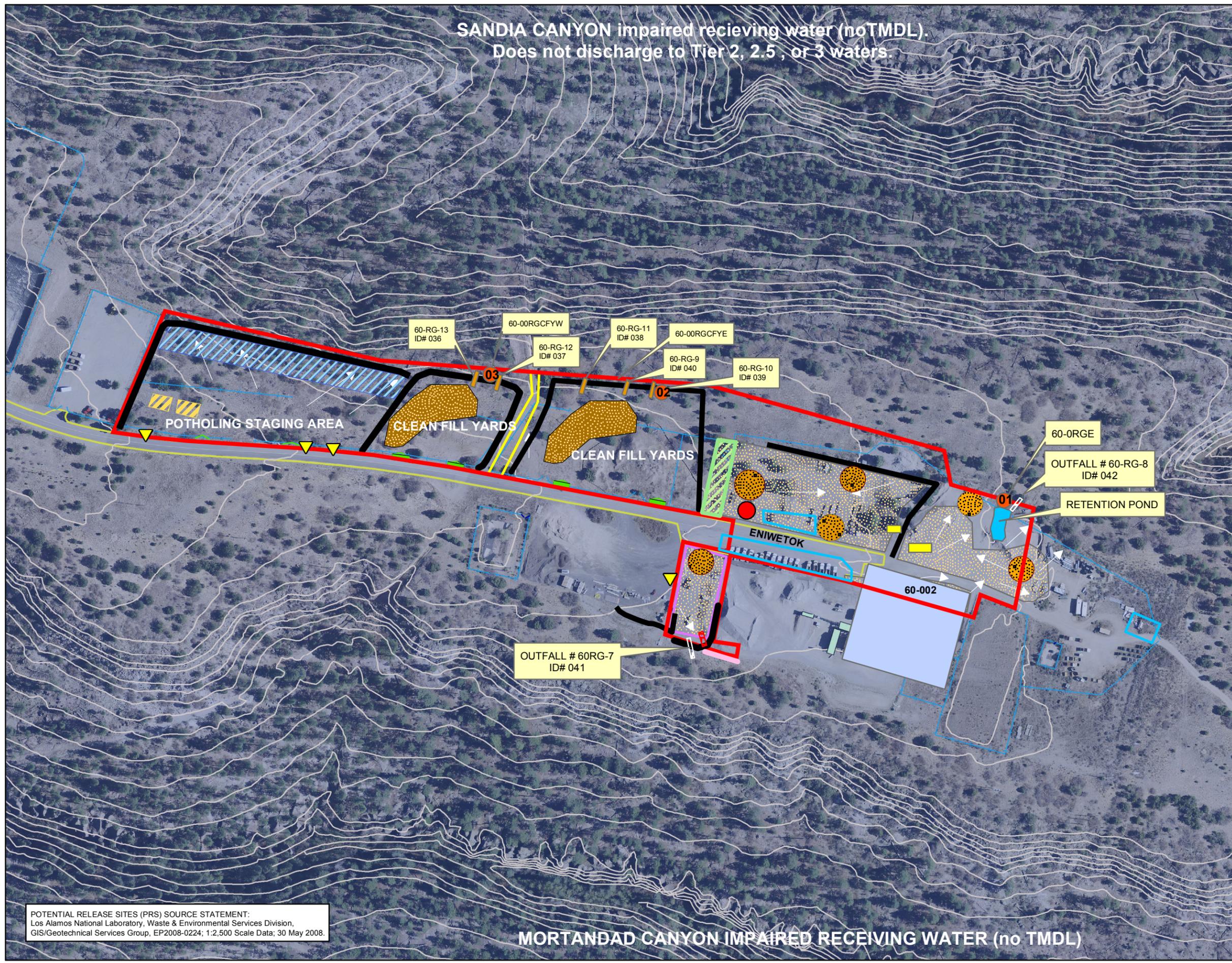
ROADS AND GROUNDS OPERATIONAL
SWPPP SIGMA MESA STAGING AREA

10.55 acres, <1% impervious surface



LEGEND

- CONSTRUCTION MATERIAL PILE
- MSGP SAMPLER
- SPILL
- RUN ON POINT
- VEHICLE STORAGE
- FENCE
- DIRECTION OF FLOW
- EQUIPMENT STORAGE
- EARTHEN BERM
- SIGMA MESA STAGING AREA BOUNDARY
- PAVED ROAD
- 20 FT CONTOURS
- WATTLE
- 50' WIDE VEGETATIVE BUFFER STRIP
- DRAIN PIPE
- CLEAN FILL PILE
- SHED
- GRAVEL
- PRS
- OUT FALL
- ROCK RUN DOWN
- WEIR
- ASPHALT MILLING STAGING AREA
- DEVELOPED BUFFER MEXICAN SPOTTED OWL HABITAT



MORTANDAD CANYON IMPAIRED RECEIVING WATER (no TMDL)

POTENTIAL RELEASE SITES (PRS) SOURCE STATEMENT:
Los Alamos National Laboratory, Waste & Environmental Services Division,
GIS/Geotechnical Services Group, EP2008-0224; 1:2,500 Scale Data; 30 May 2008.

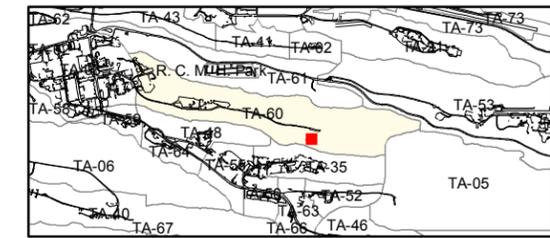
0 90 180 360 Feet

UTILITIES AND INSTITUTIONAL FACILITIES

U07001.rev1

Classification: U Reviewer: H. Salazar Date: 24-AUG-2015

**ASPHALT BATCH PLANT
OPERATIONAL SWPPP
2.3 acres, <1% impervious surface
TA-60**



LEGEND

- CONSTRUCTION MATERIAL PILE
- SPILL (YEAR)
- MSGP SAMPLER E200.5
- SLAG BARREL
- DRAINAGE PATTERN
- DIRECTION OF FLOW
- BASE COURSE BERM
- BOUNDARY
- PAVED ROADS
- DIRT ROADS
- FENCES
- CONTOUR LINES
- DITCH
- JERSEY BARRIER
- SECONDARY CONTAINMENT
- LOADING AREA
- PRS/SWMU
- CHECK DAM
- RIPRAP
- STORAGE TRAILER
- STRUCTURES
- DUMPSTER
- BASE COURSE
- PROCESSED ASPHALT AREA
- DEVELOPED BUFFER MEXICAN SPOTTED OWL HABITAT



SANDIA CANYON impaired receiving water (noTMDL).

ROADS & GROUNDS
MAP 2

SIGMA MESA ROAD

12

PRS
60-002

Principal Operator Trailer
(Spill Kit Location)

60-234
EARTHEN
RAMP

ZEP
60-243

60-233

60-236

60-235

60-237

15,000 gal.
Asphalt Cement

115 gal. Fuel Oil

Refueling Rack

LIQUID
PROPANE TANK

TRUCK SCALE

LINED DETENTION POND

60-ABP 1

- TA-60-233 Hopper/Feeder unit
- TA-60-234 Control Center/Office
- TA-60-235 Bag House
- TA-60-236 Batch Tower
- TA-60-237 Asphalt Emulsion Oil Tank

MORTANDAD CANYON impaired receiving water (noTMDL)

POTENTIAL RELEASE SITES (PRS) SOURCE STATEMENT:
Los Alamos National Laboratory, Waste & Environmental Services Division,
GIS/Geotechnical Services Group, EP2008-0224; 1:2,500 Scale Data; 30 May 2008.

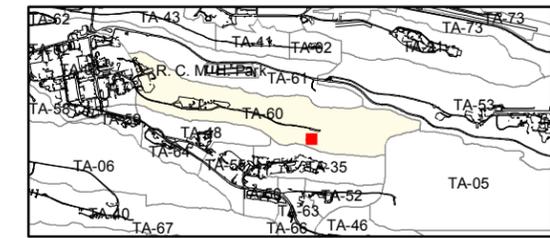


7220'

7210'

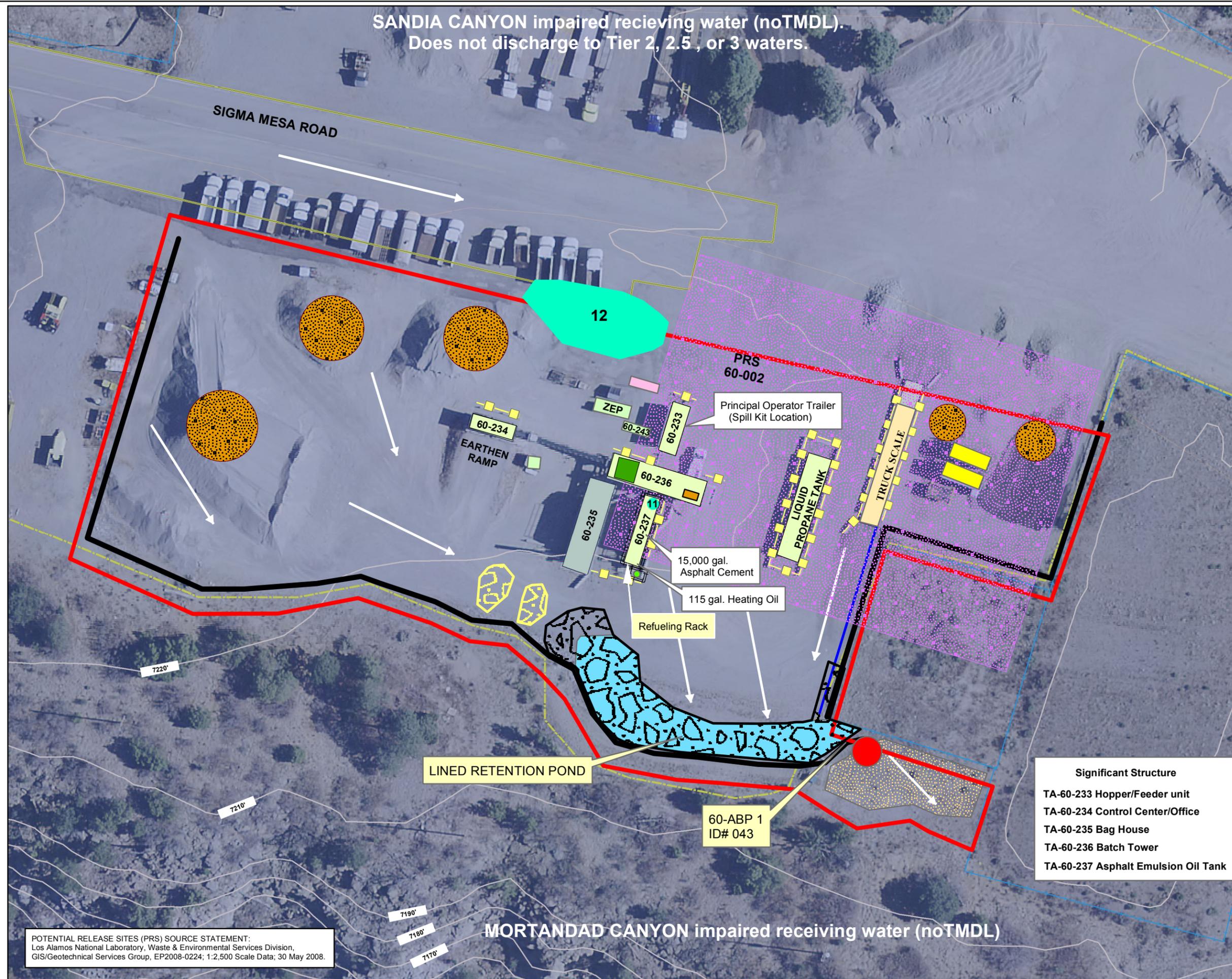
SANDIA CANYON impaired receiving water (noTMDL).
Does not discharge to Tier 2, 2.5, or 3 waters.

**ASPHALT BATCH PLANT
OPERATIONAL SWPPP
2.3 acres, <4% impervious surface
TA-60**



LEGEND

- CONSTRUCTION MATERIAL PILE
- SPILL (YEAR)
- MSGP SAMPLER E200.5
- SLAG BARREL
- DRAINAGE PATTERN
- DIRECTION OF FLOW
- BASE COURSE BERM
- BOUNDARY
- PAVED ROADS
- DIRT ROADS
- FENCES
- CONTOUR LINES
- DITCH
- JERSEY BARRIER
- SECONDARY CONTAINMENT
- LOADING AREA
- PRS/SWMU
- CHECK DAM
- RIPRAP
- STORAGE TRAILER
- STRUCTURES
- DUMPSTER
- BASE COURSE
- PROCESSED ASPHALT AREA
- DEVELOPED BUFFER MEXICAN SPOTTED OWL HABITAT

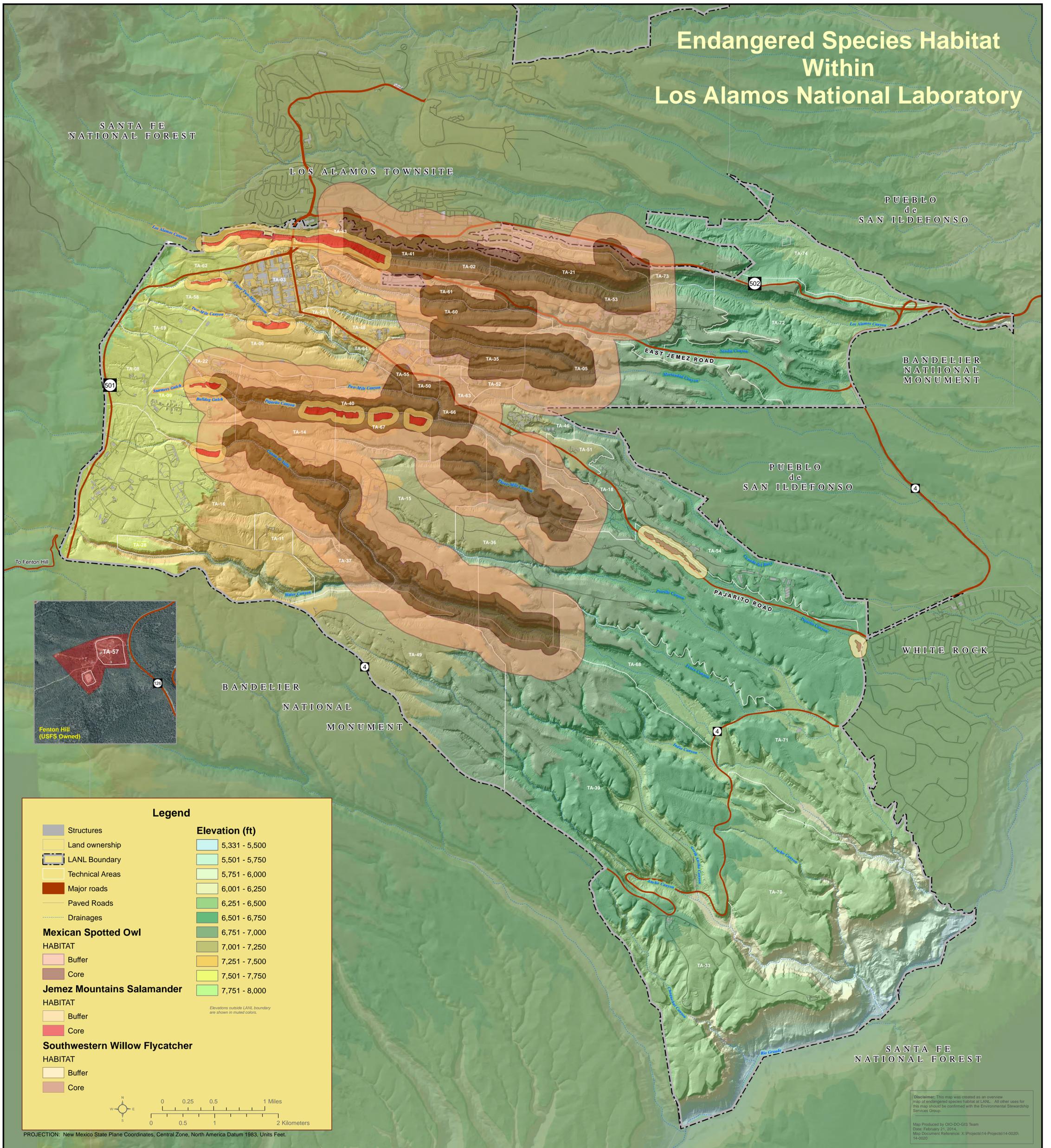


- Significant Structure**
- TA-60-233 Hopper/Feeder unit
 - TA-60-234 Control Center/Office
 - TA-60-235 Bag House
 - TA-60-236 Batch Tower
 - TA-60-237 Asphalt Emulsion Oil Tank

MORTANDAD CANYON impaired receiving water (noTMDL)

POTENTIAL RELEASE SITES (PRS) SOURCE STATEMENT:
Los Alamos National Laboratory, Waste & Environmental Services Division,
GIS/Geotechnical Services Group, EP2008-0224; 1:2,500 Scale Data; 30 May 2008.

Endangered Species Habitat Within Los Alamos National Laboratory



Legend

Structures	Elevation (ft)
Land ownership	5,331 - 5,500
LANL Boundary	5,501 - 5,750
Technical Areas	5,751 - 6,000
Major roads	6,001 - 6,250
Paved Roads	6,251 - 6,500
Drainages	6,501 - 6,750
Mexican Spotted Owl	6,751 - 7,000
HABITAT	7,001 - 7,250
Buffer	7,251 - 7,500
Core	7,501 - 7,750
Jemez Mountains Salamander	7,751 - 8,000
HABITAT	
Buffer	
Core	
Southwestern Willow Flycatcher	
HABITAT	
Buffer	
Core	

Elevations outside LANL boundary are shown in muted colors.

0 0.25 0.5 1 Miles
0 0.5 1 2 Kilometers

PROJECTION: New Mexico State Plane Coordinates, Central Zone, North America Datum 1983, Units Feet.

Disclaimer: This map was created as an overview map of endangered species habitat at LANL. All other uses for this map should be confirmed with the Environmental Stewardship Services Group.
Map Produced by OIO-DO-GIS Team
Date: February 21, 2014
Map Document Reference: X:\Project\14-0020\14-0020

**ATTACHMENT 1: NOTICE OF INTENT, SUPPORTING DOCUMENTATION, AND
UPDATES**



Environmental Protection & Compliance

Los Alamos National Laboratory

PO Box 1663, K490

Los Alamos, New Mexico 87545

(505) 667-0666

Date: **APR 23 2018**

Symbol: EPC-DO: 18-165

LA-UR: 18-23181

Locates Action No.: N/A

Helen Nguyen

NetDMR & ICIS-NPDES Coordinator

Surface Water Compliance Section (6EN-WC)

U.S. EPA, Region 6

1445 Ross Avenue, Suite 1200

Dallas, TX 75202-2733

Subject: National Pollutant Discharge Elimination System (NPDES) Permit Tracking No. NMR053195, Multi-Sector General Permit (MSGP) Change Notice of Intent (Change NOI) Reporting Pursuant to Part 7.4

Dear Ms. Nguyen:

The purpose of this letter is to submit Change NOI information to modify outfall and monitoring requirements related to MSGP Permit Tracking No. NMR053195. Due to system limitations, Los Alamos National Security (LANS) was previously unable to submit a complete and accurate NOI using the MSGP NeT reporting tool, and was granted a waiver to submit paper NOI forms by Nasim Jahan on February 9, 2016. As LANS submitted a paper NOI, subsequent Change NOIs or Notice of Termination (NOTs) must also be submitted via the paper form.

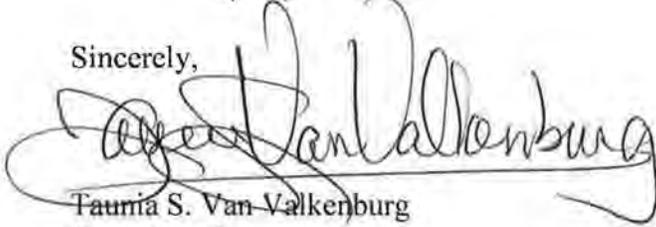
Additionally, pursuant to MSGP Part 9.6.2, Permittees in New Mexico must also comply with benchmark values that are modified to reflect New Mexico water quality standards based on the Standards for Interstate and Intrastate Surface Waters (20.6.4.900 NMAC). These modified benchmarks, as well as New Mexico impaired waters standards, are currently not incorporated into the electronic reporting tools so as to automatically populate correct monitoring requirements in NetDMR. EPA R6 is aware of this issue and has previously assisted in the resolution of LANS' limit sets in NetDMR. Per discussion during our meeting on March 29, 2018, LANS is requesting the assistance of EPA R6 to facilitate implementation of the enclosed Change NOI to ensure assignment of the correct monitoring requirements in NetDMR. The Change NOI is included in Enclosure 1; correct limit sets for new monitored outfall 017 are included in Enclosure 2. The Change NOI needs to be implemented no later than the end of LANS' monitoring period 1, May 31, 2018, to allow accurate reporting in NetDMR by the DMR due date of July 30, 2018.

Ms. Helen Nguyen
EPC-DO: 18-165

- 2 -

Your assistance is appreciated as LANS is committed to maintaining compliance with the MSGP requirements. If you have any questions, please contact Terrill Lemke (505) 665-2397 or Leslie Dale (505) 606-2371.

Sincerely,



Taunia S. Van Valkenburg
Group Leader
Environmental Compliance Programs
Los Alamos National Security, LLC

TSV:TWL:LJD:eim

Enclosures: 1) Change NOI for MSGP Permit Tracking No. NMR053195
2) Limit Sets to Assign to Monitored Outfall 017 in NetDMR for Permit Tracking
No. NMR053195

Copy: Karen E. Armijo, NA-LA, (E-File)
Timothy A. Dolan, LC-ESH, (E-File)
William R. Mairson, ADESH, (E-File)
Benjamin B. Roberts, EPC-DO, (E-File)
Taunia S. Van Valkenburg, EPC-CP, (E-File)
Terrill W. Lemke, EPC-CP (E-File)
Holly L. Wheeler, EPC-CP (E-File)
Leslie J. Dale, EPC-CP (E-File)
Ellena I. Martinez, EPC-CP, (E-File)
adesh-records@lanl.gov, (E-File)
epc-correspondence@lanl.gov, (E-File)

ENCLOSURE 1

Change NOI for MSGP Permit Tracking No. NMR053195

EPC-DO: 18-165

LA-UR-18-23181

Date: **APR 23 2018**

If yes, which effluent limitation guidelines apply to your stormwater discharges?

40 CFR Part/Subpart	Eligible Discharges	Affected MSGP Sector	New Source Date	Check if Applicable
Part 411, Subpart C	Runoff from material storage piles at cement manufacturing facilities	E	2/20/1974	<input type="checkbox"/>
Part 418 Subpart A	Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	C	4/8/1974	<input type="checkbox"/>
Part 423	Coal pile runoff at steam electric generating facilities	O	11/19/1982 10/8/1974 ¹	<input type="checkbox"/>
Part 429, Subpart I	Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	A	1/26/1981	<input type="checkbox"/>
Part 436, Subpart B, C, or D	Mine dewatering discharges at crushed stone mines, construction sand and gravel mines, or industrial sand mines	J	N/A	<input type="checkbox"/>
Part 443, Subpart A	Runoff from asphalt emulsion facilities	D	7/28/1975	<input type="checkbox"/>
Part 445, Subparts A & B	Runoff from hazardous waste and non-hazardous waste landfills	K, L	2/2/2000	<input type="checkbox"/>
Part 449	Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	S	6/15/2012	<input type="checkbox"/>

¹NSPS promulgated in 1974 were not removed via the 1982 regulation; therefore wastewaters generated by Part 423-applicable sources that were New Sources under the 1974 regulations are subject to the 1974 NSPS.

3. Receiving Waters Information: (Attach a separate list if necessary)

List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002). Also provide the latitude and longitude in degrees decimal for each outfall.		For each outfall, provide the following receiving water information:					
Outfall ID	Latitude	Longitude	Provide the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to:	If the receiving water is impaired (on the CWA 303(d) list), list the pollutants that are causing the impairment:	If a TMDL been completed for this receiving waterbody, providing the following information:		
018 (Sector AA, F)	35.872834	-106.317653	Sandia Canyon (Sigma Canyon to NPDES outfall 001) Note: Remove Outfall 018. Outfall no longer exists and was replaced by Outfall 017 as the monitored outfall effective December 17, 2016.	01040 Copper, dissolved [as Cu]; 01057 Thallium, dissolved [as Tl]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A Pollutant(s) for which there is a TMDL: N/A		
017 (Sector AA, F)	35.872599	Sandia Canyon (Sigma Canyon to NPDES outfall 001) Note: Change Outfall 017 from an SIO to a monitored outfall. Outfall 017 replaced Outfall 018 as the monitored outfall effective December 17, 2016 and is associated with the SIOs listed below. In ICIS, please assign the limit sets provided in Enclosure 2 of this submittal.				01040 Copper, dissolved [as Cu]; 01057 Thallium, dissolved [as Tl]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A Pollutant(s) for which there is a TMDL: N/A
	-106.317066						
If substantially identical to other outfall, list identical outfall ID: _____							

Outfall ID	013 (Sector AA, F)	Mortandad Canyon (Within LANL)	01040 Copper, dissolved [as Cu]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.870797			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.317867			
If substantially identical to other outfall, list identical outfall ID: 017				
Outfall ID	014 (Sector AA, F)	Mortandad Canyon (Within LANL)	01040 Copper, dissolved [as Cu]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.870890			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.317393			
If substantially identical to other outfall, list identical outfall ID: 017				
Outfall ID	015 (Sector AA, F)	Mortandad Canyon (Within LANL)	01040 Copper, dissolved [as Cu]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.871389			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.316397			
If substantially identical to other outfall, list identical outfall ID: 017				
Outfall ID	016 (Sector AA, F)	Sandia Canyon (Sigma Canyon to NPDES outfall 001)	01040 Copper, dissolved [as Cu]; 01057 Thallium, dissolved [as Tl]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.872447			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.316721			
If substantially identical to other outfall, list identical outfall ID: 017				

Outfall ID	019 (Sector AA, F)	Sandia Canyon (Sigma Canyon to NPDES outfall 001)	01040 Copper, dissolved [as Cu]; 01057 Thallium, dissolved [as Tl]; 01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.872682			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.318467			
If substantially identical to other outfall, list identical outfall ID: 017				
Outfall ID	004 (Sector AA)	Two Mile Canyon (Pajarito to headwaters) Note: Remove Outfall 004. Site achieved No Exposure status effective July 17, 2017.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.8714131			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.323832			
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID	047 (Sector K)	Canada del Buey (within LANL) Note: Remove Outfall 047 and associated SIOs listed below. Site achieved No Exposure status effective March 20, 2018.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.844895			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.264513			
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID	044 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.845868			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.265279			
If substantially identical to other outfall, list identical outfall ID: 047				

Outfall ID	045 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.845586			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.265214			
If substantially identical to other outfall, list identical outfall ID: <u>047</u>				
Outfall ID	046 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.845200			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.264844			
If substantially identical to other outfall, list identical outfall ID: <u>047</u>				
Outfall ID	048 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.844590			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.265044			
If substantially identical to other outfall, list identical outfall ID: <u>047</u>				
Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				
If substantially identical to other outfall, list identical outfall ID: _____				

4. Provide the following information about your outfall latitude/longitude:

Latitude/Longitude Data Source: Map GPS Other

If you used a USGS topographic map, what was the scale? _____

Horizontal Reference Datum: NAD 27 NAD 83 WGS 84

5. Does your facility discharge into a Municipal Separate Storm Sewer System (MS4)? YES NO

If yes, provide the name of the MS4 operator: _____

6. Check if you discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) or as a Tier 3 water (Outstanding National Resource Water)? (See Appendix L).

Tier 2/2.5. Provide the name(s) of receiving water(s): _____

Tier 3 (Outstanding National Resource Waters)*

* **Note: You are ineligible for coverage if you are a new discharger or new source to waters designated as Tier 3 (outstanding national resource waters) for antidegradation purposes under 40 CFR 131.13(a)(3).**

7. If you are subject to benchmark monitoring requirements for a hardness-dependent metal, what is the hardness of your receiving water(s) (see Appendix J)? _____ (mg/L)

8. If you are subject to benchmark monitoring requirements for a hardness-dependent metal, does your facility discharge into any saltwater receiving waters? YES NO

9. Does your facility discharge to a federal CERCLA site listed in Appendix P? YES NO

If yes, did you notify the EPA Regional Office in advance of filing your NOI, and did the EPA Regional Office determine that you are eligible for permit coverage pursuant to Part 1.1.4.10*? YES NO

* **Note: If you discharge to a federal CERCLA site listed in Appendix P, you are ineligible for coverage under this permit unless you notify the EPA Regional Office in advance and the EPA Regional Office determines you are eligible coverage under this permit. In determining your eligibility for coverage under this Part, the EPA Regional Office may evaluate whether you have included adequate controls and/or procedures to ensure that your discharges will not lead to recontamination of aquatic media at the CERCLA Site such that it will to cause or contribute to an exceedance of a water quality standard.**

F. Stormwater Pollution Prevention Plan (SWPPP) Information

1. Has the SWPPP been prepared in advance of filing this NOI, as required? YES NO

2. SWPPP Contact Information:

First Name, Middle Initial, Last Name: _____

Professional Title: _____

Phone: _____ - _____ - _____ Ext. _____

E-mail: _____

3. SWPPP Availability:

Your current SWPPP or certain information from your SWPPP must be made available through one of the following two options. Select one of the options and provide the required information*:

* **Note: You are not required to post any confidential business information (CBI) or restricted information (as defined in Appendix A) (such information may be redacted), but you must clearly identify those portions of the SWPPP that are being withheld from public access.**

Option 1: Maintain a current copy of your SWPPP on an Internet page (Universal Resource Locator or URL).

Provide the web address URL: _____

Option 2: Provide the following information from your SWPPP:

A. Describe your onsite industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams), and potential spill and leak areas:

ENCLOSURE 2

**Limit Sets to Assign to Monitored Outfall 017 in NetDMR for
Permit Tracking No. NMR053195**

EPC-DO: 18-165

LA-UR-18-23181

Date: APR 23 2018

Limit Sets to Assign to Monitored Outfall 017 in NetDMR

Permit ID	Facility	Permitted Feature	Discharge #	Discharge Description	Parameter Code	Parameter Name	Symbol	Quality Value	Limit Type	Units	Freq. of Analysis	Smpl. Type	Monitoring Period Begin Date	Monitoring Period End Date	DMR Due Date
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01045 1 0	Iron, total [as Fe]	<=	1000	Maximum	ug/L	1/60	Gr	4/1	5/31	7/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01104 1 0	Aluminum, total recoverable [as Al]	<=	681	Maximum	ug/L	1/60	Gr	4/1	5/31	7/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	51450 1 0	Nitrite Plus Nitrate Total	<=	0.68	Maximum	mg/L	1/60	Gr	4/1	5/31	7/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	UC - Copper: Water Hardness 50-74.99 mg/L	01040 1 0	Copper, dissolved [as Cu]	<=	6	Maximum	ug/L	1/60	Gr	4/1	5/31	7/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	ZC - Zinc: Water Hardness 50-74.99 mg/L	01090 1 0	Zinc, dissolved [as Zn]	<=	76	Maximum	ug/L	1/60	Gr	4/1	5/31	7/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01045 1 0	Iron, total [as Fe]	<=	1000	Maximum	ug/L	1/60	Gr	6/1	7/31	9/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01104 1 0	Aluminum, total recoverable [as Al]	<=	681	Maximum	ug/L	1/60	Gr	6/1	7/31	9/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	51450 1 0	Nitrite Plus Nitrate Total	<=	0.68	Maximum	mg/L	1/60	Gr	6/1	7/31	9/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	UC - Copper: Water Hardness 50-74.99 mg/L	01040 1 0	Copper, dissolved [as Cu]	<=	6	Maximum	ug/L	1/60	Gr	6/1	7/31	9/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	ZC - Zinc: Water Hardness 50-74.99 mg/L	01090 1 0	Zinc, dissolved [as Zn]	<=	76	Maximum	ug/L	1/60	Gr	6/1	7/31	9/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01045 1 0	Iron, total [as Fe]	<=	1000	Maximum	ug/L	1/60	Gr	8/1	9/30	11/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01104 1 0	Aluminum, total recoverable [as Al]	<=	681	Maximum	ug/L	1/60	Gr	8/1	9/30	11/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	51450 1 0	Nitrite Plus Nitrate Total	<=	0.68	Maximum	mg/L	1/60	Gr	8/1	9/30	11/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	UC - Copper: Water Hardness 50-74.99 mg/L	01040 1 0	Copper, dissolved [as Cu]	<=	6	Maximum	ug/L	1/60	Gr	8/1	9/30	11/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	ZC - Zinc: Water Hardness 50-74.99 mg/L	01090 1 0	Zinc, dissolved [as Zn]	<=	76	Maximum	ug/L	1/60	Gr	8/1	9/30	11/30
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01045 1 0	Iron, total [as Fe]	<=	1000	Maximum	ug/L	1/60	Gr	10/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	01104 1 0	Aluminum, total recoverable [as Al]	<=	681	Maximum	ug/L	1/60	Gr	10/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	11- Fabricated Metal Products, except Coating	51450 1 0	Nitrite Plus Nitrate Total	<=	0.68	Maximum	mg/L	1/60	Gr	10/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	UC - Copper: Water Hardness 50-74.99 mg/L	01040 1 0	Copper, dissolved [as Cu]	<=	6	Maximum	ug/L	1/60	Gr	10/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-11	ZC - Zinc: Water Hardness 50-74.99 mg/L	01090 1 0	Zinc, dissolved [as Zn]	<=	76	Maximum	ug/L	1/60	Gr	10/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-IW	IW - Impaired Water	01040 1 0	Copper, dissolved [as Cu]	<=	6	Maximum	ug/L	1/YR	Gr	4/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-IW	IW - Impaired Water	01057 1 0	Thallium, dissolved [as Tl]	<=	0.47	Maximum	ug/L	1/YR	Gr	4/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-IW	IW - Impaired Water	01104 1 0	Aluminum, total recoverable [as Al]	<=	681	Maximum	ug/L	1/YR	Gr	4/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-IW	IW - Impaired Water	51931 1 0	Adjusted Gross Alpha	<=	15	Maximum	pCi/L	1/YR	Gr	4/1	11/30	1/31
NMR053195	TA-3-66 Sigma Complex	017	017-IW	IW - Impaired Water	39516 1 0	Polychlorinated biphenyls (PCBs)	<=	0.2	Maximum	ug/L	1/YR	Gr	4/1	11/30	1/31



Environmental Protection & Compliance

Los Alamos National Laboratory

PO Box 1663, K490

Los Alamos, New Mexico 87545

(505) 667-0666

Date: **JUL 10 2018**

Symbol: EPC-DO: 18-223

LA-UR: 18-25473

Locates Action No.: N/A

Stormwater Notice Processing Center
William Jefferson Clinton East Building – Room 7420
ATTN: 2015 MSGP
U.S. Environmental Protection Agency
1201 Constitution Avenue, NW
Washington, DC 20004

Subject: National Pollutant Discharge Elimination System (NPDES) Permit Tracking No. NMR053195, Multi-Sector General Permit (MSGP) Change Notice of Intent (Change NOI) Reporting Pursuant to Part 7.4

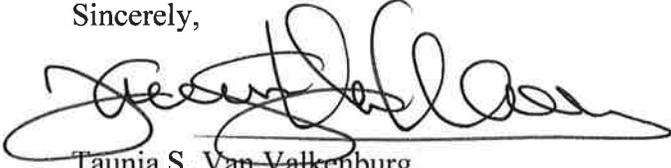
To Whom It May Concern:

The purpose of this letter is to submit Change NOI information to remove outfall and monitoring requirements related to MSGP Permit Tracking No. NMR053195. Due to system limitations, Los Alamos National Security (LANS) was previously unable to submit a complete and accurate NOI using the MSGP NeT reporting tool, and was granted a waiver to submit paper NOI forms by Nasim Jahan (EPA Region 6) on February 9, 2016. As LANS submitted a paper NOI, subsequent Change NOIs must also be submitted on the paper form.

Pursuant to MSGP Part B.12.C, three industrial sites within the Los Alamos National Laboratory complex that were formerly managed by LANS have been transferred to a new operator, N3B-Los Alamos, effective April 30, 2018. As such, LANS is submitting a Change NOI to remove these sites from coverage under NPDES Tracking No. NMR035195. Per direction from EPA Region 6 staff on March 29, 2018, LANS is not submitting a Notice of Termination because LANS will continue to manage nine active MSGP industrial facilities under NPDES Tracking No. NMR035195. LANS' required 2018 NetDMR reporting for these three sites is complete. The Change NOI is included as Enclosure 1, and needs to be implemented upon receipt to remove all future "Ready for Data Entry" Discharge Monitoring Reports associated with benchmark and impaired water limit sets at these sites.

Your assistance is appreciated as LANS is committed to maintaining compliance with the MSGP requirements. If you have any questions, please contact Terrill Lemke (505) 665-2397 or Leslie Dale (505) 606-2371.

Sincerely,



Taunia S. Van Valkenburg
Group Leader

TSV:TWL:LJD:cmh

Enclosure: 1) Change NOI for MSGP Permit Tracking No. NMR053195

Copy: Nasim Jahan, EPA Region 6, (E-File),
Helen Nguyen, EPA Region 6, (E-File),
Karen E. Armijo, NA-LA, (E-File)
Timothy A. Dolan, LC-ESH, (E-File)
William R. Mairson, ADESH, (E-File)
Enrique Torres, EPC-DO, (E-File)
Taunia S. Van Valkenburg, EPC-CP, (E-File)
Terrill W. Lemke, EPC-CP (E-File)
Holly L. Wheeler, EPC-CP (E-File)
Leslie J. Dale, EPC-CP (E-File)
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adesh-records@lanl.gov. (E-File)
epc-correspondence@lanl.gov, (E-File)

ENCLOSURE 1

Change NOI for MSGP Permit Tracking No. NMR053195

EPC-DO: 18-223

LA-UR-18-25473

Date: JUL 10 2018



Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in Section C of this form requests authorization to discharge pursuant to the NPDES Stormwater Multi-Sector General Permit (MSGP) permit number identified in Section B of this form. Submission of this NOI also constitutes notice that the operator identified in Section C of this form meets the eligibility conditions of Part 1.1 of the MSGP for the facility identified in Section D of this form. To obtain authorization, you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage. Refer to the instructions at the end of this form to complete your NOI.

A. Approval to Use Paper NOI Form

1. Have you been granted a waiver from electronic reporting from the EPA Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

- Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver: N a s i m J a h a n

Date approval obtained: 02 / 09 / 2016

Note: This form is submitting Change NOI information. Modified items/sections are highlighted.

* Note: You are required to obtain approval from the applicable EPA Regional Office prior to using this paper NOI form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT) at <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

B. Permit Information

NPDES ID (EPA Use Only):

N M R 0 5 3 1 9 5

1. Master Permit Number: (see Appendix C of the MSGP for the list of eligible master permit numbers)

2. Are you a new discharger or a new source as defined in Appendix A? YES NO (If yes, skip to Part C of this form).

3. If you are not a new discharger or a new source, have stormwater discharges from your facility been covered previously under an NPDES permit? YES NO

If yes, provide the NPDES ID if you had coverage under EPA's 2008 MSGP or the NPDES ID if you had coverage under an EPA individual permit:

C. Facility Operator Information

1. Operator Information:

Operator Name:

Mailing Address:

Street:

City: State: ZIP Code:

County or Similar Government Subdivision:

Phone: Ext.:

E-mail:

2. Operator Point of Contact Information:

First Name, Middle Initial, Last Name:

Title:

3. NOI Preparer Information (Complete if NOI was prepared by someone other than the certifier):

First Name, Middle Initial, Last Name:

Organization:

Phone: Ext.:

E-mail:

If yes, which effluent limitation guidelines apply to your stormwater discharges?

40 CFR Part/Subpart	Eligible Discharges	Affected MSGP Sector	New Source Date	Check if Applicable
Part 411, Subpart C	Runoff from material storage piles at cement manufacturing facilities	E	2/20/1974	<input type="checkbox"/>
Part 418 Subpart A	Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	C	4/8/1974	<input type="checkbox"/>
Part 423	Coal pile runoff at steam electric generating facilities	O	11/19/1982 10/8/1974 ¹	<input type="checkbox"/>
Part 429, Subpart I	Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	A	1/26/1981	<input type="checkbox"/>
Part 436, Subpart B, C, or D	Mine dewatering discharges at crushed stone mines, construction sand and gravel mines, or industrial sand mines	J	N/A	<input type="checkbox"/>
Part 443, Subpart A	Runoff from asphalt emulsion facilities	D	7/28/1975	<input type="checkbox"/>
Part 445, Subparts A & B	Runoff from hazardous waste and non-hazardous waste landfills	K, L	2/2/2000	<input type="checkbox"/>
Part 449	Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	S	6/15/2012	<input type="checkbox"/>

¹NSPS promulgated in 1974 were not removed via the 1982 regulation; therefore wastewaters generated by Part 423-applicable sources that were New Sources under the 1974 regulations are subject to the 1974 NSPS.

3. Receiving Waters Information: (Attach a separate list if necessary)

List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002). Also provide the latitude and longitude in degrees decimal for each outfall.		For each outfall, provide the following receiving water information:		
		Provide the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to:	If the receiving water is impaired (on the CWA 303(d) list), list the pollutants that are causing the impairment:	If a TMDL been completed for this receiving waterbody, providing the following information:
Outfall ID	049 (Sector P)	Pajarito Canyon (within LANL below Arroyo de la Delfe) Note: Remove Outfall 049 from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit set 049-IW from NetDMR. Site and outfall transferred to new operator effective 4/30/2018.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A Pollutant(s) for which there is a TMDL: N/A
Latitude	35.837228			
Longitude	-106.254840			
Outfall ID	050 (Sector K)	Canada del Buey (within LANL) Note: Remove Outfall 050 from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit sets 050-K1 and 050-IW from NetDMR. Site and outfall transferred to new operator effective 4/30/2018.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A Pollutant(s) for which there is a TMDL: N/A
Latitude	35.835746			
Longitude	-106.250832			
If substantially identical to other outfall, list identical outfall ID: _____				

Outfall ID	051 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830143	Note: Remove Outfall 051 and the associated SIO listed below from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit sets 051-K1 and 051-IW from NetDMR. Site and outfalls transferred to new operator effective 4/30/2018.		Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.242662			
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID	052 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.831852			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.242928			
If substantially identical to other outfall, list identical outfall ID: 051 _____				
Outfall ID	053 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829232	Note: Remove Outfall 053 and the associated SIOs listed below from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit sets 053-K1 and 053-IW from NetDMR. Site and outfalls transferred to new operator effective 4/30/2018.		Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.236793			
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID	065 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829028			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.236029			
If substantially identical to other outfall, list identical outfall ID: 053 _____				

Outfall ID	066 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830185			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.236107			
If substantially identical to other outfall, list identical outfall ID: 053				
Outfall ID	069 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe) Note: Remove Outfall 069 and the associated SIOs listed below from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit sets 069-K1 and 069-IW from NetDMR. Site and outfalls transferred to new operator effective 4/30/2018.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830285			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234518			
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID	054 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829036			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235125			
If substantially identical to other outfall, list identical outfall ID: 069				
Outfall ID	055 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829173			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235121			
If substantially identical to other outfall, list identical outfall ID: 069				

Outfall ID	056 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829310			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.236107			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	057 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829440			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235117			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	058 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829573			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235112			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	059 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829711			Pollutant(s) for which there is a TMDL: NA
Longitude	-106.235108			
If substantially identical to other outfall, list identical outfall ID: 069 _____				

Outfall ID	060 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830340			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234802			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	061 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830343			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234766			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	062 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830344			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234725			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	063 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830342			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234692			
If substantially identical to other outfall, list identical outfall ID: 069 _____				

Outfall ID	064 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830340			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.234656			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	067 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.829856			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235110			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	068 (Sector K)	Pajarito Canyon (within LANL below Arroyo de la Delfe)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]	TMDL Name and ID: N/A
Latitude	35.830051			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.235103			
If substantially identical to other outfall, list identical outfall ID: 069 _____				
Outfall ID	072 (Sector K)	Canada del Buey (within LANL) Note: Remove Outfall 072 and the associated SIOs listed below from NOI and DMRs with a monitoring period end date after 6/1/2018 for limit sets 072-K1 and 072-IW from NetDMR. Site and outfalls transferred to new operator effective 4/30/2018.	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.832885			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.239444			
If substantially identical to other outfall, list identical outfall ID: _____				

Outfall ID	070 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.832404			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.240510			
If substantially identical to other outfall, list identical outfall ID: <u>072</u>				
Outfall ID	071 (Sector K)	Canada del Buey (within LANL)	01104 Aluminum, total recoverable; 39516 Polychlorinated biphenyls [PCBs]; 51931 Alpha, gross adjusted	TMDL Name and ID: N/A
Latitude	35.832701			Pollutant(s) for which there is a TMDL: N/A
Longitude	-106.240994			
If substantially identical to other outfall, list identical outfall ID: <u>072</u>				
Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				
If substantially identical to other outfall, list identical outfall ID: _____				
Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				
If substantially identical to other outfall, list identical outfall ID: _____				

4. Provide the following information about your outfall latitude/longitude:

Latitude/Longitude Data Source: Map GPS Other

If you used a USGS topographic map, what was the scale? _____

Horizontal Reference Datum: NAD 27 NAD 83 WGS 84

5. Does your facility discharge into a Municipal Separate Storm Sewer System (MS4)? YES NO

If yes, provide the name of the MS4 operator: _____

6. Check if you discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) or as a Tier 3 water (Outstanding National Resource Water)? [See Appendix I].

Tier 2/2.5. Provide the name(s) of receiving water(s): _____

Tier 3 (Outstanding National Resource Waters)*

* Note: You are ineligible for coverage if you are a new discharger or new source to waters designated as Tier 3 (outstanding national resource waters) for antidegradation purposes under 40 CFR 131.13(a)(3).

7. If you are subject to benchmark monitoring requirements for a hardness-dependent metal, what is the hardness of your receiving water(s) (see Appendix J)? _____ (mg/L)

8. If you are subject to benchmark monitoring requirements for a hardness-dependent metal, does your facility discharge into any saltwater receiving waters? YES NO

9. Does your facility discharge to a federal CERCLA site listed in Appendix P? YES NO

If yes, did you notify the EPA Regional Office in advance of filing your NOI, and did the EPA Regional Office determine that you are eligible for permit coverage pursuant to Part 1.1.4.10*? YES NO

* Note: If you discharge to a federal CERCLA site listed in Appendix P, you are ineligible for coverage under this permit unless you notify the EPA Regional Office in advance and the EPA Regional Office determines you are eligible coverage under this permit. In determining your eligibility for coverage under this Part, the EPA Regional Office may evaluate whether you have included adequate controls and/or procedures to ensure that your discharges will not lead to recontamination of aquatic media at the CERCLA Site such that it will to cause or contribute to an exceedance of a water quality standard.

F. Stormwater Pollution Prevention Plan (SWPPP) Information

1. Has the SWPPP been prepared in advance of filing this NOI, as required? YES NO

2. SWPPP Contact Information:

First Name, Middle Initial, Last Name: _____

Professional Title: _____

Phone: _____ - _____ - _____ Ext. _____

E-mail: _____

3. SWPPP Availability:

Your current SWPPP or certain information from your SWPPP must be made available through one of the following two options. Select one of the options and provide the required information*:

* Note: You are not required to post any confidential business information (CBI) or restricted information (as defined in Appendix A) (such information may be redacted), but you must clearly identify those portions of the SWPPP that are being withheld from public access.

Option 1: Maintain a current copy of your SWPPP on an Internet page (Universal Resource Locator or URL).

Provide the web address URL: _____

Option 2: Provide the following information from your SWPPP:

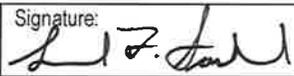
A. Describe your onsite industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams), and potential spill and leak areas:

ATTACHMENT 2: SWPPP AMENDMENTS

Date	Plan Section	Reason for Amendment	Amendment
Jan 2019	All	New MSGP Plan for new Laboratory Contract	New MSGP Plan for Triad, LLC (Replacing LANS, LLC)

**ATTACHMENT 3: CERTIFICATION OF NO UNAUTHORIZED STORMWATER
DISCHARGES**

Unauthorized Non-Storm Water Discharge Assessment and Certification

Facility: TA-60 Roads and Grounds			
Outfalls (including SIOs*) or Other Onsite Drainage Points Observed During the Assessment	Identified Potential Sources of Unauthorized Non-Storm Water Discharge (if applicable)	Description of Assessment Criterion Used	Describe any Required Actions to Control or Eliminate the Discharge
Monitored Outfall 031	None	Visual	None
Monitored Outfall 032	None	Visual	None
Monitored Outfall 036	None	Visual	None
Monitored Outfall 039	None	Visual	None
Monitored Outfall 042	None	Visual	None
SIO 030	None	Visual	None
SIO 033	None	Visual	None
SIO 034	None	Visual	None
Assessor:			
Print Name: Leonard F. Sindahl	Signature: 	Title: Deputy Environmental Protection	Date Assessed: 1/18/2019
Authorized Signatory: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
Print Name: Russell Stone	Signature: 	Title: Group Leader DESH-LEIS	Date Certified: 1/22/2019

*SIO = Substantially Identical Outfall

Unauthorized Non-Storm Water Discharge Assessment and Certification

Facility:	TA-60 Roads and Grounds		
Outfalls (including SIOs*) or Other Onsite Drainage Points Observed During the Assessment	Identified Potential Sources of Unauthorized Non-Storm Water Discharge (if applicable)	Description of Assessment Criterion Used	Describe any Required Actions to Control or Eliminate the Discharge
SIO 035	None	Visual	None
SIO 041	None	Visual	None
SIO 040	None	Visual	None
SIO 038	None	Visual	None
SIO 037	None	Visual	None
Assessor:			
Print Name: <i>Leonard F. Sandahl</i>	Signature: <i>Leonard F. Sandahl</i>	Title: <i>Deputy Environmental Professional</i>	Date Assessed: <i>1/18/2019</i>
<p>Authorized Signatory: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p>			
Print Name: <i>Russell Stone</i>	Signature: <i>Russell Stone</i>	Title: <i>Group Leader DSH-UIS</i>	Date Certified: <i>1/22/2019</i>

*SIO = Substantially Identical Outfall

**NON-STORM WATER DISCHARGE
ASSESSMENT AND CERTIFICATION**

Completed by: Leonard F. Sandoval

Title: Deployed Environmental Professional

Date: 1/16/2019

Date of Evaluation	Outfall Directly Observed During Test (Location)	Identify Potential Significant Sources of Non-Storm Water	Method Used to Test or Evaluate Discharge	Is Non-Storm Water Present?	How Often?	Describe Results from Test for Presence of Non-Storm Water Discharge
1/16/2019	Outfall 60-ABP-1 ID # 043	None	Visual evaluation of Outfall at sediment retention pond	No	NA	None

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and completed. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title: Russell Stone GL DESH-4015

Signature: 

Date Signed: 1/16/2019

ATTACHMENT 4: DULY AUTHORIZED SIGNATORY MEMORANDUM



***Environmental Protection & Compliance
Division***

Los Alamos National Laboratory
PO Box 1663, K490
Los Alamos, NM 87545
505-667-0666

Symbol: EPC-DO: 18-453
LAUR: 18-31574
Date: **DEC 11 2018**

Ms. Anne L. Idsal, Regional Administrator
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Mail Code: 6RA
Dallas, TX 75202-2733

Subject: Notification of Triad National Security, LLC, Signatory Officials and Authorized Representatives for NPDES Permits

Dear Ms. Idsal:

The purpose of this letter is to provide an update to the U. S. Environmental Protection Agency (EPA) Region 6 on the Triad National Security, LLC delegation of authority for signature of documents associated with the various Los Alamos National Laboratory (LANL) NPDES Permits, pursuant to 40 CFR 122.22(c). This letter supersedes and replaces the signatory authority letter dated March 14, 2018 (ADESH: 18-017).

The positions of Associate Laboratory Director of Environment, Safety, Health & Quality and Safeguards & Security (ESHQSS), and Division Leader of the Environmental Protection & Compliance Division (EPC-DO) are identified as Triad's primary signatory officials under 40 CFR 122.22(a) for certifying and signing permit applications (including Notice of Intents (NOIs)) required under the LANL NPDES Industrial Point Source Outfall Permit (Permit No. NM0028355), the NPDES Storm Water Construction General Permit, the NPDES Multi-Sector General Permit (Permit No. NMR050013), and the NPDES Pesticide General Permit (Permit No. NMG87B113).

The following positions are hereby designated as authorized representatives under 40 CFR 122.22(b) to sign reports, Storm Water Pollution Prevention Plans, Discharge Monitoring Reports, Pesticide Discharge Management Plans, and any other compliance documentation required by the permits:

NPDES Industrial Point Source Outfall Permit (No. NM0028355)

- Positions listed as primary signatory officials above.
- Group Leader or Team Leaders within the Environmental Compliance Programs Group.
- Responsible Facility Operations Director (FOD).

NPDES Construction General Permit:

- Positions listed as primary signatory officials above.
- Group Leader or Team Leaders within the Environmental Compliance Programs Group.
- Cognizant Project Manager, Construction Manager, or Subcontractor Technical Representative for the regulated construction activity.

NPDES Multi-Sector General Permit (ID No. NMR053195)

- Positions listed as primary signatory officials above.
- Group Leader or Team Leaders within the Environmental Compliance Programs Group.
- Division Leader, Deputy Division Leader, or Group Leader of the LANL division responsible for the overall operation of the regulated facility or activity.
- Responsible FOD; Deputy FOD, Operations Manager; or Deployed Environment, Safety, & Health Manager responsible for the overall operation of the regulated facility or activity.

NPDES Pesticide General Permit (No. NM687A041)

- Positions listed as primary signatory officials above.
- Group Leader or Team Leaders within the Environmental Compliance Programs Group.

If you have questions, please contact me at (505) 667-7269 or at etorres@lanl.gov.

Sincerely,



Enrique Torres
Division Leader
Environmental Protection & Compliance Division

ET/TWL/MTS:jdm

Attachment(s): None.

Copy: Nancy Williams, USEPA, Region 6, williams.nancy@epa.gov, (E-File)
Brent E. Larsen, USEPA, Region 6, Larsen.brent@epa.gov, (E-File)
Robert Houston, USEPA, Region 6, Houston.robert@epa.gov, (E-File)
Sarah Holcomb, NMED, sarah.holcomb@state.nm.us, (E-File)
Karen E. Armijo, LASO-MA-LS, Karen.armijo@nnsa.doe.gov, (E-File)
Jody Pugh, NA-LA, jody.pugh@nnsa.doe.gov, (E-File)
Michael W. Hazen, ESHQSS, mhazen@lanl.gov, (E-File)
William R. Mairson, ESHQSS, wrmairson@lanl.gov, (E-File)
Enrique Torres, EPC-DO, etorres@lanl.gov, (E-File)
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Michael T. Saladen, EPC-CP, saladen@lanl.gov, (E-File)
Terrill W. Lemke, EPC-CP, tlemke@lanl.gov, (E-File)
Tim Dolan, GC-ESH, tdolan@lanl.gov, (E-File)
emla.docs@em.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
epc-correspondence@lanl.gov, (E-File)
adesh-records@lanl.gov, (E-File)

ATTACHMENT 5: DISCHARGE MONITORING REPORTS

SINCE TRIAD, LLC TOOK OVER THE OPERATING CONTRACT AFTER THE MONITORING PERIOD FOR 2018, DMRS FOR 2018 WILL BE KEPT ON FILE IN THE ARCHIVED SWPPP FOR LANS, LLC.

ATTACHMENT 6: ANNUAL REPORTS

THE 2018 ANNUAL REPORT WILL BE SUBMITTED TO EPA ON JANUARY 30, 2019.
A HARD COPY WILL BE KEPT ON FILE WITH THE SWPPP.

ATTACHMENT 7: ROUTINE FACILITY INSPECTIONS

Los Alamos National Lab - ADESH

Work Order MSGP-RI-63350

MSGP Routine Inspection
Printed 11/7/2018 - 3:31 PM (Duplicate Copy)

Maintenance Details

Requested: 11/5/2018 12:11:00 PM
Procedure: MSGP Routine Facility Inspection (EPC-CP-Form-1020.1)
Last PM: 10/16/2018
Project: Routine Facility Inspections Nov. 2018 (P-MSGP-RI-5346)
Reason: 2018 November Inspections
Special Instructions: NMR053195

Target: 11/30/2018
Priority/Type: / Inspection
Department: Utilities and Infrastructure

MSGP Program
 RG200.5
 TA-60 Roads and Grounds

11/14/2018
Temp. 26°F / high of 44°F
Clear/Sunny
Wind - Less than 5 mph
8:30 a.m.

Contact:
Phone:

Tasks

#	Description	Meas.	No	N/A	Yes
Weather Information					
20	Describe the weather at time of inspection and document the temperature (F°).		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Within the Facility Boundary					
40	Is the facility free of new discharges of pollutants that have occurred since the last inspection? If "Failed" describe.		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
50	If "No" has a CAR been previously initiated for this new discharge?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
60	Is the facility free of discharge of pollutants at the time of inspection? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70	Is the facility free of evidence of, or the potential for, pollutants entering the drainage system. If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outfall Inspection (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comment)					
90	Monitored Outfall [031] DO: Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
100	Monitored Outfall [031] DO: Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
110	Monitored Outfall [031] DO: Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
120	Monitored Outfall [032] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
130	Monitored Outfall [032] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
140	Monitored Outfall [032] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
150	Monitored Outfall [036] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
160	Monitored Outfall [036] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
170	Monitored Outfall [036] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
180	Monitored Outfall [039] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
190	Monitored Outfall [039] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
200	Monitored Outfall [039] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
210	Monitored Outfall [042] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
220	Monitored Outfall [042] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
230	Monitored Outfall [042] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
240	Substantially Identical Outfall [030] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

250	Substantially Identical Outfall [030] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
260	Substantially Identical Outfall [030] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
270	Substantially Identical Outfall [033] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
280	Substantially Identical Outfall [033] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
290	Substantially Identical Outfall [033] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
300	Substantially Identical Outfall [034] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
310	Substantially Identical Outfall [034] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
320	Substantially Identical Outfall [034] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
330	Substantially Identical Outfall [035] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
340	Substantially Identical Outfall [035] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
350	Substantially Identical Outfall [035] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
360	Substantially Identical Outfall [037] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
370	Substantially Identical Outfall [037] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
380	Substantially Identical Outfall [037] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
390	Substantially Identical Outfall [038] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
400	Substantially Identical Outfall [038] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
410	Substantially Identical Outfall [038] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
420	Substantially Identical Outfall [040] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
430	Substantially Identical Outfall [040] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
440	Substantially Identical Outfall [040] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
450	Substantially Identical Outfall [041] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
460	Substantially Identical Outfall [041] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
470	Substantially Identical Outfall [041] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Control Measures (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comments).

490	Asphalt Berm [6000303040019] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
500	Asphalt Berm [6000303040020] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
510	Asphalt Berm [6000303040052] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
520	Rock Channel/Swale [6000304030016] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
530	Rock Channel/Swale [6000304030039] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
540	Rock Channel/Swale [6000304030040] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
550	Rock Channel/Swale [6000304030060] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
560	Rock Channel/Swale [6000311010017] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
570	Rip Rap [6000304060009] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
580	Rip Rap [6000304060010] Control Measure is operating effectively? If "No" describe	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

890	Rock Check Dam [6000306010007] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
900	Rock Check Dam [6000306010008] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
910	Trench Drain [6000309040057] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
920	Jersey Barriers [6000303170015] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
930	Jersey Barriers [6000303170021] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
940	EnviroSoxx w/ MetalLoxx [6000303200047] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
950	EnviroSoxx w/ MetalLoxx [6000303200048] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
960	EnviroSoxx w/ MetalLoxx [6000303200049] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
970	EnviroSoxx w/ MetalLoxx [6000303200050] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
980	EnviroSoxx w/ MetalLoxx [6000303200053] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
990	EnviroSoxx w/ MetalLoxx [6000303200054] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1000	EnviroSoxx w/ MetalLoxx [6000303200055] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1010	EnviroSoxx w/ MetalLoxx [6000303200056] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1020	EnviroSoxx w/ MetalLoxx [6000303200058] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1030	EnviroSoxx w/ MetalLoxx [6000303200059] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1040	Permanent Vegetation Vegetative Buffer Strip [6000302030042] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1050	TRM-Lined Swale [6000304080061] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Area/Activity exposed to stormwater (identify needed maintenance or a description of corrective actions in relevant task comment).

1070	Material loading/unloading and storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1080	Transfer areas for substances in bulk: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1090	Product/chemical storage areas (raw material): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1100	Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1110	Industrial processing and finished product storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1120	Equipment operation and maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1130	Fueling areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1140	Outdoor vehicle and equipment washing areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1150	Machinery: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1160	Waste handling and disposal areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1170	Erodible areas/construction: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1180	Locations and sources of run-on to the site: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

1190	Non-stormwater/illicit connections: controls adequate (appropriate, effective, and operating)? If "No" describe.			
1200	Salt storage piles or pile containing salt: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1210	Dust generation and vehicle tracking: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1220	Housekeeping (Industrial materials/residues/trash in contact with stormwater): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1230	Leaks and spills: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1240	Sector P [60003-] Vehicle storage/maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-Compliance				
1260	Free of incidents of observed non-compliance not already identified above? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Additional Control Measures				
1280	Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Labor

Labor	Assigned	Work Date	Reg Hrs	OT Hrs	Other Hrs
Leonard Sandoval	11/1/2018 / 1				

Labor Report

Completed: _____
 Report: _____

WO ID: _____ Page ____ of ____

Name/Z#: Leonard F. Sandoval 114326

Signature (lead inspector): Leonard F. Sandoval Date and Time: 11/14/2018 9:55 a.m.

"I confirm the information as recorded is true, accurate and complete."

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

(Signatory must meet definition in Section B.11.A, eg., FOD, Ops Mgr, DESH Group Leader, EPC Group Leader)

Print name and title: Russell Stone GC DESH-485

Signature:

Russell Egan

Date:

12/12/2018

Sediment retention pond at far east end of Sigma Mesa frozen w/ ice.
Several inches of snow on the ground from a recent snow storm.
The rain gutters on the roof facing South of Salt Shed 60-118 is being
installed to help re-direct rain water from the roof away from the salt
pond.

Maintenance Details

Requested: 12/17/2018 4:33:35 PM
Procedure: MSGP Routine Facility Inspection (EPC-CP-Form-1020.1)
Last PM: 10/16/2018
Project: Routine Facility Inspections Dec. 2018 (P-MSGP-RI-5353)
Reason: 2018 December Inspections

Target: 12/31/2018
Priority/Type: Normal / Inspection
Department: Utilities and Infrastructure

MSGP Program
 RG200.5
 TA-60 Roads and Grounds

12/17/2018
Temp. 38°F High of 45°F
Cloudy/Overcast
Wind - Calm
11:45 a.m.

Contact:
Phone:

Tasks

#	Description	Meas.	No	N/A	Yes
Weather Information					
20	Describe the weather at time of inspection and document the temperature (F°).		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Within the Facility Boundary					
40	Is the facility free of new discharges of pollutants that have occurred since the last inspection? If "Failed" describe.		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
50	If "No" has a CAR been previously initiated for this new discharge?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
60	Is the facility free of discharge of pollutants at the time of inspection? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70	Is the facility free of evidence of, or the potential for, pollutants entering the drainage system. If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outfall Inspection (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comment)					
90	Monitored Outfall [031] DO: Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
100	Monitored Outfall [031] DO: Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
110	Monitored Outfall [031] DO: Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
120	Monitored Outfall [032] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
130	Monitored Outfall [032] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
140	Monitored Outfall [032] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
150	Monitored Outfall [036] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
160	Monitored Outfall [036] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
170	Monitored Outfall [036] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
180	Monitored Outfall [039] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
190	Monitored Outfall [039] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
200	Monitored Outfall [039] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
210	Monitored Outfall [042] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
220	Monitored Outfall [042] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
230	Monitored Outfall [042] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
240	Substantially Identical Outfall [030] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
250	Substantially Identical Outfall [030] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

260	Substantially Identical Outfall [030] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
270	Substantially Identical Outfall [033] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
280	Substantially Identical Outfall [033] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
290	Substantially Identical Outfall [033] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
300	Substantially Identical Outfall [034] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
310	Substantially Identical Outfall [034] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
320	Substantially Identical Outfall [034] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
330	Substantially Identical Outfall [035] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
340	Substantially Identical Outfall [035] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
350	Substantially Identical Outfall [035] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
360	Substantially Identical Outfall [037] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
370	Substantially Identical Outfall [037] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
380	Substantially Identical Outfall [037] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
390	Substantially Identical Outfall [038] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
400	Substantially Identical Outfall [038] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
410	Substantially Identical Outfall [038] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
420	Substantially Identical Outfall [040] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
430	Substantially Identical Outfall [040] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
440	Substantially Identical Outfall [040] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
450	Substantially Identical Outfall [041] Free of Evidence of Erosion? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
460	Substantially Identical Outfall [041] Flow Dissipation Devices Operating Effectively? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
470	Substantially Identical Outfall [041] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Control Measures (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comments).

490	Asphalt Berm [6000303040019] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
500	Asphalt Berm [6000303040020] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
510	Asphalt Berm [6000303040052] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
520	Rock Channel/Swale [6000304030016] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
530	Rock Channel/Swale [6000304030039] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
540	Rock Channel/Swale [6000304030040] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
550	Rock Channel/Swale [6000304030060] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
560	Rock Channel/Swale [6000311010017] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
570	Rip Rap [6000304060009] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
580	Rip Rap [6000304060010] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	describe condition & need for Maintenance, Repair, or Replacement.			
900	Rock Check Dam [6000306010008] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
910	Trench Drain [6000309040057] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
920	Jersey Barriers [6000303170015] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
930	Jersey Barriers [6000303170021] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
940	EnviroSoxx w/ MetalLoxx [6000303200047] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
950	EnviroSoxx w/ MetalLoxx [6000303200048] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
960	EnviroSoxx w/ MetalLoxx [6000303200049] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
970	EnviroSoxx w/ MetalLoxx [6000303200050] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
980	EnviroSoxx w/ MetalLoxx [6000303200053] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
990	EnviroSoxx w/ MetalLoxx [6000303200054] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1000	EnviroSoxx w/ MetalLoxx [6000303200055] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1010	EnviroSoxx w/ MetalLoxx [6000303200056] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1020	EnviroSoxx w/ MetalLoxx [6000303200058] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1030	EnviroSoxx w/ MetalLoxx [6000303200059] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1040	Permanent Vegetation Vegetative Buffer Strip [6000302030042] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1050	TRM-Lined Swale [6000304080061] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Area/Activity exposed to stormwater (identify needed maintenance or a description of corrective actions in relevant task comment).

1070	Material loading/unloading and storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1080	Transfer areas for substances in bulk: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1090	Product/chemical storage areas (raw material): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1100	Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1110	Industrial processing and finished product storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1120	Equipment operation and maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1130	Fueling areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1140	Outdoor vehicle and equipment washing areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1150	Machinery: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1160	Waste handling and disposal areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1170	Erodible areas/construction: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1180	Locations and sources of run-on to the site: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1190	Non-stormwater/illicit connections: controls adequate (appropriate, effective, and	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Refer to Labor Report

operating)? If "No" describe.

1200	Salt storage piles or pile containing salt: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1210	Dust generation and vehicle tracking: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1220	Housekeeping (Industrial materials/residues/trash in contact with stormwater): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1230	Leaks and spills: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1240	Sector P [60003-] Vehicle storage/maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Non-Compliance

Free of incidents of observed non-compliance not already identified above? If "No" describe.

1260		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Additional Control Measures

Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed.

1280		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Labor

Labor	Assigned	Work Date	Reg Hrs	OT Hrs	Other Hrs
Leonard Sandoval	12/17/2018 / 1				
Wheeler, Holly	12/17/2018 / 1				

Labor Report

Completed: _____

Report:

Expansion on the Southern end of the sediment pond at the far east end of Sigma Mesa entered into the MSGP tracking database as CAR# 1434. HAMM went and roller in expansion zone to the clean fill pad needs to have all the fluids drained from it because it hasn't been used for 6 months entered into the MSGP tracking database as CAR# 1435.

WO ID: _____ Page _____ of _____

Holly Wheeler of EPC-CP helped perform the inspection which is considered an annual inspection.

Name/Z#: Leonard F. Sandoval 114326

Signature (lead inspector): Leonard F. Sandoval Date and Time: 12/17/2018 1:00 p.m.

"I confirm the information as recorded is true, accurate and complete."

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

(Signatory must meet definition in Section B.11.A, eg., FOD, Ops Mgr, DESH Group Leader, EPC Group Leader)

Print name and title: Russell Stone GC DESH-LEIS

Signature: Russell Stone Date: 1/7/2019

over ↗

At the east end of TA-60 Roads & Grounds next to a trash only bin there's a rusted metal grate, toolbox, & metal joints that need to be put into a metal for recycle bin entered into the MSGP tracking database as CAR# 1436.

South of Salt shed 60-118 Sugar Beet & Calcium Chloride de-icer are leaking from the valves on the hoses attached to the storage tanks that needs to be cleaned up & the faulty valves replaced entered into the MSGP tracking database as CAR# 1437.

	and operating)? If "No" describe.			
230	Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
240	Industrial processing and finished product storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
250	Equipment operation and maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
260	Fueling areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
270	Outdoor vehicle and equipment washing areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
280	Machinery: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
290	Waste handling and disposal areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
300	Erodible areas/construction: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
310	Locations and sources of run-on to the site: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
320	Non-stormwater/illicit connections: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
330	Salt storage piles or pile containing salt: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
340	Dust generation and vehicle tracking: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
350	Housekeeping (Industrial materials/residues/trash in contact with stormwater): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
360	Leaks and spills: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-Compliance				
380	Free of incidents of observed non-compliance not already identified above? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Additional Control Measures				
400	Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Labor

Labor	Assigned	Work Date	Reg Hrs	OT Hrs	Other Hrs
Leonard Sandoval	11/1/2018 / 1				

Labor Report

Completed: _____

Report: The sediment retention ponds^{is} less than half full of storm water.

WO ID: _____ Page ____ of ____

Name/Z#: Leonard F. Sandoval 114326

Signature (lead inspector): Leonard F. Sandoval Date and Time: 11/8/2018 8:38 a.m.

"I confirm the information as recorded is true, accurate and complete."

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

(Signatory must meet definition in Section B.11.A, eg., FOD, Ops Mgr, DESH Group Leader, EPC Group Leader)

Print name and title: Russell Stone GL DESH-LLS

Signature: Russell Stone Date: 12/12/2018

Maintenance Details

Requested: 12/17/2018 4:33:32 PM
Procedure: MSGP Routine Facility Inspection (EPC-CP-Form-1020.1)
Last PM: 10/3/2018
Project: Routine Facility Inspections Dec. 2018 (P-MSGP-RI-5353)
Reason: 2018 December Inspections

Target: 12/31/2018
Priority/Type: Normal / Inspection
Department: Utilities and Infrastructure

MSGP Program
 RG200.5
 TA-60 Asphalt Batch Plant

Contact:
Phone:

*12/17/2018 Temp. 38°F w/ high of 45°F
 Cloudy / Overcast
 Wind - Calm
 11:00 a.m.*

Tasks

#	Description	Meas.	No	N/A	Yes
Weather Information					
20	Describe the weather at time of inspection and document the temperature (F°).		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Within the Facility Boundary					
40	Is the facility free of new discharges of pollutants that have occurred since the last inspection? If "Failed" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
50	If "No" has a CAR been previously initiated for this new discharge?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
60	Is the facility free of discharge of pollutants at the time of inspection? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70	Is the facility free of evidence of, or the potential for, pollutants entering the drainage system. If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outfall Inspection (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comment)					
90	Monitored Outfall [043] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
100	Monitored Outfall [043] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
110	Monitored Outfall [043] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Control Measures (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comments).					
130	Rip Rap [6000104060005] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
140	Detention Pond [6000111020001] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
150	Rock Check Dam [6000106010002] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
160	Rock Check Dam [6000106010003] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
170	Base Course Berm [6000103020004] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
180	Base Course Berm [6000103020006] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Area/Activity exposed to stormwater (identify needed maintenance or a description of corrective actions in relevant task comment).					
200	Material loading/unloading and storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
210	Transfer areas for substances in bulk: controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
220	Product/chemical storage areas (raw material): controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

230	Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
240	Industrial processing and finished product storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
250	Equipment operation and maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
260	Fueling areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
270	Outdoor vehicle and equipment washing areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
280	Machinery: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
290	Waste handling and disposal areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
300	Erodible areas/construction: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
310	Locations and sources of run-on to the site: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
320	Non-stormwater/illicit connections: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
330	Salt storage piles or pile containing salt: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
340	Dust generation and vehicle tracking: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
350	Housekeeping (Industrial materials/residues/trash in contact with stormwater): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
360	Leaks and spills: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Compliance				
380	Free of incidents of observed non-compliance not already identified above? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Additional Control Measures				
400	Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Refer to Labor Report

Labor

Labor	Assigned	Work Date	Reg Hrs	OT Hrs	Other Hrs
Leonard Sandoval	12/17/2018 / 1				
Wheeler, Holly	12/17/2018 / 1				

Labor Report

Completed: _____

Report:

Pump to the heating oil tank is leaking & needs to be replaced & oil within the secondary containment & soil needs to be cleaned up entered into the MSGP tracking database as CAR # 1453.

WO ID: _____ Page _____ of _____

Name/Z#: Leonard F. Sandoval 114326

Holly Wheeler from EPC-CP helped perform the inspection which is considered an annual inspection.

Signature (lead inspector): Leonard F. Sandoval

Date and Time: 12/17/2018 11:30 a.m.

"I confirm the information as recorded is true, accurate and complete."

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

(Signatory must meet definition in Section B.11.A, eg., FOD, Ops Mgr, DESH Group Leader, EPC Group Leader)

Print name and title: Russell Stone GL DESH-UTS

Signature:  Date: 1/7/2019

ATTACHMENT 8: QUARTERLY VISUAL ASSESSMENTS

SINCE TRIAD, LLC TOOK OVER THE OPERATING CONTRACT AFTER THE QVA PERIOD FOR 2018, QVAS FOR 2018 WILL BE KEPT ON FILE IN THE ARCHIVED SWPPP FOR LANS, LLC.

**ATTACHMENT 9: CORRECTIVE ACTION DOCUMENTATION AND
CERTIFICATION**

CERTIFICATION FOR CORRECTIVE ACTIONS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Russell Stone Title: GL DESH-UJS

Signature:  Date: 1/15/2019

NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : 1437 (Assigned by computer)

* Name of Facility : TA-60 Roads and Grounds

* Date problem was identified : 12/17/2018 11:45 * Date of Notification to EPC-CP : 12/17/2018 11:45

* FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : South of the salt shed at TA-60 Roads and Grounds west.

* Inspector Z-Number : 118432 Wheeler Holly L EPC-CP

* Person Identifying Condition Z-Number : 118432 Wheeler Holly L EPC-CP

Date Format Must be entered as MM/DD/YYYY HH24:MI

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Enter New Corrective Action

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NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : (Assigned by computer)

* Name of Facility : TA-60 Roads and Grounds

* Date problem was identified : 12/17/2018 11:45 * Date of Notification to EPC-CP : 12/17/2018 11:45

* FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : Around the dumpsters on the east end of TA-60 Roads and Ground

* Inspector Z-Number : 118432 Wheeler Holly L EPC-CP

* Person Identifying Condition Z-Number : 118432 Wheeler Holly L EPC-CP

Date Format Must be entered as MM/DD/YYYY HH24:MI

* required fields

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MSGP_CORRECTIVEACTIONREPORT

Corrective Action Header **Corrective Action Details**

* 3. Identify the condition triggering the need for this review: If other, (describe here):
 Control measures inadequate to meet non-numeric e

* 4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).
 At the east end of TA-60 Roads and Grounds west, near the dumpsters, a rusted metal grate, toolbox and metal joints are stored outside uncovered.

6. How problem was identified: If other, (describe here):
 Routine facility inspection

* 7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:
 On 12/17/2018 the rusted metal grate, rusted tool box, and metal joints were picked up and put into s covered roll-off bin containing metal for recycle at the TA-60 Material Recycling Facility.

8. Was the problem identified at an outfall that is Substantially Identical? Yes/No : Y

9. Which SIO Affected?

10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:
 Outfall 030 is too far away to be affected by the metal. If the metal is picked up before the next storm event, outfall 031 will not be affected either.

* 11. Did/will this corrective action require modification of your SWPPP ? Yes/No : N

* 12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

* 13. Date corrective action completed (MM/DD/YYYY HH24:MI):

14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:
 Put the rusted metal grate, rusted tool box and metal joints in a covered roll-off bin containing metal for recycle.

15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

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* 3. Identify the condition triggering the need for this review: If other, (describe here):

Control measures inadequate to meet non-numeric e

* 4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).

A Hamm roller appears to be abandoned within the Sigma Mesa Staging Area at TA-60 Roads and Grounds east. Liquids have not been drained from the equipment.

* 6. How problem was identified: If other, (describe here):

Routine facility inspection

* 7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

On 12/12/2018 a drip pan with spill pads and pillows was placed underneath the front end roller to help capture any drips from the small leak. 1/7/2019: 20 or more inches of leftover snow from a storm that dropped 3 feet of snow on 1/1/2019 impeding access to Hamm roller. On 1/18/2019 during the routine facility inspection there was no new signs of leakage inside the drip pan underneath the frontend roller.

8. Was the problem identified at an outfall that is Substantially Identical? Yes/No : Y

9. Which SIO Affected?

10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

No corrective action was taken at outfalls 036 and 037 as there is a drip pan under the equipment to retain any spillage.

* 11. Did/will this corrective action require modification of your SWPPP ? Yes/No : N

* 12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

* 13. Date corrective action completed (MM/DD/YYYY HH24:MI):

14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

Determine whether the Hamm roller is well maintained or needs to have the fluids drained. If the equipment has not been used in more that 6 months and is abandoned, either salvage it or drain the fluids from it, including the hydraulic lines. If the equipment will remain unused for extended periods of time, it must be inspected at least monthly for leaks

15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

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MSGP_CORRECTIVEACTIONREPORT

Corrective Action Header Corrective Action Details

NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : (Assigned by computer)

* Name of Facility :

* Date problem was identified : * Date of Notification to EPC-CP :

* FOD Responsible for CA (Name & Org) :

Describe Specific Evaluation Location :

* Inspector Z-Number :

* Person Identifying Condition Z-Number :

Date Format Must be entered as MM/DD/YYYY HH24:MI

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3. Identify the condition triggering the need for this review: If other, (describe here):

Control measures inadequate to meet non-numeric e

4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).

At TA-60 Roads and Grounds east, erosion is occurring to the southern part of the sediment pond.

6. How problem was identified: If other, (describe here):

Routine facility inspection

7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

On 12/20/2018 the area draining to the southern portion of the sediment pond was stabilized with river rock to help prevent erosion.

8. Was the problem identified at an outfall that is Substantially Identical? Yes/No : Y

9. Which SIO Affected?

10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

No corrective action was taken at SIO 041, as the outfall is across the road and is not showing signs of erosion.

11. Did/will this corrective action require modification of your SWPPP ? Yes/No : Y

12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

13. Date corrective action completed (MM/DD/YYYY HH24:MI):

14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

Stabilize the area draining to the southern portion of the sediment pond to prevent erosion.

15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

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NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : 114326 (Assigned by computer)

Name of Facility : TA-60 Roads and Grounds List

Date problem was identified : 12/11/2018 09:45 Date of Notification to EPC-CP : 12/11/2018 09:45

FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : TA-60 Sigma Mesa Expansion Zone to Clean Fill Yard

Inspector Z-Number : 114326 Sandoval Leonard F DESH-UIS

Person Identifying Condition Z-Number : 114326 Sandoval Leonard F DESH-UIS

Date Format Must be entered as MM/DD/YYYY HH24:MI

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Enter New Corrective Action

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MSGP_CORRECTIVEACTIONREPORT

Corrective Action Header **Corrective Action Details**

*3. Identify the condition triggering the need for this review: If other, (describe here):

*4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).

6. How problem was identified: If other, (describe here):

*7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Was the problem identified at an outfall that is Substantially Identical? Yes/No :

9. Which SIO Affected?

10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

*11. Did/will this corrective action require modification of your SWPPP ? Yes/No :

*12. Date corrective action Initiated (MM/DD/YYYY HH24:MI): OR expected completion :

*13. Date corrective action completed (MM/DD/YYYY HH24:MI):

14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

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NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : (Assigned by computer)

* Name of Facility : TA-60 Roads and Grounds

* Date problem was identified : 12/11/2018 09:45 * Date of Notification to EPC-CP : 12/11/2018 09:45

* FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : South of the Asphalt Millings Staging Area on Sigma Mesa

* Inspector Z-Number : 114326 Sandoval Leonard F DESH-UIS

* Person Identifying Condition Z-Number : 114326 Sandoval Leonard F DESH-UIS

Date Format Must be entered as MM/DD/YYYY HH24:MI

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MSGP_CORRECTIVEACTIONREPORT

Corrective Action Header **Corrective Action Details**

* 3. Identify the condition triggering the need for this review: If other, (describe here):

* 4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).

* 6. How problem was identified: If other, (describe here):

* 7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

* 8. Was the problem identified at an outfall that is Substantially Identical? Yes/No :

* 9. Which SIO Affected?

* 10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

* 11. Did/will this corrective action require modification of your SWPPP ? Yes/No :

* 12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

* 13. Date corrective action completed (MM/DD/YYYY HH24:MI):

* 14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

* 15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

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NPDES MSGP CORRECTIVE ACTION REPORT Id. Number : 11426 (Assigned by computer)

Name of Facility : TA-60 Roads and Grounds List

Date problem was identified : 11/26/2018 10:00 Date of Notification to EPC-CP : 11/26/2018 10:00

FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : NW Corner of Salt Shed 60-0178

Inspector Z-Number : 114326 Sandoval Leonard F DESH-UIS

Person Identifying Condition Z-Number : 114326 Sandoval Leonard F DESH-UIS

Date Format Must be entered as MM/DD/YYYY HH24:MI

* required fields

Enter New Corrective Action

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* 3. Identify the condition triggering the need for this review: If other, (describe here):

Control measures not properly operated or maintained

* 4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).

A small section of TRM in the swale NW of salt shed 60-0178 was damaged during snow removal and needs to be replaced or repaired.

* 6. How problem was identified: If other, (describe here):

Other (describe) : Site Visit

* 7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

On 11/26/2018 the small section of TRM in the swale NW of salt shed 60-0178 that was damaged during snow removal was repaired.

8. Was the problem identified at an outfall that is Substantially Identical? Yes/No :

9. Which SIO Affected?

10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

NA

* 11. Did/will this corrective action require modification of your SWPPP ? Yes/No :

* 12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

* 13. Date corrective action completed (MM/DD/YYYY HH24:MI):

14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

NA

15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

* required fields

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NPDES MSGP CORRECTIVE ACTION REPORT

Id. Number : 114326 (Assigned by computer)

Name of Facility : TA-60 Asphalt Batch Plant

Date problem was identified : 12/11/2018 09:45 Date of Notification to EPC-CP : 12/11/2018 09:45

FOD Responsible for CA (Name & Org) : UIF Erickson Andrew W

Describe Specific Evaluation Location : West of the TA-60 Asphalt Batch Plant

Inspector Z-Number : 114326 Sandoval Leonard F DESH-UIS

Person Identifying Condition Z-Number : 114326 Sandoval Leonard F DESH-UIS

Date Format Must be entered as MM/DD/YYYY HH24:MI

* required fields

Enter New Corrective Action

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Save Cancel

Prev Rec. Next Rec.

Print Summary

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* 3. Identify the condition triggering the need for this review: If other, (describe here):
Other (describe) : Metal being stored outside

* 4. Briefly describe the nature of problem identified: (e.g., Erosion problem identified during inspection).
At the far West boundary to the TA-60 Asphalt Batch Plant there is 6 to 8 flat sheets of rusty metal on wooden planks that need to be covered with a tarp to keep them from coming in contact with moisture.

* 6. How problem was identified: If other, (describe here):
Other (describe) : Site Visit

* 7. Description of corrective action taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications, repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:
On 12/12/2018 at the far West boundary to the TA-60 Asphalt Batch Plant the 6 to 8 flat sheets of rusty metal on wooden planks were loaded onto a flatbed truck with a front end loader with forks and delivered to a staging area West of salt shed 60-178 and covered with tarps.

* 8. Was the problem identified at an outfall that is Substantially Identical? Yes/No : N

* 9. Which SIO Affected?

* 10. If yes, provide documentation of how corrective action taken is appropriate for all related SIOs:

* 11. Did/will this corrective action require modification of your SWPPP ? Yes/No : N

* 12. Date corrective action initiated (MM/DD/YYYY HH24:MI): OR expected completion :

* 13. Date corrective action completed (MM/DD/YYYY HH24:MI):

* 14. If corrective action is not or will not be completed within 14 days of discovery, describe any remaining steps and the formal schedule necessary to complete the corrective action:

* 15. Date EPA Notified of Intent to Exceed 45 Days (MM/DD/YYYY HH24:MI):

* required fields

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ATTACHMENT 10: SPILLS AND LEAKS

Spills and Leaks (2016-2018) TA-60 Roads and Grounds

Date	Spill Location	What Spilled	Quantity Spilled	Corrective Action Taken	Affected Outfalls
1/25/2016	Far East End of TA-60 Sigma Mesa	Hydraulic Fluid	Less than 1 ounce	Shovel full of gravel/soil collected as N.M. Special Waste	None
2/22/2016	TA-60 Sigma Mesa heavy equipment yard	Hydraulic Fluid	Less than 3 ounces	Hydraulic line on 140 G Grader PN # 30599 repaired and affected area on asphalt sprayed with micro-blaze.	None
3/21/2016	Northside of TA-60 Building 178	Hydraulic Fluid	Less than 3 ounces	Hydraulic line on salt truck G82-0249F repaired and affected area on asphalt sprayed with micro-blaze.	None
7/25/2016	Inside Heavy Equipment Staging Area	Hydraulic Fluid	Less than 5 ounces	Affected area on asphalt sprayed with micro-blaze	None
11/10/2016	Hydraulic line to cylinder hoist failed on dump truck G82-0250F West of Clean Fill Yard	Hydraulic Fluid	5 Gallons	Hydraulic line on dump truck G82-0250F repaired and affected soil collected and managed as N.M. Special Waste.	None
2/16/2017	Hydraulic arm to back hatch on pot holing machine failed. on Eniwetok Drive	Potholing Material	55 Gallons	Water and sediment on asphalt was allowed to dry and residual sediment cleaned up with street sweeper.	None
3/22/2017	East Access Gate to Clean Fill Yard	Diesel Stain on Soil	Less than 12 ounces	Affected soil collected and managed as N.M. Special Waste.	None

3/27/2017	NE of Salt Shed 60-173	Hydraulic Fluid	Less than 5 ounces	Leak around liquid level gauge on square hydraulic tank on dump truck E201180 repaired and affected area on asphalt sprayed with micro-blaze.	None
3/27/2017	Staging Area South of Clean Fill Yard	Hydraulic Fluid	Less than 12 ounces	Affected soil collected and managed as N.M. Special Waste.	None
7/17/2017	Paved entrance to south parking lot to TA-60 Building 250	Hydraulic Oil	1 Gallon	Affected area on asphalt sprayed with micro-blaze and 5 gallon bucket of oil sponge absorbent was collected and managed as N.M. Special Waste.	None
7/24/2017	Staging area north of TA-60 Asphalt Batch Plant	Hydraulic Fluid	Less than 5 ounces	Affected area on base course sprayed with micro-blaze and half of a 5 gallon bucket of soil was collected and managed as N.M. Special Waste.	None
8/1/2017	Inside heavy equipment staging area	Lubricant Oil	Less than 1 quart	Affected area on asphalt sprayed with micro-blaze and 5 gallon bucket of absorbent was collected and managed as N.M. Special Waste.	None

9/19/2017	Staging area south of TA-60 Clean Fill Yard	Lubricant Oil	Less than half a quart	Affected area on soil sprayed with micro-blaze and a fourth of a 5 gallon bucket of soil was collected and managed as N.M. Special Waste.	None
9/19/2017	Staging area north of TA-60 Asphalt Batch Plant	Hydraulic Fluid	Less than half a quart	Affected area on soil sprayed with micro-blaze and a 5 gallon bucket of soil was collected and managed as N.M. Special Waste.	None
9/19/2017	Staging area east of transportainers 60-320 and 60-321	Hydraulic Fluid	Less than 510ounces	Affected area on asphalt sprayed with micro-blaze.	None
10/23/2017	South of salt shed 60-178	Hydraulic Fluid	Less than 5 ounces	Affected area on asphalt sprayed with micro-blaze.	None
10/30/2017	Staging area north of TA-60 Asphalt Batch Plant	Hydraulic Fluid	Less than 1 gallon	Affected area on soil sprayed with micro-blaze and three fourths of a 5 gallon bucket of soil was collected and managed as N.M. Special Waste	None
12/20/2017	TA-60 R & G West	Lubricant/Oil	Less than 1 quart	Affected area on asphalt sprayed with micro-blaze.	None
12/20/2017	Clean Fill Yard on Sigma Mesa	Diesel	Less than 1 gallon	Affected area on soil sprayed with micro-blaze and four 5 gallon buckets of soil were collected and managed as N.M. Special Waste	None
12/20/2017	Dump truck at TA-60 R & G East	Hydraulic Fluid	Less than 3 ounces	Affected area on base course sprayed with micro-blaze	None

4/11/2018	North of Asphalt Batch Plant leak from hydro-seeder	Diesel fuel	2 to 3 gallons	Affected area on soil sprayed with micro-blaze and eight 55 gallon drums and four 30 gallon poly containers of soil were collected and managed as N.M. Special Waste	None
4/11/2018	North of Asphalt Batch Plant leak from crushed aerosol can	Penetrating oil	Less than 3 ounces	Affected area on asphalt sprayed with micro-blaze	None
6/18/2018	Heavy equipment staging area West of 60-178 leak from front end loader	Hydraulic Fluid	Less than 5 ounces	Affected area on asphalt sprayed with micro-blaze	None
6/18/2018	Heavy equipment staging area West of 60-178 leak from front end fork lift	Hydraulic Fluid	Less than 5 ounces	Affected area on asphalt sprayed with micro-blaze	None
12/11/2018	South of the Asphalt Millings Staging Area there's several oil stains on base course	Hydraulic Fluid	1 gallon	Affected area on soil sprayed with micro-blaze and two 55 gallon drums and two 30 gallon poly containers of soil were collected and managed as N.M. Special Waste	None
12/11/2018	Expansion zone to the clean fill yard leak from front end roller	Hydraulic Fluid	Less than 10 ounces	Affected area on soil sprayed with micro-blaze and two thirds of a 30 gallon poly containers of soil was collected and managed as N.M. Special Waste	None

Spills and Leaks (2016-2018) TA-60 Asphalt Batch Plant

Date	Spill Location	What Spilled	Quantity Spilled	Corrective Action Taken	Affected Outfall
7/5/2016	West of Asphalt Batch Plant	Hydraulic Fluid	Less than half a quart	Affected area cleaned up with absorbent and sprayed with micro-blaze	None
5/17/2017	SE corner or concrete secondary containment	Hydraulic Fluid	Less than 6 ounces	Affected area cleaned up with absorbent and sprayed with micro-blaze	None
12/18/2017	South side of Eniwetok Drive & NW of ABP	Hydraulic Fluid	Less than 1 quart	Affected area on asphalt sprayed with micro-blaze.	None
9/28/2018	Eniwetok Drive east of Asphalt Batch Plant	Asphalt Release Agent	2 Gallons	Affected area cleaned up and sprayed with micro-blaze	None

ATTACHMENT 11: TRAINING DOCUMENTS



New Mexico Water Quality Control Commission Compliance

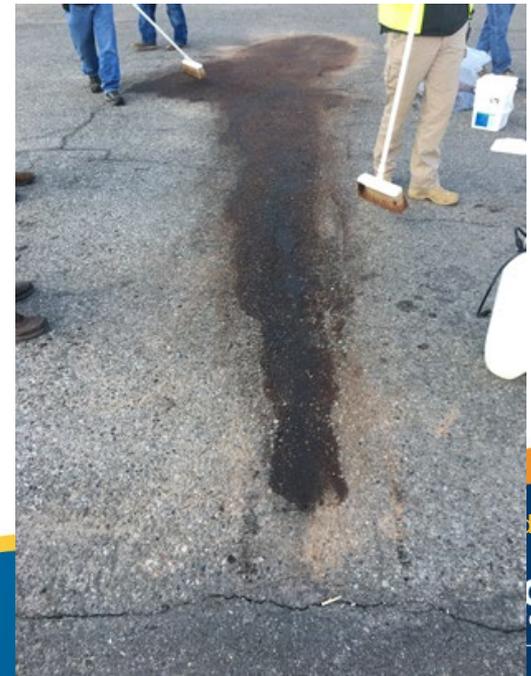
Spills and Unplanned Releases Legacy Equipment – Lesson's Learned

Presentation Overview

- Environmental Reporting Requirements
- Who to Contact in the Event of a Release
- Ways to Prevent Spills
- NPDES MSGP Requirements
- Legacy Equipment – Lessons Learned
- Questions

Spills- Unplanned Releases to the Environment

- Water Quality investigates and evaluates spills throughout LANL to determine if external reporting is required to comply with State and Federal Regulations
 - NMWQCC Regulations, Clean Water Act, CERCLA, EPCRA



Spills- Unplanned Releases to the Environment

- Corrective actions need to be taken for all spills that occur
- There is not a de minimis volume of spilled material that does not need to be addressed



Who to Contact in the Event of a Spill

- Notify Supervisor of Spill Occurrence
- Notify the Roads and Grounds Deployed Environmental Professional
 - Leonard Sandoval
- Notify Water Quality Spills Pager – **664-7722**
- Notify Emergency Operations in the event of an emergency **667-6211**



Spill Prevention and Minimization

- Plan work to eliminate avoidable spills
- Use secondary containment to prevent releases to the environment
- Ensure preventive maintenance on equipment is completed
- Know where spill kits are located and how to use contents
- Know who to contact in the event of a release



NPDES Multi-Sector General Permit (MSGP) Requirements

- Drain fluids from equipment and vehicles that will be decommissioned, and, for any equipment and vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks.
 - At LANL—"an extended period of time" is considered to be 6 months.



Slide 7

Legacy Equipment

Sheep's Foot Compactor-Lesson's Learned

- Compactor discovered on Sigma Mesa-slated to be salvaged
- Diesel was identified to be leaking from equipment
- Initially thought to be empty
 - Actually filled with over 900 gallons of diesel/water



Legacy Equipment Sheep's Foot Compactor-Lesson's Learned Continued

- Diesel filled compactor presented significant environmental compliance and safety concern
 - SPCC, NMWQCC, Site Safety
- Notify your management and environmental resources to investigate any unknown equipment or equipment suspected to contain potential water contaminants to mitigate safety and environmental issues



Questions?



Meeting Sign-In Sheet

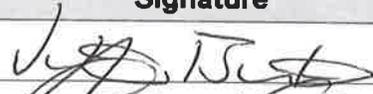
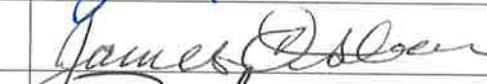
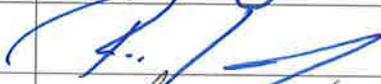
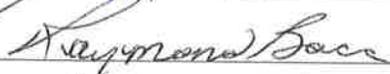
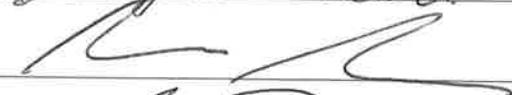
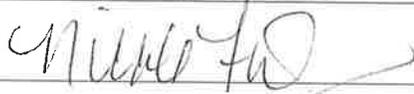
Roads & Grounds Safety Meeting SWPPP Training

Meeting Date: Monday, October 29, 2018

Facilitator: Dana Parrett, Brian Iona

Place/Room: TA-60 Bldg 250

Leonard Sandoval

Name	Z#	Signature
Victor Bustos	244917	
John Valdez	193103	
James Cosper	323005	
James Osborn	175205	
Bryan Voight	320601	
Thomas mtk	326925	
Ronald Lopez	205936	
Jon Antone	320599	
Raymond BACA	202778	
BETTY Montoya	181675	Betty Montoya
DENNIS Garcia	319111	Dennis Garcia
Jesse Garcia	241499	Jesse Garcia
Desiree Lujan	237616	Desiree (Lujan)
Dennadette Lopez	174810	Dennadette Lopez
Eleazar Molina	204566	Eleazar Molina
Mario Acuña	836804	
Ada Drake	228300	
Nicole Frisquez	105982	
Derrick Nuñez	296647	Derrick Nuñez
Bernie Anchuleta	131484	

Meeting Sign-In Sheet

Roads & Grounds Safety Meeting SWPPP Training

Meeting Date: Monday, October 29, 2018

Facilitator: Dana Parrett, Brian Icona
Leonard Sandoval

Place/Room: TA-60 Bldg 250

Name	Z#	Signature
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Anthony Maes	305377	Anthony Maes
Anthony Salazar	311020	Anthony Salazar
Adrian Trujillo	304295	Adrian Trujillo
Alexander Trujillo	307018	Alexander Trujillo
Francisco Trujillo	217518	Francisco Trujillo
Esteban Madrid	305378	Esteban Madrid
Joseph Garcia	323250	Joseph Garcia
Simone Fresquez	251828	Simone Fresquez
Peter DeAguiro	315451	Peter DeAguiro
Nolan Sanchez	314172	Nolan Sanchez
Miguel Caro	189445	Miguel Caro
Kevin B Martinez	322719	Kevin B Martinez
Joe Walker	223181	Joe B Walker
Patricia Lopez	169389	Patricia Lopez
Mark A. Lopez	219923	Mark A. Lopez
Louise C Chacon	321819	Louise C Chacon
Jack Caldwell	116986	Jack Caldwell

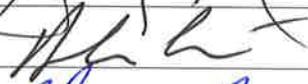
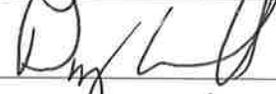
Meeting Sign-In Sheet

Roads & Grounds Safety Meeting SWPPP Training

Meeting Date: Monday, October 29, 2018

Facilitator: Dana Parrott, Brian Icona
Leonard Sandoval

Place/Room: TA-60 Bldg 250

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Daniel M. ABeyta	184462	
Gary R Medina	1008 137563	
GARY Gonzalez	320382	
Adam Chavin	329863	
Chris Garcia	289219	
MARVIN L. MARTINEZ	116424	
Leslie McKeynolds	106896	
Joe Boies	224950	
Lawrence Garcia	294694	
Steven Martinez	200540	
Danny Esquivel	146331	
Leroy Gonzalez	170592	
Cody L Granger	304296	
TRAVIS Lewis	255607	
Randy Martinez	294724	
Isiah Maldonado	297023	
Anna M Chavez	306989	
Joe Medina	154217	

Bill

ATTACHMENT 12: MSGP (OR ACTIVE URL)

THE APPLICABLE STORMWATER DISCHARGE PERMIT IS EPA GENERAL PERMIT TRACING NUMBER NMR050013 [TRIAD NATIONAL SECURITY, LLC (TRIAD)]. CLICK HERE TO VIEW CONTENTS OF THE [2015 MULTI-SECTOR GENERAL PERMIT](#).

**ATTACHMENT 13: THREATENED AND ENDANGERED SPECIES HABITAT
MANAGEMENT PLAN FOR LOS ALAMOS NATIONAL LABORATORY**

LA-UR-14-21863

*Approved for public release;
distribution is unlimited.*

Title: **Threatened and Endangered Species
Habitat Management Plan for
Los Alamos National Laboratory**

Author(s): Environmental Protection Division
Resources Management Team

Intended for: Reference purposes

Date: March 2014



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ACRONYMS

AEI	Area of Environmental Interest
BA	biological assessment
Bd	Batrachochytrium dendrobatidis
BSL-3	Biosafety Level 3
COPCs	chemicals of potential concern
DARHT	Dual-Axis Radiographic Hydrodynamic Test (Facility)
dB	Decibel
DDT	(dichloro-diphenyl-trichloroethane)
DOE	U.S. Department of Energy
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
fc	foot candles
FR	Federal Register
GIS	geographic information system
HMP	Threatened and Endangered Species Habitat Management Plan
HVAC	heating, ventilation, and air conditioning
LANL	Los Alamos National Laboratory
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
NPDES	National Pollutant Discharge Eliminations System
PCBs	polychlorinated biphenyls
PR-ID	Permits and Requirements Identification
SME	subject matter expert
USFWS	U.S. Fish and Wildlife Service

I. THREATENED AND ENDANGERED SPECIES HABITAT MANAGEMENT PLAN GENERAL OVERVIEW

1.0 INTRODUCTION

Los Alamos National Laboratory's (LANL) Threatened and Endangered Species Habitat Management Plan (HMP) was prepared to fulfill a commitment made in the U.S. Department of Energy's (DOE) "Final Environmental Impact Statement for the Dual-Axis Radiographic Hydrodynamic Test Facility Mitigation Action Plan" (DOE 1996). The HMP received concurrence from the U.S. Fish and Wildlife Service (USFWS) in 1999 (USFWS consultation numbers 2-22-98-I-336 and 2-22-95-I-108). In this 2014 update, we retained the management guidelines from the 1999 HMP for listed species, updated some descriptive information, and added the Jemez Mountains salamander (*Plethodon neomexicanus*), which was federally listed in September 2013 (USFWS consultation number 02ENNM00-2014-I-0014).

2.0 ROLE OF SITE PLANS IN THE HMP

The purpose of the HMP is to provide a management strategy for the protection of threatened and endangered species and their habitats on LANL property. The HMP consists of site plans for federally listed threatened or endangered species with a moderate or high probability of occurring at LANL. The following federally listed threatened or endangered species currently have site plans at LANL: Mexican Spotted Owl (*Strix occidentalis lucida*), Southwestern Willow Flycatcher (*Empidonax trailii extimus*), and the Jemez Mountains salamander. Site plans provide guidance to ensure that LANL operations do not adversely affect threatened or endangered species or their habitats.

3.0 DESCRIPTION OF AREAS OF ENVIRONMENTAL INTEREST

Suitable habitats for federally listed threatened and endangered species have been designated as Areas of Environmental Interest (AEIs). AEIs are geographical units at LANL that are managed for the protection of federally listed species and consist of core habitat areas and buffer areas. The purpose of the core habitat is to protect areas essential for the existence of the specific threatened or endangered species. This includes the appropriate habitat type for breeding, prey availability, and micro-climate conditions. The purpose of buffer areas is to protect core areas from undue disturbance and habitat degradation.

Site plans identify restrictions on activities within the AEIs. Allowable activities are activities that the USFWS has reviewed and provided concurrence that these activities are not likely to adversely affect federally listed species. Activities discussed in site plans include day-to-day activities causing disturbance (hereafter referred to as "disturbance activities"), such as access into an AEI, and long-term impacts, such as habitat alteration.

3.1 Definition and Role of Developed Areas in AEI Management

Summary: Habitat alteration is not restricted in developed areas unless it impacts undeveloped core areas of an AEI (e.g., noise and light impacts on a core area). Current ongoing disturbance activities are not restricted in developed areas. Disturbance activities not currently ongoing are

restricted when impacts occur to undeveloped core areas of an AEI that are occupied by a threatened or endangered species.

Developed areas include all building structures, paved roads, improved gravel roads, paved and unpaved parking lots, and firing sites. The extent of developed areas in each AEI was determined using two methods. First, LANL geographic information system (GIS) analysts placed a 15 m (49 ft) border around all buildings and parking lots. For paved and improved gravel roads, the developed area was defined as the area to a roadside fence, if one exists within 9 m (30 ft) of the road, or 5 m (15 ft) on each side of the road, if there is no fence within 9 m (30 ft). If an area of highly fragmented habitat was enclosed by roads, a security fence, or connected buildings, that area was also classified as developed. Developed areas at firing sites were defined as a circle with a 91-m (300-ft) radius from the most centrally located firing pad. Second, LANL GIS analysts overlaid scanned orthophotos onto a map of the Los Alamos area and digitized all areas that appeared developed. These two information sources were overlaid and combined, so that areas classified as developed by either method were considered developed in final maps and analyses. Some areas were confirmed by ground surveys, such as the firing sites. Developed areas are contained in the HMP GIS database.

Developed areas are located in the core and/or buffer of some AEIs. However, developed areas do not constitute suitable habitat for federally listed species. Current ongoing activities in developed areas constitute a baseline condition for the AEIs and are not restricted. New activities including further development within already existing developed areas are not restricted unless they impact undeveloped portions of an AEI core. For example, if light or noise from a new office building in a developed area were to raise levels in an undeveloped core area, those light and noise levels would be subject to the guidelines on habitat alterations. If a proposed action within a developed area does not meet site plan guidelines, it must be individually reviewed for compliance with the Endangered Species Act of 1973 (ESA).

Building a new structure or clearing land within a previously designated developed area in an AEI core does not add to the size of the developed area. New structures in core areas will not be given any developed-area border unless they are individually reviewed for ESA compliance.

Development occurring in the developed area in an AEI buffer can be given a 15 m (49 ft) developed-area border at the discretion of the project leader or facility manager. To expand the size of a developed area in a buffer based on new developments, please contact a LANL biological resources subject matter expert (SME) (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

3.2 General Description of Buffer Areas and Allowable Buffer Area Development

Summary: Limited future development is allowed in the currently undeveloped DOE-controlled buffer area under the guidelines of this HMP as long as it does not alter habitat in the undeveloped AEI core (including light and noise guidelines). Development beyond the cap established for each AEI, or greater than 2 ha (5 ac) in size including the developed-area border, requires independent review for ESA compliance.

The purpose of buffer areas is to protect core areas from undue disturbance or habitat degradation. The current levels of development in buffer and core areas represent baseline conditions for this

HMP. No further development is allowed in the core area under the guidelines of this HMP. A limited amount of development is allowed in buffer areas. Under the guidelines of this HMP, individual development projects are limited to 2 ha (5 ac) in size, including a 15 m (49 ft) developed-area border around structures and a 5 m (15 ft) developed-area border around paved and improved gravel roads. Projects greater than 2 ha (5 ac) in area require individual review for ESA compliance (see exceptions for fuels management activities and utility corridor maintenance). New development projects in AEI buffer areas must be reported to LANL biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>). Descriptions of each of the AEIs give the total area in each buffer area available for development.

3.3 Emergency Actions

Summary: Contact DOE and LANL biological resources SMEs as soon as possible.

If safety and/or property is immediately threatened by something occurring within an AEI (for example, wildfire, water line breakage, etc.) managers may activate emergency actions. Contact a LANL biological resources SME (<http://int.lanl.gov/environment/bio/controls/index.shtml>), the Environmental Stewardship Group (1-505-665-8855), or the DOE Los Alamos Field Office (Field Office; 1-505-667-6819) as soon as possible. If the emergency occurs outside of regular business hours, contact the Emergency Management Office (1-505-667-6211). This office will then communicate with the appropriate LANL and DOE Field Office personnel.

4.0 IMPLEMENTATION OF SITE PLANS

4.1 Roles and Responsibilities

Summary: LANL's facility managers and operational staff are responsible for ensuring that activities are reviewed for compliance with all applicable site plans. Figure 1 illustrates the process for utilizing site plans. If activities follow approved guidance, there is no requirement for additional ESA regulatory compliance. However, additional National Environmental Policy Act (NEPA), cultural resources, wetlands, or other regulatory compliance actions may be required.

If an activity or project occurs outside of all LANL AEIs and will not impact habitat within an AEI, it does not have to be reviewed for ESA compliance, unless it is a large project. Projects that are larger than 2 ha (5 ac) or cost more than \$5 million require an individual ESA compliance review, even if they are not located within an AEI.

LANL's facility managers are responsible for determining if operations within their geographic and/or programmatic area of responsibility comply with the guidelines in these site plans. Submission of a Permits and Requirements Identification (PR-ID) for a new or modified project is required under Program Description 400 (LANL 2013) and allows managers to identify the requirements within their project area. Deployed environmental professionals and core LANL biological resources SMEs are available to support facility managers. If activities follow site plan guidelines, they do not require any additional ESA regulatory compliance action. However, NEPA, cultural resources, wetlands, or other regulatory compliance actions are not addressed in site plans and additional compliance actions may be required. It is the responsibility of the project leader or facility management staff to ensure that all requirements are satisfied. If you have

questions, contact biological, cultural, NEPA, or other environmental SMEs. Contacts can be found at <http://int.lanl.gov/environment/compliance/ier/index.shtml>.

A single facility may have one or more AEIs within its boundary and the AEIs may be for different species. Some AEIs overlap. In areas where overlap occurs, project managers must follow the guidelines for AEIs of all involved species.

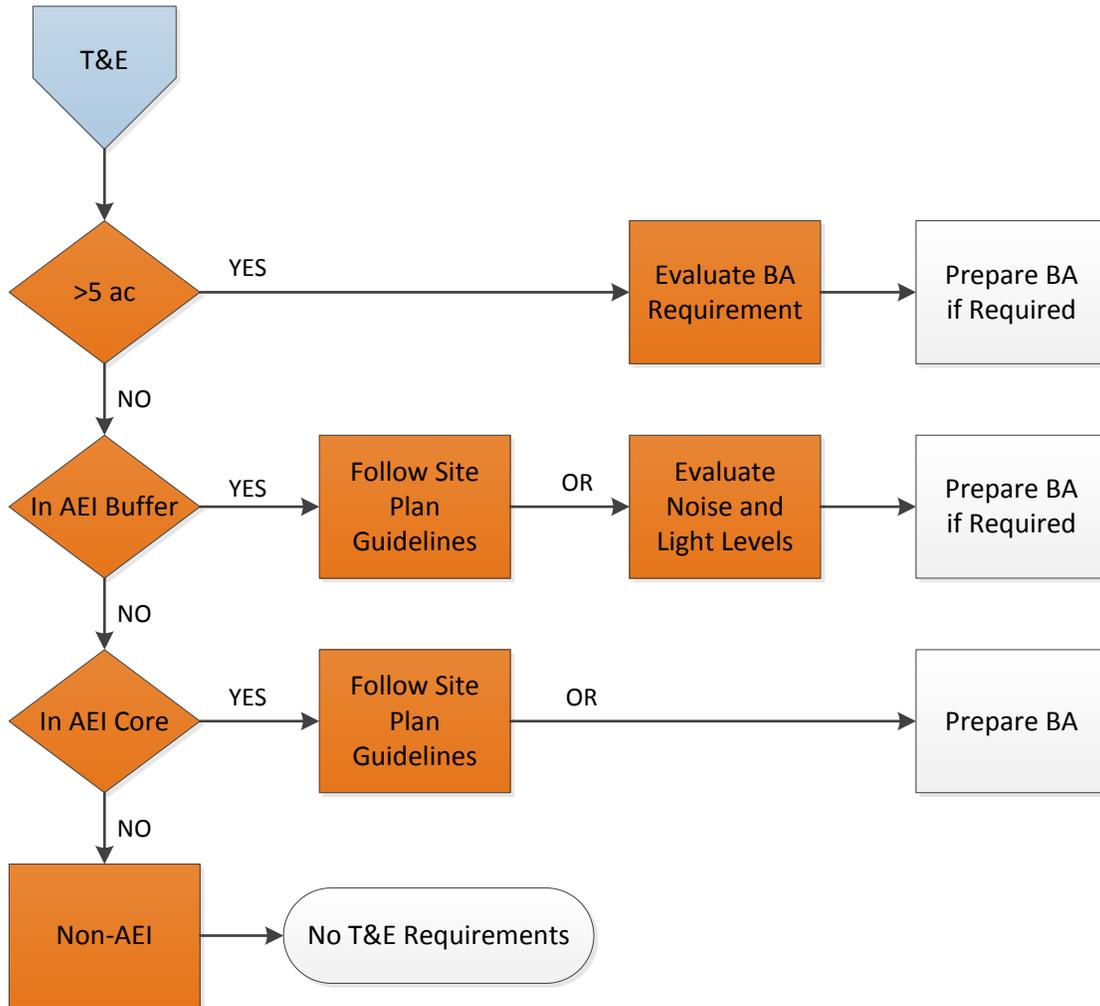


Figure 1. Process flowchart for determining site plan requirements.

4.2 If an Activity Does Not Meet Site Plan Guidelines

Summary: Activities or projects that do not meet all applicable site plan guidelines must be evaluated individually for compliance with the ESA.

If a project reviewer determines that an activity or project cannot meet the guidelines in applicable site plans, LANL biological resources SMEs evaluate that activity individually for compliance with the ESA. Results of the evaluation of potential impacts allow LANL biological resources SMEs to make recommendations to the DOE Field Office Biological Resources Program Manager

regarding the need for USFWS consultation. An evaluation may result in 1) a DOE Field Office determination that there is no possibility of adverse effects and the activity can proceed, 2) a DOE Field Office suggestion for modifications of the action to avoid adverse effects so that it can proceed, or 3) a DOE Field Office decision to prepare a biological assessment (BA) for the activity and submit it to the USFWS for concurrence. Fieldwork and preparation of a BA can take a few months with an additional 2 to 12 months for DOE Field Office review and then final USFWS concurrence.

4.3 Dissemination of Information

Although information about threatened and endangered species is not classified, it is considered sensitive information. It is in the best interest of threatened and endangered species to restrict specific knowledge about their locations. Habitat locations of threatened and endangered species are not considered sensitive.

5.0 CHANGES IN THE HMP SINCE IMPLEMENTATION

The HMP received concurrence from USFWS and was first implemented in 1999. Since that time, both the Peregrine Falcon (*Falco peregrinus*) and the Bald Eagle (*Haliaeetus leucocephalus*) have been delisted. Site plans for those species have been removed from LANL's HMP. Both species are protected at LANL under the Migratory Bird Treaty Act, and the Bald Eagle is also protected under the Bald and Golden Eagle Protection Act.

The black-footed ferret (*Mustela nigripes*) is federally listed as endangered. However, no sightings of black-footed ferrets have been reported in Los Alamos County for more than 50 years. In addition, no large prairie dog towns, which are prime habitat for black-footed ferrets, have been observed on DOE property around LANL. Therefore, there is no site plan for this species.

In 2005, the USFWS concurred with DOE's proposal for new Mexican Spotted Owl habitat boundaries based on a revised analysis of Mexican Spotted Owl habitat quality within DOE property around LANL (USFWS consultation number 22420-2006-I-0010).

In 2012, the USFWS concurred with DOE's proposal to modify the habitat boundaries for the Los Alamos Canyon Mexican Spotted Owl AEI due to changes from the fire response activities after the Las Conchas wildfire (USFWS consultation number 02ENNM00-2012-IE-0088).

In 2013, the USFWS concurred with the DOE's new site plan for the Jemez Mountains salamander and its addition to LANL's HMP (USFWS consultation number 02ENNM00-2014-I-0014).

6.0 DATA MANAGEMENT

The data used in the implementation of the HMP is stored in a GIS database at LANL.

II. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE MEXICAN SPOTTED OWL

1.0 SPECIES DESCRIPTION—MEXICAN SPOTTED OWL

1.1 Status

In 1993, the USFWS determined the Mexican Spotted Owl to be a threatened species under the authority of the ESA, as amended (58 Federal Register [FR] 14248). In 1995, the USFWS released its final recovery plan for the owl (USFWS 1995), which was revised in 2012 (USFWS 2012). The USFWS most recently designated critical habitat for Mexican Spotted Owl in 2004 (69 FR 53181).

1.2 General Biology

The Mexican Spotted Owl is found in northern Arizona, southeastern Utah, and southwestern Colorado south through New Mexico, west Texas, and into Mexico. It is the only subspecies of Spotted Owl recognized in New Mexico (USFWS 1995).

The Mexican Spotted Owl generally inhabits mixed conifer and ponderosa pine (*Pinus ponderosa*; Lawson & C. Lawson) - Gambel oak (*Quercus gambelli*; Nutt.) forests in mountains and canyons. High canopy closure, high stand diversity, multilayered canopy resulting from an uneven-aged stand, large, mature trees, downed logs, snags, and stand decadence as indicated by the presence of mistletoe are characteristic of Mexican Spotted Owl habitat. Some owls have been found in second-growth forests (i.e., younger forests that have been logged); however, these areas were found to contain characteristics typical of old-growth forests. Mexican Spotted Owls in the Jemez Mountains seem to prefer cliff faces in canyons for their nest sites (Johnson and Johnson 1985). The recovery plan for the Mexican Spotted Owl recommends that mixed conifer and pine-oak woodland types on slopes greater than 40 percent be protected for the conservation of this owl.

A mated pair of adult Spotted Owls may use the same home range and general nesting areas throughout their lives. A pair of owls requires approximately 800 ha (1,976 ac) of suitable nesting and foraging habitat to ensure reproductive success. Incubation is carried out by the female. The incubation period is approximately 30 days, and most eggs hatch by the end of May. Most owlets fledge in June, 34 to 36 days after hatching (USFWS 1995). The owlets are “semi-independent” by late August or early September, although juvenile begging calls have been heard as late as September 30. Young are fully independent by early October. The non-breeding season runs from September 1 through February 28. Although seasonal movements vary among owls, most adults remain within their summer home ranges throughout the year.

The diet of Mexican Spotted Owls nesting in canyons consists primarily of woodrats (*Neotoma* spp.) and mice (*Peromyscus* spp.) with lesser amounts of rabbits, birds, reptiles, and arthropods (Willey 2013). The relative abundance of prey types in Mexican Spotted Owl pellets collected at LANL are listed in Table A-1 in the Appendix. Ganey and Balda (1994) found core areas of individuals (i.e., where owls spent 60 percent of their time) averaged 134 ha (331 ac), and core areas for pairs averaged 160 ha (395 ac).

1.3 Threats

The Mexican Spotted Owl was listed as threatened because of destruction and modification of habitat caused by timber harvest and fires, increased predation on owls associated with habitat fragmentation, and a lack of adequate protective regulations.

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

The primary threats to Mexican Spotted Owls on DOE property around LANL property are 1) impacts to habitat quality from LANL operations and 2) disturbance of nesting owls. This section provides a review and summary of scientific knowledge of the effects of various types of human activities on the Mexican Spotted Owl and provides an overview of the current levels of activities at LANL.

2.2 Impacts on Habitat Quality

2.2.1 Development

The type of habitat used by Mexican Spotted Owls, late seral stage forests with large trees, are usually not found in large quantities near developed areas or near areas that have had recent agricultural or forest product extraction land uses. Therefore, Mexican Spotted Owls are generally not found near developments. Whether it is the development itself or a lack of suitable habitat that discourages colonization of these areas by Mexican Spotted Owls is unknown.

Areas of LANL vary from remote undeveloped areas to heavily developed and/or industrialized facilities. Most LANL facilities are situated atop mesas, primarily in the northern and western portion of the DOE property. LANL is bounded by developed residential, industrial, and retail areas along its northern boundary (the town of Los Alamos) and by residential and retail development along a portion of its eastern boundary (the town of White Rock). Three major paved roads traverse LANL from northeast to southwest. Sandia, Pajarito, and Los Alamos canyons have paved roads within AEIs, and several AEIs have dirt roads along at least a portion of the canyon bottom. AEIs containing paved or dirt roads in the canyon bottoms have not been occupied at LANL (Hathcock et al. 2010).

2.2.2 Ecological Risk

There is no specific information on the impact of chemicals on the Mexican Spotted Owl, although experience with other raptor species suggests that exposure to polychlorinated biphenyls (PCBs), dichloro-diphenyl-trichloroethane (DDT) and its derivatives, and other organophosphate or organochlorine pesticides would probably be harmful. Exposure to other chemicals could also be harmful (Cain 1988).

LANL completed three ecological risk assessments that included the Mexican Spotted Owl between 1997 and 2009. The ecological risk assessment process involves using computer modeling to assess potential effects to animals from chemicals of potential concern (COPCs) that have been detected in the environment. All of the following ecological risk assessments concluded that, on average, no appreciable impact is expected to Mexican Spotted Owls from COPCs (Gallegos et al. 1997; Gonzales et al. 2004; Gonzales et al. 2009).

2.2.3 Disturbance

2.2.3.1 Pedestrians and Vehicles

Based on work with other raptors, LANL biological resources SMEs assume that Mexican Spotted Owls would likely be disturbed by the approach of either pedestrians or vehicles. At an equal distance, pedestrians are frequently more disturbing to raptors than vehicles (Grubb and King 1991). Brown and Stevens (1997) reported that during surveys in Grand Canyon National Park, 22 times more Bald Eagles were found in canyon reaches with low human recreational use compared to reaches with moderate to high human recreational use. Human activity 100 m (328 ft) from Bald Eagle nests in Alaska caused clear and consistent changes in behavior of breeding eagles (Steidl and Anthony 2000).

Swarthout and Steidl (2001) found that both juvenile and adult roosting Mexican Spotted Owls were unlikely to alter their behavior in the presence of a single hiker at distances greater than 55 m (180 ft). Swarthout and Steidl (2003) concluded that cumulative effects of high levels of short-duration recreational hiking near Mexican Spotted Owl nests may be detrimental.

Many canyon bottoms and mesa tops at LANL have dirt roads traversing them. Most of these roads are gated. However, these roads are accessible to LANL employees and some of them are accessible to the public on foot or by bike. LANL biological resources SMEs have found that AEIs are occupied less often if there is recreational access into a canyon (Hathcock et al. 2010).

2.2.3.2 Aircraft

Ground-based disturbances appear to impact raptor reproductive success more than aerial disturbances (Grubb and King 1991). Grubb and Bowerman (1997) concluded that an exclusion of aircraft within 600 m (1,968 ft) of Bald Eagle nest sites would limit Bald Eagle response frequency to 19 percent.

Delaney et al. (1999) found for Mexican Spotted Owls that chainsaws consistently elicited higher response rates than helicopters at similar distances. Owl flush rates did not differ between nesting and non-nesting seasons. No owls flushed when noise stimuli (helicopter or chainsaws) were at distances greater than 105 m (344 ft). Distance was generally a better predictor of owl response to helicopter overflights than sound level.

LANL is restricted airspace, and planes infrequently fly less than 609 m (2,000 ft) above ground level. The County of Los Alamos operates an airport along the northern edge of LANL. The airport is located on the southern rim of Pueblo Canyon. Most flights approach and depart to the east of the airport, over the Rio Grande.

2.2.3.3 Explosives

There is no specific information on the reaction of Mexican Spotted Owls to explosives detonation currently available. Explosive blasts set off 120 to 140 m (393 to 459 ft) from active Prairie Falcon (*Falco mexicanus*) nests caused perched Prairie Falcons to flush from perches 79 percent of the time, and, in 26 percent of the cases, caused incubating Prairie Falcons to flush from nests. Measured sound levels at aerie entrances during blasts ranged from 129 to 141 decibel (dB) (Holthuijzen et al. 1990). Explosives blasting for dam construction 560 to 1,000 m (1,837 to 3,280 ft) from active Prairie Falcon nests caused a change in behavior 26 percent of the time, and

birds flushed in 17 percent of all cases. No incubating birds flushed (Holthuijzen et al. 1990). Brown et al. (1999) found little activity change in roosting or nesting Bald Eagles and no population-level impacts from weapons detonations at the Aberdeen Proving Ground. Holthuijzen et al. (1990) found that a 167-g (5.89-oz) charge of Kinestik produced noise levels between 138 and 141 dB at 100 m (328 ft), and that a 500-g (17.6-oz) charge of TNT produced noise levels between 144 and 146 dB at 100 m (328 ft). A 20-kg (44-lb) charge of TNT produced noise levels that measured 163 dB at 100 m (328 ft) (Paakkonen 1991).

Measurements of noise levels during explosives testing were conducted at three locations at LANL using quantities of high explosives ranging from 4.5 to 67.5 kg (10 to 148 lb) of TNT during six shots. Noise levels increased during the test from a background level of 31 dB(A)¹ to a range between 64 and 71 dB(A) during shots at a distance of 1.8 km (1.1 mi). At a distance of 4.3 km (2.67 mi), noise levels rose from a background range of 35 to 64 dB(A) to a range of 60 to 63 dB(A) (Vigil 1995). At a distance of 6.7 km (4.16 mi), noise levels rose from a background range of 38 to 51 dB(A) to a range of 60 to 71 dB(A) (Burns 1995). LANL biological resources SMEs estimated that the noise from a shot at the Dual-Axis Radiographic Hydrodynamic Test (DARHT) Facility would be 150 dB(A) at the source and 80 dB(A) at 400 m (1,312 ft) (Keller and Risberg 1995). LANL biological resources SMEs found that Mexican Spotted Owl AEIs located within the explosives testing buffer area were occupied more frequently than AEIs in other locations (Hathcock et al. 2010). This is likely due to the strict access control in explosives areas which limit human activity and development in the canyon bottoms.

2.2.3.4 Other Sources of Noise

Major noise-producing activities at LANL include automobile and truck traffic and noise associated with office buildings, construction activities, a live-fire range, and explosives testing. Also, there is noise associated with aircraft traffic at the Los Alamos County airport. Construction and maintenance activities involved with operations at LANL are fairly common. In addition, implementation of the 2005 Compliance Order on Consent (NMED 2005) issued by the New Mexico Environmental Department (NMED) has resulted in an increased frequency of drilling groundwater monitoring wells in protected habitat at LANL. Also, forest fuels management operations use chainsaws, chippers, and other noise-generating equipment. The 2010 National Pollutant Discharge Elimination System (NPDES) Individual Permit (EPA 2010) issued by the Environmental Protection Agency (EPA) requires sediment control features such as berms and small rock check dams to be installed at various sites with stormwater runoff; these are sometimes installed in protected habitat. LANL biological resources SMEs conducted a study of noise levels in canyons and found that the primary sources of noise exceeding 55 dB(A) were cars and trucks. Readings taken near flowing water were up to 11 dB(A) higher than readings taken elsewhere. The average dB(A) in canyons near paved roads ranged from 41 to 62, with maximum values ranging from 62 to 74. Away from paved roads 1.6 km (1 mi) or more, average dB(A) in canyons ranged from 37 to 50, with all but one average below 45. Maximum dB(A) away from paved roads ranged from 38 to 76 [76 dB(A) was measured during a thunder clap] (Huchton et al. 1997).

¹ Sound can be measured as decibels (dB), C-weighted dB [dB(C)], or A-weighted dB [dB(A)]. The dB(A) measurement best resembles the response of the human ear by filtering out lower and higher frequency sound not normally heard by the human ear.

Noise measurements were conducted by LANL biological resources SMEs at the Los Alamos County airport and in Bayo and Pueblo canyons, including the Los Alamos County Sewage Treatment Facility, in December 1997. Sound levels near the airport runway during the maximum use time (6:30 to 7:30 am) had background values averaging 54 dB(A). Noise during plane arrivals ranged from 47 to 63 dB(A). No measurements were collected during plane take-off. Sound measurements conducted in the bottoms of Pueblo and Bayo canyons ranged from 37 to 40 dB(A) in most areas of the canyon. At the sewage treatment facility parking lot during a working day, the average dB(A) during a three-minute period was 46 (range 45 to 49). At the intersection of the road going into Pueblo Canyon with State Road 502, the average dB(A) during a three-minute period was 60 (range 41 to 70).

LANL biological resources SMEs conducted sound measurements at successive distances from an industrial area near a canyon rim, into the canyon, and to the opposite rim, using a C-weighted decibel scale (Keller and Foxx 1997). Measurements of noise levels using the C-weighted decibel scale are greater than if measured using A-weighted decibels. The average background noise on the mesa was 65.8 dB(C) [with a range of 43–81 dB(C)]. The average background noise in the canyon bottom was 62.3 dB(C) [with a range of 54–78 dB(C)]. The average background noise at the bottom of the north-facing slope was 53.8 dB(C) [with a range of 48–64 dB(C)]. Measurements were taken mid-day.

LANL biological resources SMEs measured sound levels from various pieces of construction equipment used at project sites at LANL over 5-minute intervals at distances of 6 to 31 m (20 to 100 ft) (Knight and Vrooman 1999). Average values ranged from 58.5 dB(A) to 80.9 dB(A). Peak values ranged from 75.7 to 155.4 dB(A). Additional data were collected by other LANL operators on specific pieces of construction equipment and on the Security Computer Complex construction site fence perimeter at Technical Area 3 before and during construction (Knight and Vrooman 1999). The average noise levels before construction began was 56.6 dB(A), and the average during construction was 82.1 dB(A).

LANL biological resources SMEs conducted a series of sound measurements at LANL to investigate background noise levels around AEIs (Vrooman et al. 2000). Background noise levels were significantly higher in daytime than in nighttime. AEIs with greater than 10 percent developed area in their buffers had significantly higher levels of background noise than undeveloped AEIs. Mean background sound levels were 51.3 dB(A) in developed AEIs and 39.6 dB(A) in undeveloped AEIs. The LANL biological resources project review process uses the individual AEI background measurements from Vrooman et al. (2000) to screen project activities for increases more than 6 dB(A) above background.

LANL biological resources SMEs took sound level measurements of heavy equipment use associated with concrete recycling on Sigma Mesa at LANL in 2004 (Hansen 2004). At this location, background noise levels at two different locations were 55.2 and 58.8 dB(A). Operation of a dump truck hauling and dumping concrete increased noise levels above background by a mean of 22.7 dB(A) at 30 m (98 ft) and 2.4 dB(A) at 80 m (262 ft). Additional sound level measurements were taken in the same general area on Sigma Mesa in 2005 as part of a BA for the operation of an asphalt batch plant (Hansen 2005). Measurements were taken on the north rim of Mortandad Canyon (south of the asphalt batch plant at distances of approximately 30 to 122 m (100 to 400 ft), at the bottom of Mortandad Canyon, approximately 183 to 244 m (600 to 800 ft) from the asphalt

batch plant, and on the south rim of Mortandad Canyon approximately 305 m (1,000 ft) from the asphalt batch plant. Background noise levels at the various locations ranged from 41.1 to 48.7 dB(A). The only locations with increases greater than 3 dB(A) during operation of the asphalt batch plant were the locations on the north rim of Mortandad Canyon, within 122 m (400 ft) of the asphalt batch plant. Noise from the operation of the asphalt batch plant was not detected in the bottom of Mortandad Canyon or on the south rim.

LANL biological resources SMEs took sound level measurements around the LANL Biosafety Level 3 (BSL-3) Laboratory with the heating, ventilation, and air conditioning (HVAC) system on and with it off (Hansen 2009). The area to the north of the BSL-3 is developed, the area to the south is not. Background noise levels north of the facility ranged from 53.6 to 57.6 dB(A). Background noise levels south of the facility ranged from 41.6 to 49.7 dB(A). Noise from the HVAC system was detected at 25 m (82 ft) from the facility on both sides, but was not detected at 81 m (266 ft) on the north side, or at 107 m (351 ft) on the south side.

Overall, these studies appear to show that areas adjacent to or within developed areas or paved roads are likely to have daytime average background noise levels between 45 and 63 dB(A). Less disturbed areas are likely to have average background noise levels between 37 and 50 dB(A).

2.2.3.5 Artificially Produced Light

There is no information available on the effects of artificially produced light on Mexican Spotted Owls. Under the Los Alamos County Code, commercial site development plans are reviewed to ensure that lighting serves the intended use of the site while minimizing adverse impacts to adjacent residential property (Section 16-276). Section 16-276 of the County Code includes light source measurement limitations by zoning district. The code allows off-site light to be 0.5 foot candles (fc) in residential areas. By comparison, full moonlight measures 0.1 fc, and a crescent moon was measured at 0.01 fc. Table A-2 in the Appendix presents preliminary light measurements in fc.

Preliminary surveys were conducted for light levels within Los Alamos Canyon at the Omega Reactor (Keller and Foxx 1997). The Omega Reactor was brightly lit for purposes of security; therefore, total light intensity was greater than the average street lighting. Measurements were conducted at a light pole with an open parking lot at the reactor as the source. Trees did not obscure the area. Using the relationship of light intensity reducing as a square of the distance, calculations using the field data indicated that at 30 m (98 ft) from the source the light levels would be equivalent or nearly equivalent to full moonlight.

3.0 AEI GENERAL DESCRIPTION FOR MEXICAN SPOTTED OWL

An AEI consists of two areas—a core and a buffer. The core of the habitat is defined as suitable canyon habitat from rim to rim and 100 m (328 ft) out from the top of the canyon rim. The buffer area is 400 m (1,312 ft) wide extending outward from the edge of the core area. Although adult Mexican Spotted Owls may be found within their home range anytime throughout the year, the primary threat from disturbance to the owls is during the breeding season when owl pairs are tied to their nest sites. Therefore, management of disturbance in Mexican Spotted Owl AEIs is concentrated on the breeding season.

3.1 Method for Identifying a Mexican Spotted Owl AEI

The original location of each Mexican Spotted Owl AEI was identified using a habitat model developed by Johnson (1998) that classified nesting and roosting habitat for Mexican Spotted Owls using topographic characteristics and vegetative diversity. LANL biological resources SMEs compared the results from the Johnson (1998) model to a different model identifying slopes >40 percent in mixed conifer and ponderosa pine cover types at LANL. Areas identified from the Johnson (1998) model application to LANL that were over five contiguous 30 × 30 m (97 × 98 ft) pixels in size, were above 1,980 m (6,496 ft) in elevation, and that had mixed conifer or ponderosa pine forest cover, were considered suitable Mexican Spotted Owl habitat. Where suitable habitat was identified, AEI core area boundaries were established to include the canyons and 100 m (328 ft) outward from the canyon rims.

A new Mexican Spotted Owl habitat model was developed and refined for application on LANL following the Cerro Grande wildfire (Hathcock and Haarmann 2008). This model incorporated finer-scale vegetation characteristics into the Mexican Spotted Owl habitat quality assessment. This model was used to redelineate the boundaries of the Mexican Spotted Owl AEIs at LANL in 2005 following wildfire, drought, and a regional bark beetle outbreak (USFWS consultation number 22420-2006-I-0010).

The new core boundaries were delineated with an area approximately 0.4 km (0.25 mi) from the edge of the nearest suitable habitat, up and down canyon. Core boundaries were established along readily recognizable geologic features or anthropogenic features in the terrain wherever possible to facilitate the ease of identification of core boundaries when in the field.

3.2 Location and Number of Mexican Spotted Owl AEIs

There are currently five Mexican Spotted Owl AEIs on LANL, each encompassing one or more canyons. In general, the AEI cores are centered in canyons on the western side of LANL. The canyons with AEIs are Cañon de Valle, Water, Pajarito, Los Alamos, Sandia, Mortandad, and Three-Mile. AEI boundaries are maintained in the LANL biological resources program GIS database.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to Mexican Spotted Owls from 1) habitat alterations that reduce habitat quality and 2) disturbance of breeding or potentially breeding owls. Habitat alterations are considered for all AEIs and for both core and buffer areas. Disturbance activities to owls are considered only for occupied AEIs and only for impacts on core areas. Developed areas (see Part I, Section 3.1) that have ongoing baseline levels of activities and are not suitable habitat for Mexican Spotted Owls have different restrictions than undeveloped core or buffer areas. Therefore, the location of the disturbance activity within the AEI, the occupancy status of the AEI, and the type of activity all affect whether or not the activity is allowable. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable.

4.2 Definition and Role of Occupancy in AEI Management

Summary: The occupancy status of an AEI affects what disturbance activities are allowable in different areas (core, buffer, developed) of the AEI. All Mexican Spotted Owl AEIs are considered occupied during March 1 through August 31 or until surveys show the AEI to be unoccupied. See the Activity Table (Table 1, Section 4.5.2) for restrictions on occupied undeveloped core and buffer areas, and Part I, Section 3.1 for restrictions on developed areas.

Occupancy simply refers to whether or not an AEI is occupied during a species' period of sensitivity. For Mexican Spotted Owls, LANL is primarily concerned with protecting the owls from disturbance during the breeding season. Because individuals may colonize suitable habitat, all Mexican Spotted Owl AEIs are treated as though they are occupied from March 1 through August 31 or until surveys show an AEI to be unoccupied. Mexican Spotted Owl surveys are conducted from late March through June. In general, surveys in areas with ongoing or proposed projects are completed by May 15. If a nest is located during surveys, then the AEI can be treated as unoccupied except for the area within a 400 m (1,312 ft) radius of the nest site. Because owls are not as sensitive to disturbance during the non-breeding season, Mexican Spotted Owl AEIs are treated as unoccupied from September 1 to February 28.

The occupancy status of an AEI affects what activities are allowable in the AEI. Although activities causing habitat alterations are restricted in all AEIs, disturbance activities are restricted only in occupied AEIs. The Activity Table (Table 1, Section 4.5.2) provides dates and levels of allowable disturbance activities within occupied Mexican Spotted Owl AEIs under the guidelines of this site plan. Contact a LANL biological resources SME to find out the current occupancy status of an AEI (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.3 Introduction to AEI Management Guidelines

Summary: The habitat alterations section and the activities section give the guidelines for habitat alteration and disturbance activities, respectively, for Mexican Spotted Owl AEIs. The flow chart (see Figure 1) provides a quick reference to determine what, if any, guidelines need to be consulted for a specific activity. Protective measures give management practices that should be applied when working or considering work in AEIs. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Sections 4.4 and 4.5 provide the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. Section 4.4 describes what and where habitat alterations are allowed under the guidelines of this site plan. Section 4.5 describes what, when, and where disturbance activities are allowed in occupied AEIs under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for Mexican Spotted Owl AEIs. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. AEI maps show the location of all AEIs in an area. Section 4.6 describes management practices that should be applied when working or considering work in an AEI. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.4 Definition of and Restrictions on Habitat Alterations

4.4.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters the soil structure, vegetative components necessary to the species, prey quality and quantity, water quality, hydrology, or noise or light levels in undeveloped areas of an AEI. Long-term means the alteration lasts for more than one year. For physical disturbances, in general, any activity that can be accomplished by one person with a hand tool is generally not considered habitat alteration; any activity that requires mechanized equipment on a landscape is habitat alteration. An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core.

The habitat components most important to Mexican Spotted Owls include vegetative structure, food quality and quantity, and disturbance levels, including noise and light. The forest structure within a canyon designated as a Mexican Spotted Owl AEI is important because it provides roost sites and a suitable habitat for nesting and foraging. Trees along the canyon rim are used for foraging and territorial calling, and they shelter the canyon interior from light and noise disturbances.

A long-term change in light or noise levels within the undeveloped core of an AEI is considered to be a habitat alteration if it increases average noise levels by ≥ 6 dB(A) during any portion of the 24-hour day, or it increases average light levels by ≥ 0.05 fc at night. Changes in noise and light levels are measured at the core area boundary if the source is outside the core area, or at 10 m (33 ft) from the source if the source is inside the undeveloped core area. Impacts of changes in developed areas on undeveloped cores are measured at the developed area boundary if it is within the core, or at the core area boundary if the developed area is outside of the core.

4.4.2 Fuels Management Practices to Reduce Wildfire Risk

The recovery plan for the Mexican Spotted Owl lists stand-replacing wildfires as a primary threat to their habitat and encourages land managers to reduce fuel levels and abate fire risks in ways compatible with owl presence on the landscape (USFWS 1995). Within undeveloped core areas, on slopes >40 percent, in the bottoms of steep canyons, and within 30 m (100 ft) of a canyon rim, thinning of trees <22 cm (9 in) diameter at breast height, treatment of fuels, and prescribed and natural prescribed fires are allowed. Exceptions allowing trees >22 cm (9 in) to be thinned within 30 m (100 ft) of buildings are granted to protect facilities. Large logs (>30 cm [11.8 in] midpoint diameter) and snags should be retained. Thinning within core areas not meeting the characteristics listed above, and in buffer areas, may include trees of any size to achieve 8 m (25 ft) spacing between tree crowns. However, clear cutting is not allowed in undeveloped core areas.

For health and safety reasons, any trees within 30 m (100 ft) of buildings, but outside a developed area, may be thinned to achieve 8 m (25 ft) spacing between crowns. Habitat alterations including thinning are not restricted in developed areas. However, LANL biological resources SMEs encourage the retention of trees and snags along canyon rims if the rim is in a developed area. Because of the extreme fire danger associated with firing sites and the potential impact of a fire on Mexican Spotted Owl habitat, firing sites and burn areas are treated separately for the purposes of fuels management. Trees within 380 m (1,246 ft) of firing sites and burn areas in both core and

buffer areas may be thinned to a 15 m (49 ft) spacing between trees everywhere except on slopes >40 percent or in the bottoms of steep canyons. Any tree over 22 cm (9 in) diameter at breast height within 380 m (1,246 ft) of a firing site may be delimited to a height of 2 m (6 ft) to help prevent crown fires.

In historically occupied core areas, fuels treatment may not exceed 10 percent of the undeveloped core area and is not allowed within 400 m (1,312 ft) of nesting areas. In occupied core areas, forest management activities must take place during the nonbreeding season (September 1 to February 28) (USFWS 1995). Fuels management activities that are allowable in core areas have to be reported to LANL biological resources SMEs for tracking.

4.4.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing utility line in all areas of an AEI (Trujillo and Racinez 1995). New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total must be individually reviewed for ESA compliance. Disturbance activities must follow the guidelines given in the Activities Table (Table 1, Section 4.5.2) for occupied AEIs.

4.4.4 Restrictions on Habitat Alterations

Summary: Habitat alterations other than fuels management practices and utility corridor maintenance are not allowed in undeveloped core areas. Habitat alterations in buffer areas are restricted to 2 ha (5 ac) per project, with a maximum cap on development in the buffer for each AEI. Habitat alterations other than fuels management and utility corridor maintenance must be reported to LANL biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Habitat alterations other than the fuels management practices and utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in undeveloped buffer areas other than the fuels management activities and utility corridor maintenance described above are restricted to 2 ha (5 ac) in area per project and are subject to other restrictions including light and noise effects in the core (see Section 2.2.3). Projects in the buffer over 2 ha (5 ac) in size will require individual ESA compliance review.

Habitat alterations in a buffer area other than the fuels management and utility corridor maintenance described above must be reported to LANL's biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>). There is a cumulative maximum area that can be developed in each AEI's buffer. Once that cumulative area is reached, all habitat alterations in a buffer will require individual ESA reviews for compliance.

4.5 Definition of and Restrictions on Disturbance Activities

4.5.1 Definitions of Disturbance Activities

LANL biological resources SMEs considered six categories of activities that might cause disturbance in an AEI. Most of the categories were first identified in the document "Peregrine

Falcon Habitat Management in the National Forests of New Mexico,” prepared for the United States Forest Service (Johnson 1994). LANL biological resources SMEs added explosives detonation, other light production, and other noise production to provide the most comprehensive list of activities possible, thereby reducing the need for individual review of activities for ESA compliance. The categories of activities are people, vehicles, aircraft, other light production, other noise production, and explosives detonation. LANL biological resources SMEs have defined low, medium, and high levels of impact for these activities except for explosives detonation. Activity levels for explosives detonation have been designed to follow the guidelines agreed upon by LANL, DOE, and USFWS in the DARHT BA (Keller and Risberg 1995). Restrictions on explosives detonation are described in the definition of the activity, but are not included in the Activity Table (Table 1, Section 4.5.2). These six categories of activities are restricted only in AEIs that are classified as occupied.

People—includes any entry of people into an AEI on foot.

- Low impact is the presence of three or fewer people per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of people or the duration criteria.
- High impact is the exceedance of both the number of people and the duration criteria.

Vehicles—includes the entry of any two-axle highway vehicle, all-terrain vehicle, or motorized machinery into an AEI by any route other than a paved road or an improved gravel road.

- Low impact is the presence of two or fewer vehicles per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of vehicles or the duration criteria.
- High impact is the exceedance of both the number of vehicles and the duration criteria.

Aircraft—includes the operation of any aircraft below an elevation of 600 m (2,000 ft) above the highest ground level in the local vicinity.

- Low impact is the presence of one single-engine airplane and the duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of aircraft or the duration criteria.
- High impact is the exceedance of both the number of aircraft and the duration criteria.

Any use of helicopters, jet airplanes, and propeller airplanes with two or more engines is classified as medium impact or above, depending on duration.

Other Light Production—includes any activity not previously listed that causes additional light to occur in an AEI core area. For example, plans for construction of a new building at the edge of a developed area may call for lighting at night to facilitate nighttime work that impacts an undeveloped core area.

- Low impact is the increase of light intensity by ≤ 0.05 fc and a duration of one night or less per project per breeding season.
- Medium impact is the exceedance of either the intensity or duration criteria.
- High impact is the exceedance of both the intensity and duration criteria.

Measurements for increases in light are taken at the AEI core area boundary closest to the light source if the source is outside the core and at 10 m (33 ft) from the source if the source is inside the core. Light measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core or at the closest core boundary if the developed area is outside of an AEI core.

Other Noise Production—includes any activity not previously listed except for explosives detonation that causes additional noise to occur in an AEI. For example, operation of machinery creates noise.

- Low impact is increasing noise levels in an AEI core by 6 dB(A) or less for one day or less per project per breeding season.
- Medium impact is the exceedance of either the level or the duration criteria.
- High impact is the exceedance of both the level and the duration criteria.

Measurements for increases in noise are taken at the AEI core boundary closest to the noise source if the source is outside the core and at 10 m (33 ft) from the source if the source is inside the core. Noise measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core or at the closest core boundary if the developed area is outside of an AEI core.

Explosives Detonation—includes the use of high explosives for any purpose. LANL biological resources SMEs did not define low, medium, and high levels of this activity because of the difficulty of determining levels for a shot before actually doing the shot. For the purpose of explosives detonation near Mexican Spotted Owl AEIs, occupied habitat is defined as the area within 400 m (1,312 ft) of the current year's nest/roost sites or the previous year's nest site if a current site has not been identified. No explosives detonation will take place within 400 m (1,312 ft) of nest/roost sites in occupied habitat between March 1 and August 31. Explosives detonation at night at sites within 400 to 800 m (1,312 to 2,624 ft) of a nest site in occupied habitat is restricted to once a month from March 1 and August 31. There are no restrictions on daytime explosives testing between 400 and 800 m (1,312 to 2,624 ft). There are no restrictions between September 1 and February 28 or in unoccupied habitat. Explosives detonation adjacent to AEIs that have not previously been recorded by LANL as occupied will have no restrictions unless surveys detect Mexican Spotted Owls. Explosives tests not allowed under the guidelines of this site plan must be individually reviewed for ESA compliance.

4.5.2 Activity Table

The dates shown in the Activity Table (Table 1) are the dates between which the activity in the row is restricted under the guidelines of this site plan. All AEIs are considered occupied from March 1 to August 31 or until surveys show an AEI to be unoccupied. If owls are detected, AEIs

are considered occupied until August 31 within 400 m (1,312 ft) of the nest site. Consult with LANL biological resources SMEs to find out occupancy status of AEIs and what locations are within 400 m (1,312 ft) of nest sites (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Table 1. Restrictions on Activities in Undeveloped Occupied Mexican Spotted Owl AEIs

	Core	Buffer
<i>People</i>		
Low	No Restrictions*	No Restrictions
Medium	March 1 to August 31	No Restrictions
High	March 1 to August 31	No Restrictions
<i>Vehicles</i>		
Low	No Restrictions	No Restrictions
Medium	March 1 to August 31	No Restrictions
High	March 1 to August 31	No Restrictions
<i>Aircraft</i>		
Low	March 1 to August 31	No Restrictions
Medium	March 1 to August 31	March 1 to May 15
High	March 1 to August 31	March 1 to August 31
<i>Other Light Production</i>		
Low	March 1 to August 31	No Restrictions**
Medium	March 1 to August 31	No Restrictions**
High	March 1 to August 31	No Restrictions**
<i>Other Noise Production</i>		
Low	March 1 to August 31	No Restrictions**
Medium	March 1 to August 31	No Restrictions**
High	March 1 to August 31	No Restrictions**
<i>Explosives Detonation (see text in Section 4.5.1)</i>		

*Entry is restricted in core areas that are occupied within 400 m (1,312 ft) of the nest site from March 1 to August 31. If the current nest has not been located, entry is restricted within 400 m (1,312 ft) of the previous year's nest site.

**Noise or light production in the buffer is restricted if the activity would violate core area restrictions on noise or light.

4.6 Protective Measures

Summary: This section provides a list of management practices to apply in Mexican Spotted Owl AEIs.

- Timing of projects must take into account that projects in core areas or projects that violate restrictions for occupied buffer areas must stop on February 28 each year until occupancy status of the AEI is determined.
- Every reasonable effort should be made to reduce the noise from explosives testing within 800 m (2,624 ft) of occupied habitat. Methods to reduce noise could include contained shots, noise shields in the direction of AEI cores, etc. For night shots, every reasonable effort should be made to limit the amount of light directed into AEI core areas.

- Put signs on dirt roads and trails leading into AEIs labeling them as restricted access areas and providing a number to contact for access restrictions.
- Keep disturbance and noise to a minimum.
- Avoid unnecessary disturbance to vegetation (e.g., excessive parking areas or equipment storage areas, off-road travel, materials storage areas, crossing of streams or washes).
- Avoid removal of vegetation along drainage systems and stream channels.
- Avoid all vegetation removals not absolutely necessary.
- Appropriate erosion and runoff controls should be employed to reduce soil loss. The controls must be put in place and periodically checked throughout the life of projects.
- All exposed soils must be revegetated as soon as feasible after construction to minimize erosion.
- In the Los Alamos Canyon AEI, development should be focused away from undeveloped areas on the western end of the AEI.

5.0 LEVELS OF DEVELOPMENT IN AEI CORE AND BUFFERS

5.1 Allowable Habitat Alteration in the Buffer Areas

The following quantifications of development and guidance for allowable habitat alteration in buffer areas were published and consulted on in the 1999 version of the HMP. Most AEIs changed in dimensions during the 2005 redelination of the habitats, and many have experienced additional development. Development in buffer habitat was not addressed during the 2005 consultation. Many projects were reviewed and received USFWS concurrence between 1999 and 2014.

LANL biological resources SMEs have provided the current development status for each of the AEIs at the end of each paragraph. The percent developed numbers were derived with the original size of the AEIs.

Cañon de Valle—In 1999, 16.3 ha (40.3 ac, 2.9 percent) of the core was developed and 52.2 ha (129 ac, 6.8 percent) of the DOE-controlled buffer was developed. For this AEI, it was recommended that only an additional 25.30 ha (62.5 ac) of the AEI buffer be developed. The 1999 HMP stated that once this cap is reached or a large-scale project is proposed, additional consultation with USFWS would be required. By 2011, 28 ha (69.2 ac) of the core and 84 ha (207.5 ac) of the buffer had been developed.

Pajarito—In 1999, there were 6.7 ha (16.5 ac, 5.5 percent) of the core developed and 75.1 ha (186.5 ac, 16.7percent) developed in the buffer. LANL biological resources SMEs recommended only an additional 35 ha (86.4 ac) of the buffer be developed before additional USFWS consultations take place. The 1999 HMP stated that once the cap is reached or a single large-scale project is proposed, additional consultation would be required. By 2011, 27 ha (66.7 ac) of the core and 89 ha (220 ac) of the buffer had been developed.

Los Alamos—In 1999, there were 77.16 ha (190 ac) of the core developed and 167.2 ha (413.1 ac) developed in the buffer. For this AEI, LANL biological resources SMEs recommended only an

additional 28.6 ha (70.6 ac, 5.9 percent) of the DOE-owned buffer be developed before additional USFWS consultations take place.

Because this AEI is so heavily developed, additional development was restricted to a few selected areas within the buffer. Development outside of these areas requires individual review for ESA compliance. A large percentage of this AEI was removed in the 2005 and 2013 BAs. By 2011, 94 ha (232.2 ac) of the core and 181 ha (447.3 ac) of the buffer had been developed.

Sandia-Mortandad—In 1999, 98.4 ha (243.2 ac) of this AEI on DOE lands were developed, including 29 ha (71.7 ac, 10.7 percent) of the core and 75.1 ha (185.6 ac, 16.7 percent) of the buffer. For this AEI, LANL biological resources SMEs recommended only an additional 38.1 ha (94.1 ac) of the buffer be developed before additional USFWS consultations take place. Once this cap is reached or a single large-scale project is proposed, additional consultation will be required. By 2011, 45 ha (111.2 ac) of the core and 83 ha (205.1 ac) of the buffer had been developed.

Three Mile—In 1999, 25.3 ha (62.5 ac) of this AEI on DOE lands were developed, including 3.8 ha (9.4 ac, 2.8 percent) of the core and 21.5 ha (51.1 ac, 7.3 percent) of the buffer. For this AEI, LANL biological resources SMEs recommended only 64.3 ha (158.8 ac) additional area of buffer be developed before additional USFWS consultations take place. Once this cap is reached or a single large-scale project is proposed, additional consultation will be required. By 2011, 12 ha (29.6 ac) of the core and 37 ha (91.4 ac) of the buffer had been developed.

III. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE SOUTHWESTERN WILLOW FLYCATCHER

1.0 SPECIES DESCRIPTION—SOUTHWESTERN WILLOW FLYCATCHER

1.1 Status

In 1995, the USFWS designated the Southwestern Willow Flycatcher as a federally endangered species (60 FR 10693). The USFWS most recently designated critical habitat for the Southwestern Willow Flycatcher in 2005 (70 FR 60885). The most recent recovery plan was published for Southwestern Willow Flycatcher in 2002 (USFWS 2002).

1.2 General Biology

The Southwestern Willow Flycatcher is one of four subspecies of the Willow Flycatcher. The historic range of the Southwestern Willow Flycatcher included Arizona, California, Colorado, New Mexico, Texas, Utah, and Mexico. Currently, this flycatcher breeds in riparian habitats from southern California to Arizona and New Mexico, plus southern Colorado, Utah, Nevada, and far western Texas. In winter it is found in southern Mexico, Central America, and northern South America (USFWS 2002).

Southwestern Willow Flycatchers are present in New Mexico from early May through mid-September and breed from late May through late July (Finch and Kelly 1999; USFWS 2002; Yong and Finch 1997). The flycatcher's nesting cycle is approximately 28 days. Three or four eggs are laid at one-day intervals, and incubation begins when the clutch is complete. The female incubates eggs for approximately 12 days, and the young fledge about 13 days after hatching.

Southwestern Willow Flycatchers typically raise one brood per year (USFWS 2002). Because arrival dates vary, northbound migrant Willow Flycatchers (of all subspecies) pass through areas where Southwestern Willow Flycatchers have already begun nesting. Similarly, southbound migrants (of all subspecies) in late July and August may occur where Southwestern Willow Flycatchers are still breeding. Therefore, it is only during a short period of the breeding season (approximately June 15 through July 20) that one can assume that a Willow Flycatcher seen within Southwestern Willow Flycatcher range is probably of that subspecies (USFWS 2002).

The Southwestern Willow Flycatcher only nests along rivers, streams, and other wetlands. It is found in close association with dense stands of willows (*Salix* spp.), arrowweed (*Pluchea* spp.), buttonbush (*Cephalanthus* spp.), tamarisk (*Tamarix* spp.), Russian olive (*Eleagnus angustifolia* L.), and other riparian vegetation, often with a scattered overstory of cottonwood (*Populus* spp.) (USFWS 2002). The size of vegetation patches or habitat mosaics used by Southwestern Willow Flycatchers varies considerably and ranges from as small as 0.8 ha (1.9 ac) to several hundred hectares (Hatten and Paradzick 2003). The Southwestern Willow Flycatcher nests in thickets of trees and shrubs approximately 2 to 15 m (6 to 49 ft) tall, with a high percentage of canopy cover and dense foliage from 0 to 4 m (0 to 13 ft) above ground. Regardless of the plant species composition or height, occupied sites always have dense vegetation in the patch interior (Allison et al. 2003; USFWS 2002).

The Southwestern Willow Flycatcher is an insectivore. It forages within and occasionally above dense riparian vegetation, taking insects on the wing and gleaning them from foliage. The flycatcher's prey includes flies, bees, wasps, ants, beetles, moths, butterflies, grasshoppers, crickets, dragonflies, damselflies, and spiders (Durst et al. 2008; Wiesenborn and Heydon 2007).

1.3 Threats

The current population of Southwestern Willow Flycatchers in the United States is estimated at 1,214 territories (Durst et al. 2006). The distribution of breeding groups is highly fragmented, with groups often separated by considerable distances. This subspecies has suffered declines attributed to extensive loss of its cottonwood-willow habitat and to poor productivity resulting from brood parasitism by Brown-headed Cowbirds (*Molothrus ater*) (USFWS 2002).

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

The primary threats to the Southwestern Willow Flycatcher on LANL property are 1) impacts on habitat quality from LANL operations and 2) disturbance of nesting flycatchers. This section includes a review and summary of the known effects of various types of human activities to the Southwestern Willow Flycatcher and an overview of the current levels of activities at LANL within species habitat.

2.2 Impacts on Habitat Quality

2.2.1 Development

Throughout the Southwest, riparian habitats are rare and tend to be small and separated by vast expanses of arid lands. The Southwestern Willow Flycatcher has experienced extensive loss and

modification of its habitat resulting from urban and agricultural development, water diversion and impoundment, channelization of waterways, livestock grazing, off-road vehicle and other recreational uses, and hydrological changes resulting from these and other land uses (USFWS 2002). River and stream impoundments, groundwater pumping, and overuse of riparian areas have altered as much as 90 percent of the Southwestern Willow Flycatcher's habitat (USFWS 2002). Loss of cottonwood-willow riparian forests has had widespread impact on the distribution and abundance of bird species associated with that forest. Development itself may be tolerated if the habitat is left intact.

Because watercourses at LANL tend to be intermittent to ephemeral, riparian habitat is uncommon. There has been extensive degradation of the riparian zone along the Rio Grande caused by feral cattle grazing and flood control operations of Cochiti Lake. There are other riparian/wetland areas on LANL associated with canyon bottoms, the most significant one being Pajarito wetlands in the lower end of Pajarito Canyon. A major paved road traverses the wetlands area in Pajarito Canyon.

2.2.2 Ecological Risk

There is no specific information on the impact of chemicals on Southwestern Willow Flycatcher.

2.2.2.1 Ecorisk Assessment

LANL completed two ecological risk assessments that included the Southwestern Willow Flycatcher between 1997 and 2009. The ecological risk assessment process involves using computer modeling to assess potential effects to animals from COPCs that have been detected in the environment. The ecological risk assessments concluded that, in general, there is a small potential for effects to Southwestern Willow Flycatcher from COPCs (Gonzales et al. 1998; Gonzales et al. 2009).

An ecotoxicological risk assessment for the Southwestern Willow Flycatcher, centered on the Pajarito wetlands, found that between 7 and 16 percent of 100 hypothetical nest sites examined had hazard indices >1.0 and <10.0 , depending on the foraging scenario (Gonzales et al. 1998). This indicates a small potential for impacts from chemicals. The primary chemicals driving the risk scenario were pentachlorophenol, aluminum, radium-226, calcium, and thorium-228. Aluminum, radium, and thorium are naturally occurring substances in northern New Mexico.

2.2.3 Disturbance

2.2.3.1 Pedestrians and Vehicles

There is no specific information on the reactions of Southwestern Willow Flycatchers to pedestrians and vehicles available. The recovery plan for the Southwestern Willow Flycatcher recommends providing protected areas, reducing unpredictable activities providing visual barriers, and reducing noise disturbance (USFWS 2002).

2.2.3.2 Aircraft

There is no specific information on the reaction of Southwestern Willow Flycatchers to aircraft available.

LANL lies within restricted airspace and planes infrequently fly less than 609 m (2,000 ft) above ground level. The County of Los Alamos operates an airport along the northern edge of LANL. The airport is located on the southern rim of Pueblo Canyon. Most flights approach and depart to the east of the airport, over the Rio Grande.

2.2.3.3 Explosives

There is no specific information on the reaction of Southwestern Willow Flycatchers to explosives detonation available. The Southwestern Willow Flycatcher AEI is not located close to any explosives testing sites at LANL.

2.2.3.4 Other Sources of Noise

LANL biological resources SMEs do not have good information on the effects of noise, including machinery operation, on Southwestern Willow Flycatchers. However, Southwestern Willow Flycatchers are probably not as sensitive to disturbance as some other threatened or endangered species (USFWS 2002). For a description of noise levels at LANL, see Part I, Section 2.2.3.

2.2.3.5 Artificially Produced Light

There is no information on the effects of artificially produced light on Southwestern Willow Flycatchers available. Under the Los Alamos County Code, commercial site development plans are reviewed to ensure that lighting serves the intended use of the site while minimizing adverse impacts to adjacent residential property (Section 16-276). Section 16-276 of the County Code includes light source measurement limitations by zoning district. The code allows off-site light to be 0.5 fc in residential areas. By comparison, full moonlight measures 0.1 fc, and a crescent moon was measured at 0.01 fc.

3.0 AEI GENERAL DESCRIPTION FOR SOUTHWESTERN WILLOW FLYCATCHER

The AEI consists of two types of areas—core and buffer. Core areas represent wetland areas with suitable vegetation for nesting, primarily dense willows. The buffer area is the area within 100 m (328 ft) of core areas. The Southwestern Willow Flycatcher AEI on LANL consists of two separate core areas. For purposes of this site plan, both core areas and associated buffers are considered one AEI unit.

3.1 Method for Identifying the Southwestern Willow Flycatcher AEI

The core areas were defined by the presence of riparian habitat and suitable wetland vegetation. These areas were identified in 1994 during a survey of wetlands at LANL and mapped using a global positioning system receiver. Wetlands without stands of dense willows at least 2 m (7 ft) tall and 30 m (98 ft) wide were not included in the AEI. The buffer area is the area within 100 m (328 ft) of the core areas.

3.2 Location of the Southwestern Willow Flycatcher AEI

LANL has one AEI for Southwestern Willow Flycatcher. It is composed of two core areas with associated buffers. The AEI core areas are located in the bottom of Pajarito Canyon, on the eastern side of LANL adjacent to Pajarito Road and State Road 4. The boundaries of the Southwestern

Willow Flycatcher AEI are maintained in the biological resources program GIS database at LANL.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to the Southwestern Willow Flycatcher from 1) habitat alterations that reduce habitat quality and 2) disturbance of breeding or potentially breeding flycatchers. Habitat alterations are considered for all AEIs and for both core and buffer areas. Disturbance activities to flycatchers are considered only for occupied AEIs and only for impacts on core areas. Developed areas (see Part I, Section 2.3) with ongoing baseline levels of activities and are not suitable habitat for Southwestern Willow Flycatchers have different restrictions than undeveloped core or buffer areas. Therefore, the location of the disturbance activity within the AEI, the occupancy status of the AEI, and the type of activity all affect whether or not the activity is allowable. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable. Protective measures are described as management practices that should be followed when working in AEIs.

4.2 Definition and Role of Occupancy in AEI Management

Summary: The occupancy status of an AEI affects what disturbance activities are allowable in different areas (core, buffer, developed) of the AEI. The Southwestern Willow Flycatcher AEI is considered occupied during May 15 through September 15 or until the surveys show the AEI to be unoccupied. See the Activity Table (Table 2, Section 4.5.2) for restrictions on occupied undeveloped core and buffer areas, and Part I, Section 2.3 for restrictions on developed areas.

Occupancy simply refers to whether or not an AEI is occupied during a species' period of sensitivity. For Southwestern Willow Flycatchers, LANL biological resources SMEs are primarily concerned with protecting the birds from disturbance during the breeding season. Because individuals may colonize suitable habitat, the Southwestern Willow Flycatcher AEI is treated as though it is occupied from May 15 through September 15 or until surveys show an AEI to be unoccupied. Southwestern Willow Flycatcher surveys are conducted during May, June, and July. Because Southwestern Willow Flycatchers migrate south for the winter, the AEI is treated as unoccupied from September 16 to May 14.

The occupancy status of an AEI affects what activities are allowable in the AEI. Although activities causing habitat alterations are always restricted, disturbance activities are restricted only in occupied AEIs. Table 2 provides dates and levels of disturbance activities allowable in the occupied Southwestern Willow Flycatcher AEI under the guidelines of this site plan. The dates in Table 2 indicate the time period during which the activity is restricted. Contact a LANL biological resources SME to find out the current occupancy status of an AEI (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.3 Introduction to AEI Management Guidelines

Summary: The habitat alterations section (Section 4.4) and the activities section (Section 4.5) gives the guidelines for habitat alteration and disturbance activities, respectively, for the

Southwestern Willow Flycatcher AEI. The flow chart (see Figure 1) provides a quick reference to determine what, if any, guidelines need to be consulted for a specific activity. Protective measures give management practices that should be applied when working or considering work in AEIs. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Sections 4.4 and 4.5 provide the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. The flow chart (see Figure 1) provides a quick reference that should be used to determine whether a project or activity will affect an AEI and what sections of the site plan need to be consulted. The section on habitat alterations (Section 4.4) describes what and where habitat alterations are allowed under the guidelines of this site plan. The section and table on allowable activities (Section 4.5 and Table 2) describe what, when, and where disturbance activities are allowed in occupied AEIs under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for the Southwestern Willow Flycatcher AEI. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. Section 4.6 describes management practices that should be applied when working or considering work in an AEI. LANL biological resources SMEs are available to help interpret site plans and answer questions (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.4 Definition of and Restrictions on Habitat Alterations

4.4.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters over the long-term the soil structure, vegetative components necessary to the species, prey quality and quantity, water quality, hydrology, or noise or light levels in undeveloped areas of an AEI. Long-term means the alteration lasts for more than one year. Habitat alteration includes any activity that removes vegetative components important to the Southwestern Willow Flycatcher (primarily trees and shrubs). An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core.

The habitat components most important to flycatchers include vegetative structure, food quality and quantity, and disturbance levels, including noise and light. The thickets of certain trees and shrubs along wetlands are important because they provide roost sites and a suitable habitat for nesting and foraging.

4.4.2 Fuels Management Practices to Reduce Wildfire Risk

Thinning within undeveloped buffer areas may include trees of any size to achieve 7.6 m (25 ft) spacing between tree crowns. However, clear cutting is not allowed in undeveloped buffer areas. No fuels management practices are allowed in core areas. Habitat alterations including thinning are not restricted in developed areas. All fuels management activities in developed and buffer areas must follow the guidelines in the Activity Table (Table 2, Section 4.5.2) if the AEI is occupied.

4.4.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing utility line in all areas of an AEI (Trujillo and Racinez 1995).

New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total must be individually reviewed for ESA compliance. Disturbance activities must follow the guidelines given in the Activities Table for occupied AEIs.

4.4.4 Restrictions on Habitat Alterations

Summary: Habitat alterations other than the utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. Habitat alteration in buffers is limited. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in a buffer area other than fuels management activities or utility corridor maintenance must be reported to a LANL biological resources SME for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.5 Definition of and Restrictions on Disturbance Activities

4.5.1 Definition of Disturbance Activities

LANL biological resources SMEs considered five categories of activities that might cause disturbance in an AEI. Most of the categories were first identified in the document “Peregrine Falcon Habitat Management in the National Forests of New Mexico” prepared for the U.S. Forest Service (Johnson 1994). Other light production and other noise production were included to provide the most comprehensive list of activities possible, reducing the need for individual review of activities for ESA compliance. The categories of activities are people, vehicles, aircraft, other light production, and other noise production. The impact of explosives detonation on this species is not considered here because there are no explosives testing sites within 2 km (1.25 mi) of potential nesting habitat. Low, medium, and high levels of impact for these activities are considered here. The following categories of activities are restricted only in AEIs that are classified as occupied.

People—includes any entry of people into an AEI on foot.

- Low impact is the presence of three or fewer people per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of people or the duration criteria.
- High impact is the exceedance of both the number of people and the duration criteria.

Vehicles—includes the entry of any two-axle highway vehicle, all-terrain vehicle, or motorized machinery into an AEI by any route other than a paved road or an improved gravel road.

- Low impact is the presence of two or fewer vehicles per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of vehicles or the duration criteria.
- High impact is the exceedance of both the number of vehicles and the duration criteria.

Aircraft—includes the operation of any aircraft below an elevation of 600 m (2,000 ft) above the highest ground level in the local vicinity.

- Low impact is the presence of one single-engine airplane and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of aircraft or the duration criteria.
- High impact is the exceedance of both the number of aircraft and the duration criteria.

Any use of helicopters, jet airplanes, and propeller airplanes with two or more engines is classified as medium impact or above, depending on duration.

Other Light Production—includes any activity not previously listed that causes additional light to occur in an AEI core area (e.g., plans for construction of a new building at the edge of a developed area may call for lighting at night to facilitate nighttime work that impacts an undeveloped core area).

- Low impact is the increase of light intensity by up to 0.05 fc and a duration of one night or less per project per breeding season.
- Medium impact is the exceedance of either the intensity or duration criteria.
- High impact is the exceedance of both the intensity and duration criteria.

Measurements for increases in light are taken at the AEI core area boundary closest to the light source, if the source is outside the core, and at 10 m (33 ft) from the source if the source is inside the core. Light measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core, or at the closest core boundary, if the developed area is outside of an AEI core.

Other Noise Production—includes any activity not previously listed except for explosives detonation that causes additional noise to occur in an AEI. For example, operation of machinery causes noise.

- Low impact is increasing noise levels in an AEI core by 6 dB(A) or less for one day or less per project per breeding season.
- Medium impact is the exceedance of either the level or the duration criteria.
- High impact is the exceedance of both the level and the duration criteria.

Measurements for increases in noise are taken at the AEI core boundary closest to the noise source if the source is outside the core, and at 10 m (33 ft) from the source if the source is inside the core. Noise measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core, or at the closest core boundary if the developed area is outside of an AEI core.

4.5.2 Activity Table

Disturbance activities are of concern only when Southwestern Willow Flycatchers occupy an AEI. The AEI is always considered occupied between May 15 and September 15, or until surveys show the AEI to be unoccupied. The Southwestern Willow Flycatcher AEI is always considered unoccupied between September 16 and May 14, when flycatchers have migrated for the winter.

For occupancy status of an AEI after completion of surveys, contact a LANL biological resources SME (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Table 2. Restrictions on Activities in Undeveloped Occupied Southwestern Willow Flycatcher AEI

		Core	Buffer
<i>Restrictions on Occupied Habitat</i>			
<i>People</i>			
	Low	No Restrictions	No Restrictions
	Medium	May 15 to August 15	No Restrictions
	High	May 15 to September 15	No Restrictions
<i>Vehicles</i>			
	Low	May 15 to September 15	No Restrictions
	Medium	May 15 to September 15	No Restrictions
	High	May 15 to September 15	No Restrictions
<i>Aircraft</i>			
	Low	No Restrictions	No Restrictions
	Medium	May 15 to August 15	May 15 to August 15
	High	May 15 to September 15	May 15 to August 15
<i>Other Light/Noise Production</i>			
	Low	May 15 to September 15	No Restrictions*
	Medium	May 15 to September 15	No Restrictions*
	High	May 15 to September 15	No Restrictions*

*Noise or light production in the buffer is restricted if the activity would violate core area restriction on noise or light.

4.6 Protective Measures

Summary: This section provides a list of management practices to apply in the AEI.

- No wetland vegetation will be removed outside of developed areas.
- Appropriate erosion and runoff controls should be employed to reduce soil loss.
- Avoid unnecessary disturbance to vegetation (e.g., excessive parking areas or equipment storage areas, off-road travel, materials storage areas, crossing of streams or washes).
- Avoid removal of vegetation along drainage systems and stream channels.
- Avoid all vegetation removals not absolutely necessary.
- Appropriate erosion controls must be put in place and periodically checked throughout the life of any projects.
- All exposed soils must be revegetated as soon as feasible after disturbance to minimize erosion.

5.0 SOUTHWESTERN WILLOW FLYCATCHER AEI DESCRIPTION

5.1 Pajarito Canyon Southwestern Willow Flycatcher AEI

5.1.1 Allowable Habitat Alteration in the Buffer Area

Since the purpose of the buffer area is to help maintain the core area as suitable Southwestern Willow Flycatcher habitat, habitat alteration in the buffer area will be extremely limited. There are two areas in which restrictions on habitat alteration are relaxed.

1. The mesa top of Mesita del Buey. This mesa top can be developed as long as restrictions on impacts to the core area are met.
2. Pajarito Road within the AEI. Mowing of upland vegetation is allowed up to 5 m (15 ft) from Pajarito Road, or to the fence, if the fence is within 9 m (30 ft). Vegetation must cover the roadsides to prevent sediment runoff, so mowed plants should be at least 5 cm (2 in) high. LANL biological resources SMEs encourage the growth of willow throughout the AEI—even the area along Pajarito Road—to enhance habitat. If, within this area, it is absolutely necessary to remove new willow growth (i.e., to improve visibility for human safety), LANL biological resources SMEs recommend that only willows at or above the level of the roadway surface be mowed.

IV. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE JEMEZ MOUNTAINS SALAMANDER

1.0 SPECIES DESCRIPTION—JEMEZ MOUNTAINS SALAMANDER

1.1 Status

The Jemez Mountains Salamander (*Plethodon neomexicanus*) was listed in New Mexico as endangered under the Wildlife Conservation Act of New Mexico in 2006 (NMDGF 2006). In September 2012 the USFWS proposed the Jemez Mountains Salamander as endangered under the ESA (FR 2012) and the final listing as endangered was on 10 September 2013 (FR 2013a)

1.2 General Biology

The Jemez Mountains Salamander is endemic to the Jemez Mountains of north-central New Mexico and is found in Los Alamos, Rio Arriba, and Sandoval counties (Stebbins and Riemer 1950). It is one of two endemic plethodontid salamanders that occur in New Mexico. It occurs predominantly at elevations between 2,130 to 3,430 m (6,988 to 11,254 ft) in mixed-conifer forest with greater than 50 percent canopy cover consisting mainly of Douglas fir (*Pseudotsuga menziesii* [Mirb.] Franco), blue spruce (*Picea pungens* Engelm.), Engelmann spruce (*Picea engelmannii* Parry ex Engelm.), white fir (*Abies concolor* [Gord. & Glend.] Lindl. ex Hildebr.), limber pine (*Pinus flexilis* James), ponderosa pine, and quaking aspen (*Populus tremuloides* Michx.). The ground surface in forest areas has (a) moderate to high volumes of large fallen trees and other woody debris, especially coniferous logs at least 25 cm (10 in) in diameter, particularly Douglas fir, which are in contact with the soil in varying stages of decay from freshly fallen to nearly fully decomposed; or (b) structural features, such as rocks, bark, and moss mats that provide

the species with food and cover. Underground habitat in forest or meadow areas contains interstitial spaces provided by (a) igneous rock with fractures or loose rocky soils, (b) rotted tree root channels, or (c) burrows of rodents or large invertebrates (Degenhardt et al. 1996; FR 2013b).

Plethodontid salamanders, which lack both lungs and gills, breathe through the mucous membranes in their mouth and throat and through their moist skin. The Jemez Mountains Salamander is completely terrestrial and does not use standing surface water for any life stage (FR 2012). Present in its habitat year-round, the Jemez Mountains Salamander spends most of its life underground, but can be found on the surface when conditions are warm and wet, approximately July through October. During this time, the Jemez Mountains Salamander can be found under rocks, bark, and moss mats and inside and under logs (Ramotnik 1986, Everett 2003). The Jemez Mountains Salamander eats invertebrates, including ants, mites, and beetles, and is thought to lay its eggs underground (FR 2013b).

1.3 Threats

Principal threats to habitat include historical fire exclusion and suppression and severe wildland fires; forest composition and structure conversions; post-fire rehabilitation; forest and fire management; roads, trails, and habitat fragmentation; recreation; and disease (FR 2012).

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

Primary threats to the Jemez Mountains Salamander on LANL property are impacts to habitat quality or destruction of individual salamanders caused by LANL or Los Alamos County operations. Forested LANL property is also subject to impacts from severe wildland fire and wildfire suppression.

2.2 Impacts on Habitat Quality

2.2.1 Development

Property at LANL varies from remote isolated land to heavily developed and/or industrialized. Most of the large developed areas at LANL are found on mesa tops, generally in the northern and western portion of LANL. The areas of Jemez Mountains Salamander habitat currently most impacted by development occur in Los Alamos Canyon. There is a secondary paved road (West Road) in the bottom of the canyon that exits the canyon on the north-facing slope through Jemez Mountains Salamander habitat. The canyon bottom also contains a recreational ice rink operated by Los Alamos County on an inholding owned by Los Alamos County. Development that reduces the occurrence of primary constituent elements of Jemez Mountains Salamander in core habitat would likely have a negative impact on the species.

2.2.2 Pedestrians and Vehicles

Many canyon bottoms and mesa tops at LANL have dirt roads traversing them. Most of these roads are gated; however, many of these roads are accessible to LANL employees and the public on foot or by bike. Some areas, such as Los Alamos Canyon, are frequently used by hikers and dog owners on active and historic trails which traverse the canyon, through Jemez Mountains

Salamander habitat in places. Maintenance of roads and trails in the habitat may have a negative impact on the species.

2.2.3 Severe Wildland Fire and Wildfire Suppression

Stand-replacing wildfires significantly change forest composition and structure, and reduce canopy cover. Even ground wildfires may reduce the volume of fallen logs and large woody debris. Large areas of historic Jemez Mountains Salamander habitat have been impacted by stand-replacing wildfires associated with current forest stocking conditions, drought, and high temperatures (FR 2012). Forested habitats on LANL are also subject to severe wildland fires. To mitigate wildfire risks, some areas of LANL have been treated for fuels reduction and creation of fuel breaks both pre-emptively and during active wildfire suppression. Both wildfires and wildfire suppression activities can negatively impact the primary constituent elements of Jemez Mountains Salamander core habitat.

2.3 Impacts on Individual Salamanders

2.3.1 Disease

The amphibian pathogenic fungus *Batrachochytrium dendrobatidis* (Bd) was found in a wild-caught Jemez Mountains Salamander in 2003 (Cummer et al. 2005) on the east side of the species' range and again in another Jemez Mountains Salamander in 2010 on the west side of the species' range (FR 2012). Bd causes the disease chytridiomycosis, whereby the Bd fungus attacks keratin in amphibians. In adult amphibians, keratin primarily occurs in the skin. The symptoms of chytridiomycosis can include sloughing of skin, lethargy, morbidity, and death. Chytridiomycosis has been linked with worldwide amphibian declines, die-offs, and extinctions, possibly in association with climate change (Pounds et al. 2006). Chytridiomycosis may be a threat to the Jemez Mountains Salamander because this disease is a threat to many other species of amphibians and the pathogen has been detected in the Jemez Mountains Salamander (FR 2012).

As part of a cooperative study with the New Mexico Department of Game and Fish between 2007 and 2013, various amphibian species including the canyon tree frog (*Hyla arenicolor*), western chorus frog (*Pseudacris triseriata*), Woodhouse's toad (*Anaxyrus woodhousii*), tiger salamander (*Ambystoma tigrinum*), and Jemez Mountains Salamander were tested for Bd infection at LANL. To date, all sampling has been negative for Bd infection (Fresquez et al. 2013).

2.3.2 Destruction of Individual Salamanders

During periods of the year when Jemez Mountains Salamander are on the soil surface, when conditions are warm and wet (generally July to October), they are vulnerable to injury and mortality from soil-disturbing activities, including operation of heavy equipment in core habitat. They also are at risk to be found and collected by people.

3.0 AEI GENERAL DESCRIPTION FOR JEMEZ MOUNTAINS SALAMANDER

The AEI consists of two areas, a core area and a buffer area. The core habitat is defined as suitable habitat where the Jemez Mountains Salamander occurs or may occur at LANL. The core habitat consists of sections of north-facing slope that contain the required micro-habitat to support Jemez

Mountains Salamander. The buffer area is 100 m (328 ft) wide extending outward from the edge of the core area.

3.1 Method for Identifying a Jemez Mountains Salamander AEI

The first step in identifying potential Jemez Mountains Salamander at LANL was to use a GIS to model habitat. Early modeling efforts by Hathcock (2008) identified areas of potential habitat and that model was further refined. The following parameters were modeled in the GIS:

- Elevation: 7,000 ft (2,150 m) and above
- Slope: Greater than 20 degrees
- Aspect: north-facing +/- 20 degrees
- Land cover: Mixed conifer
- Land use: Undeveloped
- Modeled habitat is only selected if it is greater than five contiguous 30 × 30 m (98 × 98 ft) pixels in size

Once this habitat layer was developed, a second layer was modeled that examined the level of shade in the habitat, also known as an illumination index. Since the Jemez Mountains Salamander needs cool moist conditions, an illumination index model would further highlight areas where this habitat type may occur or further reinforce the areas selected by the GIS modeling. The illumination index describes the amount and extent of solar radiation reaching the Earth's surface at a given point. This takes into account the topography that may cast shadows. The illumination model was developed using the 5 m (16 ft) resolution digital elevation model hillshade and using the Surface toolbox in ArcToolbox (Environmental Science Research Institute, Redlands, California) using the highest height of the sun on June 21 at 1:00 pm, altitude of 74.4 and Azimuth of 178.4, when the sun would be at its maximum height. These procedures were based on work done by Reilly et al. (2009).

Once this modeling was complete, LANL biological resources SMEs performed field validation to verify the suitability of the modeled habitat. The goal was to verify that mixed conifer was still the dominant cover class in the selected area. The GIS analysis used data from a landcover map created by McKown et al. (2003). There have been changes in habitat since this landcover map was published from fire and extreme drought effects. Since LANL is on the extreme edge of Jemez Mountains Salamander lower elevational range, a key component in this part of its range is soil moisture content. During field validation, evidence of a moist mixed conifer habitat versus a dry mixed conifer habitat was noted. One of the key indicators used to delimit areas of moist versus dry mixed conifer during the field validation was the presence of white fir (Evans et al. 2011) combined with a high canopy cover.

Field validation of the model occurred in May 2013, or decisions were based on earlier field visits to the sites from other projects. Each field validation consisted of LANL biological resources SMEs walking down all of the modeled habitat polygons to look for the presence of indicator features. If a polygon of modeled habitat contained white fir, indicating a moist wet conifer type habitat, a high canopy closure, and other signs of high habitat quality such as dead logs, moss or

other areas that could be used as cover by the Jemez Mountains Salamander, then the polygon was marked for retention in the final core habitat. Polygons that did not contain the necessary habitat requirements were omitted.

After the field validation was complete, the final core habitat boundaries that LANL would recognize were hand digitized using ArcGIS (Environmental Science Research Institute, Redlands, California) by LANL biological resources SMEs in and around the validated modeled polygon and areas between polygons if appropriate. The final identified core habitat at LANL occurs on the north-facing slopes of canyons. Toward the rim of the canyon the core boundaries end where the mixed conifer ends. In the canyon bottoms the core boundary extends to the edge of the stream channel. The upstream and downstream core boundaries end where the mixed conifer ends. A buffer habitat was extended around the core to a distance of 100 m (328 ft) outward. The LANL Fenton Hill satellite facility in the Jemez Mountains off of New Mexico Highway 126 is on land leased to DOE by the Santa Fe National Forest. The entire footprint is considered to be developed core habitat for the Jemez Mountains Salamander, since proposed critical habitat is adjacent to the facility.

3.2 Location and Number of Jemez Mountains Salamander AEIs

The identified Jemez Mountains Salamander core habitats were grouped by canyon system into AEIs, which contain contiguous and noncontiguous habitat areas. The largest contiguous section of habitat at LANL is in Los Alamos Canyon. There are two noncontiguous areas of habitat in Two-mile Canyon, four in Pajarito Canyon, one contiguous area in Cañon de Valle, and the entire Fenton Hill facility.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to the Jemez Mountains Salamander from habitat alterations that reduce habitat quality. Habitat alterations are considered for all AEIs and for both core and buffer areas. Developed areas that have ongoing baseline levels of activities and are not suitable habitat for Jemez Mountains Salamander have different restrictions than undeveloped core or buffer areas. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable. Protective measures are described as management practices that should be followed when working in AEIs.

4.2 Definition and Role of Occupancy in AEI Management

Occupancy simply refers to whether or not an AEI is occupied by the Jemez Mountains Salamander. The Los Alamos Canyon AEI is known to be occupied based on past surveys. Surveys for the Jemez Mountains Salamander are known to have a very low detection rate for occupied areas, so at LANL all AEIs are assumed to be occupied at all times. If needed, site-specific surveys will be conducted by federally permitted LANL biological resources SMEs.

4.3 Definition and Role of Developed Areas in AEI Management

Developed areas include all building structures, paved roads, improved gravel roads, and paved and unpaved parking lots. The majority of Jemez Mountains Salamander core habitat is in undeveloped areas, except for the satellite facility at Fenton Hill and a small amount of habitat in Los Alamos Canyon where West Road crosses the habitat. Generally, developed areas will not have restrictions; however, some of the undeveloped sections within the footprint of Fenton Hill may have restrictions because they may contain Jemez Mountains Salamanders when they move to the surface between July and October. Any project that occurs within developed core habitat will be evaluated by LANL biological resources SMEs for ESA compliance.

4.4 General Description of Core and Buffer Areas and Allowable Area Development

The purpose of buffer areas is to protect core areas from habitat degradation. The current levels of development in buffer and core areas represent baseline conditions for this site plan. No further development is allowed in the core area under the guidelines of this site plan. Any development in a buffer area will be reviewed by LANL biological resources SMEs to ensure that there are no impacts to the core habitat.

4.5 Emergency Actions

If safety and/or property are immediately threatened by something occurring within an AEI (for example, wildfire, water line breakage, etc.) please contact a LANL biological resources SME (1-505-665-3366) as soon as possible. If the emergency occurs outside of regular business hours, contact the Emergency Management Office (1-505-667-6211). This office will then communicate with the appropriate LANL personnel.

4.6 Introduction to AEI Management Guidelines

Section 4.7 provides the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. It describes what and where habitat alterations are allowed under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for the Jemez Mountains Salamander AEIs. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. AEI maps show the location of all AEIs in an area. LANL biological resources SMEs are always available to help interpret site plans and answer questions (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.7 Definition of and Restrictions on Habitat Alterations

4.7.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters the soil structure, vegetative components necessary to the species, water quality, or hydrology in undeveloped areas of an AEI. An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core. Habitat alterations would also include soil pits for soil samples deeper than 15 cm (6 in) using either hand or mechanized augers. Any activity that might disturb the soil will need to be reviewed by LANL biological resources SMEs.

The habitat components most important to the Jemez Mountains Salamander include soil structure and vegetative structure. The forest structure within an area designated as a Jemez Mountains Salamander AEI is important because it provides the necessary moist, cool microclimate.

4.7.2 Fuels Management Practices to Reduce Wildfire Risk

One of the primary threats to the Jemez Mountains Salamander is wildfire (FR 2012), but they also require habitat with a high canopy cover which makes fuels reduction challenging. Within undeveloped core areas, thinning trees to a level of 80 percent canopy cover or higher is approved. Trees may not be thinned below 80 percent canopy cover without further ESA review by LANL biological resources SMEs. Large logs on the ground should be left in place and not chipped. Understory thinning that does not reduce total canopy cover below 80 percent is permitted. Large trees that are felled should be left as large logs on the ground. Smaller trees and understory shrubs that may be thinned should be dispersed and left on-site to aid in soil moisture retention. Thinning activities should not occur during the rainy season between July to October (or when freezing temperatures begin, whichever comes first) when the Jemez Mountains Salamander is found on the surface.

In buffer areas, thinning of trees can occur to the current LANL-approved prescription level (LAAO 2000). LANL biological resources SMEs are available to provide guidance and mark trees for thinning (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.7.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing electrical utility line at LANL under existing guidelines and engineering controls (Hathcock 2013). This level is approved in all areas of an AEI. New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total in core habitat must be individually reviewed for ESA compliance.

4.7.4 Restrictions on Habitat Alterations

Habitat alterations other than the fuels management practices and utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in buffer areas must be reviewed by LANL biological resources SMEs to ensure that there are no impacts to core habitat.

REFERENCES CITED

- Allison, L.J., C.E. Paradzick, J.W. Rourke, and T.D. McCarthy. 2003. A characterization of vegetation in nesting and non-nesting plots for southwestern willow flycatchers in central Arizona. In *Ecology and Conservation of the Willow Flycatcher* (eds) M.K. Sogge, B.E. Kus, S.J. Sferra & M.J. Whitfield. Studies In Avian Biology: Cooper Ornithological Society.
- Brown, B.T., G.S. Mills, C. Powels, W.A. Russell, G.D. Therres, and J.J. Pottie. 1999. The influence of weapons-testing noise on bald eagle behavior. *Journal of Raptor Research* 33:227–32.
- Brown, B.T. and L.E. Stevens. 1997. Winter bald eagle distribution is inversely correlated with human activity along the Colorado River, Arizona. *Journal of Raptor Research* 31:7–10.
- Burns, M.J. 1995. White Rock noise measurements during PHERMEX tests, 11 March 1995. Los Alamos National Laboratory Memorandum DX-DO:DARHT-95-31 and 35.
- Cain, B.W. 1988. The impact of environmental contaminants on Southwestern USA raptors. *Proceedings of the Southwest Raptor Management Symposium and Workshop* (ed) by R.L. Glinski, B.G. Pendleton, M.B. Moss, M.N. LeFranc Jr., B.A. Millsap & S.W. Hoffman, 348–54. Tucson, AZ, USA, May 21–24, 1986: National Wildlife Federation, Washington, D.C., USA.
- Cummer, M. R., D. E. Green, and E. M. O’Neill. 2005. Aquatic chytrid pathogen detected in terrestrial plethodontid salamander. *Herpetological Review* 36(3):248–249.
- Degenhardt, W.G., C.W. Painter, and A.H. Price. 1996. *Amphibians and Reptiles of New Mexico*. University of New Mexico Press, Albuquerque, New Mexico.
- Delaney, D.K., T.G. Grubb, P. Beier, L.L. Pater, and M.H. Reiser. 1999. Effects of helicopter noise on Mexican spotted owls. *Journal of Wildlife Management* 63:60–76.
- Department of Energy (DOE). 1996. Dual-Axis Radiographic Hydrodynamic Test Facility final environmental impact statement mitigation action plan. DOE/EIS-0228.
- Durst, S.L., M.K. Sogge, H.C. English, S.O. Williams, B.E. Kus, and S.J. Sferra. 2006. Southwestern Willow Flycatcher breeding site and territory summary – 2005. USGS Southwest Biological Science Center report to the U.S. Bureau of Reclamation.
- Durst, S.L., T.C. Theimer, E.H. Paxton, and M.K. Sogge. 2008. Age, habitat, and yearly variation in the diet of a generalist insectivore, the southwestern willow flycatcher. *Condor* 110:514–25.
- Environmental Protection Agency (EPA). 2010. National Pollutant Discharge Elimination System Storm Water Individual Permit number NM0030759.

- Evans, A.M., R.G. Everett, S.L. Stephens, and J.A. Youtz. 2011. Comprehensive Fuels Treatment Practices Guide for Mixed Conifer Forests: California, Central and Southern Rockies, and the Southwest. Forest Guild 106pp.
- Everett, E. 2003. Habitat Characterization and Environmental Influences of the Jemez Mountains Salamander (*Plethodon neomexicanus*). M.S. Thesis, New Mexico State University, Las Cruces, New Mexico, 55pp.
- Federal Register. 2012. September 12, 2012. Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for the Jemez Mountains Salamander and Proposed Designation of Critical Habitat. Proposed Rule 77(177):56482-56513.
- Federal Register. 2013a. September 10, 2013. Endangered and Threatened Wildlife and Plants; Determination of Endangered Species Status for Jemez Mountains Salamander (*Plethodon neomexicanus*) Throughout Its Range. 78(175):55600-55627.
- Federal Register. 2013b. February 12, 2013. Endangered and Threatened Wildlife and Plants; Endangered Status and Designation of Critical Habitat for the Jemez Mountains Salamander. Proposed rule; reopening of comment period 78(29):9876-9882.
- Finch, D.M. and J.F. Kelly. 1999. Status and migration of the southwestern willow flycatcher in New Mexico. In *Rio Grande Ecosystems: Linking Land, Water, and People: Toward a Sustainable Future for the Middle Rio Grande Basin* (ed) D.M. Finch, J.C. Whitney, J.F. Kelly & S.R. Loftin, 197–203, Albuquerque, New Mexico.
- Fresquez, P.R., C. Hathcock, D. Keller, and J. Fair. 2013. “Foodstuffs and Biota Monitoring”, in Environmental Report 2012. Los Alamos National Laboratory report LA-UR-13-27065.
- Gallegos, A., G. Gonzales, K. Bennett, and L. Pratt. 1997. Preliminary Risk Assessment of the Mexican Spotted Owl under a Spatially-weighted Foraging Regime at the Los Alamos National Laboratory. LANL report LA-13259-MS.
- Gonzales, G., R. Rytty, P. Newell, A. Gallegos, and S. Sherwood. 2004. Modeled Ecological Risk to the Deer Mouse, Mexican Spotted Owl, and Western Bluebird at the Los Alamos National Laboratory using ECORSK.7. LANL report LA-14118.
- Gonzales, G., P. Gallegos, A. Gallegos, and K. Bennett. 2009. Site-wide Application of ECORSK.9 at the Los Alamos National Laboratory. LANL report LA-UR-09-02833.
- Ganey, J.L. and R.P. Balda. 1994. Habitat selection by Mexican spotted owls in northern Arizona. *Auk* 111:162–69.
- Gonzales, G.J., A.F. Gallegos, K.D. Bennett, M.A. Mullen, and T.S. Foxx. 1998. Preliminary Risk Assessment of the Southwestern Willow Flycatcher (*Empidonax traillii extimus*) at the Los Alamos National Laboratory. Los Alamos National Laboratory report LA-13508MS.

- Grubb, T.G. and W.W. Bowerman. 1997. Variations in breeding bald eagle responses to jets, light planes, and helicopters. *Journal of Raptor Research* 31:213–22.
- Grubb, T.G. and R.M. King. 1991. Assessing human disturbance of breeding bald eagles with classification tree models. *Journal of Wildlife Management* 55:500–11.
- Hansen, L.A. 2004. Sigma Mesa Construction Debris Recycling Project. Los Alamos National Laboratory Memorandum RRES/Ecol-04-0049.
- Hansen, L.A. 2005. A Biological Assessment of the Potential Effects of the Operation of an Asphalt Batch Plant and a Rock Crusher at Sigma Mesa on Federally Listed Threatened and Endangered Species. Los Alamos National Laboratory report LA-CP-05-0293.
- Hansen, L.A. 2009. Sound studies of the Biosafety Level 3 (BSL-3) Laboratory at TA-3, Building 1076. Los Alamos National Laboratory report LA-UR-09-05482.
- Hathcock, C.D. and T.K. Haarmann. 2008. Development of a predictive model for habitat of the Mexican spotted owl in Northern New Mexico. *Southwestern Naturalist* 53:34–38.
- Hathcock, C. D. 2008. The Status of the Jemez Mountains Salamander (*Plethodon neomexicanus*) at Los Alamos National Laboratory, 2008. Los Alamos National Laboratory Report LA-UR-08-0826.
- Hathcock, C.D., L.A. Hansen, and D.C. Keller. 2010. Occupancy of habitats by Mexican spotted owl in relation to explosives noise and recreational access at Los Alamos National Laboratory. *Western Birds* 41:102–06.
- Hathcock, C. D. 2013. Email from C. D. Hathcock to S. Martinez on June 20, 2013, Los Alamos National Laboratory communication.
- Hatten, J.R. and C.E. Paradzick. 2003. A multiscaled model of southwestern willow flycatcher breeding habitat. *Journal of Wildlife Management* 67:774–88.
- Holthuijzen, A.M.A., W.G. Eastland, A.R. Ansell, M.N. Kochert, R.D. Williams, and L.S. Young. 1990. Effects of blasting on behavior and productivity of nesting prairie falcons. *Wildlife Society Bulletin* 18:270–81.
- Huchton, K., S.W. Koch, and R.J. Robinson. 1997. An analysis of background noise in selected canyons of Los Alamos County. Los Alamos National Laboratory report LA-13372-MS.
- Johnson, J.A. and T.H. Johnson. 1985. Timber type model of spotted owl habitat in northern New Mexico. New Mexico Department of Game and Fish report, Santa Fe, New Mexico.
- Johnson, T.H. 1994. Peregrine falcon habitat management in national forests of New Mexico. USDA Forest Service unpublished report.

- Johnson, T.H. 1998. Topographic-Landsat model of suitable spotted owl habitat around Los Alamos National Laboratory. Los Alamos National Laboratory unpublished report.
- Keller, D.C. and T.S. Foxx. 1997. Biological assessment for threatened and endangered species at the DP Road Tract land transfer. Los Alamos National Laboratory unpublished report.
- Keller, D.C. and D. Risberg. 1995. Biological and floodplain/wetland assessment for the Dual-Axis Radiographic Hydrodynamics Test Facility (DARHT). Los Alamos National Laboratory report LA-UR-95-647.
- Knight, J.L. and S.S. Vrooman. 1999. A study of construction machinery noise levels at Los Alamos National Laboratory. Los Alamos National Laboratory report LA-UR-99-5740.
- Department of Energy, Los Alamos Area Office (LAAO). 2000. Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory, Los Alamos, New Mexico. DOE-EA-1329.
- Los Alamos National Laboratory (LANL). 2013. Environmental Protection. Los Alamos National Laboratory Program Description 400, Revision 2.
- McKown, B., S.W. Koch, R.G. Balice, and P. Neville. 2003. Land Cover Classification Map for the Eastern Jemez Region. Los Alamos National Laboratory report LA-14029.
- New Mexico Department of Game and Fish (NMDGF), April 2006. Threatened and Endangered Species of New Mexico—2006 Draft Biennial Review and Recommendations. Authority: Wildlife Conservation Act (NMSA 17-2-37+B1 through 17-2-46, 1978).
- New Mexico Environment Department (NMED). 2005. Compliance Order on Consent New Mexico Environment Department.
- Paakkonen, R. 1991. Low-frequency noise impulses from explosions. *Journal of Low Frequency Noise & Vibration* 10:78–82.
- Pounds, J.A., M.R. Bustamante, L.A. Coloma, J.A. Consuegra, M.P.L. Fogden, P.N. Foter, E. La Marca, K.L. Masters, A. Merino-Viteri, R. Puschendorf, S.R. Ron, G.A. Sanchez-Azofeifa, C.J. Still, and B.E. Yound. 2006. Widespread amphibian extinctions from epidemic disease driven by global warming. *Nature* 439(7073):161-167.
- Ramotnik, C.A. 1986. Status Report: *Plethodon neomexicanus* Jemez Mountains Salamander. U.S. Fish and Wildlife Service Report.
- Reilly, E.C., D. Clayton, R.S. Nauman, D.H. Olson, H.H. Welsh Jr, B. Devlin. 2009. Spatial Model of Optimal Habitat for the Siskiyou Mountains Salamander (*Plethodon stormi*) North of the Siskyou Crest. Chapter 2. In: Olson, D.H., D. Clayton, R.S. Nauman, and H.H. Welsh Jr (Editors). 2009. Conservation of the Siskiyou Mountains Salamander (*Plethodon stormi*). *Northwest Fauna* 6:1-73.

- Stebbins, R.C., and W.J. Riemer. 1950. A New Species of Plethodontid Salamander from the Jemez Mountains of New Mexico. *Copeia* 1950(2):73–80.
- Steidl, R.J. and R.G. Anthony. 2000. Experimental effects of human activity on breeding bald eagles. *Ecological Applications* 10:258–68.
- Swarthout, E.C.H. and R.J. Steidl. 2001. Flush responses of Mexican spotted owls to recreationists. *Journal of Wildlife Management* 65:312–17.
- Swarthout, E.C.H. and R.J. Steidl. 2003. Experimental effects of hiking on breeding Mexican spotted owls. *Conservation Biology* 17:307–15.
- Trujillo, C.T. and E. Racinez. 1995. Meeting notes on the 13.8-kV transmission line tree trimming. Los Alamos National Laboratory Memorandum FSS-8-95-114.
- U.S. Fish and Wildlife Service (USFWS). 1995. Recovery plan for the Mexican spotted owl. Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service (USFWS). 2012. Recovery plan for the Mexican Spotted Owl, First Revision. Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service (USFWS). 2002. Southwestern willow flycatcher recovery plan. Albuquerque, New Mexico.
- Vigil, E.A. 1995. Noise measurements at State Road 4 and Bandelier turn-off at State Road 4 during PHERMEX test on March 11, 1995. Los Alamos National Laboratory Memorandum ESH-5:95-11825.
- Vrooman, S.S., S.W. Koch, and J.L. Knight. 2000. Temporal and spatial variation in background noise levels at Los Alamos National Laboratory. Los Alamos National Laboratory report LA-13684-MS.
- Wiesenborn, W.D. and S.L. Heydon. 2007. Diets of breeding southwestern willow flycatchers in different habitats. *Wilson Journal of Ornithology* 119:547–57.
- Willey, D.W. 2013. Diet of Mexican Spotted Owls in Utah and Arizona. *The Wilson Journal of Ornithology* 125(4):775-781.
- Yong, W. and D.M. Finch. 1997. Migration of the willow flycatcher along the middle Rio Grande. *Wilson Bulletin* 109:253–68.

APPENDIX

Table A-1. The percentage of each food type found in Mexican Spotted Owl food remains at LANL

Species	Relative Abundance
<i>Neotoma</i> spp.	26.22
<i>Peromyscus</i> spp.	10.22
<i>Microtus</i> spp.	4.44
Gophers	4.89
Bats	5.78
Chipmunks	0.89
Rabbits	12.89
Shrews	1.33
Small Mammal	1.33
Medium Mammal	1.78
Medium Bird	8.00
Small Bird	4.89
Nocturnal Birds	0.89
Reptiles	4.89
Arthropods	11.56

Table A-2. Preliminary light measurements in ftc for Mexican Spotted Owl site plan

		Distance from Source				
		5 m	10 m	15 m	20 m	
ftc	Source (street light)	3.70	2.28	1.20	0.62	0.32



United States Department of the Interior

FISH AND WILDLIFE SERVICE
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December 9, 2013

Cons. #02ENNM00-2014-I-0014

Geoffrey L. Beausoleil, Acting Manager
National Nuclear Security Administration, Los Alamos Field Office
Department of Energy
Los Alamos, New Mexico 87544

Dear Mr. Beausoleil:

Thank you for your biological assessment entitled, "Biological Assessment of the Effects of Implementing the Jemez Mountains Salamander Site Plan on Federally Listed Threatened and Endangered Species at Los Alamos National Laboratory" (BA); the request for informal consultation and conferencing received on July 25, 2013 and supplemental information supplied in the "Jemez Mountains Salamander (*Plethodon neomexicanus*) Los Alamos National Laboratory (LANL) Site Plan" (Site Plan); and emails dated November 19 and December 3, 2013. The Department of Energy (DOE) requested concurrence with the determination of effects for the endangered Jemez Mountains salamander (*Plethodon neomexicanus*) (salamander) pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 *et seq.*). Your proposed action consists of implementing the Site Plan, and includes of the incorporation of this Site Plan into LANL's Habitat Management Plan (HMP). The HMP was consulted upon in 1999 (Consultation #2-22-981-336) as the primary mechanism to ensure compliance with the ESA at LANL. The actions described in the Site Plan and analyzed in the BA, and supplemental emails are hereby incorporated by reference. You determined that implementing the Site Plan "may affect, is not likely to adversely affect" the salamander, and includes placing restrictions on certain types of work in areas identified as core habitat for the salamander on LANL property with the purpose of ensuring that effects to the salamander from those actions identified in the Site Plan are insignificant and discountable.

The Site Plan does not include any areas within designated salamander critical habitat, indicating that no critical habitat will be affected. The Site Plan has modeled and field validated the model to identify the areas on LANL property with the highest potential to be occupied by salamanders based on habitat features for the salamander. Each area identified by the modeling is termed "Area of Environmental Interest" (AEI) and consists of a "core area" and a "buffer area". The core area habitat is defined as suitable habitat where the salamander occurs or may occur at LANL. The core area habitat consists of sections of north-facing slope that contain the required

micro-habitat to support salamanders. The buffer area is 328 feet (100 meters) wide extending outward from the edge of the core area. Only the Los Alamos Canyon AEI is known to be occupied based on surveys. Surveys for the salamander are known to have a very low detection rate for occupied areas and DOE has assumed that all AEIs at LANL are occupied at all times by the salamander.

Within the Site Plan, DOE has assessed activities that could cause habitat alteration and includes any action that alters the soil structure, vegetative components necessary to the species, water quality, or hydrology in undeveloped areas of an AEI. If an activity were to take place outside of the AEI the activity will be assessed if it will have effects inside the AEI core. Within the core areas, only activities specified within the Site Plan and those that have no effect in the core areas (e.g. no habitat alterations or effects within the core areas) will be conducted without further consultation with the Service. Habitat alterations also include soil pits for soil samples deeper than 6 inches (15.2 centimeters) using either hand or mechanized augers. Within the Site Plan, DOE is proposing fuels management practices to reduce wildfire risk and maintenance of utility corridors within the AEIs. The likelihood that salamanders may be affected by the actions in the Site Plan is very low. To ensure that effects to the salamander are insignificant and discountable, the Site Plan incorporates the following conservation measures as restrictions to the identified work:

Fuels Management Practices to Reduce Wildfire Risk

- a. Within undeveloped core areas, thinning trees to a level of 80% canopy cover or higher may occur; tree thinning below 80% canopy cover is not part of the action under this consultation.
- b. Large logs on the ground will be left in place and not chipped.
- c. Large trees that are felled will be left as large logs on the ground
- d. When appropriate, smaller trees and understory shrubs that may be thinned will be dispersed and left on-site to aid in soil moisture retention.
- e. In buffer areas, thinning of trees may occur to the current LANL-approved prescription level; clear-cutting will not occur.
- f. Thinning activities will not occur during the rainy season when salamanders are surface active, between July 1 – October 31. Thinning activities may occur earlier in October if freezing temperatures are present.
- g. In the unlikely event that a salamander is observed surface active during thinning activities, all activities shall cease, and the Service will be notified.

Utility Corridors

- a. Cutting trees that threaten power lines may occur within 26 feet (8 meters) of either side of an existing utility line at LANL
- b. New utility lines and utility lines requiring clearance of a right-of-way greater than 52 feet (16 meters) total in core habitat is not part of the action under this consultation.

Habitat alterations other than the fuels management practices and utility corridor maintenance described above will not occur in undeveloped core areas under the guidelines of the Site Plan or this consultation. The Service concurs with DOE's determination regarding the salamander for the following reasons:

Within the Site Plan, DOE has placed the above detailed restrictions to ensure that any effects to the salamander and its habitat remain insignificant and discountable. Canopy cover will remain at 80% or greater in undeveloped core areas and fire management actions will occur outside of the salamander surface activity period. Maintaining utility line corridors in areas with existing infrastructure (the utility lines) by removing individual hazard trees is not expected to have any measurable effect on salamanders or their potential habitat. Consequently, we concur that potential effects to the salamander from the proposed action will be insignificant and discountable.

This concludes section 7 consultation regarding the proposed action. If monitoring or other information results in modification or the inability to complete all aspects of the proposed action, consultation should be reinitiated. Please contact the Service if: 1) future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the proposed action changes or new information reveals effects of the proposal to listed species that have not been considered in this analysis; or 3) a new species is listed or critical habitat designated that may be affected by the action.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. In future correspondence regarding this project, please refer to consultation #02ENNM00-2014-I-0014. If you have any questions, please contact Michelle Christman of my staff at (505) 761-4715.

Sincerely,


Wally Murphy
Field Supervisor

cc:

Wildlife Biologist, Cuba Ranger District, Cuba, NM (Attn: Ramon Borrego)
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

ATTACHMENT 14: MSGP IPAC TRUST RESOURCES REPORT

MSGP

IPaC Trust Resource Report

Generated July 27, 2015 07:29 PM MDT



US Fish & Wildlife Service

IPaC Trust Resource Report



Project Description

NAME

MSGP

PROJECT CODE

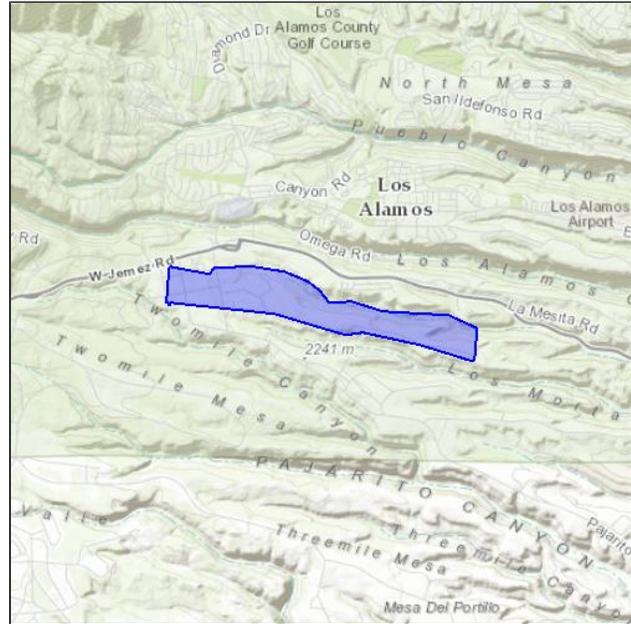
LXATM-TI5EJ-BAJEQ-3NC5E-SOGYTE

LOCATION

Los Alamos County, New Mexico

DESCRIPTION

Facilities that discharge to Sandia Canyon within TA-3 and TA-60. Industrial facilities subject to the MSGP. July, 2015.



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

(505) 346-2525

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the [Endangered Species Program](#) and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under [Section 7](#) of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Amphibians

Jemez Mountains Salamander *Plethodon neomexicanus* **Endangered**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=D019>

Birds

Mexican Spotted Owl *Strix occidentalis lucida* **Threatened**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074>

Southwestern Willow Flycatcher *Empidonax traillii extimus* **Endangered**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B094>

Yellow-billed Cuckoo *Coccyzus americanus* **Threatened**

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R>

Mammals

New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* **Endangered**

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0BX>

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

<p>Bald Eagle <i>Haliaeetus leucocephalus</i> Season: Wintering https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008</p>	Bird of conservation concern
<p>Bendire's Thrasher <i>Toxostoma bendirei</i> Season: Breeding</p>	Bird of conservation concern
<p>Brewer's Sparrow <i>Spizella breweri</i> Season: Migrating https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BOHA</p>	Bird of conservation concern
<p>Brown-capped Rosy-finch <i>Leucosticte australis</i> Season: Wintering</p>	Bird of conservation concern
<p>Burrowing Owl <i>Athene cunicularia</i> Season: Breeding</p>	Bird of conservation concern
<p>Cassin's Finch <i>Carpodacus cassinii</i> Year-round</p>	Bird of conservation concern
<p>Flammulated Owl <i>Otus flammeolus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DK</p>	Bird of conservation concern
<p>Fox Sparrow <i>Passerella iliaca</i> Season: Wintering</p>	Bird of conservation concern
<p>Golden Eagle <i>Aquila chrysaetos</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DV</p>	Bird of conservation concern
<p>Grace's Warbler <i>Dendroica graciae</i> Season: Breeding</p>	Bird of conservation concern
<p>Juniper Titmouse <i>Baeolophus ridgwayi</i> Year-round</p>	Bird of conservation concern
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> Year-round</p>	Bird of conservation concern
<p>Loggerhead Shrike <i>Lanius ludovicianus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY</p>	Bird of conservation concern

Mountain Plover <i>Charadrius montanus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B078	Bird of conservation concern
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU	Bird of conservation concern
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> Year-round	Bird of conservation concern
Prairie Falcon <i>Falco mexicanus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ER	Bird of conservation concern
Swainson's Hawk <i>Buteo swainsoni</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070	Bird of conservation concern
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FX	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6	Bird of conservation concern

Refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

ATTACHMENT 15: EPC-CP-QAPP-MSGP



Effective Date: 11/04/2013

Next Review Date: 11/04/2015

Environment, Safety, Health Directorate

Environmental Protection Division – Compliance Programs Group

Quality Assurance Project Plan

Stormwater Multi-Sector General Permit for Industrial Activities Program

Reviewers:

Name: Melanie Lamb	Organization: ADESH-OIO, QA Specialist	Signature: Signature on File	Date:
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Derivative Classifier: **Unclassified** **DUSA** ENVPRO

Name: Ellena Martinez	Organization: ADESH-OIO	Signature: Signature on File	Date:
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Approval Signatures:

Subject Matter Expert: Holly Wheeler	Organization: ENV-CP	Signature: Signature on File	Date:
Responsible Line Manager: Mike Saladen	Organization: ENV-CP, Team Lead	Signature: Signature on File	Date:
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History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	06/03	New Document
1	12/05	Annual review and revision
2	07/07	Annual review, incorporated organizational restructure changes.
3	07/09	Biennial Review and Revision
4	07/09	Biennial Review and Revision
5	10/13	Biennial Review and Revision. New format implemented.

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1.0 QUALITY PROGRAM

LANL will comply with the monitoring requirements as specified by the 2008 National Pollutant Discharge Elimination System (NPDES) Stormwater Multi-Sector General Permit for Industrial Activities. Compliance will be demonstrated through the successful implementation of this project plan and applicable procedures.

Los Alamos National Laboratory (the Laboratory) has established a comprehensive stormwater program for its industrial activities. Historically, the Laboratory operated under the NPDES Baseline General Permit and then under the NPDES 1995, 2000, and 2008 Multi-Sector General Permits. The Laboratory submitted its NOI for 2008 coverage in December 2008.

The 2008 MSGP was issued on September 22, 2008 and became effective on September 29, 2008.

The purpose of this project plan is to ensure compliance with the following:

- 2008 NPDES Multi-Sector General Permit (MSGP) and the Clean Water Act (CWA)
- DOE Order 450.1, *Environmental Protection Program*, and DOE Order 5400.5, *Radiation Protection of the Public and Environment*, which establish environmental protection program policies, requirements, and responsibilities

The Environmental Protection, Environmental Compliance Programs (ENV-CP) Water Quality Team has been tasked with overseeing institutional stormwater compliance related activities at the Laboratory.

1.1 QUALITY PROGRAM PURPOSE

This Quality Assurance Project Plan (QAPP) describes the policies and requirements that ensure MSGP activities are conducted in a consistent, agreed-upon manner.

This QA Project Plan describes the policies and requirements that ensure the MSGP processes are conducted in a consistent, agreed-upon manner. Drivers for the quality plan include:

- DOE Order 414.1C, *Quality Assurance*
- [SD330, LANL Quality Assurance Program](#)

This QA Project Plan (QAPP), including implementing procedures, is a sub-tier document to the [SD330, LANL Quality Assurance Program](#). The following documents provide requirements to ensure that the MSGP Program is operated in accordance with established plans and procedures:

- [SD330, LANL Quality Assurance Program](#)
- QA Project Plan for the MSGP (this document)
- Implementing procedures

1.2 ORGANIZATION

ENV-CP is responsible for compliance oversight of the Laboratory's MSGP coverage. The Group is organized by teams under the line management direction of the Group Leader. Teams are cross-functional and focus on specific Laboratory water quality responsibilities, deliverables, or

products. Teams are guided by Team Leaders who have the responsibility to assure the program is completed and properly implemented.

The Team Leader coordinates the project and reports to the ENV-CP Group Leader. The Project Lead implements program oversight, coordinates contractor efforts (if there are any), and reports to the Team Leader. A QA Specialist is assigned to work for the Team Leader to provide quality assurance assistance, advice, and review. In addition, representatives from other groups may participate and contribute to this team as subject matter experts for project activities. The project organization is shown in Attachment 1.

Applicable regulatory drivers include the following:

- Clean Water Act (CWA)
- 2008 NPDES Multi-Sector General Permit (MSGP)
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- [P401, Procedure to Identify, Communicate, and Implement Environmental Requirements](#)

1.3 RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Group Leader	Assure that qualified staff complies with regulatory requirements associated with the MSGP.
Project Lead	Ensure that MSGP-related activities are performed in accordance with the requirements specified in this plan.
ENV-CP Staff	Perform MSGP-related activities as assigned by the Team Leader or Project Leader

2.0 PERSONNEL DEVELOPMENT

Qualified team members will be hired and trained as prescribed in [ENV-DO-QP-115, Personnel Training](#). Minimum training requirements for ENV personnel are described in the ENV Division Qualification Standards. The LANL Human Resources Division maintains documentation of education qualification. Required MSGP qualifications and training plans are listed below.

2.1 MSGP CURRICULA

The MSGP Program requires personnel with the following training requirements:

MSGP Inspectors

Curricula 10697 ENV-RCRA MSGP Inspector

Item 43337 ENV-CP-QAPP-MSGP

Item 54892 ENV-RCRA-QP-022 MSGP Stormwater Corrective Actions

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- Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
- Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments*
- Item 40708 ENV-DO-QP-108 *Preparation of External Correspondence for Review and Approval*
- Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
- Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
- Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
- Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements

- Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace
- Item 3574 or 13264 First Aid

MSGP SWPPP Preparers

Curricula 7814 ENV-RCRA MSGP SWPPP Preparer

- Item 43337 ENV-CP-QAPP-MSGP
- Item 56593 ENV-RCRA-QP-044 *Preparing Storm Water Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit*
- Item 40708 ENV-DO-QP-108 *External Correspondence*
- Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
- Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
- Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
- Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 51 ENV-RCRA Design Engineer

- Item 44269, COE Review of LANL Produced Design Documents, AP-341-620
- Item 44266, COE System Design Descriptions, AP-341-61
- Item 44263, COE Engineering Drawings and Sketches, AP-341-608
- Item 44261, COE Calculation, AP-341-605
- Item 44258, COE Requirements and Criteria Document, AP-341-602
- Item 44257, COE Functions & Requirements Document, AP-341-601
- Item 43658, CORE Engineering Overview
- Item 55428, COE Management Level Determination, AP-341-502
- Item 54168, P342 Engineering Standards
- Item 47029, COE LANL Review of Design by External Agencies, AP-341-622
- Item 43666, Engineering Design Management
- Item 43663, Engineering Technical Baseline
- Item 44225, COE Evaluation of Vendor Information, AP-341-701

MSGP Visual Assessors

Curricula 10698 ENV-RCRA MSGP Visual Assessor

- Item 43337 ENV-RCRA-QAPP-MSGP
- Item 50493 ENV-RCRA-QP-064 *MSGP Storm Water Visual Assessments*
- Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
- Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments.*
- Item 40708 ENV-DO-QP-108 *External Correspondence*

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Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*

Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*

Item 43805 ENV-DO-QP-114 *Logbook Use and Control*

Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements

Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace

Item 3574 or 13264 First Aid

2.2 MSGP INSPECTOR QUALIFICATIONS

Inspections:

- Post high school education or experience in engineering or environmental science or a related field; or industrial site field experience involving stormwater pollution prevention.
- 2 years experience of completing MSGP inspections or 1 year MSGP inspection experience with the Certified Inspector of Sediment and Erosion Control (CISEC) certification.
- 6 months knowledge of LANL facility operations.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to successfully and effectively evaluate and identify the following at industrial sites:
 - Conditions and activities that could impact stormwater quality at the facility.
 - Inadequate or ineffective BMPs.
 - Required modification or maintenance of existing BMPs.
 - Locations requiring new or additional BMPs.
 - Potential pollutant sources associated with the facility.
 - Appropriate and correct site stabilization measures.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to evaluate the compliance status of each industrial facility and document identified issues during an inspection.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to properly and effectively complete inspection reports, including the ability to perform the following:
 - Prepare reports in a clear, concise manner, identifying site conditions and issues.
 - Write legibly and describe conditions clearly and accurately.
 - Use proper spelling and grammar.
 - Complete the MSGP Routine Inspection Report forms accurately.
 - Accurately enter findings into the Corrective Actions Report database.
- Conduct inspections in a professional manner.
- Be a member of, or contractor supporting, ENV-RCRA or ENV Division.

2.3 MSGP SWPPP PREPARER QUALIFICATIONS

SWPPP Preparation:

One of the 2 criteria below must be satisfied:

- BS degree or experience in engineering, environmental science, or related field, with a background involving stormwater pollution prevention and regulatory compliance relating to MSGP sites and a 1 year minimum of LANL facility operations knowledge and 1 year experience of completing MSGP inspections; or
- Certified Professional in Erosion and Sediment Control (CPESC) or Professional Engineer (PE) with a demonstrated background in stormwater management, sediment and erosion control, and regulatory compliance.

In addition to:

- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to:
 - Prepare SWPPPs per LANL format and in compliance with NPDES MSGP requirements.
 - Identify and specify appropriate BMPs and stabilization measures.
 - Identify potential pollutant sources associated with the facility.
 - Perform necessary calculations to meet regulatory requirements.
 - Prepare a site map.
 - Be a member of, or contractor supporting, ENV-CP or ENV Division.

5.4 MSGP VISUAL ASSESSOR QUALIFICATIONS

Quarterly Visual Assessments:

- Education or experience in engineering, environmental science, or a related field; or industrial site field experience involving stormwater pollution prevention; and
- Completed ENV-RCRA training on how to collect and evaluate visual assessment; and
- Demonstrated ability, as determined by the Multi-Sector General Permit Program Lead and/or Water Quality Team Leader, to:
 - Collect quarterly visual samples at the designated outfall.
 - Complete the applicable portions of the MSGP Quarterly Visual Assessment Form.
 - Have working knowledge of the regulatory requirements in Section 4.2 of the MSGP.

5.5 TRAINING RESPONSIBILITIES

All personnel performing MSGP project-related work are required to obtain appropriate training prior to performing work governed by a procedure. Training for all project personnel will be performed and documented in accordance with [ENV-DO-QP-115, Personnel Training](#).

The following table lists specific responsibilities regarding training requirements.

Who	What
Group Leader	Ensure project personnel meet all Laboratory training requirements.
Program Lead	Establish and document job descriptions for each position within the MSGP Project. Ensure all project personnel have the appropriate level of education,

	experience, and training.
--	---------------------------

3.0 QUALITY IMPROVEMENT

The MSGP Project subscribes to the principles of problem prevention and continuous improvement. The Project Lead is committed to evaluating improvement opportunities identified by trending and reporting.

The Project Lead provides verbal and written updates, as needed, to the Team Leader and Group Leader to keep group management apprised of the focus of the MSGP Project activities and to address any shortcomings that may be identified.

3.1 CORRECTIVE ACTIONS WITHIN ENV-RCRA

Corrective actions for all ENV-RCRA programs and projects are initiated, tracked, corrected, and documented according to *P330-6 Nonconformance Reporting*, *P322-4 Laboratory Performance Feedback and Improvement Process*, *SD330, Los Alamos National Laboratory Quality Assurance Program*, and Division/Group procedures.

3.3 QUALITY IMPROVEMENT RESPONSIBILITIES

The following table lists specific responsibilities for quality improvement:

Who	What
Project Lead	Monitor program performance and ensure issues are corrected in a timely manner.
ENV-CP Staff	Identify opportunities for process improvement, health and safety enhancement, environmental protection, or other improvements of the program's operations. Discuss the identified opportunities with the Project Lead. Ensure issues are reported and corrected in a timely manner.

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The program lead, at least one reviewer, and the Group Leader will approve all revisions to this plan. Revisions to the plan will be provided to the QA Specialist. This plan will be reviewed and revised (if necessary) biennially.

This document will be controlled under the organization's document control system (*ENV-DO-QP-106, Document Control*). Controlled copies of ENV documents are located on the Internet: <http://int.lanl.gov/orgs/env/rcra/qa.shtml>, all other copies are uncontrolled.

Procedures will be developed as necessary and in accordance with *ENV-DO-QP-105, Preparation, Review, and Approval of Procedures*.

Phone calls, email, or fax communications will be documented and controlled if the content provides direction or results in decisions.

4.1 PROGRAM RECORDS

The number, type, and detail of all records to be kept will provide sufficient information to allow an individual with equivalent education and training to verify or reconstruct the results. Implementing procedures specify the records, forms, logbook entries, or other information to be kept as documentation of the performance of the procedure.

Records to be kept in the ENV-CP records system include the following:

- Copy of the Multi-Sector General Permit
- Annual Site Compliance Evaluation reports
- Corrective Action Reports
- Reports and certifications required by MSGP
- Records of all data used to complete MSGP Notice of Intent
- Discharge Monitoring Reports

Records to be kept by the Deployed Environmental Professional assigned to the FOD in which the industrial facility resides includes the following:

- Copies of Stormwater Pollution Prevention Plans
- Reports and certifications required by MSGP
- Routine Inspection Forms
- Supporting analytical data reports including Visual Assessment Forms
- Corrective Action Reports
- Discharge Monitoring Reports
 - Annual Site Compliance Evaluation reports

All ENV-CP records will be maintained and available (after the deadline for submittal as given in applicable procedures) for auditing in the records center at ENV-CP ([ENV-DO-QP-110, Records Management](#)). Records will be archived in compliance with Laboratory and DOE requirements for records retention, storage, and management.

4.2 PROGRAM RECORDS RESPONSIBILITIES

The following table lists specific responsibilities for program records management:

Who	What
Team Leader	Ensure QAPP meets minimum specifications for documentation and records of the <i>SD330, Los Alamos National Laboratory Quality Assurance Program</i>
Program Lead	Conduct annual review of records to ensure compliance with project requirements.

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4.3 ELECTRONIC MEDIA

The project will utilize electronic means as necessary to maintain data and perform calculations on these data. Electronic means will not however replace paper copies. All records that must be maintained to meet the requirements of the Permit will be kept in hard copy as the official record.

4.4 DATABASES

Analytical data will be maintained in the LANL Water Quality Database (WQDB). Security, verification, and validation of data are maintained in accordance with LANL procedures.

Security -- ENV data will be maintained electronically in a secure manner and will be protected from loss by being maintained as part of an official dataset that is backed up at least weekly.

Verification of data -- All ENV data, either electronic or hardcopy must undergo a verification and validation process that includes the following:

Verification

- Paper deliverables match electronic data that are stored in an official dataset. Paper deliverables include:
 - chain of custody for sample data
 - field log, if applicable, for sample data
 - data packages for analytical data
 - documentation packages for supporting data (e.g., geographic information system)
- All hand-entered data have been verified by a person other than the individual performing the entry
- Electronic uploads of data (e.g., electronic data deliverables) have been spot checked (at least 10%) to ensure the upload performed as expected
- Hard copy supporting information (e.g., data packages, chains of custody, validation reports, etc.) is evaluated for completeness, archived, and available for audit

Validation --analytical data validation is the responsibility of the EP Directorate. The process will include the following:

- Validate that sample and quality assurance/quality control data and information meet contract specifications
- Assign validation flags, as appropriate
- Identify the analytical supplier
- Identify the analytical method

Verification of calculations -- A person other than the person who generated the query will review for accuracy all compliance related calculations performed in a database through queries. This review will be documented and forwarded to the appropriate record series.

Spreadsheets:

Backups -- All spreadsheets used to hold data and generate reports to be used in demonstrating compliance will be maintained in a secure location. The preferred location is on the Group server. Spreadsheets will be backed up at least weekly.

Verification of data -- All compliance-related data uploaded into a spreadsheet will be verified to be accurate against the original paper copy. Data that are uploaded through electronic means will undergo a 10% verification. Data that are uploaded through manual means will undergo a 100% verification. Someone other than the data entry person must perform the 100% review. This review will be documented and forwarded to the appropriate record series.

Verification of calculations -- A person other than the person who generated the spreadsheet will review for accuracy all compliance-related calculations performed in a spreadsheet. This review will be documented and forwarded to the appropriate record series. Modifications to the function of these spreadsheets will also be verified in this manner.

Software control -- The integrity of spreadsheets will be ensured by limiting access to these spreadsheets to only trained, authorized personnel. Additionally, at least once per year, the function of the spreadsheets will be verified by hand calculations. Documentation of this review will be forwarded to the appropriate record series.

4.4 IMPLEMENTATION RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Program Lead	Regularly assess data integrity methods used by MSGP personnel.

5.0 PLANNING AND PERFORMING WORK

Work conducted under this program ensures compliance with the 2008 Multi-Sector General Permit; the Clean Water Act; and DOE Orders 450.1, *Environmental Protection Program*, and 5400.5, *Radiation Protection of the Public and Environment*.

Work that contributes to achieving the quality specifications of the MSGP deliverables will be planned and documented as described in this document and implementing procedures.

Work will be performed according to applicable plans and implementing procedures. The team leader will provide first line supervision of personnel assigned to project tasks to ensure work is performed to achieve project quality specifications. Before changing a work process that affects the project quality specifications, the team leader will ensure the same level of planning and review as used in the initial project planning steps.

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5.1 WORK PROCESSES

All work should be regarded as a process. Each process consists of a series of actions and is planned and carried out by qualified workers using specified work processes and equipment under administrative, technical, and environmental controls established by management to achieve an end result. Workers are the best resource of contributing ideas for improving work processes and will be involved in work process design, process evaluation, and providing the feedback necessary for improvement.

All work is planned and performed using the principles of Integrated Safety Management and in compliance with P300, *Integrated Work Management for Work Activities*.

5.3 WORK PERFORMANCE

Management should ensure that the following are clearly identified and conveyed to workers prior to beginning work:

- customer and data requirements for the work and final product;
- acceptance criteria applicable to work and final product;
- hazards associated with the work;
- technical standards applicable to work and final product; and
- safety, administrative, technical, and environmental controls to be employed during the work.

The work processes used to meet the regulatory requirements and the requirements of this plan can be divided as follows:

- Stormwater Pollution Prevention Plans (Multi-Sector General Permit Section 5.0)
- Inspections (Multi-Sector General Permit Section 4.0)
- Monitoring (Multi-Sector General Permit Section 6.0)
- Discharge Monitoring Reports (Multi-Sector General Permit Section 7.1 – Reporting Monitoring Data to EPA)
- Best Management Practices (Multi-Sector General Permit Section 2.0 –Control Measures)
 - Reporting and Recordkeeping (Multi-Sector General Permit Section 7.0)

5.4 STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan (SWPPP) development and implementation by the regulated industrial facility is required for MSGP compliance (refer to Section 8.0 of the 2008 MSGP for *Sector-Specific Requirements for Industrial Activity* and Appendix D, *Sectors of Industrial Activity Covered by This Permit*). The SWPPP is intended to document the selection, design, and installation of control measures. Additional documentation requirements are intended to document the implementation (including inspection, maintenance, monitoring, and corrective

action) requirements identified in the 2008 MSGP permit. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at the specific industrial facility to minimize the discharge of pollutants in runoff from the site. These control measures include site-specific Best Management Practices (BMPs), inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site.

The SWPPP development process involves evaluating regulated industrial activities and requiring Facility Management support in implementation, improvement, and revision of the Plans.

5.4.1 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the facility specific SWPPP. The Laboratory must certify and submit analytical monitoring results obtained from each facility specific sampling location (i.e., the sampling station located at the monitored outfalls) associated with industrial activity on a Discharge Monitoring Report (DMR) form or use it to report any of the following:

- no discharge for all outfalls for a specific monitoring period;
- the industrial facility status has changed to inactive and unstaffed;
- the facility status has changed to active; or
- no further pollutant reductions are achievable for all outfalls and for all pollutants (see Section 6.2.1.2 of the 2008 MSGP).

5.4.2 ANNUAL SITE COMPLIANCE EVALUATION REPORT

The Laboratory is required to submit an annual report (Attachment 2) to the Environmental Protection Agency (EPA) that includes the findings from the comprehensive site inspection and any corrective action documentation. The documentation must include the following:

- identification of the condition triggering the need for corrective action review;
- date and description of the problem identified;
- summary of the corrective action taken or to be taken;
- notice of whether SWPPP modifications are required as a result of the discovery or corrective action;
- date corrective action was initiated; and
- date corrective action was completed or is expected to be completed.

The following table lists responsibilities:

Who	What
Project Lead	Ensure that SWPPP requirements are performed in accordance with the MSGP.

Facility Management Support	Implement SWPPP requirements as recommended by the Project Lead.
ENV-CP Staff and Deployed Environmental Professionals (DEPs)	Assure SWPPP implementation as required by MSGP.
DEPs	Develop, modify, and update SWPPPs and assist facility personnel with SWPPP implementation.

5.5 INSPECTIONS

The MSGP requires periodic inspection of industrial processes and maintenance of (BMPs) to assure effectiveness of control measures. The Laboratory has implemented a quarterly or monthly inspection process (depending on the industrial facility) to support this determination. A copy of the Routine Inspection Form is provided in Attachment 3.

5.6 STORMWATER MONITORING

Benchmark stormwater monitoring is the required mechanism for determining the effectiveness of corrective actions and meeting the requirements of the MSGP. Refer to Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011*, for a list of Laboratory sites that have monitoring requirements. Laboratory management has made an investment in time and materials, in addition to a commitment to comply with the 2008 MSGP Permit. All stormwater monitoring is conducted by ENV-CRP personnel. The MSGP Project currently has a network of 23 monitoring stations. Considerations to be used for MSGP stormwater monitoring development decisions will include MSGP requirements, new state water quality standards, Administrative Authority requests, or new permit requirements. Stormwater monitoring will be conducted as specified in the MSGP.

Effluent Limitations stormwater monitoring is required for the following type of facility of LANL:

Regulated Activity	Parameter	Effluent Limit	Monitoring Frequency	Sample Type
Discharges from asphalt emulsion facilities	Total Suspended Solids	23.0 mg/L daily max. 15.0 mg/L, 30-day avg.	1/year	grab
	pH	6.0-9.0 s.u.	1/year	grab
	Oil and Grease	10.0 mg/L 30-day avg.	1/year	grab

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This determination was made in accordance with Section 1.1.2.4 of the MSGP. The TA-60 Asphalt Batch Plant meets the criteria for effluent limitations monitoring in this section. Exceedances of the effluent limits in this table require immediate action. In addition, if follow-up monitoring after corrective actions also exceeds an effluent limit guideline, an Exceedance Report for Numeric Effluent Limits must be submitted to EPA no later than 30 days after lab results have been received and verified.

Impaired Waters stormwater monitoring is required for discharges made to an impaired water. The canyons within and surrounding Los Alamos National Laboratory are declared as Impaired Waters by the New Mexico Environment Department. The pollutants vary from canyon to canyon and are listed in Attachment 5, *Pollutants Under Impaired Waters Monitoring*. The pollutants may be discontinued in subsequent annual monitoring if the concentration is below background levels in stormwater or if the constituent is not detected.

Visual assessments are also required by the MSGP and are an important tool for collecting information to determine the effectiveness of controls in preventing potential contaminants from migrating off Laboratory property. Accordingly, field personnel must conduct visual assessments for stormwater collected at the monitoring stations or discharged through substantially identical outfalls associated with industrial facilities located throughout the Laboratory. Information recorded will document all observations that are required by the MSGP (see [ENV-RCRA-QP-064, Multi-Sector General Permit Storm Water Visual Inspections](#)).

The Laboratory's MSGP permit requires stormwater quality monitoring to evaluate compliance with water quality standards and evaluation against benchmarks. Parameters sampled at the monitoring stations are selected based on permit requirements and the results of the previous year.

Four stormwater samples per year are required under the 2008 MSGP, but it is not necessary to collect them in consecutive quarters if climatic conditions that prevented quarterly collection are documented (see *Adverse Weather Conditions* in Section 6.1.5 of the MSGP). Sample locations are listed in Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011*, and collection will be conducted in accordance with LANL and NPDES Permit requirements and the current year MSGP Sampling and Analysis Plan.

Stormwater samples are used to demonstrate compliance with water quality standards and requirements to evaluate results against benchmark parameters (Attachments 5 and 6). Any persons involved in the preparation, retrieval, and analysis must maintain positive control of samples at all times until sample disposal. ENV-RCRA personnel will follow guidance in the Associate Directorate for Environmental Programs (ADEP) document [ENV-WQH-QP-029, Creating and Maintaining a Chain of Custody](#), as well as, [ENV-RCRA-QP-047, Inspecting Storm Water Runoff Samplers and Retrieving Samples](#), and [ENV-RCRA-QP-048, Processing MSGP Storm Water Samples](#).

Chain of custody is maintained during:

Activity	Responsibility
Sample collection and preparation	All persons (other than analytical personnel) performing sample preparation and collection will be trained to sample collection procedures and must adhere to the chain of custody requirements therein.
Analysis	Analytical laboratories performing sample analysis will maintain sufficient procedures to ensure positive control of samples as specified in the existing Statement of Work.
Storage/disposal	Analytical laboratories will maintain retained samples and/or sample portions under chain of custody until reanalysis, or ultimate disposal.

The LANL Sample Management Office (SMO) will be the central point for all analytical laboratory selection, evaluations, sample submittal, and data return. The SMO will evaluate potential analytical laboratories, prepare analytical statements of work that include requirements, and arrange contracts with selected laboratories for analysis of all samples. The SMO will accept samples from field collection personnel, process the sample, ship the samples to the off-site analytical laboratories, and receive the data packages from the laboratories.

All analytical data will be received from analytical laboratories in electronic format and uploaded into a database. All received data will be checked for completeness and adherence to contract requirements. After uploading, all data will undergo verification and validation (V&V) for evidence of laboratory contamination, improper analytical method, and other analytical issues which could potentially affect data quality.

Field data collected by sample collection personnel will be verified and validated by the SMO when field personnel deliver samples to the SMO.

If significant V&V issues are identified, results will be forwarded to and discussed with the responsible project leads.

Data issues that result from procedural failures, personnel errors, or other failures to follow requirements will be documented as issues and corrected according to [ENV-DO-QP-113, Tracking Issues and Actions](#).

The following table lists responsibilities:

Who	What
Project Lead	Ensure that all project monitoring requirements are performed in accordance with the MSGP. Review and update the MSGP Sampling and Analysis Plan annually.

	When complete, communicate findings to the team members for implementation. Make appropriate arrangements with the SMO to accept, process, and submit samples to an analytical laboratory for required analyses as specified in the SAP.
MSGP Water Quality Compliance Personnel	<ul style="list-style-type: none"> • Implement monitoring program as required by the MSGP Project Lead. • Conduct stormwater sampling in accordance with the MSGP Sampling and Analysis Plan and applicable procedures. • Ensure procedures for sample handling and control during sample preparation and retrieval are followed.
Sample Management Office	<ul style="list-style-type: none"> • Develop Statements of Work (SOW) for all analytical laboratories that perform analytical work for the MSGP project in accordance with P840-1, Procurement Quality. • Ensure analytical laboratories comply with the DOE's SOW. Conduct an annual audit of the laboratory to ensure compliance with the SOW. • Approve Statements of Work for analytical laboratories that are contracted to analyze water samples. • Approve analytical laboratories that are contracted to analyze water samples for regulatory compliance purposes. • Accept samples and submit them to an approved analytical laboratory for analysis. • Track progress of samples at the analytical laboratory and resolve issues with sample analysis. • Receive data packages from the analytical laboratory and enter data into the database. • Provide the MSGP Project Lead with monthly invoice updates. • Perform V&V of field data submitted and uploaded from forms when samples are submitted to the SMO.
Operations Integration Office (OIO), Systems Integration (SI)	Perform V&V of data packages uploaded by the SMO or send data packages to a subcontractor company for independent V&V.

5.7 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the specific SWPPP. The Laboratory must submit analytical monitoring results obtained from each monitoring station associated with industrial activity on a MSGP Discharge Monitoring Report (MDMR) form (one form must be submitted for each storm event from which, a sample was collected).

MDMRs shall be written in accordance with [ENV-RCRA-QP-044, Preparing Storm Water Discharge Monitoring Reports \(MDMRs\) for the NPDES Multi-Sector General Permit](#). MDMRs shall be submitted to EPA within 30 calendar days of receiving validated

analytical results. Refer to the DMR language under the SWPPP Section above for additional requirements.

Site analytical requirements are defined by the industrial activity in the MSGP permit. All MSGP analytes applicable to LANL are consistent with the requirements of 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*.

Sample analytical requirements vary by site depending on the industrial activities performed at the site. Refer to Attachment 5 for a list of analytes by industrial sector. If an insufficient quantity of sample is available, then sample collection will be prioritized at that location for future events. Additional samples may be collected to meet permit requirements.

ENV-RCRA shall refer to the requirements of the 2008 Multi-Sector General Permit, and the most current MSGP Sampling and Analysis Plan to determine the priorities of required analyses.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> • Ensure implementing procedures for sample analyses are used. • Ensure that MDMRs are submitted to EPA and NMED in accordance with the MSGP.
MSGP Water Quality Compliance Personnel	Assure MDMRs are completed and certified as required by the MSGP and have received a full quality assurance review.

5.8 ADVERSE WEATHER CONDITIONS AND CLIMATES WITH IRREGULAR STORMWATER RUNOFF

Section 4.2.3 of the 2008 MSGP allows the industrial facility to take a substitute sample during the next qualifying storm event when adverse weather conditions prevent the collection of samples during a specific quarter. Adverse weather conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.

Documentation of the rationale for no visual assessment for the quarter must be included in the facility specific SWPPP.

Since LANL is located in an area where limited rainfall occurs during parts of the year (i.e., in a semi-arid climate) and has periods of freezing conditions, LANL has identified an alternative monitoring period of four quarters as follows for each calendar year.

- April 1-May 31

- June 1-July 31
- August 1-September 30
- October 1-November 30

The following table lists specific responsibilities.

Who	What
Project Lead	Ensure that the monitoring schedule is documented in facility specific SWPPPs and provided to EPA on the MDMRs.

5.9 REPORTING AND RECORDKEEPING

All monitoring data shall be collected in accordance with the requirements specified in the 2008 MSGP. LANL will submit monitoring results to EPA within 30 days of receiving validated laboratory results. The address for submittal of monitoring results is as follows.

U.S. Environmental Protection Agency
Office of Water, Water Permits Division
Mail Code 4203M, ATTN: MSGP Reports
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

LANL shall keep copies of the following documentation for a period of at least 3 years from the date that LANL's coverage under the MSGP expires or is terminated.

- SWPPP (including any modifications made during the term of the 2008 MSGP)
- Additional documentation requirements as identified in Section 5.4 of the MSGP
- All reports and certifications required by the MSGP
- Monitoring data
- Records of all data used to complete the NOI.

The following table lists specific responsibilities:

Who	What
Project Lead	Periodically audit MSGP records to ensure documentation of compliance is being retained.
Deployed Environmental Professionals	Retain records as required by the MSGP for industrial facilities located in their FOD.

5.10 BEST MANAGEMENT PRACTICES

It is critical that the Laboratory be able to effectively inspect and maintain the Best Management Practices that have been installed at various locations. Quarterly inspections must be completed and provided to the Project Lead for inclusion into the records system. In addition, the Project Leader conducts a Comprehensive Annual Site Inspection and writes a report to document the status of BMPs and other identified corrective actions. This report is sent to EPA each year. Laboratory management has made an investment in time and materials, in addition to a commitment to minimizing the potential migration of contaminants in stormwater. Report findings are evaluated and in conjunction with facility personnel, BMPs are modified, installed, or removed as necessary.

The following table lists responsibilities.

Who	What
Project Lead	Assist facility personnel and Deployed Environmental Professionals with implementation, inspection, and maintenance of BMPs at MSGP facilities.
Facility Management Support	<ul style="list-style-type: none"> Coordinate with Project Lead and provide funding as needed to install, inspect, maintain and implement identified BMPs. Certify the corrective actions identified by the Project Lead and/or facility personnel (or their representatives) for their individual facilities in the Annual Report.

5.11 INFORMATION MANAGEMENT

The Water Quality Database is a database information system designed in part to support the information management (IM) needs of the Laboratory's MSGP. MSGP support includes stormwater discharge monitoring reporting, Geographic Information System (GIS) development, and other IM activities as needed.

The following table lists responsibilities:

Who	What
Project Lead	Coordinate with IM support personnel to meet regulatory requirements.

5.12 RESPONDING TO WATER QUALITY EXCEEDANCES

The identification of a pollutant source(s) contributing to a water quality exceedance will be addressed through the creation of a corrective action that is entered into the Corrective Acton

Report database in accordance with [ENV-DO-QP-113, Tracking Performance Feedback and Actions](#) and [ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions](#). Federal stormwater regulations implemented under the Laboratory's MSGP (40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System) require that corrective action be taken if exceedances of water quality standards or MSGP numeric effluent limits are identified. Corrective actions are typically accomplished by modifying, as appropriate, existing BMPs and SWPPPs.

When a water quality exceedance occurs, the Laboratory will submit the data on the required MDMRs, investigate the occurrence, and document corrective actions.

When an exceedance of the MSGP benchmark parameters is detected, the Project Lead will assure the analytical data is reviewed, notify appropriate SWPPP owners, and recommend and track corrective actions where required.

The following steps lead to corrective actions:

STEP	Action
1	Establish that an analytical result from a location is valid and has exceeded a standard or MSGP benchmark.
2	Evaluate and demonstrate that the analyte is of LANL origin, if possible.
3	Determine the source and assign responsibility for the corrective action.
4	Develop a corrective action plan.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> Assure that analytical data is reviewed and accurate. Notify appropriate SWPPP owners, Laboratory management, and Deployed Environmental Professionals. Develop a corrective action plan. Follow up with corrective actions if required. Track corrective actions.
Facility Management and DEP	<ul style="list-style-type: none"> Review analytical data with Project Lead and provide input into a possible corrective action necessary to improve water quality where needed. Evaluate and improve BMPs in accordance with site conditions, industry standards, and manufacturer

	recommendations.
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5.13 INSTRUMENTATION AND EQUIPMENT

Compliance will be tracked by performing inspections of samplers and other associated equipment, inspecting BMPs, and conducting annual site compliance evaluations. Adequate records will be maintained to demonstrate the operating history of essential instrumentation and equipment.

LANL will properly operate and maintain all systems of monitoring and control and related appurtenances which are installed or used to achieve compliance with the MSGP and the SWPPP. Backup instrumentation and equipment will be timely deployed in the event of equipment failure.

Instrument calibration is essential for documenting the quality of data obtained with the instrument. All technical work that depends upon the accuracy of data will be performed using equipment for which the calibration status and limits of accuracy are known and controlled.

Field team personnel will calibrate and perform maintenance procedures on all monitoring and analytical field instruments to ensure accuracy of measurements and will maintain appropriate records of such activities. All field calibrations will be documented as prescribed by procedures or manufacturer's instructions.

The following table lists specific responsibilities.

Who	What
Project Lead	<ul style="list-style-type: none"> • Ensure data are collected and equipment is operated and maintained in accordance with project requirements. • Provide equipment maintenance and calibration specifications and ensure MSGP Water Quality Compliance Team personnel operate and conduct field activities in accordance with implementing procedures and specific work orders.

6.0 DESIGN

Design activities will be conducted and reviewed in accordance with [PD340, *Conduct of Engineering*](#) and [P341, *Engineering Process Manual*](#).

Design standards under this program include, but are not limited to temporary and permanent BMPs, corrective action measures, and stormwater monitoring support.

Design inputs will be specified and approved on a timely basis for making design decisions. Inputs will contain the level of detail required to permit the performance of design activities correctly.

Formal design reviews, including design verifications and evaluation of design changes, will be conducted to ensure that the design input is correctly incorporated into the design output. Changes to design will undergo the same review as the original design.

Verification and validation of the adequacy of designs are conducted before relying on the performance of the design function. Verification and validation are conducted in accordance with implementing procedures.

The following table lists responsibilities.

Who	What
Project Lead	<ul style="list-style-type: none"> • Provide input to the design process in accordance with appropriate standards, requirements, and implementing procedures. • Determine the qualifications required to perform a review of design documents. • Identify a resource with skills, knowledge, ability, training, and certifications required to complete the review of the facility engineering design documents. • Communicate the results of the review to the requestor.
ENV-CP Staff	<p>Review design documents and requests as assigned.</p> <p>Inform the Project Lead of concerns regarding the facility engineering designs.</p>

7.0 PROCUREMENT

Items and services required for this process are commercial grade in nature and no special procurement requirements or needs are necessary. All procurements will be made in accordance with [P840-1, Procurement Quality](#). For items and all services for which special requirements are necessary, the Project Lead and project members will identify such items or services.

The following table lists responsibilities:

Who	What
Group Leader	Ensure all procurements are conducted in accordance with P840-1.
Project Lead	<p>Recommend to Group Leader contracting items and services.</p> <p>Develop acceptance criteria.</p>
ENV-CP Staff	Identify potential suppliers of products or services necessary to complete work activities that must be procured from outside ENV-RCRA.

8.0 INSPECTION AND ACCEPTANCE TESTING

Any materials or services will be inspected and/or tested prior to acceptance for use in this project in accordance with [P330-8, *Inspection and Test for Acceptance*](#). Most supplies used during performance of project activities are commercial grade in nature and require no special acceptance practices or procedures.

The following table lists responsibilities:

Who	What
Group Leader	Ensure procedures for inspection meet SD330, <i>Los Alamos National Laboratory Quality Assurance Program</i> requirements.
Project Lead	Verify that all materials and services meet acceptance criteria.
ENV-CP Staff	Follow established procedures for inspection and acceptance testing.

9.0 MANAGEMENT ASSESSMENT

The ENV-CP Group conducts internal management assessments of projects and programs in accordance with the requirements in [P328-3, *Management Assessment*](#) and [P328-4, *Management Observation and Verification*](#). Assessments of the program are documented and filed as records.

When violations of requirements are found during a management assessment, a nonconformance report is initiated in accordance with [P330-6, *Nonconformance Reporting*](#) for nonconforming items.

Nonconforming services or processes are tracked and documented in accordance with [P322-4, *Issues and Corrective Action Management*](#).

The following table lists responsibilities:

Who	What
Group Leader	Ensure management self-assessments for the MSGP program are conducted as specified in implementing procedures.
Project Lead	Ensure program management self-assessments are conducted.

10.0 INDEPENDENT ASSESSMENT

Independent assessments are those assessments conducted by organizations external to ENV-RCRA. As required by the [SD330, Los Alamos National Laboratory Quality Assurance Program](#), this program may be assessed by outside organizations in accordance with [P328-2, Independent Assessment](#).

Periodically audits/assessments will be conducted, with input from the Project Lead identifying one or more areas of the project to be audited.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> • Approve audit schedules. • Provide input to the QA Specialist as to the content of audit. • Review audit reports for factual accuracy. Address all findings and implement corrective actions as appropriate.
QA Specialist	<ul style="list-style-type: none"> • Identify areas to be addressed during internal audits. • Contract with the Quality Management Group to perform annual internal audits. • Review audit procedures to ensure they meet the requirements in this section.
Team Members	<p>Cooperate with auditors by providing information, data, etc.</p> <p>Implement corrective actions as directed by the Project Lead.</p>

11.0 ATTACHMENTS

Attachment 1- MSGP Program Organization

Attachment 2 – Annual Reporting Form

Attachment 3 – Routine Inspection Form

Attachment 4 – MSGP Facilities and Storm Water Monitored Outfalls Associated with Industrial Activity 2011, Permit NMR05GB21

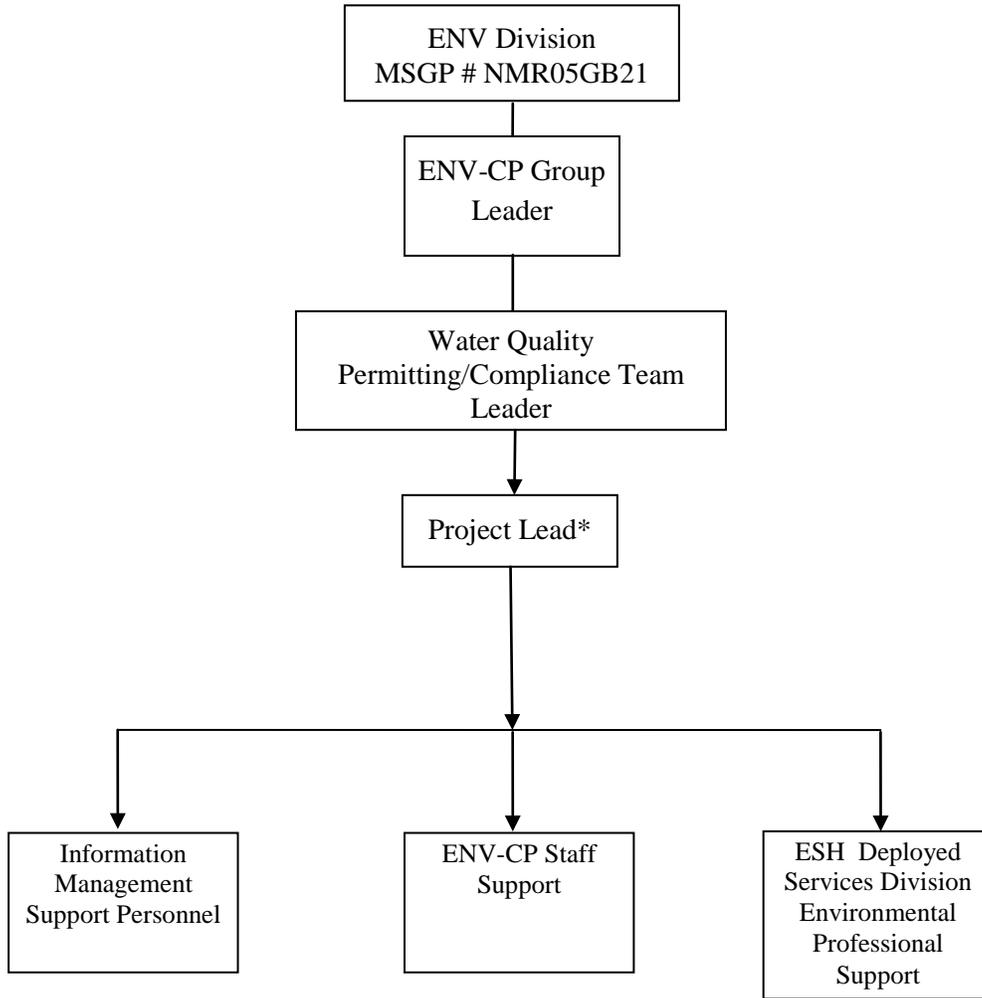
Attachment 5 – Pollutants under Impaired Waters Monitoring

Attachment 6 – Analytes by Industrial Sector

Attachment 7 – References and Guidance Documents

[Click here for “Required Read” credit.](#)

ATTACHMENT 1- MSGP PROGRAM ORGANIZATION



*Project Lead acts as liaison and will work directly with Team Leaders for staff assignments.

ATTACHMENT 2 – ANNUAL REPORTING FORM

NPDES Permit Tracking No.:

Grid for NPDES Permit Tracking No.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name: [Grid]

2. NPDES Permit Tracking No.: [Grid]

3. Facility Physical Address:

a. Street: [Grid]

b. City: [Grid]

c. State: [Grid]

d. Zip Code: [Grid] - [Grid]

4. Lead Inspectors Name: [Grid]

Title: [Grid]

Additional Inspectors Name(s): [Grid]

[Grid]

5. Contact Person: [Grid]

Title: [Grid]

Phone: [Grid] - [Grid] - [Grid] Ext. [Grid] E-mail: [Grid]

6. Inspection Date: [Grid] / [Grid] / [Grid]

B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?
 YES NO

If NO, describe why not:

NOTE: Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? YES NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

ATTACHMENT 3 – ROUTINE INSPECTION FORM

Name of Facility:		Responsible FOD (Name & Organization):			
Qualified Inspector(s): Others Present:		Inspection type: <input type="checkbox"/> Quarterly <input type="checkbox"/> Other		Date of inspection (MM/DD/YYYY):	
		Time of inspection:			
Weather: <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds <input type="checkbox"/> Other:					
Temperature: ° F		Is Inspection Being Conducted During a Storm Water Discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No			
#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Were additional BMPs or Control Measures implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Were previously identified conditions corrected before the next anticipated storm event? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, describe reason:					
Area/Activity (Areas of Industrial Materials or Activities Exposed to Storm Water)	Inspected ?	Controls Adequate?	Corrective Action Needed and Notes (List area letter with comments below)		
A. Material loading/unloading & storage areas					
B. Equipment operations & maintenance areas					
C. Fueling Areas					
D. Outdoor vehicle & equipment washing areas					
E. Waste Handling & disposal areas					
F. Erodible areas / construction					
G. Non-storm water / illicit connections					

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H. Salt storage piles or pile containing salt			
I. Dust generation & vehicle tracking			
Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Were any Corrective Actions initiated or completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:			
Are there any conditions requiring Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, List Number of Corrective Actions Required ____ (Note – You need enter a Corrective Action in the MSGP Corrective Action Report database for each listed)			

**ATTACHMENT 4 -- MSGP FACILITIES AND STORM WATER MONITORED OUTFALLS ASSOCIATED WITH INDUSTRIAL ACTIVITY 2011,
PERMIT NMR05GB21**

Location	Permitted Facility	Operation	Activity	Sector	Monitored Outfall	• Canyon
TA-15-185	TA-15-185 PHERMEX	Vehicle Maintenance Shop	Vehicle Maintenance	P	15-PHRMX-1	• Water
TA-3-0034	TA-3-0034 Metal Shop	Fabricated Metals	Fabricated Metals	AA	3-MST-1	• Mortandad
TA-3-22	TA-3-22 Power & Steam Plant	Power Plant	Steam Electric Power	O	3-PSP-1 3-PSP-5 3-PSP-8	• Sandia • •
TA-3-38	TA-3-38 Metals Fab Shop	Metal Shop	Fabricated Metals	AA	3-MFS-1	• Sandia
TA-3-39	TA-3-39 & 102 Metal Shop	Metal Shop	Fabricated Metals	AA	3-TS-1	• Pajarito
TA-3-66	TA-3-66 Sigma Complex	Sigma Foundry	Primary Metals	F	3-Sigma-6	• Sandia
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-1	• Pajarito
TA-54	TA-54 Area G	Area G -North Side	TSD	K	54-G-2	• Canada del Buey
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-3	• Pajarito
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-4	• Pajarito
TA-54	TA-54 Area L	Area L	TSD	K	54-L-1	• Canada del Buey
TA-54-38	TA-54 RANT	RANT	TSD	K	54-RANT-1	• Canada del Buey
TA-60	TA-60 Asphalt Batch Plant	Asphalt Batch Plant	Asphalt Paving	D	60-ABP-1	• Mortandad
TA-60	TA-60 MRF	Materials Recycling Facility	Scrap Recycling	N	60-MRF-1	• Sandia
TA-60-250	TA-60 Roads and Grounds	Roads & Grounds Facility	Vehicle Maintenance & Storage	P P P	60-RG-1 60-RG-3 60-RG-8	• Mortandad • Sandia • Sandia
TA-60-1	TA-60-1 Heavy Equipment Yard	Motor pool	Vehicle Maintenance	P	60-HEY-2	• Sandia
TA-60-2	TA-60-2 Warehouse	Motor pool	Vehicle Maintenance	P	60-WH-1	• Sandia
TA-9-28	TA-9-28 Heavy Equipment Maintenance	Motor pool	Vehicle Maintenance	P	9-HEM-1	• Pajarito

ATTACHMENT 5 – POLLUTANTS UNDER IMPAIRED WATERS MONITORING

Permitted Facility	Monitored Outfall	Assessment Unit	Canyon	Pollutant
TA-54 Area G TA-54 Area L TA-54-RANT	54-G-2 54-L-1 54-RANT-1	NM-128.A_00	Canada del Buey (within LANL)	PCBs Aluminum Gross Alpha
TA-54 Area G TA-54 Area G TA-54 Area G	54-G-1 54-G-3 54-G-4	NM-128.A_08	Pajarito Canyon (within LANL below Arroyo de la Delfe)	PCBs Aluminum Copper Gross Alpha
TA-15-185 PHERMEX	15-PHRMX-1	NM-128.A_13	Water Canyon (within LANL below Area-A Canyon)	PCBs Aluminum Gross Alpha
TA-3-39 & 102 Metal Shop	3-TS-1	NM-128.A_15	Two Mile Canyon (Pajarito to headwaters)	PCBs Aluminum Gross Alpha
TA-9-28 Heavy Equipment Maintenance	9-HEM-1	NM-128.A_16	Arroyo de la Delfe (Pajarito Canyon to headwaters)	Aluminum Mercury Gross Alpha
TA-60 Asphalt Batch Plant TA-3-0034 Metal Shop TA-60 Roads and Grounds	60-ABP-1 3-MST-1 60-RG-1	NM-9000.A_042	Mortandad Canyon (within LANL)	Aluminum Copper Gross Alpha
TA-3-38 Metals Fab Shop TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-66 Sigma Complex TA-60-1 Heavy Equipment Yard TA-60 MRF TA-60 Roads and Grounds TA-60 Roads and Grounds TA-60-2 Warehouse	3-MFS-1 3-PSP-1 3-PSP-5 3-PSP-8 3-Sigma-6 60-HEY-2 60-MRF-1 60-RG-3 60-RG-8 60-WH-1	NM-9000.A_047	Sandia Canyon (Sigma Canyon to NPDES outfall 001)	PCBs Aluminum Copper Gross Alpha Mercury

ATTACHMENT 6 – ANALYTES BY INDUSTRIAL SECTOR

Permitted Facility	Monitored Outfall	Sector	Activity	Analyte	Monitoring Requirement
TA-3-0034 Metal Shop TA-3-38 Metals Fab Shop TA-3-39 & 102 Metal Shop	3-MST-1 3-MFS-1 3-TS-1	AA	Fabricated Metals	Aluminum Iron Nitrate plus Nitrite Nitrogen Zinc	Quarterly Benchmark Monitoring (QBM) QBM QBM QBM
TA-60 Asphalt Batch Plant	60-ABP-1	D	Asphalt Paving	Oil and Grease pH Total Suspended Solids	Effluent Limitations Guidelines (ELG) ELG QBM and ELG
TA-3-66 Sigma Complex	3-Sigma-6	F	Primary Metals	Copper Zinc	QBM QBM
TA-54 Area G TA-54 Area G TA-54 Area G TA-54 Area G TA-54 Area L TA-54 RANT	54-G-1 54-G-2 54-G-3 54-G-4 54-L-1 54-RANT-1	K	Treatment, Storage or Disposal Facility (TSD)	Ammonia Arsenic Cadmium Chemical Oxygen Demand Cyanide Lead Magnesium Mercury Selenium Silver	QBM QBM QBM QBM QBM QBM QBM QBM QBM QBM
TA-60 MRF	60-MRF-1	N	Scrap Recycling	Aluminum Chemical Oxygen Demand Copper Iron Lead Total Suspended Solids Zinc	QBM QBM QBM QBM QBM QBM QBM
TA-3-22 Power & Steam Plant	3-PSP-1 3-PSP-5 3-PSP-8	O	Steam Electric Power	Iron	QBM

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ATTACHMENT 7 – REFERENCES AND GUIDANCE DOCUMENTS

- 40 CFR 122, *EPA Administered Permit Programs*
- 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants.*
- Clean Water Act, Title 33 U.S.C. 1251
- DOE O 414.1C, *Quality Assurance*
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- EPA QA/G-4, *Guidance for the Data Quality Objectives Process*

LANL Documents:

- P322-4, *Laboratory Performance, Feedback, and Improvement*
- P328-3, *Management Assessments*
- P328-4, *Management Observation and Verification*
- P330-6, *Nonconformance Reporting*
- P330-8, *Inspection and Test for Acceptance*
- P340, *Conduct of Engineering*
- P341, *Engineering Process Manual*
- P401, *Procedure to Identify, Communicate, and Implement Environmental Requirements*
- P407, *Water Quality*
- P840-1, *Procurement Quality*

ENV Documents:

- ENV-DO-QP-105, *Preparation, Review, and Approval of Procedures*
- ENV-DO-QP-106, *Document Control*
- ENV-DO-QP-113, *Tracking Performance Feedback and Actions*
- ENV-DO-QP-115, *Personnel Training*
- ENV-CP-QP-022, *MSGP Storm Water Corrective Actions*
- ENV-CP-QP-044, *Preparing Storm Water Discharge Monitoring Reports (MDNRs) for NPDES MSGP*
- ENV-CP-QP-047, *Inspecting Storm Water Runoff Samplers and Retrieving Samples*
- ENV-CP-QP-048, *Processing MSGP Storm Water Samples*
- ENV-CP-QP-064, *Multi-Sector General Permit Storm Water Visual Inspections*
- ENV-WQH-QP-029, *Creating and Maintaining a Chain of Custody*
- Surface Water Monitoring Plan, October 2001, Rev. 0.0

ATTACHMENT 16: EPC-CP-QP-023 MSGP ROUTINE FACILITY INSPECTIONS

EPC-CP-QP-023

Revision: 0



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Environment, Safety, and Health Directorate

Environmental Protection and Compliance Division – Compliance Programs

Quality Procedure

MSGP Routine Facility Inspections

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REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
EPC-CP-QP-023 R0	05/17/2018	New Document. Process formerly part of procedure ENV-RCRA-QP-022 R2, <i>MSGP Corrective Actions</i> .

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1.0 INTRODUCTION

The National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP), also referred to as the permit, (Tracking Number NMR053195) contains specific environmental requirements for inspecting areas of Los Alamos National Laboratory (LANL) covered by the permit. This includes areas where industrial materials or activities are exposed to stormwater, areas identified as potential pollutant sources, areas where leaks and spills have occurred in the past three years, discharge points, and control measures used to comply with the effluent limits of the MSGP.

Los Alamos National Security, LLC (LANS) inspectors and facility personnel are required to perform routine facility inspections for industrial stormwater discharge on LANL areas covered by the MSGP at least quarterly and document observations. Conditions (as described by the MSGP) found during an inspection, requiring a corrective action(s), are managed through EPC-CP-QP-022, *MSGP Corrective Actions*.

1.1 Purpose

Parts 3.1 and 3.1.2 of the MSGP contain specific requirements for conducting and documenting periodic industrial routine facility inspections. This procedure governs the activities of LANS personnel involved in conducting industrial routine facility inspections. It also contains information and specific steps to be used for identifying and documenting conditions in order to meet the permit requirements.

1.2 Scope

Requirements set forth in this document apply to LANS personnel responsible for meeting the permit conditions on behalf of LANL industrial facilities covered by the MSGP. The MSGP requires periodic inspection of facilities and identification, documentation, and reporting of conditions, including those requiring corrective actions.

Inspections conducted under this procedure are documented using the Maintenance Connection Express™ (MC Express) web application on a tablet or notebook style computer. (In the event of electronic hardware or web application failure, personnel may use a printed hard copy to conduct the inspection.)

1.3 Applicability

This procedure applies to Environmental Protection and Compliance-Compliance Programs (EPC-CP) technical staff, Deployed Environmental Professionals (DEPs), and subcontractor personnel (as applicable) who conduct inspections and monitoring activities at MSGP regulated LANL facilities.

2.0 ROLES AND RESPONSIBILITIES

Specific roles and responsibilities for implementation of requirements contained in the MSGP are provided below.

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2.1 EPC-CP MSGP Stormwater Team

EPC-CP MSGP Stormwater personnel are fully knowledgeable of the specific regulatory requirements identified in the MSGP and are responsible for the following:

- Implementing this procedure;
- Performing routine facility inspections the last month or quarter of the year at regulated sites [depending on inspection frequency identified in site-specific Stormwater Pollution Prevention Plans (SWPPPs)];
- Performing “no exposure” site inspections once a year to ensure conditions of the “no exposure” exclusion are met;
- Performing routine facility inspections at inactive sites once a year;
- Identifying issues requiring a corrective action during any of the above inspections or assessments;
- Determining a condition of non-compliance;
- Notifying managers, or legal counsel of non-compliances;
- Modifying the site-specific MSGP Routine Facility Inspection Form to add new Best Management Practices (BMPs) or decommission retired ones;
- Training personnel to use MC Express;
- Performing a quality review of routine facility inspections and “no exposure” site inspections submitted in Maintenance Connection (MC); and
- Assisting customers with issues associated with MC Express.

2.2 Deployed Environmental Professionals

DEPs are responsible for the following.

- Implementing this procedure;
- Being educated (i.e., knowledgeable) of the requirements contained in site-specific SWPPPs within their assigned Facility Operations Directorate (FOD);
- Meeting qualification requirements identified in the Quality Assurance Project Plan EPC-CP-QAPP-MSGP, *Stormwater Multi-Sector General Permit for Industrial Activities Program*;
- Being trained on EPC-CP-QP-022, *Multi-Sector General Permit (MSGP) Corrective Actions*;
- Being trained on UTrain course number 53040, *MSGP Routine Inspections OJT*;
- Being familiar with industrial site and facility operations assigned to them so that they minimize sources of pollutants and pro-actively maintain controls to prevent issues that require corrective action;
- Performing routine facility inspections, either monthly or quarterly throughout the year at regulated sites within their FOD [depending on inspection frequency identified in site-

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specific Stormwater Pollution Prevention Plans (SWPPPs)] and documenting results accurately;

- Acting as liaison between the FOD, Deployed Environment, Safety, and Health Services (DESHS) Manager and facility/operations personnel to ensure corrective actions are addressed appropriately by overseeing maintenance and/or installation of additional controls;
- Educating appropriate facility/operations personnel on the MSGP and site-specific SWPPPs so they successfully implement the conditions of the permit; and
- Notifying EPC-CP MSGP stormwater personnel when additional or substitute BMPs have been installed or old BMPs have been removed so the site-specific MSGP Routine Facility Inspection Form can be modified.

2.3 EPC-CP Stormwater Permitting and Compliance Team Leader

The EPC-CP Stormwater Permitting and Compliance Team Leader is responsible for compliance oversight relative to the MSGP. The Team Leader ensures adequate resources needed to implement the regulatory requirements identified in the MSGP are identified and environmental risks are assessed. The Team Leader will notify upper management of these required resources or environmental risks, as deemed necessary. In the event there is a dispute regarding the regulatory requirements contained in the MSGP, the Team Leader makes the final determination of the required action. The Team Leader notifies upper management of instances of non-compliance with the permit.

2.4 EPC-CP Group Leader

The EPC-CP Group Leader or designee is responsible for ensuring there are adequate resources to implement the regulatory requirements identified in the MSGP. The Group Leader or Team Lead also acts as the duly authorized signatory that certifies the Annual Report, MSGP Routine Facility Inspections, or “no exposure” site inspections conducted by EPC-CP personnel. The Group Leader notifies upper management of instances of non-compliance with the permit or other identified environmental risk.

2.5 DESHS Manager

The DESHS manager works with programmatic entities and the FOD to identify adequate resources for their industrial facilities to ensure permit requirements can be implemented. The DESHS Manager is responsible for the performance of DEPs under their management and to maintain trained and qualified DEPs. They also provide oversight by ensuring that industrial facilities complying with the MSGP and will notify upper management of instances of non-compliance with the permit or other identified environmental risk.

3.0 PRECAUTIONS AND LIMITATIONS

The hazard rating for the activities described in this procedure is **LOW** and therefore, does not require an IWD.

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Field inspections may be discontinued during periods or conditions that make sites dangerous for worker safety or prevent personnel from safely accessing sites (e.g., weather-related events such as flash floods, flooding, lightning, wildfires, hail, icy roads, deep snow, or LANL operations such as firing shots or burns).

4.0 PREREQUISITE ACTIONS

4.1 Planning and Coordination

1. Schedule work to be completed by the target date appearing on the inspection or as requested by the MSGP program lead if an inspection is not issued.
2. Inform (e.g., by e-mail) facility contacts (as needed) of the schedule for facility inspection work and locations up to a week (preferred) before but no later than the day before (for minor changes) to be added to the appropriate plan of the day (as necessary).
3. Obtain any necessary additional paperwork before conducting this work, including SWPPPs and maps (as necessary).

4.2 Tools and Equipment

Ensure the following equipment is available.

- Sturdy hiking boots or steel toed shoes with soles that grip and other facility specific PPE as needed
- Cell phone (Only government cell phones are allowed in secure areas. See <https://int.lanl.gov/policy/documents/P217.pdf> for requirements for using portable electronic devices on Laboratory property.)
- Copy of this procedure
- Copy of facility specific SWPPP and map(s) (as needed)
- Current electronic or paper inspection form EPC-CP-Form-1020, *MSGP Routine Facility Inspection*
- LANS issued tablet or notebook style computer with Safari web browser and Blackberry UEM™ app (see <https://int.lanl.gov/policy/documents/P217.pdf> for requirements for using portable electronic devices on Laboratory property)
- Necessary access keys

5.0 MSGP ROUTINE FACILITY INSPECTIONS

MSGP routine facility inspections are conducted by the DEP or other qualified facility personnel (as defined in the MSGP or as determined by MSGP program lead) during periods when the facility is in operation and during standard operating hours. The inspections are performed on the following facility areas:

- Areas where industrial materials or activities are exposed to stormwater;

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- Areas identified in the SWPPP and those that are potential pollutant sources;
- Areas where spills and leaks have occurred in the past;
- Discharge points; and
- Control measures used to comply with the effluent limits contained in the MSGP.

Routine facility inspections are conducted at least quarterly; however, some facilities may conduct monthly inspections (as specified in the facility specific SWPPP). At least once each calendar year, the routine facility inspections must be conducted during a period when stormwater discharge (either rain or snow) is occurring. During the inspection you must look for the following:

- Industrial materials, residue or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks and other containers;
- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final or waste materials from areas of “no exposure” to exposed areas; and
- Control measures need replacement, maintenance or repair.

Conditions requiring corrective action identified during an inspection, monitoring, or other means must be entered into the MSGP Corrective Action Report database by the DEP(s), EPC-CP stormwater personnel and/or other qualified facility personnel (as defined in the MSGP or as determined by MSGP program lead). Follow the process in EPC-CP-QP-022, *MSGP Corrective Actions* to address issues found during an inspection.

If the industrial facility is inactive and unstaffed and there are no industrial materials or activities exposed to stormwater, routine inspections may not be required. A determination of whether a facility is inactive or unstaffed is made in coordination with stormwater personnel from EPC-CP as there are specific documentation and certification requirements that have to be met prior to discontinuing routine inspections. Such a facility is only required to conduct an annual site inspection.

If the industrial facility is eligible for a “no exposure” exclusion routine inspections are no longer required. A condition of “no exposure” exists when all industrial materials and activities are protected by a storm resistant shelter (e.g., moved to an indoor location) to prevent exposure to rain, snow, snowmelt, and/or runoff. A determination of whether a facility is eligible for “no exposure” status is made in coordination with stormwater personnel from EPC-CP as there are specific documentation and certification requirements that have to be met prior to discontinuing routine inspections. Such a facility is only required to conduct an annual site evaluation and recertification every five years.

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5.1 Conducting the Inspection

See Attachment 1 for screen shot examples of EPC-CP-Form-1020, *MSGP Routine Facility Inspection* in MC Express. See Attachment 2 for a crosswalk of the inspection form in hard copy format.

Some terminology varies between the MC Express software and the Maintenance Connection desktop software. The “Complete” option in MC Express is the same as a “Yes” answer; the “Failed” option in MC Express is the same as a “No” answer. Maintenance Connection desktop and hard copy (printed) work orders use “Yes” and “No” terminology.

If the inspector needs space, additional comments can be entered in the “Labor Report” field (see Section 5.2) when the work order is updated to “Complete” status in MC Express. If completing a hard copy enter additional comments in the “Labor Report” field at the bottom of the form.

1. Use the Internet Explorer web browser on a tablet or similar portable computer and navigate to <http://express.maintenanceconnection.com>. Log into the MC Express application using your login credentials.
2. Open the inspection form for the location to be inspected and select “Tasks” to navigate to the Tasks page.

Note: Each item number listed in red font below corresponds to a numbered box on both screen shots (Attachment 1) and hard copy format (Attachment 2).

3. **Item 1:** Observe the weather at time of inspection. Describe the weather and record the temperature in the “Comments” field. Document this task is or is not completed by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

CAUTION

Click the “Save” bar after entries for a task line have been completed and before proceeding to the next question. Failure to “Save” results in lost data entries.

4. **Item 2:** Observe and document the facility is free of **new** discharges of pollutants **since the last inspection** by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any new discharges and the specific location in the “Comments” field of the task line.
5. **Item 3:** If the response to **Item 2** is “Complete” click the expand arrow located on the right side of this task line and change the “N/A” line to “Yes”. If the response to **Item 2** is “Failed” document any CAR previously initiated for the discharge by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.
6. **Item 4:** Observe and document the facility is free of discharges of pollutants at the time of inspection by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any pollutant discharge and the specific location in the “Comments” field of the task line.

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7. **Item 5:** Observe and document the facility is free of evidence of pollutants entering the drainage system OR the potential for pollutants entering the drainage system by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any discharge or potential discharge and the specific location in the “Comments” field of the task line.
8. **Item 6:** Observe and document the outfall does not have any **new** evidence of erosion **since the last inspection** by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any erosion observed in the “Comments” field of the task line.
9. **Item 7:** Observe and document all flow dissipation devices are operating effectively and are not in need of repair by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any non-functional status of devices in the “Comments” field of the task line.
10. **Item 8:** Observe and document the outfall is free of evidence of pollutants in the discharge and/or the receiving water by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any pollutants observed in the “Comments” field of the task line.
11. If the location has more than one outfall, complete Steps 8 through 10 for each outfall shown on the work order.
12. **Item 9:** Observe and document each control measure is operating effectively by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any non-operational condition of the control measure (e.g., erosion, damage, etc.) and if the control measure needs maintenance, repair, or replacement in the “Comments” field of the task line.
13. If the location has more than one control measure complete Step 12 for each control measure shown on the work order.
14. **Item 10:** Observe and document each sector of NPDES specified industrial area/activity (e.g., metal fabrication; foundry operations; power generation; asphalt production; fabricating timber products; material recycling; warehouse and transportation activity; treatment and storage of hazardous waste) is inspected for exposure to stormwater by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Determine if the control measures associated with each industrial area/activity are appropriate for the activity, effectively controlling stormwater exposure, and operating. Describe any non-operational condition of the control(s) and needed maintenance or a description of corrective actions in the “Comments” field of the task line.
15. If the facility has more than one sector of NPDES specified industrial area/activity complete Step 14 for each industrial area/activity shown on the work order. If an industrial activity does not apply to the facility click the expand arrow located on the right side of the task line and change the “N/A” line to “Yes”.

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16. **Item 11:** Observe and document the facility is free of discharges of any non-compliance not documented elsewhere on the inspection form by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any additional incidences of non-compliance in the “Comments” field of the task line.
17. **Item 12:** Observe and document the facility meets the MSGP requirements with existing control measures by clicking the expand arrow located on the right side of the task line and changing the “Complete” to “Yes”. If additional control measures are needed to comply with the Permit, clicking the expand arrow located on the right side of the task line and changing the “Failed” to “Yes” and describe the control measures in the “Comments” field of the task line.
18. When all task lines have been completed, make sure you have clicked the “Save” bar at the bottom of the page.
19. Click the “Back” arrow button in the upper left hand corner to exit the work order Tasks page and return to the Work Order Summary page.

Always log out of MC Express when you have finished work OR if work is interrupted.

5.2 Completing the Inspection Form in MC Express

See Attachment 1 for screen shot examples of EPC-CP-Form-1020, *MSGP Routine Facility Inspection* in MC Express.

1. Click the checkered flag in the upper right corner of the work order Summary page.

CAUTION

MC Express automatically changes the work order status to “Closed” and auto-populates the date and time fields.

2. **Item 13:** Click on the expand arrow located on the right side of the “New Status” field and select “Completed” from the available dropdown menu. Ensure the date and time auto-populated are the date and time the on-site **field inspection was completed** (not the date/time the form was filled out).

If these fields need to be updated, click the “Date” field to modify it. Make necessary adjustments using the available timestamp application and click “Set” to apply changes.
3. **Item 14:** The inspector types in his/her name in the “Labor Report Update” field.

Any additional notes, observations, or site conditions not documented in a task line “Reading” or “Comments” field can be documented in the “Labor Report Update” section.
4. Scroll down the page to the “Signature” bar and click the expand arrow on the left side of the bar to open the “Signature” field.
5. **Item 15:** Capture an electronic signature by drawing with a finger on the tablet screen. The field inspector is certifying that the information submitted is “true, accurate, and complete” by electronically signing work order.

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Note: If using MC Express on a desktop screen (not a tablet), the mouse is used to draw a signature.

6. Click on the “Save” bar at the bottom of the page to close the “Signature” field.
7. Click on the “Back” button located in the upper left hand corner to return to the “My Open Work Orders” page.
8. Once you have completed an inspection, click on the Menu button again, and then click the “Logout” bar. Close the browser. All work will be automatically uploaded from the MC Express application to the MC database.

Always log out of MC Express when you have finished work OR if work is interrupted.

5.3 Completing the Inspection Form on Hardcopy

See Attachment 2 for a crosswalk of EPC-CP-Form-1020, *MSGP Routine Facility Inspection* to hard copy format.

1. **Item 13:** Write in the date and time the **inspection was completed** and **not the date/time the form was filled out**. If an inspection needs to be performed over multiple days, note the date and time the inspection began in the Labor Report field.
2. **Item 14:** The field inspector prints his/her name.
3. **Item 15:** The field inspector reviews the inspection form for accuracy and certify that the information submitted is “true, accurate, and complete” by signing his/her name and dating when the form was signed.

5.4 Completing the Certification Statement

Follow Steps 1 through 5 in this section if the inspection form was completed electronically (see Attachment 1). If the inspection form was completed on a hard copy form skip to Step 6.

1. Using the Internet Explorer web browser on a desktop computer, navigate to <http://www.maintenanceconnection.com>. Log into the MainConn desktop application using your login credentials.
2. Click “Open” in the tool bar at the top of the page to open the MainConn module selections. Click on the “Work Orders” module.
3. Click on the “Search” tab at the top left of the page and enter the work order number in the “Search Value” field. Click the arrow to the right of the “Search Value” field to open the work order in the right split screen.
4. Click on the “Report” tab at the top of the page and click the “Work Order Statement” sub-tab.
5. Click the Tools drop down menu  in the top right corner of the page and select “Print” from the options. The print dialog box will open. Select the print options as appropriate for your local printer.

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6. **Item 16:** Obtain a printed name and title, signature, and date on the certification statement. The routine facility inspection form must be certified with a signature from a manager that meets the definition of a signatory in MSGP Permit Section B.11.A (e.g., FOD, Operations Manager, DSESH Group Leader, EPC-CP Group Leader, EPC-CP Team Lead). The manager is certifying the information submitted is “true, accurate, and complete” by signing the form.
7. Attach the completed, signed, and certified inspection form to the facility SWPPP.

6.0 TRAINING

The following personnel require training before implementing this procedure.

- DESHS Group and Team Leaders
- EPC-CP MSGP stormwater compliance personnel
- DEPs
- Other LANL or subcontract personnel identified as being required to conduct stormwater assessments as part of their job duties

For EPC-CP staff, the training method for this procedure is “self-study” (reading). Other participating groups may require training documentation pursuant to local procedures.

Personnel performing this procedure will be familiar with the most current versions of the following procedures.

- EPC-CP QAPP-MSGP *Quality Assurance Project Plan for the Stormwater Multi-Sector General Permit for Industrial Activities*
- EPC-CP-QP-022, *Multi-Sector General Permit (MSGP) Corrective Actions*
- Training Course 53040, *MSGP Routine Inspections OJT*

7.0 RECORDS

MSGP Routine Facility Inspection forms are signed and certified by individual facilities. These completed forms are maintained in the facility’s SWPPP and managed by the facility’s document management system. The MSGP team may obtain a copy for reference purposes.

8.0 DEFINITIONS AND ACRONYMS

See LANL [Definition of Terms](#).

8.1 Definitions

Best Management Practice (BMP) – Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage (*40 CFR Part 122.2*).

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Control Measure – Any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

8.2 Acronyms

See LANL [Acronym Master List](#).

EPC-CP	Environmental Protection and Compliance – Compliance Programs
DEP	Deployed Environmental Professional
DESHS	Deployed Environment, Safety, and Health Services
IWD	Integrated Work Document
FOD	Facility Operations Director
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
MC	Maintenance Connection
MC Express	Maintenance Connection Express
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan

9.0 REFERENCES

Federal Register, Final National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Industrial Activities. Federal Register: June 16, 2015, Volume 80, Number 115.

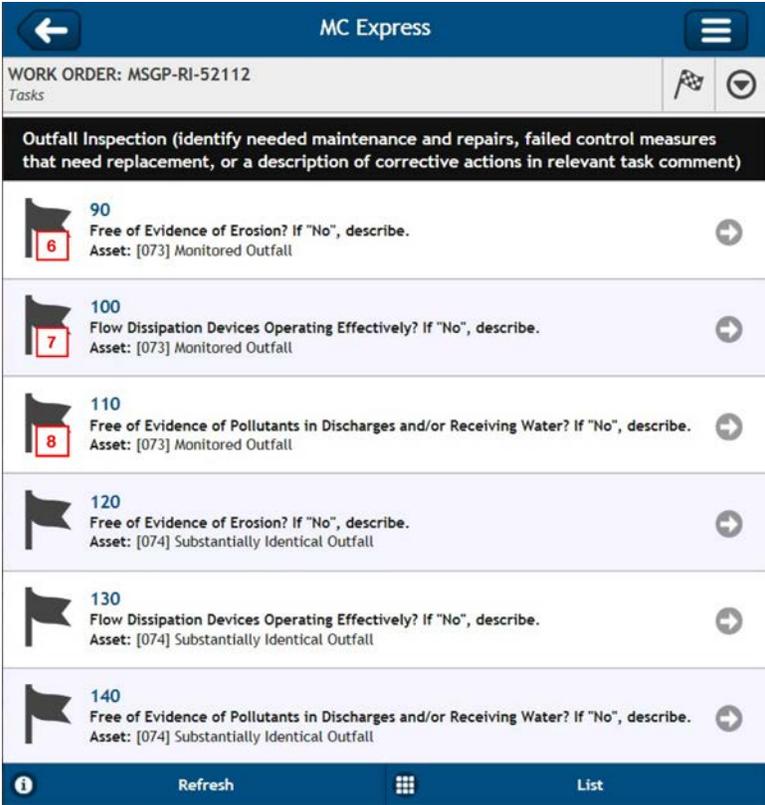
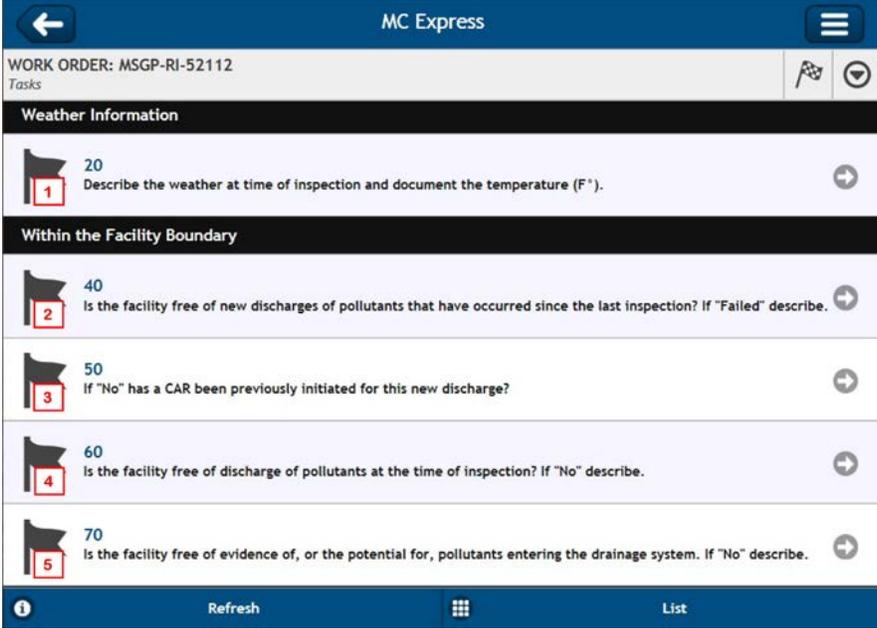
10.0 ATTACHMENTS

Attachment 1: *Screenshot Example of EPC-CP-Form-1020, MSGP Routine Facility Inspection in MC Express*

Attachment 2: *Crosswalk of EPC-CP-Form-1020, MSGP Routine Facility Inspection to Hard Copy Format*

ATTACHMENT 1: SCREENSHOT EXAMPLE OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION IN MC EXPRESS

Page 1 of 3



ATTACHMENT 1: SCREENSHOT EXAMPLE OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION IN MC EXPRESS (CONT.)

MC Express

WORK ORDER: MSGP-RI-52112

Tasks

Control Measures (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comments).

- 160** Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement. →
Asset: [0300503040002] Asphalt Berm
- 170** Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement. →
Asset: [0300504060001] Rip Rap
- 180** Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement. →
Asset: [0300503200003] EnviroSoxx w/ MetalLoxx

Refresh List

MC Express

WORK ORDER: MSGP-RI-52112

Tasks

Area/Activity exposed to stormwater (identify needed maintenance or a description of corrective actions in relevant task comment).

- 200** Material loading/unloading and storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe. →
- 210** Transfer areas for substances in bulk: controls adequate (appropriate, effective, and operating)? If "No" describe. →
- 220** Product/chemical storage areas (raw material): controls adequate (appropriate, effective, and operating)? If "No" describe. →
- 230** Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe. →

Refresh List

MC Express

WORK ORDER: MSGP-RI-52112

Tasks

Non-Compliance

- 390** Free of incidents of observed non-compliance not already identified above? If "No" describe. →

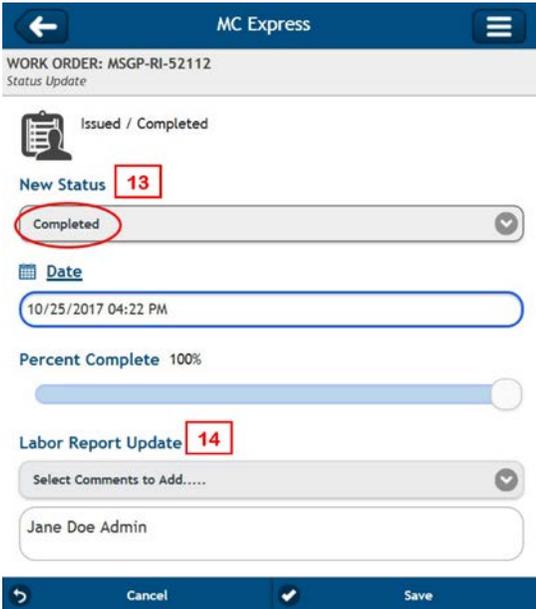
Additional Control Measures

- 410** Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed. →

Refresh List

ATTACHMENT 1: SCREENSHOT EXAMPLE OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION IN MC EXPRESS (CONT.)

Page 3 of 3



ATTACHMENT 2: CROSSWALK OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION TO HARD COPY FORMAT

Los Alamos National Lab - ADESH

Work Order MSGP-RI-52112

MSGP Routine Inspection
Printed 10/25/2017 - 4:07 PM (Duplicate Copy)

Maintenance Details		
Requested By: Admin, Jane on 10/25/2017 4:03:00 PM	Target: 12/31/2020	MSGP Program RG121.9
Taken By: Admin, Jane	Priority/T ype: / Inspection	TA-3-38 Carpenter Shop
Procedure: MSGP Routine Facility Inspection (EPC-CP-Form-1020.1)	Department: Utilities and Infrastructure	Contact: Admin, Jane Phone: 665-1234
Last PM: N/A		
Reason: EXAMPLE MSGP Routine Facility Inspection		
Special Instructions: NMR053195		

Tasks		Meas.	No	N/A	Yes
1	20 Weather Information Describe the weather at time of inspection and document the temperature (F).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Within the Facility Boundary					
2	40 Is the facility free of new discharges of pollutants that have occurred since the last inspection? If "Failed" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	50 If "No" has a CAR been previously initiated for this new discharge?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	60 Is the facility free of discharge of pollutants at the time of inspection? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	70 Is the facility free of evidence of, or the potential for, pollutants entering the drainage system. If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outfall Inspection (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comment)					
6	90 Monitored Outfall [073] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	100 Monitored Outfall [073] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	110 Monitored Outfall [073] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	120 Substantially Identical Outfall [074] Free of Evidence of Erosion? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	130 Substantially Identical Outfall [074] Flow Dissipation Devices Operating Effectively? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	140 Substantially Identical Outfall [074] Free of Evidence of Pollutants in Discharges and/or Receiving Water? If "No", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control Measures (identify needed maintenance and repairs, failed control measures that need replacement, or a description of corrective actions in relevant task comments).					
9	160 Asphalt Berm [0300503040002] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	170 Rip Rap [0300504060001] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	180 EnviroSoxx w/ MetalLoxx [0300503200003] Control Measure is operating effectively? If "No" describe condition & need for Maintenance, Repair, or Replacement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Area/Activity exposed to stormwater (identify needed maintenance or a description of corrective actions in relevant task comment).					
10	200 Material loading/unloading and storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	210 Transfer areas for substances in bulk: controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	220 Product/chemical storage areas (raw material): controls adequate (appropriate, effective, and operating)? If "No" describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ATTACHMENT 2: CROSSWALK OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION TO HARD COPY FORMAT (CONT.)

230	Liquid tank storage/secondary containment: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
240	Industrial processing and finished product storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
250	Equipment operation and maintenance areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
260	Fueling areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
270	Outdoor vehicle and equipment washing areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
280	Machinery: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
290	Waste handling and disposal areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
300	Erodible areas/construction: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
310	Locations and sources of run-on to the site: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
320	Non-stormwater/illicit connections: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
330	Salt storage piles or pile containing salt: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
340	Dust generation and vehicle tracking: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
350	Housekeeping (Industrial materials/residues/trash in contact with stormwater): controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
360	Leaks and spills: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
370	Sector A [03005-] Wood processing, transport or treated wood storage areas: controls adequate (appropriate, effective, and operating)? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Compliance				
11 390	Free of incidents of observed non-compliance not already identified above? If "No" describe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional Control Measures				
12 410	Are permit requirements satisfied with existing control measure(s)? If "No" describe additional control measures needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Labor Report				
13	Completed: 10/25/2017 10:08:00 AM			
14	Report: Jane Doe Admin			
15	<u>Jane Doe Admin</u> <u>10/25/2017</u>	Signature / Name	Date	
I confirm the information as recorded is true, accurate and complete.				

MSGP Routine Facility Inspections	EPC-CP-QP-023	Page 20 of 20
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ATTACHMENT 2: CROSSWALK OF EPC-CP-FORM-1020, MSGP ROUTINE FACILITY INSPECTION TO HARD COPY FORMAT (CONT.)

Page 3 of 3

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

(Signatory must meet definition in Section B.11.A, eg., FOD, Ops Mgr, DSESH Group Leader, EPC Group Leader)

16 Print name and title: _____

Signature: _____ Date: _____

EXAMPLE

ATTACHMENT 17: EPC-CP-QP-022 MSGP CORRECTIVE ACTIONS

ENV-RCRA-QP-022.2



Effective Date: February 28, 2013

Next Review Date: January 28,
2015

Environment, Safety, Health Directorate

Environmental Protection – Water Quality and RCRA Quality Procedure

MSGP Storm Water Corrective Actions

Reviewers:

Name:	Organization:	Signature:	Date:
Melanie Lamb	ENV-QPMO QA Specialist	Signature on file	1/4/13

Derivative Classifier: **Unclassified**

Name:	Organization:	Signature:	Date:
Catherine Hayes	ENV-RCRA	Signature on file	2/8/13

Approval Signatures:

Subject Matter Expert: Holly Wheeler	Organization: ENV-RCRA	Signature: Signature on file	Date: 1/28/13
Responsible Line Manager: Terrill Lemke	Organization: ENV-RCRA Team Lead	Signature: Signature on file	Date: 2/8/13
Responsible Line Manager: Anthony Grieggs	Organization: ENV-RCRA Group Leader	Signature: Signature on file	Date: 2/28/13

CONTROLLED DOCUMENT

This copy is uncontrolled. The controlled copy can be found on the ENV Division Web page.

Users are responsible for ensuring they work to the latest approved version.

Title: MSGP Storm Water Corrective Actions	No. ENV-RCRA-QP-022.2	Page 2 of 23
Effective Date: February 28, 2013		

History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	08/10	New Document.
1	11/10	Incorporated ENV-RCRA-QP-062 <i>MSGP Routine Inspections</i> into this document.
2	01/13	Biennial revision, new template implemented.

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1.0 PURPOSE

This procedure is written to provide requirements for identifying, documenting and entering corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database.

2.0 SCOPE

Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP). This “general permit” requires identification, documentation, tracking and reporting of corrective actions in accordance with sections 2.2.1, 3, 4.1.2, 4.2.2, 4.3.2, 5.0, 5.2, 5.4, 6.2.1, 6.2.1.2, 7.2 and Appendices B and I.

2.1 HAZARD REVIEW

The work described in this procedure is office work only and has a **LOW hazard** rating as documented by submittal of a completed [ENV Low Hazard Verification form](#) to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- Group and Team Leader
- ENV-RCRA MSGP Storm Water compliance personnel
- Deployed Environmental Professionals (DEPs)
- Other LANL or subcontract personnel identified as being required to conduct storm water assessments as part of their job duties.

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- [ENV-RCRA QAPP-MSGP Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities](#)

The training method for this procedure is “self-study” (required read). For ENV-RCRA staff, this is documented in accordance with [ENV-DO-QP-115, Personnel Training](#). Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless preceded with “should” or “may”, are to be considered mandatory (i.e., “shall”, “will”, “must”).

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3.1 ROLES AND RESPONSIBILITIES

3.1.1 ENV-RCRA MSGP STORM WATER TEAM

ENV-RCRA MSGP Storm Water Team members will be fully knowledgeable of the specific regulatory requirements identified in the 2008 MSGP and are responsible for ensuring compliance with these requirements and entering corrective actions. Team members will evaluate corrective actions that the DEPs enter into the ENV-RCRA MSGP Corrective Action Report Findings database and modify them as needed for quality assurance. This team will also periodically review open corrective actions and follow up with the DEPs, ES&H Managers, or Upper Management, as deemed necessary, to ensure close out of the corrective action. The team members will notify upper management of instances of non-compliance with the permit. A team member may also be responsible for responding to the regulatory authority (EPA) regarding identified storm water issues and/or negotiate settlement of any identified issues.

3.1.2 DEPLOYED ENVIRONMENTAL PROFESSIONALS

DEPs will be fully knowledgeable of the site specific Storm Water Pollution Prevention Plan (SWPPP) and corrective action requirements identified in the MSGP for the facilities they are deployed to. In addition, they shall be appropriately trained to meet the job qualifications identified in the *Quality Assurance for Storm Water Multi-Sector General Permit for Industrial Activities Program* (ENV-RCRA-QAPP-MSGP) and shall be familiar with the regulatory requirements identified in the 2008 MSGP. Further, they shall be familiar with facility operations so that potential pollution discharge sources can be determined and corrective actions can be identified.

The DEPs are responsible for identifying and entering corrective actions observed at their industrial facilities into the ENV-RCRA MSGP Corrective Action Report Findings database. They are also responsible for updating corrective actions in a timely manner that cannot be implemented immediately. They will work with the ES&H Manager and ENV-RCRA storm water personnel to ensure identified corrective actions are implemented by overseeing repairs and/or improvements or instituting additional controls. If it is determined that corrective actions are necessary following an assessment, any modification to the control measures must be made before the next storm event if possible, or as soon as practicable following that storm event.

NOTE: These time intervals are not grace periods, but are schedules considered reasonable for documenting your finding(s) and for making repairs and improvements. They are included in the MSGP Permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely (see Section 3.3 of the 2008 MSGP). In no instance will the corrective action remain open indefinitely.

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3.1.3 ENV-RCRA STORM WATER TEAM LEADER

The ENV-RCRA Storm Water Team Leader is responsible for compliance oversight relative to the 2008 MSGP. The Team Leader will ensure costs needed to implement the regulatory requirements identified in the 2008 MSGP are identified and environmental risks are assessed. Upper management will be notified of these costs or environmental risks, as deemed necessary. In the event there is a dispute regarding the regulatory requirements contained in the MSGP, the Team Leader will make the final determination of the required action. The Team Leader will notify upper management of instances of non-compliance with the permit.

3.1.4 ENV-RCRA GROUP LEADER

The ENV-RCRA Group Leader or designee is responsible for ensuring there is adequate funding to implement the regulatory requirements identified in the 2008 MSGP. The Group Leader also acts as the duly authorized signatory that certifies the reports. The Group Leader will notify upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.5 ES&H MANAGER

The ES&H manager shall identify funding for their industrial facilities to ensure compliance with the 2008 MSGP. The ES&H Manager is also responsible for ensuring that industrial facilities are complying with the 2008 MSGP permit and notifying upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.6 FACILITIES OPERATIONS DIRECTOR

The Facilities Operations Director (FOD) provides organizational leadership to ensure that all facility and programmatic activities under their authority are performed in compliance with the 2008 MSGP. The FOD is also responsible for establishing an environmental compliance envelope. It is the FOD's responsibility to maintain trained and qualified Environmental Professionals and Waste Management Coordinators on staff.

3.1.7 COMPUTER PROGRAMMER

Maintains and updates the ENV-RCRA MSGP Corrective Action Report Findings database as requested by MSGP storm water personnel.

3.2 PREREQUISITES

In addition to training to this procedure, the following training is also required prior to performing this procedure:

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- [ENV-RCRA QAPP-MSGP, Quality Assurance Project Plan for the Storm water Multi-Sector General Permit for Industrial Activities Program](#)

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted to the designated RM-POC in accordance with [ENV-DO-QP-110, Records Management](#) and filed in project files.

- MSGP Comprehensive Site Inspection Annual Report
- Completed Routine Inspection Forms
- Electronic records within the ENV-RCRA MSGP Corrective Action Report Findings database.
- Copies of automated e-mail notifications

5.0 WORK PROCESSES

5.1 IDENTIFYING CORRECTIVE ACTIONS

If any of the following conditions occur, the DEP or ENV-RCRA storm water team member must review and revise the selection, design, installation, and implementation of control measures to ensure that the condition is eliminated and will not be repeated in the future:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by the 2008 MSGP);
- You become aware, or EPA determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
- An inspection or evaluation of the facility by an EPA official and/or local or State entity, determines that modification to the control measures are necessary to meet the non-numeric effluent limits in the 2008 MSGP;
- You find in the routine facility inspection, quarterly visual assessment, or comprehensive site inspection that the control measures are not being properly operated and maintained;
- Construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in storm water from the facility, or significantly increases the quantity of pollutants discharged; or
- The average of four quarterly sampling results exceeds an applicable benchmark. If less than four benchmark samples have been taken, but the results are such that an exceedence of the four quarter average is mathematically certain, (i.e., if the sum of quarterly sample results to date is more than four times the benchmark level) this is considered a benchmark exceedence, triggering this review;
- If effluent limitation guidelines are exceeded at the Asphalt Batch Plant (Sector D); or
- If impaired water quality standards are exceeded.

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5.2 ROUTINE INSPECTIONS

Routine inspections shall be conducted by the DEP (or a qualified member if the DEP is not trained and qualified) at all areas of the facility where industrial materials or activities are exposed to storm water, and of all storm water control measures used to comply with the effluent limits contained in the 2008 MSGP. Routine inspections shall be conducted at least quarterly; however, some facilities conduct monthly inspections (as specified in the facility specific SWPPP). Routine inspections shall be conducted during periods when the facility is in operation. A certified copy of completed Routine Inspection Forms shall be maintained in the facility's SWPPP.

At least once each calendar year, the routine facility inspections must be conducted during a period when a storm water discharge (either rain or snow) is occurring. The DEP(s) or storm water personnel from ENV-RCRA are responsible for identifying and entering corrective actions observed during the routine inspections into the ENV-RCRA MSGP Corrective Action Report Findings database. The database is set up to allow access for all identified DEPs associated with a particular FOD if the FOD has more than one DEP. Contact a member of the ENV-RCRA storm water team if you do not have access to this database and the FOD has assigned you responsibility for MSGP corrective actions.

NOTE: If the industrial facility is inactive and unstaffed and there are no industrial materials or activities exposed to storm water, routine inspections may not be required. A determination of whether a facility is inactive or unstaffed shall be made in coordination with storm water personnel from ENV-RCRA as there are specific documentation and certification requirements that have to be met prior to discontinuing routine inspections.

5.3 COMPREHENSIVE INSPECTIONS

Qualified ENV-RCRA storm water personnel will conduct one comprehensive inspection of all industrial facilities and those that meet the "no exposure" criteria subject to the 2008 MSGP before September 29th of each year. At least one member of the facility's storm water pollution prevention team shall participate in this inspection. This is usually the DEP.

This inspection must cover all areas of the industrial facility affected by the requirements in the 2008 MSGP including the areas identified in the SWPPP as potential pollutant sources where industrial material or activities are exposed to storm water, areas where control measures are used to comply with the effluent limits, and areas where spills and leaks have occurred in the past 3 years. The inspector must include review of the monitoring data (analytical results from benchmark and impaired waters and visual assessments) collected that calendar year as part of the comprehensive inspection. Inspectors must examine the following at a minimum:

- Industrial materials, residue, or trash that may have or could come into contact with storm water;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;

- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas; and
- Control measures needing replacement, maintenance, or repair.
- Storm water controls measures required by the 2008 MSGP must be observed to ensure that they are functioning correctly.

NOTE: The annual comprehensive site inspection may also be used as one of the routine inspections, as long as all components of both types of inspections are included.

ENV-RCRA will then enter all identified corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database. It is the responsibility of the DEP to update the database to reflect updates to these corrective actions.

Information compiled during the comprehensive inspection is used to complete the Annual Report. This report shall be submitted to EPA (postmarked) within 45 days of the last facility inspection completed in September of each year. For example, if the last facility was inspected (as part of the comprehensive site inspection) on September 22, the report shall be postmarked before or on November 6th. A complete certified copy of the Annual Report shall be maintained in the facility's SWPPP.

5.4 SPILLS

All leaks or spills shall be cleaned up immediately and entered into the ENV-RCRA MSGP Corrective Action Report Findings database. This can be done by either the DEP or an ENV-RCRA MSGP storm water team member. If the spill is immediately cleaned up, and controls are put in place to prevent further leakage, the corrective action can be closed.

5.5 ALLOWABLE NON-STORM WATER DISCHARGES

The following are allowable non-storm water discharges authorized by the 2008 MSGP:

- Discharges from fire-fighting activities;
- Fire hydrant flushing;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);

- Routine external building washdown that does not use detergents; and
- Uncontaminated ground water or spring water.

Any person authorized to conduct work at LANL can identify a potential storm water issue. If this occurs, they should contact the DEP or an ENV-RCRA MSGP storm water team member who will determine if a corrective action is needed.

5.6 ENTERING CORRECTIVE ACTIONS

To enter a corrective action into the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

NOTE: Be clear and concise, use correct grammar and punctuation, and correct any spelling errors. This information will be used to populate a report that will be submitted to the EPA. Therefore, it is critical that all information entered into the ENV-RCRA MSGP Corrective Action Report Findings database is correct and meets these criteria.

Step	Action
1	<p>From this web page: http://int.lanl.gov/environment/water/guidance/swmgrp.shtml, under the heading “Compliance Tools”. Click on the link “MSGP Corrective Action Report Findings Database”</p> <p>Click on “Enter New Corrective Action.”</p>
2	<p>Under the “Corrective Action Header” tab, enter the following:</p> <ul style="list-style-type: none"> • Facility Name by clicking on the “List” tab and selecting a facility. • Date Problem was Identified (mm/dd/yyyy) • Date of Notification to ENV-RCRA (mm/dd/yyyy) • FOD Responsible for CA (Name & Org) by clicking in the box. FOD designations (for example “STO”) and the associated name will come up. Just select the appropriate FOD. <p>NOTE: Contact the MSGP Project Leader at 667-1312 or hbensen@lanl.gov if the FOD name or organization is incorrect, so this can be corrected.</p> <ul style="list-style-type: none"> • Describe Specific Evaluation Location (for example “Northeast corner of Building TA-3-66”) • Inspector Z-Number by clicking in the box, which will populate it with your Z number. In most instances, the DEP should be identified as the inspector. Note: If you are entering the CA and are not the DEP, you will have to enter the DEP’s Z number or they will not have the ability to update the corrective action. <p>Once all of the above information is entered correctly, click “Save” and go</p>

	to Step 3. All boxes identified with a red asterisk are “required fields” and shall be filled out. Note: The system will automatically assign a Corrective Action Report ID number.
3	<p>Click “Go To Corrective Action Details” in the middle of the screen.</p> <p>Under the “Corrective Action Details” tab, enter the following:</p> <ul style="list-style-type: none"> • Identify the condition triggering the need for this review by clicking on the “List” tab and selecting an option or selecting “Other” and entering a description of the condition. • Briefly describe the nature of the problem identified during the inspection (e.g., erosion, damage to a BMP, trash, spill, etc.) and the specific evaluation location. <p>NOTE: Spills or other emergency situations may identify the need for a corrective action that was not identified during an inspection.</p> <ul style="list-style-type: none"> • How the problem was identified by clicking on the “List” tab and selecting an option or selecting “Other” and entering a description of the problem. • Description of the corrective action taken, or to be taken, to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, the basis for that determination. • Did/will the corrective action require modification of your SWPPP. Type in “Y” for yes and “N” for no. • Date Corrective action was initiated (mm/dd/yyyy) • Date corrective action was completed OR expected completion date (mm/dd/yyyy) <p>NOTE: If the corrective action has not been completed, enter an expected completion date. Do not put a date in both locations.</p> <p>If the corrective action has not been completed, provide the status of the corrective action and describe any remaining steps (including timeframes associated with each step) necessary to complete the corrective action.</p> <p>NOTE: This should only be filled out if the corrective action has not been completed. If the corrective action has been completed, enter “N/A.”</p> <p>Make sure to hit the “save” tab in the bottom right hand corner so the corrective action information is retained. If you want to enter more corrective actions, go back to the “Corrective Action Header” tab and press the “Enter New Corrective Action” button in the lower left hand corner of the screen (see step #2). Hitting the “Exit” button will cause you to exit from the system.</p>

	All boxes identified with a red asterisk are “required fields” and shall be filled out. If a date is not included or identified as an expected completion date, ENV-RCRA storm water compliance personnel will enter a completion date of 30 days after the corrective action was identified.
--	---

5.7 UPDATING CORRECTIVE ACTIONS

To update a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml , under the heading “Compliance Tools”. Click on the link “ MSGP Corrective Action Report Findings Database ” to access the database and tab down to the corrective action number you want to edit. Click on “Edit.”
2	Navigate to the blank that you will be changing and input the updated information. It is anticipated that most changes will occur relative to updating the status of corrective actions. Save all changes to the information. Remember, you should only have a date under “Date corrective action completed OR the “expected to be completion,” but not both.

5.8 VALIDATING CORRECTIVE ACTIONS

ENV-RCRA storm water personnel will periodically validate the information contained in the ENV-RCRA MSGP Corrective Action Report Findings database. To validate a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml , under the heading “Compliance Tools”. Click on the link “ MSGP Corrective Action Report Findings Database ” to access the database.

2	<p>Check all entered fields for a corrective action to ensure that all information is clear, correct, and concise. If not, correct the information by navigating to the information that needs to be changed and making the change. Save all changes to the information.</p> <p>All information shall be validated before running the final annual report.</p>
3	<p>For ENV-RCRA storm water personnel only, under “status” select “void” if the corrective action is a repeat of a previous corrective action or if it is determined not to be a corrective action. This will delete the corrective action from the annual report.</p>

5.9 INSTITUTIONAL PERFORMANCE FEEDBACK AND IMPROVEMENT TRACKING SYSTEM (PFITS)

PFITS is the institutional performance and tracking system for identified issues. A corrective action that meets any of the following criteria will be entered into the PFITS system, as deemed necessary.

- Corrective action was not completed by the expected completion date entered into the database.
- No action was taken to remedy an identified issue with a control measure within 14 days of discovery or before the next storm event or as soon as practicable following that storm event (Section 3.3 of the 2008 MSGP).
- Repeat corrective actions or trends identified by ENV-RCRA MSGP storm water personnel.
- Conditions requiring immediate action, where failure to take action would result in pollutants being released to water of the state or an immediate non-compliance with the 2008 MSGP.
- Violations identified by the regulatory authority.
- Other issues as deemed necessary by MSGP storm water personnel.

Once every month, ENV-RCRA storm water personnel will evaluate a summary of open corrective actions in the ENV-RCRA MSGP Corrective Action Report Findings database and using the above criteria will determine which corrective actions, if any, should be transferred into PFITS. When the monthly notification of outstanding corrective actions is sent out, evaluate whether any of the outstanding corrective actions meet the above conditions. Send those that do to the Environmental Protection Division’s Improvement Management Coordinator (IMC) so that she can enter the information into PFITS. The summary report will contain the following information, at a minimum:

- Date the corrective action was identified;
- Person that identified the corrective action;

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- A description of the nature of the problem identified and what needs to be done to address the corrective action.
- Whether the corrective action was identified internal to LANL or External to LANL.

5.10 NOTIFICATIONS FOR NEW AND OVERDUE CORRECTIVE ACTIONS

When a new corrective action is entered into the ENV-RCRA MSGP Corrective Action Report Findings database, the FOD, ESH&Q Manager, Operations Manager, inspector (usually the DEP) and ENV-RCRA MSGP storm water personnel are notified automatically by e-mail (unless the corrective action is closed the same day it is entered). This will assist the FOD, ESH& Q Managers, Operations Managers and the DEPs with keeping track of new corrective actions.

An automatic e-mail is sent the first of each month notifying the FOD, ESH&Q Manager, Operations Manager and DEPs of all overdue corrective actions for their industrial facilities. The Environmental Protection Division Leader and ENV-RCRA Group Leader receive a web link that contains a bar graph showing corrective actions 30 to 60 days overdue, 60 to 90 days overdue, 90 days to 1 year overdue, and those greater than a year overdue. In addition, they receive a link with summary information on each corrective action overdue sorted by FOD.

6.0 REFERENCES

- Federal Register: *Final National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Industrial Activities*. Federal Register: September 29, 2008, Volume 73, Number 189.
- [P300, Integrated Work Management](#)
- [P315, Conduct of Operations Manual](#)
- [PD103, Worker Safety and Health Policy](#)
- [SD100, Integrated Safety Management System Description Document with Embedded 10 CFR 851 Worker Safety and Health Program](#)
- [P101-18, Procedure for Pause/Stop Work](#)
- [PD410, Los Alamos National Laboratory Environmental ALARA Program](#)
- [P121, Radiation Protection](#)
- [ENV-DO QP-106, Document Control](#)
- [ENV-DO-QP-115, Personnel Training](#)
- [ENV-DO-QP-104, Work Safety Review](#)

In addition to these documents, please read any site specific requirements before proceeding with work.

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7.0 DEFINITIONS

Best Management Practice (BMP): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (*40 CFR Part 122.2*)

Control Measure: Any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

CA: Corrective Action

DEP: Deployed Environmental Professional

EPA: Environmental Protection Agency

FOD: Facility Operations Director

MSGP: Multi-Sector General Permit

SWPPP: Storm Water Pollution Prevention Plan

8.0 ATTACHMENTS

Attachment 1- Annual Reporting Form

Attachment 2- NPDES Multi-Sector General Permit Routine Inspection Form

[Click here for “Required Read” credit.](#)

ATTACHMENT 1- ANNUAL REPORTING FORM

NPDES Permit Tracking No.:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460
Annual Reporting Form	
A. GENERAL INFORMATION	
1. Facility Name: <table border="1" style="width: 100%; height: 15px;"></table>	
2. NPDES Permit Tracking No.: <table border="1" style="width: 100%; height: 15px;"></table>	
3. Facility Physical Address:	
a. Street: <table border="1" style="width: 100%; height: 15px;"></table>	
b. City: <table border="1" style="width: 45%; height: 15px;"></table>	c. State: <table border="1" style="width: 10%; height: 15px;"></table>
d. Zip Code: <table border="1" style="width: 40%; height: 15px;"></table>	
4. Lead Inspectors Name: <table border="1" style="width: 45%; height: 15px;"></table>	
Title: <table border="1" style="width: 45%; height: 15px;"></table>	
Additional Inspectors Name(s): <table border="1" style="width: 45%; height: 15px;"></table>	
<table border="1" style="width: 45%; height: 15px;"></table>	
5. Contact Person: <table border="1" style="width: 45%; height: 15px;"></table>	
Title: <table border="1" style="width: 45%; height: 15px;"></table>	
Phone: <table border="1" style="width: 15%; height: 15px;"></table> - <table border="1" style="width: 15%; height: 15px;"></table> - <table border="1" style="width: 15%; height: 15px;"></table> Ext: <table border="1" style="width: 15%; height: 15px;"></table> E-mail: <table border="1" style="width: 45%; height: 15px;"></table>	
6. Inspection Date: <table border="1" style="width: 15%; height: 15px;"></table> / <table border="1" style="width: 15%; height: 15px;"></table> / <table border="1" style="width: 15%; height: 15px;"></table>	
B. GENERAL INSPECTION FINDINGS	
1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater? <input type="checkbox"/> YES <input type="checkbox"/> NO If NO, describe why not:	
<i>NOTE: Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.</i>	
2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? <input type="checkbox"/> YES <input type="checkbox"/> NO	
If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:	

NPDES Permit Tracking No.:
| | | | | | | | | | | |

C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS
Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised control measures necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised c necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # of for this reporting period.

2. Is this corrective action:

- An update on a corrective action from a previous annual report; or
- A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- Unauthorized release or discharge
- Numeric effluent limitation exceedance
- Control measures inadequate to meet applicable water quality standards
- Control measures inadequate to meet non-numeric effluent limitations
- Control measures not properly operated or maintained
- Change in facility operations necessitated change in control measures
- Average benchmark value exceedance
- Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified:

6. How problem was identified:

- Comprehensive site inspection
- Quarterly visual assessment
- Routine facility inspection
- Benchmark monitoring
- Notification by EPA or State or local authorities
- Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/Will this corrective action require modification of your SWPPP? YES NO

9. Date corrective action initiated:

10. Date correction action completed: or expected to be complete:

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

ATTACHMENT 2- NPDES MULTI-SECTOR GENERAL PERMIT ROUTINE INSPECTION FORM

Los Alamos National Laboratory ENV-RCRA		NPDES Multi-Sector General Permit Routine Inspection Form (rev. 03/2009) Page 1 of (use additional sheets if necessary)			
Name of Facility:		Responsible FOD (Name & Organization):			
Qualified Inspector(s): Others Present:		Inspection type: <input type="checkbox"/> Quarterly <input type="checkbox"/> Other		Date of inspection (MM/DD/YYYY):	
				Time of inspection:	
Weather: <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature: ° F					
Is Inspection Being Conducted During a Storm Water Discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No					
#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	Corrective Action Needed and Notes (Identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Were additional BMPs or Control Measures implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Were previously identified conditions corrected before the next anticipated storm event? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, describe reason:					
Area/Activity <small>(Areas of Industrial Materials or Activities Exposed to Storm Water)</small>	Inspected?	Controls Adequate?	Corrective Action Needed and Notes (List area letter with comments below)		
A. Material loading/unloading & storage areas					
B. Equipment operations & maintenance areas					
C. Fueling Areas					
D. Outdoor vehicle & equipment washing areas					
E. Waste Handling & disposal areas					
F. Erodible areas / construction					
G. Non-storm water / illicit connections					
H. Salt storage piles or pile containing salt					
I. Dust generation & vehicle tracking					
Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Were any Corrective Actions initiated or completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Are there any conditions requiring Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, List Number of Corrective Actions Required _____ <small>(Note – need a Corrective Action Form for each listed)</small>					

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Los Alamos National Laboratory
ENV-RCRA

NPDES Multi-Sector General Permit Inspection Form
(rev. 03/2009) Certification Sheet

Non-Compliance

Describe any incidents of non-compliance and/or need for corrective action observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

Inspector's Signature and date: _____

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ Date: _____

**ATTACHMENT 18: EPC-CP-QP-064 MSGP STORMWATER VISUAL
ASSESSMENTS**

EPC-CP-QP-064

Revision: 0



Effective Date: 10/04/2017

Next Review Date: 10/04/2020

Environment, Safety, and Health Directorate
Environmental Protection and Compliance-Compliance Programs
Quality Procedure

MSGP Stormwater Visual Assessments

Document Owner:

Table with 4 columns: Name, Organization, Signature, Date. Row 1: Holly L. Wheeler, EPC-CP, Signature on File, 10-2-17

Derivative Classifier: [] Unclassified or [X] DUSA ENVPRO

Table with 4 columns: Name, Organization, Signature, Date. Row 1: Ellena I. Martinez, EPC-CP, Signature on File, 10-2-17

Approval Signatures:

Table with 4 columns: Name, Organization, Signature, Date. Rows include Subject Matter Expert (Holly L. Wheeler), Responsible Line Manager (Terrill W. Lemke), and Responsible Line Manager (Michael T. Saladen)

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REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
ENV-RCRA-QP-064, R0	7/09	New document <i>MSGP Storm Water Visual Inspections</i> .
ENV-RCRA -QP-064, R1	3/10	Clarifications and added attachments.
ENV-RCRA -QP-064, R2	2/12	Biennial review/revision
EPC-CP-QP-064, R0	10/04/2017	This document replaces ENV-RCRA-QP-064 R2. Converted into new format, and new organization name, clarified steps, updated attachments.

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1.0 INTRODUCTION

Los Alamos National Security, LLC (LANS) through Environmental Protection and Compliance-Compliance Programs (EPC-CP) conducts stormwater monitoring activities required pursuant to the National Pollutant Discharge Elimination System (NPDES), Multi-Sector General Permit (MSGP) at Los Alamos National Laboratory (LANL). The MSGP requires LANL to monitor stormwater runoff from industrial sites relative to potential pollutants.

1.1 Purpose

This procedure describes the process for conducting visual assessments of stormwater from outfall locations monitored under the MSGP for industrial facilities at LANL.

Assessments conducted under this procedure should be documented using the Maintenance Connection Express™ (MC Express) web application. (In the event of electronic hardware or web application failure, personnel may use a printed hard copy to conduct inspection and sample retrieval.)

1.2 Scope

Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the MSGP. These facilities include, a warehouse, several metal fabrication areas/shops, a heavy equipment yard, an asphalt batch plant, roads and grounds, a foundry, a power plant, a material recycling facility, a carpenter shop, and several hazardous waste treatment, storage or disposal (TSD) facilities. Inspection waivers may be granted by EPC-CP for adverse weather conditions and unstaffed or inactive sites.

At least once each MSGP monitoring quarter a stormwater sample must be collected from each discharge point covered by the MSGP and site specific SWPPP and visually inspected for water quality characteristics. Stormwater samples can be collected with an automated sampler, single stage sampler, or by taking a grab sample.

1.3 Applicability

This procedure applies to the EPC-CP technical staff and subcontractor personnel (as applicable) who conduct stormwater visual assessments during or after measurable storm events at MSGP outfalls.

Note: *A measurable storm event is identified as one what results in an actual discharge from your site that follows the preceding measurable storm event by at least 72 hours (3 days).*

2.0 PRECAUTIONS AND LIMITATIONS

Hazards in the work described in this procedure are controlled through site specific Integrated Work Documents (IWDs). The hazard level for the activities described in this procedure is **low**, however the cumulative hazard rating for activities described in the IWD is **moderate**.

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Assessments may be discontinued during periods or conditions that make sites dangerous for worker safety or prevent personnel from safely accessing sites (e.g., weather-related events such as flash floods, flooding, lightning, wildfires, hail, icy roads, deep snow, or LANL operations such as firing shots or burns).

Click the “Save” bar after all entries for a task line have been completed and before proceeding to the next question. Failure to “Save” results in lost data entries.

Some terminology varies between the MC Express software and the Maintenance Connection desktop software.

- The “Reading” field in MC Express is the same field as “Reading Final” in Maintenance Connection desktop and “Meas.” on a hard copy (printed) work order.
- The “Complete” option in MC Express is the same as a “Yes” answer; the “Failed” option in MC Express is the same as a “No” answer. Maintenance Connection desktop and hard copy (printed) work orders use “Yes” and “No” terminology.

Throughout this procedure the field inspector should document comments and notations in the “Reading” field of the associated task line. Any additional comments not documented in a “Reading” field can be entered in the “Comments” field of the same task line. If the inspector needs more space, additional comments can be entered in the “Labor Report Update” field (see Section 4.3) when the work order is updated to “Complete” status.

3.0 PREREQUISITE ACTIONS

3.1 Planning and Coordination

1. Schedule work to be completed by the target date appearing on the work order(s) or as requested by the MSGP Program Lead if a form is not issued.
2. Inform (e.g., by e-mail) Facility contacts, as specified in the IWD, of the schedule for inspection work and locations up to a week (preferred) before but no later than the day before (for minor changes) to be added to the appropriate plan of the day.

Note: For some Facility Operations Divisions (FODs) like the Utilities and Institutional Facilities FOD, MSGP stormwater monitoring activities are on a standing plan of the day. However, this must be requested each year at the beginning of the monitoring season.

3. The IWD Part II (2101 Form) addresses specific requirements and training for FODs.
4. Obtain any necessary additional paperwork before conducting this work, including IWD’s, and excavation permits (as necessary).
5. Gather the required equipment (see section below) for the work to be done.
6. Using the Safari web browser on a tablet or notebook style computer, navigate to <http://express.maintenanceconnection.com> and select English from the available dropdown menu.

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7. Log into the MC Express application using your login credentials. Contact the MSGP Data Management Team if MC Express generates any message stating the field inspector does not have access.
8. Confirm that the work order list displayed in the “My Open Work Orders” section matches your sites. If work orders are not displayed, click the “Refresh” bar at the bottom of the page. The page will refresh and any work orders issued since you logged in will be loaded to the application. If the work order lists still do not match, contact the MSGP Data Management Team for clarification.
9. Ensure that field personnel have access to accurate time measurement at the Site. When at the site, the clock time on the ISCO sampler must be set to Mountain Standard Time at all times, with no daylight saving time adjustment.

3.2 Tools and Equipment

Ensure the following equipment is available in the field vehicle:

- Safety glasses with side shields
- Nitrile gloves
- Sturdy hiking boots or steel toed shoes with soles that grip
- Cell phone (only government cell phones with batteries removed are allowed in secure areas)
- Copy of this procedure
- Copy of the Integrated Work Documents (IWDs)
- Copy of the MSGP Sampling and Analysis Plan
- Site Map(s) (as needed)
- Current electronic or paper inspection form EPC-CP-Form-1021, MSGP Stormwater Visual Assessments
- Necessary access and station keys
- Clean replacement sample bottles (clear glass or clear poly)
- Paper Towels

4.0 VISUAL ASSESSMENT OF STORMWATER

1. Take the sample bottle with water out of automated sampler or single stage jar off the ground, or fill a clear sample bottle with a grab sample and wipe off exterior.

Note: If a grab sample is collected it shall be collected during daylight hours in a wide mouth clear glass bottle or plastic container within 30 minutes of discharge from a storm event.

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2. In MC Express, open the work order issued for the current location by clicking on the appropriate line. If needed, use the expand arrow located on the right side of the display to expand the work order detail information. The work order will open in the display to the work order Summary page.
3. Click on the “Tasks” bar to navigate to the work order Tasks page. See MC Express screen shot example in Attachment 1 and a hard copy example in Attachment 2.

4.1 Documenting Sample Information

4. **Item 1:** Verify the monitoring period by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the monitoring period (e.g., Apr-May, Jun-Jul, Aug-Sep, Oct-Nov).

Note: If the discharge collected is from a rain event from the previous monitoring period but the visual assessment is made in the following monitoring period, document monitoring period on the inspection to correspond to the period in which the rain event took place.

CAUTION

Click the “Save” bar after all entries for a task line have been completed and before proceeding to the next question. Failure to “Save” results in lost data entries.

Note: Any additional comments not documented in a “Reading” field can be entered in in the “Comments” field of the same task line. If the inspector needs more space additional comments can be entered in the “Labor Report Update” field.

5. **Item 2:** Verify the visual assessment is performed on an unfiltered sample and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If the sample was filtered, conduct the visual assessment and document “Filtered sample”.
6. **Item 3:** Verify the date and time stormwater discharge began and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Enter the date and time in the following date formats: MM/DD/YY, or MM-DD-YY. Time must be entered in 24-hr format.

Note: If the discharge date/time is not available (e.g. precipitation report) when the visual is performed in the field, leave this Task Line incomplete and complete when the information is available.

7. **Item 4:** Verify the date and time the sample was collected and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Enter the date and time in the following date formats: MM/DD/YY, or MM-DD-YY. Time must be entered in 24-hr format.

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Note: If the collection date/time is not available (e.g. precipitation report) when the visual is performed in the field, leave this Task Line incomplete and complete when the information is available.

8. **Item 5:** Verify the date and time stormwater was visually assessed and document by clicking on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Enter the date and time in the following date formats: MM/DD/YY, or MM-DD-YY. Time must be entered in 24-hr format.

9. **Item 6:** Verify the nature of the discharge and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the discharge (e.g., rainfall or snowmelt) and the TOTAL amount of precipitation from the event.

Note: If the total amount of precipitation is not available (e.g., precipitation report) when the visual is performed in the field, leave this Task Line incomplete and complete when the information is available.

10. **Item 7:** Verify the sample was collected in the first 30 minutes of discharge and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes. The field inspector will document the reason a sample could not be collected within the first 30 minutes.

4.2 Assessing Parameters

While conducting the visual examinations, personnel should constantly be attempting to relate any pollutant that is observed in the sample to a pollutant source on the site.

Note if there are any potential sources of pollutants on site. If yes, contact an MSGP representative of EPC-CP and document the following:

- Potential sources;
 - Indicate if there are any BMPs on site and evaluate and note effectiveness; and
 - If no BMPs, determine if installation could correct future pollutant migration.
11. **Item 8:** Verify the color of the discharge in the sample container and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the color.
 12. **Item 9:** Verify any odors detected from sample and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the odor (e.g., musty, sewage, sulfur, sour, solvents, petroleum/gas, etc.).

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13. **Item 10:** Verify the clarity of the discharge and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the clarity (e.g., slightly cloudy, cloudy, opaque).

Clarity can be described as the depth in which you can look into or through water. For example an individual can see through a clear glass of clean water in daylight. Generally the clarity of the water is a good visual indicator of the purity of water. If the water is poor in clarity there is most likely suspended solids throughout the water.

14. **Item 11:** Verify any floating solids and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Careful examination should determine whether the solids are raw materials (e.g., product used to fabricate something, or ingredients used in a formulation) or waste materials (e.g., shavings, woodchips and sawdust, trash). Describe any floating solids observed.
15. **Item 12:** Verify any settled solids in the sample and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any settled solids observed (e.g., fine, coarse).

Settled solids may be an indicator of unstable ground cover combined with a high intensity stormwater runoff event.

16. **Item 13:** Verify any suspended solids in the sample and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any settled solids observed (e.g., fine, coarse).

Most often suspended solids include fine sediment. This may be an indication of an unstable channel that may have eroding banks. Some water appears to be colored because of relatively coarse particulate material in suspension such as sediment.

17. **Item 14:** Verify the sample is free of foam and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Gently shake the sample container. Describe any bubbles in or on the surface of the water and the color of the foam.

CAUTION

Contact the EPC-CP Project Leader for MSGP **immediately if it is determined that the foam is caused by a pollutant.** Follow-up action is required within 24 hours.

18. **Item 15:** Verify the sample is devoid of any oil sheen and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If an oil sheen is present, describe the thickness and consistency (e.g., flecks, globs).

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CAUTION

Contact the EPC-CP Project Leader for MSGP **immediately**. Then determine the nature of the discharge (rain, snow, hail), the source of the sheen and if existing BMPs are effective in mitigation of potential pollutants or if a new BMP needs to be installed. Follow-up action is required within 24 hours.

19. **Item 16:** Verify the discharge is free of any other indicators of stormwater pollution not described in any other task line above and document by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe any observations.
20. When all task lines have been completed, click the “Back” arrow button in the upper left hand corner to exit the work order Tasks page and return to the work order Summary page.

4.3 Completing the Assessment Form

1. Ensure the inspection form has been filled out completely including information not available during the field inspection (e.g., date/time of discharge, date/time of sample collection, total precipitation amount).
3. Click the checkered flag in the upper right corner of the work order Summary page. MC Express auto-populates the date and time fields.

CAUTION

MC Express automatically changes the work order status to “Closed.”

4. **Item 17:** Click on the expand arrow located on the right side of the “New Status” field and select “Completed” from the available dropdown menu.

Ensure the “Date” field has the date and time the **form was completed**. The completion date and time may be different from the date and time the visual assessment was performed if precipitation information was added to the form after the on-site field inspection.

If these fields need to be updated, click the “Date” field to modify it. Make necessary adjustments using the available timestamp application and click “Set” to apply changes.

6. **Item 18:** The inspector must type in his/her name in the “Labor Report Update” field.
Any additional notes, observations, or site conditions not documented in a task line “Reading” or “Comments” field can also be documented in the “Labor Report Update” field.
7. Scroll down the page to the “Signature” bar and click the expand arrow on the left side of the bar to open the “Signature” field.

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8. **Item 19:** Capture an electronic signature by drawing with a finger on the tablet screen. The Lead Inspector is certifying that the information submitted is “true, accurate, and complete” by electronically signing the work order.

Note: If using MC Express on a desktop screen (not a tablet), the mouse must be used to sign electronically.

9. Click on the “Save” bar at the bottom of the page to close the “Signature” field.
10. Click on the “Back” button located in the upper left hand corner to return to the “My Open Work Orders” page.
11. Once you have completed an inspection, click on the Menu button again, and then click the “Logout” bar. Close the browser. All work will automatically upload from the MC Express application to the MC database.

Always log out of MC Express when you have finished work OR if work is interrupted.

4.4 Completing the Certification Statement

1. Using the Safari web browser on a desktop computer, navigate to <http://www.maintenanceconnection.com>. Log into the MainConn desktop application using your login credentials.
2. Click “Open” in the tool bar at the top of the page to open the MainConn module selections. Click on the “Work Orders” module (see Attachment 3).
3. Click on the “Search” tab at the top left of the page and enter the work order number in the “Search Value” field. Click the arrow to the right of the “Search Value” field to open the work order in the right split screen.
4. Click on the “Report” tab at the top of the page and click the “Work Order Statement” sub-tab.
5. Click the Tools drop down menu in the top right corner of the page and select “Print” from the options. The print dialog box will open. Select the print options as appropriate for your local printer.
6. **Item 20:** Obtain a printed name and title, signature, and date on the certification statement. The visual assessment form must be certified with a signature from a duly authorized representative of the facility as defined in Appendix B of the MSGP Permit, Section B.11.A (e.g., FOD, Operations Manager, DSESH Group Leader, EPC Group Leader). The duly authorized representative of the facility is certifying the information submitted is “true, accurate, and complete” by signing the form.

EPC-CP will send out completed visual assessment forms at the end of each quarter that will contain a certification statement in the cover memorandum. The duly authorized signatory may sign and date this certification statement rather than the certification line associated with each attached form. However, the memorandum and associated completed forms must remain together.

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- Place the completed and signed visual assessment into the facility SWPPP.

5.0 EVIDENCE OF STORMWATER POLLUTION

If stormwater contamination is identified through visual assessment personnel should attempt to identify the pollutant source. Personnel should evaluate whether or not BMPs have already been implemented and evaluate whether or not these are working correctly or need maintenance. A design change could also be incorporated into the stormwater pollution prevention plan to eliminate or minimize the contaminant source from occurring in the future. Personnel should evaluate whether or not additional BMPs should be implemented in the pollution prevention plan to address the observed contaminant.

A clean up of the site should be conducted if the pollutant source is known and well defined. The FOD, ESH Manager, and MSGP representative of EPC-CP should also be contacted and made aware of the situation.

Corrective actions **MUST** be taken if BMPs are not performing effectively. Refer to EPC-CP-QP-022, *MSGP Stormwater Routine Facility Inspections and Corrective Actions*.

6.0 TRAINING

The following personnel require training before implementing this procedure:

- EPC-CP technical staff and subcontract or other personnel who retrieve stormwater samples and conduct visual assessments at automated or single stage stormwater samplers for the MSGP.

For EPC-CP staff the training method for this procedure is “self-study” (reading). Other participating groups may require training documentation pursuant to local procedures.

Personnel performing this procedure will be familiar with the most current versions of the following procedures and operation manuals:

- EPC-CP MSGP Sampling and Analysis Plan for the current monitoring year

7.0 RECORDS

Records generated by this document and signed by the EPC-CP certifier will be submitted to the EPC-CP Records Management designated point of contact or document manager in accordance with P1020-1, *Laboratory Records Management* and with ADESH-AP-006, *Records Management Plan*.

- EPC-CP-Form-1021, *MSGP Quarterly Visual Assessment*

All other MSGP Quarterly Visual Assessment forms generated are forwarded to the duly authorized representative of each facility for submittal to that facility’s Records Management designated point of contact or document manager.

8.0 DEFINITIONS AND ACRONYMS

See LANL *Definition of Terms*.

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8.1 Definitions

Adverse weather conditions – Weather that prohibits collection of samples such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc. Could also include drought, extended frozen conditions, etc.

Best Management Practices (BMPs) – Schedules of activities, practices, prohibitions of practices, structures, vegetation, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs can also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clarity – Clearness or cleanness of appearance. This includes the visual observation of suspended sediment.

Color – Unpolluted water will be clear and colorless. Color should not be confused with clarity.

Floating solids – Particulate material floating on the surface of the water. Examples include: raw or waste materials and common trash.

Foam – An accumulation of fine frothy bubbles formed in or on the surface of water. A mass of bubbles of air in a matrix of liquid film.

Odor – The property or quality of waters that affects or stimulates the sense of smell. Examples of odors that may be present are burnt oil, petroleum hydrocarbon, sewage, diesel, sulfuric, or detergent odors.

Oil sheen – The presence of rainbow-like colors glistening on the surface of a liquid. The color of oil sheen will vary dependent on thickness and consistency.

Settled solids – Settled particulate material i.e., heavier than water. Examples include sand, gravel, metal turnings, and glass.

Suspended solids – Particulate materials that are floating between the bottom of the sample and the surface of the water.

Unstaffed and Inactive Sites – A facility maintaining certification with the SWPPP that it is inactive and unstaffed and visual examinations are not required.

8.2 Acronyms

See LANL *Acronym Master List*.

EPC-CP	Environmental Protection and Compliance – Compliance Programs
IWD	Integrated Work Document
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
MC Express	Maintenance Connection MC Express web application
MSGP	Multi-Sector General Permit

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NPDES	National Pollutant Discharge Elimination System
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9.0 REFERENCES

P1020-1, Laboratory Records Management

ADESH-AP-006, Records Management Plan

EPC-CP-QP-022, MSGP Stormwater Routine Facility Inspections and Corrective Actions

10.0 ATTACHMENTS

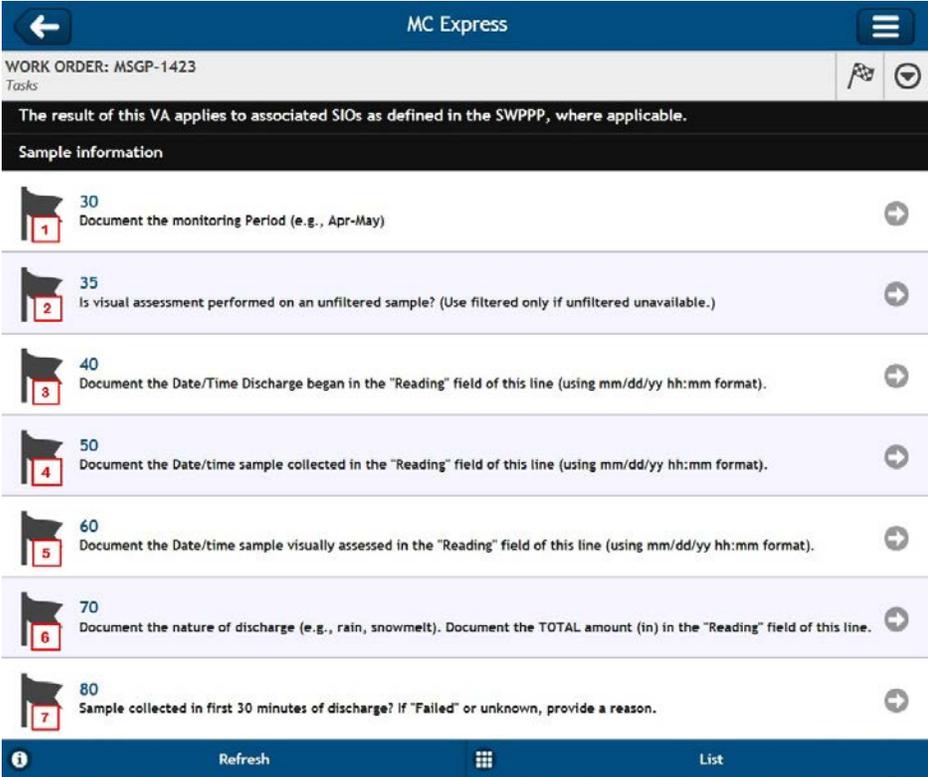
Attachment 1: *Screenshot Examples of EPC-CP-Form-1021 in MC Express*

Attachment 2: *Crosswalk of EPC-CP-Form-1021 Hard Copy Format to Electronic Format*

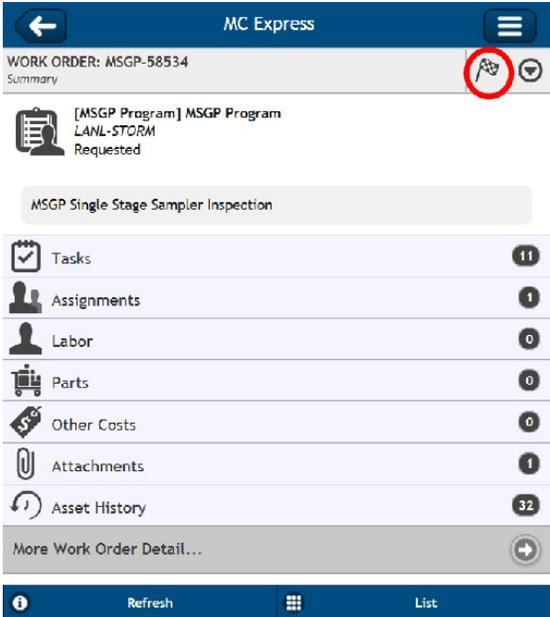
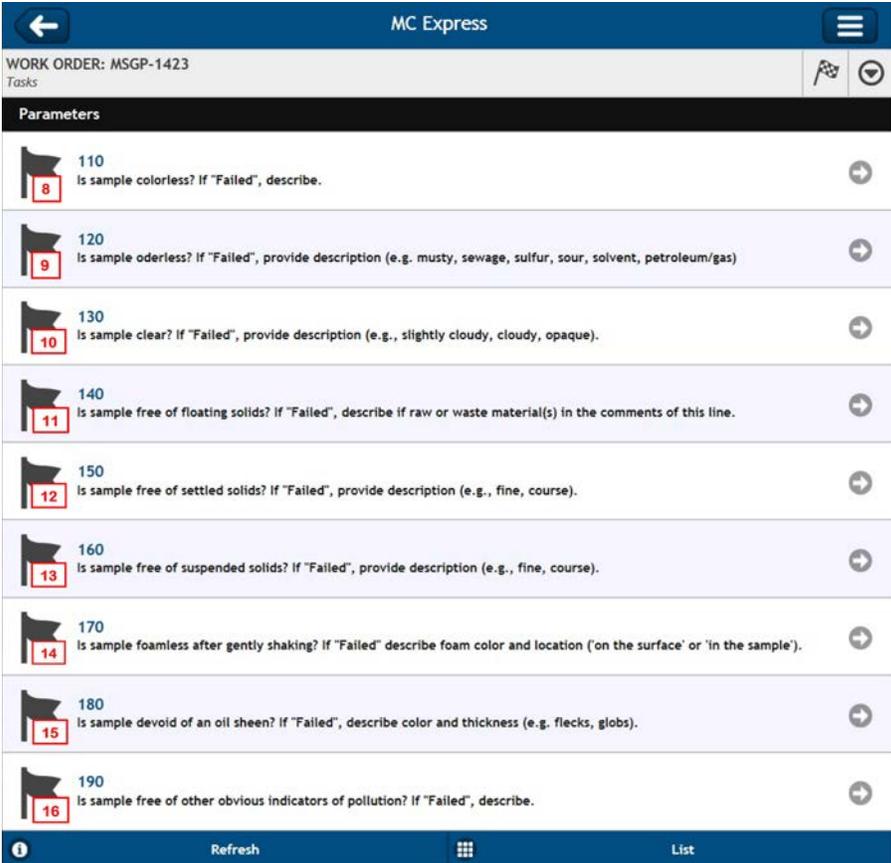
Attachment 3: *Screenshot Examples of Printing from Maintenance Connection*

Attachment 1: Screenshot Examples of EPC-CP-Form-1021 in MC Express

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Attachment 1: Screenshot Examples of EPC-CP-Form-1021 in MC Express (cont.)



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Attachment 1: Screenshot Examples of EPC-CP-Form-1021 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-1423
Status Update

Issued

New Status **17**

Completed

Date

6/28/2017 03:12 PM

Percent Complete 100%

Labor Report Update **18**

Select Comments to Add.....

Jane Admin

Cancel Save

MC Express

WORK ORDER: MSGP-1423
Status Update

Signature **19**

(Remove)

Jane Admin

Cancel Save

Attachment 2: Crosswalk of EPC-CP-Form-1021 Hard Copy Format to Electronic Format
Page 1 of 2

Los Alamos National Lab - ADESH

Work Order MSGP-1423

MSGP Monitoring Stations
Printed 7/12/2017 - 10:57 AM (Duplicate Copy)

Maintenance Details

Requested By: Admin, Jane on 7/11/2017 1:25:00 PM	Target: 12/31/2017	MSGP Program
Procedure: MSGP Quarterly Visual Assessment (EPC Sig) (EPC-CP-Form-1021.023)	Priority/Type: / Inspection	RG121.9
Last PM: N/A	Department: Utilities and Infrastructure	TA-3-38 Carpenter Shop
Reason: Hard Copy MSGP Visual Assessment Example		Monitored Outfall (073)
		MSGP07302
		Contact: Admin, Jane
		Phone: 123-4567

Tasks

#	Description	Meas.	No	N/A	Yes
The result of this VA applies to associated SIOs as defined in the SWPPP, where applicable.					
Sample information					
1	30 Document the monitoring Period (e.g., Apr-May)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	35 Is visual assessment performed on an unfiltered sample? (Use filtered only if unfiltered unavailable.)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	40 Document the Date/Time Discharge began in the "Reading" field of this line (using mm/dd/yy hh:mm format).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	50 Document the Date/time sample collected in the "Reading" field of this line (using mm/dd/yy hh:mm format).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	60 Document the Date/time sample visually assessed in the "Reading" field of this line (using mm/dd/yy hh:mm format).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	70 Document the nature of discharge (e.g., rain, snowmelt). Document the TOTAL amount (in) in the "Reading" field of this line.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	80 Sample collected in first 30 minutes of discharge? If "Failed" or unknown, provide a reason.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parameters					
8	110 Is sample colorless? If "Failed", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	120 Is sample odorless? If "Failed", provide description (e.g. musty, sewage, sulfur, sour, solvent, petroleum/gas)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	130 Is sample clear? If "Failed", provide description (e.g., slightly cloudy, cloudy, opaque).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	140 Is sample free of floating solids? If "Failed", describe if raw or waste material(s) in the comments of this line.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	150 Is sample free of settled solids? If "Failed", provide description (e.g., fine, course).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	160 Is sample free of suspended solids? If "Failed", provide description (e.g., fine, course).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	170 Is sample foamless after gently shaking? If "Failed" describe foam color and location (e.g., 'on the surface' or 'in the sample').		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	180 Is sample devoid of an oil sheen? If "Failed", describe color and thickness (e.g. flecks, globs).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	190 Is sample free of other obvious indicators of pollution? If "Failed", describe.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Labor Report

17 **Completed:** 6/28/2017 3:23:00 PM

18 **Report:** Jane Admin

19 _____ 6/28/2017 _____
Signature / Name Date Signature / Name Date

I confirm the information as recorded is true, accurate and complete.

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Attachment 2: Crosswalk of EPC-CP-Form-1021 Hard Copy Format to Electronic Format (cont.)

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CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

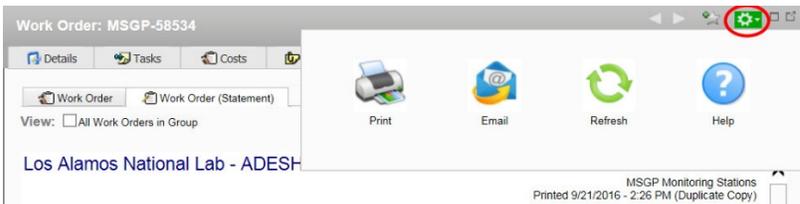
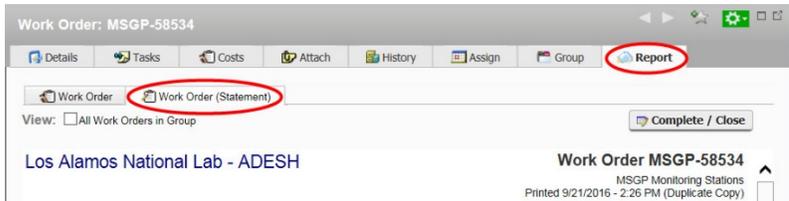
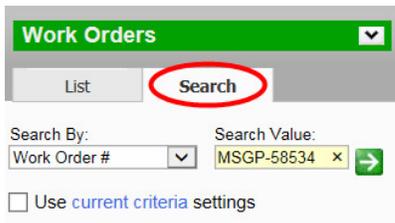
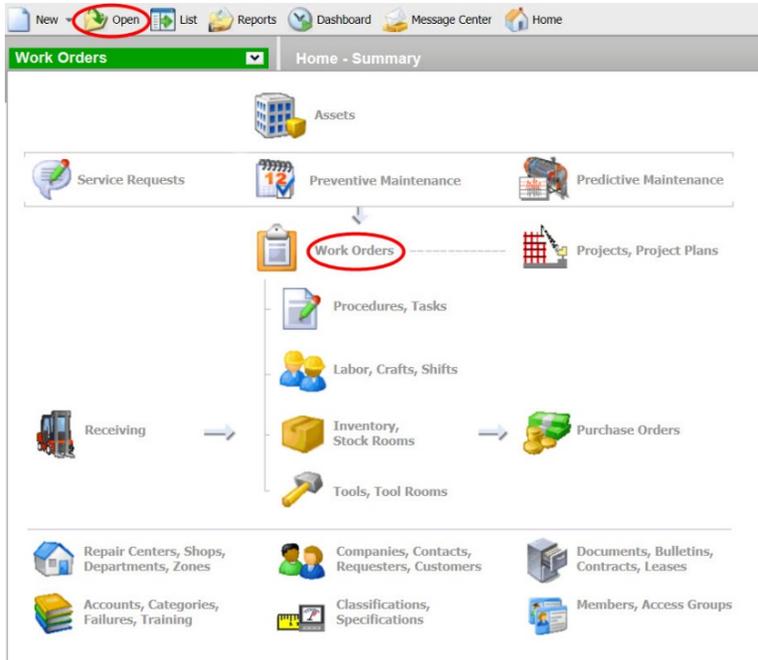
(Signatory must meet definition in Section B.11.A, eg. FOD, Ops Mgr, DSESH Group Leader, EPC Group Leader)

20 Print name and title: _____

Signature: _____ Date: _____

Attachment 3: Screenshot Examples of Printing from Maintenance Connection

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**ATTACHMENT 19: EPC-CP-QP-047 INSPECTING STORMWATER RUNOFF
SAMPLERS AND RETREIVING SA MPES FOR THE MSGP**

EPC-CP-QP-047	Revision: 2	
Effective Date: 09/06/2017	Next Review Date: 09/06/2020	

Environment, Safety, and Health Directorate

Environmental Protection and Compliance Division – Compliance Programs

Quality Procedure

Inspecting Stormwater Runoff Samplers and Retrieving Samples for the MSGP

Document Owner/Subject Matter Expert:

Name:	Organization:	Signature:	Date:
Holly L. Wheeler	EPC-CP	Signature on File	9-5-17

Derivative Classifier: Unclassified or DUSA ENVPRO

Name:	Organization:	Signature:	Date:
Ellena I. Martinez	EPC-CP	Signature on File	8-22-17

Approval Signatures:

Subject Matter Expert:	Organization:	Signature:	Date:
Holly L. Wheeler	EPC-CP	Signature on File	9-5-17
Responsible Line Manager:	Organization:	Signature:	Date:
Terrill W. Lemke	EPC-CP Team Leader	Signature on File	9-5-17
Responsible Line Manager:	Organization:	Signature:	Date:
Anthony R. Grieggs	EPC-CP Group Leader	Signature on File	9-6-17

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To document a required read, Login to [UTrain](#), and go to the Advanced Search.*

Inspecting Storm Water Runoff Samplers & Retrieving Samples for the MSGP	EPC-CP-QP-047	Page 2 of 26
	Revision: 2	Effective Date: 09/06/2017

REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
ENV-RCRA-QP-047, Rev. 0	03/11	New Document.
ENV-RCRA-QP-047, Rev. 1	02/13	Annual Review and Revision
EPC-CP-QP-047, Rev. 2	09/06//2017	Review and revision. Updated document to new template and new group name. Clarified steps, modified inspection form EPC-CP-Form-1010, and added crosswalk to electronic form in MC Express. This document replaces ENV-RCRA-QP-047 R1.

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1.0 INTRODUCTION

Los Alamos National Security, LLC (LANS) through Environmental Protection and Compliance-Compliance Programs (EPC-CP) conducts stormwater monitoring activities required pursuant to the National Pollutant Discharge Elimination System (NPDES), Multi-Sector General Permit (MSGP) at Los Alamos National Laboratory (LANL). The MSGP requires LANL to monitor stormwater runoff from industrial sites relative to potential pollutants.

1.1 Purpose

This procedure describes the process for inspecting ISCO stormwater samplers and retrieving stormwater runoff samples from monitored outfall locations where LANS conducts stormwater monitoring activities pursuant to the NPDES, MSGP at LANL.

Inspections and sample retrieval conducted under this procedure should be documented using the Maintenance Connection Express™ (MC Express) web application on a tablet or notebook style computer. (In the event of electronic hardware or web application failure, personnel may use a printed hard copy to conduct inspection and sample retrieval.)

1.2 Scope

This procedure applies to the EPC-CP technical staff and subcontractor personnel (as applicable) conducting activities at automated stormwater sampling stations used for monitoring industrial stormwater discharge under the MSGP.

The MSGP Program Lead is the primary person with responsibility for the steps in this procedure. EPC-CP personnel will be appointed with responsibility for a subset of sampling stations.

1.3 Applicability

Stormwater runoff samples are collected at MSGP Program stations either with a refrigerated Avalanche® or ISCO 3700 automated sampler, single stage sampler or grab sample. ISCOs are designed to automatically collect water when the water surface is high enough to trigger a liquid level actuator and fill the sample bottles. Field personnel are required to inspect the sampling station while retrieving water samples during MSGP stormwater monitoring periods and at other intervals determined by the program or as directed by program personnel.

2.0 PRECAUTIONS AND LIMITATIONS

Hazards in the work described in this procedure are controlled thorough site specific Integrated Work Documents (IWDs). The hazard level of the activities in this procedure is **moderate**.

Personnel performing steps in this procedure that involve electrical equipment **MUST** be trained to LANL electrical safety standards as prescribed in the IWD before performing those steps.

Inspections may be discontinued during periods or conditions that make sites dangerous for worker safety or prevent personnel from safely accessing sites (e.g., weather-related events such as flash

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floods, flooding, lightning, wildfires, hail, icy roads, deep snow, or LANL operations such as firing shots or burns).

Some terminology varies between the MC Express software and the Maintenance Connection desktop software.

- The “Reading” field in MC Express is the same field as “Reading Final” in Maintenance Connection desktop and “Meas.” on a hard copy (printed) work order.
- The “Complete” option in MC Express is the same as a “Yes” answer; the “Failed” option in MC Express is the same as a “No” answer. Maintenance Connection desktop and hard copy (printed) work orders use “Yes” and “No” terminology.

3.0 PREREQUISITE ACTIONS

3.1 Planning and Coordination

1. Schedule work to be completed by the target date appearing on the work order(s) or as requested by the MSGP Program Lead if a form is not issued.
2. Inform (e.g., by e-mail) Facility contacts, as specified in the IWD, of the schedule for sampler inspection work and locations up to a week (preferred) before but no later than the day before (for minor changes) to be added to the appropriate plan of the day.

Note: For some Facility Operations Divisions (FODs) like the Utilities and Institutional Facilities FOD, MSGP stormwater monitoring activities are on a standing plan of the day. However, this must be requested each year at the beginning of the monitoring season.

3. The IWD Part II (2101 Form) addresses specific requirements and training for FODs.
4. Obtain any necessary additional paperwork before conducting this work, including IWD’s, and excavation permits (as necessary).
5. Gather the required equipment (see section below) for the work to be done.
6. Using the Safari web browser on a tablet or notebook style computer, navigate to <http://express.maintenanceconnection.com> and select English from the available dropdown menu.
7. Log into the MC Express application using your login credentials.
8. Confirm that the work order list displayed in the “My Open Work Orders” section matches your sites (see example in Attachment 1). If work orders are not displayed, click the “Refresh” bar at the bottom of the page. The page will refresh and any work orders issued since you logged in will be loaded to the application. If the work order lists still do not match, contact the MSGP Data Management Team for clarification.
9. Ensure that field personnel have access to accurate time measurement at the Site. When at the site, the clock time on the ISCO sampler must be set to Mountain Standard Time at all times, with no daylight saving time adjustment.

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3.2 Tools and Equipment

Ensure the following equipment is available in the field vehicle:

- Safety glasses with side shields
- Sturdy hiking boots or steel toed shoes with soles that grip
- Nitrile gloves
- Cell phone (only government cell phones with batteries removed are allowed in secure areas)
- Copy of this procedure
- Copy of the Integrated Work Documents (IWDs)
- Copy of the MSGP Sampling and Analysis Plan
- Site Map(s) (as needed)
- Current electronic or paper inspection form EPC-CP-Form-1010, MSGP ISCO Sampler Inspection and Sample Retrieval
- Sample Collection Log/Field Chain of Custody (see EPC-CP-QP-048)
- Government issued iPad equipment with Safari web browser and Good™ app.
- Necessary access and station keys
- Charged spare battery(s)
- Battery voltage tester
- Clean spare tubing (pump, suction, discharge types, sampler specific)
- Certified clean replacement sample bottles (glass and poly)
- Spare/replacement sampler parts (liquid level actuator, distributor arm)
- Shovel
- Wooden stakes
- Plastic wire “zip” ties
- Coolers with ice or Blue Ice®
- Paper Towels
- Marker pen (permanent, waterproof)
- Ball point pen
- Zip lock bags
- Chain of custody seals

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- 0.45 micron filter (where applicable)

4.0 INSPECTING STORMWATER SAMPLERS AND RETRIEVING SAMPLES

Throughout this procedure the field inspector should document comments and notations in the “Reading” field of the associated task line. Any additional comments not documented in a “Reading” field can be entered in in the “Comments” field of the same task line. If the inspector needs more space additional comments can be entered in the “Labor Report Update” field (see Section 4.3) when the work order is updated to “Complete” status.

4.1 Inspecting the Sampler

1. If conditions prevent a sampler inspection, document the conditions in the “Labor Report Update” field on the work order and notify the Program Lead or designee within 24 hours. Multiple attempts can be documented on the original inspection work order. If the target date cannot be met, the inspector must contact the MSGP Program Lead no less than 24 hours before target date for guidance.
2. In MC Express open the work order issued for the current location by clicking on the appropriate line. If needed, use the expand arrow located on the right side of the display to expand the work order detail information. The work order will open in the display to the work order Summary page.
3. Click on the “Tasks” bar to navigate to the work order Tasks page.
4. Remove the top cover from the sampler.

4.1.1 On Arrival

5. **Item 1:** Verify and document the sampler is ON and its condition upon arrival by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes” (see example in Attachment 1). Explain any non-functional status (remember to use the “Reading” field unless more space is needed for comments). A hard copy inspection example is provided in Attachment 2 as a crosswalk to the electronic format.

If a sampler has been inactivated (e.g., sample collection completed) prior to this inspection but continues to appear on the inspection form, change the “N/A” line to “Yes”. Subsequent questions regarding this sampler may be left unanswered in this section.

CAUTION

Click the “Save” bar after all entries for a task line have been completed and before proceeding to the next question. Failure to “Save” results in lost data entries.

6. **Item 2:** Verify and document the ISCO programming displays the following by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

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ISCO 3700 sampler display should indicate “Sampler Inhibited”

OR

Avalanche sampler display should indicate “Program Disabled”

If the display does not indicate these messages, describe the messages (e.g., “Done X samples”, “sampler off”, etc.). If there is no indication of flow and the sampler triggered due to a non-flow event (e.g., animal, tumbleweed, etc.), describe this. Document any messages from the ISCO display.

7. **Item 3:** Verify and document the sampler is set to the correct Mountain Standard Time +/- no more than 1 minute by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If the sampler is set incorrectly, reprogram for the correct Mountain Standard Time. Describe the work performed and correction applied (e.g., “ISCO clock was X minutes slow”).
8. If the location has more than one sampler complete Steps 5 through 7 for each sampler.
9. Don nitrile gloves and safety glasses.
10. Remove the center section from the sampler.

4.1.2 Water Collection Information

11. **Item 4:** Document any evidence of storm water flow at the sampling location by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Describe the evidence of flow (e.g. sediment or vegetation movement, erosion, standing water).
 - If the sampler did not trip but there is evidence of flow, document the date and time storm water discharge began from the precipitation report.
 - If the sampler tripped or collected storm water, document the date/time stamp from the sampler if available or from the precipitation report.
12. **Item 5:** Document if any storm water was collected (from either a sampler or by grab sample) by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If any water was collected, complete the Bottle Information section (**Item 20**). Document if the water is taken by grab sample. Follow the steps in Section 4.2 of this procedure to retrieve samples.
13. **Item 6:** For Avalanche samplers only, verify and document the current refrigerator temperature of the sampler if water was collected by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Record the temperature. If unable to review temperature, check “No” and describe the condition (e.g. dead battery, electrical short).

If no water was collected the field inspector may change the “N/A” line to “Yes”.

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14. **Item 7:** For Avalanche samplers equipped with an ISCO pH and Temp Module, verify and document a pH measurement was taken on the collected water by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Record the pH measurement taken at the time of Bottle 1 as “Average: Minimum:Maximum.” If unable to review pH, check “No” and describe the condition (e.g. damaged meter).

If no water was collected the field inspector may change the “N/A” line to “Yes”.

4.1.3 Water Retrieval Information

15. **Item 8:** Verify and document whether a sample volume was retrieved (from either a sampler or by grab sample) and taken off site by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If sample volume was retrieved, record the total volume **taken off site**.
16. **Item 9:** Verify and document whether a visual assessment of the water was performed by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. The MSGP program visual assessment form is not included in this procedure (see EPC-CP-QP-064). Ensure this form is submitted with the sampler inspection form. If the sample was filtered, conduct the visual assessment and document “Filtered sample.”

4.1.4 On Departure

17. **Item 10:** Verify all cable and electrical connections are attached and firmly tightened (not loose) upon departure from the site by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Connections may work loose over time due to temperature changes and if there are dissimilar metals at the connection points. The loose connections can introduce voltage spikes which inherently cause current spikes that may result in blown fuses.

If the cables require replacement, connections require tightening, or other maintenance performed, describe the work performed (e.g., “tightened connectors on battery”).

If maintenance cannot be completed at the time of inspection, then describe the condition (e.g. cables chewed through by animal) and follow-up work needed (e.g., replace cables).

18. **Item 11:** Verify and document power supply function. Use a voltage meter to check the voltage of the battery(s) and record the voltage(s). Change the “Complete” or “Failed” line to “Yes” to indicate if battery voltage is acceptable upon departure from the station (≥ 11.7 for non-floating charged batteries at ISCO 3700 samplers and ≥ 11.0 for floating-charged batteries at Avalanche samplers).

Check the voltage of the solar panel if access can be gained to the weather protected terminal covers on the back of the panel.

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4.1.5 Equipment Specific Tasks

19. **Item 12:** Verify and document the sampler passes the diagnostic test by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Directions for running the diagnostics test is provided in ENV-CP-QP-045.

If a sampler has been inactivated (e.g., sample collection completed) prior to this inspection but continues to appear on the inspection form, change the “N/A” line to “Yes” on this task line. Subsequent questions regarding this sampler may be left unanswered in this section.

Warning

The internal pump tubing must be replaced if the pump tubing life has reached or exceeded the preset pump counts. The internal pump tubing life is set 500,000 pump counts for the 3700 and 1,000,000 for the Avalanche.

Only reset the pump counts after replacing the internal tubing.

If maintenance is necessary and can be performed at the time of inspection, describe the work performed. If maintenance cannot be completed at the time of inspection, then describe the condition and follow up with a description of work needed.

If a sampler has been inactivated (e.g., sample collection completed) prior to this inspection but continues to appear on the inspection form, change the “N/A” line to “Yes” on this task line. Subsequent questions regarding this sampler may be left unanswered in this section.

20. **Item 13:** Verify and document the sample tubing is free or clear of debris by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

Check the physical condition of the sampler including the actuator and intake line for correct location and height in the channel. The actuator, intake line and strainer (if used) should be placed on the cutting side of the channel to help minimize the possibility of sediment burying the intake line/strainer. Adjust as necessary to capture flow within the channel. The actuator, intake line and strainer must be clear of debris (sediment, pine needles, etc.).

If maintenance (e.g., clearing the tube, reposition tubing intake) is necessary and can be performed at the time of inspection, perform the work and describe. If maintenance cannot be completed at the time of inspection (e.g., can’t clear intake tubing and spare intake tubing not on hand to replace) then describe the condition and follow up with description of work needed.

21. **Item 14:** Verify and document the sample tubing has passed a suction test by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. Check the condition of sample tubing and vent tubing.

If maintenance (e.g., replace internal pump tubing) is necessary and can be performed at the time of inspection, perform the work and describe. If maintenance (e.g., replace sampler

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pump) cannot be completed at the time of inspection then describe the condition and follow up with description of work needed.

22. **Item 15:** Verify and document the sampler is ON prior to departing the site by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.
23. **Item 16:** Verify and document the liquid level actuator has been set to “Latch” prior to departing the site by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”. If the sampler tripped and requires reset of the sampling program, reset the actuator by toggling the switch to “Reset” and then back to “Latch”.
24. **Item 17:** Verify and document the ISCO programming displays the following by clicking the expand arrow located on the right side of the task line and changing the “Complete” or “Failed” line to “Yes”.

ISCO 3700 sampler display should indicate “Sampler Inhibited”

OR

Avalanche sampler display should indicate “Program Disabled”

If an error occurs, reconfigure the sampler per EPC-CP-QP-045.

25. If the location has more than one sampler complete Steps 19 through 24 for each sampler.

4.1.6 Maintenance Information

26. **Item 18:** Verify and document any maintenance completed while on site that is not documented elsewhere on work order by changing the “Complete” or “Failed” line to “Yes”. Describe the work performed.

Maintenance items may include (but are not limited to) site clearing, installing new or additional equipment, removing equipment, animal/pest mitigation, problems with equipment location, etc.

If a battery was replaced record the voltage of the new battery and the battery identification number. If the battery does not have an identification number, contact the MSGP Program Manager to have one assigned. Once assigned, the number must be painted or written in a permanent manner on the battery.

27. **Item 19:** Verify and document any maintenance needed that could not be completed while on site that is not documented elsewhere on work order by changing the “Complete” or “Failed” line to “Yes”. Describe any work needed. Refer to EPC-CP-QP-045 for sampler operation and maintenance.

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4.1.7 Bottle Information

28. **Item 20:** Document water collected by clicking the expand arrow located on the right side of each bottle's task line and change the "Complete" or "Failed" line to 'Yes'. Record the following information for each bottle by position number in the carousel.

- Date (MM/DD/YY or MM-DD-YY) and time the ISCO collected water.
- Volume of water in the bottle
- Type of bottle (e.g. G for glass, P for poly)
- Specific ISCO displayed message, if present

If the sampler(s) did not trigger, change the "N/A" line to 'Yes' for Bottle #1 of each sampler and leave the other Bottle task lines unanswered.

If a sampler has been inactivated (e.g., sample collection completed) prior to this inspection but continues to appear on the inspection form, change the "N/A" line to "Yes" on this task line. Subsequent questions regarding this sampler may be left unanswered in this section.

29. If the location has more than one sampler complete Step 28 for each sampler.
30. Replace and secure the sampler top cover and secure the sampler shelter (if sampler is in a shelter).

4.2 Retrieving Samples

1. Don nitrile gloves and safety glasses.
2. Add up the volume of water collected (see flow chart in Attachment 3) and check that the total volume of water in glass and poly matches the required volume for the specific location identified in the MSGP Sampling and Analysis Plan. The volume of water required to complete analytical may vary by monitored location.
 - If sample volume is sufficient to fulfill all analytical requirements, continue with Step 3.
 - If sample volume is sufficient to fulfill part of the analytical requirements, consult the prioritization order on the MSGP Sampling and Analysis Plan to determine which analytical to fulfill OR contact the MSGP Data Manager, continue with Step 3 but retrieve only the volume needed.
 - If the collected sample will NOT fulfill the minimum required volume for any analytical:
 - Record total volume retrieved as "0" in **Item 8**
 - Complete a Visual Assessment (see EPC-CP-QP-064)
 - Pour out all water on the ground
 - Skip to Step 10 below

CAUTION

ISCO Avalanche samplers are programmed to cool samples to 4°C. If water is collected and the refrigerator temperature reads higher than 6°C, **do not** retrieve samples that require ICE preservation. Refer to the MSGP Sampling and Analysis Plan for preservation requirements.

3. Remove filled and partially-filled bottles from the carousel.
4. For samples retrieved, immediately place lids onto the sample bottles and securely seal. Place custody seal tape on each bottle.
5. Write the date and time collected, Sampler Location number, and the corresponding carousel number on each retrieved sample bottle. Retrieve the sample collection date and time from the ISCO sampler.
6. Record total volume retrieved in **Item 8**.
7. Conduct a Visual Assessment (see EPC-CP-QP-064).
8. Place retrieved sample bottles in a cooler with blue ice (or equivalent).
9. Return any excess water or collected volume that exceeded the amount required to the ground at the location collected.
10. Install new certified clean sample bottles in the carousel to replace those bottles that collected stormwater. The number and type of bottles may vary. Ensure bottles match the configuration specified in the MSGP Sampling and Analysis Plan.
11. The 0.45 micron filter may also need to be replaced. Consult the most current revision of the Sampling and Analysis Plan for specifics. If the sampler is turned off for the quarter but new certified clean sample bottles and/or the filter have not been replaced, note this as follow-up maintenance required (see **Item 19**).
12. Replace and secure the center section of the sampler.
13. Return to steps in Section 4.1.

4.3 Completing the Inspection Form

1. When all task lines have been completed, make sure you have clicked the “Save” bar at the bottom of the page.
2. Click the “Back” arrow button in the upper left hand corner to exit the work order Tasks page and return to the Work Order Summary page.
3. Click the checkered flag in the upper right corner of the work order Summary page.

CAUTION

MC Express automatically changes the work order status to “Closed” and auto-populates the date and time fields.

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4. **Item 21:** Click on the expand arrow located on the right side of the “New Status” field and select “Completed” from the available dropdown menu. Ensure the date and time auto-populated are the date and time the inspection was completed.

If these fields need to be updated, click the “Date” field to modify it. Make necessary adjustments using the available timestamp application and click “Set” to apply changes.
6. **Item 22:** The inspector must type in his/her name in the “Labor Report Update” field.

Any additional notes, observations, or site conditions not documented in a task line “Reading” or “Comments” field can also be documented in the “Labor Report Update” field.
7. Scroll down the page to the “Signature” bar and click the expand arrow on the left side of the bar to open the “Signature” field.
8. **Item 23:** Capture an electronic signature by drawing with a finger on the tablet screen. The Lead Inspector is certifying that the information submitted is “true, accurate, and complete” by electronically signing the work order.

Note: If using MC Express on a desktop screen (not a tablet), the mouse must be used to sign electronically.
9. Click on the “Save” bar at the bottom of the page to close the “Signature” field.
10. Click on the “Back” button located in the upper left hand corner to return to the “My Open Work Orders” page.
11. Once you have completed an inspection, click on the Menu button again, and then click the “Logout” bar. Close the browser. All work will automatically uploaded from the MC Express application to the MC database.

Always log out of MC Express when you have finished work OR if work is interrupted.

4.4 REMOVING STORMWATER SAMPLES FROM THE FIELD

1. If samples were collected, deliver the samples and corresponding Sample Collection Log/Field Chain of Custody form to the EPC-CP Stormwater Program Laboratory at TA-59-1.
2. Sign the Sample Collection Log/Field Chain of Custody and place it with the sample(s) in the refrigerator. Ensure custody seal tape is intact on each sample bottle. Lock the refrigerator to prevent tampering. Refer to EPC-CP-QP-048, *Processing MSGP Stormwater Samples* for instruction on processing samples and submitting samples for shipping to an analytical laboratory.

5.0 TRAINING

The following personnel require training before implementing this procedure:

- EPC-CP technical staff and subcontract or other personnel who inspect automated stormwater samplers and retrieve stormwater samples for the MSGP.

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For EPC-CP staff the training method for this procedure is “self-study” (reading). Other participating groups may require training documentation pursuant to local procedures.

Personnel performing this procedure will be familiar with the most current versions of the following procedures and operation manuals:

- EPC-CP MSGP Sampling and Analysis Plan for the current monitoring year
- Manual for Teledyne ISCO Sampler Model 3700
- Manual for Teledyne ISCO Avalanche® sampler
- Manual for Teledyne ISCO 701 pH/Temperature module (if equipped at station)

Personnel performing steps in this procedure that involve electrical equipment **MUST** be trained to LANL electrical safety standards as prescribed in the IWD before performing those steps.

6.0 RECORDS

Records generated by this document will be submitted to the EPC-CP Records Management designated point of contact or document manager in accordance with P1020-1, *Laboratory Records Management* and with ADESH-AP-006, *Records Management Plan*.

- Completed ISCO Sampler Inspection and Sample Retrieval form(s)

7.0 DEFINITIONS AND ACRONYMS

7.1 Definitions

See LANL *Definition of Terms*.

7.2 Acronyms

See LANL *Acronym Master List*.

EPC-CP	Environmental Protection and Compliance-Compliance Programs
IWD	Integrated Work Document
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
MC Express	Maintenance Connection MC Express web application
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System

8.0 REFERENCES

None.

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9.0 ATTACHMENTS

Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express

Attachment 2: Crosswalk of EPC-CP-Form-1010.02 Hard Copy Format to Electronic Format Example

Attachment 3: Flow Chart for Sample Retrieval

Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express

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The screenshot shows the MC Express dashboard. At the top, there is a blue header with 'MC Express' and a menu icon. Below the header, there are two main sections: 'WORK ORDERS' and 'ASSETS'. The 'WORK ORDERS' section is titled 'All Repair Centers / All Shops' and contains several filters with counts: 'My Open Work Orders' (3), 'My Completed Work Orders' (1), 'All Open (Unassigned)' (13), 'All Open (Not Complete)' (115), 'All Open (Overdue)' (9), 'All Open' (200), and 'All Closed' (6,662). The 'ASSETS' section is also titled 'All Repair Centers / All Shops' and contains two filters: 'Asset Hierarchy' and 'Asset List' (2,955). At the bottom of the dashboard, there is a blue bar with a refresh icon and the text 'Refresh'.

This screenshot shows a detailed view of work orders in MC Express. The header includes a back arrow, 'MC Express', and a menu icon. The section is titled 'WORK ORDERS' with the subtitle 'My Open Work Orders'. There are icons for filter, sort, and refresh. The list contains three records:

Work Order ID	Asset Name	Description	Date	Action
#MSGP-59941 MSGP07302	ISCO Sampler	ISCO Sampler Inspection and Sample Retrieval	12/31/2017	Down Arrow
#MSGP-4342 TA-3-22 Power & Steam Plant	MSGP Single Stage Sampler	MSGP Single Stage Sampler Inspection	12/30/2016	Down Arrow
#MSGP-1423 MSGP07302	MSGP Visual Assessment	MSGP Visual Assessment Example	12/31/2017	Down Arrow

At the bottom of the list, it says '3 Records'. Below the list is a blue bar with a refresh icon and the text 'Refresh'.

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-59941
Summary

[MSGP07302] MSGP07302
TA-3-38 Carpenter Shop
Issued

Hard Copy Inspection Example

Tasks	44
Assignments	1
Labor	0
Parts	0
Other Costs	0
Attachments	2
Asset History	52

More Work Order Detail...

Refresh List

MC Express

WORK ORDER: MSGP-59941
Tasks

ON ARRIVAL

20	Is sampler ON and functioning properly upon arrival? Asset: [210C01437] ISCO 3700 Sampler	→
30	Does the sampler display "Sampler Inhibited"? If No, record specific message(s). Asset: [210C01437] ISCO 3700 Sampler	→
40	Is sampler time delta < 1 min (MST)? If No, record adjustment Asset: [210C01437] ISCO 3700 Sampler	→
50	Is sampler ON and functioning properly upon arrival? Asset: [210J01522] ISCO Avalanche Sampler	→
60	Does the Avalanche display "Program Disabled"? If No, record specific message(s). Asset: [210J01522] ISCO Avalanche Sampler	→
70	Is sampler time delta < 1 min (MST)? If No, record adjustment Asset: [210J01522] ISCO Avalanche Sampler	→

Refresh List

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-59941
Edit Task

20
Is sampler ON and functioning properly upon arrival?
[210C01437] ISCO 3700 Sampler

Reading

Sampler knocked over by bear, power disconnected

Initials

Failed?

Yes

Not Applicable?

No

Complete?

No

Comments

Cancel Save

MC Express

WORK ORDER: MSGP-59941
Tasks

Water Collection information

90
4 Is there evidence of flow? If YES (but no water collected), describe and record date/time of discharge.

100
5 Is any water collected? If YES, complete Bottle Information section.

110
6 If water was collected, record current refrigerator temperature (C).
Asset: [210J01522] ISCO Avalanche Sampler

120
7 If water was collected, record the pH measurement corresponding to the sample date/time: AVERAGE: ...
Asset: [211C01137] ISCO pH and Temp Module

Water Retrieval information

140
8 Was sample volume RETRIEVED? If Yes, record total volume retrieved.

150
9 Was a Visual Assessment performed? If Yes, complete the MSGP Visual Assessment form (EPC-CP-TP-064).

Refresh List

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-59941
Tasks

ON DEPARTURE

- 10** 170 Are electrical connections secure?
- 11** 180 Record voltage of battery(ies) powering sampler. Voltage(s) >/=11.7V?

Refresh List

MC Express

WORK ORDER: MSGP-59941
Tasks

Equipment specific tasks

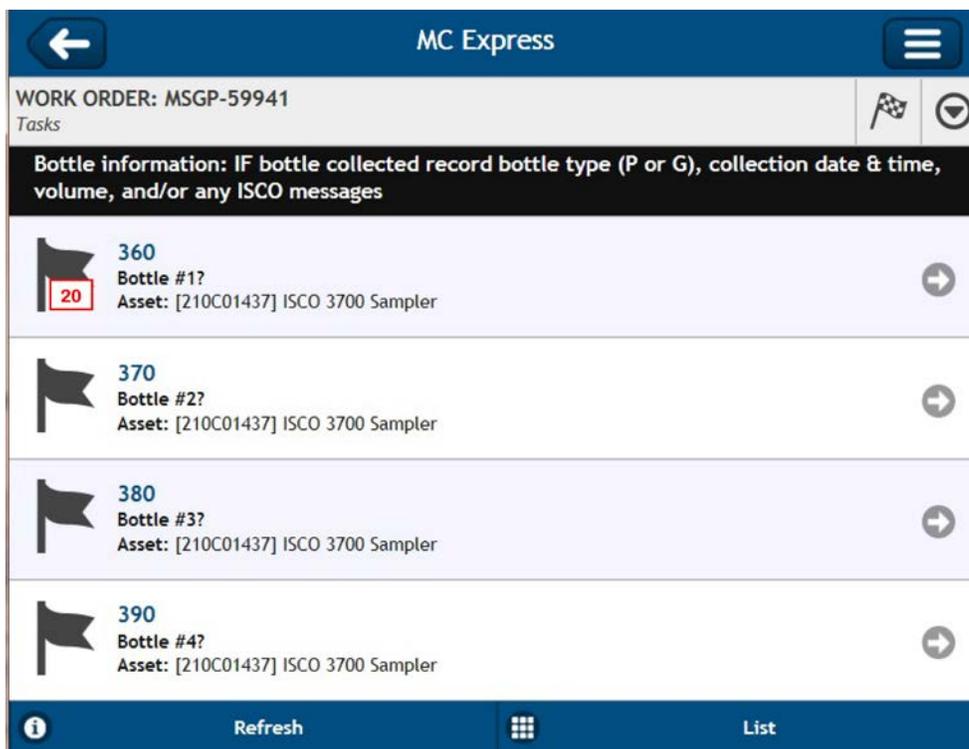
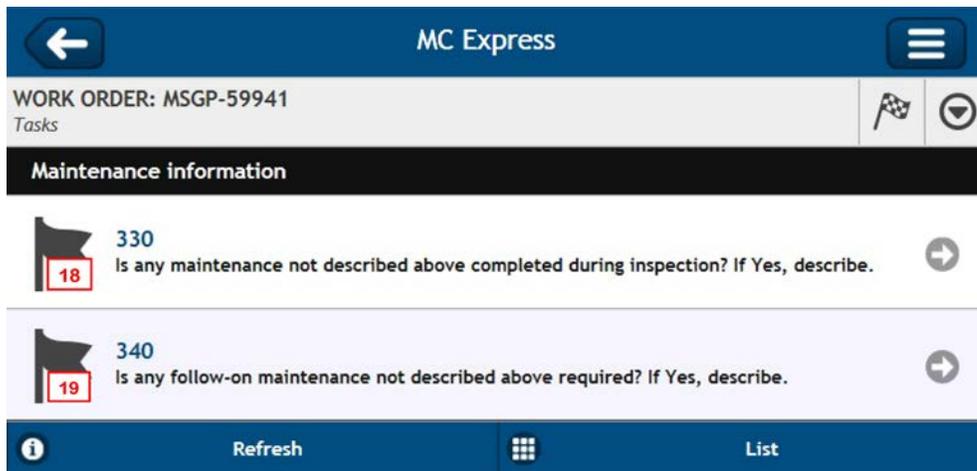
- 12** 200 Does the sampler pass the ISCO diagnostics test?
Asset: [210C01437] ISCO 3700 Sampler
- 13** 210 Is intake tubing free/clear of debris?
Asset: [210C01437] ISCO 3700 Sampler
- 14** 220 Does sample tubing pass suction test?
Asset: [210C01437] ISCO 3700 Sampler
- 15** 230 Is sampler on upon departure?
Asset: [210C01437] ISCO 3700 Sampler
- 16** 240 Has the actuator switch been reset to "Latch"?
Asset: [210C01437] ISCO 3700 Sampler
- 17** 250 Does ISCO display "Sampler Inhibited" on departure?
Asset: [210C01437] ISCO 3700 Sampler

Refresh List

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-59941
Edit Task

360
Bottle #1?
[210C01437] ISCO 3700 Sampler

Reading

2/10/17 14:32; 1L poly; no more liquid detected

Initials

Failed?

No

Not Applicable?

No

Complete?

Yes

Comments

Cancel Save

MC Express

WORK ORDER: MSGP-59941
Status Update

Issued

New Status 21

Completed

Date

03/16/2017 12:03 PM

Percent Complete 100%

Labor Report Update 22

Select Comments to Add.....

Jane Admin

Cancel Save

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Attachment 1: Screenshot Examples of EPC-CP-Form-1010.02 in MC Express (cont.)

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MC Express

WORK ORDER: MSGP-59941
Status Update

Signature 23
[\(Remove\)](#)

James Admin

Cancel Save

Attachment 2: Crosswalk of EPC-CP-Form-1010.02 Hard Copy Format to Electronic Format

Los Alamos National Lab - ADESH

Work Order MSGP-59941

MSGP Monitoring Stations
Printed 8/10/2017 - 11:25 AM (Duplicate Copy)

Maintenance Details

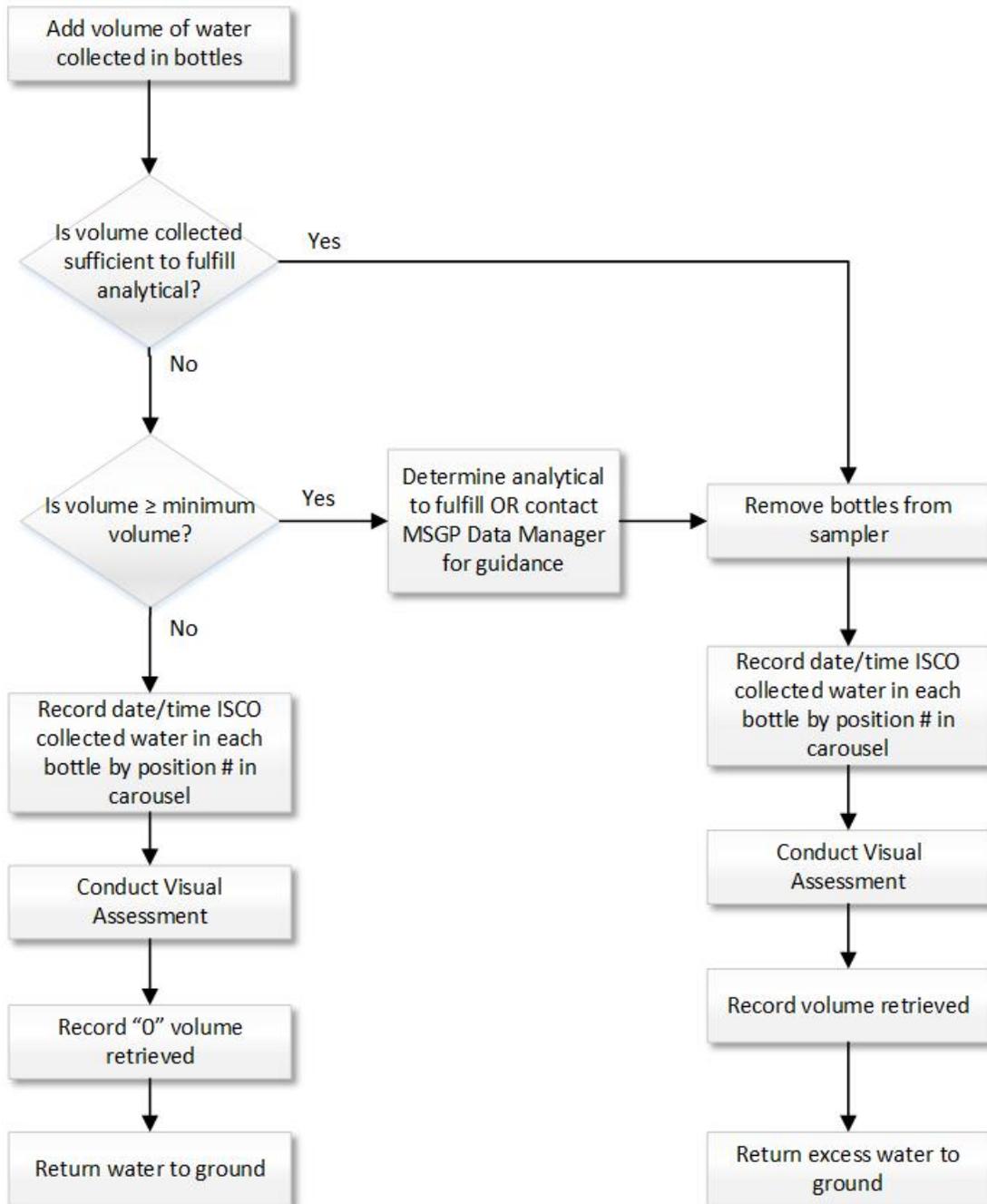
Requested By: Admin, Jane on 8/10/2017 11:23:00 AM	Target: 12/31/2017	MSGP Program
Procedure: MSGP ISCO Sampler Inspection and Sample Retrieval (EPC-CP-Form-1010.2 2)	Priority/Type: / Inspection	RG121.9
Last PM: 7/20/2017	Department: Utilities and Infrastructure	TA-3-38 Carpenter Shop
Project: ISCO Inspections wk 8/7/17 (P-MSGP-5212)		Monitored Outfall (073)
		MSGP07302
Reason: Hard Copy ISCO Sampler Inspection and Sample Retrieval		Contact: Admin, Jane Phone: 123-4567

Tasks

#	Description	Meas.	No	N/A	Yes
ON ARRIVAL					
1	20 ISCO 3700 Sampler [210C01437] Is sampler ON and functioning properly upon arrival?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	30 ISCO 3700 Sampler [210C01437] Does the sampler display "Sampler Inhibited"? If No, record specific message(s).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	40 ISCO 3700 Sampler [210C01437] Is sampler time delta < 1 min (MST)? If No, record adjustment		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	50 ISCO Avalanche Sampler [210J01522] Is sampler ON and functioning properly upon arrival?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	60 ISCO Avalanche Sampler [210J01522] Does the Avalanche display "Program Disabled"? If No, record specific message(s).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	70 ISCO Avalanche Sampler [210J01522] Is sampler time delta < 1 min (MST)? If No, record adjustment		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Collection information					
4	90 Is there evidence of flow? If YES (but no water collected), describe and record date/time of discharge.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	100 Is any water collected? If YES, complete Bottle Information section.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	110 ISCO Avalanche Sampler [210J01522] If water was collected, record current refrigerator temperature (C).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	120 ISCO pH and Temp Module [211C01137] If water was collected, record the pH measurement corresponding to the sample date/time: AVERAGE: MINIMUM: MAXIMUM:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Retrieval information					
8	140 Was sample volume RETRIEVED? If Yes, record total volume retrieved.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	150 Was a Visual Assessment performed? If Yes, complete the MSGP Visual Assessment form (EPC-CP-TP-064).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ON DEPARTURE					
10	170 Are electrical connections secure?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	180 Record voltage of battery(ies) powering sampler. Voltage(s) >=11.7V?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment specific tasks					
12	200 ISCO 3700 Sampler [210C01437] Does the sampler pass the ISCO diagnostics test?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	210 ISCO 3700 Sampler [210C01437] Is intake tubing free/clear of debris?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	220 ISCO 3700 Sampler [210C01437] Does sample tubing pass suction test?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	230 ISCO 3700 Sampler [210C01437] Is sampler on upon departure?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	240 ISCO 3700 Sampler [210C01437] Has the actuator switch been reset to "Latch"?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	250 ISCO 3700 Sampler [210C01437] Does ISCO display "Sampler Inhibited" on departure?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Attachment 3: Flow Chart for Sample Retrieval

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**ATTACHMENT 20: ENV-CP-QP-048 PROCESSING MSGP STORMWATER
SAMPLES**

EPC-CP-QP-048

Revision: 3



Effective Date: 10/05/2017

Next Review Date: 10/05/2020

Environment, Safety, and Health Directorate

Environmental Protection and Compliance—Compliance Programs

Quality Procedure

Processing MSGP Stormwater Samples

Document Owner/Subject Matter Expert:

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Derivative Classifier: Unclassified or DUSA ENVPRO

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REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
ENV-RCRA-QP-048, Rev. 0	07/2011	New document
ENV-CP-QP-048, Rev. 1	09/2013	Annual Review and Revision, new format, process change, and new organization name.
EPC-CP-QP-048, Rev. 2	06/05/2017	Review and Revision, new format, and new organization name, clarified steps, updated attachments.
EPC-CP-QP-048 R3	10/05/2017	Updated Sample Collection Log instructions, added step describing evidence of flow, and added section for addressing excess stormwater material.

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1.0 INTRODUCTION

Los Alamos National Security, LLC (LANS) through Environmental Protection and Compliance-Compliance Programs (EPC-CP) conducts stormwater monitoring activities required pursuant to the National Pollutant Discharge Elimination System (NPDES), Multi-Sector General Permit (MSGP) at Los Alamos National Laboratory (LANL). The MSGP requires LANL to monitor stormwater runoff from industrial sites relative to potential pollutants.

1.1 Purpose

This procedure describes the process for filtering, preserving and preparing stormwater samples for shipment to an analytical laboratory from monitored outfall locations.

1.2 Scope

This procedure applies to the EPC-CP technical staff and subcontractor personnel (as applicable) who conduct processing and chemical preservation of stormwater samples either in the TA-59-1 Stormwater Laboratory or in the field.

The MSGP Program Lead is the primary person responsible for developing and updating this procedure. EPC-CP personnel will be appointed with responsibility for a subset of sampling stations.

1.3 Applicability

Stormwater samples are collected in the field either with a refrigerated Avalanche® or ISCO 3700 automated sampler, single stage sampler or grab sample. When in-line filtration is not possible, sample filtration along with chemical preservation will be conducted immediately following sample retrieval in the field or in the EPC-CP Stormwater Laboratory (TA-59-01).

Sample collection, submission, and analysis is conducted using EPA and New Mexico Water Quality Control Commission guidelines. Monitoring samples are collected and analyzed according to test procedures approved under Title 40 of the Code of Federal Regulations (40 CFR) Part 136 unless other test procedures have been specified in the MSGP permit. Quantitation limits associated with these test procedures are sufficiently sensitive to meet MSGP permit limits.

2.0 PRECAUTIONS AND LIMITATIONS

Hazards in the work described in this procedure are controlled through site specific Integrated Work Documents (IWDs). The hazard level for the activities in this procedure is **moderate**.

Use only sample containers that are documented to meet or exceed "US EPA Specification and Guidance for Contaminant-Free Sample Container" (Publication 9240.05A, EPA/540/R-93/051, December 1992). Never clean or re-use sample containers. Keep containers in a clean, dry place until a sample is ready for processing and transfer to the appropriate container(s).

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3.0 PREREQUISITE ACTIONS

3.1 Planning and Coordination

Promptly schedule and complete all stormwater processing to meet the analytical holding time requirements identified in the MSGP Sampling and Analysis Plan or as requested by the MSGP Program Lead.

The MSGP Data Manager will generate Sample Collection Log/Field Chain of Custody (SCL) form(s) at the beginning of the MSGP monitoring season and/or the beginning of each MSGP monitoring quarter. The MSGP Data Manager will generate Chain of Custody/Analysis Request(s) from the Environmental Information Management (EIM) database as stormwater is collected. If the MSGP Data Manager is not available, forms may be obtained from the Sample Management Office (SMO).

3.2 Tools and Equipment

Ensure the following equipment is available:

- Safety glasses with side shields
- Nitrile gloves
- Lab coat
- Eyewash in Stormwater Lab (or portable eyewash in the field)
- Sample Collection Log/Field Chain of Custody Form
- Chain of Custody/Analysis Request
- Copy of the MSGP Sampling and Analysis Plan
- Sample containers (glass and poly bottles)
- Sample container lids
- Acid and base preservatives
- Clean silicon (e.g. Tygon) tubing
- Portable peristaltic pump (e.g. Geopump or equivalent)
- 0.45 micron and/or 0.10 micron cartridge filters (where applicable)
- Paper Towels
- Coolers with ice, Blue Ice[®], or equivalent
- Ball point pen
- Permanent marker
- Chain-of-custody seals/tape
- Copy of this procedure
- Copy of the Integrated Work Documents (IWDs)
- Cell phone (only government cell phones with batteries removed are allowed in secure areas)

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4.0 PROCESSING SAMPLES

In this procedure, sample collection bottles are the bottles in which the sample was collected in the field. Sample containers are containers into which the original sample may be transferred (as necessary) during processing and shipped to the analytical laboratory.

4.1 Preparation for Processing Samples

1. Don nitrile gloves, safety glasses with side shields, and lab coat. Long pants are required and no open toed shoes are allowed. Prior to processing samples, confirm eyewash is operational.
2. On the work bench arrange sample collection bottles in order from one MSGP sampling location according to the ISCO carousel number marked on the bottle.

CAUTION

Process only one sample set (i.e., samples listed on one Sample Collection Log/Field Chain of Custody form) at a time to ensure stormwater from different locations is not co-mingled.

3. Cross check the Location ID (e.g. MSGP00201) on the sample bottles with the requested analysis for that location on the SCL form (see example in Attachment 1).
4. Write the following information on the SCL:
 - Sampler Inspection and Sample Retrieval form (QP-047) identification number (e.g. Work Order: MSGP-xxxx)
 - Date and time the sample was collected in the field (e.g., date/time automated sampler filled sample bottles or a grab sample was taken)
 - pH measurement taken at the time the sample was collected in the field (as necessary)
 - Indicate if evidence of flow was recorded by writing “Y” for Yes or “N” for No
 - Indicate if a visual assessment was performed by writing “Y” for Yes or “N” for No
 - Visual Assessment form (QP-064) identification number (e.g., Visual WO#: MSGP-xxxx) if applicable
 - Date and time the visual assessment was performed if applicable
 - Printed name of person collecting the sample
 - Date and time the sample was RETRIEVED
5. Ensure the sample container type and chemical preservation type is correct for the analysis requested on the SCL (e.g., 500 ML POLY, HNO3). Note any deviation from the planned sample container volume or type on the SCL.
6. Indicate if each sample on the SCL was collected by writing Y for Yes or N for No under “Collected Y/N”.

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7. Determine which samples require filtration and chemical preservation as requested on the SCL. Refer to Sections 4.2 and 4.3 as needed. Requirements are also identified in the most current revision of the MSGP Sampling and Analysis Plan.
8. Mark on each container lid the 3-digit outfall ID, required analysis, filtration requirement, and preservative requirement."
9. Document any other deviations from "As Planned" conditions in the "As Collected" column on the SCL (e.g., change the Field Matrix code from rain (WT) to snowmelt (WM)).

4.2 Filtering Samples

Filter samples if specified on the SCL or if an in-line filter was not used during sample collection.

1. Don nitrile gloves and safety glasses with side shields. Long pants are required and no open toed shoes are allowed. Prior to filtering samples, confirm eyewash is operational.
2. Ensure the sample container volume and container type (e.g., 1 L GLASS) is correct for the analysis requested on the SCL. Note any deviation from the planned sample container volume or type on the SCL.
3. Select the appropriate sized cartridge filter (e.g., 0.10µm or 0.45µm).
4. Attach an appropriate amount of silicone tubing to both ends of the cartridge filter. Place the filter upstream of the peristaltic pump to prevent over-pressurization. If the sample contains a significant amount of sediment, a pre-filter of the same size or larger micron capacity may be used.
5. For split samples(filtered and unfiltered), turn the sample collection bottle upside down multiple times to ensure all sediment is loose from the bottom of the bottle and move the intake tube up and down through the sample during filtration. A sample collected solely for filtration can be filtered without being homogenized by shaking.
6. Replace the filter if flow diminishes, the pump begins to make a grinding sound, or the tubing is forced off the filter by back pressure.
7. Add a check mark next to the filtered requirement previously marked on the lid to indicate that filtration has been completed.
8. Clean and dry the exterior of sample container and check sample container for leakage and breakage.
9. If no further processing is required (e.g., chemical preservation), apply a chain-of-custody seal/tape around the bottle and lid and sign and date the seal/tape.
10. Remove filter and tubing when filtration of one sample set (location) has been completed. A new filter must be used with each new sample ID.

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4.3 Preserving Unfiltered and Filtered Samples

Preservation entails the addition of acid or base to a sample. Acids used include hydrochloric acid (HCl), nitric acid (HNO₃), and sulfuric acid (H₂SO₄). Bases used in preservation include sodium hydroxide (NaOH).

CAUTION

The preservatives are strong acids and bases that can cause severe burns. Extreme care should be taken when using these acids and bases. **Review the appropriate Material Safety Data Sheet or Safety Data Sheet for specific guidelines prior to preserving samples.**

1. Don nitrile gloves, safety glasses with side shields, and a lab coat. Long pants are required and no open toed shoes are allowed. Prior to chemically preserving samples, confirm eyewash is operational.
2. Ensure the sample container volume, type, and preservation type is correct for the analysis requested on the SCL or Sampling and Analysis Plan (e.g., 500 ML POLY, HNO₃). Note any deviation from the planned sample container volume or type on the SCL.
3. Select the pre-measured preservative size that matches the sample container size.

Note: If you only have one size pre-measured preservative that does not match the sample container size you may need to use more than one. For example, if you have a 1 liter sample container and 500 ml pre-measured preservative vial, you would need to add two preservative vials to the sample container.

Never "split" a larger volume pre-measured vial to preserve a smaller volume container (e.g., do not pipette from a 1 liter pre-measured preservative vial to preserve a 500 mL sample) as error in measurement precision may lead to a risk of violating Department of Transportation shipping requirements.

4. Add the preservative (acid or base) to the sample and securely affix the lid to the container.
5. Agitate the preserved sample by turning the container upside down two to three times.
6. Add a check mark next to the preservation type previously marked on the lid to indicate that preservation has been completed.
7. Clean and dry the exterior of sample container and check sample container for leakage and breakage.
8. Apply a chain-of-custody seal/tape around the bottle and lid and sign and date the seal/tape.

4.4 Handling Excess Stormwater

All efforts will be made to minimize the amount of stormwater sample brought into the TA-59-1 Stormwater Lab. Field personnel will attempt to retrieve only the volumes needed to fulfill the requested analyses from the current MSGP Sampling and Analysis Plan.

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If any excess stormwater sample exists after processing has been completed:

- Ensure the container is labeled with the site of origin, date and time sample was collected, and "Return to Site".
- Place the container in the designated storage location in the MSGP Stormwater Lab,
- Return the sample to the site of origin as soon as possible and discharge at the sampler location.

If the excess stormwater has been altered (e.g. tap water or preservative added) contact the Waste Management Coordinator for TA-59-1 for further instruction.

4.5 Submit Samples for Shipping to Offsite Analytical Laboratory

1. Deliver completed SCL(s) to the MSGP Data Manager.
2. The MSGP Data Manager will process the sample information in the EIM system, capturing any documented deviations from planned conditions (as noted on the SCLs), and generate Chain of Custody/Analysis Request (COC) form(s) and sample container labels to reflect the "as collected" samples (see examples in Attachments 2 and 3).
3. In the "Received By" section of the SCL, enter the COC number (e.g., 2017-XXXX).
4. Don nitrile gloves and safety glasses.
5. Ensure the sample containers are securely sealed and wiped dry.
6. Cross check that the Sample ID on the SCL matches the Field Sample ID on the COC.
7. Carefully compare the information from the SCL and lid of each container to apply the correct labels to the sample containers.
8. Place the sample(s) in the cooler with sufficient Blue Ice® (or equivalent) to maintain the required preservation temperature ($\leq 4^{\circ}$ C). Cushioning material (e.g., bubble wrap) may be used to separate containers to avoid breakage during transport.
9. Place the SCL(s) and COC(s) in a zip lock type bag, seal, and place in the cooler with samples.
10. Transport samples to the Sample Management Office (SMO) using a government vehicle or approved subcontractor vehicle only. Samples may be delivered during SMO business hours, but must be delivered by 2pm for same day shipping. Coordinate with the SMO for delivery during other times or for delivery of samples that have limited holding times.
Note: If submitting samples to the SMO will be delayed, place sample containers with SCL(s) in the Stormwater Laboratory refrigerator and ensure the refrigerator is locked.
11. On the COC, the person submitting the sample(s) will print and sign their name, date, and record the time under "Relinquished By." The SMO personnel accepts the sample(s) by printing and signing their name, dating, and recording the time under "Received By."
12. Retain a copy of the signed Chain of Custody/Analysis Request.

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13. On the SCL, the person submitting the sample(s) will enter the data and time under "Relinquished By" that matches the data and time "Relinquished by" on the COC and write the COC/Lab Request# (e.g., 2017-xxxx) under "Received by."
14. Ensure the SMO makes a copy of the SCL(s) to accompany the COC and samples. Retain the original SCL(s) for the MSGP program.
15. Deliver the copy of the signed COC and original SCL(s) to the MSGP Data Manager.

5.0 TRAINING

The training method for this procedure is "self-study" (reading). The following personnel require training before implementing this procedure:

- EPC-CP technical staff and subcontract or other personnel who process stormwater samples for the MSGP.

Personnel performing this procedure will be familiar with the most current versions of the following procedures and operation manuals:

- EPC-CP MSGP Sampling and Analysis Plan for the current monitoring year
- EPC-CP-QP-047 Inspecting Stormwater Runoff Samplers and Retrieving Samples for the MSGP

6.0 RECORDS

Records generated by this document will be submitted to the ADESH Records Management designated point of contact or document manager in accordance with P1020-1, *Laboratory Records Management* and with ADESH-AP-006, *Records Management Plan*. Below is a list of records generated as a result of implementing this procedure.

- Sample Collection Log/Field Chain of Custody Form
- Copy of the Chain of Custody/Analysis Request
- Copy of log book entry(s) (if a log book is used)
- Other pertinent field or lab notes

7.0 DEFINITIONS AND ACRONYMS

7.1 Definitions

See LANL *Definition of Terms*.

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7.2 Acronyms

See LANL *Acronym Master List*.

40 CFR	Title 40 of the Code of Federal Regulations
COC	Chain of Custody/Analysis Request
EIM	Environmental Information Management
EPC-CP	Environmental Protection and Compliance – Compliance Programs
IWD	Integrated Work Document
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
SCL	Sample Collection Log/Field Chain of Custody
SMO	Sample Management Office

8.0 REFERENCES

None

9.0 ATTACHMENTS

Attachment 1: Sample Collection Log/Field Chain of Custody Example

Attachment 2: Sample Container Labels Example

Attachment 3: Chain of Custody/Analysis Request Example

ATTACHMENT 1: SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY EXAMPLE

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Los Alamos National Laboratory

MSGP Quarter 3

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11198

EVENT NAME: MSGP 2017

SAMPLE ID: MSGP-17-131989

WORK ORDER: MSGP-59823

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
Date Collected (MM/DD/YYYY):		<u>4/01/17</u>	FIELD MATRIX:	WT	
TIME COLLECTED (HH:MM):		<u>16:03</u>	MEDIA:		
PRS ID:		<u>1</u>	SAMPLE TECH CODE:	APS	
LOCATION ID:	MSGP05301		FIELD PREP:	UF	
LOCATION TYPE:			FIELD QC TYPE:	REG	
TOP DEPTH:			SAMPLE USAGE:	COMP	
BOTTOM DEPTH:			EXCAVATED:		YES / NO / <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
	MSGP-CN(TOTAL)	500 ML POLY	1	NAOH	<u>Y</u>	
	MSGP-COD+NH3	500 ML POLY	1	H2SO4 ICE	<u>Y</u>	
	MSGP-Mg+Se+Hg	500 ML POLY	1	HNO3 ICE	<u>Y</u>	

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

pH 6.7 Flow (Evidence) Y Visual Inspection Y SU Visual performed Date/Time 4/3/17 14:36 Visual WO# MSGP-58866

COLLECTED BY (PRINT): Jane Doe Retrieved 4/3/17 14:36

RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time
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Report Date: 07/21/2017

Processing MSGP Stormwater Samples	EPC-CP-QP-048	Page 13 of 14
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ATTACHMENT 2: SAMPLE CONTAINER LABELS EXAMPLE

Page 1 of 1

Los Alamos National Laboratory		
Sample ID: MSGP-17-131786		
Container: 500 ML POLY	1 of 1	
Preservative: HNO3 ICE		
Analysis: NPDES-AI-Total Recoverable		
Date/	04/01/2017	Time: 16:03

Los Alamos National Laboratory		
Sample ID: MSGP-17-131787		
Container: 500 ML POLY	1 of 1	
Preservative: HNO3 ICE		
Analysis: NPDES-AI-Total Recoverable		
Date/	04/01/2017	Time: 16:03

EXAMPLE

ATTACHMENT 21: ENV-CP-QP-007 SPILL INVESTIGATIONS

ENV-CP-QP-007

Revision: 10



Effective Date: 09/30/15

Next Review Date: 09/30/18

Environment, Safety, Health Directorate

Environmental Protection – Compliance Programs

Quality Procedure

Spill Investigations

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Derivative Classifier: **Unclassified** **DUSA** ENVPRO

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	Revision: 10	Effective Date: 09/30/15

History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	12/98	New Document.
1	06/00	Annual review, added Cerro Grande fire hazards
2	07/01	Annual review
3	06/03	Annual review
4	04/04	Annual review, changes to HCPs
5	02/07	Annual review, changes to reflect organizational restructure
6	07/08	Annual review
7	09/10	Biennial Review and revision
8	04/11	Removed prerequisites, added note re: on-call spill reporting.
9	07/13	Biennial review and revision, implemented new procedure format.
10	09/30/15	Biennial review and revision, implemented new procedure format. Controlled the updated LANL ENV-CP Unplanned Release Report.

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1.0 PURPOSE

This Environmental Protection Division – Compliance Programs Group (ENV-CP) procedure describes processes and implements requirements for spill investigations.

2.0 SCOPE

This procedure applies to all ENV-CP staff and personnel conducting spill investigations.

2.1 HAZARD REVIEW

The work described in this procedure is field work and has a **LOW hazard** rating as documented by submittal of a completed [ENV Low Hazard Verification form](#).

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP staff and contract personnel who perform spill response and investigation.

Annual re-training to this procedure is required. Specific training requirements will be updated as needed.

The training method for this procedure is required reading and on-the-job training (OJT). The OJT is to be conducted by a Team Leader or person designated as Subject Matter Expert (SME) by the ENV-CP Group Leader. This training will be documented in accordance with [ENV-DO-QP-115, Personnel Training](#).

Actions specified within this procedure, unless proceeded with “should” or “may,” are to be considered mandatory (i.e., “shall”, “will”, “must”).

3.1 PREREQUISITES

None

4.0 WORK PROCESSES

Responsibility is to assure the immediate mitigation and timely notification of appropriate regulatory organizations in the event of a spill or unplanned discharge that has or may affect the environment. Work requires frequent and unscheduled site visits to any area of the Laboratory during a spill or unplanned release as support staff for the on-scene Security and Emergency Operations (SEO) Incident Commander.

Specific activities associated with Spill Response and Investigation:

- Respond to the spill or unplanned release site;
- Report to the On-Scene SEO Incident Commander and Site Safety Officer;
- Receive site safety requirements;
- Provide decision support;
- Investigate the nature and extent of the spill or unplanned release;

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- Evaluate the potential environmental impact to water quality;
- Report the occurrence to the regulatory agencies, if necessary; and
- Provide support to mitigation plan and implementation.

4.1 FIELD ACTIVITY

If the spill or unplanned discharge is determined to be a non-emergency event by SEO response, such as a release of potable water, perform the following steps:

Step	Action
1	Perform a site visit in coordination with the Facility Operations Director designee.
2	Assess potential environmental damage.
3	Provide mitigation measures and requirements.
4	Document the event.
5	Notify regulatory agencies and DOE, if necessary.
6	Facilitate collection of samples, if necessary.

For emergency response, perform the following steps:

Step	Action
1	Report to on-scene commander and await instructions.
2	Perform a site visit in coordination with SEO.
3	Adhere to access requirements as developed by the SEO Site Safety Officer and Incident Commander.
4	Identify and document the source and cause of the release.
5	Provide notification and written report if necessary.
6	Facilitate collection of samples if necessary and safe to do so.

If sample collection is required, contact the following sampling personnel:

- ENV-CP
 - NPDES outfall
 - Sanitary treatment solids
- WM-SVS
 - Wastes and chemical spills (liquid, solid, hazardous)
- ADEP Environmental Remediation Division
 - Surface water
 - Storm water runoff
 - Groundwater
 - Sediments

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If WM-SVS will collect the required sample, complete a Request For Analysis (RFA), <http://int.lanl.gov/environment/waste/sampling.shtml>, to schedule sampling. Specify the analytical suite and turn-around time needed for the sample in the RFA.

4.2 COMMUNICATION

Take a cellular phone that will transmit from the location to be visited. Also take a contact pager to receive messages.

If cellular service is unavailable, use a portable radio set to the appropriate radio frequency.

If in a secure area where cell phone use is prohibited, use the radio. Be sure to have radio checked and authorized for use within secure areas or within the boundaries of the WFO FOD or WX Division. Government-owned cellular phones, with batteries removed, may be brought into the secure area but used only if approval is given by the SEO Incident Commander or FOD or designee. Rules of use for Smartphones and other mobile devices (BlackBerry, iPhones, iPads) can be found on the Computing Communications webpage for mobile devices, <http://int.lanl.gov/computing/communications/mobile/index.shtml>.

Radio or cellular contact must be established with a designated contact prior to leaving ENV-CP and upon arrival/departure at the site in accordance with [ENV-DO-QP-100, General Field Safety](#).

The Incident Commander can make special communication exceptions.

All photography at LANL must adhere to [P217, Controlled Articles](#).

Wastes generated from activities described in the procedure will be properly characterized, managed, and disposed in accordance with [P409, LANL Waste Management](#), [P930-1, LANL Waste Acceptance Criteria](#), and [P403, Environmental Risk Identification and Management](#).

4.3 FACILITY MANAGEMENT WORK CONTROL REQUIREMENTS FOR FIELD ACTIVITIES

Most field activities performed by the ENV-CP spill response personnel are impacted by facility management work control requirements. Requirements vary between the respective Facility Operations Divisions (FODs) and therefore necessitate ENV-CP response personnel to acquire FOD approval for site access in advance of starting work activities. The exception to this is in response to emergency situations as support to SEO staff.

Should work be required to stop/pause, reference [P101-18, Procedure for Pause/Stop Work](#), for guidance.

4.4 FACILITY MANAGEMENT-SPECIFIC ACCESS REQUIREMENTS

4.4.1 HIGH EXPLOSIVES AREAS

TA-16 and TA-11 high explosives areas have specific access requirements. Access inside the security gate requires annual site-specific training. Curricula #5243 must be assigned and all the training courses completed before arriving at TA-16. For access, (normal or after hours) contact the WFO FOD to ensure entry requirements are met and the activity is authorized for the Plan of the Day.

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For access to WFO perimeter gates during normal working hours or after hours, contact TA-15 Access Control at 667-6742 and request permission to enter. A perimeter gate key must be picked up at the TA-15 Access Control office. Note that all outdoor firing will be suspended during entry.

For perimeter gates, prior notification for after-hours entry is also required by SOC. Perform the following steps:

Step	Action
1	Call SOC Los Alamos at 667-4437.
2	Identify yourself to the on duty officer or attendant.
3	Provide the following information: Group, color and make of vehicle (s), which perimeter gate you are entering, and approximate time of arrival and finally, length of stay.

Failure to notify security personnel in advance could result in a security violation against the visiting Team Member.

Provide notification to SOC Los Alamos at 667-4437 when leaving area.

For access to WX areas required during normal or after working hours, perform the following steps:

- Ensure the required security clearance (Q clearance) is held, and
- Contact the FOD or designee for entry requirements.

4.4.2 CHEMISTRY METALLURGY RESEARCH FACILITY ACCESS

For access to the Chemistry Metallurgy Research Facility, perform the following:

- Must have the required L or Q clearance to pass the security gate.
- If access into any of the buildings is necessary, contact CMR Operations Management or the FOD for an escort.
- If responding to an emergency with SEO, ENV-CP staff will be considered part of the SEO response team, met at the access gate, and escorted to the spill site.

4.4.3 TA-3-66 SIGMA FACILITY ACCESS

For access to the Sigma facility (TA-3-66), perform the following:

- For non-emergency responses, obtain prior site-specific training and authorization or contact the FOD for personnel escort and contact the FOD Deployed Environmental Professional.
- For emergency response with SEO, ENV-CP staff will be considered part of the SEO response team, met at the access gate, and escorted to the spill site. Contact the FOD to ensure they are aware of the incident.

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4.5 REGULATORY SPILL REPORTING

If a spill is determined to be a threat to the environment or human health, regulatory and DOE notification may be necessary. Contacts and telephone numbers can be found on Attachment 1, ENV-CP Release Notification Phone List.

If a spill impacts a Solid Waste Management Unit (SWMU) or Area of Concern (AOC), contact ENV-CP and Environmental Remediation (ER) for possible additional notification requirements.

If ENV Division or designated SME personnel determine after a site inspection or verbal notification that a spill is non-reportable to DOE or applicable regulatory agencies, a LANL ENV-CP Unplanned Release Report must be completed (Attachment 2) and submitted to the ENV-CP SME for required documentation.

For ENV Division designated on-call personnel, follow guidance for spill reporting as described in [ENV-DO-QP-101, *Environmental Reporting Requirements for Releases or Events*](#).

NOTE: On-call representatives are required to follow up in writing (email is sufficient) with the spills program lead regarding all releases during their on-call schedule. If no spills are reported in off-work hours, please confirm in writing with the spills program lead at the end of your on-call schedule.

For additional information concerning spill and unplanned discharge determination and notification requirements, contact the ENV-CP Water Quality Permitting and Compliance Team Leader.

5.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted in accordance with [ADESH-AP-006 Records Management Plan](#).

- Field notebook documentation of the release including:
 - Time and date of the release
 - Time and date of ENV-CP notification
 - Location of the release
 - Source of the release(equipment, etc,)
 - Type of material released
 - Quantity of material released
 - If an impact to a watercourse or Potential Release Site occurred
 - Time release was stopped
 - Any immediate mitigating actions implemented to contain or control the release
- Any written report and verbal notification list generated should the release be deemed reportable.
- LANL ENV-CP Unplanned Release Report (Attachment 2) for non-reportable releases.

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6.0 DEFINITIONS

AOC: Area of Concern

ER: Environmental Remediation

Field Work: Performance of Laboratory related activities in areas that are removed or isolated from an established populated base of operation (that is, where emergency support and medical assistance is not readily available.)

FOD: Facility Operations Division

NPDES: National Pollutant Discharge Elimination System

OJT : On the job training

PRS: Potential Release Site

SEO: Security and Emergency Operations

SOC Los Alamos: Security contractor for Los Alamos National Laboratory

SWMU: Solid Waste Management Unit

7.0 REFERENCES

None

8.0 ATTACHMENTS

Attachment 1- ENV-CP Release Notification Phone List

Attachment 2- LANL ENV-CP Unplanned Release Report

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ATTACHMENT 1- ENV-CP RELEASE NOTIFICATION PHONE LIST

Los Alamos National Laboratory
ENV-CP
Release notification phone list
August 2015

Los Alamos National Laboratory

- | | |
|--|----------------------|
| (1) Security and Emergency Operations
Emergency Management (SEO-EM) | 667-6211 |
| (2) ENV-ES Group Office | 665-8855 |
| (3) ENV-CP Group Office | 667-0666 |
| (4) ENV-DO | 667-2211 |
| (5) LANL Central Alarm Station (SOC-LA)
L.A. Fire Department | 667-7080
667-4055 |

New Mexico Environment Department

See Web address below

- | | |
|--|--|
| (1) NMED Emergency Hotline (24 hours a day) | 827-9329 |
| (2) NMED Non-Emergency Hotline (During business hours)
NMED Non-Emergency Hotline (Voicemail; 24 hours a day) | 476-6000
1(866) 428-6535 |
| (3) NMED Surface Water Quality Bureau
Erin Trujillo | 827-0187
827-0418 |
| (4) NMED Ground Water Quality Bureau
Greg Huey
Steven Huddleson
Gerald Knutson | 827-2900
827-6891
827-2936
827-2996 |
| (5) NMED Hazardous Waste Bureau
Ruth Horowitz | 476-6000
476-6025 |

U.S Environmental Protection Agency

- | | |
|---|------------------------------------|
| (1) US EPA Region 6 Spill Reporting (During business hours)
Emergencies- Contact the NRC | 1(800) 887-6063
1(800) 424-8802 |
| (2) Gladys Gooden-Jackson | 1(214) 655-7494 |

U.S. Department of Energy

- | | |
|-----------------|----------|
| (1) Gene Turner | 667-5794 |
|-----------------|----------|

State Emergency Response Commission (SERC) Notification

- | | |
|---|---|
| New Mexico State Police
(Immediate Notification) | (505) 827-9300 (During business hours)
(505) 827-3476 (24 hours a day) |
| New Mexico Department of Homeland Security and Emergency
Management (Follow-up Notification) | (505) 476-9600 |

National Response Center

- | | |
|--|----------------|
| U.S. Coast Guard National Response Center
See NRC web address below for report form | 1-800-424-8802 |
|--|----------------|

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New Mexico State Police

New Mexico State Police

(505)827-9300 (During business hours)

(505) 827-3476 (24 hours a day)

Local Emergency Planning Committee (LEPC) LAPD

Philmont Taylor

(505) 663-3511

On Call Environmental Contact for Releases
Group Representatives for Notifications to External Agencies

Name	Group	Work Phone	Pager	Cellular Phone	Email address
Jake Meadows	ENV-CP	606-0185	664-1333	231-0460	jmeadows@lanl.gov
Mike Saladen	ENV-CP	665-6085		699-1284	saladen@lanl.gov
Mark Haagenstad	ENV-CP	665-2014		699-1733	mph@lanl.gov
Tim Zimmerly	ENV-CP	664-0105	664-1237	699-7621	tzimmer@lanl.gov
Terrill Lemke	ENV-CP	665-2397		699-0725	tlemke@lanl.gov

Web addresses:

NMED home page <http://www.nmenv.state.nm.us>

National Response Center home page <http://www.nrc.uscg.mil/Default.aspx>

Reportable Quantities web page <http://homer.ornl.gov/rq/>

ATTACHMENT 2- LANL ENV-CP UNPLANNED RELEASE REPORT

**Los Alamos National Laboratory
Environmental Compliance Programs (ENV-CP)
Unplanned Release Report**

Form Completed By:		Telephone:		Group:	
Spill Details		Spill Owner (Specify): <input type="checkbox"/> LANS, LLC		<input type="checkbox"/> Subcontractor:	
Date of Spill/Date Spill Discovered:					
Location:					
Material Spilled:		<input type="checkbox"/> Anti-freeze/coolant		<input type="checkbox"/> Gasoline	
<input type="checkbox"/> Hydraulic Fluid		<input type="checkbox"/> Steam Condensate		<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Potable Water		<input type="checkbox"/> Lubricants/oils			
<input type="checkbox"/> Diesel		<input type="checkbox"/> Refrigerant Oil			
Volume Spilled:			Waste Volume Generated:		
Source of Spill:		<input type="checkbox"/> Hydraulic Line		<input type="checkbox"/> Radiator	
Vehicle ID: _____		<input type="checkbox"/> Potable Water Line		<input type="checkbox"/> Condensate Line	
Equipment ID: _____		<input type="checkbox"/> Fire Suppression System		<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Fuel Tank					
Describe the spill response in chronological order. Include response personnel, steps taken to contain the spill, and steps/spill control equipment used to clean it up. Please indicate if corrective actions have been completed and describe actions taken to prevent spill recurrence:					
Date Corrective Actions Completed: _____					
Did the spill enter or impact any of the following? (Check as many as apply)		<input type="checkbox"/> Floor Drain, if so please indicate affected facility			
<input type="checkbox"/> RCRA Treatment Storage Disposal Facility		<input type="checkbox"/> Watercourse/drainage area, if so please indicate			
<input type="checkbox"/> RCRA Satellite Accumulation Area		<input type="checkbox"/> Solid Waste Management Unit/Area of Concern, if so please indicate			
<input type="checkbox"/> RCRA <90 Day Storage Area		<input type="checkbox"/> None			
Did the spill occur inside or outside a building? <input type="checkbox"/> Inside <input type="checkbox"/> Outside					
Did the spill occur on:		<input type="checkbox"/> Concrete		<input type="checkbox"/> Asphalt	
(Check as many as apply)		<input type="checkbox"/> Carpeted Floor		<input type="checkbox"/> Graveled/Rocky Area	
		<input type="checkbox"/> Tile		<input type="checkbox"/> Soil/Vegetated Area	
		<input type="checkbox"/> Wooden floor/deck		<input type="checkbox"/> Other: _____	
Samples Collected:		<input type="checkbox"/> Soil		If samples were collected, indicate analytical suite:	
<input type="checkbox"/> None		<input type="checkbox"/> Air			
<input type="checkbox"/> Water		<input type="checkbox"/> Other: _____			
Certification					
I certify that I am knowledgeable about the information on this form. The information, to my knowledge, is true, accurate, and complete.					
Name of Certifying Official:		Organization:		Date:	
Certification:					
Completed by ENV-CP Personnel				<input type="checkbox"/> Non-Reportable	
Date Received:		Severity Index:		<input type="checkbox"/> Reportable	
Causal Analysis:					

**ATTACHMENT 22: ENV-DO-QP-101.3 ENVIRONMENTAL REPORTING
REQUIREMENTS FOR RELEASES OR EVENTS**

EPC-DO-QP-101

Revision: 3

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Environment, Safety, and Health Directorate

Environmental Protection and Compliance Division – Compliance Programs

Quality Procedure

Environmental Reporting Requirements for Releases or Events

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0	02/09	New document
1	4/10	Revision and update
ENV-DO-QP-101 R2	6/12	Biennial Review/Revision, new template implemented.
EPC-DO-QP-101 R3	08/07/17	Revision and update. This document replaces ENV-DO-QP-101 R2. New document number reflects organizational name change.

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1.0 INTRODUCTION

This Environmental Protection and Compliance Division (EPC-DO) procedure describes how to determine whether an unplanned release, spill, fire, or other event needs to be reported under environmental regulations and how to fulfill all immediate reporting requirements (within the first 24 hours). Emergency and abnormal event notification requirements for reporting to Laboratory and DOE management are specified in [PD1200, *Emergency Management*](#), and [P322-4, *Performance Improvement from Abnormal Events*](#). Environmental reporting requirements regarding releases or other events are included in this procedure.

1.1 Purpose

This procedure describes the actions that must be performed within the first 24 hours of the release. This procedure does **not** cover the response procedures for “continuous releases” under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Emergency Planning and Community Right-to-Know Act (EPCRA) (see definitions) nor the follow-up notifications and reports.

1.2 Applicability

This procedure applies to EPC-DO on-call representatives and subject matter experts (SMEs) who must respond to any release, spill, or event at the Laboratory that may require immediate notification to local, state or federal regulatory agencies. For notifications to Pueblo Environmental Departments refer to [ENV-DO-QP-111, *Reporting Environmental Releases to Pueblo Governments*](#).

2.0 PRECAUTIONS AND LIMITATIONS

The work described in this procedure includes field work that does not require an Integrated Work Document (IWD) and is rated as having a **LOW hazard** level.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- EPC managers, designated on-call representatives, and SMEs who may be asked to fulfill immediate reporting requirements during release-related exercises or during actual releases

Annual retraining to this procedure is required. This procedure will be reviewed biennially by all affected personnel and updated as necessary.

Training to this procedure will be by “self-study” (reading) and is documented in accordance with the trainee’s organization’s procedure for training.

Actions specified within this procedure, unless preceded with “should” or “may”, are to be considered mandatory (i.e., “shall”, “will”, “must”).

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4.0 WORK PROCESSES

Events covered by this procedure include detonation or burns of unstable material, leaking or compromised gas cylinders, puncturing of bulging containers, fires, explosions, chemical or radiological spills, wastewater spills, potable water discharges, and other unplanned releases at the Laboratory.

On a semi-annual basis, EPC-DO will prepare a list of individuals designated as on-call representatives and will designate the week each will be on-call. This list will be distributed to on-call representatives and Laboratory managers including Principal Associate Directorate for Operations (PADOPS), Associate Directorate for Environment, Safety, and Health (ADESH), Associate Directorate for Environmental Management (ADEM), Emergency Operations (SEO-DO), EPC-DO, Environmental Protection and Compliance Division Compliance Programs Group (EPC-CP), and Environmental Protection and Compliance Division Environmental Stewardship Group (EPC-ES). The on-call representative can be reached by pager at 505-664-7722.

4.1 Responsibility of On-Call Representative

The EPC on-call representative is the party primarily responsible for:

- determining if the incident will require immediate notification to external agencies in accordance with LANL, state, and federal regulatory reporting requirements
- notifying EPC Division management of immediate reporting requirements
- if needed, coordinating with other on-call SMEs and the Emergency Operations Center (EOC) to ensure the required notifications for environmental reporting and abnormal events are being addressed for the Laboratory

The EPC on-call representative is not responsible for the following and EOC will make these determinations:

- determining if the Resource Conservation Recovery Act (RCRA) Contingency Plan must be implemented
- if a shock-sensitive material or leaking or compromised gas cylinder constitutes an emergency

However, in order to ensure that the appropriate expertise is available for the affected media, the EPC on-call representative may immediately confer with an SME of the EPC group that has programmatic responsibility. If an SME from the responsible group is able to respond to the event, the remaining steps in this procedure may be passed to that person.

A list of contact numbers for on-call representatives and SMEs for EPC-CP and EPC-ES groups is available in the EPC-CP group office. The EPC-DO and SEO-DO may also be contacted to determine the on-call representative for each group.

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4.2 Follow-Up Reporting

This procedure describes the initial external notifications (within the first 24 hours) to regulatory agencies. After completion of the steps in this procedure, the EPC group specifically responsible for compliance with the relevant regulations will complete the required notifications and reports, as applicable under the appropriate regulations, according to established procedures.

4.3 Summary of Policy Reporting

The EPC on-call representative and spill response SMEs have the authority and responsibility for deciding when to report an event and for making notifications to regulatory agencies within the applicable regulatory deadlines.

LANL management and Department of Energy Los Alamos Field Office (DOE LAFO) must be informed as soon as possible that a report was or will be made, but their approval is not required prior to the report being made to the regulatory agency. LANL management, with input from EPC SMEs, will determine if an ORPS (Occurrence Reporting Processing System) report or other type of Lessons Learned will be necessary.

NOTE: SEO-DO maintains a current list of on-call LANL managers.

4.4 Using this Procedure

This procedure has seven separate paths (and corresponding sections) to follow for determining if a release or event is reportable. Follow each of these paths to determine if one or more are applicable:

- Resource Conservation and Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)
- Clean Water Act (CWA), New Mexico Water Quality Act (NMWQA), and New Mexico Water Quality Control Commission (NMWQCC) Regulations
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Emergency Planning and Community Right-to-Know Act (EPCRA)
- Clean Air Act
- Endangered Species Act
- Bald and Golden Eagle Protection Act
- Migratory Bird Treaty Act
- New Mexico Wildlife Conservation Act
- National Environmental Policy Act
- National Historic Preservation Act
- Native American Graves Protection and Repatriation Act

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- Archaeological Resources Protection Act

Each release needs to be evaluated for all potential reporting requirements. For example, a Reportable Quantity (RQ), defined under CERCLA or EPCRA may not be met, **but the release may be reportable** under RCRA, New Mexico Water Quality Control Commission (NMWQCC), and/or Clean Water Act (CWA) requirements.

NOTE: The 24-hour deadline (immediate in some cases) applies regardless of whether it occurs during business hours, after business hours or on non-business days.

4.5 Determining if a Release is Reportable under RCRA

Follow the flow chart in Attachment 1 to determine if an event is reportable under RCRA regulations.

Under the RCRA permit requirements, the SEO-DO manager determines if the “RCRA Contingency Plan” provisions should be implemented. The EPC on-call representative or an EPC-CP SME performs notifications that may be required.

The SEO-DO Manager will normally attempt to contact the EPC-CP SME for guidance in making this decision. If the EPC-CP SME is successfully contacted, the completion of the remainder of this procedure may be passed on to this individual.

The EPC on-call representative makes the determination that one or more of these conditions occurred through consultation with EPC-CP and appropriate SMEs. 24-hour notification can be made by the EPC on-call representative or by an EPC SME.

The Emergency Operations Center (EOC) manager makes the determination that unstable chemicals, leaking or compromised gas cylinders represent an emergency situation and, typically with EPC-CP, how best to respond. 24-hour notification can be made by the on-call representative or EPC-CP SME.

If a release/event is reportable under RCRA rules, determine if the release/event is reportable under other rules and proceed to the Section 4.10 *Reporting a Release or Event*.

4.6 Determining if a Release is Reportable under TSCA

In practice, only spills of Polychlorinated Biphenyls (PCBs) or PCB-suspect untested mineral oil to the environment (generally outdoors or with the potential to reach the outdoors) are reportable. Spills that are contained indoors are generally not reported.

A discharge of PCBs is reportable to the Environmental Protection Agency (EPA) under TSCA if 1 pound of PCBs by weight is released [40 Code of Federal Regulations (CFR) 761.125(a)(1)]. Notify the EPA regional office and proceed with the immediate clean up requirements noted in 40 CFR 761.125(a)(1) in the shortest possible time after discovery, but in no case later than 24 hours after discovery. Additionally, reporting requirements are triggered if over 270 gallons of untested mineral oil suspected of containing PCBs has been spilled.

Follow the steps in *Determining if a Release is Reportable under CERCLA, EPCRA, or Other Regulations* to determine if the RQ for PCBs has also been exceeded.

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There are six items containing PCBs that are out of service at the Chemistry and Metallurgy Research (CMR) Building. All other known PCB equipment at the Laboratory has been taken out of service and disposed of in accordance with TSCA regulations.

If a release is reportable under TSCA, continue through the next sections to determine if the release/event is reportable under other rules and proceed to *Reporting a Release or Event* and determine if additional reporting is necessary.

If the spill is ...	Then...
equal to or over 1 pound by weight of PCBs (TSCA) or greater than 270 gallons of untested mineral oil suspected of containing PCBs	Report to the National Response Center (1-800-242-8802) immediately (within 15 minutes of discovery). Additionally, contact EPA Region 6 (Office of Prevention, Pesticides and Toxic Substances Branch) through EPA's 24-hour spill response number 866-372-7745 as soon as possible after discovery but no later than 24 hours after discovery.

4.7 Determining if a Release is Reportable under the NM Water Quality Act or the CWA

20.6.2.1203 New Mexico Administrative Code (NMAC) Reporting

The NM Water Quality Act (NMWQA) does not use Reportable Quantities (as described in the next section). Instead the NM Water Quality Control Commission (NMWQCC) regulations state: *“With respect to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, notifications (to the New Mexico Environment Department (NMED)) and corrective actions are required.”*

The above rule requires the use of professional judgment to determine if reporting is required. No quantifiable metric is available to assist in making this determination. The EPC on-call representative or SME has the authority and responsibility to make this determination.

Additionally, unplanned releases of potable water or steam condensate require reporting pursuant to 20.6.2.1203 NMAC if the release is greater than 5,000 gallons, reaches a watercourse, or if the release adversely impacts a Solid Waste Management Unit (SWMU) or Area of Concern (AOC) as directed in the LANL Liquid Discharge Reporting Guidance (Decision Tree), dated March 10, 2009. Contact ADEM to confirm the location and potential impacts to SWMUs or AOCs from any releases that may occur.

Groundwater Discharge Permit Reporting

The Laboratory has four current Groundwater Discharge Permits (DPs) that include notification and reporting requirements in the event of an unpermitted discharge. Spills of **any volume** associated with any of the Groundwater DPs require reporting to NMED pursuant to 20.6.2.1203 NMAC.

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1. DP-857: Sanitary Waste Water System (SWWS) Plant, Sanitary Effluent Reclamation Facility (SERF), and Sigma Mesa Evaporation Basins. Permit Condition No. 44.

The unauthorized release of untreated and treated sanitary wastewater, reuse wastewater, blended wastewater, and reject wastewater would be subject to reporting under Condition No. 44.

2. DP-1589: Septic Tank/Disposal Systems. Permit Condition No. 23.

The unauthorized release of untreated wastewater, septage, treated wastewater surfacing from failing disposal systems (leach fields), and treated wastewater surfacing from overflowing septic tanks would be subject to reporting under Condition No. 23.

3. DP-1793: Land Application of Treated Groundwater. Permit Condition No. 17.

The unauthorized release of untreated or treated groundwater that does not constitute land application, as defined in [EPC-CP-QP-010: Land Application of Groundwater](#), would be subject to reporting under Condition No. 17.

4. DP-1835: Injection of Treated Groundwater to Class V Underground Injection Control (UIC) Wells. Permit Condition No. 22.

The unauthorized release of treated or untreated groundwater that does not constitute injection into a Class V UIC well, as defined in Discharge Permit DP-1835, would be subject to reporting under Condition No. 22.

Clean Water Act Reporting

Oil discharges (film/sheen/dicoloration) to water in stream channels must also be reported to the National Response Center (NRC) immediately (within 15 minutes of discovery) pursuant to 40 CFR §110.6.

National Pollutant Discharge Elimination System (NPDES) Outfall Reporting

The EPC-DO on-call SME must provide notification to the NPDES Outfall Permit Program Lead and/or the EPC-CP Water Quality Team Leader in the event of a leak or unplanned release from an NPDES permitted outfall upon discovery in order to meet applicable reporting requirements.

4.7.1 Reporting Requirement for Petroleum Storage Tanks

As defined in 20.5.7 NMAC, the NMED requires verbal reporting within 24 hours of a petroleum product release from regulated tanks to the NMED Petroleum Storage Tank Bureau (PSTB) when there is:

- any suspected or confirmed release of regulated substances
- evidence of release of regulated substances
- unusual operational conditions (that would cause concern about a release)
- monitoring results that show loss from the system

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Regulated tanks include those with a capacity between 1,320 gallons and 55,000 gallons. Regulated substances for Aboveground Storage Tanks includes, but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading and finishing, such as motor fuels (including ethanol-based motor fuels), jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

Notice of any suspected or confirmed release from a storage tank system needs to be completed within 24 hours. Contact the EPC-CP Aboveground Storage Tank (AST) Program Lead and/or the EPC-CP Water Quality Team Leader prior to completing any external notifications. The PSTB can be reached at 476-4397 during business hours and 827-9329 (NMED Emergency Spill Hotline) during non-business hours. A written report describing the spill, release or suspected release and any investigation or follow-up action needs to be submitted to the PSTB within 14 days of the incident.

4.7.2 Additional Reporting Requirements under the NPDES Pesticide General Permit

Adverse incidents require reporting to the EPA under the NPDES Pesticide General Permit (PGP). An adverse incident is defined as an unusual or unexpected incident resulting from pesticide applications that an Operator has observed upon inspection or of which the Operator otherwise becomes aware, in which:

1. There is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and
2. The person or non-target organism suffered a toxic or adverse effect.

The phrase toxic or adverse effect includes effects that occur within Waters of the United States on non-target plants, fish, or wildlife that are unusual or unexpected (e.g., effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to a pesticide residue, and may include:

- Distressed or dead juvenile and small fishes
- Washed up or floating fish
- Fish swimming abnormally or erratically
- Fish lying lethargically at water surface or in shallow water
- Fish that are listless or nonresponsive to disturbance
- Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants
- Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

The phrase toxic or adverse effects also includes any adverse effects to humans (e.g. skin rashes) or domesticated animals that occur either from direct contact with or as a secondary effect from a discharge (e.g., sickness from consumption of plants or animals containing pesticides) to Waters of the United States that are temporally and spatially related to exposure to a pesticide residue (e.g. vomiting, lethargy).

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If an Operator observes or otherwise becomes aware of an adverse incident due to pesticide application, the Operator must notify the EPA Incident Reporting contact within 24 hours of the Operator becoming aware of the adverse incident. EPA Incident Reporting Contacts are listed at <https://www.epa.gov/npdes/pesticide-permitting>.

If an Operator becomes aware of an adverse incident affecting a federally listed threatened or endangered species or its federally designated critical habitat, which may have resulted from a discharge from the Operator’s pesticide application, the Operator must immediately (within 15 minutes of discovery) notify the U. S Fish and Wildlife Service. This notification must be made by phone to the contact listed on the EPA’s website (<https://www.epa.gov/npdes/pesticide-permitting>).

4.8 Determining if a Release is Reportable under CERCLA or EPCRA

Under CERCLA or EPCRA, an RQ is the threshold which requires regulatory notification of a release. An RQ is based on the quantity of chemical released within any 24-hour period. CERCLA RQs of hazardous substances are listed in 40 CFR § 302.4. If an RQ is met or exceeded, an immediate (within 15 minutes of discovery) notification must be made to the NRC (1-800-424-8802) pursuant to 40 CFR §302.6. If a release of an airborne radioactive material exceeds an RQ, the EPA Region 6 Health Physicist (Office-(214) 665-8541; Mobile-(214) 755-1530; Home-(972) 937-1900) must also be verbally notified after the NRC notifications have been completed.

A release is reportable under EPCRA if a release of a hazardous or extremely hazardous substance listed in 40 CFR Part 355 Appendices A and B occurs. The chemicals that have not been assigned RQs by the EPA have been given statutory RQs of one pound by Congress. If an RQ established under EPCRA is met or exceeded, an immediate (within 15 minutes of discovery) notification must be made to the Local Emergency Planning Committee (LEPC) community emergency coordinator and to the State Emergency Response Commission (SERC) (see Attachment 2).

The lists of CERCLA hazardous substances and EPCRA extremely hazardous substances are two separate lists that include a number of common substances. However, not all extremely hazardous substances are listed hazardous substances. In some instances, a release of an extremely hazardous substance may be reportable under EPCRA but not reportable under CERCLA.

Releases that occur within a closed space with no emissions to the ambient environment are exempt from EPCRA and CERCLA reporting requirements.

NOTE: Response procedures for “Continuous Releases” are not covered in this procedure.

4.8.1 Regulatory Classification of the Released Material

The on-call EPC SME will determine the regulatory classification of the substance released with respect to the hazard classifications:

- Extremely Hazardous Substance (EHS) and/or Hazardous Substance (HS)

Often during the course of an emergency, complete information will not be available regarding type and amount of material released. In this case, best professional judgment must be used to establish the level of confidence associated with the estimates. If the uncertainty is high enough that future

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estimates may require reporting, it is best to be conservative and report the release following the reporting requirements detailed in Section 4.10 *Reporting a Release or Event*.

After determining the RQ of a released material, the EPC on-call representative or SME will perform the following steps to determine if an RQ has been released.

Step	Action						
1	Obtain an estimate of the quantity and type of material released (e.g. 4 pounds of chlorine gas or 150 curies of tritium).						
2	Compare this quantity against the RQs provided in 40 CFR Table 302.4 and 40 CFR §355, Appendices A and B.						
3	<p>If this is an airborne release of radioactive materials, immediate (within 15 minutes of discovery) reporting to the NRC and the EPA Region 6, Regional Health Physicist is required if the RQ has been exceeded. Note that for radioactive materials, the RQ is provided in activity units (curies or becquerels). Also note that some materials have an RQ value for both chemical exposure (Table 302.4) and for radiological exposure (Appendix B to §302.4). In these cases, the RQ applying to the smallest quantity of material will apply.</p> <p>For all radioactive material releases, a radiological dose assessment must also be performed within 24 hours of the release. This dose assessment should be made by an environmental health physicist in EPC-CP or EPC-ES. The on-call individual should contact an EPC health physicist for this evaluation.</p> <p>Immediate evaluation – RQ comparison (of a radioactive material release)</p> <table border="0"> <tr> <td>If the release...</td> <td>Then...</td> </tr> <tr> <td>Is equal to or greater than the RQ</td> <td>Proceed to section 4.10 <i>Reporting a Release or Event</i>.</td> </tr> <tr> <td>Is less than the RQ</td> <td>No immediate reporting is required; contact EPC environmental health physicist to complete follow-up dose assessment.</td> </tr> </table>	If the release...	Then...	Is equal to or greater than the RQ	Proceed to section 4.10 <i>Reporting a Release or Event</i> .	Is less than the RQ	No immediate reporting is required; contact EPC environmental health physicist to complete follow-up dose assessment.
If the release...	Then...						
Is equal to or greater than the RQ	Proceed to section 4.10 <i>Reporting a Release or Event</i> .						
Is less than the RQ	No immediate reporting is required; contact EPC environmental health physicist to complete follow-up dose assessment.						
4	<p>If this is a release of non-rad material, it is reportable if the RQ is exceeded.</p> <table border="0"> <tr> <td>If the amount released is..,</td> <td>Then...</td> </tr> <tr> <td>Equal to or greater than the RQ</td> <td>Proceed to Section 4.10 <i>Reporting a Release or Event</i>.</td> </tr> <tr> <td>Less than the RQ</td> <td>Proceed to Step 5</td> </tr> </table>	If the amount released is..,	Then...	Equal to or greater than the RQ	Proceed to Section 4.10 <i>Reporting a Release or Event</i> .	Less than the RQ	Proceed to Step 5
If the amount released is..,	Then...						
Equal to or greater than the RQ	Proceed to Section 4.10 <i>Reporting a Release or Event</i> .						
Less than the RQ	Proceed to Step 5						
5	Continue to re-evaluate the release as new data becomes available. Perform Steps 1 through 4 as necessary.						

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4.9 Determining Release Impacts to Biological or Cultural Resources

There are laws and regulations related to protection of biological and cultural resources which are applicable to the Laboratory. These laws and regulations include:

- National Environmental Policy Act
- Endangered Species Act
- Bald and Golden Eagle Protection Act
- Migratory Bird Treaty Act
- New Mexico Wildlife Conservation Act
- New Mexico Endangered Species Act
- National Historic Preservation Act
- Native American Graves Protection and Repatriation Act
- Archaeological Resources Protection Act

Reporting of impacts to biological or cultural resources under the preceding federal laws is not specifically defined. However, the EPC on-call SME should utilize the Decision Support Application (DSA) to determine if the release impacted a Biological or Cultural Site. The DSA layer 'Federally Listed Species Habitat' contains Endangered Species habitat boundaries. The DSA 'Cultural Resources-Buffered Sites' layer contains the boundaries of the Cultural Sites (Please note-information contained in these layers is Official Use Only). Notify the respective Biological or Cultural SME within one business day if the release impacted either of these areas. The Biological or Cultural SMEs will handle any additional reporting requirements.

Additionally, if there is a release of contaminants to a wetland or destruction of a wetland, OR if the event could result in the "take" of a threatened or endangered species (i.e., a wildfire), the EPC on-call representative or SME will notify the Biological SME within one business day of the event. The Biological SME will complete any additional reporting requirements.

4.10 Reporting a Release or Event

If a release or event is reportable (as determined by one or more of the previous sections), the Laboratory is required to meet certain reporting requirements. The emergency notification requirements must be followed upon determination that a release or event is reportable.

For informational purposes, a Summary of Emergency Release or Event Reporting Requirements is provided in Attachment 2. This document summarizes the primary statutes and the associated reporting requirements.

Maintain a notebook to record pertinent information about the release and to document the actions taken (see Section 5.0 *Records*).

Any release to the environment that has been determined to be reportable by the EPC on-call representative or SME shall be reported through the LANL management chain in accordance with [PD1200, Emergency Management](#) and [P322-4, Performance Improvement from Abnormal Events](#).

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Los Alamos National Security (LANS) management and DOE shall be notified if a release notification to state or federal regulatory agencies is required. Management approval is not required prior to completing environmental notifications to the regulatory agencies in order to assure that the deadline for reporting is not exceeded.

Perform the following steps immediately after establishing that reporting is required:

Step	Action
1	Compile release information including : <ul style="list-style-type: none"> • The source, cause, type and quantity of the release • Time and duration of the release • Extent of any protective and corrective actions taken • Name, address, and telephone number of the person to contact for further information • Whether the substance is an HS or EHS • Associated health risks and medical attention necessary for exposed individuals • If available, information concerning the release of any hazardous and/or mixed waste which may endanger public or private drinking water supplies • Assessment of actual or potential hazards to human health or the environment outside the facility • If available, estimated quantity and disposition of recovered material that resulted from the incident • Precautions to take due to the release/event, including, in the case of fire, those associated with special hazards due to hazardous and/or mixed waste • Any other information which may help emergency personnel responding to the incident • Environmental media impacted from the release
2	Notify LANL management, DOE, and the respective Facilities Operations Division (FOD). Note: Management approval is not required prior to completing environmental notifications to the regulatory agencies in order to assure that the deadline for reporting is not exceeded.
3	Provide notification to the regulatory agency as required by the applicable regulation(s) detailed in Sections 4.5 - 4.9. Reference Attachment 2 for a summary of the applicable reporting requirements.
4	Notify programmatic SMEs that may be impacted or required to complete follow up reporting.

4.10.1 Steps to Notify LANL Management and DOE

The EPC on-call representative will complete the following steps to provide notification to LANL Management and DOE.

Step	Action
1	Determine that a release to the environment is reportable to state or federal entities as

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	required under applicable regulations. NOTE: Occurrence Reporting and Procession System (ORPS) reporting is a FOD and Responsible Associate Director (RAD) responsibility and commonly they will seek advisement from EPC SMEs.
2	Provide notification to the EPC-CP Water Quality Team Leader, the EPC-CP Group Leader, the EPC-DO Division Leader, and DOE LAFO program contact of the release and the required external notifications.
3	Complete environmental reporting to state and federal agencies in accordance with all applicable regulations.
4	Notify the appropriate program SME that may be impacted or be required to complete following up release reporting.

After all the above notifications have been made, or when requested, the EPC on-call representative or SME will hand off responsibility for additional actions and follow-up to the affected environmental group. (The group that will be responsible will depend on the type and location of the release and the governing regulations or statutes.)

In order to communicate events at LANL which may impact the public and or the environment, EPC staff may provide a courtesy notification to New Mexico Environment Department of events that may not require formal regulatory notification. Examples of such events in the past have been small wild land fires.

5.0 RECORDS

The following records are generated as a result of this procedure and are maintained in accordance with ADESH-AP-006 Records Management Plan and [P1020-1, Laboratory Records Management:](#)

- Field documentation of the release, including:
 - Time and date of the release
 - Time, date, and description of notifications
 - Location and source of the release
 - Type of material released
 - Quantity of material released
 - Impacted media
 - Time release was stopped
 - Any immediate mitigation actions taken to contain or control the release
 - Documentation of any verbal notifications
 - Samples taken
- Copies of any written notifications generated

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- Documentation of any analytical results, and quality assurance of results
- Contingency and / or emergency plan documentation
- Documentation of any RCRA permit non-compliance that threatens human health and environment
- Documentation of treatment of any RCRA unstable chemicals, leaking or compromised gas cylinders

6.0 DEFINITIONS AND ACRONYMS

6.1 Definitions

ADESH – Associate Directorate for Environment, Safety, and Health

ADEM – Associate Directorate for Environmental Management

AOC – Area of Concern

AST – Aboveground Storage Tank

CAA – Clean Air Act

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CMR – Chemistry and Metallurgy Research

CFR – Code of Federal Regulations

Continuous Release – A release is continuous if it “occurs without interruption or abatement or if it is routine, anticipated, intermittent, and incidental to normal operations or treatment processes.” The release must also be “stable in quantity and rate,” which means that it must be predictable and regular in the amount and rate of emission. The response procedures for continuous releases are not covered by this document. See guidance in Reporting Continuous Releases of Hazardous and Extremely Hazardous Substances under CERCLA and EPCRA.

CWA – Clean Water Act

DOE LAFO – Department of Energy Los Alamos Field Office

DSA – Decision Support Application

Environment – Includes "water, air, land, and the interrelationship which exists among and between water, air, land, and all living things." (40 CFR 355.20)

EOC – Emergency Operations Center

EPA – Environmental Protection Agency

EPC-DO – Environmental Protection and Compliance Division

EPCRA – Emergency Planning and Community Right-to-Know Act

EPC-CP – Environmental Protection and Compliance Division Compliance Programs Group

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EPC-ES – Environmental Protection and Compliance Division Environmental Stewardship Group

Extremely Hazardous Substance (EHS) – EPCRA establishes emergency reporting requirements for extremely hazardous substances in 40 CFR 355, Appendix A. All of these substances are also CWA and CERCLA “hazardous” substances.

FOD – Facility Operations Director

GWDP-Ground Water Discharge Permit

Hazardous Substance (HS) – These substances are summarized in 40 CFR Part 302. As used in this context, refers to: (1) any elements, compounds, mixtures, solutions, or substances specially designated by EPA under Section 311 of the Clean Water Act (CWA) (40 CFR 116.4); (2) any toxic pollutants listed under Section 307(a) of the CWA; (3) any hazardous substances regulated under Section 311 (b)(2)(A) of the CWA; (4) any listed or characteristic RCRA hazardous waste (40 CFR 261), (5) any hazardous air pollutants listed under Section 112 of the Clean Air Act (CAA); or (6) any imminently hazardous chemical substances or mixtures regulated under Section 7 of the Toxic Substances Control Act (TSCA).

IWD – Integrated Work Document

LANL – Los Alamos National Laboratory

LANS – Los Alamos National Security

LEPC – Local Emergency Planning Committee

NMAC – New Mexico Administrative Code

NMED – New Mexico Environment Department

NMWQA – New Mexico Water Quality Act

NMWQCC – New Mexico Water Quality Control Commission

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

ORPS – Occurrence Reporting and Processing System

OSC – On-Scene Commander

PADOPS – Principal Associate Directorate Operations

PCBs – Polychlorinated Biphenyls

PGP – Pesticide General Permit

PST – Petroleum Storage Tank

PSTB – Petroleum Storage Tank Bureau

RAD – Responsible Associate Director

RCRA – Resource Conservation and Recovery Act

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Release – Any unpermitted spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of contaminants into the environment, excluding: (1) emissions from the engine exhaust of any vehicle, (2) certain releases of source, byproduct, or special nuclear material from a nuclear incident, or (3) normal application of fertilizer.

RQ – Reportable Quantity

SARA – Superfund Amendments and Reauthorization Act

SDS – Safety Data Sheet

SERC – State Emergency Response Commission

SERF – Sanitary Effluent Reclamation Facility

SEO-DO – Security and Emergency Operations Division

SME – Subject Matter Expert

SWMU – Solid Waste Management Unit

SWWS - Sanitary Waste Water System

TSCA – Toxic Substances Control Act

UIC – Underground Injection Control

7.0 REFERENCES

The following documents are referenced in this procedure:

- 40 CFR 302, Designation, Reportable Quantities, and Notification
- 40 CFR 261, 264 Subpart D 270.30
- DOE guidance document PCB Spill Response and Notification Requirements
- (EH-231-059/1294), available on the EPC-CP web page
- DOE – Office of Environmental Guidance, CERCLA Information Brief, EH-231-001-0490 (April 1990)
- EPA Web Site: <http://www.epa.gov/>
- EPCRA Information Web Site: <http://www.chemicalspill.org/EPCRA-facilities/spill.html>
- Federal Register, Volume 67, No. 47, Notices FRL-7172-4, Guidance on the CERCLA Section 101(10)H, Federally Permitted Release Definition for Certain Air Emissions
- [PD1200, Emergency Management](#)
- P322-3, Performance Improvement from Abnormal Events
- LANL RCRA Permit No. NM0890010515-1
- LANL NPDES Permit No. NM0028355

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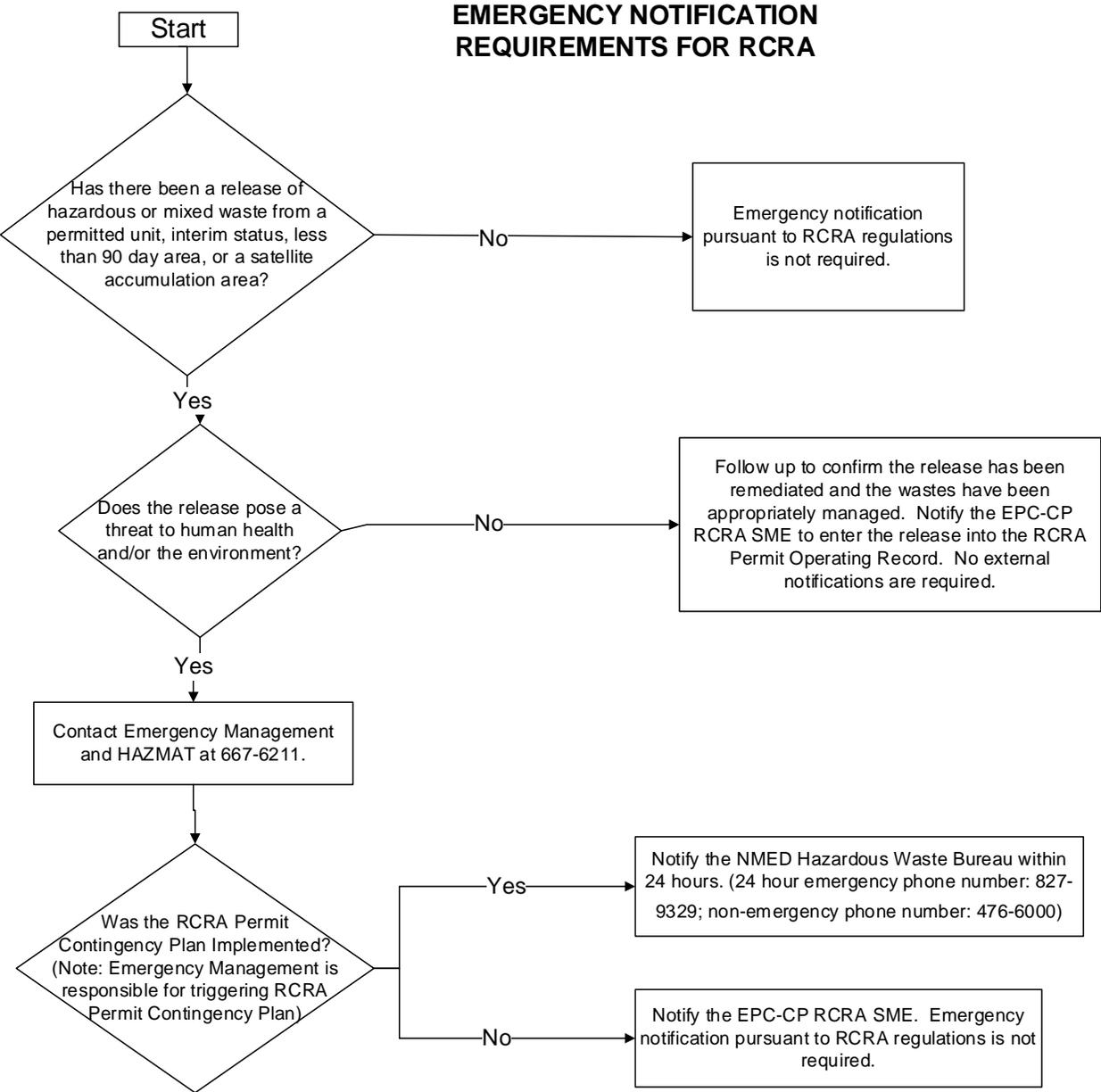
- National Response Center (NRC) Web Site: <http://www.nrc.uscg.mil/>
- NMWQCC Regulations, 20.6.2 NMAC, dated December 1, 2001
- P407, Water Quality
- P1020-1, Laboratory Records Management
- ADESH-AP-006, Records Management Plan

8.0 ATTACHMENTS OR APPENDICES

Attachment 1: Emergency Notification Requirements for RCRA

Attachment 2: Summary of Emergency Release or Event Reporting Requirements

Attachment 1: Emergency Notification Requirements for RCRA



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Attachment 2: Summary of Emergency Release or Event Reporting Requirements

NOTE: This is only a guide and does not cover all federal, state, or permit reporting requirements. Refer to the Code of Federal Regulations and the RCRA Permit for more details regarding these regulations.

STATUTE	REGULATIONS	INCIDENT	Immediate Reporting Requirements	Follow Up Reporting Requirements
Clean Water Act	40 CFR §110.6	Oil discharge (film/sheen/discoloration) to water surface or shoreline, or violation of water quality standards.	Immediately (within 15 minutes of discovery) notify the National Response Center.	Follow-up not required.
Clean Water Act	Part III of NPDES Permit No. NM0028355	Leak or unplanned release from an NPDES permitted outfall.	Notify the NPDES Outfall Permit Program Lead and EPC-CP Water Quality Team Leader upon discovery. The program lead or the EPC-CP Water Quality Team Leader will complete initial reporting requirements as required.	Required follow up reporting will be completed by the NPDES Outfall Permit Program Lead and EPC-CP Water Quality Team Leader.
Clean Water Act (CWA)-NPDES Pesticide General Permit	40 CFR §122.28	Adverse incident which includes evidence that a person or non-target organism has been exposed to a pesticide residue or the person or non-target organism suffered a toxic or adverse effect.	Notify the EPA Region 6 Pesticide Permitting contact (214)665-7500 within 24 hours.	Submit a 30 Day Adverse Incident Written Report to the EPA Regional Office.
New Mexico Water Quality Control Commission Regulations (NMWQCC Regulations)	20.6.2.1203 NMAC	Discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or use of the property.	Notify the New Mexico Environment Department 505-827-9329 within 24 hours.	Submit 7 and 15 Day written follow up Corrective Action Reports (Copy EPA Region 6 on the 7 and 15 Day Reports).

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STATUTE	REGULATIONS	INCIDENT	Immediate Reporting Requirements	Follow Up Reporting Requirements
New Mexico Water Quality Control Commission Regulations (NMWQCC Regulations)	20.6.2.3104 NMAC	Unplanned release of any volume from an activity or facility covered under an active Groundwater DP: DP-857: SWWS Plant, SERF, and Sigma Mesa Evaporation Basins DP-1589: Septic Tank/Disposal Systems DP-1793: Land Application of Treated Groundwater DP-1835: Injection of Treated Groundwater to Class V UIC Wells	Notify the New Mexico Environment Department 505-827-9329 within 24 hours.	Submit 7 and 15 Day written follow up Corrective Action Reports (Copy EPA Region 6 on the 7 and 15 Day Reports)
New Mexico Environmental Improvement Board Regulation	20.5.7 NMAC	A release of a petroleum product from regulated aboveground storage tank.	Contact the EPC-CP AST Program Lead and/or the EPC-CP Water Quality Team Leader prior to completing any external notifications. If required, the Petroleum Storage Tank Bureau (476-4397) or NMED Emergency Spill Hotline (827-9329) must be contacted within 24 hours.	A written report describing the spill, release or suspected release and any investigation or follow-up action needs to be submitted to the PSTB within 14 days of the incident.
Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA)	40 CFR §302.6(a)	Hazardous substance (listed in 40 CFR Table 302.4) release (Equal to or greater than an RQ).	Immediately (within 15 minutes of discovery) notify the National Response Center 1-800-424-8802.	Follow-up not required.
Emergency Planning and Community Right-to-Know Act (EPCRA)	40 CFR § 355.40	Release of an extremely hazardous substance (listed in 40 CFR Part 355 Appendices A and B) or CERCLA hazardous substance (listed in 40 CFR Table 302.4) equal to or greater than RQ.	Immediately (within 15 minutes of discovery) notify the LEPC (505-662-8283) the SERC (505-476-9635). Immediately notify the 911 operator for a release that occurs during transportation or from storage incident to transportation.	A written follow-up emergency notice must be submitted to the LEPC and SERC as soon as practicable after the release.

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STATUTE	REGULATIONS	INCIDENT	Immediate Reporting Requirements	Follow Up Reporting Requirements
Resource Conservation and Recovery Act (RCRA)	40 CFR 262.34, 263.30, 264.51, 264.56 & .196, 265.51, .56 & .196, 270.14, & .30, 273.17, .37 & .54, 279.43 & .53, 280.50, .52, .53, .60, & .61	Release of hazardous or mixed waste from a permitted unit, interim status, less than 90 day area or a satellite accumulation area which the RCRA Permit Contingency Plan was triggered.	Notify NMED Hazardous Waste Bureau within 24 hours (24 hour emergency phone number: 827-9329; Non-emergency phone number: 476-6000) See Attachment 1 for additional details.	Submit written report to NMED HWB within 5 days.
Clean Air Act/ Radionuclide NESHAP	40 CFR 61, Subpart H	Airborne release of radioactive material in excess of an RQ.	Notify the EPA Region 6 Health Physicist (Office- (214) 665-8541; Mobile- (214) 755-1530; Home – (972) 937-1900) immediately after providing notification to the NRC.	Follow-up not required.
Toxic Substance Control Act (TSCA)	40 CFR 761.120, 761.125	Over 1 pound by weight of PCBs (TSCA) or greater than 270 gallons of untested mineral oil suspected of containing PCBs.	Contact the National Response Center (1-800-242-8802) and the EPA Region 6 Office of Prevention, Pesticides, and Toxic Substances Branch (1-866-372-7745) as soon as possible after discovery, but no later than 24 hours after discovery.	Within 24 hours. Follow-up: as required by agency.

ATTACHMENT 23: SITE SPECIFIC PROCEDURES AND DOCUMENTS

No: P409

Revision: 5

Issued: 07/30/15

Effective Date: 07/30/15

LANL Waste Management

1.0 PURPOSE

This document describes Los Alamos National Laboratory (LANL or the Laboratory) requirements for waste generated and managed by Waste Generators and Treatment Storage Facilities (TSFs) to ensure compliance with legal mandates and Laboratory requirements as necessary to protect human health, safety, and the environment. This document has been revised as part of a process in which the Laboratory systematically plans, documents, executes, and evaluates its management of regulated waste streams.

This document addresses LANL's waste management requirements for Waste Generators and TSFs as necessary to safely manage, store, and treat wastes. The Waste Generator must know and document what is in the waste, and TSFs must meet waste analysis requirements under the [LANL Hazardous Waste Facility Permit](#). This document also addresses LANL's Waste Certification and Self-Assessment Programs, to ensure there is a systematic, documented approach for compliance with requirements in this document.

All Waste Generators, including subcontractors, who generate a regulated waste, must work with Waste Management (WM) to meet the requirements in this and other required documents to ensure that the following are met:

- the waste is properly characterized, managed, stored, and transported, and
- the waste certification program is implemented at the waste generating site before the waste is shipped off-site from LANL.

The Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED) have established requirements, which are addressed in this document, for Waste Generators and TSFs to ensure regulated waste is characterized, managed, stored, treated, and transported compliantly. To ensure compliance with legal mandates, the requirements in this and other requirements documents (i.e., [P930-1](#), *LANL Waste Acceptance Criteria*, Associate Director for Environment, Safety, and Health [ADESH], and Functional Series Documents [FSDs]) are established to be consistent with Department of Energy (DOE) Orders, federal and state laws and regulations, the [LANL Hazardous Waste Facility Permit](#), and reporting requirements.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to ADESH as provided in the [Prime Contract](#). This document derives from the Laboratory [Governing Policies](#), particularly the section on Environment, and implements requirements in the [Prime Contract](#), particularly Department of Energy Acquisition Regulation (DEAR) 970.5223-1, *Integration of Environment, Safety, and Health into Work Planning and Execution* (Dec. 2000); Part III, Section J, Appendix B 4.2 and Part III, Section J, Appendix G; [DOE Order \(O\) 435.1](#), *Radioactive Waste Management*; [DOE Manual \(M\) 435.1-1](#); *Radioactive Waste Management Manual*; the [Resource Conservation and Recovery Act \(RCRA\)](#); the [Toxic Substances Control Act \(TSCA\)](#); [New Mexico Special Waste Act](#); [74-9-1 NMSA 1978](#), *Solid Waste Act*, and the [74-4-1 NMSA 1978](#), *Hazardous Waste Act*.

- Issuing Authority (IA): Associate Director for Environment, Safety, and Health (ADESH)
- Responsible Manager (RM): Waste Management (WM) Division Leader
- Responsible Office (RO): Waste Management-Division Office (WM-DO)

2.2 Applicability

This document applies to all workers, including subcontractors, who generate, manage, treat, or store regulated waste at the Laboratory as a Waste Generator or at a TSF. Regulated waste, as used in this document, refers to all types of waste including office waste, solid waste, universal waste, hazardous waste, mixed radioactive waste, and radioactive-only waste. Waste Generators include workers who generate regulated waste and store the waste in staging areas, accumulation areas, or less-than 90 day storage areas. TSFs include workers who manage, treat, or store regulated waste under the [LANL Hazardous Waste Facility Permit](#). All other persons working at the Laboratory must follow the requirements as set forth in their contractual agreements or subcontracts.

3.0 PROCEDURE DESCRIPTION

3.1 Overview

There are two main aspects to this document. First, it establishes specific responsibilities for Waste Generators and TSFs to manage and store regulated wastes to ensure the protection of human health, safety, and the environment (Sections 3.2 through 3.7). Second, it describes LANL's Waste Certification Program, which requires a documented approach to ensure that waste management (treatment, storage and disposal) of waste streams complies with applicable requirements (Section 3.8) prior to off-site shipment.



Fig. 1. LANL Waste Management Components

Waste Generators and TSF workers will find more detailed information on waste compliance in the ADESH FSDs. These FSDs may consist of non-mandatory information, such as aids and guidance (ADESH-TOOLS) or mandatory requirements, regarding waste type and compliance factors. These FSDs are issued by ADESH in accordance with [PD311](#), *Requirements System and Hierarchy* and [ADESH-AP-007](#), *Document Control*.

If a Facility Operations Director (FOD), the Facility Responsible Line Manager (RLM), a Facility Point of Contact and/or a Waste Generator chooses to specify additional local-level procedures for waste management activities, those local procedures and changes thereto must be reviewed and approved through WM-DO before they are issued and implemented. Such procedures, including ADESH Administrative Procedures (ADESH-APs) and ADESH Technical Procedures (ADESH-TPs), may be subject to review in accordance with Safety Basis Procedure (SBP) [SBP-112-3-R1.2](#), *Unreviewed Safety Question (USQ) Process*, and [P315](#), *Conduct of Operations Manual*. WM-DO confirms that Waste Generators are compliant with potential waste streams through oversight requirements for their waste streams and that waste requirements are met in the planning stage for all waste and potential waste streams.

Before waste generating projects (remediation, Demolition and Decontamination, Footprint Reduction, etc.) begin, WM-DO must review (1) all characterization methodologies that were part of the planning stage and the preparation for waste disposition and (2) all requests for use of a DOE or LANL subcontractor that was not procured through [WM-DO](#) via e-mail.

Before generating regulated waste or commencing waste characterization activities, a Waste Generator must consult with their [Waste Management Coordinator \(WMC\)](#). TSFs must comply with their local-level procedures and the [LANL Hazardous Waste Facility Permit](#).

Waste Generators and TSFs must also meet the requirements of the LANL Pollution Prevention Program, which implements pollution minimization goals through Pollution Prevention Opportunity Assessments and other tools. The LANL Pollution Prevention Program requires Waste Generators and TSFs to identify potential alternatives to the generation of waste including use of less toxic materials, alternative processes, waste minimization techniques, and following the requirements [DOE O/M 435.1](#), *Radioactive Waste Management/Manual* and [DOE O 436.1](#), *Departmental Sustainability*. In addition, TSFs must meet waste minimization requirements of the [LANL Hazardous Waste Facility Permit](#).

The Waste Certification Official (WCO) must be notified by the originating organization when a Nonconformance Report (NCR) or a Performance Feedback and Improvement Tracking System (PFITS) issue is entered into the system regarding regulated waste. WCO concurrence for corrective actions must be obtained by e-mail prior to closure.

3.2 Identifying Waste

Waste Generators must correctly identify their waste through waste characterization as specified below. If a Waste Generator needs assistance with and/or cannot identify the waste type, the worker must contact their WMC. In addition, if a LANL worker or subcontractor discovers a waste stream with no identifiable Waste Generator, the worker must contact their WMC. See [ADESH-TOOL-213](#), *No Owner Waste*.

“Office waste” refers to wastes generated in an office environment and can include solid waste (e.g., office paper, food waste, trash), recyclables (e.g., paper, cardboard, plastics), universal waste (e.g., batteries and fluorescent light bulbs) and hazardous waste (e.g., aerosol cans). [ADESH-TOOL-114](#), *Office Waste Tool*, [ADESH-TOOL-111](#), *Waste Characterization*, and [ADESH-TOOL-314](#), *Radioactive Characterization*, help Waste Generators quickly identify their regulated waste types and describe additional tools with requirements for their regulated waste types.

Project Management (PM) projects, Environmental Remediation (ER) or decontaminated and decommissioned must notify WM-DO via e-mail of upcoming waste generation projects and provide all pertinent planning documentation and characterization documentation for evaluation. Use of the Permits and Requirements Identification (PRID) system is required (see [PD400](#), *Environmental Protection*).

3.2.1 Waste Characterization

Waste Generators and TSFs are required to ensure that waste characterization is accurate, complete and up-to-date. Waste Generators must make a waste determination and characterize regulated waste by appropriate analytical testing or use of acceptable knowledge e.g., Material Safety Data Sheets (MSDSs), product labels, and historical data. TSFs must meet waste analysis plan requirements under the [LANL Hazardous Waste Facility Permit](#) prior to acceptance of the generator’s waste for treatment or storage. If a Waste Generator does not supply complete and adequate waste characterization information, the TSF or off-site Treatment Storage and Disposal Facility (TSDF) may not accept the waste. Waste Generators and TSFs must ensure that waste characterization documentation is maintained, protected, controlled, and available for internal and/or any third party reviews.

Note: TSF workers become “Waste Generators” when activities at the TSF (e.g., repackaging, sorting, and segregation) lead to the generation of regulated waste or trigger re-characterization of the waste stream as described within this section.

Waste Generators must consult with their WMCs to start the waste characterization process, when working with a new process that may create a new regulated waste stream, or when waste processing has been modified. [ADESH-TOOL-111](#), *Waste Characterization* and [ADESH-TOOL-314](#), *Radioactive Characterization*, help Waste Generators document and characterize regulated wastes, and describe additional tools with requirements for their regulated waste types. The Waste Generator must sign a Waste Stream Profile (WSP) Certification Statement in the [Waste Compliance and Tracking System \(WCATS\)](#), assuring that waste characterization is correct and meets applicable waste acceptance criteria. This certification attests to the accountability and legal defensibility of the waste characterization for internal or external third party reviews.

As part of the requirement to characterize regulated waste, the Waste Generator must

- submit a waste stream profile in WCATS for each waste stream;
- upload all waste characterization documentation into WCATS and ensure that all valid documentation is referenced in WCATS with a unique identifier;
- sign the WSP Certification Statement assuring accurate and complete characterization of the waste; and
- annually re-evaluate waste characterization for each WSP to verify accuracy of the waste characterization. For compliance purposes, this annual period is defined as less than one year since the original waste characterization or the last recharacterization.

After waste has been identified and entered into WCATS, the waste characterization will be reviewed by the WM-DO prior to a new waste stream identification number being activated. WM-DO screens documentation for LANL facilities that characterize waste streams by acceptable knowledge, process knowledge (or knowledge of process), historical knowledge, etc.

Note: If waste with no disposal path must be generated, the Waste Generator must contact [WM-DO](#) via e-mail for prior authorization.

TSFs must meet waste characterization requirements of the [LANL Hazardous Waste Facility Permit](#), including specifically the Waste Analysis Plan (WAP).

3.2.1.a Waste Generator Recharacterization

Waste Generators must recharacterize and update waste characterization based on the following conditions if

- after an annual re-evaluation, there is any change to waste characterization information, including changes to the waste-generating process or operations;
- there is a change to the waste-generating processes or operations;
- analytical results indicate a change in the waste stream;
- new characterization information becomes available;
- a waste container is opened and secondary material is added to the container;
- waste is repackaged and secondary material is added during this process;
- there is a change in the ownership of a WSP; or
- the Waste Generator is notified that waste received at an off-site facility does not match a pre-approved waste analysis certification or accompanying shipping documentation.

Note: TSF workers may become Waste Generators when waste processing includes one of the activities described above.

The Waste Generators must contact the WM-DO in the event it is required to update waste characterization information described above. WM-DO will work through appropriate subject matter experts to assess the identified changes in the waste characterization and recommend actions.

3.2.1.b Recharacterization at Treatment and Storage Facilities (TSFs)

Under the [LANL Hazardous Waste Facility Permit](#), TSFs must update their waste characterization when the following occurs:

- a Waste Generator determines one or more of the above conditions in Section 3.2.1.a has occurred;
- TSF workers have reason to believe that the process or operation generating the waste has changed;
- waste is repackaged and secondary material is added during this process;
- waste received at an off-site facility does not match a pre-approved waste analysis certification or accompanying shipping documentation; or
- an inspection reveals that the waste does not match the identity of the waste specified by the Waste Generator or a manifest on a shipping paper.

3.2.2 Waste Containing Potential Radioactive Contamination

Potentially radioactive wastes (e.g., the waste or waste item was generated in a radiologically contaminated area) are summarized in [ADESH-TOOL-306](#), *Potentially Radioactive or Mixed Investigation-Derived Waste*. The Waste Generator is required to meet the actions specified in the tool.

If radioactive contamination is reasonably suspected to be present at a site (e.g., in wastes from potential release sites or poorly documented decontaminated and decommissioned sites), the waste must be characterized. See [ADESH-TOOL-314](#), *Radioactive Characterization*. The Authorized Release Limits Process is defined in [P411](#), *Authorized Release Limits Proposal Process* and is applicable only to materials that

- have residual radioactivity below the dose limits specified in [DOE O 458.1](#), *Radiation Protection of the Public and the Environment*, and
- do not contain [74-4-1 NMSA 1978](#), *Hazardous Waste Act* and [Resource Conservation and Recovery Act \(RCRA\)](#) constituents.

Note: For release of potentially activated metals previously stored in Radiation Control areas, see [RP-SOP-077.004](#), *LANSCE Metals Clearance Process* and [RP-SVS-RIC-TBD-03](#), *Technical Basis Documentation Regarding Health Physics Measurements for the Unrestricted Release of Metals from LANSCE*.

3.2.3 Waste Verification

To ensure compliance with DOE Directives, federal and state laws and regulations, [P930-1](#), *LANL Waste Acceptance Criteria*, and reporting requirements, WM-DO completes a verification checklist in accordance with [WM-PROG-QP-236](#), *Waste Certification Program Waste Verification*, and must verify accurate and thorough waste characterization. This includes the random or selected waste stream and can include the following (if applicable):

- a review of radiological assay;
- a visual examination of the waste;
- a sampling and chemical analysis of the waste;
- a verification that the waste has been properly characterized in accordance with applicable procedures, acceptable knowledge documentation, non-destructive assay records, chemical analysis documentation, and, if applicable, documentation of past visual examinations of the waste;
- a review of past verification results to determine the nature of any pre-existing problems; and
- a review of facility waste processes and procedures to verify operations meet waste certification requirements.

Note: The [LANL Hazardous Waste Facility Permit](#) requires an annual verification of the waste characterization of one percent of the total number of hazardous waste streams characterized solely by acceptable knowledge and managed at TA-54 in the previous calendar year.

3.3 Packaging Waste

Low-Level Waste (LLW) and Mixed Low-Level Waste (MLLW) must meet waste package certification requirements before the waste is disposed. Waste Generators of LLW and MLLW must make a request via e-mail to [WM-DO](#) to arrange for waste package certification. If there are specific waste issues regarding LLW and MLLW, the Waste Generator must contact the [WCO](#). To ensure compliance with federal and state laws, regulations and reporting requirements, the WCO will rely on established waste disposition requirements that are consistent with Waste Acceptance Criteria (WAC) requirements from the Nevada National Security Site (NNSS).

To prepare for waste disposition, the Waste Generator must refer to the [600 Series](#) FSDs, (*Transport of Waste*). All waste information regarding waste disposition must be documented in WCATS and a disposal request must be submitted through the WCATS system by the WMC. This will prompt WM-DO to initiate a waste shipment. WM-DO must be consulted on all specific waste issues as WM-DO is responsible for compliance with safe packaging and transportation requirements to off-site receiving facilities.

3.4 Storing Waste

Waste Generators and TSFs will store their waste in accordance with the requirements listed below.

3.4.1 Waste Areas

Waste Generators are responsible for ensuring that on-site waste accumulation and temporary storage (e.g., less-than 90-day storage areas) are conducted in [Registered Waste Areas](#). For more detailed instruction see the following:

- [ADESH-TOOL-206](#), *Hazardous Waste*;

- [300 Series Tools](#), (Radioactive Waste);
- [400 Series Tools](#), (Universal Waste);
- [500 Series Tools](#), (NM Special Waste);
- [ADESH-TOOL-712](#), Polychlorinated Biphenyl (PCB) Waste; and
- [ADESH-TOOL-716](#), Used Oil for Recycle.

TSFs can meet the requirements in the [LANL Hazardous Waste Facility Permit](#) by operating to the [800 Series Tools](#), (Treatment, Storage, and Disposal Facilities).

The WMC must also certify waste protection and storage by evaluating the waste and using [ADESH-TOOL-300](#), General Radioactive Waste Management, and [P930-1](#), LANL Waste Acceptance Criteria.

3.4.2 Site Treatment Plan (STP) for Mixed Transuranic (MTRU) and Mixed Low-Level Waste (MLLW) at TSFs

In accordance with the Site Treatment Plan (STP), LANL must report to NMED all MTRU waste and MLLW that will be stored at the Laboratory after 1-year of its accumulation start date. For STP waste containers, the start date refers to the date of receipt for storage at the LANL TSF. The STP summarizes the status of the current inventory, describes the progress being made to dispose of the waste, identifies treatment and disposal options for addressing the STP inventory, and provides overall schedules for management and disposition of mixed waste to demonstrate compliance with Land Disposal Requirement storage prohibitions under the RCRA and demonstrates compliance with the Federal Facility Compliance Order issued by NMED under the New Mexico Hazardous Waste Act.

To meet these compliance requirements, Waste Generators must notify the [STP Manager](#) via e-mail at least three months prior to the waste exceeding its 1-year accumulation start date that their waste must be added to the STP. The Waste Generators must provide the following:

- for MLLW and MTRU waste, an explanation as to why the waste will exceed its 1-year accumulation start date; and
- for MLLW only, compliance milestone dates when waste will be shipped off-site for treatment and disposal.

3.4.3 Radioactive Waste Management Basis

For Radioactive Waste, the FOD or RLM must submit [Form 2107](#), *Radioactive Waste Management Basis Report Form* (RWMB) to WM-DO. The Waste Generator must submit an updated [RWMB](#) to WM when there are changes in facility operations or waste status. For assistance in completing the [RWMB](#), contact WM-DO. The LANL [RWMB](#) consists of

- identification of the generating process owner;
- identification of every area where radioactive waste is generated;
- identification of waste management activities;
- reference to documents that support the [RWMB](#);
- institutional documents applicable to waste management;
- waste authorization basis documents pertinent to the waste generating facility;
- waste management processes within the facility and their locations;

- waste matrix (solid or liquid);
- waste categories generated, i.e., LLW, MLLW, TRU, and MTRU;
- volumes of generated waste by matrix, category, and annual estimates;
- characterization methods for each waste stream;
- how waste certification is protected when waste is transported;
- how waste certification is protected during waste storage;
- how the waste management quality assurance program protects waste certification; and
- proposed disposition for each waste stream (reported under “Life-Cycle Waste Management”).

WM-DO then reviews, edits, and forwards the RWMB to the DOE Field Element Manager for review and approval. WM-DO monitors compliance and is responsible for reporting the status of compliance to the DOE Field Element Manager. If WM-DO detects radioactive waste activities that were not included in the RWMB, WM-DO will notify the FOD or RLM to submit an updated [RWMB](#) with a description of the newly identified activities. DOE will not approve radioactive waste management activities that were not included in the RWMB, and may terminate the activities if not reported.

WM-DO may allow facilities to generate radioactive waste without continuous updates to the RWMB, e.g., remedial projects, superfund projects, etc., so long as

- the facilities (1) are performing work in accordance with [EP-DIR-SOP-10021](#), *Characterization and Management of Environmental Programs Waste* and (2) have provided WM-DO a completed and signed Waste Characterization Strategy Form (WCSF); and
- WM-DO has approved the work being performed at the facility and DOE concurrence has been obtained by WM-DO.

3.4.3.a Storage Extension Requests

If a determination is made that radioactive waste cannot be shipped for final disposition within one year of waste generation, the FOD or RLM (or Facility Point of Contact) must submit a request for storage extension to WM-DO at least three months before exceeding the one year expiration of the date the container was sealed. The storage extension request must be submitted by e-mail an updated RWMB that contains

- a checked box, “Extension Request;”
- a specific description of the waste;
- a specific description of the location of the waste;
- the specific length of time it will take to dispose of the waste; and
- the reason the extension is needed.

After reviewing the request, WM-DO will send a letter to the DOE Field Element Manager at least 60 days prior to the storage expiration requesting DOE approval for continued storage. If DOE approval has not been received and the waste is nearing the storage expiration, the Waste Generator must notify [WM-DO](#) via e-mail at least three days prior to the expiration date that DOE approval has not been received. If approval for extension is not granted, DOE will provide direction back to WM-DO.

Note: If WM-DO discovers that an extension request was never submitted, WM-DO will initiate a PFITS issue in accordance with [P322-4](#), *Laboratory Performance Feedback and Improvement Process*.

3.4.4 Processing Waste at Treatment and Storage Facilities (TSFs)

Waste processing at TSFs is conducted within storage units and includes all activities that require opening of a container after it has been characterized and sealed, including but not limited to sorting, segregating, repacking, and resizing of waste. TSFs cannot engage in any sorting, segregating, repackaging, or resizing activities that involve the addition of any new material (e.g., sorbents, inert materials, secondary waste) or an activity that could potentially change the chemical or physical composition of the waste (i.e., that could constitute “waste treatment”). These activities at TSFs must be described in the [LANL Hazardous Waste Facility Permit](#) or a permit modification is required. If processing will require a change to the physical, chemical or biological character or composition of the waste, or any secondary material will be added to the waste, a permit modification may be required and Environmental Protection-Compliance Programs ([ENV-CP](#)) must be contacted via e-mail. Waste processing activities are conducted in the areas outlined in [ADESH-TOOL-810](#), *Waste Processing at Permitted Units*.

3.4.5 Treating Waste

Waste Generators and TSFs cannot engage in waste “treatment” activities unless one of two conditions exist

- the waste treatment is authorized under the [LANL Hazardous Waste Facility Permit](#); or
- the waste treatment is exempt from permitting requirements.

Waste treatment, as broadly defined, includes “any method ... or process ... designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous; less hazardous; (or) safer to transport, store, or dispose of” ([40 CFR Section 260.10](#), *Hazardous Waste Management System: General, Definitions*). Waste treatment may be conducted under the [LANL Hazardous Waste Facility Permit](#) or interim status documents as outlined in the following:

- [ADESH-TOOL-903](#), *TA-55 Storage in Tanks and Treatment by Stabilization*;
- [ADESH-TOOL-904](#), *Treatment by Open Burning*; and
- [ADESH-TOOL-905](#), *Treatment by Open Detonation*.

All LANL workers and subcontractors must contact ENV-CP prior to engaging in an activity that may constitute waste treatment (e.g., addition of sorbents or evaporation). Requirements for other permit exempted treatment that do not have specific location requirements (i.e., Waste Generator areas or TSFs), are found in [ADESH-TOOL-901](#), *Elementary Neutralization* and [ADESH-TOOL-902](#), *Absorption without a Permit*.

3.5 Shipping Waste

Once the waste is ready for shipment, the Waste Generator must contact the [WCO](#), who serves as the LANL Point of Contact for the off-site receiving facility and the Los Alamos Field Office. The WCO reviews the appropriate documentation pertaining to the off-site receiving facility and/or the Los Alamos Field Office, such as the TSDF waste profiles, DOE profiles, subcontracts, etc.

3.5.1 Shipments of Radioactive Waste to Non-Department of Energy (DOE) Treatment, Storage, and/or Disposal Facilities (TSDFs)

If a Waste Generator would like to send waste to a facility that is not owned or operated by DOE, the Laboratory must obtain an “exemption request for direct off-site shipment of Radioactive Waste to Non-DOE and TSDFs” (DOE O 435.1 Exemption Request). To obtain this exemption, the Waste Generator must send an e-mail to [WM-DO](#) identifying

- the specific waste stream with background description (including radioactivity);
- the exact location and volume of waste to be generated or placed in a container; and
- the length of time needed to complete the project’s waste disposition.

WM-DO reviews the e-mail and coordinates the shipment with appropriate LANL workers, organizations and subcontractors. WM-DO and LANL’s shipping subcontractor prepare the DOE O 435.1 Exemption Request, which includes a cost analysis and description of the Waste Generator’s request. WM-DO then submits the final DOE O 435.1 Exemption Request to the DOE Los Alamos Field Office.

The DOE Los Alamos Field Office will review WM-DO’s submittal and evaluate the request. If approved, the DOE Los Alamos Field Office will forward the request to DOE Headquarters. WM-DO will be notified if the request has been approved by DOE. If notification is not received within 15 working days from WM-DO’s submittal to the DOE Los Alamos Field Office, WM-DO will contact the DOE Los Alamos Field Office for a documented response.

3.6 Disposing Waste

LANL does not have on-site disposal capacity for RCRA, TRU, or MLLW wastes. LANL retains limited capacity for on-site disposal for LLW under special circumstances and with prior approval from [WM-DO](#). WM-DO will determine the optimal disposal path for each waste stream in consultation with its disposal subcontractor(s) and DOE and based on a cost benefit analysis of available options. Primary consideration will be given to off-site DOE TSDFs, commercial TSDFs approved by DOE, and on-site disposal respectively.

All waste shipments (on-site and off-site) must be coordinated through [WM-DO](#). This process supports waste certification to final TSDF destination.

3.7 LANL’s Oversight of Waste Management

Compliance oversight at LANL occurs throughout the life-cycle of waste planning, minimization, generation, characterization, accumulation, packaging, management and disposition. ENV-CP provides guidance on DOE Directives and State Regulatory requirements. Waste management operations, including waste certification, are conducted by WM-DO to meet additional requirements from DOE Directives. Internal assessments and external inspections are performed to ensure institutional waste management compliance is met and waste certification is maintained.

3.7.1 Certification Assessments for All Waste Types

To certify that facility waste operations are in accordance with [WM-PROG-QP-250](#), *Radioactive Waste Facility Certification*, and [ADESH-TOOL-300](#), *General Radioactive Waste Management*, WM-DO performs compliance assessments at a facility level against [DOE O 435.1](#), *Radioactive Waste Management*, [DOE M 435.1](#), *Radioactive Waste Management Manual*, RCRA regulations, and this document. These assessments are documented in an Independent Assessment report in

accordance with [P328-2, Independent Assessment](#), and distributed to the FOD, RLM and participants after the assessment has been completed.

Assessments include, but are not limited to

- an effectiveness evaluation to determine the nature of any pre-existing problems. When pre-existing problems are found, the assessment team reviews corrective actions that have been taken and determines whether the corrective actions are effective for continuous quality improvement;
- an evaluation of registered waste areas for waste certification compliance. RCRA corrective actions and opportunities for improvement must be reported to Environmental ENV-CP;
- an inspection of the registered waste area and review of the inspection records;
- a tracking and review of past corrective actions resulting from independent assessments conducted by other LANL organizations, DOE, or their contractors, if possible and;
- a review of nonconformance and corrective action documentation and, when appropriate, an action plan to periodically monitor facilities to ensure appropriate corrective actions are being taken.

WM-DO must notify the FOD and RLM in advance of upcoming site visits and assessments. Registered waste area information will be recorded and tracked in a database managed by ADESH.

3.7.2 LANL Self-Assessment

DOE and NMED expect LANL to assess compliance of the Waste Generator's waste management activities and TSF permit compliance. Waste Generator assessments include but are not limited to, accumulation and registered waste areas, LANL inspection forms, containers or tanks, labels, time limits, worker health and safety practices, and the Waste Generator's records and training records. Compliance evaluations routinely include sites outside registered areas (see the ADESH-FSD for requirements on various registered waste areas including TSF requirements). Assessments of registered waste areas are performed by WM-DO and ENV-CP in addition to periodic Independent Assessments (see [P328-2, Independent Assessment](#)) and Management Assessments (see [P328-3, Management Assessment](#)).

Waste Generators and TSFs must retain waste documents and records in accordance with [PD1020, Document Control and Records Management](#).

3.8 Waste Certification

The LANL Waste Certification Program was developed, documented and implemented to ensure that the waste acceptance requirements of off-site facilities receiving waste for storage, treatment, and disposal are met. LANL waste management components that are provided complex wide support waste certification.

Waste certification is a process by which a Waste Generator affirms that waste meets the waste acceptance criteria of the off-site facility to which the Waste Generator intends to transfer the waste for treatment, storage, and disposal. As such, LANL's Waste Certification Program includes the waste certifying process from generation to disposition (cradle-to-grave) for all regulated wastes. Identifying, characterizing and recharacterizing waste with consideration for associated hazards and signing the WSP certification statement is conducted by the Waste Generator and WMC. Assuring compliance performance includes waste verification, storage certification, packaging certification, data management, and STP and RWMB reporting. Finally, preparing waste for shipment, disposal acceptance, final disposition and on-going assessments completes LANL's Waste Certification Program.

Waste certification includes WM-DO providing oversight of Waste Generator activities to meet the requirements of this document and the waste acceptance criteria of the receiving TSDF. LANL's Waste Certification Program includes compliance for all waste types. Fig. 2 illustrates key components of LANL's Waste Certification Program.



Fig. 2. Key components of the LANL Waste Certification Program

4.0 RESPONSIBILITIES

4.1 Facility Operations Director (FOD)

- If needed, issues local-level procedures for waste management activities in accordance with Section 3.1.
- Routes local level procedures through review and approval process adopted by WM-DO.
- Ensures completion and management of their facility's *Radioactive Waste Management Basis Report* (RWMB [Form 2107](#), *Radioactive Waste Management Basis Report Form*).

4.2 Responsible Line Manager (RLM)

- Participates and encourages others' participation in WM-DO's assessment for facility certification.
- Assists in the management and implementation of corrective actions, findings and opportunities for improvement regarding their facilities.
- Ensures waste management compliance at their facilities.

4.3 Waste Management Division Leader

- Ensures waste management compliance processes are implemented across the Laboratory.
- Ensures waste management oversight processes are implemented.

- Acknowledges the process by which local waste management procedures are reviewed and approved before they are issued or implemented.
- Initiates the review of waste characterization documentation by subject matter experts when new information or discrepancies in waste characterization are discovered.
- Monitors work in progress and conducts effectiveness evaluations (i.e., through facility assessment and waste verification).
- Documents compliance or noncompliance with characterization/certification requirements.
- Identifies the facility's waste management quality assurance program and how it protects waste certification and the proposed disposition for each waste stream.
- Performs re-evaluation and verification of characterization information for facilities' waste generation operations.
- Evaluates corrective actions regarding waste management as timely or untimely.
- Reports corrective action regarding waste management adequacy to management.
- Provides notification to facility RLMs of the status and performance of activities under assessment.
- Documents facility waste certification reviews resulting from internal (e.g., Authorization Authority) or external (e.g., DOE) audits and assessments, tracking corrective actions and reporting observations to management.
- Determines whether waste management staging/storage facilities and systems are adequate to certify waste and to maintain waste certification until shipment.
- Ensures LLW/MLLW waste containers are certified by a qualified Waste Package Certifier (WPC).
- Completes receiving facility documentation and notifications for LANL.
- Maintains LANL facility operations certification and off-site receiving facility certification.
- Provides WCO disposition approval for final TSDF destination.
- Performs LANL Self Assessments of radioactive waste staging and storage areas in accordance with Section 3.7.2.
- Ensures that the WCO and designees certify waste for disposition to off-site TSDFs.
- Performs annual verification of the waste characterization of one percent of the total number of hazardous waste streams characterized solely by acceptable knowledge and managed at TA-54 in the previous calendar year.
- Provides notification and reporting to regulatory oversight bodies.
- Provides WMC qualification training.

4.4 Waste Management Coordinators (WMCs)

- Certify waste for storage in LANL's registered storage areas.
- Verify waste containers or tanks meet the requirements for transfer into storage at their facility or verify waste can be transferred to a TSF or TSDF.

- Ensure waste characterization and acceptable knowledge documentation is accurate, defensible, and complete.
- Ensure waste meets accepting facility WAC and follows the ADESH-FSD processes.
- Ensure the WSP is completed and submitted in WCATS.
- Support Waste Generators in internal assessments and external inspections.
- Ensure waste containers are closed in accordance with manufacturer's instructions prior to shipment.
- Ensure waste container or tank is adequate to protect the waste against external sources of contamination, and ensure waste management integrity and compatibility.

4.5 Environmental Protection - Compliance Programs (ENV-CP) Group Leader

- Directs the waste management compliance process.
- Coordinates information and compliance requests and activities with regulators.
- Manages the ADESH-FSD collection.
- Receives information on RCRA corrective actions and opportunities for improvement from WM-DO's assessment of facility certification.
- Ensures that LANL Self Assessments in accordance with Section 3.7.2 are performed.
- Assists WM-DO by providing regulatory information and institutional guidance on waste management requirements.
- Maintains the [LANL Hazardous Waste Facility Permit](#) and is responsible for developing permit modification requests.

4.6 Waste Generators

- Comply with the requirements in this document and other requirements documents referenced herein.
- Characterize waste pursuant to the requirements in this document and the ADESH-FSDs.
- Before waste is generated and/or packaged, conduct waste avoidance or minimization analysis in consultation with the WMC.
- Ensure adequacy of the documentation used for waste characterization (acceptable knowledge and physical/chemical analysis).
- Maintain registered waste areas within their span of control.
- Manage on-site storage as required in this document.
- Initiate the WSP.
- Notify the [STP Manager](#) via e-mail, at least three months prior to the waste exceeding its 1-year accumulation start date that their waste must be added to the STP.

5.0 IMPLEMENTATION

The requirements in this document are effective on the issue date. All ADESH FSDs that are referenced in this document will be reviewed and updated by December 31, 2015, in accordance with [ADESH-AP-007](#), *Document Control* and [PD311](#), *Requirements System and Hierarchy*. The FSDs will be reviewed and updated on a three year schedule beginning with the issue date of P409, Rev.5.

6.0 TRAINING

The training courses listed in this section are required for all workers who generate waste (except office trash) and workers who manage waste or work at TSFs. Workers must notify their managers of expired training. Unless specified, there is no grace period for the training requirements below; this training must be completed and kept current.

Note: Site-specific training may be required and directed by RLMs.

6.1 Waste Generators and WMCs must complete:

- [Course #23263](#), *Waste Generation Overview Live*; and
- [Course #21464](#), *Waste Generation Overview Refresher SS*, every three years.

6.2 Persons who work in, or are owners of, less-than-90-day waste accumulation areas must complete:

- [Course #7488](#), *RCRA Personnel Training*, and
- [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months.

Note: The RCRA-related training listed above must be completed within six months of employment or new assignment; during this period, workers must work under the supervision of a trained worker.

6.3 Persons who work in TSFs must complete:

- [Course #7488](#), *RCRA Personnel Training*;
- [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months; and
- [Course #23263](#), *Waste Generation Overview Live*.

Note: The RCRA-related training listed above must be completed within six months of employment; during this period, workers must work under the supervision of a trained worker.

6.4 Remediation Workers must complete:

- [Course #23263](#), *Waste Generation Overview Live*;
 - [Course #4464](#), *HAZWOPER: General Site Worker*, or [Course #4465](#), *HAZWOPER: Limited Site Worker*;
 - [Course #28652](#), *HAZWOPER: Refresher*, every twelve months;
 - [Course #7488](#), *RCRA Personnel Training*;
 - [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months; and
- or other courses as assigned by the supervisor.

7.0 EXCEPTION OR VARIANCE

Changes in the processes conducted at the TSF or changes to the TSF structure must be reviewed by ENV-CP for necessary permit modifications. Hazardous waste treatment activities that are not authorized by the [LANL Hazardous Waste Facility Permit](#) or interim status documents must be reviewed by ENV-CP for regulatory compliance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

8.2 Waste Management Records

WM-DO and ENV-CP work with Waste Generators, FODs and RLMs to ensure that the following records and documentation are kept in accordance with [PD1020](#), *Document Control and Records Management*:

- WCATS for waste characterization
- [Form 2107](#), *Radioactive Waste Management Basis Report Form*
- *RWMB Storage Extension Request*
- DOE O 435.1, *Exemption Request*
- STP plan and correspondence to and from NMED
- Independent Assessment Reports
- Trend analysis on waste management data
- ADESH database containing [Registered Waste Area](#) information
- Inspection Forms

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL [Definition of Terms](#) and [ADESH-TOOL-101](#), *Waste Management Glossary*.

9.2 Acronyms

See LANL [Acronym Master List](#).

ADESH	Associate Director for Environment, Safety, and Health
AP	Administrative Procedures
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy
DOT	Department of Transportation
ENV-CP	Environmental Protection-Compliance Programs
EPA	Environmental Protection Agency
ER	Environmental Restoration
FOD	Facility Operations Director
FSD	Functional Series Documents
IA	Issuing Authority
LANL	Los Alamos National Laboratory
LLW	Low-Level Waste
M	Manual
MLLW	Mixed Low-Level Waste

MSDSs	Material Safety Data Sheets
MTRU	Mixed Transuranic
NCR	Nonconformance Report
NMED	New Mexico Environment Department
NNSS	Nevada National Security Site
O	Order
OP	Operating Tools
PFITS	Performance Feedback and Improvement Tracking System
PRID	Permits and Requirements Identification
PM	Project Management
RCRA	Resource Conservation and Recovery Act
RLM	Responsible Line Manager
RM	Responsible Manager
RO	Responsible Office
RWMB	Radioactive Waste Management Basis
SBP	Safety Basis Procedure
SOP	Standard Operating Procedure
STP	Site Treatment Plan
TP	Technical Procedure
TRU	Transuranic
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and/or Disposal Facility
TSFs	Treatment Storage Facilities
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WCATS	Waste Compliance and Tracking System
WCO	Waste Certification Official
WCSF	Waste Characterization Strategy Form
WSP	Waste Stream Profile
WM	Waste Management
WMC	Waste Management Coordinator
WM-DO	Waste Management-Division Office

10.0 HISTORY

Revision History		
03/27/08	P409, Rev. 0	Initial Issue. This document and its linked Waste Management Tools replaces and cancels the Laboratory Implementation Requirements (LIRs) and Laboratory Implementation Guidance (LIG) listed below. The LIRs will remain in force and effect for each nuclear facility until that facility completes the Unreviewed Safety Question (USQ) or Unreviewed Safety Issue (USI) review determinations. ▪ LIG 404-00-02, <i>Acceptable Knowledge Guidance</i>

Revision History		
		<ul style="list-style-type: none"> ▪ LIR 404-00-02, <i>General Waste Management Requirements</i> ▪ LIR 404-00-03, <i>Hazardous and Mixed Waste Requirements</i> ▪ LIR 404-00-04, <i>Managing Solid Waste</i> ▪ LIR 404-00-05, <i>Managing Radioactive Waste</i> ▪ LIR 404-00-06, <i>Managing Polychlorinated Biphenyls</i>
05/22/08	P409, Rev. 1	Section 6.0 Training: Changed Waste Profile Form Signers to Waste Generators and removed Waste Documentation Forms from the Waste Generators list.
06/04/10	P409, Rev. 2	Extensive revision: Clarified training requirements and responsibilities, corrected links to tools, clarified tool creation process, and simplified the document.
03/19/12	P409, Rev. 3	<p>This document cancels RN0808, <i>Requirements for Recycling Metal from Areas posted for Radiological Hazards</i>.</p> <p>Section 6.0: Separated the third bullet into two bullets, reflecting the separate training requirements for persons who work in Treatment, Storage, and/or Disposal Facilities (TSDFs) and Remediation Workers, to align with the Laboratory's Hazardous Waste Permit. Added Course #23263, Waste Generation Overview Live, as a training requirement for persons who work in TSDFs and Remediation Workers.</p>
04/10/13	P409, Rev. 4	<p>Removed references to cancelled Form 1346, <i>Waste Profile Form</i>, which has been replaced by the Waste Stream Profile (found in the Waste Compliance and Tracking System (WCATS)).</p> <p>Section 5.0: Updated to reflect effective date of May 28, 2013 for applicable nuclear, high- and moderate-hazard facilities and accelerators.</p> <p>Performed three year review in accordance with PD311, Requirements System and Hierarchy.</p> <p>Updated links, titles, and acronyms.</p>
07/30/15	P409, Rev. 5	<p>Performed three-year review in accordance with PD311, Requirements System and Hierarchy.</p> <p>This document cancels P930-2, <i>Radioactive Waste Certification Program</i> and P930-3, <i>Off-Site Shipment of Chemical, Hazardous, or Radioactive Waste</i>. Although this is not “a new document,” it is a complete re-write of P409, Rev. 4 as the requirements from P930-2 have been merged with this document. P409 title has also changed to “LANL Waste Management.”</p>

11.0 REFERENCES

[Prime Contract:](#)

- DEAR 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution (Dec. 2000)
- Part II, Section H-83 (DEAR 5223-1)
- Part III, Section J, Appendix B 4.2

LANL

P409, Rev. 5

Effective Date: 07/30/15

- Part III, Section J, Appendix G
- Appendix B, Statement of Work: §1.0 General
- [DOE O 435.1](#), *Radioactive Waste Management*
- [DOE M 435.1-1](#), *Radioactive Waste Management Manual*
- [DOE O 436.1](#), *Departmental Sustainability*
- [40 CFR Section 260.10](#), *Hazardous Waste Management System: General, Definitions*
- [DOE O 458.1](#), *Radiation Protection of the Public and the Environment*

11.1 Other References

- [LANL Hazardous Waste Facility Permit](#)
- [P930-1](#), *LANL Waste Acceptance Criteria*
- [Resource Conservation and Recovery Act \(RCRA\)](#)
- [Toxic Substances Control Act \(TSCA\)](#)
- [New Mexico Special Waste Act](#)
- [74-9-1 NMSA 1978](#), *Solid Waste Act*
- [74-4-1 NMSA 1978](#), *Hazardous Waste Act*
- [PD311](#), *Requirements System and Hierarchy*
- [ADESH-AP-007](#), *Document Control*
- [SBP-112-3-R1.2](#), *Unreviewed Safety Question (USQ) Process*
- [P315](#), *Conduct of Operations Manual*
- [ADESH-TOOL-213](#), *No Owner Waste*
- [ADESH-TOOL-114](#), *Office Waste Tool*
- [ADESH-TOOL-111](#), *Waste Characterization*
- [ADESH-TOOL-314](#), *Radioactive Characterization*
- [PD400](#), *Environmental Protection*
- [Waste Compliance and Tracking System \(WCATS\)](#)
- [ADESH-TOOL-306](#), *Potentially Radioactive or Mixed Investigation-Derived Waste*
- [P411](#), *Authorized Release Limits Proposal Process*
- [RP-SOP-077.004](#), *LANSCE Metals Clearance Process*
- [RP-SVS-RIC-TBD-03](#), *Technical Basis Documentation Regarding Health Physics Measurements for the Unrestricted Release of Metals from LANSCE*
- [WM-PROG-QP-236](#), *Waste Certification Program Waste Verification*

- [ADESH-TOOL-600](#), Certification, Documentation, Shipment of ChemHaz
- [ADESH-TOOL-206](#), Hazardous Waste
- [300 Series Tools](#), (Radioactive Waste)
- [400 Series Tools](#), (Universal Waste)
- [500 Series Tools](#), (NM Special Waste)
- [ADESH-TOOL-712](#), Polychlorinated Biphenyl (PCB) Waste
- [ADESH-TOOL-716](#), Used Oil for Recycle
- [800 Series Tools](#), (Treatment, Storage and Disposal Facilities)
- [ADESH-TOOL-300](#), General Radioactive Waste Management
- [EP-DIR-SOP-10021](#), Characterization and Management of Environmental Programs Waste
- [P322-4](#), Laboratory Performance Feedback and Improvement Process
- [ADESH-TOOL-810](#), Waste Processing at Permitted Units
- [ADESH-TOOL-903](#), TA-55 Storage in Tanks and Treatment by Stabilization
- [ADESH-TOOL-904](#), Treatment by Open Burning
- [ADESH-TOOL-905](#), Treatment by Open Detonation
- [ADESH-TOOL-901](#), Elementary Neutralization
- [ADESH-TOOL-902](#), Absorption without a Permit
- [WM-PROG-QP-250](#), Radioactive Waste Facility Certification
- [P328-2](#), Independent Assessment
- [P328-3](#), Management Assessment
- [PD1020](#), Document Control and Records Management
- [PD311](#), Requirements System and Hierarchy
- [ADESH-TOOL-101](#), Waste Management Glossary

12.0 FORMS

[Form 2107](#), Radioactive Waste Management Basis Report Form

13.0 ATTACHMENTS

There are no attachments associated with this document.

14.0 CONTACT

Waste Management Division Office

Telephone: (505) 667-2211

Fax: (505) 667-1945

Website: <http://int.lanl.gov/org/padops/adesh/waste-management/index.shtml>

IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through [UTrain](#) **not** the Policy Office website.

Material Safety Data Sheet



Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Section 1. Chemical Product and Company Identification

Product name E2008 ASPHALT RELEASE (XT-3199)
Product use Asphalt Release Agent
Product code F464
Date of issue 02/13/09 **Supersedes** 06/17/99

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By

Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Printing date: 02/13/09

Section 2. Hazards Identification

Emergency overview

CAUTION !

MAY CAUSE EYE IRRITATION.

*Hazard Determination System (HDS): Health, Flammability, Reactivity



NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects

Routes of Entry

Eye contact.

Eyes May cause eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin No known acute effects of this product resulting from skin contact. Prolonged or repeated contact may dry skin and cause irritation.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion No data on acute toxicity of the product when ingested. May irritate digestive tract.

Chronic effects

There is no known chronic effect after exposure to this product.

Carcinogenicity Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

OSHA's Hazard Communication Standard (29 CFR 1910.1200) does not require the listing of any ingredient for this product.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact Rinse with plenty of running water. If irritation persists, get medical attention.

Inhalation Inhalation not likely under normal use conditions.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. If swallowed, seek medical advice immediately and show this container or label.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)

Flash Point Not applicable
Flammable Limits Not applicable
Flammability Non-combustible.
Fire hazard Not applicable.
Fire-Fighting Procedures Not applicable.



Section 6. Accidental Release Measures

Spill Clean up Hazard of slipping on spilled product. Absorb with an inert material and place in an appropriate waste disposal container. Finish cleaning the spill area with running water.

Section 7. Handling and Storage

Handling Avoid contact with eyes. Do not ingest. Wash thoroughly after handling.

Storage Keep container tightly closed. Store between the following temperatures: 40°F - 120°F (4.4°C - 49°C). Keep out of the reach of children. Protect from freezing.

Section 8. Exposure Controls/Personal Protection

Product name **Exposure limits**

No exposure limit value known.

Personal Protective Equipment (PPE)

Eyes Recommended: Safety glasses.



Body No special protective clothing is required. For prolonged or repeated handling, use gloves.

Respiratory No special measures required.

Section 9. Physical and Chemical Properties

Physical State Thin liquid

Color Clear. Colorless.

pH 7.5 - 8.5

Odor Mild.

Boiling Point 104.44°C (220°F)

Vapor Pressure Not determined.

Specific Gravity 1

Vapor Density Not determined.

Solubility Miscible in water.

Evaporation Rate 1 compared with Water

VOC (Consumer) 0 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility None known.

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products None identified.

Section 11. Toxicological Information**Acute Toxicity**

Not available.

Section 12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

Aquatic Ecotoxicity

Not available.

Section 13. Disposal Considerations**Waste Information**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Non-hazardous waste

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	Not regulated.	None.	-	-	
IMDG Class	Not available.	Not available.	Not available.	-	

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

State Regulations

California Prop 65 No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

*NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.

No: P101-14

Revision: 7

Issued: 08/06/15

Effective Date: 08/06/15

Chemical Management

1.0 PURPOSE

The purpose of this document is to:

- define the chemical management requirements for the Los Alamos National Laboratory (LANL or the Laboratory) Chemical Lifecycle Management Program,
- define processes to ensure protection of workers from health hazards associated with hazardous chemicals, and to keep exposures below Occupational Exposure Limits (OELs),
- provide direction to ensure that work with hazardous chemicals is conducted in a safe and responsible manner that protects workers, the public, and the environment, in accordance with Laboratory Integrated Work Management (IWM) and Environmental Management Systems,
- provide direction in the development and application of the hierarchy of controls (i.e., elimination, substitution, engineering, administrative, and Personal Protective Equipment [PPE]) that will protect workers and the environment, and
- promote consistency in hazardous-materials-related Integrated Work Documents (IWDs) and other procedures across the Laboratory.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to the Associate Director for Nuclear and High Hazard Operations (ADNHHO) as provided in the [Prime Contract](#). This document derives from the Laboratory [Governing Policies](#), particularly the section on Safety.

- Issuing Authority (IA): Associate Director for Nuclear and High Hazard Operations (ADNHHO)
- Responsible Manager (RM): Operations Support (OS) Division Leader
- Responsible Office (RO): Operations Support-Division Office (OS-DO)

2.2 Applicability

This document applies to all Laboratory workers. Subcontract workers are expected to follow the requirements set forth in their contractual agreements (i.e., Exhibit F) with the Laboratory.

This document applies to all work areas where chemicals including gases (compressed and cryogenic fluids) are procured, acquired, manufactured, machined, handled, received, distributed, transported, used, stored, or disposed. Activities that are subject to the requirements contained in this document are maintenance, construction, facility categorization, Research and Development (R&D), emergency planning, environmental restoration, and Decontamination and Decommissioning (D&D). This document applies to Laboratory facilities and equipment that involve current or past use of hazardous chemicals. Offsite work by LANL workers, where chemicals are used, should follow the specific guidelines and protocols of the host facility within

the context of the guidelines provided herein. Minimum requirements are adherence to the Federal Regulations cited in this document.

3.0 PROCEDURE DESCRIPTION

This document sets forth practices for managing industrial hygiene, safety, and environmental concerns associated with hazardous chemicals.

Note: Every Laboratory organization that procures, acquires, manufactures, machines, handles, receives, distributes, transports, uses, stores, or disposes of hazardous chemicals is required to follow the safety plan found in Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*. Requirements identified in Attachment A are specific to [29 Code of Federal Regulations \(CFR\) 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication (e)*, [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories (e)*, and [29 CFR 1926.59](#), *Labor, Safety and Health Regulations for Construction, Hazard Communication (e)* (identical to .1200). The processes found in Attachment A, and any associated IWDs and organization-specific procedures that address hazardous chemicals, must be communicated to the workers in the organization. The plan is applicable to all activities whether chemicals are used in industrial applications (Hazard Communication [HAZCOM]) or small-scale laboratory R&D (Chemical Hygiene Plan [CHP]). Where it is mutually beneficial, the plan is applicable to all activities. Where procedures are specific to HAZCOM or CHP, the delineation is made in the text of the plan.

Note: Engineered nanomaterials are addressed in [P101-29](#), *Working with Nanotechnology Materials and Processes*. Biological materials are addressed in [P101-15](#), *Biological Safety*. Explosives are addressed in [P101-8](#), *Explosives Safety*. Radiological materials are addressed in [P121](#), *Radiation Protection*. Chemical disposition is addressed in [P409](#), *LANL Waste Management*.

3.1 Chemical Management and Chemical Safety Program Elements

Table 1. Chemical Management Program Elements		
Chemical Management Program Element	Main Document Section	Attachment A Section
A list of the hazardous chemicals known to be present, i.e., an inventory	3.3	1.3
Hazard identification and analysis	Attachment A	All
Acquisition	3.2	NA
Chemical inventory management and tracking, including management of extremely hazardous chemicals, and Material Safety Data Sheets/Safety Data Sheets (MSDS/SDSs)	3.3	1.4 (MSDS/SDS only)
Chemical transportation	3.8	NA
Chemical storage	3.7	NA
Hazard control	3.6	1.6
Pollution prevention and waste minimization	3.4	NA
Chemical emergency management	3.9	NA
Chemical disposition	3.7	NA
Training	6.0	1.15

The LANL chemical management program addresses elements from both [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication*, and [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories*.

Table 2. Chemical Safety Program Elements		
Chemical Safety Program Element	Main Document Section	Attachment A Section
A list of the hazardous chemicals known to be present, i.e., an inventory	3.3	1.3
Access to MSDS/SDSs for procured or acquired hazardous chemicals	3.3	1.4
Container labeling and other forms of warning	NA	1.5
Employee information and training	6.0	1.15
Methods used to inform employees of hazards of non-routine tasks or chemicals in unlabeled piping, precautionary measures for protection of employees during normal operating conditions and foreseeable emergencies, and the circumstances under which a particular laboratory operation, procedure or activity will require prior approval from the employer or the employer's designee before implementation	NA	1.6
Standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals	NA	1.6
Criteria that the employer will use to determine and implement control measures to reduce employee exposure to hazardous chemicals including engineering controls, the use of Personal Protective Equipment (PPE) and hygiene practices; particular attention will be given to the selection of control measures for chemicals that are known to be extremely hazardous	3.7	1.6
A requirement that fume hoods and other protective equipment are functioning properly and specific measures will be taken to ensure proper and adequate performance of such equipment	NA	1.8
Designation of personnel responsible for implementation of the Chemical Hygiene Plan (CHP) including the assignment of a Chemical Hygiene Officer (CHO), and, if appropriate, establishment of a Chemical Hygiene Committee	4.2	1.9
Provisions for additional employee protection for work with particularly hazardous substances, i.e., carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity, including as appropriate: establishment of a designated area, use of containment devices such as fume hoods or glove boxes, procedures for safe removal of contaminated waste; and decontamination procedures	4.2	1.11
Compliance with 29 Code of Federal Regulations (CFR) 1910.119 , <i>Labor, Occupational Safety and Health Standards, Process Safety Management of Highly Hazardous Chemicals (Occupational Safety and Health Administration [OSHA] PSM Rule)</i> , Appendix A	4.7	NA
Hazardous chemical spill response	3.9	NA

LANL

3.2 Chemical Acquisition

Acquisition includes procurement, onsite synthesis, blending of chemicals, individuals or organizations bringing chemicals onsite, and other mechanisms. Chemicals are purchased by trained and authorized chemical workers.

Before a decision is made to purchase a chemical through LANL procurement, chemical owners will determine whether:

- The proposed quantity of the chemical is within the evaluated safety basis limits, fire protection limits, and fire hazard analysts limits for the facility. **Note:** The FOD is responsible for providing this information.
- There is a less hazardous or non-hazardous chemical available.
- There is a suitable surplus chemical available from another chemical owner.
- There is a current need for the chemical.
- There are unique hazards of the chemical that would require special assessment and controls.
- The quantity is limited to a specific project or maintenance need.
- There are stability or shelf life issues that need to be tracked.
- Storage facilities are suitable.
- There is an appropriate safe and environmentally acceptable means for the final disposition of environmentally sensitive chemicals, products, and byproducts.
- The required safety documentation MSDS/SDS is uploaded to the LANL [MSDS/SDS electronic binder](#). Contact Occupational Safety and Health-Industrial Safety and Hygiene (OSH-ISH) for a listing of MSDS Online administrators who can add SDS/MSDSs to the LANL Electronic Binder.

All gas will be procured from the Gas Facility for those maintained as stock items, or as a LANL iProcurement Non Catalog request choosing Compressed Gas as the category. Gases cannot be purchased on a Pcard. All chemical/gases transported as a Hazard Class 2 material must be delivered to the Gas Facility at TA-3, Building 170. The SM-30 warehouse is not allowed to accept the delivery of gas.

Note: Non-gas chemical requests for purchase by purchase card must be submitted for approval via email to ChemDB@lanl.gov. Include the TA, building, and room where the chemical will be stored, the Z# and name of the chemical requestor, the chemical or product name, total amounts requested, the manufacturer and catalog number, and an SDS/MSDS for the chemical or product.

3.3 Chemical Inventory Management and Tracking

- LANL is required to maintain a list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate MSDS/SDS. The listing of hazardous chemicals is maintained in the [LANL institutional chemical inventory](#) database application. This inventory is overseen by ADNHHO Operations Support (OS) Division. For [LANL institutional chemical inventory](#) database requirements, contact the help desk at 667-9242, or e-mail ChemDB@lanl.gov.
- Primary hazardous chemical containers are barcoded, entered, and tracked in the [LANL institutional chemical inventory](#) database in accordance with guidance documents found under the "Support and Resources" tab in the [LANL institutional chemical inventory](#) database application.

- The [LANL institutional chemical inventory](#) database will be updated when a primary hazardous chemical container is acquired; is transferred to a new owner and/or a new location; or is disposed.
- Physical inventories of primary hazards chemical containers will be performed annually to verify the accuracy of the [LANL institutional chemical inventory](#) database. Workers must have access to the MSDS/SDS for all procured hazardous chemicals. See [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication* (g) (6) (iii) and (8) and [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories* (f) (3) (v). MSDS/SDSs must be maintained as stated in Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*, Section 1.4.

3.4 Chemical Elimination, Substitution, Pollution Prevention, and Waste Minimization

Elimination of a hazardous chemical or substitution of a hazardous chemical with a less hazardous chemical is the preferred method to control hazards in accordance with the IWM process. Process change to a system for pollution prevention or waste minimization is another recognized control for chemical usage. Whenever possible, chemical workers will consider eliminating hazardous chemical usage or substituting less hazardous chemicals for highly hazardous chemicals, according to [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories*, and [10 CFR 1021](#), *Energy, National Environmental Policy Act Implementing Procedures*. In addition, upstream chemical minimization processes and waste reduction techniques to minimize the quantity of chemical used in an activity will be considered.

Note: The Environmental Protection-Environmental Stewardship Services Group (ENV-ES) may be contacted for assistance in chemical substitution, pollution prevention, and waste minimization. See the Laboratory [Chemical Safety Webpage](#) for assistance with surplus chemicals. Transportation of surplus chemicals must comply with requirements in Section 3.8.

Avoid introducing excess chemicals into radiologically controlled areas, to minimize the potential to create a mixed waste. The need for legacy chemicals should be evaluated on at least an annual basis.

3.5 Management of Extremely Hazardous Substances

An extremely hazardous substance present at the Laboratory in an amount greater than or equal to its threshold planning quantity triggers emergency planning requirements as required by [40 CFR 355](#), *Protection of Environment, Emergency Planning and Notification*. Contact Security and Emergency Operations-Emergency Management Group (SEO-EM) at 667-6211 for assistance in emergency planning and release reporting requirements.

3.6 Hazard Control

Identification, evaluation, and control of hazards associated with chemical use are managed through IWM (see [P300](#), *Integrated Work Management*), and worker exposure assessments (see [P101-32](#), *Worker Exposure Assessments*).

3.7 Hazardous Chemical Storage

Storage includes all physical phases and all types of containers including, but not limited to, tanks, piping, cylinders, and containers of solid, liquid, or gaseous chemicals. Storage includes all chemicals or chemical products, including used and unused chemicals, sealed, opened, or partially filled containers, working solutions, day-use containers, and chemical “residues” left

within tanks, piping, or other containers. Storage in this document excludes storage of solid waste or hazardous waste.

Chemical storage will be limited to the quantity necessary to perform the work, and within safety basis and fire protection limits. Liquid hazardous chemicals should be stored so that a spill will not exceed 20 L (5 gallons), as required by the National Fire Protection Association (NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals* and NFPA 400, *Hazardous Materials Code*). Flammable and combustible liquids will be limited to less than the maximum quantities allowed in Tables 10.1.1(a), 10.1.1(b) and 10.1.2 of NFPA 45. Both documents are available to Laboratory workers through the [Research Library](#).

Storage of gas must follow the requirements of NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, and the Compressed Gas Association and be grouped together by type (e.g., flammable, oxidizer, corrosive, toxic and highly toxic gases); segregated from potential hazards; and separated by 20 feet, or a half hour fire barrier in accordance with [P101-34](#), *Pressure Safety*.

Containers of materials that might become hazardous (i.e., peroxidizable chemicals) during prolonged storage will be dated when first opened. At the end of six months after opening, the material will be evaluated or tested for continued safe use. Material that is found to be safe or that can be stabilized to be made safe will be permitted to be re-dated and retained for an additional 6-month period, or according to manufacturer's instructions, whichever is more stringent. All other material will be safely and compliantly discarded.

To protect the environment and the safety and health of all people, hazardous waste will be disposed of properly. See [P409](#), *LANL Waste Management*, for requirements.

Note: See [Tool #4](#), *Chemical Storage Schemes*, and [Tool #8](#), *Minimum Requirements for Peroxidizables*, on the [Chemical Safety Tools webpage](#) for additional information about storage requirements for materials that might become hazardous.

Note: The NFPA standards 30, 45, and 55, and the International Building Code define Maximum Allowable Quantities (MAQs) of different categories of chemicals that may be within open and closed systems in facilities. These criteria apply to LANL facilities (via the [Prime Contract](#)). The Fire Protection-Division Office (FP-DO) can assist in defining MAQs for specific facilities where those limits are not clearly defined.

3.8 Hazardous Chemical Transportation

Transportation refers to vehicular movement of chemicals, including movement subject to Department of Transportation (DOT) regulations for public roads, site transportation on nonpublic roads, and movement of chemicals within and between buildings. Off-site and on-site hazardous chemical transportation will be done in accordance with [P151-1](#), *LANL Packaging and Transportation Program Procedure*.

Transportation of gases (DOT Hazardous Class 2 Material) must be performed by the Gas Facility in accordance with [49 CFR 100–185](#), *Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation*.

3.8.1 Off-Site Shipping

Any chemical that meets the definition of a hazardous material, or is suspected to be hazardous material according to [49 CFR 171.8](#), *Transportation, General Information, Regulations, and Definitions, Definitions and Abbreviations*, and can be classified as a hazardous material in

accordance with [49 CFR 173](#), *Transportation, Shippers—General Requirements for Shipments and Packagings, Parts 115–141 and Parts 403–436*, will be packaged, marked, labeled, and shipped with prepared shipping papers in accordance with [49 CFR 100–185](#), *Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation*, and applicable Department of Energy (DOE) Orders by DOT trained personnel. Contact Operations Support-Packaging and Transportation (OS-PT) for assistance.

Any chemical being shipped by air that meets the definition of dangerous goods according to the International Civil Aviation Organization will be packaged, marked, labeled, and shipped, with an accompanying properly prepared dangerous goods declaration, in accordance with the International Civil Aviation Organization technical instructions. Contact OS-PT for assistance.

Wastes containing chemicals that are also New Mexico special wastes or hazardous wastes have additional shipping, placarding, manifesting, and training requirements. Contact your Waste Management Coordinator (WMC).

3.8.2 On-Site Transfers of Chemicals

The on-site transfer of hazardous chemicals will follow [P151-1](#), *LANL Packaging and Transportation Program Procedure*. OS-PT has jurisdiction over the requirements for packaging, marking, and documenting on-site transfers.

On-site shipping of analytical-scale samples of hazardous chemicals (DOT small quantities) is permissible, as long as it meets Laboratory and DOT requirements for such samples. An example procedure that meets the Laboratory and DOT requirements for such on-site shipping, including training requirements, is SOP-C-DO-003, *On-Site Shipping of Analytical-Scale Samples of Hazardous or Radioactive Materials (DOT Small Quantities)*.

All hazardous chemical transport will be done in a government vehicle. Hand carrying of hazardous chemical containers will be done using secondary containment and laboratory carts for heavy or multiple containers. Exception: Gas must be transferred by Gas Facility personnel in accordance with [49 CFR 100–185](#), *Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation*.

3.8.3 Hazardous Chemical Spills

Workers must be authorized, provided the necessary training, understand required spill response procedures before working with a hazardous chemical, and ensure that containment and cleanup of a spill is permitted by the IWD.

- Contact SEO-EM Group at 667-6211 then the FOD or the FOD's on-call designee for the building (or the Operations Center if a facility is so equipped), in the event of a large hazardous chemical spill (i.e., a spill that cannot be safely contained by an authorized chemical worker). The FOD or on-call designee must ensure involvement of deployed support as necessary. SEO-EM provides the Incident Commander to manage cleanup of all spills outside the scope of IWDs.
- When safe to do so, authorized chemical workers will determine the extent of the area affected, and demarcate it with barricade tape or use another reliable means to restrict entry into the area.
- Properly briefed, authorized chemical workers may cleanup smaller spills, following spill control, mitigation, cleanup, and reporting procedures listed in the IWD associated with the activity in progress at the time of the spill.

- Workers and their supervisors are required to go to Occupational Medicine for a work-related injury or illness, including exposure to hazardous chemical spills, unless transported directly to Los Alamos Medical Center (LAMC). Prior to return to work, workers must go to Occupational Medicine for follow up.
- Manage all debris and waste resulting from the cleanup of a spill as though it contains the hazardous chemical, according to WMC instruction.

Note: Incidental spill guidance is available on the [Chemical Safety webpage](#) under Resources, Systems & Tools.

3.9 Chemical Safety Tools

Chemical safety tools, found on the [Chemical Safety webpage](#), contain safety and health considerations to be followed when using hazardous chemicals. These tools will be supplemented and updated as needed.

4.0 RESPONSIBILITIES

4.1 Associate Director for Nuclear and High Hazard Operations-Operations Support (OS) Division

- Overall accountability for the proper management of the Chemical Management Program.
- Chemical Management Program Manager provides overall coordination of LANL's Chemical Management Program.
- Oversees the [LANL institutional chemical inventory](#) database application.

4.2 Associate Director for Environment, Safety, Health (ADESH)

- Maintains a site-wide MSDS/SDS program (OSH-ISH).
- Maintains a site-wide hazard assessment and exposure monitoring database and Comprehensive Tracking System (CTS) (OSH-ISH).
- Consults with the Laboratory community on the development and implementation of chemical hygiene and safety policies and practices (OSH-ISH).
- Annually reviews and updates as necessary per the Hazard Communication and Chemical Hygiene Plan (OSH-ISH).
- Provides medical consultation and examinations for individuals who are exposed or potentially exposed to hazardous materials, including OSHA regulated carcinogens (OSH-OM).
- Provides consultation with respect to reproductive toxicants (OSH-OM, Deployed Services Environment, Safety, and Health [DSESH]).
- Provides assistance in researching less hazardous chemical substitutes (ENV-ES).
- Provides the LANL CHO (OSH-ISH)/Chemical Safety SME.

4.3 Security and Emergency Response Division

- Provides specialized expertise and equipment in response to hazardous materials emergencies at LANL and within the surrounding communities.

4.4 Division Leaders

- Ensure that Division activities involving chemicals are conducted within the safety envelope and the scope of work identified in Division and Facility documents.
- Ensure that adequate resources are provided to Responsible Line Managers (RLMs) to identify, evaluate, and control chemical hazards associated with existing and proposed work performed within their Divisions so that chemical management can be integrated into day-to-day operations.
- Ensure that a chemical safety plan is written for their Division, or provide written documentation that references Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*, as their Hazard Communication and Chemical Hygiene Plan. Ensure that the written program governs all hazardous chemical work in the group or facility (HAZCOM or CHP), and is referenced in IWDs and other relevant documents.
- Ensure that violations of codes and safety standards identified by reviews or inspections are corrected or that compensatory measures or action plans are developed.
- In CHP areas only, assign a Division Chemical Hygiene Officer (CHO) Group CHOs may be assigned as necessary. Ensure that CHOs have the experience and training as noted in Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*, Section 1.9.

4.5 Program Directors, Program Managers, and Project Leaders

- Negotiate with RLMs to provide adequate resources for the requirements in this document.

4.6 Responsible Line Managers (RLMs) in Coordination with the Person in Charge (PIC)

- Ensure that primary hazardous chemical containers in their organization are barcoded, and entered and tracked in the [LANL institutional chemical inventory](#) database.
- Ensure that workers keep the [LANL institutional chemical inventory](#) database current and accurate for their chemicals.
- Ensure that a physical chemical inventory of primary hazardous chemical containers is performed in their organization annually and reconciled in the [LANL institutional chemical inventory](#) database.
- Ensure that for any new activity (i.e., an activity that requires a new IWD) a hazard review is completed for hazards that can be encountered or generated during the course of the work. The evaluation must include the hazards associated with the properties and the reactivity of the materials used, any intermediate and end products that can be formed, hazards associated with the operation of the equipment at the operating conditions, and hazards associated with the proposed reactions.
- Ensure that all required training is completed by workers before the work is authorized.
- Integrate chemical life cycle management (purchase through disposition) into resource planning, funding, prioritizing, planning, scheduling, and implementation of work conducted under their supervision.
- Specify the written program governing all chemical work in the group (HAZCOM or CHP) and reference in IWDs and other safety documents.
- Ensure that IWDs are completed and approved for work with Occupational Safety and Health Administration (OSHA) carcinogens and LANL Category 1 (LANL Cat 1) chemicals in CHP areas. See the [Chemical Safety webpage](#).
- Provide job-specific briefings and/or information on the chemical hazards and safety precautions related to each authorized chemical worker's assigned work, before beginning

work. **Note:** Never assume that a worker has knowledge of the chemical, its hazards, and the controls. Job-specific information must include:

- chemical inventory, relevant to the employee’s assigned work, specific chemicals used, and the location of activities where hazardous chemicals are present;
 - specific methods and observations, if applicable, that are used to detect the presence or release of a hazardous chemical;
 - the location of the associated MSDS/SDS(s), and how to obtain an MSDS/SDS. For hazardous chemicals used, the following information from each MSDS/SDS must be discussed within a job-specific briefing, or as part of a pre-job briefing:
 - hazards identification;
 - fire protection/incompatibilities;
 - accidental release measures, handling and storage;
 - exposure controls/personal protection;
 - physical and chemical properties; and
 - chemical stability and reactivity information, particularly instability conditions and incompatible chemicals.
 - the applicable details of the written Hazard Communication and Chemical Hygiene Plan (see Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*) and any facility-specific HAZCOM Plan or written CHP;
 - secondary container labeling requirements (see Attachment A, Section 1.5.);
 - specific building signs and postings for hazardous chemicals;
 - Building Emergency Plans;
 - locations of eyewashes and safety showers;
 - spill response requirements, including mitigation, cleanup, and reporting requirements, and
 - specific chemical storage requirements.
- Monitor through Management Observation and Verification (MOV) or other means that equipment and chemical containers are labeled with the name of the contents and that work areas are posted with signs or placards that depict the chemical hazards in the area.
 - Monitor through MOV or other means that MSDS/SDSs are accessible to all workers who may have potential exposure to chemicals.
 - When authorizing IWDs, ensure that elimination of hazardous chemicals, or substitution of a less hazardous material when practical, has been addressed by the preparer.
 - When authorizing IWDs, ensure identification of operations where the following are used: LANL Cat 1 chemicals (CHP), known and suspect human carcinogens, reproductive toxicants, and highly acute toxicity/highly chronic toxicity chemicals (HAZCOM). Ensure that deployed personnel are notified to conduct worker exposure assessments, and that proper controls are established. See the [Chemical Safety Webpage](#).
 - Ensure that workers adhere to the requirements in this document.
 - Authorize workers to perform chemical work and purchase chemicals.
 - Investigate accidents and near misses involving chemicals, and ensure that corrective actions identified from chemical accident investigations and inspections are implemented.

- Ensure that all chemical hazards are removed when vacating space. When an area is being vacated, all chemicals will be moved, transferred to new ownership, or properly disposed. The work area will be cleaned and restored to its original condition or a condition acceptable to the next occupant before transfer of ownership.
- Ensure that resource planning, funding, prioritizing, scheduling, and implementation of chemical work conducted under their supervision addresses the necessary environmental, safety, and health evaluation and controls.
- Inform visitors about the Laboratory's chemical safety policies and procedures and ensure that they are aware of the existence and availability of chemical hazard information and resources.
- Notify DSESH deployed staff of new or modified work activities that require exposure assessments.
- Negotiate with Program Directors, Program Managers, and Project Leaders to provide adequate resources to meet the requirements in this document.
- Ensure that hazards of chemicals and chemical reactions are evaluated before laboratory activities or chemical reactions are begun. See Attachment A, Section 1.11.3.

4.7 Facility Operations Directors (FODs)

- Ensure that new work involving hazardous chemicals is reviewed by appropriate Subject Matter Experts (SMEs).
- Communicate Safety Basis levels to RLMs and maximum chemical quantities allowed to tenants.
- Maintain a proactive preventive maintenance program to ensure that laboratory engineering controls and emergency equipment (e.g., ventilation systems, detectors, shutoff devices, and emergency eyewash and safety showers) are in proper operating condition.
- Inform on-site construction/equipment subcontractors of the presence and identity of hazardous chemicals in their immediate work areas.
- Notify building occupants of testing, demolition, construction, and renovation activities and their related chemical hazards before initiation.
- Work with the Subcontract Technical Representative (STR) to ensure that subcontractors comply with Exhibit F and other subcontractor requirements.
- Working with Acquisition Services Management-Project Management and the STR, ensure that subcontractors provide an inventory and the MSDS/SDS for hazardous chemicals brought on-site to the Environment, Safety, Health (ESH) manager or designee, SEO Division personnel.
- Ensure that chemical incidents are reported and investigated and that corrective action is taken to prevent recurrence.
- Provide facility-specific information so tenants are aware of bounding chemical thresholds.
- Ensure that facilities maintain quantities (by weight) of highly hazardous chemicals below threshold quantities (see [Process Safety Management \(PSM\) List \[use Firefox\]](#)).

4.8 Deployed Services Environment, Safety, and Health (DSESH) Deployed Personnel

- Assist line managers in performing and documenting hazard assessments and risks for existing and planned operations, including laboratory moves and decommissioning.
- Provide guidance for establishing administrative, work practice, PPE, and engineering controls. Assist in determining labeling requirements for equipment, piping, containers, and facilities.
- Perform and document worker exposure assessments and exposure monitoring to determine employee exposures to hazardous materials and to evaluate the adequacy of controls in accordance with [P101-32](#), *Worker Exposure Assessments*.

4.9 Authorized Chemical Owners

- Ensure that all their primary hazardous chemical containers are barcoded and entered into the [LANL institutional chemical inventory](#) database.
- Ensure that the [LANL institutional chemical inventory](#) database is updated when one of their primary hazardous chemical containers is transferred to a new owner and/or a new location; or is disposed.
- Complete the training requirements for an authorized chemical worker. Individuals with appointments of less than one year, visitors, undergraduate and high school students will not be chemical owners. The immediate supervisor for visitors, undergraduates and high school students will be the chemical owner.
- Post work areas with signs or placards that depict the current chemical hazards in the area. Labels, signs, and placards will be consistent with the group's written plan (HAZCOM or CHP).
- Label chemical containers with required information. See Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*, Section 1.5.
- Working with the WMC, establish whether the chemical or its end product will require disposal as a hazardous waste, New Mexico Special Waste, or has other disposal requirements.
- To the greatest extent possible, purchase chemicals on an as-needed basis and limit the purchase quantity to an amount that will be used in six months or less, to minimize inventory and chemicals in storage. If possible purchase reagents in polyethylene bottles or plastic-coated glass bottles to minimize breakage, corrosion, and rust. Ensure that the amount purchased does not exceed safety basis or flammable or combustible liquid storage limits.
- Be aware of chemical incompatibilities and store chemicals accordingly.

4.10 Authorized Chemical Workers

- Work safely by observing safety standards, guidelines, and procedures.
- Implement all controls required by work authorization documentation.
- Stop work that may pose an imminent danger to workers.
- Work with DSESH deployed personnel in workplace monitoring and sample collection.
- Report unsafe conditions, chemical incidents, or injuries to line managers immediately.
- Call 911 immediately if a chemical-related illness or injury occurs.
- Be familiar with and follow chemical and emergency procedures as directed in work authorization documentation.

- Label chemical containers with required information. See Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*, Section 1.5.
- Complete required training and ensure receipt and understanding of job-specific information on the chemical hazards and safety precautions related to assigned work, before beginning work. (See Section 6.0.)

5.0 IMPLEMENTATION

The requirements in this document are effective on the issue date.

6.0 TRAINING

Job-specific and site-specific information provided will be documented in the activity specific IWD. Training and briefings will use a graded approach so that each increasing level of risk associated with the safe use of chemicals is addressed. Job-specific information will include other topics such as MSDS/SDSs, labeling, emergency equipment, chemical spill control/mitigation/cleanup, process chemistry, process control, chemical storage, hazardous material regulations for chemical packaging, waste identification and disposal, pollution prevention, and waste minimization. Training and briefings will include methods that will be used to detect the presence or release of chemicals and measures workers can implement to protect themselves from chemical hazards.

RLMs will work with FOD personnel to ensure that workers are informed of the hazards when non-routine tasks are performed in the work area by maintenance or subcontract workers, and work with FOD personnel to inform subcontractors and visitors of the hazards in the building.

Required training for chemical workers, along with the regulatory reference is as follows:

- [Course #21464](#) or equivalent, which includes how to detect hazards, how to interpret an MSDS/SDS, and labeling requirements, in accordance with [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication* (h) (2-3) and [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories* (f) (3-4).
- Facility-specific hazard information, in accordance with [29 CFR 1910.1450](#) (f).
- Awareness briefing on operation and building chemical inventory, how to obtain an MSDS/SDS, secondary container labeling requirements, building signs and postings, building emergency plans, written program documents, location of eyewashes and safety showers, spill response, and chemical storage requirements in accordance with [29 CFR 1910.1200](#) (h) (1-3) and [29 CFR 1910.1450](#) (f).
- Level 1 On-the-Job Training (Level 1 formality of training requires trainee to read, observe/walk through, and self-assess/sign the communication document) or pre-job briefing on specific chemical hazards, procedures, and PPE and review the hazard analysis documentation (for moderate and high-level hazard IWDs) authorized by his/her RLM/PIC for the job assignment every time a worker receives a new job assignment or a new hazard is introduced into the current assignment in accordance with [29 CFR 1926.21](#), *Labor, Safety and Health Regulations for Construction, Safety Training and Education* (b), [29 CFR 1910.1450](#) (f) (3), and [29 CFR 1910.1003](#), *Labor, Occupational Safety and Health Standards, 13 Carcinogens*.
- If a chemical worker will be generating waste, [Course #23263](#) *Waste Generation Overview Live*, and [Course #21464](#), *Waste Generation Overview Refresher*, every three years, in accordance with [40 CFR 262](#), *Protection of Environment, Standards Applicable to Generators of Hazardous Waste*.

- If a chemical worker will be using gas, [Course #769](#), *Pressure Safety Orientation*, and [Course #9518](#), *Gas Cylinder Safety*.

7.0 EXCEPTION OR VARIANCE

To obtain an exception or variance to this document, see the following instructions:

- Managers may request an exception or variance from the IA through the RM;
- At the IA's request, the RM will provide a recommendation or supporting information; and
- The IA or designee will provide the requester with a written response and copy the RM.

The requesting organization must maintain the official copy of record of the approved correspondence granting the exception or variance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL [Definition of Terms](#).

Accident—Any event, including, but not limited to, equipment failure, rupture of containers, or failure of engineering controls, that potentially creates a hazard through uncontrolled release of a hazardous chemical.

Authorized Chemical Worker—A worker (Los Alamos National Security, Limited Liability Company [LANS, LLC or LANS], contractor, subcontractor, student) whose RLM and PIC have determined that he/she has the training, skill, knowledge, and abilities to safely perform the chemical work to which he/she is assigned.

Carcinogen—Those chemicals that have been identified as substances that can lead to cancer by the agencies listed below and that have a concentration equal to or greater than 0.1% (1,000 parts per million).

- American Conference of Governmental Industrial Hygienists (ACGIH), either Category A1 (confirmed human carcinogen) or Category A2 (suspected human carcinogen).
- Compounds that the International Agency for Research on Cancer (IARC) has confirmed or identified as possible human carcinogens and those chemicals that the National Toxicology Program (NTP) has identified as known to be carcinogenic or chemicals that may reasonably be expected to be carcinogenic.

Chemical—Any element, compound, or mixture of elements and compounds. A substance that (1) possesses potentially hazardous properties (including, but not limited to, flammability, toxicity, corrosivity, reactivity, and instability); or (2) is included on any Federal, state, or local agency regulatory list; or (3) is associated with a MSDS/SDS. For the purposes of this document, this definition also applies to chemical products.

Chemical Hygiene Officer (CHO)—(CHP areas only). An employee, appointed by the Division Leader, who is qualified by training or experience to provide technical guidance in the development and implementation of the provisions of the LANL Hazard Communication and Chemical Hygiene Plan (see Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*).

Chemical Hygiene Plan (CHP)—A written program that consists of the Laboratory's CHP (see Attachment A, *LANL Hazard Communication and Chemical Hygiene Plan*) and activity-specific documentation, such as IWDs, which set forth guidance to protect workers from the dangers presented by hazardous chemicals used in a particular laboratory work area.

Chemical Inventory—A written or electronic record of chemicals.

Chemical Owner—An authorized chemical worker to whom a container that contains a chemical on the chemical inventory is assigned.

Chemical Release—Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a chemical into the environment.

Chemical Worker—A worker who works with hazardous chemicals.

Corrosive—A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. A substance or a mixture that by chemical action will materially damage, or even destroy, metals is termed "corrosive to metal." See [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication*, Appendix A.

Designated Area—An area that will be used for work with LANL Cat 1 chemicals and to which access is administratively restricted to authorized personnel.

Emergency Response—A response made by workers from outside the immediate release area or by other designated emergency responders (i.e., SEO-EM, the Los Alamos County Fire Department and the Hazardous Materials Response Group) to an occurrence that results, or is likely to result, in an uncontrolled release of a hazardous substance.

Environment, Safety, and Health (ESH) Qualified Person—An employee who has academic credentials or work experience in a relevant discipline, such as industrial hygiene or industrial safety, who has experience or training in conducting workplace exposure monitoring and in determining the hazards and consequences of exposure to chemicals.

Extremely Hazardous Substance— Any of 366 (+ or -) chemicals or hazardous substances identified by EPA on the basis of hazard or toxicity and listed under EPCRA. The list is periodically revised. [See 40 CFR Part 355.](#)

Explosive—A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Flammable Liquid Storage Cabinet—A cabinet for the storage of flammable and combustible liquids constructed in accordance with Section 9.5 of NFPA 30, *Flammable and Combustible Liquids Code*.

Hazard Communication (HAZCOM) Plan—A written program developed and implemented by the Laboratory or subcontractor, which consists of requirements listed in Attachment A, *LANL*

Hazard Communication and Chemical Hygiene Plan, and activity-specific documentation such as IWDs, or operating procedures that set forth requirements to protect workers from the dangers presented by hazardous chemicals used in a specific construction or production work area.

Hazardous Chemical—Any chemical that presents a physical hazard or a health hazard (health hazard defined below). If a hazardous chemical comprises 1% (0.1% for carcinogens) or greater of a compound or mixture, the compound or mixture will be treated as a hazardous chemical. See [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication* (g) (2) (i) (c) (1).

Hazardous Waste—A solid waste that is not excluded from regulation as a hazardous waste and is a listed hazardous waste or exhibits any of the hazardous characteristics: ignitibility, corrosivity, reactivity, or toxicity.

Health Hazard—A chemical that is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in [29 CFR 1910.1200](#), Appendix A, *Health Hazard Criteria* having an NFPA rating of 2, 3, or 4 under fire conditions.

High Acute Toxicity—Substances that may be fatal or cause clinical damage to target organs as a result of a single exposure or exposures of short duration. High-acute-toxicity chemicals meet the following criteria: a Permissible Exposure Limit (PEL) or Threshold Limit Value (TLV) of less than 0.1 ppm Time-Weighted Average (TWA) or ceiling limit of less than 1.0 ppm.

High Chronic Toxicity—Refers to substances that produce adverse effects in humans who suffer repeated exposures to those substances over a relatively prolonged period.

Immediate Use—The hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Irritant—A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

Laboratory Scale—Work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person.

Laboratory Produced Material—A chemical or chemical mixture that is manufactured or synthesized by an operating group at the Laboratory.

LANL Category 1 Chemical (LANL Cat 1)—A Laboratory designation identifying specific chemicals that are regulated at the Laboratory and that require the chemical worker to follow special provisions. LANL Cat 1 chemicals are known human carcinogens, chemicals of high acute or high chronic toxicity, and/or known human reproductive toxins. Lists are available at the [Chemical Safety Webpage](#). **Note:** The Globally Harmonized System (GHS) used in the update for [29 CFR 1910.1200](#) uses the term hazard category: the division of criteria within each hazard class. GHS hazard category 1 has specific criteria for each hazard class.

Legacy Chemical—A stable, non-time-sensitive stock chemical or chemical mixture being held for evaluation for future use. Note: Per EPA [40 CFR 261.2(a) (2) and 261.33], unused

commercial chemical products do not become solid wastes (i.e., they remain commercial chemical products) until a determination is made that the material will be discarded. Commercial chemical products, even those whose shelf life has been exceeded, that ultimately will be used for their intended purpose or that will be reclaimed are not subject to the Resource Conservation and Recovery Act (RCRA). In 2006 [71 FR 29719; May 23, 2006], EPA noted the following for laboratory chemicals "when accumulated for long periods of time, for example, such unused reagents may be considered solid or hazardous wastes if it can be determined that they are no longer usable for their intended purpose."

Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS)—Written, printed, or electronically transmitted information on the hazards and properties of a particular material, including instructions for its safe use.

Mutagen—A chemical that induces DNA damage and genetic alterations that range from changes in one or a few DNA base pairs to gross changes in chromosome structure.

Occupational Exposure Limit (OEL)—The upper limit on the acceptable concentration of a hazardous substance in workplace air for a particular material or class of materials. LANL OELs include OSHA PELs (8-hour time weighted average), and Ceiling Values; ACGIH Threshold Limits Values (Threshold Limit Value-Time-Weighted Average [TLV-TWA], Threshold Limit Value-Short-Term Exposure Limit [TLV-STEL], and Threshold Limit Value-Ceiling [TLV-C]), or other appropriate OELs.

Occupational Safety and Health Administration Permissible Exposure Limit—regulatory limits on the amount or concentration of a substance in the air. They may also contain a skin designation. OSHA PELs are based on an 8-hour TWA exposure.

Physical Hazard—A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. See [29 CFR 1910.1200](#), Appendix B, *Physical Hazard Criteria*.

Production—An operation in which large quantities of a limited list of hazardous chemicals are used on a routine basis for synthesis, product manufacture, product preparation, dip tank or painting, solvent cleaning, photographic development, mechanical shops, construction, or maintenance activities.

Regulated Area—An area where entry and exit is restricted and controlled.

Reproductive Toxicants (known human)—Substances that are known to have lethal effects on the fertilized egg, developing embryo, or fetus, or to cause teratogenesis (malformation) in the fetus.

Secondary Container—Any chemical container other than an original container that will be used to store decanted chemicals or mixed chemicals beyond a single workday.

Note: This definition should not be confused with secondary containment for chemical release prevention and control.

Sensitizer—A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

Short-Term Exposure Limit (STEL)—A 15-minute time weighted average that should not be exceeded at any time during a work day.

Solid Waste—As defined by regulations promulgated under RCRA and the New Mexico Hazardous Waste Act, unless otherwise excluded, is any discarded material, either abandoned, recycled, or inherently waste-like, including liquids, solids, semisolids, and contained gases.

Spill—An unintentional release of a hazardous chemical, liquid, or solid that creates a hazard because of quantity, physical properties, or toxicity.

Subcontractor—A party entering into a contract with LANS, LLC.

Threshold Limit Value (TLV)—An ACGIH limit that is usually expressed as an 8-hour TWA, meaning a time-weighted airborne contaminant concentration for a normal 8-hour workday and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse effect.

Time Sensitive Chemicals—Those chemicals that, when stored for prolonged periods or under improper storage conditions, can develop hazards that were not present in the original formulation. There are four general categories of time-sensitive chemicals loosely based on those unsafe properties that can develop. They are (1) peroxide formers, (2) peroxide formers that can undergo hazardous polymerization, (3) materials that become shock or friction sensitive upon the evaporation of a stabilizer, and (4) materials that generate significant additional hazards by undergoing slow chemical reactions. It should be noted that time-sensitive chemicals can be pure reagents or they can be commercial mixtures formulated as cleaners, adhesives, and other products. **Note:** This definition does not include chemicals that have expiration dates for nonsafety reasons, e.g., inorganic standard solutions that expire 1 year from purchase.

Toxicant—A material that has the ability to injure biological tissue.

Toxicity—A relative property of a chemical agent that refers to a harmful effect on some biologic mechanism and the condition under which this effect occurs.

9.2 Acronyms

See LANL [Acronym Master List](#).

ACGIH	American Conference of Governmental Industrial Hygienists
ADESH	Associate Director for Environment, Safety, Health
ADNHHO	Associate Director for Nuclear and High Hazard Operations
ANSI	American National Standards Institute
ASM	Acquisition Services Management
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
CHO	Chemical Hygiene Officer
CHP	Chemical Hygiene Plan
CTS	Comprehensive Tracking System
D&D	Decontaminate and Decommission
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy

DOT	Department of Transportation
DPR	Designated Procurement Representative
DSESH	Deployed Services Environment, Safety, and Health
ENV-ES	Environmental Protection-Environmental Stewardship
EO-EPP	Emergency Operations-Emergency Planning and Preparedness
ESH	Environment, Safety, Health
FOD	Facility Operations Director
FP-DO	Fire Protection-Division Office
GHS	Globally Harmonized System
HAZCOM	Hazard Communication
HDBK	Handbook
HEPA	High-Efficiency Particulate Air
IA	Issuing Authority
IARC	International Agency for Research on Cancer
ISEA	International Safety Equipment Association
IWD	Integrated Work Document
IWM	Integrated Work Management
LANL or the Laboratory	Los Alamos National Laboratory
LAMC	Los Alamos Medical Center
LANS, LLC or LANS	Los Alamos National Security, Limited Liability Company
MAQ	Maximum Allowable Quantity
MOV	Management Observation and Verification
MSDS/SDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OM	Occupational Medicine
OS	Operations Support (Division)
OS-DO	Operations Support-Division Office
OSHA	Occupational Safety and Health Administration
OSH-ISH	Occupational Safety and Health-Industrial Safety and Hygiene
OSH-OM	Occupational Safety and Health-Occupational Medicine
OS-PT	Operations Support-Packaging and Transportation
OST	Operations Support Tool
PEL	Permissible Exposure Limit
PFITS	Performance Feedback and Improvement Tracking System
PIC	Person in Charge
PPE	Personal Protective Equipment
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RLM	Responsible Line Manager

RM	Responsible Manager
RO	Responsible Office
SBP	Safety Basis Procedure
SME	Subject Matter Expert
STEL	Short-Term Exposure Limit
STR	Subcontract Technical Representative
TA	Technical Area
TLV	Threshold Limit Value
TLV-C	Threshold Limit Value-Ceiling
TLV-STEL	Threshold Limit Value-Short-Term Exposure Limit
TLV-TWA	Threshold Limit Value-Time-Weighted Average
TWA	Time-Weighted Average
USI	Unreviewed Safety Issue
USQ	Unreviewed Safety Question
WMC	Waste Management Coordinator

10.0 HISTORY

Revision History		
04/22/08	P101-14, Rev. 0	Renumbered document, ISD 101-14, <i>Chemical Management</i> .
04/15/09	P101-14, Rev. 1	Reformatted to meet the requirements as set forth in P311-1 , <i>Creating, Revising, and Cancelling Institutional Documents</i> . Updated to address needs identified by the Chemical Management Improvement Project, driven by a Black Belt Project Execution Plan, and captured in Laboratory Issues Management Tracking System (LIMITS). The need to provide a more user friendly chemical inventory process, and tools to Designated Procurement Representatives (DPRs) and chemical workers is addressed. As part of the provision of a more user friendly chemical inventory process, drivers based on compliance requirements for chemical management were identified. Divisions responsible for these compliance requirements provided additional requirements for chemical inventory management and tracking, which are now reflected in a Chemlog functional requirements document. The set of requirements is provided in Section 3.3 of the document. There are no new requirements in this document, but the document has been simplified and updated, including combining the Hazard Communication (HAZCOM) plan and the Chemical Hygiene Plan (CHP) into one attachment.
08/11/10	P101-14, Rev. 2	Issued as a PROVISIONAL document until October 11, 2010. Added a requirement to ensure compliance with 29 Code of Federal Regulations (CFR) 1910.119 , <i>Labor, Occupational Safety and Health Standards, Process Safety Management of Highly Hazardous Chemicals (OSHA PSM Rule)</i> , Appendix A. by requiring Facility Operations Directors (FODs) to ensure that quantities are kept below threshold

Revision History		
		<p>quantities.</p> <p>Updated responsibilities for chemical inventory to reflect ownership by Emergency Operations-Emergency Planning and Preparedness (EO-EPP).</p> <p>Clarified training requirements for “authorized chemical workers” and explained the training requirements for a worker who performs chemical spill/control/mitigation/cleanup.</p> <p>Added a requirement that work involving hazardous chemicals is reviewed using a new activity review process or equivalent process.</p> <p>Clarified the requirement for Chemical Hygiene Officers (CHOs), added the requirement that CHOs are assigned by the Division Leader, and added training and responsibilities for CHOs.</p> <p>Added specific requirements for job-specific briefings and/or information.</p> <p>Added the requirement for evaluation of chemicals and chemical reactions before start of laboratory activities.</p>
10/11/10	P101-14, Rev. 2	Document became effective and is no longer PROVISIONAL.
11/30/10	P101-14, Rev. 3	<p>Updated links to ensure correct names; removed irrelevant, incorrect, or duplicative links.</p> <p>Section 3.2: Elimination of a requirement for DPRs and clarification of chemical owner responsibility for procurement.</p> <p>Reducing requirement for justification of keeping chemical containers from six months to five years.</p>
11/30/11	P101-14, Rev. 4	<p>Updated items in Section 3.2 to consider before a chemical is purchased and provided link to list of chemicals with no disposal path.</p> <p>Changed Form 2134, <i>Medical Surveillance and Medical Certification Program Enrollment Form</i>, to Form 1793, <i>Job-Demands Evaluation</i>.</p> <p>Changed Chemical Management Webpage to Chemical Management Webpage.</p> <p>Updated Section 5.0 to reflect that this Quick Change does not require an Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) review.</p> <p>Updated links, titles, and acronyms.</p>
09/27/12	P101-14, Rev. 5	<p>Section 5.0: Updated to reflect effective date of December 17, 2012 for applicable nuclear, high- and moderate-hazard facilities and accelerators.</p> <p>Removed the requirement for the approval by the Person in Charge (PIC) for the applicable Integrated Work Document (IWD).</p> <p>Updated links, titles, and acronyms.</p>
01/08/15	P101-14, Rev. 6	<p>This document cancels PD100, <i>Occupational Safety and Health</i>.</p> <p>Performed three-year review in accordance with PD311,</p>

Revision History		
		<p><i>Requirements System and Hierarchy.</i></p> <p>Changed the Issuing Authority (IA) from Associate Director for Environment, Safety, and Health (ADESH) to Associate Director for Nuclear and High Hazard Operations (ADNHOO); changed the Responsible Manager (RM) from Industrial Hygiene and Safety Division Leader to Operations Support (OS) Division Leader; and changed the Responsible Office (RO) from Industrial Hygiene and Safety Division to Operations Support-Division Office (OS-DO).</p> <p>Addressed revised Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, now aligned with the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.</p> <p>Clarified requirements for Chemical Hygiene Officers.</p> <p>Reinserted requirements for chemical inventory.</p> <p>Added new requirements in 29 CFR 1910.1200, <i>Labor, Occupational Safety and Health Standards, Hazard Communication</i>.</p> <p>Added requirements for handling of sharps.</p> <p>Clarified and streamlined other chemical management requirements.</p> <p>Revised language in Section 5.0 to reflect Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) process and implementation dates for affected facilities.</p> <p>Updated acronyms, links, and organization names.</p> <p>Made other edits and clarifications to resolve vague or inappropriate wording.</p>
08/06/15	P101-14, Rev. 7	<p>Performed three-year review in accordance with PD311, <i>Requirements System and Hierarchy</i>.</p> <p>Throughout document: Changed "Chemlog@lanl.gov" to "ChemDB@lanl.gov."</p> <p>Section 1.0: Changed the name from "Hazardous Materials Lifecycle Management Program" to "Chemical Lifecycle Management Program."</p> <p>Section 3.3: Changed how to barcode, enter, and track to the "Support and Resources" tab in the LANL institutional chemical inventory database application.</p> <p>Section 5.0: Updated this section to read, "The requirements in this document are effective on the issue date."</p> <p>Section 6.0: Updated broken link to UTrain course # 25418.</p> <p>Attachment A, Section 1.3: Removed sentence referencing Tools #9.</p> <p>Updated hyperlinks and references.</p>

11.0 REFERENCES

Prime Contract:

- Clause I-121, Department of Energy Acquisition Regulation (DEAR) 970.5203-1, *Management Controls* (Dec. 2000)
- Clause I-122, DEAR 970.5203-3, *Contractor's Organization* (Dec. 2000) (Deviation)
- Clause I-123, DEAR 970.5204-2, *Laws, Regulations, and DOE Directives* (Dec. 2000) (Deviation)
- DEAR 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution*
- DEAR 970.5204-2, *Laws, Regulations, and DOE Directives; Appendix B 4.2, Environment, Safety, and Health*
- [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication*
- [DOE O 151.1C](#), *Comprehensive Emergency Management System*

11.1 Other References

- [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories*
- [29 CFR 1926.59](#), *Labor, Safety and Health Regulations for Construction, Hazard Communication*
- [P101-29](#), *Working with Nanotechnology Materials and Processes*
- [P101-15](#), *Biological Safety*
- [P101-8](#), *Explosives Safety*
- [P121](#), *Radiation Protection*
- [29 CFR 1910.119](#), *Labor, Occupational Safety and Health Standards, Process Safety Management of Highly Hazardous Chemicals (OSHA PSM Rule)*, Appendix A
- [MSDS/SDS electronic binder](#)
- [Designated Procurement Representative \(DPR\)](#)
- [LANL institutional chemical inventory](#)
- [10 CFR 1021](#), *Energy, National Environmental Policy Act Implementing Procedures*
- [40 CFR 355](#), *Protection of Environment, Emergency Planning and Notification*
- NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*
- [P300](#), *Integrated Work Management*
- [P101-32](#), *Worker Exposure Assessments*
- NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*
- [Research Library](#)
- [P101-34](#), *Pressure Safety*
- NFPA 55, *Compressed Gases and Cryogenic Fluids Code*

- [P409](#), *LANL Waste Management*
- [P151-1](#), *LANL Packaging and Transportation Program Procedure*
- [49 CFR 100–185](#), *Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation*
- [49 CFR 171.8](#), *Transportation, General Information, Regulations, and Definitions, Definitions and Abbreviations*
- [49 CFR 173](#), *Transportation, Shippers—General Requirements for Shipments and Packagings, Parts 115–141 and Parts 403–436*
- SOP-C-DO-003, *On-Site Shipping of Analytical-Scale Samples of Hazardous or Radioactive Materials (DOT Small Quantities)*
- [SBP 112-3](#), *Unreviewed Safety Question (USQ) Process*
- [29 CFR 1926.21](#), *Labor, Safety and Health Regulations for Construction, Safety Training and Education*
- [29 CFR 1910.1003](#), *Labor, Occupational Safety and Health Standards, 13 Carcinogens*
- [40 CFR 262](#), *Protection of Environment, Standards Applicable to Generators of Hazardous Waste*
- NFPA 30, *Flammable and Combustible Liquids Code*
- [P311-1](#), *Creating, Revising, and Cancelling Institutional Documents*
- [PD311](#), *Requirements System and Hierarchy*
- [P101-21](#), *Chronic Beryllium Disease Prevention Program*
- [Laboratory Industrial Hygiene and Safety Manual](#)
- [P101-16](#), *Local Exhaust Ventilation and HEPA Filtration Systems*
- American National Standards Institute/International Safety Equipment Association (ANSI/ISEA) z358.1-2009, *American National Standard for Emergency Eyewash and Shower Equipment*
- [LANL Operations and Maintenance Manual, Criterion 407: Emergency Eyewash and Shower Equipment](#)
- [LANL Category 1 Chemicals](#) list
- [P101-19](#), *Safety Signs, Labels, and Tags*
- [P101-6](#), *Personal Protective Equipment*
- [PD1200](#), *Emergency Management*
- [P102](#), *Occupational Medicine*
- [10 CFR 851](#), *Energy, Worker Safety and Health Program*
- [Montreal Protocol on Substances that Deplete the Ozone Layer](#)
- [Public Law 101-549](#), *Clean Air Act Amendments of 1990*
- [29 CFR 1910 Subpart Z](#), *Labor, Occupational Safety and Health Standards, Toxic and Hazardous Substances*
- [29 CFR 1910.1020](#), *Labor, Occupational Safety and Health Standards, Access to Employee Exposure and Medical Records*

- [40 CFR 61](#), *Protection of Environment, National Emission Standards for Hazardous Air Pollutants*
- [40 CFR 63](#), *Protection of Environment, National Emission Standards for Hazardous Air Pollutants for Source Categories*
- [40 CFR 68](#), *Protection of Environment, Chemical Accident Prevention Provisions*
- [40 CFR 82](#), *Protection of Environment, Protection of Stratospheric Ozone*
- [40 CFR 261](#), *Protection of Environment, Identification and Listing of Hazardous Waste*
- [40 CFR 263](#), *Protection of Environment, Standards Applicable to Transporters of Hazardous Waste*
- [40 CFR 268](#), *Protection of Environment, Land Disposal Restrictions*
- [40 CFR 302](#), *Protection of Environment, Designation, Reportable Quantities, and Notification*
- [40 CFR 370](#), *Protection of Environment, Hazardous Chemical Reporting: Community Right-to-Know*
- [40 CFR 372](#), *Protection of Environment, Toxic Chemical Release Reporting: Community Right-to-Know*
- [40 CFR 700–799](#), *Protection of Environment, Toxic Substances Control Act*
- [49 CFR](#), *Transportation*
- NFPA 430, *Code for the Storage of Liquid and Solid Oxidizers*
- NFPA 432, *Code for the Storage of Organic Peroxide Formulations*
- NFPA 484, *Standard for Combustible Metals*
- [Compressed Gas Association \(CGA\) Publications](#)
- [49 CFR 171-180](#), *Transportation, Hazardous Materials Regulations*
- DOE-HDBK (Handbook)-1139/2-2006, *Chemical Management (Volume 2 of 3), Chemical Safety and Lifecycle Management*
- DOE-HDBK-1139/3-2003, *Chemical Management (Volume 3 of 3), Consolidated Chemical User Safety and Health Requirements*
- [P313](#), *Roles, Responsibilities, Authorities, and Accountability*
- [P301](#), *Research Sample Management for Quality R&D*

12.0 FORMS

There are no forms associated with this document.

13.0 ATTACHMENTS

Attachment A. LANL Hazard Communication and *Chemical Hygiene Plan*

14.0 CONTACTS

Chemical Management: ADNHHO Operations Support (OS) Division

Telephone: (505) 665-5550

Website: <http://int.lanl.gov/org/padops/adnhho/operations-support/index.shtml>

Chemical Safety: Occupational Safety and Health Division

Telephone: (505) 606-0295

Website: <http://int.lanl.gov/org/padops/adesh/occupational-safety-and-health/index.shtml>

No: P101-14 Chemical Management
Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Page 1 of 12)

1.0 INTRODUCTION

A Chemical Hygiene Plan (CHP) is required by [29 Code of Federal Regulations \(CFR\) 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories*, which applies to facilities where multiple chemicals are used in laboratory scale quantities or Research and Development (R&D). A written Hazard Communication (HAZCOM) Plan is required by [29 CFR 1910.1200](#), *Labor, Occupational Safety and Health Standards, Hazard Communication*, and [29 CFR 1926.59](#), *Labor, Safety and Health Regulations for Construction, Hazard Communication*, which apply to workers who use chemicals in shops, maintenance activities, construction or facility work, product manufacture, laboratory analysis, environmental restoration, or decommissioning activities. This attachment covers both standards. Areas where only one standard applies will be noted in the text.

Personnel exposure to chemical agents is to be minimized, and maintained within acceptable exposure limits. Exposures will be minimized by the use of hazard elimination, hazard substitution, engineering controls, administrative controls, and Personal Protective Equipment (PPE). Every employee, guest, visiting scientist, student, or subcontractor working on or off-site will be familiar with and comply with appropriate Los Alamos National Laboratory (LANL or the Laboratory) safety standards.

This plan includes:

- procedures to be followed when work involves the use of hazardous chemicals,
- criteria used to determine and implement control measures to reduce employee exposure to hazardous chemicals through the Integrated Work Management (IWM) and Worker Exposure Assessment processes,
- methods used to inform workers of non-routine tasks and hazards associated with chemicals in unlabeled pipes through the IWM process,
- requirements for:
 - fume hoods and other protective equipment,
 - employee information and training,
 - authorization and approval of activities through the IWM process,
 - additional employee protection for work with particularly hazardous substances in accordance with [29 CFR 1910.1450](#),
 - a hazardous chemical listing, and
 - subcontractor personnel in terms of HAZCOM.

1.1 Purpose

The purpose of this Hazard Communication and Chemical Hygiene Plan is to provide workers with the specific requirements for chemicals used during work, the hazards involved, the forms of warning, Material Safety Data Sheets/Safety Data Sheets (MSDS/SDSs), and the procedures and work practices to minimize their exposure to those chemicals.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 2 of 12)

1.2 Scope

HAZCOM applies to the use of chemicals in shops, maintenance activities, construction or facility work, product manufacture, the use of chemicals in a process in excess of 40 pounds or 5 gallons (see [40 CFR 355](#), *Protection of Environment, Emergency Planning and Notification*), environmental restoration, or decommissioning activities.

The CHP applies to work with small quantities of chemicals where the work can be safely manipulated by one person and multiple chemical procedures or multiple chemicals are used.

1.3 Chemical Inventory Requirements

A list of the hazardous chemicals known to be present at the Laboratory is maintained in the [LANL institutional chemical inventory](#) database. Primary hazardous chemical containers must be barcoded, and entered and tracked in the database.

Note: Most primary hazardous chemical containers ordered through standard purchasing agreements will be delivered to the user with a barcode and will already be listed in the [LANL institutional chemical inventory](#) database.

The chemical owner is responsible for ensuring the entry was accurately made in the chemical inventory database (e.g., owner, name of chemical, location). Some hazardous chemical containers (e.g., P-card purchases) may be delivered without a barcode and absent from the chemical inventory database. Chemical owners are responsible for barcoding these containers and entering them into the chemical inventory database. When a primary hazardous chemical container is transferred to a new owner and/or a new location; or is disposed, the chemical owner is responsible for updating the database.

Responsible Line Managers (RLMs) are accountable for accurate chemical inventories and are responsible for ensuring that physical inventories of their primary hazardous chemical containers are performed annually to verify the database inventory.

Note: Accuracy of the Laboratory's chemical inventory is very important. For example, in accordance with [40 CFR 370](#), *Protection of Environment, Hazardous Chemical Reporting: Community Right-to-Know*, "The owner or operator or the officially designated representative of the owner or operator must certify that all information included in the Tier II submission is true, accurate, and complete...under penalty of law..." The accuracy of the Laboratory's Tier II submittal (annual hazardous chemical report) is dependent on the accuracy of the Laboratory's chemical inventory.

For assistance with the [LANL institutional chemical inventory](#) database, contact the help desk at 667-9242, or e-mail ChemDB@lanl.gov.

1.4 Material Safety Data Sheets/Safety Data Sheets (MSDS/SDSs)

Access to MSDS/SDSs is provided through a link on the [Chemical Safety Webpage](#).

No: P101-14 Chemical Management**Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 3 of 12)**

- For chemicals acquired prior to December 1, 2015: MSDSs are available for all hazardous chemicals and hazardous chemical mixtures in the [LANL institutional chemical inventory](#) database (see the [Chemical Safety Webpage](#)) through the [LANL MSDS/SDS database](#), or if specific manufacturer MSDS/SDSs are not available, refer to the Laboratory [Chemical Safety Webpage](#) for commercial MSDS/SDS databases.
- For chemicals acquired after December 1, 2015, or for chemicals for which an SDS has been created: SDSs, are available for all hazardous chemicals and hazardous chemical mixtures in the [LANL institutional chemical inventory](#) database (see the [Chemical Safety Webpage](#)) through the [LANL MSDS/SDS database](#), or if specific manufacturer SDSs are not available, refer to the Laboratory [Chemical Safety Webpage](#) for commercial MSDS/SDS databases.

Manufacturer's MSDS/SDSs are provided to Industrial Safety and Hygiene (ISH) as part of the I-procurement process. If a chemical owner has acquired the chemical through another process, the manufacturer's MSDS/SDS will be provided to ISH.

Note: This does not apply to samples being submitted for analysis.

New chemicals developed at the Laboratory for internal use will be evaluated by the chemical owner to determine if they are hazardous (CHP only). If it is determined the chemicals are hazardous, the information will be included in the Integrated Work Document (IWD), thus allowing for the chemical workers to receive information on how to control the hazard. If the chemical produced is a byproduct whose composition is not known, the chemical will be assumed to be hazardous and handled accordingly. If an employee produces a new chemical, and plans to ship it off-site for use or distribution, an MSDS/SDS is required to be created and shipped with the chemical. For chemicals created at the Laboratory, ISH will be contacted for assistance in creating an MSDS/SDS.

1.5 Labels

Labels on containers, including, but not limited to, tanks, totes, piping and drums must be maintained. This means that labels must be maintained on chemicals in a manner which continues to be legible and the pertinent information (such as the hazards and directions for use) does not get defaced (i.e., fade, get washed off) or removed in any way.

Note: All hazardous chemicals shipped after June 1, 2015, must be labeled with specified elements including pictograms, signal words and hazard and precautionary statements. However, manufacturers, importers, and distributors may start using the new labeling system in the revised HCS before the June 1, 2015 effective date if they so choose. LANL is not responsible for updating labels on shipped containers, even if the shipped containers are labeled under the 1994 Hazard Communication Standard, unless the labels have been removed or defaced. However, if there are newly-identified hazards that are not disclosed on the label, RLMs and PICs must ensure that the workers are aware of the hazards as discussed below under workplace labels.

Primary chemical containers associated with the 1994 Hazard Communication Standard will have a label with the chemical name, and hazard warning. The hazard warning is a statement of the hazardous effect of the chemical (e.g., "flammable" or "causes lung damage") or a numerical rating such as that found on the NFPA label.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 4 of 12)

(CHP areas only) When one transfers a material from the original manufacturer's container to other vessels, these vessels are referred to as "secondary containers." Secondary containers in HAZCOM areas will include the chemical name, creation date, hazard warning, and manufacturer. Secondary containers in CHP areas will include the name of the chemical, date created, and the owner of the container.

Portable containers into which hazardous chemicals are transferred and which are intended only for the immediate use (i.e., use by one worker for one day, and always under the control of that one worker) of the chemical worker who performed the transfer are not required to be labeled. However, it is good practice to label the container with the name of the chemical and the owner.

Contact the CHO and OSH-ISH for assistance in developing labels

1.6 Methods Used to Inform Workers

Workers use the IWM process (see [P300](#), *Integrated Work Management*) to develop IWDs for the proposed work activity. The IWD or other work document describes the scope, location, duration, hazards and environmental aspects, and controls (including PPE) to mitigate the hazards and negative environmental impact of the work. The IWD is used to authorize the work in accordance with [P300](#). IWDs or other work documents will be used to address tasks involving hazardous chemicals.

Responsible Line Managers (RLMs) will ensure that all work involving hazardous chemicals is reviewed for impacts on security, environment, safety and health, facility or equipment, and facility safety basis concerns in accordance with [P300](#). At a minimum, the following steps will be performed:

1. Initially categorize hazardous chemical work in accordance with [P300](#). If categorized as high hazard/complex work, assemble a hazard analysis review team (see [P300](#) Appendix A, *Integrated Work Management Process for Research and Development*). In addition to the required members for the team, include deployed industrial hygienist(s), and other hazardous chemical Subject Matter Experts (SMEs).
2. Create a detailed description of the work for the IWD involving hazardous chemicals that identifies the hazards associated with performing the work.
3. Specify hazard controls within the IWD using the following hierarchy of controls.
 - a. Elimination or Substitution
 - b. Engineering Controls
 - c. Administrative Controls
 - qualifications
 - formal procedures
 - training
 - work practices

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 5 of 12)

d. PPE

Note: Guidance for Preparing IWDs: Consider and understand the potential for generating new hazardous chemical-bearing waste streams. Consider substituting a less hazardous chemical and speak with your Waste Management Coordinator (WMC) before creating new waste streams.

4. Contact your deployed industrial hygienist to perform a qualitative exposure assessment in accordance with the [Laboratory Industrial Hygiene and Safety Manual](#) to evaluate the potential for worker exposure to hazardous chemicals.

Your deployed industrial hygienist will work with subcontractor personnel to ensure that the potential for subcontractor worker exposure to hazardous chemicals is evaluated before removing, remodeling, servicing, maintaining, or repairing laboratory equipment and exhaust systems.

1.7 Worker Exposure Assessments

Worker exposure assessments, including exposure monitoring, will be conducted in accordance with applicable sections of:

- [P101-21](#), *Chronic Beryllium Disease Prevention Program*
- [P101-32](#), *Worker Exposure Assessments*
- the [Laboratory Industrial Hygiene and Safety Manual](#)

1.8 Use and Maintenance of Laboratory Fume Hoods

Requirements that will be followed for the proper design, operation, and use of laboratory fume hoods are located in [P101-16](#), *Local Exhaust Ventilation and HEPA Filtration Systems*.

1.9 Chemical Hygiene Officer (CHO) (Chemical Hygiene Plan [CHP] Only)

The LANL CHO resides in OSH-ISH. Each Division Leader will appoint a CHO to provide technical guidance to line management and chemical workers (CHP only). The CHO will be an authorized chemical worker with the education and experience to determine the hazards and consequences of exposure to the chemicals found in the chemical inventory.

1.9.1 Roles and Responsibilities (Based on [29 CFR 1910.1450](#), *Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories, Appendix A [nonmandatory] and Prudent Practices for Handling Hazardous Chemicals in Laboratories*)

LANL CHO:

- Establish, maintain, and revise the CHP.
- Create and revise CHP documentation.
- Communicate chemical safety lessons learned to Division CHOs for dissemination.

Division CHO:

- Liaise with OSH-ISH to ensure compliance with this document.
- Monitor procurement, use, and disposal of chemicals used in the Division.
- Seek ways to improve the LANL Hazard Communication and Chemical Hygiene program.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 6 of 12)

- Perform MOVs with Division management of laboratories, preparation rooms, and chemical storage rooms.
- Assist laboratory owners in developing and maintaining adequate facilities.
- Provide assistance to Division members for proposed research activities that involve hazardous chemicals.

1.10 Safety Showers and Eye Washes

- Safety Showers and Eye Washes will be maintained, inspected, and tested periodically as required by American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) z358.1-2009 *American National Standard for Emergency Eyewash and Shower Equipment*, with the exception of weekly activation of safety showers. Activation of safety showers will be done on a quarterly basis due to issues associated with containment of test water. See [LANL Operations and Maintenance Manual, Criterion 407: Emergency Eyewash and Shower Equipment](#).

1.11 Provisions for Additional Employee Protection

1.11.1 Work with LANL Category 1 Chemicals

- Special handling procedures are necessary to minimize exposures to known human carcinogens, reproductive toxicants, and substances with high acute or high chronic toxicity. Chemicals in these hazard groups are identified in the [LANL Cat 1 Chemicals](#) list.
- Handling procedures for these agents will be defined in laboratory or work authorization documents and approved by Deployed Services Environment, Safety, and Health (DSESH) deployed personnel before initiation of work.
- Specific consideration will be given to the following controls, to be used as appropriate for the agent and process: establishment of designated areas; use of containment devices such as laboratory fume hoods or glove boxes; procedures for safe removal of contaminated waste; and decontamination procedures (see [29 CFR 1910.1450, Labor, Occupational Safety and Health Standards, Occupational Exposure to Hazardous Chemicals in Laboratories](#) [e] [3] [viii]).

Decontamination is necessary before the affected work area can be released from “designated area” status. The type and level of decontamination should be defined by ISH personnel. After decontamination, the area will no longer be considered a “designated area,” and all warning and control signs will be removed. A wet mop or a vacuum cleaner equipped with a High-Efficiency Particulate Air (HEPA) filter will be used instead of dry sweeping.

1.11.2 Additional Requirements for Carcinogens

A regulated area will be established where a known human or suspected human carcinogen is manufactured, processed, used, repackaged, released, handled, or stored. All materials containing 0.1% (by weight) or more of a listed carcinogen will be clearly labeled to warn of a carcinogen hazard. A list of carcinogens, located in the LANL Cat 1 chemical list can be found on the [Chemical Safety Webpage](#). Less-hazardous, noncarcinogenic chemicals that can be substituted for currently used carcinogens will be substituted when compatible with the work to be accomplished.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 7 of 12)

All areas in which carcinogens are used or stored will meet the following conditions:

- Clearly marked by posting signs warning of a carcinogen hazard. Additional signs and labels are required when OSHA-regulated carcinogens are in use. See [P101-19](#), *Safety Signs, Labels, and Tags*.
- Signs posted prohibiting eating, drinking, gum chewing, smoking, or applying cosmetics or lip balm.
- Ventilation and hood performance that meet minimum requirements before beginning any new operations involving carcinogens. (See [P101-16](#), *Local Exhaust Ventilation and HEPA Filtration Systems*.)
- Evaluation of carcinogen storage and use using the [Laboratory Industrial Hygiene and Safety Manual](#), *Chapter 33, Carcinogens*. Request the Environment, Safety, Health (ESH) Qualified Person perform a re-evaluation of carcinogen hazards when the use of a carcinogen changes in quantity, concentration, frequency, or duration.
- Decontamination procedures for equipment and facilities will be documented in an IWD before new carcinogens are used.
- Notification of ISH and Occupational Medicine (OM) with names of authorized chemical workers working with carcinogens.

1.11.3 Evaluation of Laboratory Operations

- Before laboratory tests or chemical reactions begin, evaluations must be made for hazards that can be encountered or generated during the course of the work.
- Evaluations must include the hazards associated with the properties and the reactivity of the materials used and any intermediate and end products that can be formed, hazards associated with the operation of the equipment at the operating conditions, and hazards associated with the proposed reactions, for example, oxidation and polymerization.
- Where reactions are being performed to synthesize materials, the hazard characteristics of which have not yet been determined by test, precautions must be employed to control the highest possible hazard based on a known hazard of similar material.
- Where use of a new material might present an explosion potential, initial experiments or tests must be conducted in an enclosure that is designed to protect people and property from potential explosion damage.
- Unattended or automatic laboratory operations involving hazardous chemicals must be equipped with regular surveillance for abnormal conditions.

1.12 Personal Protective Equipment (PPE)

- The Laboratory requires that suitable clothing and equipment be used to protect workers and others in Laboratory spaces from hazards in the workplace. PPE is intended to protect the body (including eyes, face, feet, hands, head, hearing, and respiratory system) from hazards capable of causing injury, illness, or impairment of bodily function. No protective material will provide full protection against all hazards. PPE is considered for use as a hazard control strategy only after it has been determined that elimination, substitution and engineered and administrative controls are not feasible, or in the interim while engineered and administrative controls are being designed and implemented. Proper PPE will be identified in the work authorization documentation.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 8 of 12)

- The level of protection and type of PPE selected will match the applicable hazards.
See [P101-6](#), *Personal Protective Equipment*.

1.13 Flammable Liquids Storage Cabinets

A flammable liquids storage cabinet is a cabinet that is Underwriters Laboratories listed or Factory Mutual approved for storage of flammable liquids. The Fire Protection-Division Office (FP-DO) should be contacted for questions on what qualifies as a flammable storage cabinet and the chemical limits.

Not more than 60 gallons of Class I and/or Class II liquids, or not more than 120 gallons of Class III liquids may be stored in an individual cabinet. Storage cabinets shall be designed and constructed to limit the internal temperature to not more than 325°F when subjected to a standardized 10-minute fire test. Storage cabinets shall be conspicuously labeled, "Flammable - Keep Fire Away."

The bottom, top, door, and sides of metal cabinets shall be at least No. 18 gage sheet metal and double walled with 1½-inch air space. The door shall be provided with a three-point lock, and the door sill shall be raised at least 2 inches above the bottom of the cabinet.

Note: Do not store compressed gases in these cabinets.

1.14 Hydrofluoric Acid (HF)

Hydrofluoric Acid (HF) is a particularly dangerous acid because of its unique ability among acids to penetrate tissue. This ability to penetrate tissue allows HF to cause severe systematic toxicity from even relatively small dermal exposures. For this reason, the following requirements and recommended safe practices apply to work with HF:

Requirements:

- Substitute less hazardous fluoride compounds, where possible, e.g., use aluminum fluoride instead of HF to remove silicates from aqueous solutions.
- An Integrated Work Document (IWD) (see [P300](#), *Integrated Work Management*) is required for work with HF. The IWD must include the first-aid procedure in case of an exposure and what to do in case of a spill.
- As required in [P300](#), the IWD must be readily accessible where the activity is being conducted.
- A Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS) must be available.
- Before working with HF, workers must read the MSDS/SDS, read the IWD, complete training on the first-aid procedure in case of an exposure, and know what to do in case of a spill.
- Workers must be authorized in accordance with the requirements in [P300](#).
- Workers who work with HF must be registered and trained by Occupational Medicine on first-aid procedures associated with HF exposure.

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- Personal protection by engineered controls, personal protective equipment, or a combination is required for HF use. Controls must be commensurate with the HF hazard represented by a specific use or process involving HF. Your deployed industrial hygienist will assist in the development of and approve personal protective equipment and engineered controls for HF uses and processes through IWD development.
- A calcium gluconate skin exposure mitigation kit must be located in close proximity to the work involving HF. The kit must be replaced with new stock annually. A list of HF first-aid trained personnel must be posted near the kit. Contact Occupational Medicine for mitigation kits and replacement components.
- An HF spill kit must be available with calcium compounds such as calcium carbonate, calcium sulfate, or calcium hydroxide. It is advised that facilities that use or handle HF maintain on hand adequate compatible spill control materials to absorb or contain the volume of the largest volume container of HF commonly within the facility. In facilities with a “no spill cleanup” policy, these materials will supplement that which is immediately available to Hazardous Material (HAZMAT) first responders. Sodium bicarbonate should never be used with an HF spill since it does not bind the fluoride ion and can generate toxic aerosols.

Safe Practices

- Never work alone with concentrated (~6M or greater) HF or large volumes of dilute HF; use a buddy system. It is highly recommended that HF work not be conducted during hours when facilities may have minimum personnel such as nights and weekends even with small volumes and dilute solutions to ensure that there are adequate personnel to render aid in the event of an accident or spill.
- Use an HF-compatible tray or other suitable container while working with HF for containment in case of a spill.
- Store HF in compatible materials (e.g., Teflon, fluorinated ethylene propylene, polyethylene, etc.) containers and keep containers closed.
- Label all nonoriginal containers that contain HF and solutions other than that for immediate use (See Section 1.5).
- Store the stock HF in HF-compatible plastic secondary containment and label the cabinet. Store HF in lower cabinets near the floor. Store HF with other inorganic acids and away from bases, flammables, or oxidizers.
- Wash or wipe gloves with water before removing them, if permissible, by specific laboratory protocols.
- Protect exposed skin and nonresistant or absorbent clothing through:
 - enclosed processes and uses,
 - chemical fume hoods with sash down,
 - gloveboxes with HF-compatible gloves and windows,
 - specially engineered process enclosures, e.g., ventilated cabinets,

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Note: Concentrated HF and hydrogen fluoride gas from reactions can etch the glass hood sash on a fume hood and make it hard to see through. If the hood sash becomes fogged and hard to see through because of etching, contact your Facility Operations Director (FOD) representative about installing a polycarbonate sash. In some cases, hood sashes as well as glove box windows may be protected before exposure with a transparent film of Polyvinylidene Fluoride (PVDF, Kynar, Hylar, and Sygef) or other HF-resistant plastic.

- HF-resistant rubber or plastic apron,
- HF-resistant plastic arm coverings,
- HF-resistant gloves and glove combinations,
 - incidental use of dilute acid solutions—double gloves with heavy nitrile exam gloves; re-glove if there is any exposure to the gloves,
 - extended use of concentrated acid—heavy neoprene or butyl gloves worn over nitrile or silver shield gloves,
 - fluorinated polymer gloves for high-concentration and/or high-concentration HF gas exposure,
- closed toe shoes or chemical resistant boots,
- long pants and a long-sleeve shirt with a reasonably high-neck (not low-cut).
- Protect the face and eyes through
 - safety glasses in conjunction with chemical fume hoods with sash down (dilute solutions),
 - splash goggles in conjunction with a fume hood sash (high-concentration, high-reactivity process), and
 - face shield in conjunction with splash goggles (open processes, open hood sash).

1.15 Emergency Procedures

Emergency procedures will be in accordance with requirements contained in [PD1200](#), *Emergency Management*.

1.16 Medical Surveillance

Medical surveillance requirements will be in accordance with requirements contained in [P102](#), *Occupational Medicine*.

1.17 Worker Information, Training and Authorization

Chemical workers who work with hazardous chemicals will receive training about those chemicals before they begin work. Chemical workers receive this training through a combination of formal training, reading assignments and job-specific information as specified in the work authorization documentation. Chemical workers who work in areas where hazardous chemicals are used, but who do not work directly with such chemicals, will be made aware of the hazards before they begin work in those areas. Formal training will be conducted and documented in accordance with Laboratory training policy. Chemical workers will be trained on chemicals in use in their workplace at the time of initial assignment and whenever new hazards are introduced. See Section 6.0 of this document.

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Attachment A. LANL Hazard Communication and Chemical Hygiene Plan (Cont.) (Page 11 of 12)

1.18 Use of Non-medical Sharps

- Use the correct tool for the job, i.e., a box cutter to cut boxes.
- Do not shear, clip, or bend needles. Do not recap used disposable hypodermic needles. Do not remove used disposable hypodermic needles from the syringe. If you are using a glass syringe and a non-disposable needle, use extreme caution when recapping the needle, or removing the needle. To recap a non-disposable needle, use either a one-handed “scoop” technique or a mechanical device designed for holding the needle sheath.
- Do not walk with an unprotected sharp.
- Dispose of sharps at the point of use.
- Use needleless systems, or a blunt needle whenever possible.
- Organize your work space so that all materials for the experiment are ready and available before accessing the sharp device. This helps reduce the chance of having to set an exposed needle down on the lab bench in order to retrieve other necessary supplies.
- Be prepared to use the device the moment the sharp is exposed (e.g., when the needle is uncapped, the razor blade removed from its wrapper).
- Make sure you have adequate lighting to perform the task involving the sharp.
- Keep exposed sharps pointed away from yourself and others.
- Never directly hand an exposed sharp to another person. Instead, designate a “sharps passing zone” where exposed sharps are set down prior to being picked up by another person.
- Be accountable for the sharps you use.
- Look around after you complete your work and make sure that all sharps have been disposed of properly.
- Store sharps in a safe manner. Protect the sharp with a cap, cover, or store it in a rigid container.
- Use a dedicated, labeled sharps storage area.

Disposal of Non-medical Sharps:

- Hypodermic needles and contaminated sharps must always be discarded in an approved, rigid, leak-proof sharps container. Do not overfill the container. Do not open sharps containers. Note: sharps containers for personal medical use are available at Occupational Medicine.
- Do not discard loose sharps or sharps containers in the regular trash.
- **Broken glass:** (no regulated chemical or bioagent/biohazard contamination): Carefully sweep up any broken pieces into a dustpan and place them in a hard sided closed container (e.g., cardboard box) labeled “broken glass” with the technical area (TA), building number, room number and generator’s name written on the container. The container can be placed in the regular trash provided the broken glass is not contaminated; coordinate disposal with your WMC.

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- **Chemical contaminated sharps:** Store in leak-proof, rigid, puncture-resistant containers that are manufactured for the purpose of sharps containment and are taped closed or tightly lidded to preclude loss of contents. Label and manage in accordance with regulatory requirements for the material with which they are contaminated. Contact your WMC for assistance.
- **Uncontaminated (no rad, chemical, or biological) Sharps:** Store in leak-proof, rigid, puncture-resistant containers that are manufactured for the purpose of sharps containment and are taped closed or tightly lidded to preclude loss of contents. Label the container “non-infectious and non-hazardous waste” with the TA, building number, room number and generator’s name written on the container. The container can be placed in the regular trash; however, coordinate with your WMC.
- **New Mexico special waste sharps (infectious waste sharps):** Refer to [Tool 502 “Infectious Waste”](#) for assistance.

The [Chemical Safety Webpage](#) also contains guidance on [Working with Sharps](#) and [Management of Waste Sharps](#).

IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through [UTrain](#) **not** the Policy Office website.



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**LOGISTICS DIVISION
MAINTENANCE OPERATION INSTRUCTION**

TITLE ASPHALT BATCH PLANT OPERATION

<u>Name</u>	<u>Organization</u>	<u>Date</u>	<u>Signature</u>
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1.0 PURPOSE/SCOPE

This document provides requirements and instruction for the operation of the Asphalt Batch Plant (ABP).

This instruction applies to all MSS personnel responsible for work performance in support of the ABP.

2.0 DEFINITIONS/ACRONYMS

ASM – Acquisitions Services Management

Asphalt Batch Plant (ABP) – A machine designed to heat asphalt and aggregate mix to specified proportions, and discharge it into a truck for delivery to the job site.

CFR – Code of Federal Regulations

DEP—Deployed Environmental Professional

°F – Degrees Fahrenheit

ENV-ES – The operational group in the Environmental Protection Division (ENV) that provides environmental compliance assistance with air quality regulations

ENV-RCRA - The operational group in the Environmental Protection Division (ENV) that provides environmental compliance assistance with water resources and hazardous/solid wastes regulations

ES&H – Environment, Safety, & Health

Heat Transfer Oil Heater – A machine designed to heat asphalt and circulate oil through a series of coils. The coils heat the asphalt in a separate tank.

Hot Mix –A mixture of asphalt binder and graded mineral aggregate mixed at an elevated temperature and compacted to form a relatively dense pavement layer.

IWD – Integrated Work Document

HERG – Heavy Equipment Roads & Grounds

LO/TO – Lockout/Tagout

MM – Maintenance Manager

Mix Design – Performance based mix for which the number, type, and proportions of ingredients are determined by the engineer with the objective of producing asphalt having certain strength, gradation, flow and durability.

MSDS – Material Safety Data Sheets

MSS – Maintenance & Site Services

NMED – New Mexico Environment Department



NM DOT- New Mexico Department of Transportation

PM – Preventative maintenance

PPT – Pollution Prevention Team

SPCC—Spill Prevention, Control, and Countermeasures rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters including implementation of a site-specific plan.

SWPPP – Storm Water Pollution Prevention Plan is a site-specific document that identifies the regulated industrial activity and the controls implemented to prevent pollutants from being transported from the site by storm water runoff.

3.0 ROLES AND RESPONSIBILITIES

Roles and responsibilities for personnel who will ensure implementation of this document, e.g, Maintenance Manager, Maintenance Coordinator, Superintendent, Supervisor, and Work Provider, can be found on P 950, *LANL Conduct of Maintenance* and P 313, *Roles, Responsibilities, Authorities, and Accountability*, for a listing of maintenance program roles and responsibilities.

3.1 Roads Section Superintendent

The Craft Superintendent is responsible for the operation of the ABP. The superintendent will establish the job qualifications for craft personnel, arrange for necessary training, establish and maintain program records and documentation, and enforce procedure requirements during work performance.

The Craft Superintendent is responsible for determining the necessary qualifications and training required to perform work supporting ABP operation, for developing the necessary procedures and checklists, and for ensuring that the program records and documentation are properly completed.

3.2 Operator Foreman

The operator foreman is responsible for the assignment of qualified and properly trained craft personnel to this work. The foreman will ensure that the necessary materials, equipment, tools or other resources needed to complete the work are available to the craft personnel. The foreman will also ensure that the craft personnel complete the work according to the procedure and the work checklist(s), as appropriate, and that all documentation is verified correct.

3.3 Deployed Environmental Professional

The Deployed Environmental Professional (DEP) is responsible for assisting the facility in maintaining compliance with applicable environmental regulations. The DEP will assist in

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developing, updating, and maintaining a site-specific Storm Water Pollution Prevention Plan (SWPPP) and a Spill Prevention, Control, and Countermeasures (SPCC) Plan; performing required inspections; and recommending measures to address environmental compliance concerns.

4.0 SAFETY

The PIC, Supervisor, or Foreman shall ensure the work package is complete in accordance with P 950, *LANL Conduct of Maintenance* and AP-WORK-002, *Work Planning*.

Before work is started, the Supervisor/Foreman shall conduct a pre-job briefing with the craft worker(s) to include: job assignment, hazards involved by reviewing the IWD approved and signed by a qualified person, training requirements, job site procedures, necessary safety equipment, personal protective equipment, and Material Safety Data Sheets (MSDS) information.

	HOT ASPHALT CAN CAUSE SEVERE BURNS.
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Refer to the IWD for required PPE when working outside the control room. Wear gloves when handling the unloading hose.

The craft is responsible for understanding the hazards and hazard controls (including **STOP WORK**) identified for the work tasks in the IWD. Notify the Supervisor or Foreman when a change in the scope of work is identified, or process or hazard conditions change (refer to P101-18, *Procedures for Pause/Stop Work*, P300, *Integrated Work Management*).

All changes to the scope of work and/or newly identified hazards and process changes must be addressed in a revised IWD subject to signature and approval by a qualified person. The job must be stopped until the IWD is revised and approved. All workers must be briefed on the revised IWD prior to restart of work.

No personnel shall be allowed to enter confined spaces without proper training and written procedures for each confined space.

Equipment must be de-energized as required in P101-3, *Lockout/Tagout for Hazardous Energy Control*. Follow LO/TO procedures to perform any electrical work except when troubleshooting before or during maintenance. All personnel shall comply with current LO/TO procedures when performing pre-operational or post-operational inspections or preventative maintenance.



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5.0 QUALIFICATIONS

Personnel performing tasks in this procedure must have a working knowledge of asphalt batch plant operations or be working under the direction of a qualified operator.

6.0 TRAINING

Personnel will receive training in the overall Laboratory ES&H policy. No activity or operation will be performed at the Laboratory unless it can be performed in a manner that is protective of employees, the public, and the environment. Accomplishing these goals requires a team effort on the part of all employees and line managers.

Required training or equivalent:

- Spill Prevention, Control, & Countermeasure and site-specific SPCC plan (annual)
- Basic Fall Protection
- Personnel Protective Equipment
- Chemical Hazard Communication
- Gas Cylinder Safety
- Hearing Conservation
- Ladder Safety
- LO/TO Hands-on Hazardous Energy Control
- Aerial Platform Lift Operator
- Storm Water Pollution Prevention Plan site-specific (annual)

7.0 SPECIAL INSTRUCTIONS

Submit any corrections or recommendations for improvement to this procedure to the Craft Superintendent.

7.1 Off-normal events

Report unusual events or incidents in accordance with P 322-3, *Manual for Communicating, Investigating, and Reporting Abnormal Events*. Report any structural or equipment deficiencies observed during the performance of work to the Operator Foreman so that immediate remedial action can be taken, if required.

Any malfunction of the ABP or environmental controls that may increase air emissions, result in uncontrolled stormwater discharges, or is a spill or release of material must be reported to the DEP for the plant as soon as possible. Malfunctions may need to be reported to NMED within a short period of time.

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7.2 Title V Operating Permit (Air Quality)

- A visible emission observation, as required by the Title V Air Quality permit, must be performed monthly by a certified reader as early in the month as possible and preferably during the first run of the month.
- A visible emission observation is not required for those months the plant does not operate.
- Contact the DEP for the plant if visible emissions are greater than normal, if there are visible emissions from the bag house stack, or to have a monthly observation performed.
- Observation documentation is maintained at the Asphalt Batch Plant Office.
- Plant dust collection system leaks will be repaired immediately to ensure that no dust escapes into the environment which may be in violation of the New Mexico air quality regulations. Notify the plant DEP of any malfunction or problems with the dust collection system immediately. Other data required by the air permit includes entries found on the daily operating log, Form 41-20-001.2.

7.3 SPCC Requirements

- The ABP is required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per 40 CFR Part 112. The purpose of this plan is to provide spill prevention and response measures to prevent oil related spills from polluting navigable waters of the United States through implementation of adequate prevention and response measures.
- The plan is prepared, maintained, and updated by ENV-RCRA and/or the DEP; a copy is maintained on-site at the ABP office.
- Oil handling personnel must be trained in the operation and maintenance of equipment to prevent discharges, spill response actions, applicable regulations, general plant operations, and the contents of the SPCC plan.
- Inspections must be conducted daily, monthly, and annually.
 - Daily inspections (good housekeeping and general safety) are performed by plant operators to check for spills, leaks, obvious problems with tanks or lines, and general conditions. Daily inspections are documented on the Asphalt Batch Plant Daily Inspection Checklist Form 41-20-001.1
 - Monthly and annual inspections are performed by a LANL ENV-RCRA representative or DEP and documented on forms found in the site SPCC plan.
- Contact the DEP with information about spills or off-normal conditions so that the required and timely notifications to regulatory agencies can be made and the SPCC records can be updated.

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7.4 SWPPP Requirements

- Discharges of storm water from the ABP are regulated under the NPDES Multi-Sector General Permit for storm water discharges associated with industrial activities.
- The ABP is required to have a Storm Water Pollution Prevention Plan (SWPPP) to document site description, potential pollutant sources, descriptions of control measures, areas where spills and leaks have occurred, and procedures to maintain control measures. The plan is prepared, maintained, and updated by ENV-RCRA and/or the DEP; a copy is maintained on-site at the ABP office.
- The ABP is required to have a Storm Water Pollution Prevention Team (PPT) per the SWPPP. The PPT consists of operations and management personnel from the ABP, ENV-RCRA storm water personnel, and a DEP. PPT members are responsible for assisting the facility manager in developing and revising the facility’s SWPPP as well as maintaining control measures and taking corrective actions where required.
- SWPPP compliance inspections must be conducted monthly, quarterly, and annually by the DEP or an ENV-RCRA storm water inspector and documented on the appropriate SWPPP inspection forms. Copies of the completed inspection forms are maintained in the SWPPP at the facility. Contact the DEP with information about spills or off-normal conditions so that the required and timely notifications to regulatory agencies can be made and the SWPPP records can be updated.

8.0 OPERATIONS

8.1 Site Structures

This site has been assigned structure numbers as follows:

- TA-60-233 – Control House
- TA-60-234 – Batch Tower
- TA-60-235 – Dryer
- TA-60-236 – Asphalt Tank
- TA-60-237 – Baghouse

8.2 Process Overview

The primary function of the facility is to produce asphalt for the Laboratory by using a “batch” process (as needed per project). The asphalt batch is then transferred to trucks for delivery to project sites. An overview of the plant’s operational process is as follows: Aggregate material, used as feed stock for the asphalt production, is stockpiled on the west side of the property. There is at least one and sometimes more piles of material stored on the ground. The volume of stockpiled aggregate material on site at any given time is approximately 3,000 cubic yards.



Front-end loaders transfer the aggregate material from stockpiles to a hopper/feeder unit and the material is then mechanically fed to the asphalt processing plant. The processing plant (a BDM Model TM2000 Asphalt Plant) includes a Hopper/Feeder Bin attached to a Conveyor Belt (Structure 60-233), and a Batch Tower with Drop and Dryer Unit (Structure 60-236).

Asphalt emulsion oil and heated aggregate are mechanically mixed in the Batch Tower (Structure 236).

Processed asphalt is transferred (dropped) from the Batch Tower into delivery trucks. Air emissions are controlled by Bag House (Structure 60-235). Air emissions from the facility are regulated under the NMED Title V Air Quality Permit issued to LANL.

Reference Attachment 41-20-001.5, *Asphalt Batch Plant Flow Diagram*.

Any change to the plant, either physical or operational, needs to be communicated to the DEP prior to the change to verify it is compliant and environmental requirements.

8.3 **Material Acceptance Criteria**

- A qualified Materials Test Lab will approve and accept aggregate prior to use.
- A qualified Material Test Lab will approve and accept the hot mix according to work order specifications.

8.4 **Hours of operation**

Under the Title V Permit (Air Quality), the plant is authorized to operate during daylight hours between one-half hour after sunrise and through one-half hour before sunset each day of the year. This limitation on operating hours does not apply to the use of the hot oil heater or the loading and/or hauling of asphalt products or materials.

NOTE: Production is limited to 4380 hours/year or 13,000 tons/year, whichever occurs first. The rolling totals are compared to permit limits and reported to NMED twice annually by ENV-ES.

8.5 **Operational Inspections and Checklist**

- Pre-operational, start-up, operational, and shutdown steps are documented on Form 41-20-001.1, *Asphalt Batch Plant Daily Operational Checklist*.
- The operator will document completion of the steps on the checklist for each day of operation during an operational week.

- The operator foreman will review the Asphalt Batch Plant Daily Operational Checklist 41-20-001.1, and the Asphalt Batch Plant Daily Operating Log 41-20-001.2 with craft personnel prior to executing the work.
- Prior to beginning operations, the ABP operator will complete the checks in Section 1 on Form 41-20-001.1, *Asphalt Batch Plant Daily Operation Checklist* to ensure that the heat transfer oil heater can be operated properly; there are no visible maintenance problems, leaks, or spills; and the equipment can be operated without safety and environmental concerns.
- The operator will record information required by the air permit on Form 41-20-001.2, *Asphalt Batch Plant Daily Operating Log*. This data must be submitted to the plant DEP within 14 days following the end of the operational month recorded.
- During production the operator will complete and document the start-up and operation checks in Section 2 on Form 41-20-001.1, *Asphalt Batch Plant Daily Operation Checklist*.
- When daily production is completed, the operator will complete and document the shutdown checks in Section 3 on Form 41-20-001.1, *Asphalt Batch Plant Daily Operation Checklist*.
- Review and update Form 41-20-001.1, *Asphalt Batch Plant Daily Operation Checklist*.at least annually or when operating parameters change.

⚠ CAUTION

DO NOT OPERATE THE PLANT IF THERE ARE ANY SAFETY HAZARDS OR ENVIRONMENTAL CONCERNS. NOTIFY SUPERINTENDENT IF ANY HAZARDS ARE PRESENT.

⚠ CAUTION

DO NOT OPERATE THE PLANT IF THE DUST COLLECTION SYSTEM IS NOT OPERATING PROPERLY.

⚠ CAUTION

If any of the following items fail to pass inspection, the operator will halt operations and secure the hot plant until repairs are made.

⚠ CAUTION

Inspect hot mix for proper mixing so that, no dry or oily streaks are visible.



9.0 PREVENTATIVE MAINTENANCE AND CALIBRATION

9.1 Preventative Maintenance

- Plant preventative maintenance will be scheduled through the MSS work order/planning system and performed semi-annually.
- Preventative maintenance will be performed and documented using Form 41-20-001.3, *Asphalt Batch Plant PM Inspection & Lubrication Checklist*.
- Copies of maintenance records will be maintained at the plant and in the work order/planning system.

9.2 Batch Plant Equipment Requirements – Calibration and Testing

9.2.1 Calibration of the plant scales, load sensors, asphalt flow meter, and asphalt temperature indicating instruments will be performed as required in applicable NMDOT standard specifications and in accordance with LANL policy P330-2, “*Control and Calibration of Measuring and Test Equipment (M&TE)*.”

9.2.2 Calibration will be documented on Form 41-20-001.4, *Asphalt Batch Plant Calibration Compliance*.

9.2.3 Plant Scales (NMDOT 423.3.4.1.1)

- Ensure that the scales are accurate to 0.5% of the maximum allowable load in accordance with NMDOT standard 432.3.4.1.1.
- Annually calibrate Load Plant Scales for batched asphalt.

9.2.4 Weigh Box or Hopper (NMDOT 423.3.4.1.9.1)

- Ensure that the ABP can accurately weigh aggregate in a weigh box or hopper suspended on scales using a weigh box or hopper than can hold a full batch. Ensure that the gate of the weigh box or hopper does not allow material to leak into the mixer while being weighed.
- Annually calibrate Load Sensors for aggregate in accordance with NMDOT standard 432.3.4.1.9.1.

9.2.5 Asphalt Binder Control (NMDOT 423.3.4.1.9.2)

- Measure the asphalt binder with equipment accurate to $\pm 0.3\%$
- Annually calibrate Asphalt Flow Meter in accordance with NMDOT standard 432.3.4.1.9.2.

9.2.6 Asphalt Thermometers (NMDOT 423.3.4.1.7)

- Ensure the asphalt feed line, near the charging valve at the mixer unit, is equipped with an approved recording thermometer with a range from 100°F to 400°F.



- Ensure the discharge chute of the drier is equipped with an approved recording thermometer to automatically register the temperature of the heated aggregates or mix, as applicable.
- Annually calibrate thermometers per NMDOT 432.3.4.1.7.

10.0 RECORDS

10.1 Forms and Checklists

- Prepare all forms and checklists required to operate the ABP in accordance with this document.
- Form 41-20-001.1, *Asphalt Batch Plant Daily Operation Checklist*. The purpose of this form is to document daily activities associated with heat transfer oil heater pre-operational inspection, start-up, and shut down. This ensures that the ABP can be operated safely and without environmental concerns. The operator foreman will review the checklists with the craft personnel prior to and after executing the work
- Form 41-20-001.2, *Daily Operating Log*. The purpose of this log is to document operational data as required for compliance with NMED Title V Air Quality Permit issued to Los Alamos National Laboratory. This data must be submitted to the plant DEP within 14 days following the end of the month recorded. This data is used to calculate emissions and is submitted to the State as a monitoring record. The DEP will scan the log and return it to the ABP.
- Form 41-20-001.3, *Asphalt Batch Plant PM Inspection and Lubrication Checklist*. This checklist is used to document or list required routine maintenance inspections and actions. The PM will be conducted semiannually and documented using this checklist.
- Form 41-20-001.4, *Asphalt Batch Plant Calibration Compliance*. The purpose of this form is to document performance of required calibrations.

10.2 Records Generated by this Operation

- 41-20-001.1: Asphalt Batch Plant Daily Operation Checklist
- 41-20-001.2: Asphalt Batch Plant Daily Operating Log
- 41-20-001.3: Asphalt Batch Plant PM Inspection and Lubrication Checklist
- 41-20-001.4: Asphalt Batch Plant Calibration Checklist

10.3 Environmental Compliance

- Title V Air Quality Visual Emissions Observation



- SPCC Plan, inspections, reports, and updates
- SWPPP inspections, reports, and updates

10.4 Records Disposition

Maintain records in accordance with AP-MSS-003, *MSS Records Management Program*.

All forms generated by this procedure must be maintained on site.

All Title V Air Quality Permit compliance records; SPCC Plan and records; and SWPP Plan and records must be maintained on site.

The operator will acknowledge the amount of oil/propane aggregate received on the shipping manifest form and will forward it to the ASM Property Management.

11.0 REFERENCES

Document No.	Title
AP-MSS-003	MSS Records Management Program
AP-WORK-002	Work Planning
P 101-3	Lockout/Tagout for Hazardous Energy Control
P 313	Roles, Responsibilities, Authorities, and Accountability
P 315	Conduct of Operations Manual
P 322-3	Manual for Communicating, Investigating, and Reporting Abnormal Events
P330-2	Control and Calibration of Measuring and Test Equipment (M&TE)
P 950	LANL Conduct of Maintenance
NMDOT Standard Specification for Highway and Bridge Construction	Section 432 HOT-MIX ASPHALT — SUPERPAVE (QLA and Non-QLA)
	LANL Title V Operating Permit (Air Quality)
	TA60 Asphalt Batch Plant SPCC Plan
	TA60 Asphalt Batch Plant SWPPP



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12.0 ATTACHMENTS

- 41-20-001.1: Asphalt Batch Plant Daily Operation Checklist
- 41-20-001.2: Asphalt Batch Plant Daily Operating Log
- 41-20-001.3: Asphalt Batch Plant PM Inspection and Lubrication Checklist
- 41-20-001.4: Asphalt Batch Plant Calibration Checklist
- 41-20-001.5: Asphalt Batch Plant Flow Diagram



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41-20-001.1: ASPHALT BATCH PLANT DAILY OPERATIONAL CHECKLIST

	START DATE:	END DATE:
--	-------------	-----------

PART 1- Place a **Checkmark** if the condition is **OK** or **AR** (Action Required) if not. Explain ARs in Part 2.

SECTION 1:
HEAT TRANSFER OIL HEATER AND OIL TANK PRE-OPERATIONAL INSPECTION

ACTION	MON	TUE	WED	THU	FRI	SAT	SUN
Mark days plant is in operation for completion of checklist. For periods when plant is not in operation, complete Section 1 of checklist once a week.							
Inspect heat transfer oil heater and oil level weekly. If necessary, refill to at least 1/2 of capacity. Use heat transfer oil No. 1 only.							
Inspect heat transfer oil pump for leaks, ensure shaft is free. Repair/adjust if necessary							
Inspect heat transfer oil pump drive coupling. Should be secure, not loose or worn. Adjust/replace as necessary.							
Inspect electric drive motors, heat transfer oil pump, flower fan, and mount. Ensure wiring is secure. Adjust if necessary.							
Inspect temperature setting control valve. Maximum operating temperature should be between 250° F and 360°F							
Check oil tank and pad for spills, leaks, and problems with lines or containment							
Repair any oil leaks before starting Operations							
No general safety concerns identified.							

SECTION 2:
START-UP AND OPERATION

Check the asphalt temperature before starting. Check again every hour to ensure that the temperature does not drop below 250° F.							
Check propane tank. Re-order propane when the tank is 15% of capacity or less.							
Power On per manufacturer's recommendations, including fuel pumps propane, air compressor, asphalt pump forward, pug mill mixer, exhaust fan, burner blower, vibratory screen, hot elevator, dryer, incline conveyor, scalping screen, collector conveyor, cyclone screw, baghouse, feeders aggregate limit, dump aggregate hopper, mixer, and dump oil.							
Weigh required amounts of heated aggregate from three aggregate bins.							
Dump weighed aggregate into pug mill for mixing.							
Process two tons of aggregate (two batches) without asphalt oil through the system to ensure plant and aggregates are at working temperature of not less than 250° F. Do not exceed 360° F.							
Weigh aggregates and asphalt to mix design proportion; dump into pug mill and mix for approximately 60 seconds.							
After dump truck beds have been properly sprayed with a light mist of Zep, Operator will dump hot mix into trucks. Repeat process until desired tonnage is loaded into truck.							

SECTION 3:
SHUTDOWN

Shutdown the plant in reverse order of start-up, including dump oil, mixer, dump aggregate hopper, feeders aggregate limit, baghouse, cyclone screw, collector conveyor, scalping screen, incline conveyor, dryer, hot elevator, vibratory screen, burner blower, exhaust fan, pug mill mixer, asphalt pump forward, air compressor, and fuel pumps propane. NOTE: The incline conveyor and belt feeders will be shutdown first to stop material flow into the plant. As the material flow stops, the dryer flame will be turned down slowly until it is completely off.							
Shutdown asphalt pump. Ensure asphalt is not flowing between asphalt weigh hopper and asphalt storage tank.							



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CRAFT NAME: _____ Z#: _____

CRAFT SIGNATURE: _____

SUPERINTENDENT NAME: _____ Z#: _____

SUPERINTENDEND SIGNATURE: _____

Comments:

Part 2- For any AR (Action required) in PART 1, describe below: action required, action taken, date, and time of action. Attach additional sheets if necessary. If more than one action is required, number each AR.

--



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41-20-001.3: ASPHALT BATCH PLANT PM INSPECTION & LUBRICATION CHECKLIST

PM DATE: _____	NEXT SCHEDULED PM DATE: _____
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TA- _____ BLDG- _____ EQUIP. ID: _____ PM #: _____

Place a Checkmark under "S" if the condition is SATISFACTORY or "U" if the condition is UNSATISFACTORY. Note actions required or general remarks in "Comments" as applicable. Mark "N/A" under comments if not applicable. Advise the foreman or supervisor of problems involving imminent danger.

ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION

STEP	ACTION / DESCRIPTION	S	U	Comments
1.0	PRE-MAINTENANCE INSTRUCTIONS			
1.1	Before beginning maintenance, follow applicable LO/TO procedures at the main control panel			
2.0	ASPHALT PLANT MAINTENANCE			
2.1	Perform preventative maintenance of the asphalt plant equipment semi-annually.			
3.0	LUBE/INSPECTION POINTS			
	FEEDER			
3.1	8 Pillow Blocks			
3.2	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.3	2 Wheel bearings			
3.4	Clear away stones and dust build up from any moving parts			
	CONVEYOR BELT			
3.5	4 Pillow Blocks			
3.6	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.7	Clear away stones and dust build up from any moving parts			
	DRIER			
3.8	12 Pillow Blocks			
3.9	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.10	Clear away stones and dust build up from any moving parts			
3.11	Inspect the drum roller drive chain for mechanical integrity. Replace or repair any broken parts			
3.12	Lube chain and idle gear			
	HOT ELEVATOR			
3.13	2 Pillow Blocks			
3.14	2 Flat Bearings			
3.15	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.16	Clear away stones and dust build up from any moving parts			
3.17	Inspect the elevator chain under the buckets for proper tension and mechanical integrity. Ensure no broken parts or damage exists. Adjust/replace if necessary			
3.18	Inspect elevator buckets for aggregate buildup and metal wear. Repair and/or clean parts if necessary.			
3.19	Inspect elevator bottom for excessive aggregate buildup. Remove and/or clean if evident.			
	SHAKER AND SCREENING PLANT			
3.20	2 Bearing on Electric Motor			
3.21	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.22	Screen Cloth Tension			
3.23	Inspect even material feed and distribution into screen.			
3.24	Tighten Loose Bolts			
3.25	Drive Belt Tension			
3.26	Support Springs			
3.27	Clear away stones and dust build up from any moving parts			



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3.28	Inside the screen, inspect the feed and discharge wear plates for excessive buildup and wear. Repair and/or clean as needed			
ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION				
STEP	ACTION / DESCRIPTION	S	U	Comments
	PUG MILL			
3.29	4 Pillow Blocks			
3.30	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
3.31	Clear away stones and dust build up from any moving parts			
3.32	Inside the mill, inspect the 2 paddle assemblies and wear plates under the paddles for excessive buildup and wear. Repair and/or clean as needed			
	BAG HOUSE			
3.33	3 Flat Bearings			
3.34	4 Gear Box Points (Check Oil) <i>Add if Necessary</i>			
	EXHAUST FAN			
3.35	2 Pillow Blocks			
3.36	2 Fittings on Electric Motor			
	DAMPER CONTROL			
3.37	4 Flat Bearings			
	AIR COMPRESSOR			
3.38	Clean Air Filter			
3.39	Check Oil Level <i>Add if Necessary</i>			
	DUST RETURN SCREW			
3.40	1 Gear Box (Check Oil) <i>Add if Necessary</i>			
	HOT ASPHALT PUMP			
3.41	2 Fittings on Electric Motor			
	HOT OIL PUMP AND ELECTRIC MOTOR			
3.42	2 Fittings on Electric Motor			
	PROPANE PUMP			
3.43	2 Fittings			
4.0	POST-MAINTENANCE INSTRUCTIONS			
4.1	After completing maintenance, follow applicable LO/TO procedures at the main control panel			

REMARKS / ACTION REQUIRED:

VERIFICATION

CRAFT NAME:	Z-NUMBER	DATE
CRAFT SIGNATURE:		
SUPERINTENDENT NAME:	Z-NUMBER	DATE
SUPERINTENDENT SIGNATURE:		



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Asphalt Batch Plant Operations
41-20-001.4: ASPHALT BATCH PLANT CALIBRATION COMPLIANCE

CALIBRATION DATE: _____	NEXT CALIBRATION DATE: _____
--------------------------------	-------------------------------------

Place a Checkmark under “S” if the condition is SATISFACTORY or “U” if the condition is UNSATISFACTORY. Note actions required or general remarks in “Comments” as applicable. Mark “N/A” under comments if not applicable. Advise the foreman or supervisor of problems involving imminent danger.

CALIBRATE PLANT SCALES

TA-_____ BLDG-_____ EQUIP. ID:_____	PM #: _____
--	--------------------

ACTION	S	U	Comments
Calibrate load scales for batched asphalt produced. Calibrate and adjust weight indicator to accuracy of 0.5% of the maximum allowable load in accordance with the Federal Motor Carrier Safety Administration (FMCSA) publication.			

CALIBRATE LOAD SENSORS

TA-_____ BLDG-_____ EQUIP. ID:_____	PM #: _____
--	--------------------

ACTION	S	U	Comments
Calibrate load sensors for aggregate using certified weights (<i>i.e., 1000 lb weight</i>). Calibrate and adjust weight indicator (<i>tolerance +/- 3%</i>).			

CALIBRATE ASPHALT FLOW METER

TA-_____ BLDG-_____ EQUIP. ID:_____	PM #: _____
--	--------------------

ACTION	S	U	Comments
Obtain a <i>calibrated</i> 5 gallon container Set up output of pipe. Turn on pump; measure pipe output (5 gal) and adjust as necessary till control panel output and pipe output are reading the same. Repeat as necessary until results are within tolerances (+/- 1%)			

CALIBRATE ASPHALT THERMOMETERS

TA-_____ BLDG-_____ EQUIP. ID:_____	PM #: _____
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ACTION	S	U	Comments
Calibrate thermometer in asphalt feed line, near the charging valve at the mixer unit. Thermometer shall be approved with a range from 100°F to 400°F calibrated with control unit to allowable tolerances.			
Calibrate thermometer near discharge chute to automatically register the temperature of heated aggregates or mix, as necessary. Thermometer shall be calibrated with control unit to allowable tolerances.			

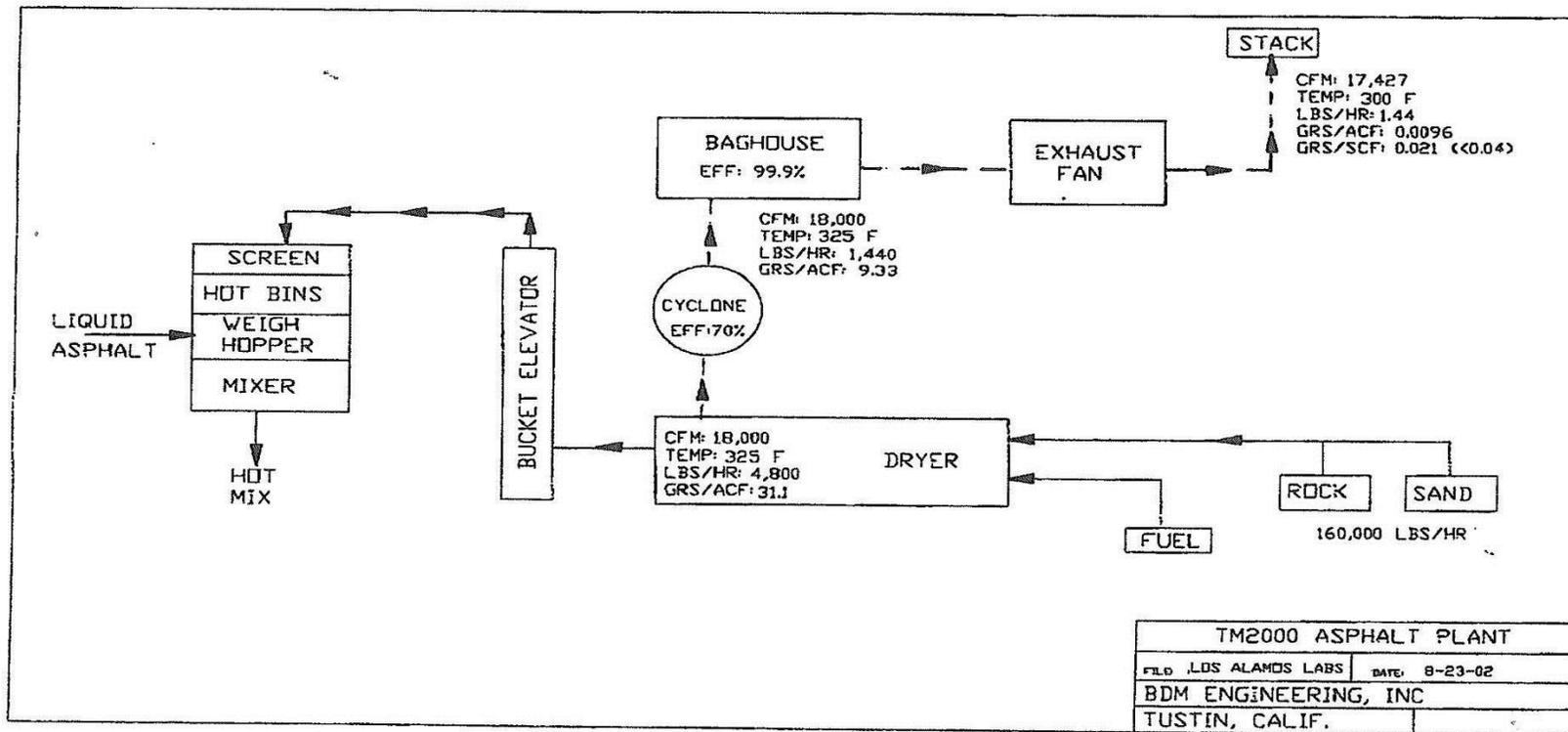
VERIFICATION

CRAFT NAME: _____	Z-NUMBER _____	DATE _____
CRAFT SIGNATURE: _____		

SUPERINTENDENT NAME: _____	Z-NUMBER _____	DATE _____
-----------------------------------	-----------------------	-------------------

SUPERINTENDENT SIGNATURE: _____		
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ATTACHMENT 5: ASPHALT BATCH PLANT FLOW DIAGRAM



SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

FOR THE

TA-60 ASPHALT BATCH PLANT

Los Alamos National Laboratory

Los Alamos, New Mexico

Prepared By:

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Los Alamos, NM 87544
Phone 505-661-4887

In Conjunction with
Los Alamos National Laboratory (LANL)
ENV-CP

Revision 0: October 2006
Revision 1: February 2009
Revision 2: January 2015

LA-UR-15-20505

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2008 SPCC Rule	Old SPCC Rule	Description of Section	SPCC Section
§ 112.7	§ 112.7	General requirements for SPCC Plans for all facilities and all oil types.	Throughout Plan; Appendix A; General Requirements Cross Reference
112.7(a.1, 2)	§ 112.7	Discussion of Facility's conformance with rule requirements; deviations from Plan requirements; Facility diagram	1.1 Conformance; Appendix G
112.7(a.3.i, iii)	§ 112.7	Facility characteristics that must be described in the Plan	2.0 Asphalt Plant description; 2.3 Secondary Containment; Appendix G
112.7 (a.3.ii, iv, v, vi; a.4; a.5)	§ 112.7	Spill prevention, response and reporting information; emergency procedures.	Section 3.3 Spill Response, Control, and Reporting; Appendix F Spill Tracking Form
§ 112.7(b)	§ 112.7(b)	Fault analysis.	3.1 Spill History; 3.2 Potential Spills; Appendix F
§ 112.7(c)(1)	§ 112.7(c)	Amended scope of classification for Secondary containment; additional preventative systems.	2.0 Asphalt Plant and 2.3 Secondary Containment
§ 112.7(d)	§ 112.7(d)	Contingency planning.	N/A
§ 112.7(e)	§ 112.7(e)(8)	Inspections, tests, and records.	1.3.1 Inspections, 1.3.2 Record keeping; Appendix C
§ 112.7(f)	§ 112.7(e)(10)	Employee training and discharge prevention procedures.	1.3.3 Training; Appendix D
§ 112.7(g)	§ 112.7(e)(9)	Amended Security (excluding oil production facilities) requirements.	2.2 Security
§ 112.7(h)	§ 112.7(e)(4)	Loading/unloading areas (excluding offshore facilities) redefined as "racks".	2.5 Facility Transfer Operations; 2.6 Facility Loading and Unloading
§ 112.7(i)	N/A	Brittle fracture evaluation requirements.	1.1 Conformance; 1.3.1 Inspections
§ 112.7(j)	§ 112.7(e)	Conformance with State requirements.	1.1 Conformance
§ 112.8 § 112.12	§ 112.7(e)(1)	Requirements for onshore facilities (excluding production facilities).	Throughout Plan
§ 112.8(a) § 112.12(a)	N/A	General and specific requirements.	Throughout Plan
§ 112.8(b); (c4, 5, 11) § 112.12(b); (c4, 5, 11)	§ 112.7(e)(1)	Facility drainage.	2.7 Facility Drainage and 2.3 Secondary Containment
112.8(c.1, 2, 4, 5, & 11) 112.12(c.1, 2, 4, 5, & 11)	§ 112.7(e)(2)	Bulk storage containers.	2.0 Asphalt Plant Tanks; 2.3 Secondary Containment; 2.5 Facility Transfer Operations; Appendix G
112.8(c.3) 112.12(c.3)	§ 112.7(e)(2)	Bulk storage containers.	2.3 Secondary Containment; 2.7 Drainage
112.8(c.6 & 10) 112.12(c.6 & 10)	§ 112.7(e)(2)	Bulk storage containers.	2.4 Fail-Safe Engineering
112.8(c.9) 112.12(c.9)	§ 112.7(e)(2)	Bulk storage containers.	2.1 Tank and Secondary Containment Description
112.8(c.9) 112.12(c.9)	§ 112.7(e)(2)	Bulk storage containers.	N/A

112.8(d.1) 112.12(d.1)	§ 112.7(e)(3)	Facility transfer operations, pumping, and facility process.	2.1, Tank and Secondary Containment Description, 2.3 Facility Transfer Operations
112.8(d.3 & 5) 112.12(d.3 & 5)	§ 112.7(e)(3)	Facility transfer operations, pumping, and facility process.	2.3 Facility Transfer Operations
112.8(d.4) 112.12(c.4)	§ 112.7(e)(3)	Facility transfer operations, pumping, and facility process.	1.3.1 Inspections
§ 112.9, § 112.13	§ 112.7(e)(5)	Requirements for onshore production facilities.	N/A
§ 112.10 § 112.14	§ 112.7(e)(6)	Requirements for onshore oil drilling and workover facilities.	N/A
§ 112.11 § 112.15	§ 112.7(e)(7)	Requirements for offshore oil drilling, production, or workover facilities.	N/A

CERTIFICATION

This Plan was developed pursuant to provisions of the federal regulation for oil pollution prevention, 40 CFR Part 112. Its purpose is to provide spill prevention and response measures to prevent the pollution of navigable waters from oil related spills.

In accordance with 40 CFR Part 112.3 (d), this Plan has been reviewed and certified by a Registered Professional Engineer (PE). By means of this certification, the engineer, having examined the facility or having an agent examine the facility, and being familiar with the provisions of this regulation, attests that the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of Part 112. Procedures for required inspections and testing have been established and this Plan is adequate for the facility.

Certified by: *Shellie Winsemius*

Shellie Winsemius
Registered Professional Engineer
New Mexico License No. 17888

Date: *1-29-2015*



MANAGEMENT APPROVAL

This Plan has the full approval of management at a level with authority to commit the necessary resources. The owner/operator will fully implement this Plan in accordance with the requirements of 40 CFR Part 112.

Facility Owner Approval:

Approved by: *Andrew Erickson*

Date: 2-11-15

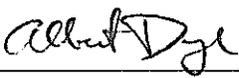
Andrew Erickson
Utility and Infrastructure Facility
Operations Director
Los Alamos National Laboratory

*Approved w/ changes
on page #2*

**SPILL PREVENTION CONTROL AND COUNTERMEASURE
 PLAN REVIEW PAGE**

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every five years. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field proven at the time of review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Non-technical amendments do not need to be certified by a Professional Engineer.

I have completed review and evaluation of the SPCC Plan and will or will not amend the plan as indicated below.

Review Dates	Signature	Name	Title	Amendment & Stamped (yes/no)
January 2009		Mark Haagenstad	SPCC Coordinator, ENV-CP	Yes; Yes stamped
March 2014		Albert Dye	SPCC Coordinator, ENV-CP	Yes/ No
January 2015		Albert Dye	SPCC Coordinator, ENV-CP	Yes; Yes stamped

1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is a requirement of the Environmental Protection Agency (EPA) Oil Pollution Prevention Regulation. This Plan has been revised to comply with requirements of the regulations published in August 2002 and all Amendments. 40 CFR 112.1(d)(2)(ii) requires that facilities that have an aggregate aboveground storage capacity of 1,320 gallons or greater of oil, including all containers 55 gallons or greater, maintain and implement a SPCC Plan. The intent of the SPCC Plan is to prevent oil related spills from polluting navigable waters of the United States (U.S.) through the implementation of adequate prevention and response measures. With regard to Los Alamos National Laboratory (LANL), navigable waters of the U.S. include all canyons, arroyos, streams, and rivers within and surrounding LANL Technical Areas.

Due to LANL's diverse activities and changing conditions, a single Plan incorporating all LANL facilities subject to SPCC requirements is impractical. SPCC locations are addressed according to specific Facility boundaries within LANL as determined by management and funding organization. The Facility Operations Director (FOD) or the facility tenant with approval from LANL Environmental Compliance Programs (ENV-CP), develops, implements, and maintains SPCC Plans for the specific SPCC location(s) within their stewardship.

This SPCC Plan addresses the storage of oil and oil emulsion in tanks located at Technical Area (TA)-60 Asphalt Batch Plant (referred to as the Facility), located within the LANL boundary at the east end of Sigma Mesa.

1.1. Conformance

This SPCC Plan and facility conform to the requirements of 40 CFR Part 112 to the fullest extent possible. The facility has appropriate spill prevention, reporting, and response measures; tanks and secondary containment are appropriate for the materials stored, and there is adequate security. Procedures for inspections, testing, loading and unloading, record keeping, spill response, and training have been developed. LANL's five step Integrated Safety Management approach (http://int.lanl.gov/safety/integrated_work_management/index.shtml), which evaluates a task and identifies potential hazards such as a spill event also is applied to this Facility.

Deviations from regulatory requirements include:

- Integrity testing of the 15,000 gallon tank holding asphalt cement is not being done in lieu of application of inspection criteria outlined in STI SP-001-06 (Section 1.3.1, Inspections), and
- The capacity of the secondary containment below the tanks will not hold the entire contents of the 15,000 gallon asphalt cement tank, nor would it need to. Asphalt cement is highly viscous and solidifies when its temperature decreases therefore leaks would be noticed during daily inspections and could be addressed immediately. Backup containment (sedimentation pond, Appendix G) has also been provided.

In addition to Federal regulations, this Plan complies with the New Mexico Environment Department (NMED) regulations for Ground and Surface Water Protection (NMAC 20.6.2). State water quality standards are considered when determining procedures for secondary containment drainage. The tanks are excluded from the NMED Petroleum Storage Tank Regulations (NMAC 20.5.1.7.R(4)(b)) requiring registration.

A signed Certification of the Applicability of Substantial Harm Criteria is located in Appendix A. A self-selection process outlined in Section 112.3 of 40 CFR 112 was applied and it was determined that the facility does not fall under the "substantial harm" category. Therefore the facility is not required to prepare and submit a Facility Response Plan.

1.2. Facility Owner & Operator

The TA-60 Asphalt Batch Plant storage tanks and associated equipment is ^{owned} by the LANL Logistics Operations (LOG-DO) Division and ^{operated} by the Utilities & Institutional Facilities (UIF) – Facilities Operations Division (FOD). The owner and operator for the facility are:

Facility Owner/Operator

~~Logistics (LOG) Division~~ ^{UI-FOD}
~~Heavy Equipment/Roads & Grounds (LOG-HERG) Group~~
 Los Alamos National Security LLC (LANS)
 Los Alamos National Laboratory
 Los Alamos, NM 87545

Contacts

Name	Phone	Title
Andrew W. Erickson	667-4222	UI-DO Facility Operation Director
Tim Walker-Foster	667-5177	LOG-HERG Group Leader
Phil Romero	667-8332	UI-DO Environment, Safety & Health Manager
Leonard F. Sandoval	667-3557	DSESH-UIMS Deployed Environmental Professional

1.3. Management Responsibilities

The owner/operator is responsible for preparing and implementing the requirements of the SPCC Plan. In addition to requirements specific to storage tanks and containment structures, 40 CFR Part 112 requires the development of procedures associated with inspections, record keeping, training, and Plan amendment. The following sections address implementation of these procedures at the facility.

This table shows the responsibilities that are further described in the SPCC Plan.

		ENV-CP	Facility Owner/Operator
<i>General</i>	<i>Prepare SPCC to meet regulatory requirements</i>	X	
	<i>Approve SPCC</i>		X
	<i>Implement SPCC</i>		X
	<i>Approve physical changes needed to implement SPCC</i>		X
	<i>Provide oversight</i>	X	X
	<i>Leak and spill cleanup and disposal, provide spill information to ENV-CP, insert spill reports in Plan</i>		X
<i>Inspections</i>	<i>Spill reporting to state and federal regulators</i>	X	
	<i>Provide qualified personnel to perform and write monthly SPCC walk around inspections</i>		X
	<i>Provide qualified personnel to perform and write annual SPCC inspections</i>	X	
<i>Recordkeeping</i>	<i>Implement corrective actions noted in inspections</i>		X
	<i>Maintain inspections in onsite SPCC</i>		X
	<i>Maintain onsite training records for periodic briefings or Lessons Learned</i>		X
	<i>Review SPCC every five years</i>	X	X
<i>Training</i>	<i>Provide annual training that meets SPCC regulatory requirements</i>	X	
	<i>Ensure all oil handling personnel and designated persons accountable for discharge prevention attend annual training</i>		X

<i>Plan Amendment</i>	<i>Provide information on changes to design, construction, operation or maintenance</i>	X	X
	<i>Amend Plan when spill or other change in facility occurs</i>	X	
	<i>Implement changes to plan within 6 months of change to facility</i>		X

1.3.1. Inspections

Inspections include monthly inspections, annual SPCC walk around inspections, and certified inspections. Procedures for each are detailed below. Records of each are kept in accordance with Section 1.3.2, Record Keeping. In the event of a problem, the deficiency is documented on the applicable inspection form and corrective action will be taken. Any identified leaks or problems associated with the system will be promptly corrected, and any oil accumulations will be removed.

Inspection Summary

Type	Frequency	Inspector
Periodic Inspections	Monthly	Deployed Environmental Professional
Annual SPCC	Annual	Water Quality (ENV-CP)
Certified	Not Applicable	N/A
Brittle Failure	Not applicable	N/A

Various inspections are conducted at the units. These inspections include a daily inspection (checklist 41-20-001.1 R0) performed by the principal operator, monthly walk-around inspection by the Deployed Environmental Professional (DEP) and an annual ENV-CP SPCC walk-around inspection. Records of each inspection are kept as described in Section 1.3.2 (Record Keeping) or in another appropriate folder or box. Completed Inspection Reports are filed as part of this SPCC Plan in Appendix B. Daily inspection checklists are kept in a separate binder. A sample of the daily inspection checklist, 41-20-001.1 R0, is included in Appendix B. All of this information is kept in the Principal Operator's trailer located at the facility.

In the event that a problem or concern is identified during an inspection or checklist walk-around, the inspector documents the deficiency or concern on the applicable form. All corrective actions should be planned, implemented and documented. The FOD or his representative would be directly involved with implementing these corrective actions. A record of the Corrective Actions will be kept in Appendix B. All identified leaks or problems associated with the units will be promptly corrected, and any oil accumulations will be removed. Records of these types of problems will be kept on file as part of the SPCC plan according to Section 3.1 (Spill History, and recorded in the spill log in Appendix E).

Daily Inspection (Good Housekeeping) Walk-Around Checklist: Asphalt Batch Plant staff conducts a general operator observation daily when the plant is in operation. During normal operations, casual checks of the unit and facility grounds are performed. During these checks, potential problems and maintenance needs for the entire facility are identified, including spills or leaks, obvious problems with tanks, lines or the containment, and general safety conditions at the facility. The tanks should be visually inspected for leaks and general condition as a best management practice for the safe operation of the facility.

These inspections have not been recorded in the past. However, in order to provide clear and concise documentation of what is being inspected daily, a checklist of items inspected as part of good

housekeeping procedures (including daily visual inspection of the tanks) at this facility will be incorporated into Appendix B of this SPCC Plan. The completed checklists are kept in a separate binder.

Monthly Visual Inspection: A monthly walk-around inspection of the facility will be performed by a DEP and a facility representative. The inspection form and inspection reports are filed in Appendix B. The inspection form identifies the inspector, inspection date, and identifies facility areas inspected. As part of these inspections, the tanks are visually inspected for leaks and for physical condition, including but not limited to rust, corrosion, or bulging. The secondary containment area(s) are inspected to determine if any leaks or spills have occurred, to ensure that the containment is free of storm water, to ensure that there are no physical defects in the containment that could cause it to fail, and to ensure that the containment drain valve is in good condition and locked. Leaks or potential problems will be brought to the attention of the Principal Operator and steps to address these problems through corrective action will be discussed. The inspector will sign the inspection form and place it in Appendix B in a timely manner. The monthly inspection form will be modified if changes in the SPCC regulations are not reflected in the current version.

Annual Inspections: ENV-CP staff performs annual SPCC inspections to assess compliance with all aspects of the SPCC Plan including but not limited to recordkeeping, changes to the facility, the condition of the tank, piping and associated equipment, and the secondary containment unit. This inspection also covers all requirements of the SPCC regulations and the Steel Tank Institute's STI SP-001-06. An inspection report is sent to the appropriate facility FOD and representatives in a timely manner. Completed annual inspection reports are maintained in Appendix B.

Integrity, Brittle Failure and Catastrophe Inspections: Integrity testing of the 15,000 gallon tank holding asphalt cement is not being done based on the inspection criteria outlined in STI SP-001-06 which allows visual inspection for bulk shop-made storage tanks. If this tank undergoes major repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, the container will be evaluated for risk of discharge or failure due to brittle fracture or other catastrophe, and appropriate action will be taken.

1.3.2. Record Keeping

The inspections identified in Section 1.3.1 are documented on the applicable forms found within Appendix B. These inspection reports identify the date the inspection was performed, facility structural conditions, identified deficiencies; and contain the signature of the inspector. Completed inspection reports are maintained in Appendix B.

Additional records that will be kept as part of the SPCC plan as they are generated include spill reports, and secondary containment unit storm water discharge records. In the event of a spill, the spill tracking form in Appendix E will be used to describe the spill, corrective action taken, and plans for preventing recurrence. Filled out forms are also maintained in Appendix E. Any discharge of storm water from any of the secondary containment units will be identified through completion of the form in Appendix F. A copy of the completed form will also be sent to ENV-CP and also maintained in Appendix F.

As required by 40 CFR 112.3(e), the SPCC Plan is to be maintained at the facility since the facility is manned at least 4 hours a day. Additionally, inspection procedures, signed inspections, drainage records, and spill reports will be retained as part of this SPCC Plan at the facility for a period of three years. Following completion of the three-year period, the records will be forwarded to the ENV-CP Records Management Team to be retained in accordance with Department of Energy requirements.

1.3.3. Training

40 CFR Part 112.7 (f) (1) states, "Train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan."

An online training program (Course: #30441) has been developed that covers spill procedure protocols; applicable pollution control laws, rules, and regulations; and lessons learned - information on known spill events or failures, SPCC Plan elements, and spill response procedures. This self-study course is required at least once yearly for oil-handling personnel of SPCC facilities. Additional spill prevention briefings and information on known spill events or failures, malfunctioning equipment, and recently developed precautionary measures is provided to oil handling personnel through a request to ENV-CP or through periodic facility briefings on small spills. In addition to the above training, spill response personnel at LANL receive HAZWOPER training that covers spill prevention, control, and cleanup procedures. Site specific training is completed by required reading of this SPCC Plan and is documented in Appendix C.

Oil handling personnel and personnel that will have SPCC training at this facility include the Deployed Environmental Professionals, the Resource Manager, Principle Operator and personnel who conduct re-filling operations.

The FOD or their representative(s) is responsible for ensuring that oil-handling personnel are properly instructed in the operation and maintenance of equipment at this facility to prevent the discharge of oil. Employee training programs must instill in oil-handling personnel, at all levels of responsibility, a complete understanding of the following:

- Contents of facility SPCC Plan
- General facility operations and maintenance of equipment
- The SPCC program
- Procedures for operator observation inspections
- Site safety hazards
- Practices for preventing spills
- Procedures for responding properly and rapidly to spills
- Protocol used to report spills
- Spill events or failures, malfunctioning components, and recently developed precautionary measures
- Additional applicable pollution control laws, rules, and regulations

Oil handling personnel also need to gain an understanding of the goals and objectives of the SPCC program, the individual responsibilities of each involved employee, and discharge procedures by required reading of this SPCC Plan and any additional training/briefings provided by ENV-CP. Prior to the initiation of work, oil-handling personnel also receive LANL HAZCOM training which covers spill prevention, control, and cleanup methods. Spill prevention briefings and information on known spill events or failures is provided to oil handling personnel through the 4003(b) Lessons Learned process or through periodic briefings. Records of training activities and personnel required training are kept in Appendix C.

1.3.4. Plan Amendment

This SPCC Plan will be amended whenever there is a change in facility design, construction, operation or maintenance that materially affects the Facility's potential for discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. The Plan will also be amended as necessary if a spill causes a change in design, construction, operation, or maintenance. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs. Amendments to the Plan will be recorded in the Amendment Log, Appendix D.

In addition, in accordance with 40 CFR 112.5(b), a complete review and evaluation of this SPCC Plan will be conducted at least once every five years by the operating group and/or FOD, and by ENV-CP. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if:

1. Such technology will significantly reduce the likelihood of a spill event from the Facility, and
2. if such technology has been field proven at the time of review.

Changes to inspection forms or the spill contact lists, as well as the addition of records to the Plan, do not require certification by a Professional Engineer. A Professional Engineer will certify all amendments that address technical changes such as a change in the facility's ability to discharge oil.

Technical amendments to the SPCC Plan shall not be effective to satisfy the regulatory requirements governing the document unless a Professional Engineer has certified them. Upon completing the required plan amendment, the plan review page located in the front of this document must be signed.

2. FACILITY DESCRIPTION

The TA-60 Asphalt Batch Plant was constructed in 2005 to replace the outdated plant previously located at TA-3. Heating coil oil and asphalt (64-22 oil)/cement are stored in a 115 and 15,000 gallon tanks, respectively. Tanks are constructed of materials compatible with what they hold and sit on the same skid. The 15,000 gallon tank was shop built in 2003 by BDM Engineering of California. The manufacturer did a visual inspection of the seam welds before the tank was shipped to LANL. A review of the inspection criteria outlined in STI-SP-001-06, integrity testing is not required because the exterior of this bulk storage tank is inspected daily as part of a Daily Walk Around Inspection (see inspection checklist in Appendix B) and contains a highly viscous emulsion (asphalt cement) which provides immediate visible evidence of leaking and becomes a semi-solid when exposed to a decrease in temperature.

The tanks and associated piping (there are no buried tanks, piping or transfer stations at the facility) are located within adequate secondary containment. The capacity of the concrete-bermed area is such that it will not completely contain the contents of the asphalt tank. Asphalt cement is highly viscous and will solidify on the pad of the containment as it cools. If it is a significant leak and overflows the containment berm, there should be little to no soil penetration (the surface of the site is covered with basecourse/gravel). Based on these facts, it was deemed during the construction of this facility that it was not necessary to provide additional containment for the asphalt tank volume. Additional containment is also available in the sedimentation pond located down slope of the tank. A Facility Diagram showing the location of the tanks and the sedimentation pond is provided in Appendix G. Jersey barriers surround the tanks to prevent damage from oil delivery trucks or other equipment.

Structures at the facility that contain hot-mix are exempt from the SPCC regulations (Federal Register/vol. 73, No. 235, 12/5/2008, page 74240).



Photograph 1. Looking W towards the TA-60 ABP To the left is the 115 gal. oil tank. In the center is the 15,000 gal. asphalt cement tank. Secondary containment is located below these tanks.



Photograph 2. Close up view of two tanks 115 gal. tank (forefront) and 15,000 gal. asphalt cement tank.

2.1. Asphalt Plant Oil Storage Tanks and Secondary Containment

There are two storage tanks located on a skid within a secondary containment in the southeast corner of the facility. The tank area is free from periodic flooding or washout (see Appendix G for facility diagrams). The first tank contains 115 gallons of heating coil oil, and the second (a 15,000 gallon tank) stores about 13,000 gallons of asphalt cement. The 15,000 gallon tank was shop-built by BDM Engineering of California (1-800-323-6745) in 2003. Both tanks are of materials that are compatible with their contents. Visual inspection of the tank seam weld was performed by the manufacturer before the 15,000 gallon tank was shipped.

The tanks sit on a skid within a concrete foundation with a curb berm that provides secondary containment. Containment is sufficient to hold the contents of the heating coil oil tank, approximately 115 gallons, plus freeboard for precipitation. It will however, not hold the entire contents of the 15,000 gallon tank. (see discussion in Section 2.) The containment is curbed such that it prevents storm water run-on. There are Jersey barriers surrounding the tanks to prevent damage from vehicles.

Asphalt oil in the 15,000 gallon asphalt cement tank is measured using a float gauge. The float gauge is checked for operability during asphalt cement transfers. The tank is mounted to a skid located within an engineer designed secondary containment. All overflows would be contained within the secondary containment.

Additional secondary containment is provided by a sedimentation pond located down slope of the tanks. Location of each containment is illustrated on the site map in Appendix G. Section 3.2 discusses potential spills to and/or from the containments.

Transfer piping and the associated valves are aboveground and associated with the tanks. Piping is readily available for inspection at all times and leaks and spill would be captured by the concrete secondary containment. There are no buried or partially buried tanks.

2.2. Security

TA-60 at Sigma Mesa is presently an access-controlled area. The east end of Sigma Mesa is fenced and has a gate, which is locked when the facility is unattended after 5 PM weekdays and on weekends. Lighting at the facility is adequate to detect potential night spills and to deter vandals.

2.3. Secondary Containment Drainage Operations

A description of all secondary containments is provided in Section 2.1. A cement bermed pad provides secondary containment for this system. Storm Water run-on into the containment is minimized at the perimeter of the pad and is diverted away from the SPCC area.

Storm water precipitation that does accumulate in the 350 square foot secondary containment used for the tanks is usually small and is therefore allowed to evaporate. However, if it is necessary to drain the secondary containment to ensure sufficient storage capacity in the event of a tank leak or spill, drainage will meet federal and state water quality standards prior to discharge. To ensure compliance with these standards, the form located in Appendix F will be used. The completed form will be sent to ENV-CP for confirmation regarding discharge. A record of completed forms will also be filed in Appendix F.

2.4. Facility Transfer Operations

Oil is transferred into the tanks in the containment area from vendor supplied tanker trucks. LANL AST filling procedures are in place and will be used during each filling operation. The Principal Operator will assure that these procedures are used and that any small leaks that occur within the secondary containment will be cleaned up immediately. Emergency Operations-Emergency Management (EO-EM) (667-6211) shall be notified in the event of a spill.

2.5. Facility Loading/Unloading

Petroleum product is delivered to the two oil storage tanks (115 and 15,000 gallons) by an off-site vendor and the oil product is pumped directly into the tanks. The re-fill ports are located on the tanks and the tanks are located within a 350 square foot secondary containment. Jersey barriers surrounding the secondary containment that hold the two tanks prevent possible damage from oil tankers and other heavy equipment that may enter the facility. A spill kit is retained at the facility in case the vendor's oil delivery line drips or leaks. A record of oil refill volumes is maintained in the Principal Operators trailer located at the facility.

2.6. Facility Drainage

The secondary containment is equipped with a 2-inch capped drainpipe to allow controlled draining of the contents. The drain is kept locked with access controlled limited to the Principal Operator. Drainage from the area surrounding the pad is generally down slope to the south towards a sedimentation pond. The direction of storm water flow is depicted in the site map (Appendix G). Storm water from around the pad also travels to the south towards a sedimentation pond (design capacity is for several back-to-back 25-year rain events) associated with the facility MSGP. Should the pond overflow, its contents would flow

towards a swale, then to the edge of the mesa top, to a bench approximately 50 ft. below, and down into the floor of Mortandad Canyon. The canyon has a perennial stream which eventually drains into the Rio Grande.

3. SPILL INFORMATION

3.1. Spill History

Since the facility began operating in 2005 there has been only one spill occurrence. In March 2007, 165 gallons of asphalt cement leaked from part of a weld on the 15,000 gallon asphalt cement tank. The asphalt cement dripped into and was fully contained in the secondary containment located below the 15,000 gallon tank. The cement asphalt slag was cleaned up and properly disposed. The weld was repaired.

One legacy spill identified as a RCRA Solid Waste Management Unit (SWMU) located within the facility boundary. SWMU 60-002 has been identified and investigated as part of the LANL-wide monitoring program for SWMUs. It is considered to have a low potential to impact the quality of storm water flows or discharges from the facility boundary because a base-course berm and a storm water conveyance ditch located between the TA-60 ABP's east boundary and the boundary of this SWMU minimizes the potential for any run-on/runoff on or off the SWMU.

3.2. Potential Spills

Potential spills in the tank area would be the result of a tank failure or loading or unloading accident. Such failures could involve one or both tanks. It is unlikely that an event would involve both tanks simultaneously. In accordance with 40 CFR 112, the secondary containment provides containment for the entire volume of the 115 gal. tank. In addition to the secondary containment a sedimentation basin located 200 feet down slope would also effectively provide adequate containment.

A potential also exists for the release of spills/leaks to occur outside of the containment area during loading and unloading operations from the oil delivery truck. The flow rate of the spilled substance would depend on the size of the leak. A release of this nature would follow the path of storm water and would also be captured by the sedimentation basin.

3.3. Spill Prevention, Response, Control and Reporting

Work at this facility is performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event to achieve effective spill response training for employees. Personnel involved with facility operations are instructed on safety precautions, initial spill response procedures, and how to use available spill cleanup material. The Deployed Environmental Professional for the facility is the designated person responsible for spill prevention, reporting and maintenance of the spill control equipment at the Facility. ENV-CP is responsible for providing available training programs. In addition to annual training, periodic spill prevention briefings may be conducted by a LANL contractor as necessary to inform operating personnel about spill events or failures, malfunctioning components, recently developed precautionary measures, or other SPCC-related issues.

Spill Control Equipment: A spill kit that contains adequate universal sorbent or spill control pillows to handle minor spills and remove any oil or sheen from storm water collected in the secondary containment or sedimentation pond is located within the Principal Facility Operator's trailer at the facility (see Site Map, Appendix G). The spill kit also contains goggles, gloves, bags, ties, scoop and labels and shovels. Spill control material storage areas shall be inventoried regularly to assure that the proper materials are available in sufficient quantity and of sufficient quality to minimize the spread of oil products in the case of a spill prior to the arrival of response teams.

Spill Responses: All spills require response. Any spills that have the potential to enter a drain or water course, require immediate response and must be reported immediately to the LANL EO-EM office and to ENV-CP.

Small incidental releases (e.g., vehicle oil, grease, fuel drip spots) and spills into the secondary containment will be addressed as part of good housekeeping and be cleaned up and properly disposed as soon as possible (usually on the day the spill was discovered). The cleanup will be conducted by properly trained personnel. It is the responsibility of the FOD to provide access to an appropriate Waste Generator and Waste Management Coordinator who is properly trained to dispose of spill materials.

All other spills will be reported to the Principal Facility Operator who will notify the Facility Manager, who then notifies the Utilities Operations Manager. The Operations Manager is responsible for notifying LANL EO-EM and the FOD. If neither manager is available the principal operator will notify EO-EM directly. The principal operator will address, if no health hazards exists, the cause of the spill and contain as much of the spill as possible until the EO-EM team arrives.

The EO-EM will determine to what level LANL's EO-EM plan will be activated. In addition, appropriate cleanup procedures will be followed and the appropriate individuals or organizations responsible for the completion of appropriate spill reports will be notified.

Spill Contact Information:

If fire or explosion is present, or if the potential for such exists, the situation must be reported by dialing 911 or activating a fire pull box if available at the facility.

LANL 24- hr. Emergency Operations-Emergency Management (EO-EM) Number: 667-6211.

Name	Title	Work	Pager	Cell
Andrew Erickson	FOD, UI-DO	667-4222	664-5913	695-4122
Phil Romero	DSESH-UIMS Manager, UI-DO	667-8332	664-2151	231-1202
Joe Serna	LANL Facility Manager			231-4917
Leslie McReynolds	LANL Principal Facility Operator			231-1124
High Performance Computing D.O.	Duty Officer		664-8947	699-0119
Duty officer pager	UI-DO (24 hour emergency contact)		104-6455	699-7452
Leonard Sandoval	Deployed Environmental Professional DSESH-UIMS	667-3557		231-1235

Spill Reporting: Spill reporting is accomplished through SPCC Plan documentation and EM&R notification and the LANL Water Quality and Hydrology Group, ENV-CP. ENV-CP will complete required state, federal, and DOE Order 232 ORPS reporting, including the federal reporting of spills in excess of 1,000 gallons or two combined spills greater than 42 gallons in 12 months in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements per ISD 322-3 Manual for Communication, Investigation, and Reporting Abnormal Events
<http://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=ISD322-3&FileName=ISD322-3.pdf>.

Definition of the authorities, responsibilities, and duties of all entities involved in oil removal operations:

Authorities	Spill Reporting Responsibilities	Response Duties
Onsite workers	<u>Contact EM&R at 7-6211 or 911</u> if necessary	
Facility Spill Team	Notify DSESH-UIMS Deployed Environmental Professional	Qualified workers may clean up simple/small spills and manage waste per LANL procedures above.
EM&R	If EM&R is notified of a spill event, they will contact all additional applicable parties including ENV-CP	Respond per contingency plan
DSESH-UIMS Deployed Environmental Professional	Notify ENV-CP, document spill in SPCC Plan in accordance with Section 1.3.2	Contact the appropriate Waste Generator and Waste Management Coordinator for disposal.
ENV-CP Water Quality	Completion of spill reports that are reportable to federal and state agencies. Provide oversight for spill mitigation activities.	Provide information to federal and state agencies.

Appendix A

Certification of the Applicability of the Substantial Harm Criteria

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: TA-60 Asphalt Batch Plant

Facility Address: Asphalt Batch Plant, TA-60, LANL, Los Alamos, NM

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes No

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes No

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in accordance with EPA 40 CFR 112, App. C) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" and the applicable Area Contingency Plan.

Yes No

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in accordance with EPA 40 CFR 112, App. C) such that a discharge from the facility would shut down a public drinking water intake?

Yes No

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a re-portable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes No

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Andrew W. Erickson	LANL Utility & Infrastructure Facility Operations Director
Name (please type or print)	Title
 for	2-11-15
Signature	Date
Andrew Erickson	
