EMID-702685

N3B Los Alamos

2022 Update to the Site Discharge Pollution Prevention Plan,

NPDES Permit No. NM0030759

May 1, 2023

Water/Cañon de Valle Watershed

Receiving Waters:
Cañon de Valle, Potrillo Canyon, Water Canyon, and Fence Canyon

Volume 4

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Attachments

169.0 CDV-SMA-1.2: SWMUs 16-017(b)-99 and 16-029(k)

Two historical industrial activity areas, Sites 16-017(b)-99 and 16-029(k), are associated with CDV-SMA-1.2 (permitted feature V001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

169.1 Site Descriptions

16-017(b)-99 (6/19/2017)

SWMU 16-017(b)-99 consists of a former HE machining building (former structure 16-93) that was located at TA-16. Constructed on a concrete pad in 1950, the 1,627 ft^2 wooden building was surrounded by an earthen berm that was packed against steel pilings. The building was originally used for HE machining and was later converted to an electroplating facility. By 1970, the building was used entirely for storage. By 1991, it was abandoned and subsequently removed during D&D operations in 1996. Two former HE sumps [SWMU 16-029(k)], located adjacent to former building 16-93, discharged to two outfalls in a drainage north of the building that emptied into Cañon de Valle 600 ft north of the former 90s Line ponds [SWMU 16-008(a)]. The sumps and associated drainlines were also removed in 1996. This SWMU was originally a component of SWMU 16-017, which consisted of a group of 24 structures within TA-16 that were part of the World War II era HE operations. During the 1999 Annual Unit Audit, SWMU 16-017 was split into 24 separate SWMUs to facilitate investigation. Structure 16-93 was given the individual SWMU identification of SWMU 16-017(b)-99 at that time.

16-029(k) (6/19/2017)

SWMU 16-029(k) consists of two former HE sumps at TA-16. The sumps were located adjacent to former building 16-93 [SWMU 16-017(b)-99], and discharged to associated drainlines and outfalls in a drainage north of the building that emptied into Cañon de Valle 600 ft north of the former 90s Line ponds [SWMU 16-008(a)]. Constructed of wood on a concrete pad in 1950, former building 16-93 measured 1,627 ft^2 and was surrounded by an earthen berm that was packed against steel pilings. The building was originally used for HE machining and was later converted to an electroplating facility. By 1970, the building was used entirely for storage. The building was totally abandoned by 1991, and the building, sumps, drainlines, and berms were removed during D&D operations in 1996.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 169-1.

Table 169-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-017(b)-99	Soil contamination from former HE machining building 16-93	Metals, barium, chromium, copper, SVOCs, HE, uranium
16-029(k)	Sumps	Metals, barium, chromium, copper, SVOCs, HE, uranium

169.2 Control Measures

All active control measures in use at SMA are listed in Table 169-2. Their locations are shown on the project map (Figure 169-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 169-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00102040012	Established Vegetation	-	X	X	-	B	5-3-2013
V00103020008	Base Course Berm	-	X	-	X	CB	11-17-2009
V00104060001	Riprap	-	X	X	-	CB	4-1-2009
V00106010007	Rock Check Dam	-	X	-	X	CB	9-10-2009

169.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at CDV-SMA-1.2 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 169-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 169-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92924[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-23-2022	5 4	Yes Yes
BMP-93257[b]	6-25-2022 6-26-2022	0.42 0.3	6-29-2022	4 3	Yes Yes
BMP-93717[b]	7-2-2022 7-4-2022	0.25 0.8	7-15-2022	13 11	Yes Yes
BMP-94342	7-20-2022	0.66	7-27-2022	7	Yes
BMP-94998[b]	7-30-2022 7-31-2022	0.59 0.4	8-9-2022	10 9	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

169.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 12, 2013. The HE analytical results for this sample were rejected because of holding times. The remaining analytical results yielded no TAL exceedances. The complete results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

An additional baseline stormwater sample was collected on August 2, 2015. Analytical results from this monitoring sample yielded no TAL exceedances. The complete results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was conducted at CDV-SMA-1.2 under the 2010 IP requirements from March 23 through November 16, 2022, resulting in a monitoring season of 239 days. Nine inspections were performed during the monitoring period and are summarized in Table 169-4. Rain gage RG253 recorded 41 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 169-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91639	4-13-2022	No	None	None
SMPLR-91998	5-19-2022	No	None	None
SMPLR-92494	6-14-2022	No	None	None
SMPLR-92829	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.06/0.33 0.38/0.55 0.05/0.23
SMPLR-92943	6-28-2022	No	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.08/0.19 0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11
SMPLR-93458	8-9-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022	0.15/0.32 0.25/0.35 0.8/1.49 0.06/0.12 0.66/0.8 0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24 0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24 0.44/1.41 0.39/0.42

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95311	9-19-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022 9-9-2022 9-13-2022	0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25 0.16/0.27 0.05/0.12
SMPLR-96009	10-17-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-9-2022 10-15-2022 10-16-2022	0.11/0.15 0.2/0.22 0.07/0.18 0.07/0.15 0.18/0.19 0.17/1.13 0.06/0.22
SMPLR-96348	11-16-2022	No	10-17-2022	0.05/0.14

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

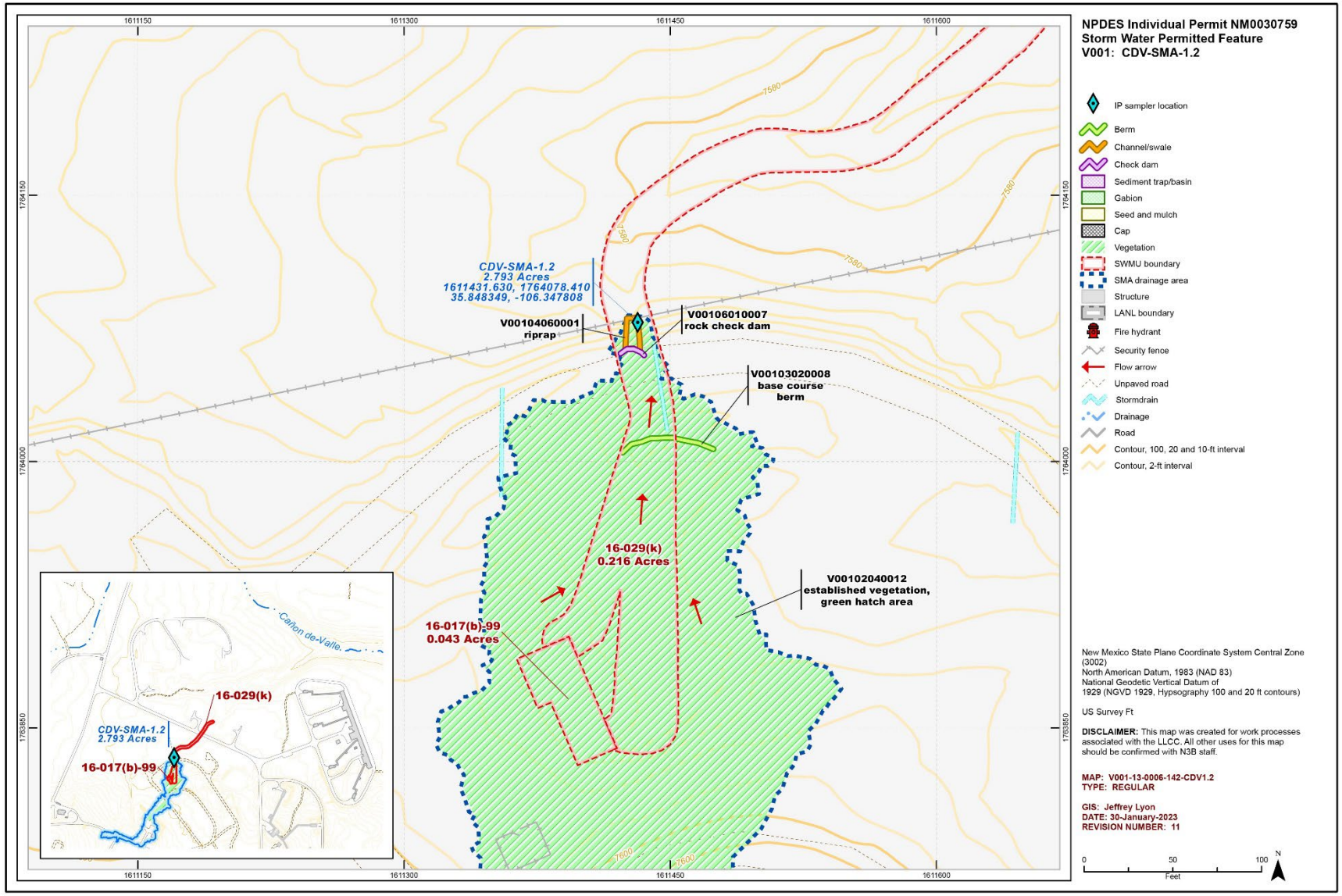

Figure 169-1 CDV-SMA-1.2 location map

170.0 CDV-SMA-1.3: SWMUs 16-017(a)-99 and 16-026(m)

Two historical industrial activity areas, Sites 16-017(a)-99 and 16-026(m), are associated with CDV-SMA-1.3 (permitted feature V002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

170.1 Site Descriptions

16-017(a)-99 (6/19/2017)

SWMU 16-017(a)-99 consists of a former HE machining building (former Structure 16-92) that was located at TA-16. Constructed in 1950, the wooden building measured 20 ft wide × 60 ft long × 11 ft high and was surrounded by an earthen berm that was packed against steel pilings. The building was originally used for HE machining and was later used to clean and refurbish HE-contaminated equipment. Operations at building 16-92 may have resulted in uranium contamination because disassembled items may have contained uranium. By 1970, the building was used entirely for storage. By 1991, building 16-92 was abandoned and was subsequently removed during D&D operations in 1996. Two former sumps [SWMU 16-029(l)], located adjacent to former building 16-92, discharged to outfalls [SWMU 16-026(m)] in drainages east of the building that emptied into Cañon de Valle 600 ft north of the former 90s Line ponds [SWMU 16-008(a)]. The sumps and associated drainlines were also removed in 1996. This SWMU was originally a component of SWMU 16-017, which consisted of a group of 24 structures within TA-16 that were part of the World War II era HE operations. During the 1999 Annual Unit Audit, SWMU 16-017 was split into 24 separate SWMUs to facilitate investigation. Structure 16-92 was given the individual SWMU identification of SWMU 16-017(a)-99 at that time.

16-026(m) (6/19/2017)

SWMU 16-026(m) consists of two former outfalls and associated drainlines from two former sumps [SWMU 16-029(l)] that served former HE machining building 16-92, all of which were located near the 90s-Line Pond area at TA-16. The sumps measured approximately 15 ft × 5 ft × 5 ft and were located on the east and west sides of former building 16-92. The eastern sump discharged to a VCP drainline that extended north and west to its discharge point approximately 260 ft north of the building. The western sump discharged to a VCP that extended north and then west of the building where it discharged to an open drainage channel. The outfalls did not discharge to the 90s Line pond [SWMU 16-008(a)], but instead discharged to a northeast drainage that empties into Cañon de Valle 600 ft north of the 90s Line. Constructed in 1950, former building 16-92 consisted of a wooden structure on a concrete slab, measured 1332 ft^2, and was surrounded on three sides by an earthen berm that was packed against steel pilings. The building was originally used for HE machining and was later used to clean and refurbish HE-contaminated equipment. The sumps were filled with gravel during the mid-1960s and by 1970, the building was used entirely for storage. Operations at building 16-92 may have resulted in uranium contamination because disassembled items may have contained uranium. By 1991, building 16-92 was abandoned and was subsequently removed during D&D operations in 1996 along with the SWMU 16-026(m) outfalls and associated drainlines, and the SWMU 16-026(l) sumps.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 170-1.

Table 170-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-017(a)-99	Soil contamination from former HE machining building 16-92	Metals, barium, organic chemicals, HE, uranium
16-026(m)	Outfalls associated with former building 16-92	Metals, barium, organic chemicals, HE, uranium

170.2 Control Measures

All active control measures in use at CDV-SMA-1.3 are listed in Table 170-2. Their locations are shown on the project map (Figure 170-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 170-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00202040003	Established Vegetation	-	X	X	-	B	5-3-2013
V00203020002	Base Course Berm	-	X	-	X	CB	11-17-2009

170.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at CDV-SMA-1.3 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 170-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 170-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92925[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-24-2022	6 2	Yes Yes
BMP-93258[b]	6-25-2022 6-26-2022	0.42 0.3	7-1-2022	6 5	Yes Yes
BMP-93718[b]	7-2-2022 7-4-2022	0.25 0.8	7-15-2022	13 11	Yes Yes
BMP-94343	7-20-2022	0.66	7-27-2022	7	Yes
BMP-94999[b]	7-30-2022 7-31-2022	0.59 0.4	8-9-2022	10 9	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

170.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (34.7 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at CDV-SMA-1.3 in 2022 under the 2010 IP requirements.

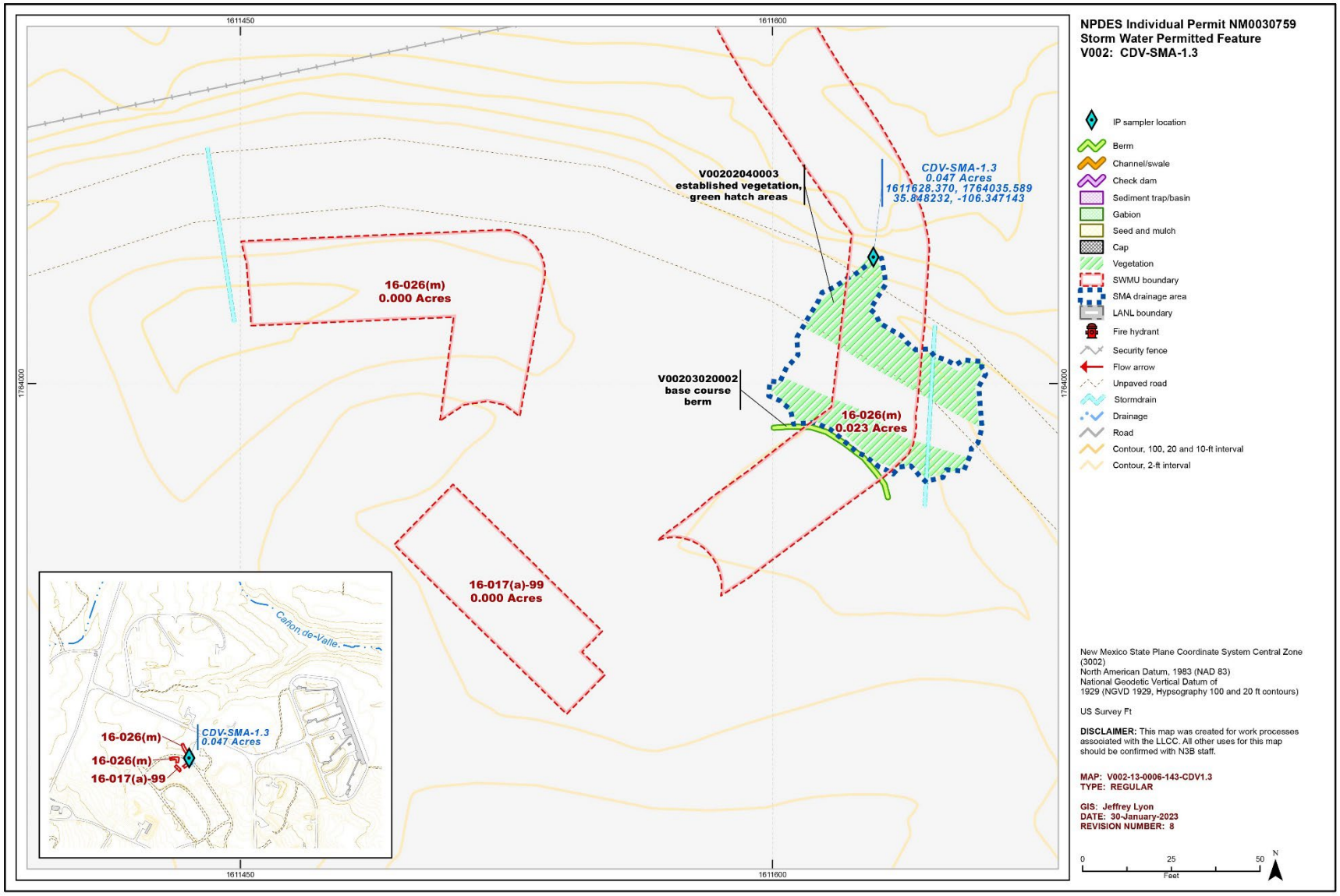

Figure 170-1 CDV-SMA-1.3 location map

171.0 CDV-SMA-1.4: SWMUs 16-020, 16-026(l), and 16-028(c)

Three historical industrial activity areas, Sites 16-020, 16-026(l), and 16-028(c), are associated with CDV-SMA-1.4 (permitted feature V003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

171.1 Site Descriptions

16-020 (9/14/2020)

SWMU 16-020, known as the Silver Outfall and described as such in the 1990 SWMU Report, is a former operational release area where untreated spent photo-fixing bath solutions were discharged from former building 16-222 to an outfall for a period of 20 years at TA-16. Former building 16-222 was part of the 16-220 Complex, which was a complex of connected buildings used for radiography of HE parts for nuclear weapons for approximately 43 years. According to the 1990 SWMU Report, between 1959 and 1979, photo-processing liquids were discharged to an outfall on the south side of former building 16-222 directly to the environment without treatment. The outfall and drainage downgradient of the outfall received significant quantities of silver (>12 g/L) as silver thiosulfate complexes in untreated, spent x-ray fixing solutions. Soil and sediment downgradient of this outfall was contaminated with photo-processing chemicals, including silver and chromium, as well as PAHs from asphalt roofing materials. In 1979, a silver recovery unit was installed in former building 16-222 to remove silver from the photo-processing effluent prior to discharge. The outfall was added to the LANL NPDES permit as outfall 06A-073. Discharges to the outfall ceased when building 16-222 was decommissioned in 1995 and was demolished and removed in 2003 and the outfall was removed from the LANL NPDES permit in 1997.

16-026(l) (6/3/2021)

SWMU 16-026(l) is described in the 1990 SWMU Report as consisting of three inactive outfalls and associated outlet drainlines that served former building 16-220 at TA-16. The 1990 SWMU Report states the outfalls were located on the northeast, southeast, and south sides of former building 16-220, a former x-ray building. According to the 1998 replacement of Chapter 6 of OU 1082 RCRA RFI work plan, Addendum 2, SWMU 16-026(l) consists of three outlet drainlines from the east wall and the northeastern and southeastern corners of building 16-220. The 1992 Santa Fe Engineering Wastewater Stream Characterization report #7 for TA-16, as-built drawings ENG-C 15660 (pg. 57 of 121) and ENG-C 15605 (pg. 2 of 121), and engineering drawing ENG-R 855 (pg. 2 of 38) show two 4-in.-diameter CI roof drainlines, one coming off the northeast corner of former building 16-220, and one coming off the southeast wall of former building 16-220 and discharging to outfalls located approximately 20 ft east of the former building. The third outfall discharged via a 4-in.-diameter CI outlet drainline from a steam pit that exited the middle east wall of former building 16-220 to an outfall located approximately 120 ft east of drainline former building 16-220, as shown on as-built drawings ENG-C 15660 (pg. 57 of 121) and ENG C 15605 (pg. 2 of 121), engineering drawing ENG-R 855 (pg. 2 of 38), and the 1992 Santa Fe Engineering Wastewater Stream Characterization report #7 for TA-16. The 2006 investigation work plan incorrectly states that the drainage area from these three outfalls is commingled with the outfall drainage from SWMU 16-028(c); they have separate drainage areas. Building 16-220 was removed in 2003. The 1991 orthographic GIS layer and a 1988 site photograph confirm the correct locations of the three former outfalls and the three associated outlet drainlines.

16-028(c) (6/3/2021)

SWMU 16-028(c) is a former NPDES-permitted outfall (EPA 04A-070) and outlet drainline that received discharges from eight floor drains in former building 16-220 at TA-16. The 1992 Santa Fe Engineering Wastewater Stream Characterization report #7 for TA-16 and as-built drawing ENG-C 15660 (pg. 57 of 121) show the former outfall (EPA 04A070) received discharges from eight floor drains in former building 16-220. The effluent contained noncontact cooling water, chiller condensate, periodic discharge from a HE vacuum pump, and floor washings. The 4-in.-diameter CI outlet drainline tied into a 6-in.-diameter VCP outlet drainline before discharging to a rocky ditch on the east side of the building and effluent flowed to a relatively flat, grassy field southeast of the building as shown in engineering drawing ENG-C 29835 (pg. 11 of 17) and a 1988 site photograph. The 2006 investigation work plan incorrectly stated that the drainage area was commingled with the outfalls from SWMU 16-026(l); they have separate drainage areas. The floor drains in former building 16-220 were plugged in 1991 and building 16-220 was removed in 2003. This outfall was removed from the LANL NPDES permit, effective September 19, 1997.

Former rest houses within S-Site stored finished packaged HE components before and after they were radiographed in the x-ray buildings. The HE components were transported between the rest houses and the x-ray buildings in enclosed walkways. When the components arrived at the x-ray buildings, they were removed from their packaging, x-rayed, repackaged and returned to the rest houses. Small HE chips were historically observed in the floor drains. Site workers stated that HE dust and small chips would break off during the x-ray process and could have entered the building 16-220 floor drains. Because SWMU 16-028(c) is associated with floor drains in the former x-ray building, HE contamination could be present at the outfall.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 171-1.

Table 171-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-020	Outfall from former building 16-222	Metals, chromium, silver
16-026(l)	Outfalls associated with former building 16-220	Metals, organic chemicals, HE
16-028(c)	Outfall from former building 16-220	Metals, organic chemicals, HE

171.2 Control Measures

All active control measures in use at CDV-SMA-1.4 are listed in Table 171-2. Their locations are shown on the project map (Figure 171-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 171-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00302040069	Established Vegetation	-	X	X	-	B	8-27-2013
V00303010066	Earthen Berm	X	-	-	X	B	9-6-2012
V00303010070	Earthen Berm	X	-	-	X	EC	8-27-2013
V00303010071	Earthen Berm	-	X	-	X	EC	8-27-2013
V00303010072	Earthen Berm	-	X	-	X	EC	8-27-2013
V00303020017	Base Course Berm	X	-	-	X	CB	11-17-2009
V00303120087	Rock Berm	X	-	-	X	B	11-20-2015
V00305020068	Sediment Basin	X	-	-	X	B	9-6-2012
V00305020073	Sediment Basin	X	-	-	X	EC	8-27-2013
V00305020074	Sediment Basin	X	-	-	X	EC	8-27-2013
V00305020075	Sediment Basin	X	-	-	X	EC	8-27-2013
V00305020076	Sediment Basin	X	-	-	X	EC	8-27-2013
V00306010012	Rock Check Dam	-	X	-	X	CB	6-4-2009
V00306010039	Rock Check Dam	-	X	-	X	B	8-11-2011
V00306010040	Rock Check Dam	-	X	-	X	B	8-11-2011
V00306010043	Rock Check Dam	X	-	-	X	B	8-29-2011
V00306010057	Rock Check Dam	X	-	-	X	B	8-29-2011
V00306010058	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010059	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010060	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010061	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010062	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010063	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010064	Rock Check Dam	-	X	-	X	B	9-6-2012
V00306010065	Rock Check Dam	X	-	-	X	B	9-6-2012

171.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at CDV-SMA-1.4 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 171-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 171-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92926[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-23-2022	5 1	Yes Yes
BMP-93259[b]	6-25-2022 6-26-2022	0.42 0.3	6-30-2022	5 4	Yes Yes
BMP-93719[b]	7-2-2022 7-4-2022	0.25 0.8	7-15-2022	13 11	Yes Yes
BMP-94344	7-20-2022	0.66	7-27-2022	7	Yes
BMP-95000[b]	7-30-2022 7-31-2022	0.59 0.4	8-11-2022	12 11	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

171.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 10, 2012. Analytical results from this sample yielded a TAL exceedance for silver (7.86 µg/L). The weak-acid dissociable cyanide analysis was not performed because the sample bottle for cyanide was not correctly preserved. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was conducted at CDV-SMA-1.4 under the 2010 IP requirements from March 23 through November 10, 2022, resulting in a monitoring season of 233 days. 10 inspections were performed during the monitoring period and are summarized in Table 171-4. Rain gage RG253 recorded 41 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 171-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91641	4-13-2022	No	None	None
SMPLR-92000	5-19-2022	No	None	None
SMPLR-92496	6-14-2022	No	None	None
SMPLR-92831	6-21-2022	No	6-17-2022 6-18-2022	0.06/0.33 0.38/0.55
SMPLR-92945	6-30-2022	No	6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.05/0.23 0.08/0.19 0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93556	8-11-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022	0.15/0.32 0.25/0.35 0.8/1.49 0.06/0.12 0.66/0.8 0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24 0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24 0.44/1.41 0.39/0.42
SMPLR-95355	9-21-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022 9-9-2022 9-13-2022 9-20-2022	0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25 0.16/0.27 0.05/0.12 0.11/0.15
SMPLR-96048	9-26-2022	No	9-22-2022	0.2/0.22
SMPLR-96115	10-17-2022	No	10-2-2022 10-3-2022 10-9-2022 10-15-2022 10-16-2022	0.07/0.18 0.07/0.15 10-9-2022 10-15-2022 0.06/0.22
SMPLR-96350	11-10-2022	No	10-17-2022	0.05/0.14

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

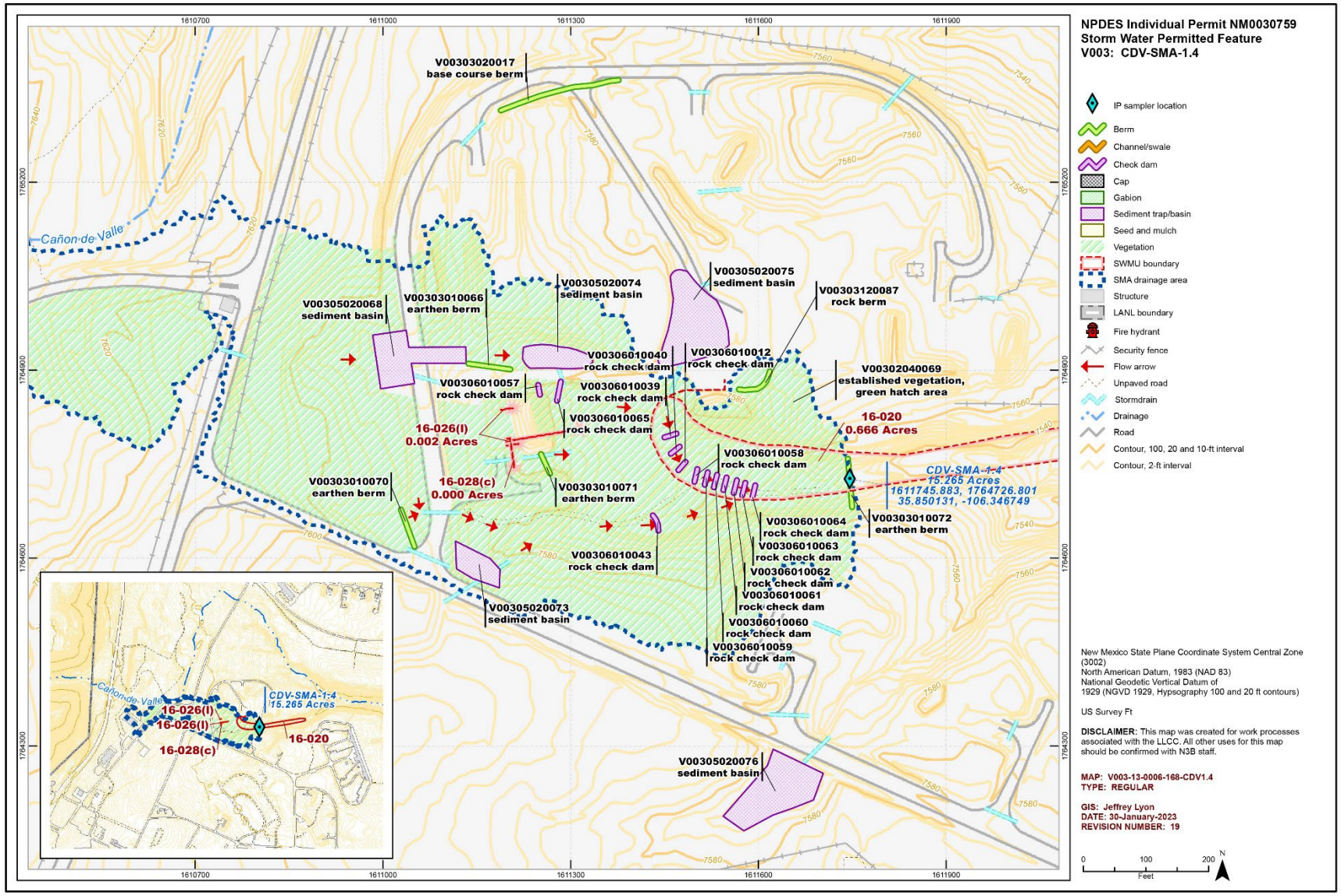

Figure 171-1 CDV-SMA-1.4 location map

172.0 CDV-SMA-1.45: SWMU 16-026(i)

One historical industrial activity area, Site 16-026(i), is associated with CDV-SMA-1.45 (permitted feature V004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

172.1 Site Descriptions

16-026(i) (9/14/2020)

SWMU 16-026(i) consists of an inactive outfall and associated floor drains and drainlines from former building 16-224 within the northern portion of S-Site at TA-16. Floor drains in former building 16-224 were connected to two drainlines located at the northeast and northwest corners of the building. The drainline tied into a single 6-in. VCP outlet drainline, which discharged to the outfall approximately 40 ft northeast of the building. Building 16-224 was an x-ray building constructed in the early 1950s and measured 58 ft long × 44 ft wide × 10 ft high.

Former rest houses within S-Site stored finished packaged HE components before and after they were radiographed in the x-ray buildings. The HE components were transported between the rest houses and the x-ray buildings in enclosed walkways. When the components arrived at the x-ray buildings, they were removed from their packaging, x-rayed, repackaged and returned to the rest houses. Small HE chips were historically observed in the floor drains. Site workers stated that HE dust and small chips would break off during the x-ray process and could have entered the floor drains. Because SWMU 16-026(i) is associated with floor drains in the x-ray building, HE contamination could be present at the outfall. The floor drains were plugged in 1991 and building 16-224 was removed in 2003. The outfall was characterized by low flow onto a shallow, grassy slope northeast of the building.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 172-1.

Table 172-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-026(i)	Outfall from former building 16-224	Metals, barium, SVOCs, HE

172.2 Control Measures

All active control measures in use at CDV-SMA-1.45 are listed in Table 172-2. Their locations are shown on the project map (Figure 172-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 172-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00402040005	Established Vegetation	-	X	X	-	B	5-3-2013
V00403010004	Earthen Berm	-	X	-	X	EC	6-5-2012

172.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at CDV-SMA-1.45 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 172-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 172-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92928[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-23-2022	5 1	Yes Yes
BMP-93261[b]	6-25-2022 6-26-2022	0.42 0.3	6-30-2022	5 4	Yes Yes
BMP-93721[b]	7-2-2022 7-4-2022	0.25 0.8	7-14-2022	12 10	Yes Yes
BMP-94346	7-20-2022	0.66	7-27-2022	7	Yes
BMP-95002[b]	7-30-2022 7-31-2022	0.59 0.4	8-11-2022	12 11	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

172.4 Stormwater Monitoring

SWMU 16-026(i) is monitored within CDV-SMA-1.45. Following the installation of baseline control measures, a baseline confirmation sample was collected on August 21, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (17.8 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at CDV-SMA-1.45, under the 2010 IP requirements, from March 29 through November 10, 2022, resulting in a monitoring season of 227 days. 10 inspections were performed during the monitoring period and are summarized in Table 172-4. Rain gage RG253 recorded 41 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 172-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91640	4-13-2022	No	None	None
SMPLR-91999	5-19-2022	No	None	None
SMPLR-92495	6-14-2022	No	None	None
SMPLR-92830	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.06/0.33 0.38/0.55 0.05/0.23

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-92944	6-30-2022	No	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.08/0.19 0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11
SMPLR-93555	8-11-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022	0.15/0.32 0.25/0.35 0.8/1.49 0.06/0.12 0.66/0.8 0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24 0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24 0.44/1.41 0.39/0.42
SMPLR-95354	9-21-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022 9-9-2022 9-13-2022 9-20-2022	0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25 0.16/0.27 0.05/0.12 0.11/0.15
SMPLR-96047	10-7-2022	No	9-22-2022 10-2-2022 10-3-2022	0.2/0.22 0.07/0.18 0.07/0.15
SMPLR-96294	10-17-2022	No	10-9-2022 10-15-2022 10-16-2022	0.18/0.19 0.17/1.13 0.06/0.22
SMPLR-96349	11-10-2022	No	10-17-2022	0.05/0.14

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

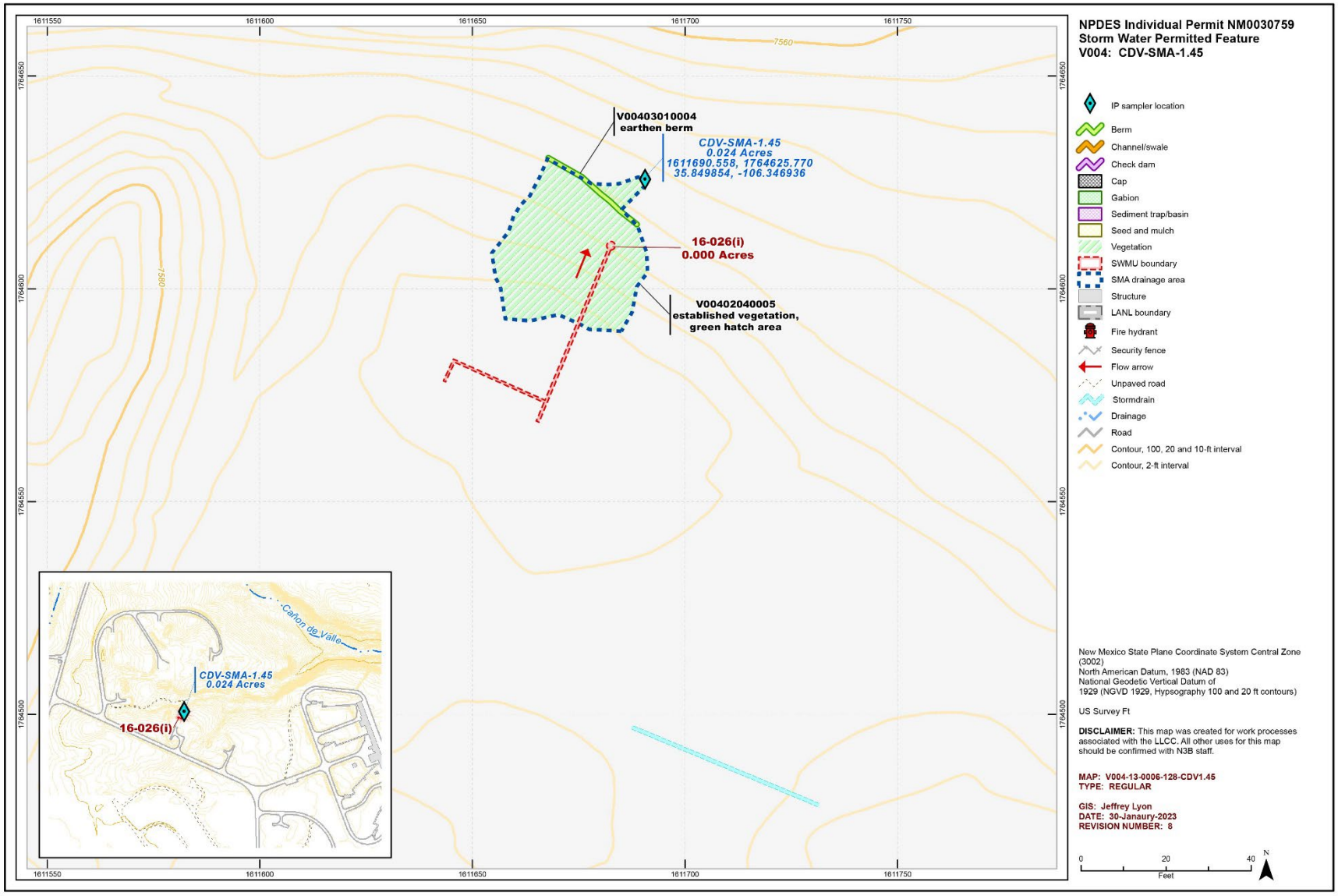

Figure 172-1 CDV-SMA-1.45 location map

173.0 CDV-SMA-1.7: SWMU 16-019

One historical industrial activity area, Site 16-019, is associated with CDV-SMA-1.7 (permitted feature V005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

173.1 Site Descriptions

16-019 (9/14/2020)

SWMU 16-019, known as MDA R, is located north of building 16-260 and south of Cañon de Valle at TA-16. MDA R lies within relatively flat terrain with a moderate slope to the north, dropping off approximately 80 ft into Cañon de Valle. MDA R consists of the original World War II (WWII) S-Site burning ground and an associated waste disposal area. MDA R was constructed in the mid-1940s and used as a burning ground for waste explosives until the early 1950s, probably 1951, when building 16-260 was constructed. Initially, HE were burned in the open; later, three bermed U-shaped pits, each measuring approximately 75 ft × 75 ft, were used for burning scrap HE. The three burn pits were placed roughly parallel to, and approximately 150 ft from the edge of the canyon and constructed side-by-side such that adjacent sides were common. Thus, the total footprint of the burn pits within MDA R was approximately 225 ft × 75 ft. A road encircled the burn pits and the area was fenced. The total area of MDA R is estimated as 2.25 acres. During the construction of building 16-260, the berms and surface soil were graded northward into Cañon de Valle. The area has not been used for any waste management activities since the early 1950s and is currently covered with grasses and small trees and shrubs, many planted following the May 2000 Cerro Grande fire.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 173-1.

Table 173-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-019	MDA R	Metals, barium, lead, dioxins/furans, HE, uranium

173.2 Control Measures

All active control measures in use at CDV-SMA-1.7 are listed in Table 173-2. Their locations are shown on the project map (Figure 173-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 173-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00501060035	Erosion Control Blanket	-	X	X	-	B	7-7-2016
V00502040016	Established Vegetation	-	X	X	-	B	5-16-2013
V00503010027	Earthen Berm	-	X	-	X	EC	7-24-2015
V00503010028	Earthen Berm	-	X	-	X	EC	7-24-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00503020034	Base Course Berm	X	-	-	X	B	7-7-2016
V00503060025	Straw Wattle	-	X	-	X	EC	9-17-2014
V00503060032	Straw Wattle	-	X	-	X	B	9-14-2015
V00504010018	Earthen Channel/Swale	X	-	X	-	EC	9-17-2014
V00504040017	Culvert	X	-	X	-	EC	9-17-2014
V00504040036	Culvert	-	X	X	-	B	7-7-2016
V00504060015	Riprap	-	-	X	-	CB	10-1-2010
V00504060026	Riprap	-	-	X	-	EC	9-17-2014
V00504060039	Riprap	-	X	X	-	B	7-7-2016
V00504080033	TRM-Lined Swale	X	-	X	-	B	7-7-2016
V00506010006	Rock Check Dam	-	X	-	X	CB	12-4-2009
V00506010008	Rock Check Dam	X	-	-	X	CB	12-4-2009
V00506010009	Rock Check Dam	X	-	-	X	CB	12-4-2009
V00506010010	Rock Check Dam	X	-	-	X	CB	12-4-2009
V00506010013	Rock Check Dam	X	-	-	X	CB	11-1-2010
V00506010014	Rock Check Dam	X	-	-	X	CB	11-1-2010
V00506010019	Rock Check Dam	X	-	-	X	EC	9-17-2014
V00506010020	Rock Check Dam	X	-	-	X	EC	9-17-2014
V00506010022	Rock Check Dam	X	-	-	X	EC	9-17-2014
V00506010029	Rock Check Dam	-	X	-	X	EC	7-24-2015
V00506010030	Rock Check Dam	-	X	-	X	EC	7-24-2015
V00506010031	Rock Check Dam	-	X	-	X	EC	7-24-2015
V00506020023	Log Check Dam	-	X	-	X	EC	9-17-2014
V00506040038	Energy Dissipater	-	X	-	X	B	7-7-2016
V00507010037	Gabion	-	X	-	X	B	7-7-2016

173.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at CDV-SMA-1.7 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 173-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 173-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92927[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-23-2022	5 1	Yes Yes
BMP-93260[b]	6-25-2022 6-26-2022	0.42 0.3	6-30-2022	5 4	Yes Yes
BMP-93720[b]	7-2-2022 7-4-2022	0.25 0.8	7-14-2022	12 10	Yes Yes
BMP-94345	7-20-2022	0.66	7-27-2022	7	Yes
BMP-95001[b]	7-30-2022 7-31-2022	0.59 0.4	8-11-2022	12 11	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

173.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded TAL exceedances for copper (11 µg/L), cyanide (0.0175 mg/L), gross-alpha activity (36.9 pCi/L), and RDX concentration (908 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at CDV-SMA-1.7 under the 2010 IP requirements from March 29 through November 18, 2022, resulting in a monitoring season of 235 days. Eight inspections were performed during the monitoring period and are summarized in Table 173-4. Rain gage R253 recorded 41 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 173-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91706	6-3-2022	No	None	None
SMPLR-92736	6-23-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022	0.06/0.33 0.38/0.55 0.05/0.23 0.08/0.19 0.29/0.91
SMPLR-93016	6-30-2022	No	6-25-2022 6-26-2022 6-27-2022	0.42/1.4 0.3/2.02 0.05/0.11

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93550	7-29-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022	0.15/0.32 0.25/0.35 0.8/1.49 0.06/0.12 0.66/0.8 0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24
SMPLR-94827	9-9-2022	No	7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022	0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24 0.44/1.41 0.39/0.42 0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25
SMPLR-95847	10-11-2022	No	9-9-2022 9-13-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-9-2022	0.16/0.27 0.05/0.12 0.11/0.15 0.2/0.22 0.07/0.18 0.07/0.15 0.18/0.19
SMPLR-96301	10-20-2022	No	10-15-2022 10-16-2022 10-17-2022	0.17/1.13 0.06/0.22 0.05/0.14
SMPLR-96405	11-18-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

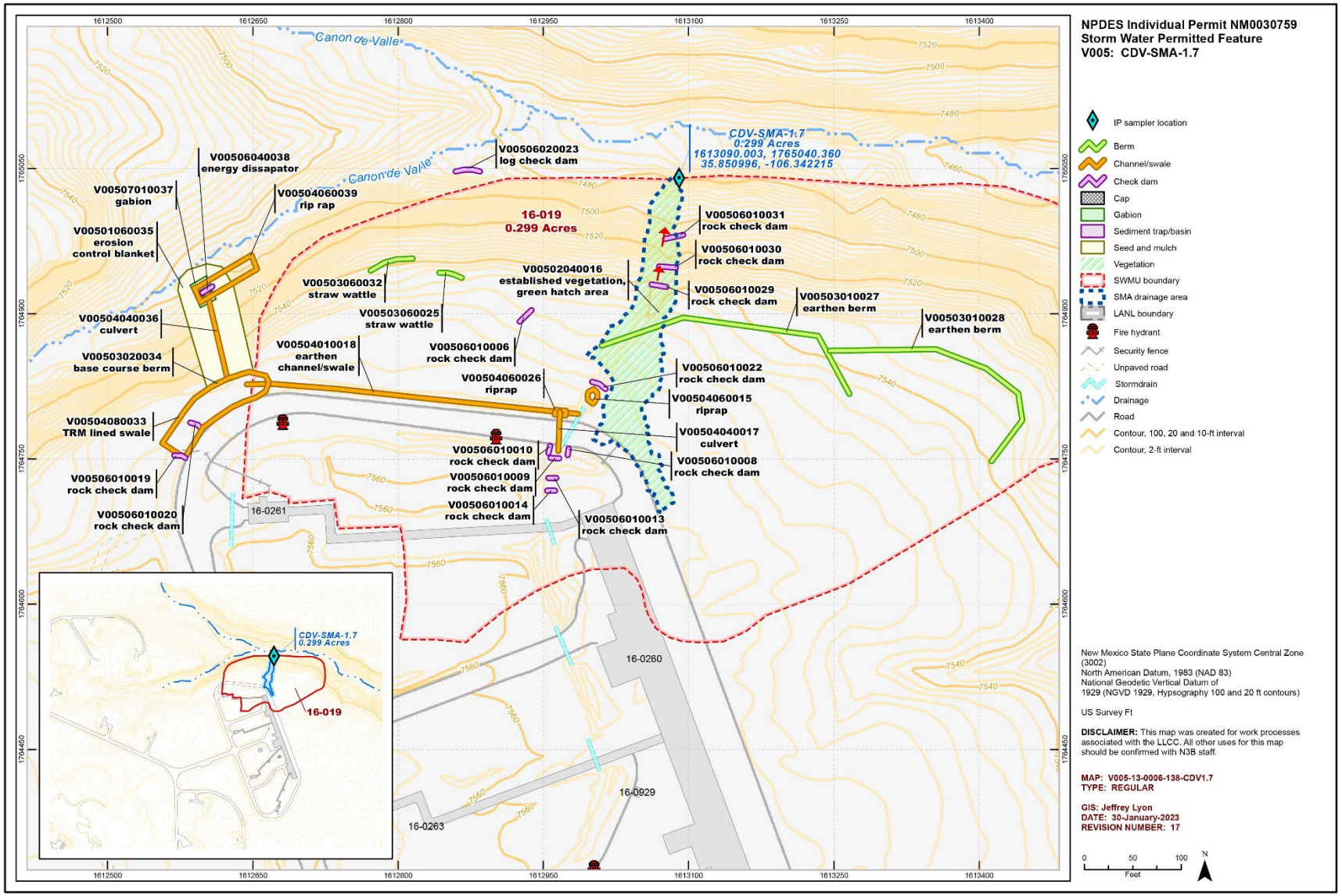

Figure 173-1 CDV-SMA-1.7 location map

174.0 CDV-SMA-2: SWMU 16-021(c)

One historical industrial activity area, Site 16-021(c), is associated with CDV-SMA-2 (permitted feature V006). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

174.1 Site Descriptions

16-021(c) (6/5/2019)

SWMU 16-021(c) received discharges of HE-contaminated wastewater from the building 16-260 HE sumps [SWMU 16-003(k)] that were located along the northeast side of the building in the southwest corner of TA-16. SWMU 16-021(c) consists of three sections: the building 16-260 outfall (260 Outfall) and an upper drainage channel fed directly by the outfall, a former settling pond, and a lower drainage channel leading to Cañon de Valle. The former settling pond was approximately 50 ft long and 20 ft wide and was located in the upper drainage channel, approximately 45 ft below the 260 Outfall. The drainage channel runs approximately 600 ft northeast from the 260 Outfall to the bottom of Cañon de Valle. A 15-ft near-vertical cliff is located approximately 400 ft from the 260 Outfall and marks the break between the upper and lower drainage channels.

During the 2000–2001 IM, more than 1,300 yd^3 of contaminated soil was removed from the former settling pond and channel. Approximately 90% of the HE in the SWMUs 16-003(k) and 16-021(c) source area was removed. A low-permeability cap was installed on top of the former settling pond during the IM. The cap consisted of crushed tuff/bentonite mixture and was approximately 20-in. thick.

HE-contaminated water from the 260 Outfall entered the former settling pond and drained into the 260 Outfall drainage channel, which was a substantial pathway for contamination identified in downgradient components of the SWMUs 16-003(k) and 16-021(c) hydrogeologic system, including the SWSC Cut. SWSC Cut is next to SWSC Spring and SWSC pipeline and derived its name because it is a roadcut for the SWSC pipeline.

Building 16-260 had been used since 1951 to process and machine HE. Water was used during the machining of HE (which is slightly water-soluble); wastewater from machining operations contained dissolved HE and potential entrained HE cuttings. Wastewater treatment consisted of routing the water to 13 settling sumps [SWMU 16-003(k)] to recover any entrained cuttings. From 1951 to 1996, the water from these sumps was discharged to the 260 Outfall. In 1994, outfall discharge volumes were measured at several million gallons per year. The discharge volumes were probably higher during the 1950s when HE-production output from building 16-260 was substantially greater than it was in the 1990s. In the past, barium had been a constituent of certain HE formulations, and thus barium was also present in the outfall wastewater from building 16-260.

From the late 1970s to 1996, the 260 Outfall was permitted by the EPA to operate as Outfall No. 05A056 under the LANL NPDES permit. The last NPDES permitting effort for the 260 Outfall occurred in 1994. The NPDES-permitted 260 Outfall was deactivated in November 1996 and removed from the permit in January 1998.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 174-1.

Table 174-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-021(c)	Former outfall 16-260	Metals, barium, HE

174.2 Control Measures

All active control measures in use at CDV-SMA-2 are listed in Table 174-2. Their locations are shown on the project map (Figure 174-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 174-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00602040013	Established Vegetation	-	X	X	-	B	5-16-2013
V00603010006	Earthen Berm	-	X	-	X	CB	11-19-2010
V00603010007	Earthen Berm	X	-	-	X	CB	11-19-2010
V00603010008	Earthen Berm	X	-	-	X	CB	11-19-2010
V00603010009	Earthen Berm	X	-	-	X	CB	11-24-2010
V00603010010	Earthen Berm	X	-	-	X	CB	11-24-2010
V00604060003	Riprap	-	X	X	-	CB	1-1-2000
V00606010002	Rock Check Dam	-	X	-	X	CB	1-1-2000
V00608020012	Rock Cap	-	X	X	-	CB	11-29-2010

174.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 174-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 174-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93100[a]	6-25-2022	0.47	6-30-2022	5	Yes
BMP-93740	7-4-2022	0.33	7-14-2022	10	Yes
BMP-94227[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94885	7-30-2022	0.56	8-11-2022	12	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

174.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 12, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (18.2 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at CDV-SMA-2 in 2022 under the 2010 IP requirements. After completion of the 2022 monitoring season, the drainage area and monitoring location for CDV-SMA-2 was modified to a more representative location based on the 2016–2018 SIP reviews, as proposed in the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502). The sampler coordinates and the SMA drainage area have been updated to reflect that monitoring location on the project map (Figure 174-1) located at the end of this SMA update. Upon approval of the SIP, monitoring will begin at this location in 2023 and additional control measure installations will be completed as necessary.

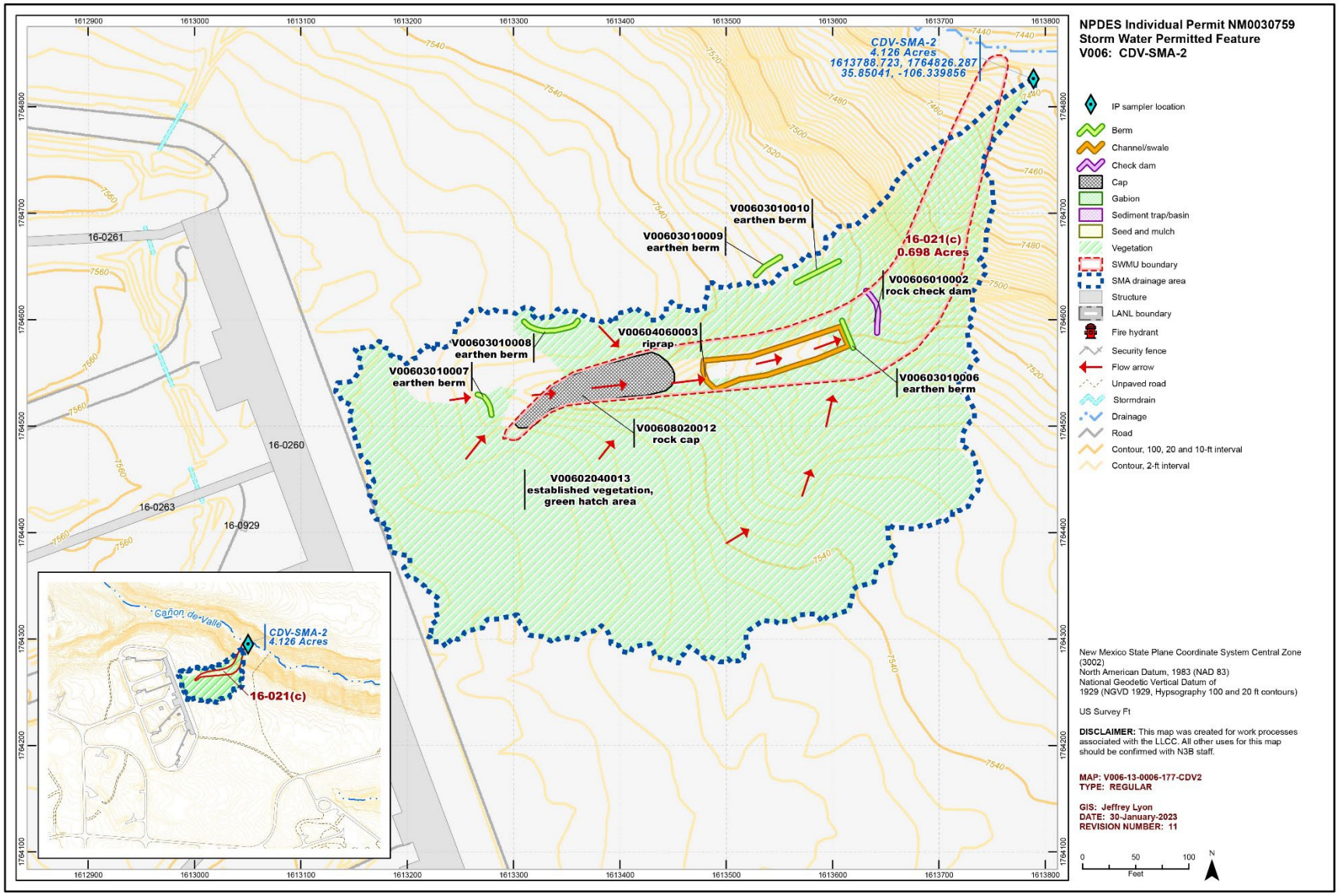

Figure 174-1 CDV-SMA-2 location map

175.0 CDV-SMA-2.3: SWMUs 13-001, 13-002, 16-003(n), 16-003(o), 16-029(h), and 16-031(h)

Six historical industrial activity areas, Sites 13-001, 13-002, 16-003(n), 16-003(o), 16-029(h), and 16-031(h), are associated with CDV-SMA-2.3 (permitted feature V007). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

175.1 Site Descriptions

13-001 (11/26/2019)

SWMU 13-001 is an inactive firing site located east of former building 16-340, between battleship bunker buildings 16-477 and 16-478 at eastern end of TA-16. The firing site was associated with firing activities conducted at P-Site (former TA-13) and operated from 1944 to 1949. The battleship bunker buildings 16-477 and 16-478 housed x-ray and magnetic equipment and were capped with steel nose cones to protect this equipment from explosive detonations that occurred at the firing site between the two bunkers. Debris from firing site experiments includes shrapnel and debris, including firing cables, lead balls, and chunks of steel and copper.

13-002 (11/26/2019)

SWMU 13-002 is an inactive surface disposal area located east of former building 16-340, and south and east of the SWMU 13-001 firing point at eastern end of TA-16. The disposal area contains debris and shrapnel associated with firing activities conducted at P-Site (former TA-13) and based on a 1948 aerial photograph, the site includes the two battleship bunkers (buildings 16-477 and 16-478) and extends approximately 500 ft south of the SWMU 13-001 firing point. A portion of the former TA-16 WWTP [SWMUs 16-004(b, c, and d)] is located on top of the southern end of the surface disposal area. The SWMU 13-001 firing site was decommissioned in 1949. It is not known if contaminated materials were removed from SWMU 13-002 at the time of the firing site decommissioning.

16-003(n) (6/13/2017)

SWMU 16-003(n) consists of a former HE sump that was located on the exterior northeast wall of former building 16-342 at TA-16. Installed in the early 1950s, the sump was constructed of reinforced concrete and measured approximately 3.5 ft wide × 6.5 ft long × 3 ft deep. The sump walls and bottom were constructed of 6-in.-thick, steel-reinforced concrete and lined with 0.25-in.-thick aluminum. The sump also had a removable 0.25-in.-thick aluminum lid. The sump received process and wash-down water from cleaning activities in former building 16-342, an HE-processing building in which the constituents of plastic-bonded explosive formulations were mixed and blended. Waste in the effluent consisted primarily of HE and organic solvents. The sump was connected to a 6-in. VCP that discharged to a former NPDES-permitted outfall (EPA 05A062) located in Fishladder Canyon, a tributary of Cañon de Valle. The sump removed suspended solids from process water before it was discharged to the outfall. HE fines were collected in a cloth filter bag and secured inside a metal filter basket. The baskets and filter bags were periodically removed and taken to the TA-16 basket-washing facility for cleaning. HE fines too small to collect in the filter bags settled to the bottom of the sump. To help separate the suspended solids, the water flowed under an aluminum baffle and over a concrete weir before it discharged to the outfall. HE fines in the bottom of the sump were periodically removed and burned. During the 1970s, the EPA issued a NPDES permit for the associated with discharges from the building 16-342 HE sump

(EPA Outfall 05A062). During the mid-1990s, the discharge to the building 16-342 outfall measured 4,600 gal./yr. The outfall was removed from the LANL NPDES permit effective July 31, 1996. Building 16-342, the sump, and drainlines were decommissioned in 1999 and underwent D&D in 2004 and 2005.

16-003(o) (6/13/2017)

SWMU 16-003(o) consists of six former HE sumps (former structures 16-105, -106, -107, -106, -107, -108, and -109) that were located along the exterior northeast wall of former building 16-340 at TA-16. Installed in the early 1950s, the sumps were constructed of reinforced concrete; three of the sumps measured approximately 3.5 ft wide × 7.3 ft long × 3 ft deep and three of the sumps measured approximately 3.5 ft wide × 10.3 ft long × 3 ft deep. The walls and bottoms of each sump were constructed of 6-in.-thick, steel-reinforced concrete and lined with 0.25-in.-thick aluminum. Each sump had a removable 0.25-in.-thick aluminum lid. Sump operations were similar to those described for former SWMU 16-003(n). The sumps received process and wash-down water from cleaning activities discharged from sinks, floor drains and equipment in former building 16-340, an HE-processing building in which the constituents of plastic-bonded explosive formulations were mixed and blended. Stormwater from roof drains on the building also discharged to the sumps. Waste in the effluent consisted primarily of HE and organic solvents. The sumps were connected to a 10-in. VCP that historically discharged to an outfall in what later became known as Fishladder Canyon, a tributary of Cañon de Valle. The sumps removed suspended solids from process water before it was discharged to the outfall. HE fines were collected in a cloth filter bag and secured inside a metal filter basket in each sump. The baskets and filter bags were periodically removed and taken to the TA-16 basket-washing facility for cleaning. HE fines too small to collect in the filter bags settled to the bottom of each sump. To help separate the suspended solids, the water flowed under an aluminum baffle and over a concrete weir before it discharged to the outfall. HE fines in the bottom of each sump were periodically removed and burned.

During the 1970s, the EPA issued a NPDES permit for the operation of the building 16-340 outfall (EPA Outfall 05A062). In the late 1980s, the outfall was plumbed to an air stripper designed to eliminate volatile organic compounds (VOCs) from the outfall. The air stripper resembled a Fishladder and discharged approximately 250 ft east of the sumps into Fishladder Canyon. Splashing caused by the air stripper may have resulted in the dispersal of effluent over a larger area.

Three evaluations of chemical use in building 16-340 were completed during the early 1970s. The HE use in building 16-340 was historically classified as moderate, and therefore the probability of HE found in the sump is low. Chemical inventories stated that the use of solvents at TA-16 was greatest in building 16-340. During a 6-mo period that began in 1970 and ended in 1971, 700 gal. of acetone; 500 lb of ammonium sulfate; 330 gal. of n-butyl-acetate; 3 gal. of chloroform; 55 gal. of 1,2-dichloroethane; 11 gal. of ethyl acetate; 72 gal. of isopropyl alcohol; 110 gal. of methanol; 72 gal. of methylene chloride; 750 gal. of butanone[2-]; and 110 gal. of toluene had all been used in building 16-340. It was confirmed that large quantities of HE, organic solvents, gases, and other materials had been released from the building 16-340 sumps. Natural uranium may have also been used in the building. By the 1990s, organic solvents used at TA-16 HE facilities were containerized for disposal, but historically the solvents were discharged to the sumps.

The final NPDES permitting for the building 16-340 outfall occurred in 1994, and the outfall was deactivated on July 20, 1998. During the mid-1990s, the discharge to the building 16-340 outfall amounted to more than 3.5 million gal./yr. The TA-16 340 Complex, including the sumps and drainlines, were decommissioned in 1999 and underwent D&D in 2004 and 2005.

16-029(h) (11/26/2019)

SWMU 16-029(h) consists of a former NPDES-permitted outfall and two inactive drainlines (one known and one alleged) from an inactive HE sump [AOC 16-003(p)] located on the south side of former Structure 16-478 at TA-16. The known drainline exits the southeast corner of the sump and extends 80 ft east of the sump to the rim of Cañon de Valle. This 6-in. VCP drainline discharged directly into Cañon de Valle before it was plugged in 1987. A second drainline possibly existed until the late 1960s and reportedly was a French drain that extended approximately 125 ft south of the sump. It was believed to be an 8-in. CI pipe connected to an 8-in. VCP that intersected a drainage channel. Former structure 16-478 was used as a bunker, utility room, control room, and high-speed machining room for tests on experimental HE. When Structure 16-478 was removed in 2005, the sump was left in place. During Phase I Consent Order investigation activities conducted in 2010, no evidence of the French drain was found.

SWMU 16-029(h) was identified as an HE sump (Structure 16-487) in the 1990 SWMU Report. The SWMU Report identified this sump twice: once as an inactive HE sump designated as SWMU 16-029(h) and also as an active HE sump designated as AOC 16-003(p). Addendum 2 to the OU 1082 Work Plan redefined SWMU 16-029(h) to be the drainlines and outfall associated with the sump adjacent to former Structure 16-478. Currently, the boundary of SWMU 16-029(h) is adjacent to, and receives runoff from, an old paved roadway and parking area associated with former Structure 16-478 and includes areas impacted by the 2000 Cerro Grande wildfire.

16-031(h) (2/5/2020)

SWMU 16-031(h) is a former NPDES-permitted outfall (EPA 04A134) and associated outlet drainline that served a utility room in former building 16-478 at TA-16. The outfall received discharges from the sink, vacuum pump, and floor drain in the utility room and was located 30 ft northwest of former building 16-478. Former building 16-478 was initially used as a bunker for photographing explosives testing. The utility room was added to the northwest corner of the building in 1950 when it was modified to test the effects of machining on HE products. The floor drain and sink in the utility room in building 16-478 discharged to the outfall via a 4-in. VCP. A water-sealed/water-cooled vacuum pump was located in the utility room and served a vacuum system in another area of the building. The vacuum system in the other part of the building held HE pieces in place for machining. The vacuum line contained a water filter to prevent HE from reaching the vacuum pump lines. Building 16-478 was decommissioned in 1995 and underwent decontamination and demolition in 2005.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 175-1.

Table 175-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
13-001	Firing site	Metals, beryllium, HE, uranium
13-002	Surface disposal area	Metals, beryllium, HE, uranium
16-003(n)	Sumps	HE, uranium
16-003(o)	Sumps	Organic chemicals, HE, uranium
16-029(h)	Drainlines and outfall	HE, uranium
16-031(h)	Outfall	Organic chemicals, HE

175.2 Control Measures

All active control measures in use at CDV-SMA-2.3 are listed in Table 175-2. Their locations are shown on the project map (Figure 175-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 175-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00702040021	Established Vegetation	-	X	X	-	B	5-3-2013
V00703010027	Earthen Berm	-	X	-	X	B	10-24-2014
V00703060028	Straw Wattle	-	X	-	X	B	10-24-2014
V00703060032	Straw Wattle	X	-	-	X	B	9-18-2020
V00703060033	Straw Wattle	-	X	-	X	B	7-29-2022
V00703120026	Rock Berm	-	X	-	X	B	10-24-2014
V00706010019	Rock Check Dam	X	-	-	X	B	10-14-2011
V00706010020	Rock Check Dam	X	-	-	X	B	10-14-2011
V00706010024	Rock Check Dam	-	X	-	X	B	6-25-2014
V00706010025	Rock Check Dam	-	X	-	X	B	6-25-2014
V00707010002	Gabions	-	X	-	X	CB	4-1-2009

175.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2.3 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 175-3. Maintenance activities conducted at the SMA are summarized in Table 175-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 175-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93101[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94228[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94886	7-30-2022	0.56	8-11-2022	12	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 175-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-94028 (follow up from BMP-93101)	Installed Straw Wattle V00703060033 as a replacement for Straw Wattle V00703060030.	7-29-2022	22 days	Maintenance conducted as soon as practicable.

175.4 Stormwater Monitoring

Following installation of baseline control measures, a baseline stormwater sample was collected on July 20, 2015. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (54.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was not conducted at CDV-SMA-2.3 in 2022 under the 2010 IP requirements.

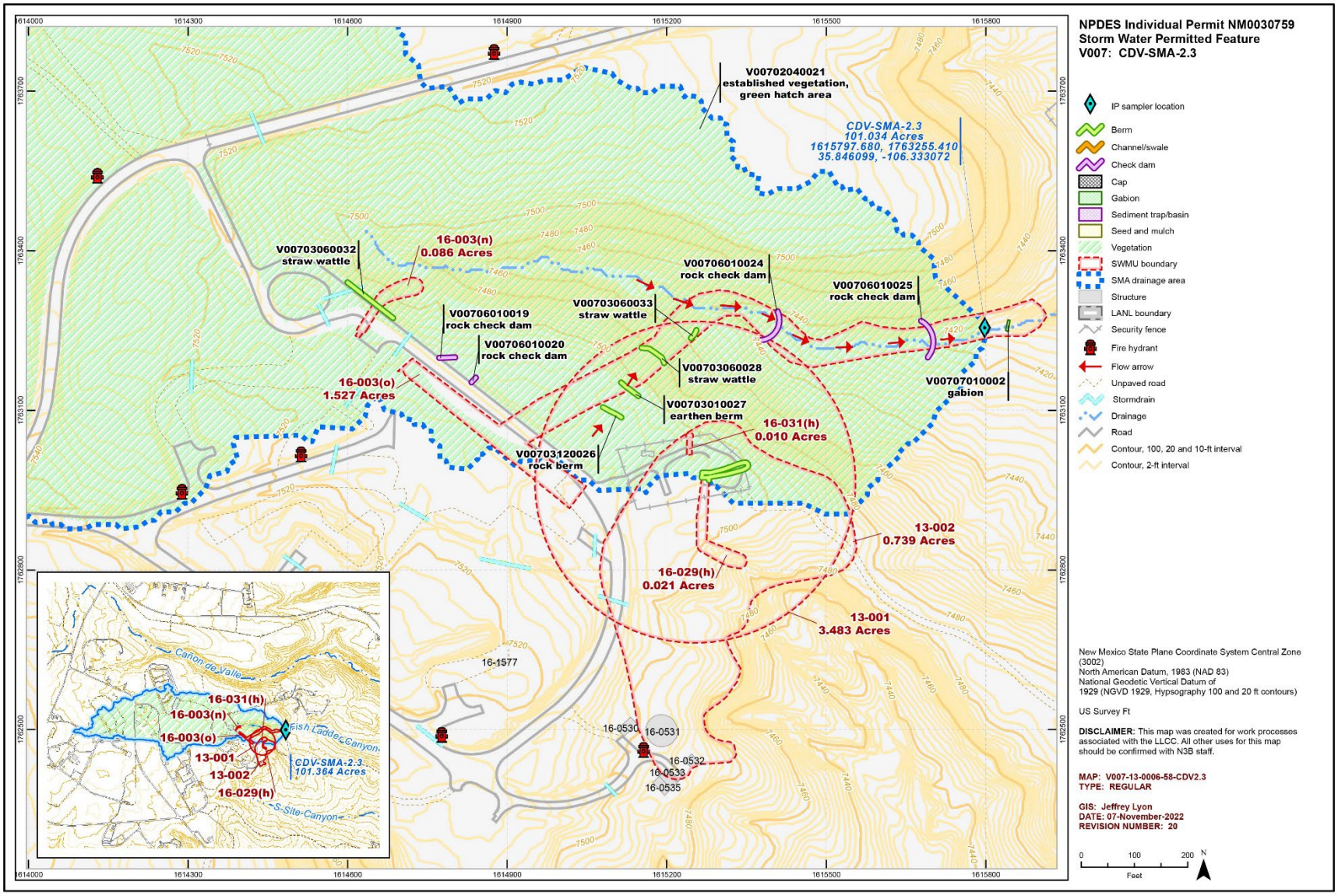

Figure 175-1 CDV-SMA-2.3 location map

176.0 CDV-SMA-2.41: SWMU 16-018

One historical industrial activity area, Site 16-018, is associated with CDV-SMA-2.41 (permitted feature V008). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

176.1 Site Descriptions

16-018 (no date)

SWMU 16-018 is the former location of MDA P, north of the TA-16 burning ground near the south rim of Cañon de Valle. MDA P operated from 1950 to 1984 as a disposal site for debris remaining from burning HE and HE-contaminated material at TA-16. Concrete and construction debris was deposited directly on the slopes leading down into the canyon. Other materials were burned at one of the nearby open-burn units, and the resulting debris or residue was pushed over the mesa rim into the canyon. The western area of MDA P primarily received construction debris from the demolition of World War II buildings; the eastern area received debris and residue from the open-burn units. MDA P underwent RCRA closure between 1999 and 2005. During closure, approximately 55,000 yd^3 of soil, rock, metal, and concrete debris was excavated from MDA P. Of this quantity, 21,506 yd^3 of soil was disposed as hazardous waste. The remainder of this quantity consisted of industrial waste soils, concrete and metal debris that was recycled or managed as industrial waste, and rock that was decontaminated and then used as riprap within TA-16. Other excavated waste included 3947 lb of asbestos-containing material; 888 containers of unknown content; 95 miscellaneous metal objects; 3240 lb of LLW; 5389 lb of mixed waste; and various smaller quantities of HE, HE-contaminated debris, and residuals from treating HE. Scrap metal and concrete were shipped to recycling facilities. Contaminated soils and industrial wastes were shipped to off-site solid waste landfills. Solid, nonhazardous wastes were disposed of at MDA J.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 176-1.

Table 176-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-018	MDA P	Metals, lead, thallium, asbestos, PCBs, SVOCs, HE

176.2 Control Measures

All active control measures in use at CDV-SMA-2.41 are listed in Table 176-2. Their locations are shown on the project map (Figure 176-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 176-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00802040015	Established Vegetation	-	X	X	-	B	5-3-2013
V00803010013	Earthen Berm	-	X	-	X	EC	2-7-2013
V00804010014	Earthen Channel/Swale	X	-	X	-	EC	2-7-2013
V00804040011	Culvert	X	-	X	-	CB	6-1-2009
V00804060010	Riprap	X	-	X	-	CB	6-1-2009
V00806010012	Rock Check Dam	-	X	-	X	EC	2-7-2013

176.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2.41 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 176-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 176-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93102[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93742	7-4-2022	0.33	7-14-2022	10	Yes
BMP-94229[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94887	7-30-2022	0.56	8-9-2022	10	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

176.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on August 21, 2011. Analytical results from this baseline sample yielded TAL exceedances for gross-alpha activity (231 pCi/L) and PCB concentration (24 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at CDV-SMA-2.41, a corrective-action stormwater sample was collected on July 8, 2014. Analytical results from this corrective-action monitoring sample yielded TAL exceedances for gross-alpha activity (94.2 pCi/L) and PCB concentration (25 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at CDV-SMA-2.41 under the 2010 IP requirements from March 29 through November 2, 2022, resulting in a monitoring season of 219 days. Nine inspections were performed during the monitoring period and are summarized in Table 176-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 176-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91711	4-4-2022	No	None[c]	None
SMPLR-91780	5-20-2022	No	None	None
SMPLR-92502	6-15-2022	No	None	None
SMPLR-92867	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15
SMPLR-93601	7-21-2022	No	7-1-2022 7-2-2022 7-4-2022 7-20-2022	0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45
SMPLR-94360	9-1-2022	No	7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022	0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95759	10-7-2022	No	9-9-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022	0.08/0.17 0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18
SMPLR-96292	10-17-2022	No	10-15-2022 10-16-2022	0.18/1.06 0.06/0.23
SMPLR-96343	11-10-2022	No	10-17-2022	0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

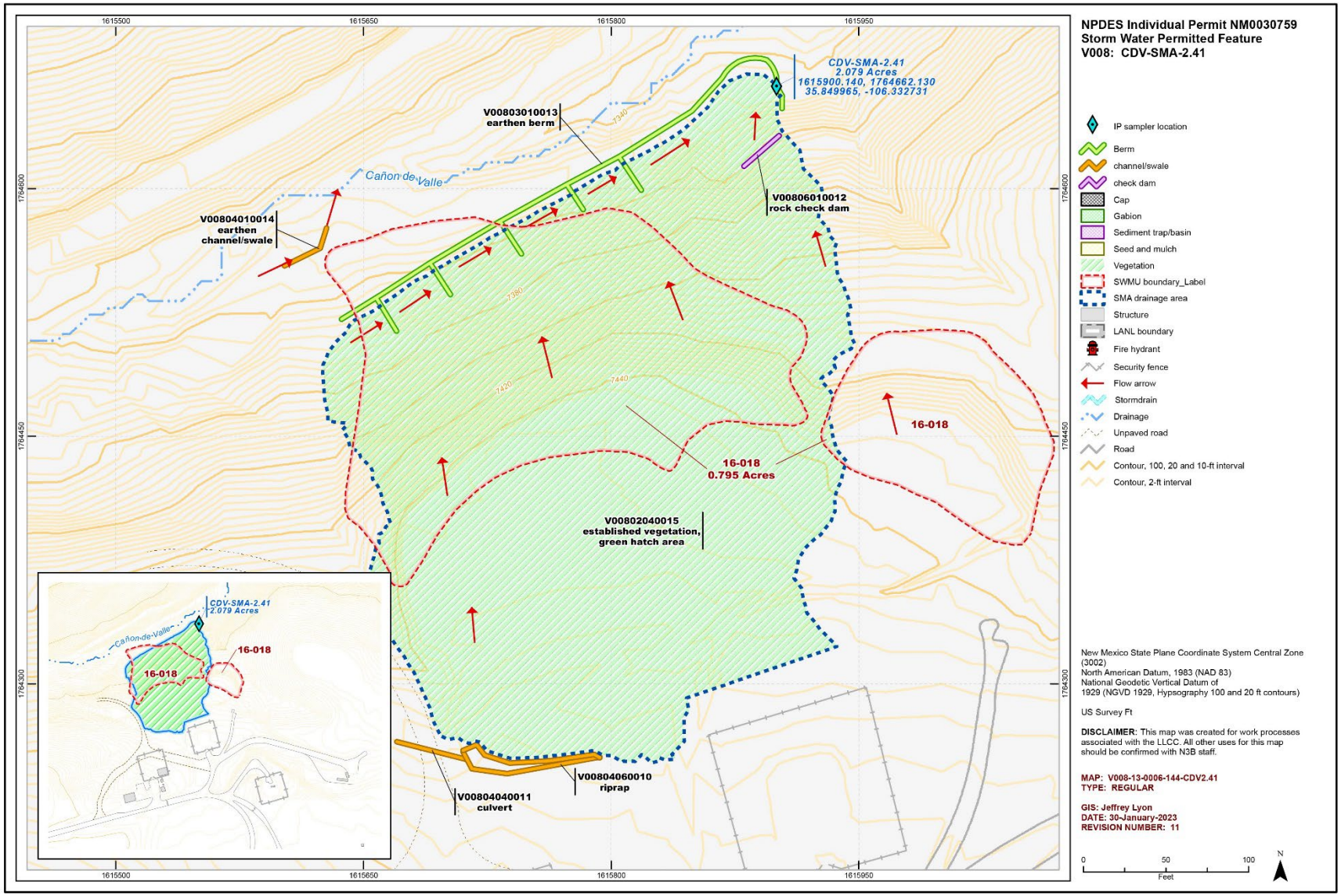

Figure 176-1 CDV-SMA-2.41 location map

177.0 CDV-SMA-2.42: SWMU 16-010(b)

One historical industrial activity area, Site 16-010(b), is associated with CDV-SMA-2.42 (permitted feature V008A). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

177.1 Site Descriptions

16-010(b) (no date)

SWMU 16-010(b) consists of a former flash pad (Structure 16-387) that was located at the TA-16 Burning Ground. The flash pad was enclosed within a 100-ft × 100-ft fenced area and consisted of a layer of sand several inches thick over a soil base. The pad was built in 1951 and was used to flash-burn solid and scrap HE, HE-contaminated equipment and debris, and HE-contaminated combustible material. Sands and residues from flash pad operations were disposed of at MDA P (SWMU 16-019). The flash pad operated as a hazardous waste treatment unit under RCRA interim status and underwent RCRA closure between 1999 and 2005. Closure activities included removal of the flash pad and associated debris and removal of soil and bedrock below and adjacent to the former pad. The former flash pad and MDA P were closed and remediated together along with adjacent SWMUs known as Consolidated Unit 16-016(c)-99; for cleanup and closure purposes, the sites were referred to as MDA P Site. Confirmation samples were collected as part of the closure of MDA P Site and included SWMU 16-010(b). The Site Closure Certification Report was approved by NMED on November 10, 2005. SWMU 16-010(b) is a formerly dual-regulated corrective-action unit and has been removed from the list of corrective-action units in LANL's Hazardous Waste Facility Permit; therefore, this unit is no longer subject to the Consent Order.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 177-1.

Table 177-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-010(b)	Flash pad	Metals, dioxins/furans, HE

177.2 Control Measures

All active control measures in use at CDV-SMA-2.42 are listed in Table 177-2. Their locations are shown on the project map (Figure 177-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 177-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V008A01030022	Hydromulch	-	-	X	-	EC	8-28-2015
V008A02040020	Established Vegetation	-	X	X	-	B	5-3-2013
V008A03010021	Earthen Berm	-	X	-	X	EC	8-28-2015
V008A03010024	Earthen Berm	X	-	-	X	EC	8-28-2015
V008A04040023	Culvert	-	-	X	-	EC	8-28-2015
V008A04050025	Water Bar	X	-	X	-	B	8-28-2015
V008A04060002	Riprap	-	X	X	-	CB	1-31-2006
V008A04060005	Riprap	-	X	X	-	CB	6-11-2009
V008A04060018	Riprap	X	-	X	-	B	10-14-2011
V008A04060019	Riprap	-	X	X	-	B	10-14-2011
V008A06010004	Rock Check Dam	-	X	-	X	CB	8-29-2006
V008A06010017	Rock Check Dam	X	-	-	X	B	9-12-2011
V008A07010003	Gabions	-	X	-	X	CB	8-29-2006
V008A08050026	HDPE Cap	-	X	X	-	EC	4-29-2021

177.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2.42 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 177-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 177-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93106[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93746	7-4-2022	0.33	7-14-2022	10	Yes
BMP-94233	7-20-2022	0.34	7-27-2022	9	Yes
BMP-94610[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

177.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 12, 2013. Analytical results from this sample yielded TAL exceedances for copper (4.37 µg/L), gross-alpha activity (89.3 pCi/L), and PCB concentration (33 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following enhanced controls installation, two corrective-action monitoring stormwater samples were collected on June 25 and October 5, 2017 (Figure 188-2). Analytical results from these samples yielded TAL exceedances for aluminum (3470 µg/L), copper (5.51 µg/L), gross-alpha activity (136 pCi/L and 29.2 pCi/L), and PCB concentrations (34 ng/L and 26 ng/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was conducted at CDV-SMA-2.42 under the 2010 IP requirements from March 29 through November 10, 2022, resulting in a monitoring season of 227 days. 12 inspections were performed during the monitoring period and are summarized in Table 177-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 177-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91710	5-20-2022	No	None	None
SMPLR-92503	6-15-2022	No	None	None
SMPLR-92865	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15
SMPLR-93602	7-7-2022	No	7-1-2022 7-2-2022 7-4-2022	0.16/0.71 0.05/0.13 0.33/0.79
SMPLR-93884	7-27-2022	No	7-20-2022 7-21-2022 7-24-2022 7-26-2022	0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24
SMPLR-94536	7-29-2022	No	7-27-2022	0.35/0.46
SMPLR-94828	8-1-2022	No	7-29-2022 7-30-2022 7-31-2022[c]	0.11/0.25 0.56/0.94 0.16/0.38
SMPLR-95158	8-9-2022	No	8-1-2022 8-6-2022	0.05/0.12 0.36/0.91

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95310	9-19-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-96006	9-26-2022	No	9-20-2022 9-22-2022	0.12/0.17 0.2/0.22
SMPLR-96110	10-20-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96403	11-10-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

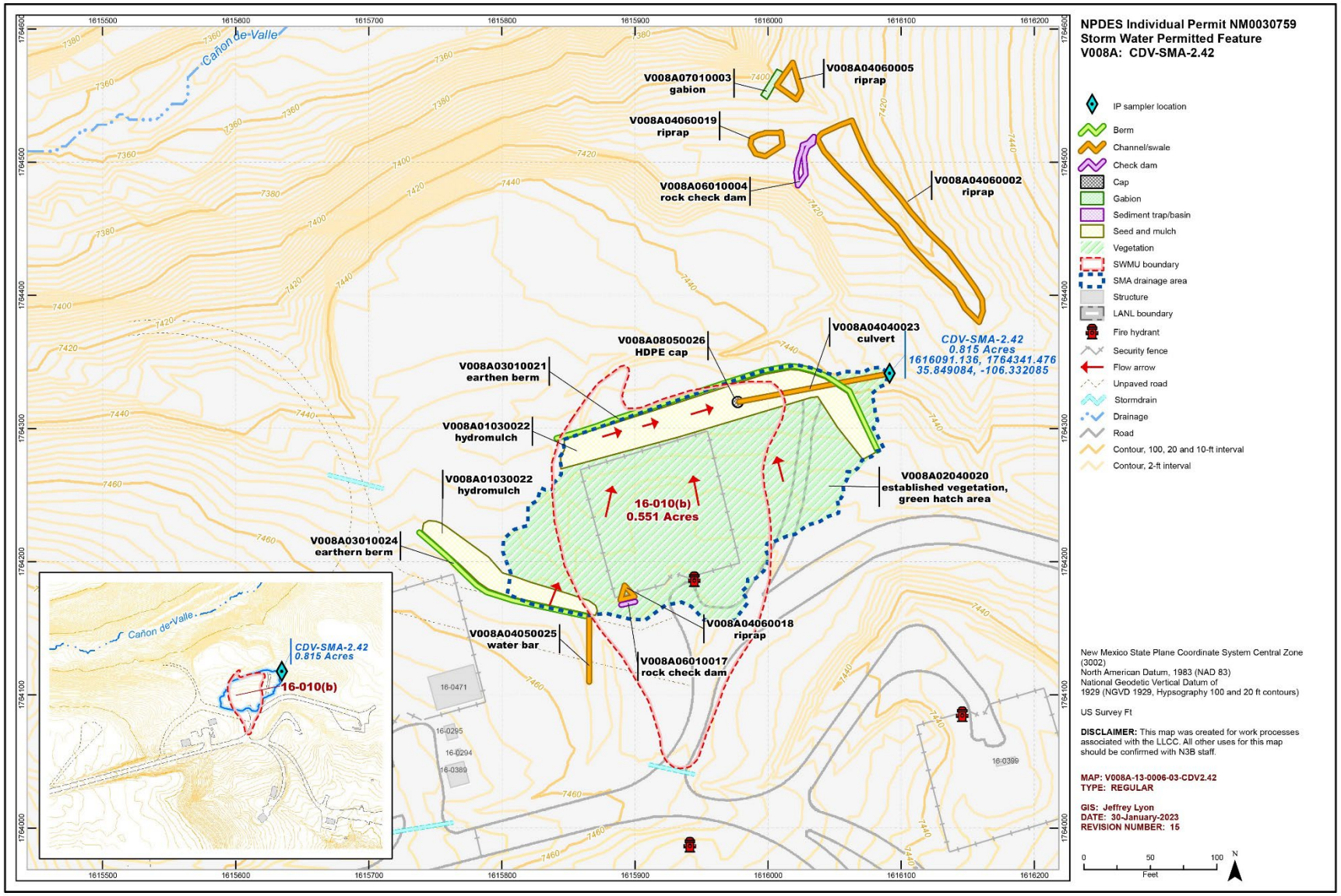

Figure 177-1 CDV-SMA-2.42 location map

178.0 CDV-SMA-2.5: SWMUs 16-010(c), 16-010(d), and 16-028(a)

Three historical industrial activity areas, Sites 16-010(c), 16-010(d), and 16-028(a), are associated with CDV-SMA-2.5 (permitted feature V009). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

178.1 Site Descriptions

16-010(c) (no date)

SWMU 16-010(c) is a former burn table that was converted to a flash pad/burn tray (Structure 16-388) located at the TA-16 Burning Ground. The burn table was used to treat HE scrap. The 100-ft × 100-ft enclosed area consisted of a concrete pad that was used to unload explosives and a 16-ft × 4-ft metal tray that was approximately 2 ft above the ground surface. Scrap HE was placed on the tray and burned. The current flash pad consists of a 22-ft × 22-ft concrete pad set on a secondary containment area and surrounded on three sides by a concrete wall. Before treatment, the HE-contaminated wastes are placed on steel pallets or steel trays. Propane burners are used as heat sources to treat the wastes at the flash pad, which can be covered with a movable steel roof when the pad is not in use. The current burn tray consists of a stainless-steel kettle that is 30 in. in diameter and 24 in. high. Propane burners are used to treat HE contaminated liquid wastes at the burn tray. The entire assembly, which can be covered with a retractable cover, is provided with secondary containment.

16-010(d) (no date)

SWMU 16-010(d) is a former burn table that was converted to a burn tray (Structure 16-399) located at the TA-16 Burning Ground. The 100-ft^2 enclosed area consists of a concrete pad, a burn table that is approximately 2 ft above the ground surface, and a 16-ft × 4-ft metal tray situated on the table. Scrap HE is placed on the tray and burned. A metal-covered rain guard can be rolled back to expose the tray.

16-028(a) (2/18/2021)

SWMU 16-028(a) is the south drainage channel that drained the southern half of the Burning Ground at TA-16 Burning Ground. The drainage is associated with SWMUs 16-005(g) and 16-010(h-n), the former filter basket wash facility, and discharges from a carbon filter/treatment unit renumbered from Structure 16-228 to 16-363 [SWMU 16-010(g)]. The site provides the only surface water drainage for approximately half the TA-16 Burning Ground, and it marks the southern edge of historical Burning Ground activities.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 178-1.

Table 178-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-010(c)	Flash pad/burn tray	Metals, dioxins/furans, HE
16-010(d)	Burn tray	Metals, HE
16-028(a)	Drainage channel	Metals, barium, HE

178.2 Control Measures

All active control measures in use at CDV-SMA-2.5 are listed in Table 178-2. Their locations are shown on the project map (Figure 178-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 178-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V00902040036	Established Vegetation	-	X	X	-	B	5-3-2013
V00903010011	Earthen Berm	-	X	-	X	CB	11-18-2009
V00903010043	Earthen Berm	X	-	-	X	B	10-9-2014
V00903120034	Rock Berm	-	X	-	X	B	11-18-2013
V00903120035	Rock Berm	-	X	-	X	B	11-18-2013
V00903120038	Rock Berm	X	-	-	X	B	10-9-2014
V00903120039	Rock Berm	X	-	-	X	B	10-9-2014
V00903120040	Rock Berm	X	-	-	X	B	10-9-2014
V00903120041	Rock Berm	X	-	-	X	B	10-9-2014
V00903120042	Rock Berm	-	X	-	X	B	10-21-2014
V00904060005	Riprap	X	-	X	-	CB	1-1-2000
V00904060006	Riprap	-	X	X	-	CB	4-1-2009
V00904060007	Riprap	X	-	X	-	CB	1-1-2000
V00904060009	Riprap	X	-	X	-	CB	4-1-2009
V00906010029	Rock Check Dam	X	-	-	X	B	9-19-2011
V00906010030	Rock Check Dam	X	-	-	X	B	9-19-2011
V00906010031	Rock Check Dam	X	-	-	X	B	9-19-2011
V00906010044	Rock Check Dam	X	-	-	X	B	10-9-2014
V00906010045	Rock Check Dam	-	X	-	X	B	10-9-2014
V00906010046	Rock Check Dam	-	X	-	X	B	10-9-2014
V00906010047	Rock Check Dam	X	-	-	X	B	10-9-2014
V00906010048	Rock Check Dam	X	-	-	X	B	10-9-2014
V00906010049	Rock Check Dam	-	X	-	X	B	10-21-2014
V00906010050	Rock Check Dam	-	X	-	X	B	10-21-2014

178.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2.5 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 178-3. All other control-measure inspections conducted at the SMA are summarized in Table 178-4.

In February of 2022, LANL notified the SWPP team that soil excavations in the location of the former TA-16-399 Burn Tray [SWMU 16-010(d)] would be performed within CDV-SMA-2.5. Excavation was conducted to replace the ductile iron pipeline with PVC pipeline where leaks had been reported in former years. On March 1, 2022, SWPP team members conducted an assessment of the planned activity

and determined there would be no impacts to the IP Site(s), SMA, or controls in the area of disturbance, and weekly inspections would not be necessary. No maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 178-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93103[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94230	7-20-2022	0.34	7-27-2022	7	Yes
BMP-94607[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 178-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
FTL assessment for CDV-SMA-2.5 Potential Impact notification for 22X-0121. Excavate and expose the HEWTF pipeline, replace iron pipeline with PVC.	BMP-91209	3-1-2022	No action recommended.

178.4 Stormwater Monitoring

Following the installation of baseline control measures, baseline confirmation samples were collected on September 1, 2011, October 12, 2012, and July 26, 2013. Analytical results from these baseline samples yielded no TAL exceedances. The complete analytical results are presented in “Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759” (LANL 2012, 211408); “Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759” (LANL 2013, 237680); and “Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759” (LANL 2014, 254067).

Stormwater monitoring was not conducted at CDV-SMA-2.5 in 2022 under the 2010 IP requirements.

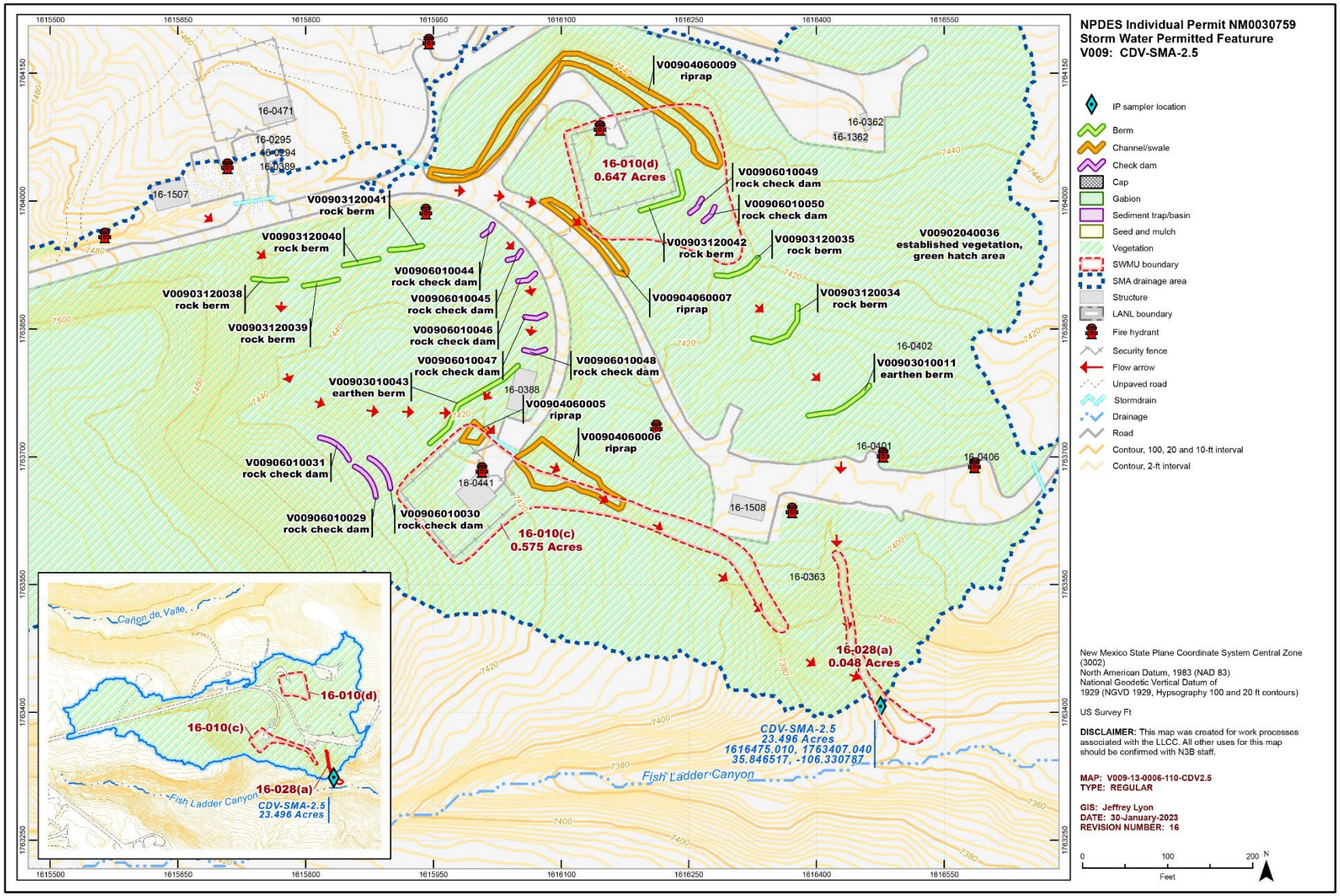

Figure 178-1 CDV-SMA-2.5 location map

179.0 CDV-SMA-2.51: SWMU 16-010(i)

One historical industrial activity area, Site 16-010(i), is associated with CDV-SMA-2.51 (permitted feature V009A). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

179.1 Site Descriptions

16-010(i) (9/14/2020)

SWMU 16-010(i) consists of a former filter bed and former burn pad (former Structure 16-392) located at northeast corner of the burning ground within the northeast portion of TA-16. Filter bed 16-392 was constructed in 1951 approximately 250 ft east of the former basket-wash house (former Structure 16-390) [SWMU 16-010(h)], and measured 12 ft by 12 ft by 1 ft deep. Filter bed 16-392 received suspected uranium-contaminated HE wash-down water from the basket-wash house through an elevated, open steel V-shaped trough (former Structure 16-1136) [SWMUs 16-010(n)]. Solid HE accumulated on and around the filter bed was burned on the bed. After burning, the filter-bed sand was removed for disposal at MDA P from the early 1950s to 1984, and then to MDA G at TA-54 thereafter. Filtered wash water from the basket-wash house collected within perforated piping along the bottom of the SWMU 16-010(i) filter bed and drained via gravity through a drainline to an outfall south-southeast of the filter bed. In 1988, filter bed 16-392 was modified to a burn pad to burn HE-contaminated uranium objects and Structure 16-1136 was decommissioned; the burn pad is still in place. It is not known if the drainline from the filter bed was removed. The basket-wash house and troughs underwent D&D in 2003.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 179-1.

Table 179-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-010(i)	Burn pad	Metals, HE, uranium

179.2 Control Measures

All active control measures in use at CDV-SMA-2.51 are listed in Table 179-2. Their locations are shown on the project map (Figure 179-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 179-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V009A02040029	Established Vegetation	-	X	X	-	B	5-3-2013
V009A03020005	Base Course Berm	X	-	-	X	CB	11-18-2009
V009A03020012	Base Course Berm	X	-	-	X	CB	11-18-2009
V009A03060032	Straw Wattle	X	-	-	X	B	4-10-2019
V009A03060033	Straw Wattle	X	-	-	X	B	4-10-2019
V009A06010003	Rock Check Dam	-	X	-	X	CB	11-18-2009
V009A06010004	Rock Check Dam	-	X	-	X	CB	11-18-2009
V009A06010006	Rock Check Dam	X	-	-	X	CB	11-18-2009
V009A06010013	Rock Check Dam	-	X	-	X	CB	11-18-2009
V009A06010014	Rock Check Dam	-	X	-	X	CB	11-18-2009
V009A06010015	Rock Check Dam	-	X	-	X	CB	11-18-2009
V009A06010016	Rock Check Dam	X	-	-	X	CB	11-18-2009
V009A06030017	Juniper Bales	X	-	-	X	CB	11-18-2009

179.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-2.51 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 179-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 179-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93107[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94234[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94892	7-30-2022	0.56	8-9-2022	10	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

179.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (16.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at CDV-SMA-2.51 in 2022 under the 2010 IP requirements.

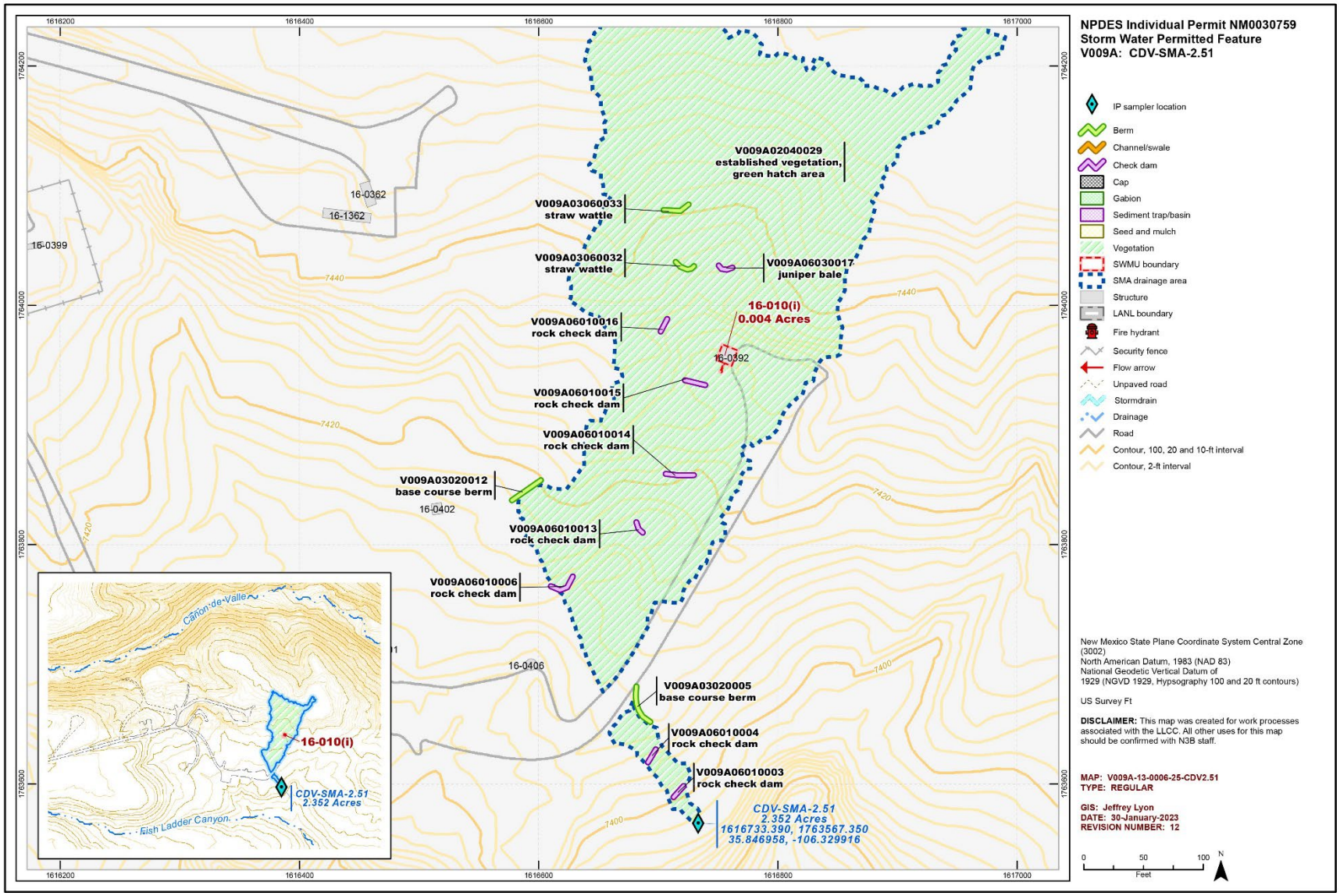

Figure 179-1 CDV-SMA-2.51 location map

180.0 CDV-SMA-3: SWMU 14-009

One historical industrial activity area, Site 14-009, is associated with CDV-SMA-3 (permitted feature V010). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

180.1 Site Descriptions

14-009 (2/18/2021)

SWMU 14-009 is an inactive surface disposal area located south and west of building 14-43 at TA-14. The disposal area measures approximately 30 ft × 140 ft and consists of sand and ruptured sandbags used during explosives tests performed at nearby firing sites [SWMUs 14-002(a) and 14-002(b)]. During explosives tests, sandbags were placed around firing sites to contain detonations. When the sandbags ruptured, the sand was used for erosion control around the firing sites. The sand from ruptured bags at SWMU 14-009 was placed over the hillside south of building 14-43 and is approximately one foot deep.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 180-1.

Table 180-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
14-009	Surface disposal site	Beryllium, lead, HE, uranium

180.2 Control Measures

All active control measures in use at CDV-SMA-3 are listed in Table 180-2. Their locations are shown on the project map (Figure 180-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 180-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01002040013	Established Vegetation	-	X	X	-	B	4-29-2013
V01003010010	Earthen Berm	-	X	-	X	EC	11-21-2011
V01003010011	Earthen Berm	-	X	-	X	EC	11-21-2011
V01003120005	Rock Berm	X	-	-	X	CB	7-7-2010
V01003120009	Rock Berm	-	X	-	X	CB	7-7-2010
V01006010004	Rock Check Dam	-	X	-	X	CB	11-10-2009

180.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-3 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 180-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 180-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93104[a]	6-25-2022	0.47	6-30-2022	5	Yes
BMP-93744	7-4-2022	0.33	7-13-2022	9	Yes
BMP-94231[b]	7-20-2022 7-27-2022	0.34 0.35	7-28-2022	8 1	Yes Yes
SMPLR-93612[c]	7-30-2022	0.56	8-5-2022	7	Yes

[b] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 5, 2022 for a sampler inspection and there were no findings of deficiency noted.

180.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on August 21, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (33.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at CDV-SMA-3 under the 2010 IP requirements from March 28 through October 28, 2022, resulting in a monitoring season of 215 days. Seven inspections were performed during the monitoring period and are summarized in Table 180-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 180-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91717	4-21-2022	No	None	None
SMPLR-92169	5-19-2022	No	None	None
SMPLR-92498	6-16-2022	No	None	None

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-92881	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93612	8-5-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12
SMPLR-95252	9-15-2022	No	8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-95919	10-28-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

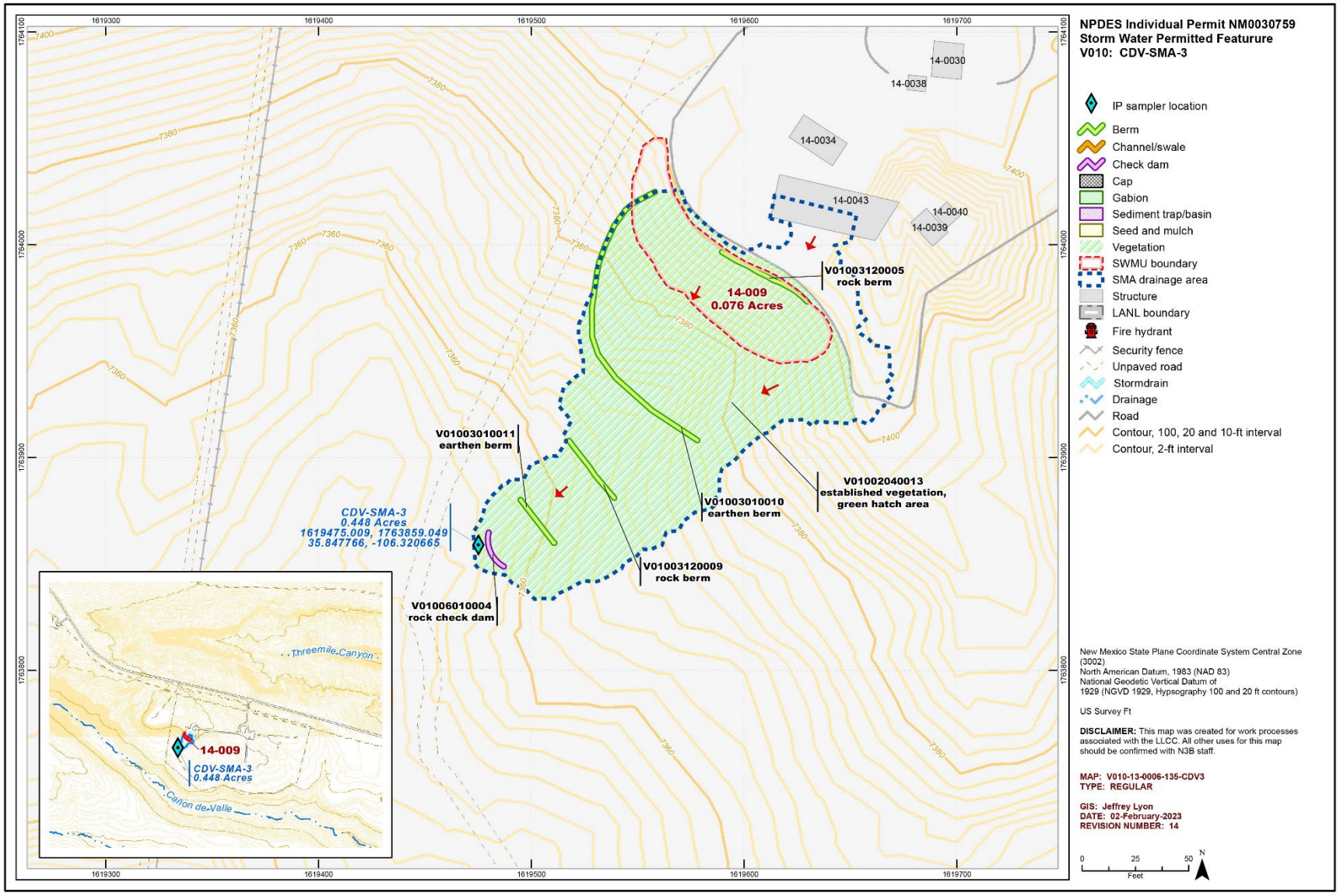

Figure 180-1 CDV-SMA-3 location map

181.0 CDV-SMA-4: SWMU 14-010

One historical industrial activity area, Site 14-010, is associated with CDV-SMA-4 (permitted feature V011). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

181.1 Site Descriptions

14-010 (2/18/2021)

SWMU 14-010 is a former HE sump located on the exterior south wall of a former firing chamber [structure 14-2, SWMU 14-002(a)]. The sump received waste from an associated floor drain in the closed firing chamber 14-2 and discharged through an associated drainline to an outfall located approximately 24 ft southeast of the sump. In 1973, the HE and radioactive-contaminated portions of structure 14-2 were removed and dispose of at TA-54; Also in 1973, the contents of the SWMU 14-010 sump were removed and disposed of and the sump, floor drain and drainline from the floor drainline to the sump were excavated by hand and removed. The remainder of the structure was then burned in place. The bullet test facility was constructed over a portion of the area and the remainder was paved. The outlet drainline from the sump remains in place.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 181-1.

Table 181-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
14-010	Soil contamination from former sump and drainlines	Inorganic and organic chemicals, HE, radionuclides

181.2 Control Measures

All active control measures in use at CDV-SMA-4 are listed in Table 181-2. Their locations are shown on the project map (Figure 181-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 181-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01102040010	Established Vegetation	-	-	X	-	B	10-27-2015
V01103010008	Earthen Berm	-	X	-	X	B	8-27-2013
V01104060007	Riprap	X	-	X	-	B	8-27-2013
V01104060011	Riprap	-	-	X	-	B	11-14-2015
V01106010009	Rock Check Dam	-	X	-	X	B	8-27-2013

181.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-4 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 181-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 181-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93105[a]	6-25-2022	0.47	6-30-2022	5	Yes
BMP-93745	7-4-2022	0.33	7-13-2022	9	Yes
BMP-94232[b]	7-20-2022 7-27-2022	0.34 0.35	7-28-2022	8 1	Yes Yes
SMPLR-93611[c]	7-30-2022	0.56	8-5-2022	7	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 5, 2022 for a sampler inspection and there were no findings of deficiency noted.

181.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at CDV-SMA-4.

Stormwater monitoring was conducted at CDV-SMA-4 under the 2010 IP requirements from March 28 through November 14, 2022, resulting in a monitoring season of 232 days. Eight inspections were performed during the monitoring period and are summarized in Table 181-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 181-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91716	4-21-2022	No	None	None
SMPLR-92168	5-19-2022	No	None	None
SMPLR-92497	6-16-2022	No	None	None
SMPLR-92880	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93611	8-5-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12
SMPLR-95251	9-15-2022	No	8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-95918	10-19-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96415	11-14-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

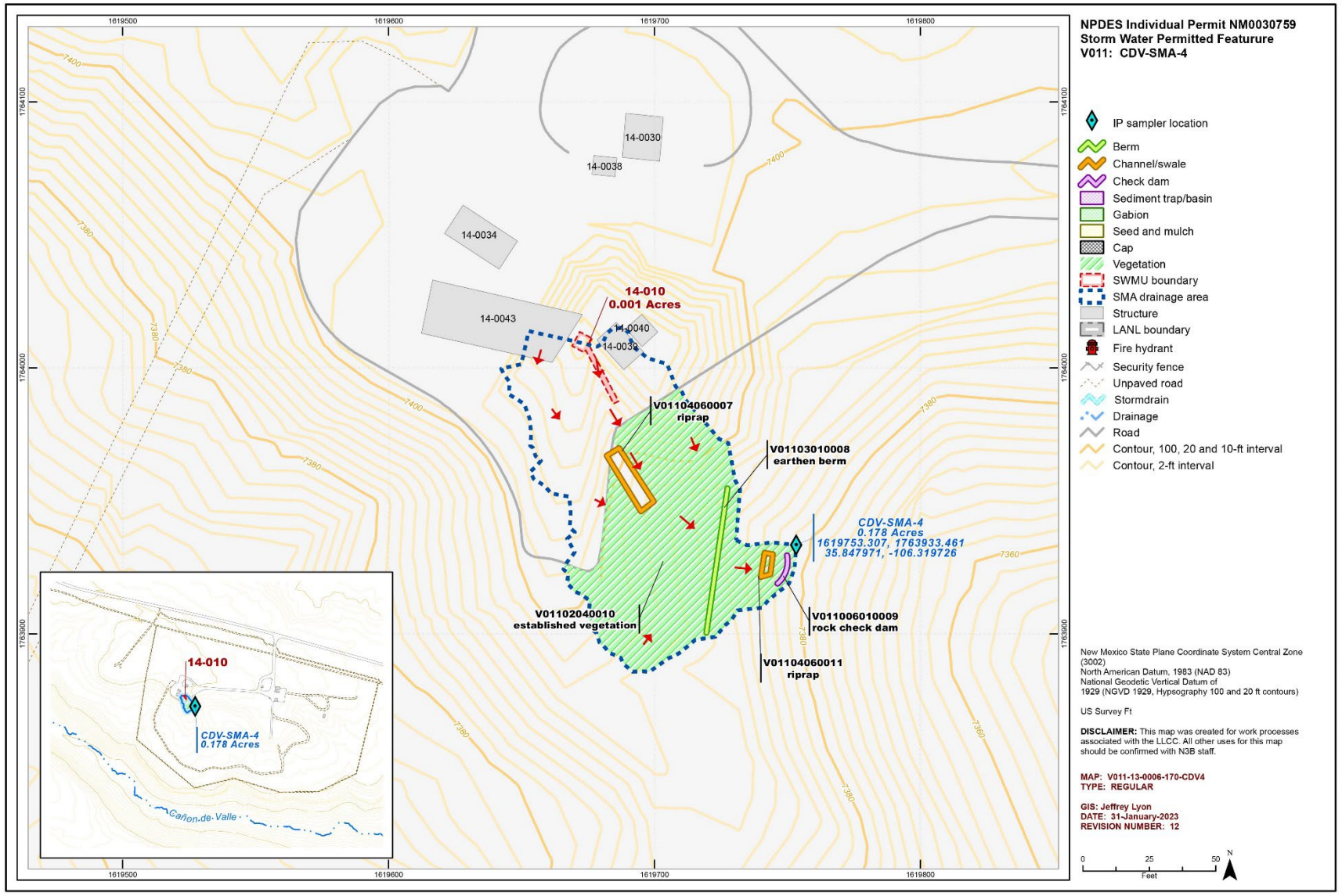

Figure 181-1 CDV-SMA-4 location map

182.0 CDV-SMA-6.01: SWMU 14-006 and AOC 14-001(g)

Two historical industrial activity areas, Sites 14-006 and 14-001(g), are associated with CDV-SMA-6.01 (permitted feature V012). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

182.1 Site Descriptions

14-001(g) (2/18/2021)

AOC 14-001(g) is an active firing pad (structure 14-35) located south of control building 14-23 at TA-14. Installed in 1964, the reinforced concrete pad measures 5-ft square × 2-ft thick and is surrounded on three sides with a blast shield. At the base, the blast shield is a 6-ft square × 2-ft thick concrete pad overlain by a neoprene shock pad, a 4.5-in.-thick steel plate, and several in. of sand. The shield directs the force of detonations away from nearby control building 14-23. The AOC 14-001(g) firing pad is used to conduct test-shot experiments and to dispose of scrap HE.

AOC 14-001(g) was referred to as SWMU 14-001(g) in historical documents.

14-006 (2/18/2021)

SWMU 14-006 is a decommissioned HE sump (structure 14-31), associated drainline, and outfall located at TA-14 approximately 45 ft east of control building 14-23. Installed in 1952, the steel-lined sump is constructed of reinforced concrete and measures approximately 4.5 ft wide × 8 ft long × 5 ft deep. The sump received discharges from sink and floor drains in control building 14-23 and discharged to an outfall approximately 55 ft southeast of the sump. Sludge was routinely removed from the sump for burning. The sump has been filled with concrete and the outlet from the sump is plugged (date not known). Currently the outfall receives only stormwater.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 182-1.

Table 182-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
14-001(g)	Firing site	HE
14-006	Sump and/or associated equipment	HE

182.2 Control Measures

All active control measures in use at CDV-SMA-6.01 are listed in Table 182-2. Their locations are shown on the project map (Figure 182-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 182-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01202040013	Established Vegetation	-	X	X	-	B	4-29-2013
V01203010016	Earthen Berm	-	X	-	X	B	9-9-2013
V01203010017	Earthen Berm	X	-	-	X	EC	9-17-2015
V01203010018	Earthen Berm	-	X	-	X	EC	9-17-2015
V01203020003	Base Course Berm	-	X	-	X	CB	11-10-2009
V01206010022	Rock Check Dam	-	X	-	X	B	11-2-2015

182.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-6.01 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 182-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 183-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93110[a]	6-25-2022	0.47	6-30-2022	5	Yes
BMP-93750	7-4-2022	0.33	7-13-2022	9	Yes
BMP-94237[b]	7-20-2022 7-27-2022	0.34 0.35	7-28-2022	8 1	Yes Yes
SMPLR-93622[c]	7-30-2022	0.56	8-5-2022	7	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 5, 2022 for a sampler inspection and there were no findings of deficiency noted.

182.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 31, 2014. Analytical results from this sample yielded TAL exceedances for copper (10 µg/L), gross-alpha activity (140 pCi/L), radium-226 and -228 activity (46.3 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at CDV-SMA-6.01 under the 2010 IP requirements from March 28 through November 14, 2022, resulting in a monitoring season of 232 days. Eight inspections were performed during the monitoring period and are summarized in Table 182-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 182-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91721	4-21-2022	No	None	None
SMPLR-92172	5-19-2022	No	None	None
SMPLR-92501	6-16-2022	No	None	None
SMPLR-92887	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93622	8-5-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12
SMPLR-95260	9-15-2022	No	8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-95923	10-19-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96434	11-14-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

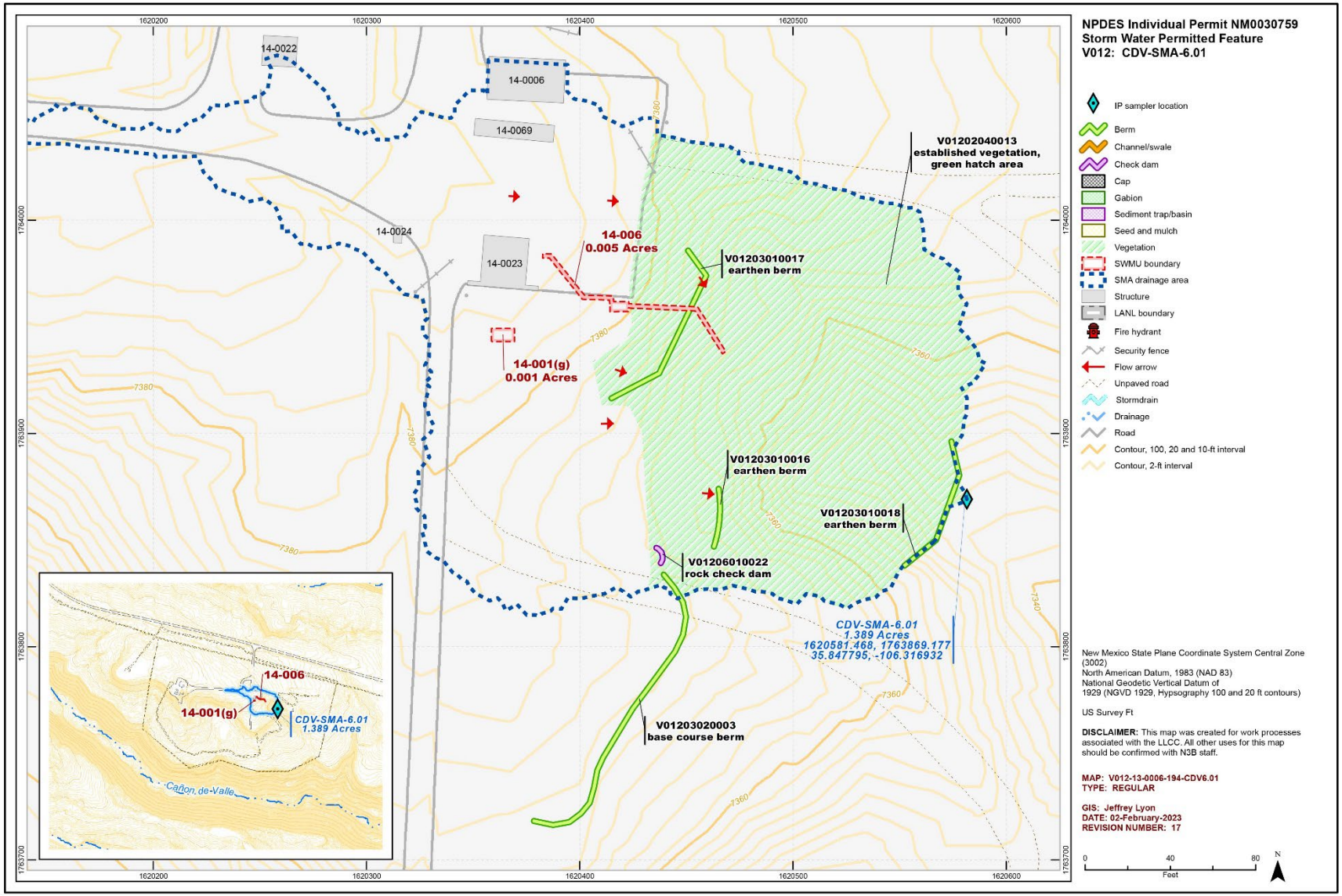

Figure 182-1 CDV-SMA-6.01 location map

183.0 CDV-SMA-6.02: SWMU 14-002(c)

One historical industrial activity area, Site 14-002(c), is associated with CDV-SMA-6.02 (permitted feature V012A). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

183.1 Site Descriptions

14-002(c) (2/18/2021)

SWMU 14-002(c) is a decommissioned firing site (structure 14-5) located in the southeastern portion of TA-14. Structure 14-5 consisted of a control building and firing pad. Constructed in 1944, the wood-framed control building measured 11 ft wide × 18 ft long × 10 ft high and was surrounded on three sides by an earthen berm. A 10-ft-square × 8-ft-high concrete firing pad faced with a 0.5-in. steel plate was attached to the exterior south wall of the control building. The firing site was used to conduct small-scale explosive tests until the mid-1950s. Structure 14-5 was converted to a storage area in 1961 where cyanogen gas cylinders were stored from 1965 to the 1970s. In 1980, a 5-ft-diameter metal sphere was installed on the firing pad at the south side of structure 14-5. The sphere was used to conduct slow-combustion experiments, which continued until 1985, when operations ceased. The firing pad was removed at an unknown date. The structure 14-5 was partially destroyed by the Cerro Grande fire in 2000; only the concrete portions of the roof and walls remain.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 183-1.

Table 183-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
14-002(c)	Control building 14-5	HE

183.2 Control Measures

All active control measures in use at CDV-SMA-6.02 are listed in Table 183-2. Their locations are shown on the project map (Figure 183-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 183-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V012A01010005	Seed and Wood Mulch	-	-	X	-	EC	11-22-2011
V012A03010004	Earthen Berm	-	X	-	X	EC	11-22-2011
V012A03010006	Earthen Berm	-	X	-	X	EC	5-15-2012
V012A03060008	Straw Wattle	-	X	-	X	B	11-2-2015
V012A03140009	Coir Log	-	X	-	X	B	11-2-2015
V012A03140010	Coir Log	-	X	-	X	B	7-25-2017

183.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-6.02 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 183-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 183-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93111[a]	6-25-2022	0.47	6-30-2022	5	Yes
BMP-93751	7-4-2022	0.33	7-13-2022	9	Yes
BMP-94238[b]	7-20-2022 7-27-2022	0.34 0.35	7-28-2022	8 1	Yes Yes
SMPLR-93613[c]	7-30-2022	0.56	8-5-2022	7	Yes

[b] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 5, 2022 for a sampler inspection and there were no findings of deficiency noted.

183.4 Stormwater Monitoring

Following the installation of baseline control measures, baseline confirmation samples were collected on August 13 and September 1, 2011. Analytical results from these baseline samples yielded TAL exceedances for copper (28.1 µg/L and 29.3 µg/L), gross-alpha activity (147 pCi/L and 199 pCi/L), and mercury (1.6 µg/L and 0.95 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at CDV-SMA-6.02, a corrective-action stormwater sample was collected on September 13, 2013. Analytical results from this corrective-action monitoring sample yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at CDV-SMA-6.02 under the 2010 IP requirements from March 28 through October 28, 2022, resulting in a monitoring season of 215 days. Seven inspections were performed during the monitoring period and are summarized in Table 183-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 183-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91718	4-21-2022	No	None	None
SMPLR-92170	5-19-2022	No	None	None
SMPLR-92499	6-16-2022	No	None	None
SMPLR-92882	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93613	8-5-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12
SMPLR-95253	9-15-2022	No	8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-95920	10-28-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

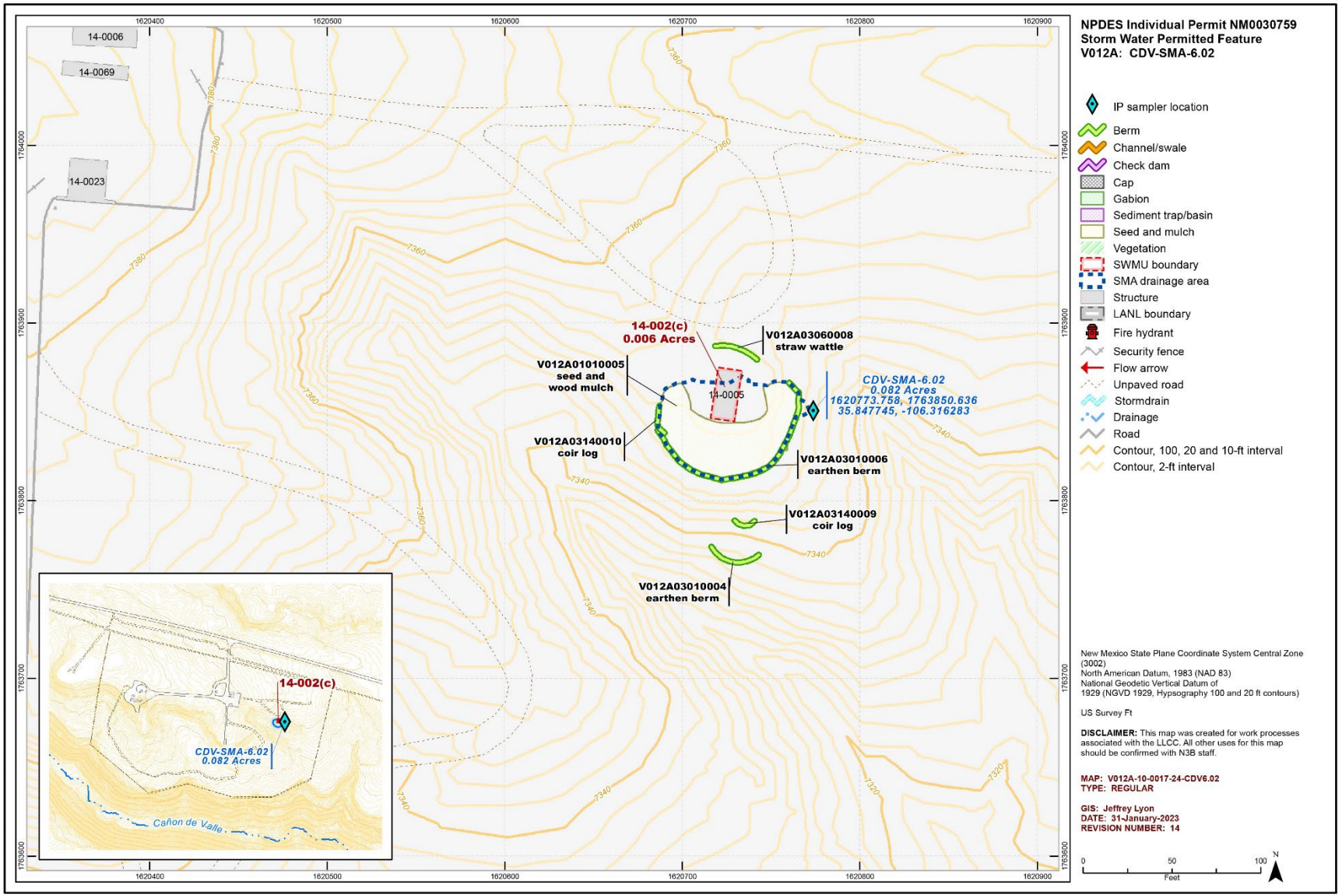

Figure 183-1 CDV-SMA-6.02 location map

184.0 CDV-SMA-7: SWMU 15-008(d)

One historical industrial activity area, Site 15-008(d), is associated with CDV-SMA-7 (permitted feature V013). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

184.1 Site Descriptions

15-008(d) (3/13/2018)

SWMU 15-008(d) consists of a building debris pile located south of former building 15-22 in the northwest portion of TA-15 in an area known as "The Hollow." The source of the debris is unknown. Building 15-22 was originally constructed in the 1970s as a control center for an experimental accelerator in nearby building 15-203. This control center was not needed to operate the accelerator, and the building was never used for this purpose. Building 15-22 was reportedly used for storage and was demolished and removed in October 2004.

The Hollow was a series of buildings (former buildings 15-20, 15-194, and 15-203) connected by a common roof structure that had been assembled over the years beginning in 1949. These buildings had various uses, including assembly buildings, laboratories, and shops. Although documentation of what was assembled is not available, it was likely explosive devices tested elsewhere at TA-15. In the 1960s, building 15-194 had a vapor degreaser (the solvents used were not specified but likely included halogenated hydrocarbons such as trichloroethene, tetrachloroethene, or 1,1,1-trichlorethane). The vapor degreaser was removed in 1987. Building 15-194 also contained stripping tanks that employed sulfuric, chromic, and/or hydrochloric acids. Structures associated with The Hollow were demolished and removed in 2004.

The northwest portion of TA-15 including The Hollow was moderately to severely damaged in the 2000 Cerro Grande fire, and several structures were destroyed. The ground cover and the canopy surrounding the Site were damaged extensively.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 184-1.

Table 184-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-008(d)	Surface disposal area	Metals

184.2 Control Measures

All active control measures in use at CDV-SMA-7 are listed in Table 184-2. Their locations are shown on the project map (Figure 184-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 184-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01302040008	Established Vegetation	-	X	X	-	B	5-7-2013
V01303010006	Earthen Berm	X	-	-	X	CB	8-3-2010
V01303010007	Earthen Berm	-	X	-	X	CB	8-3-2010
V01303140010	Coir Log	-	X	-	X	EC	6-18-2015
V01303140011	Coir Log	-	X	-	X	EC	6-18-2015
V01303140013	Coir Log	X	-	-	X	EC	6-18-2015
V01303140020	Coir Log	-	X	-	X	B	6-29-2017
V01303140021	Coir Log	-	X	-	X	B	9-18-2018
V01303140022	Coir Log	-	X	-	X	EC	10-20-2020
V01303140023	Coir Log	-	X	-	X	EC	10-20-2020
V01304010015	Earthen Channel/Swale	X	-	X	-	EC	6-18-2015
V01304040009	Culvert	X	-	X	-	B	9-24-2014
V01306010014	Rock Check Dam	X	-	-	X	EC	6-18-2015
V01306010016	Rock Check Dam	X	-	-	X	B	10-13-2015
V01306010017	Rock Check Dam	X	-	-	X	B	10-13-2015
V01306010018	Rock Check Dam	X	-	-	X	B	10-13-2015
V01306010019	Rock Check Dam	X	-	-	X	B	10-13-2015
V01306010024	Rock Check Dam	-	X	-	X	EC	10-20-2020
V01306010025	Rock Check Dam	-	X	-	X	EC	10-20-2020
V01306010026	Rock Check Dam	-	X	-	X	EC	10-20-2020

184.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at CDV-SMA-7 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 184-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 184-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93108[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-6-2022	11 2	Yes Yes
BMP-94235[b]	7-20-2022 7-27-2022	0.34 0.35	7-28-2022	8 1	Yes Yes
SMPLR-94798[c]	7-30-2022	0.56	9-8-2022	7	No

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on September 8, 2022 for a sampler inspection and there were no findings of deficiency noted.

184.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (956 µg/L), gross-alpha activity (191 pCi/L), and selenium (5.33 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Following the 2015 installation of enhanced controls, two corrective-action stormwater samples were collected on July 17 and August 10, 2018. Analytical results from the corrective-action monitoring samples yielded a TAL exceedance for gross-alpha activity (222 pCi/L and 186 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320).

Following the 2020 installation of enhanced controls, a corrective-action stormwater sample was collected on August 26, 2021. Analytical results from this corrective-action monitoring sample yielded a TAL exceedance for gross-alpha activity (113 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at CDV-SMA-7 under the 2010 IP requirements from March 31 through November 1, 2022, resulting in a monitoring season of 216 days. Eight inspections were performed during the monitoring period and are summarized in Table 184-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 184-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91753	5-2-2022	No	None	None
SMPLR-92292	5-31-2022	No	None	None
SMPLR-92744	7-6-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022 7-1-2022 7-2-2022 7-4-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93870	7-28-2022	No	7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022	0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46
SMPLR-94798	9-8-2022	No	7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022	0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15
SMPLR-95838	10-6-2022	No	9-9-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022	0.08/0.17 0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18
SMPLR-96285	10-19-2022	No	10-15-2022 10-16-2022 10-17-2022	0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96418	11-1-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

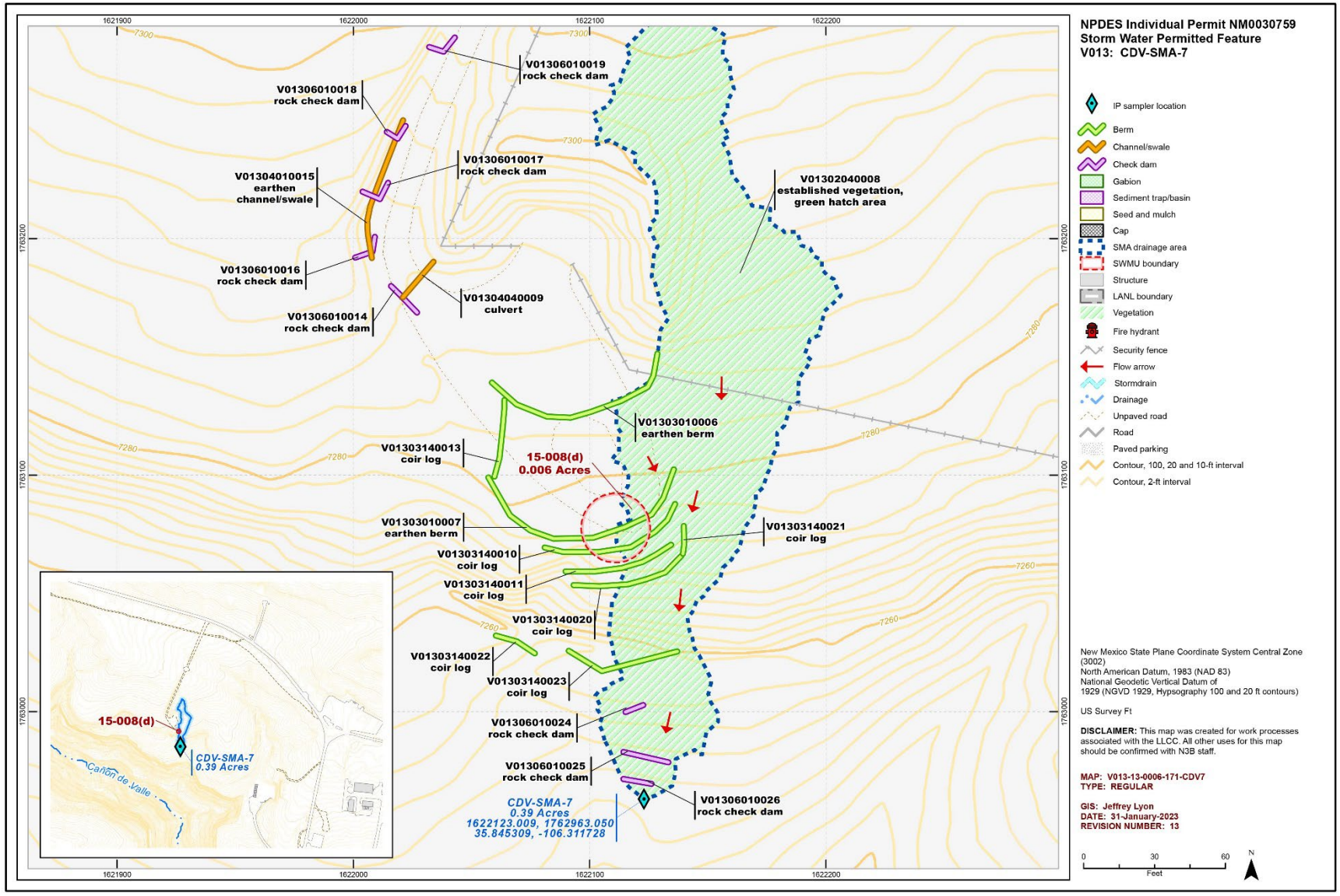

Figure 184-1 CDV-SMA-7 location map

185.0 CDV-SMA-8: SWMU 15-011(c)

One historical industrial activity area, Site 15-011(c), is associated with CDV-SMA-8 (permitted feature V014). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

185.1 Site Descriptions

15-011(c) (3/15/2018)

SWMU 15-011(c) is a dry well and associated drainline located west of electron gun/pulse power laboratory (former building 15-194) in the northwest portion of TA-15 in an area known as the Hollow. The dry well, reportedly constructed in 1960, consists of eight feet of concrete pipe placed vertically within a shaft and covered with a metal lid. The bottom of the shaft was lined with gravel. The dry well reportedly received discharges from two acid cleaning sinks/tanks located within former building 15-50. The sinks/tanks were removed prior to 1986. Both the 1986 Comprehensive Environmental Assessment and Response Program (CEARP) Report and the 1990 SWMU Report state that effluent may have been discharged directly to Cañon de Valle rather than into a dry well. Engineering drawing C-19082 depicts the dry well design and location, however the drawing is not an as-built drawing; therefore, it is possible that the dry well was never constructed. The 1990 SWMU Report and the 1993 RFI work plan both identify SWMU 15-011(c) as a sump, as do engineering drawings. However, this structure as depicted in the drawings has a gravel bottom with no outfall pipe and is therefore better described as a drywell. The RFI work plan states that no evidence of the sump (dry well) was found during the work plan development, and concluded that effluent from the building was discharged to the canyon. The 1996 RFI report incorrectly describes SWMU 15-011(c) as the drainage located west of the buildings located at the Hollow. The dry well was also not located during site visits conducted prior to the preparation of the 2011 Field Implementation Plan for Cañon de Valle Aggregate Area, TA-15. It is unknown whether the dry well was ever constructed, or if it was, whether it is still in place. The Hollow was a series of buildings (former buildings 15-20, 15-194, and 15-203) connected by a common roof structure that had been assembled over the years beginning in 1949. These buildings had various uses, including explosive assembly buildings, laboratories, and shops. Although documentation of what was assembled is not available, it was likely explosive devices tested elsewhere at TA-15. In the 1960s, building 15-194 had a vapor degreaser (the solvents used were not specified but likely included halogenated hydrocarbons such as trichloroethene; tetrachloroethene; or 1,1,1-trichlorethane). The vapor degreaser was removed in 1987. Building 15-194 also contained stripping tanks that employed sulfuric, chromic, and/or hydrochloric acids. Structures associated with The Hollow were demolished and removed in 2004. The northwest portion of TA-15 including the Hollow was moderately to severely damaged in the 2000 Cerro Grande fire, and several structures were destroyed. The ground cover and the canopy surrounding the site were damaged extensively.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 185-1.

Table 185-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-011(c)	Dry well	Inorganic chemicals

185.2 Control Measures

All active control measures in use at CDV-SMA-8 are listed in Table 185-2. Their locations are shown on the project map (Figure 185-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 185-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01402040009	Established Vegetation	-	X	X	-	B	5-8-2013
V01403010008	Earthen Berm	X	-	-	X	B	11-14-2011
V01403010012	Earthen Berm	X	-	-	X	B	12-17-2013
V01406010003	Rock Check Dam	X	-	-	X	CB	7-6-2010
V01406010010	Rock Check Dam	X	-	-	X	B	12-17-2013
V01406010011	Rock Check Dam	X	-	-	X	B	12-17-2013
V01406010013	Rock Check Dam	X	-	-	X	B	9-3-2014
V01406010014	Rock Check Dam	X	-	-	X	B	9-3-2014
V01406010015	Rock Check Dam	X	-	-	X	B	9-3-2014

185.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at CDV-SMA-8 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 185-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 185-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93109[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-8-2022	13 4	Yes Yes
BMP-94043	7-14-2022	0.25	7-20-2022	6	Yes
BMP-94236[b]	7-20-2022 7-26-2022 7-27-2022	0.25 0.44 0.72	7-28-2022	8 2 1	Yes Yes Yes
BMP-95374[b]	7-30-2022 8-11-2022	0.69 0.88	8-24-2022	26 13	No Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

185.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 31, 2014. Analytical results from this sample yielded TAL exceedances for aluminum (1360 µg/L) and gross-alpha activity (53.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was not conducted at CDV-SMA-8 in 2022 under the 2010 IP requirements.

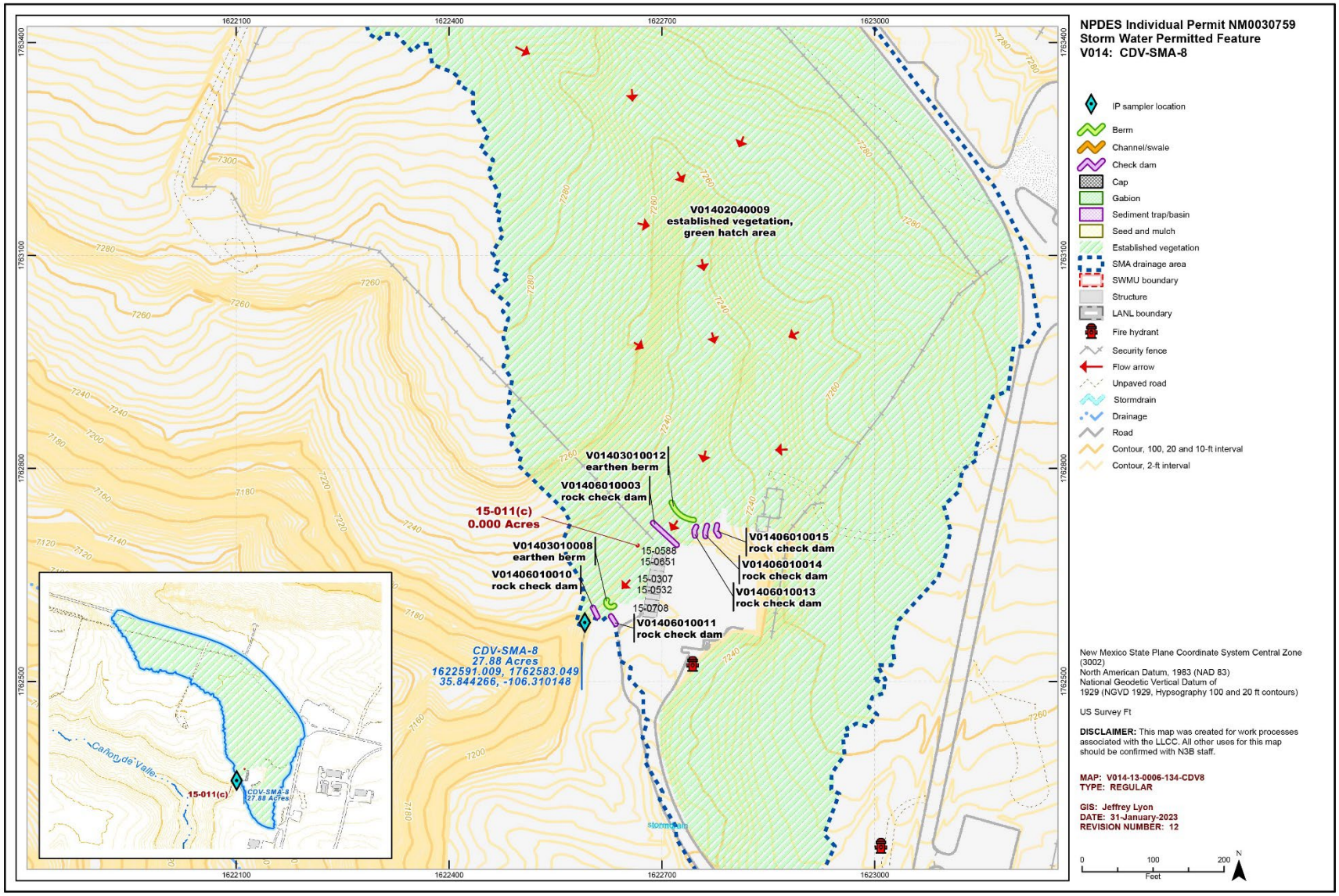

Figure 185-1 CDV-SMA-8 location map

186.0 CDV-SMA-8.5: SWMU 15-014(a)

One historical industrial activity area, Site 15-014(a), is associated with CDV-SMA-8.5 (permitted feature V015). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

186.1 Site Descriptions

15-014(a) (3/15/2018)

SWMU 15-014(a) consists of a former NPDES-permitted outfall [EPA 06A123] and associated drainlines west of building 15-183, within an area known as R-183 in the western portion of TA-15. Building 15-183 was constructed in 1961 and housed offices and laboratories including photo-processing operations. Beginning in 1961, effluent from floor drains and photo-processing operations in building 15-183 was discharged to the SWMU 15-014(a) outfall. This outfall is located approximately 130 ft from the edge of Cañon de Valle. The drainline associated with this outfall was reportedly replaced with a new drainline along the same path as the original drainline in 1987. The outfall location did not change and the outfall was added to the LANL NPDES Permit as outfall EPA 06A123 for discharges of photo waste. Routine monitoring of effluent was required by the former NPDES permit including sampling and analysis for pH and silver and, before August 1994, for cyanide. Effluent from the outfall followed a surface drainage into the canyon; the location of the drainage is marked by increased vegetation. The drains in building 15-183 and the outfall discharge point were plugged in 1997. The SWMU 15-014(a) outfall was removed from the NPDES permit as of January 14, 1998. Building 15-183 remains active.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 186-1.

Table 186-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-014(a)	Drainline and outfall from building 15-183	Silver, cyanide, organic chemicals, SVOCs

186.2 Control Measures

All active control measures in use at CDV-SMA-8.5 are listed in Table 186-2. Their locations are shown on the project map (Figure 186-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 186-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01502040006	Established Vegetation	-	X	X	-	B	4-3-2013
V01503010005	Earthen Berm	X	-	-	X	CB	8-17-2010

186.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at CDV-SMA-8.5 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 186-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 186-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93112[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-8-2022	13 4	Yes Yes
BMP-94044	7-14-2022	0.25	7-20-2022	6	Yes
BMP-94239	7-20-2022	0.25	7-21-2022	1	Yes
BMP-94470[b]	7-26-2022 7-27-2022	0.44 0.72	7-28-2022	2 1	Yes Yes
BMP-95375[b]	7-30-2022 8-11-2022	0.69 0.88	8-15-2022	17 13	No Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

186.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at CDV-SMA-8.5.

Stormwater monitoring was conducted at CDV-SMA-8.5 under the 2010 IP requirements from March 22 through October 28, 2022, resulting in a monitoring season of 220 days. Seven inspections were performed during the monitoring period and are summarized in Table 186-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 186-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91587	4-6-2022	No	None[c]	None
SMPLR-91947	5-2-2022	No	None	None
SMPLR-92291	5-18-2022	No	None	None
SMPLR-92475	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93615	7-28-2022	No	7-1-2022	0.2/0.61

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
			7-4-2022	0.71/1.04
			7-14-2022	0.25/0.26
			7-20-2022	0.25/0.3
			7-26-2022	0.44/0.63
			7-27-2022	0.72/0.85
SMPLR-94796	9-8-2022	No	7-29-2022	0.07/0.22
			7-30-2022	0.69/0.87
			7-31-2022	0.09/0.12
			8-6-2022	0.22/0.32
			8-11-2022	0.88/0.89
			8-16-2022	0.16/0.54
			8-19-2022	0.12/0.28
			8-20-2022	0.05/0.31
			8-21-2022	0.11/0.13
SMPLR-95837	10-28-2022	No	9-9-2022	0.12/0.18
			9-22-2022	0.14/0.24
			10-2-2022	0.08/0.24
			10-3-2022	0.07/0.15
			10-4-2022	0.03/0.17
			10-15-2022	0.14/0.82
			10-16-2022	0.05/0.16
			10-17-2022	0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

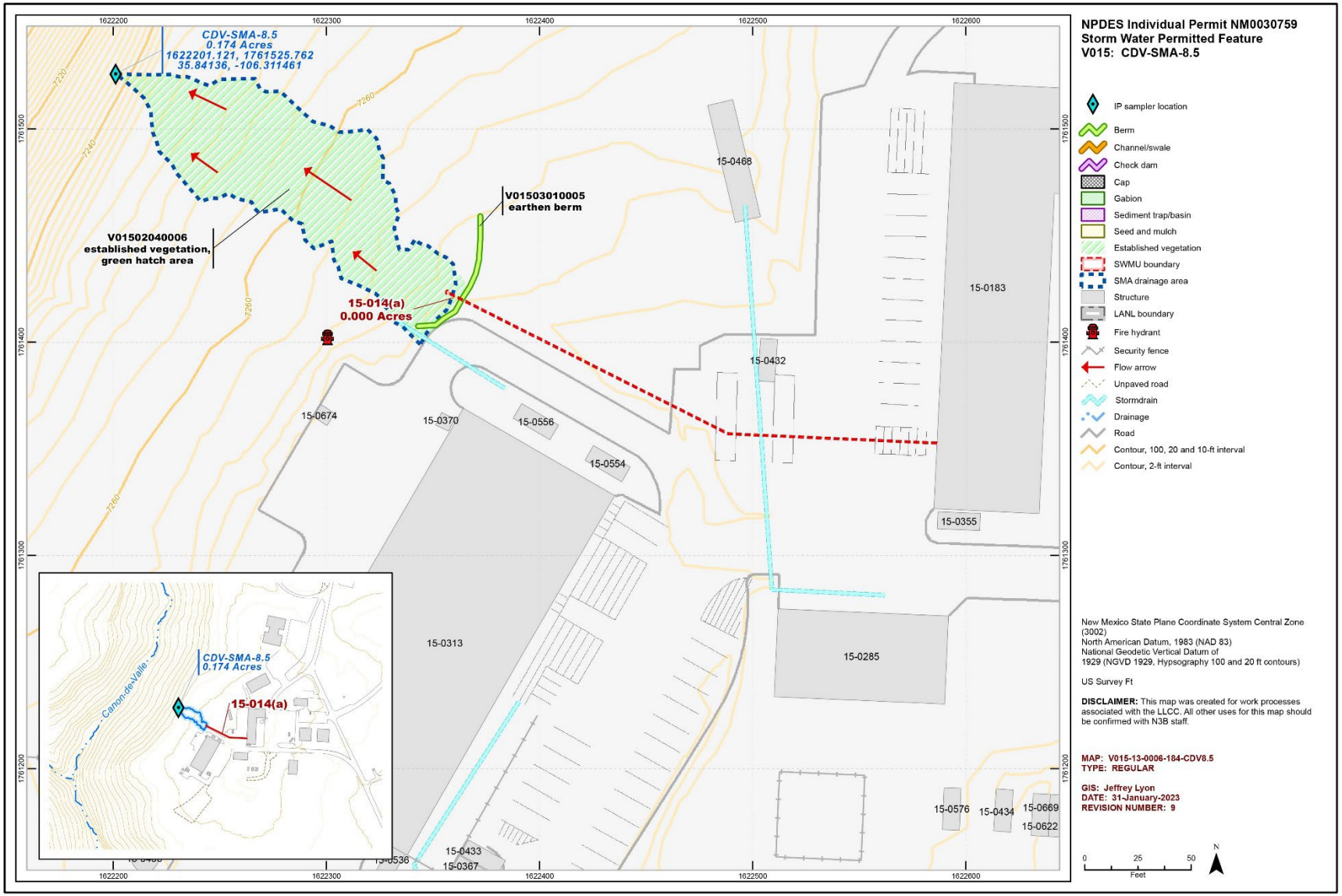

Figure 186-1 CDV-SMA-8.5 location map

187.0 CDV-SMA-9.05: SWMU 15-007(b)

One historical industrial activity area, Site 15-007(b), is associated with CDV-SMA-9.05 (permitted feature V016). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

187.1 Site Descriptions

15-007(b) (3/13/2018)

SWMU 15-007(b) is an inactive disposal area known as MDA Z, located south of the side road leading to building 15-233 and northwest of inactive Firing Site G [SWMU 15-004(g)] in the south central portion of TA-15. MDA Z is roughly triangular, is approximately 200 × 50 ft, and appears to have been constructed in a natural depression. Thus, one face grades to native soil and one face is approximately 15 ft high and easily visible.

MDA Z operated from 1965 to 1981 and received construction debris, consisting of used sandbags filled with concrete and steel blast matting, from the PHERMEX [SWMU 15-006(a)]. The PHERMEX facility is used to x-ray photograph test explosions. The landfill also contains firing site debris contaminated with HE, uranium, lead, beryllium, and potentially mercury and barium. Partially burned wood was visible at the site during the 1995 RCRA RFI activities. When the site was surveyed after the 2000 Cerro Grande fire, only minor burning of ground cover was noted.

During the 1995 RFI activities, a geophysical survey was conducted to estimate the volume of the disposal area. The survey results indicated a roughly triangular surface area, with a wedge shape grading from about 10 ft deep at the face to the surface level landward edge. The triangle is roughly 225 ft long × 50 ft wide with a surface area of approximately 11,250 ft^2 (the area of a triangle is one-half the base times the height). If the depth were a uniform 10 ft, then the volume would be about 4,000 yd^3. However, because the shape tapers from the face to the opposite boundary, the MDA likely measures no more than half this size or approximately 2,000 yd^3.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 187-1.

Table 187-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-007(b)	MDA Z	Metals, dioxins/furans, PAHs, SVOCs, radionuclides

187.2 Control Measures

All active control measures in use at CDV-SMA-9.05 are listed in Table 187-2. Their locations are shown on the project map (Figure 187-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 187-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
V01602040005	Established Vegetation	-	X	X	-	B	4-3-2013
V01603010002	Earthen Berm	-	X	-	X	CB	8-31-2010
V01603010003	Earthen Berm	-	X	-	X	CB	9-1-2010
V01603010004	Earthen Berm	X	-	-	X	CB	9-1-2010
V01603140006	Coir Log	-	X	-	X	B	8-5-2015
V01606010007	Rock Check Dam	-	X	-	X	EC	10-21-2020
V01606010008	Rock Check Dam	-	X	-	X	EC	10-21-2020
V01606010009	Rock Check Dam	-	X	-	X	EC	10-21-2020

187.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at CDV-SMA-9.05 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 187-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 187-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93113[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-8-2022	13 4	Yes Yes
BMP-94045	7-14-2022	0.25	7-20-2022	6	Yes
BMP-94470[b]	7-20-2022 7-26-2022 7-27-2022 7-30-2022	0.25 0.44 0.72 0.69	8-2-2022	13 7 6 3	Yes Yes Yes Yes
BMP-95376	8-11-2022	0.88	8-24-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

187.4 Stormwater Monitoring

Following installation of baseline control measures, a baseline stormwater sample was collected on August 10, 2018. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (16.4 pCi/L). The complete analytical results are presented in “Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759” (N3B 2019, 700320).

Following the installation of enhanced controls, a corrective-action stormwater sample was collected on August 26, 2021. Analytical results from this corrective-action monitoring sample yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at CDV-SMA-9.05, under the 2010 IP requirements, from March 28 through November 4, 2022, resulting in a monitoring season of 222 days. Six inspections were performed during the monitoring period and are summarized in Table 187-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 187-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91719	5-4-2022	No	None	None
SMPLR-92341	6-6-2022	No	None	None
SMPLR-92756	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93618	8-12-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-6-2022 8-11-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12 0.22/0.32 0.88/0.89
SMPLR-95452	9-26-2022	No	8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022 9-22-2022	0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18 0.14/0.24

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-96119	11-4-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.08/0.24 0.07/.015 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

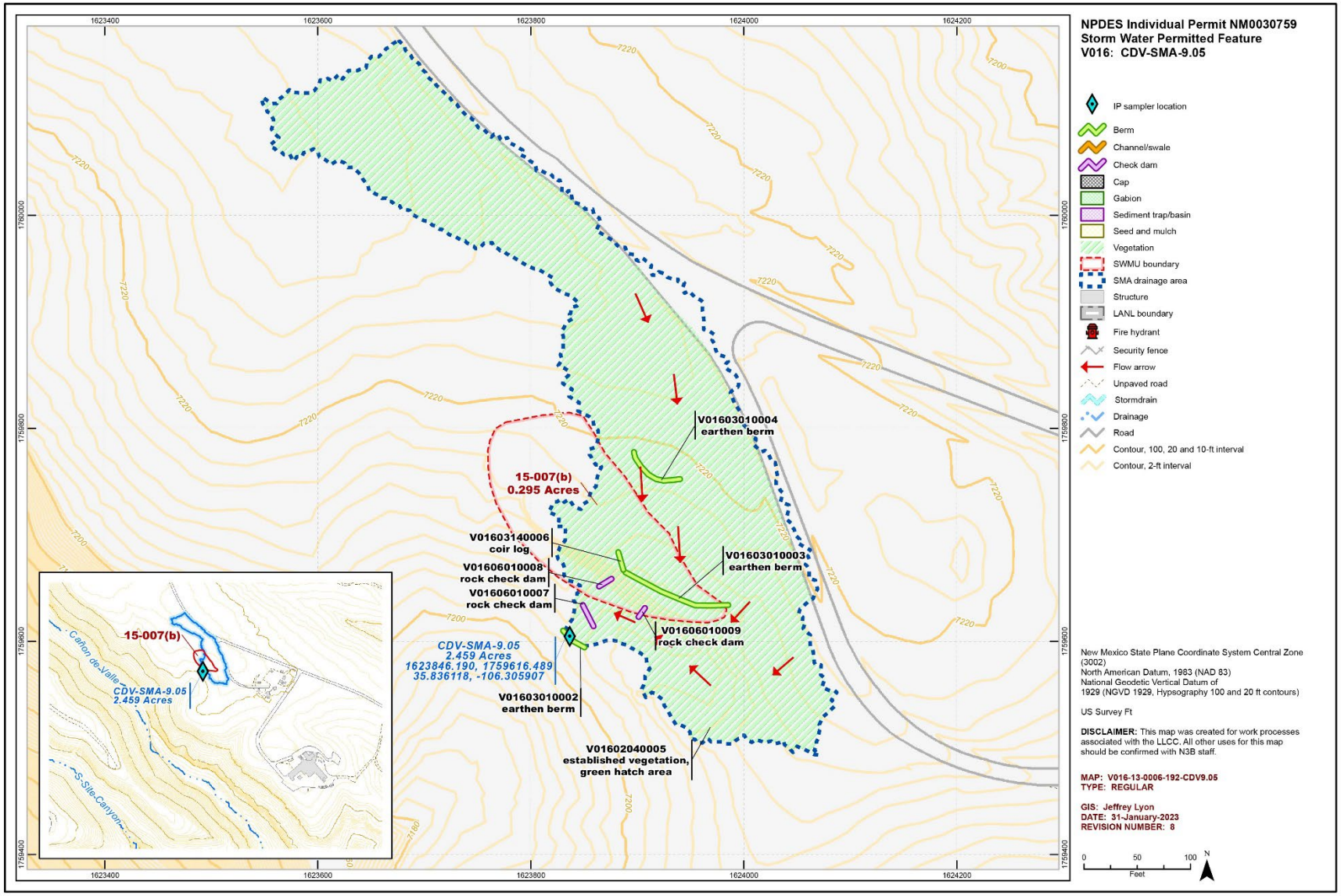

Figure 187-1 CDV-SMA-9.05 location map

188.0 F-SMA-2: AOC 36-004(c)

One historical industrial activity area, Site 36-004(c), is associated with F-SMA-2 (permitted feature F001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

188.1 Site Descriptions

36-004(c) (4/18/2022)

AOC 36-004(c) is the active Minie Firing Site at TA-36 near the head of Fence Canyon, approximately 800 ft southeast of the active Meenie Firing Site [AOC 36-004(b)]. AOC 36-004(c) is an active RCRA-regulated OD Site and is also used to conduct experiments involving explosives. This firing site consists of the firing point, a control bunker (building 36-8), a make-up building (36-7) [AOC 36-007(c)], a firing platform (no structure number), and an x-ray house (no structure number). Construction of the Minie Firing Site began in 1949 and was completed in 1950. The site has been extensively used to conduct armor-piercing experiments involving various metal penetrators. In these experiments, penetrator jets are directed at targets on the canyon wall to the west of the site. Metal plates are placed behind the targets to stop the penetrators. AOC 36-004(c) has also been used for OD of scrap HE. Emergency detonation of leaking gas cylinders has been performed, but very infrequently. The hazard radius for Minie Site is approximately 3,000 ft.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 188-1.

Table 188-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
36-004(c)	Active firing site	Aluminum, barium, beryllium, copper, iron, lead, HE, DU

188.2 Control Measures

All active control measures in use at F-SMA-2 are listed in Table 188-2. Their locations are shown on the project map (Figure 188-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 188-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
F00102040018	Established Vegetation	-	X	X	-	B	5-8-2013
F00103010017	Earthen Berm	-	X	-	X	B	9-18-2012
F00103010024	Earthen Berm	X	-	-	X	B	8-21-2015
F00103010025	Earthen Berm	X	-	-	X	EC	8-21-2015
F00103010026	Earthen Berm	X	-	-	X	EC	8-21-2015
F00103010027	Earthen Berm	X	-	-	X	EC	8-21-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
F00103010028	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010029	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010030	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010031	Earthen Berm	X	-	-	X	EC	8-21-2015
F00103010035	Earthen Berm	X	-	-	X	B	8-21-2015
F00103010036	Earthen Berm	X	-	-	X	EC	8-21-2015
F00103010037	Earthen Berm	X	-	-	X	EC	8-21-2015
F00103010039	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010040	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010041	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010042	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010043	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103010044	Earthen Berm	-	X	-	X	EC	8-21-2015
F00103120021	Rock Berm	-	-	-	X	EC	8-21-2015
F00103120023	Rock Berm	-	X	-	X	EC	8-21-2015
F00103140052	Coir Log	X	-	-	X	B	7-19-2021
F00104010001	Earthen Channel/Swale	X	-	X	-	CB	1-1-2000
F00104010038	Earthen Channel/Swale	X	-	X	-	EC	8-21-2015
F00104050033	Water Bar	-	-	X	-	EC	8-21-2015
F00104060034	Riprap	-	-	X	-	EC	8-21-2015
F00104060049	Riprap	X	-	X	-	B	10-12-2018
F00104060050	Riprap	X	-	X	-	B	10-12-2018
F00105060022	Infiltration Basin	-	X	-	X	EC	8-21-2015
F00106010045	Rock Check Dam	X	-	-	X	B	10-12-2018
F00106010046	Rock Check Dam	X	-	-	X	B	10-12-2018
F00106010047	Rock Check Dam	X	-	-	X	B	10-12-2018

188.3 Inspections and Maintenance

Rain gage RG267.4 recorded four storm events at F-SMA-2 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 188-3. Maintenance activities conducted at the SMA are summarized in Table 188-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 188-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93754[a]	7-4-2022	0.48	7-4-2022	11	Yes
BMP-94473[b]	7-26-2022 7-27-2022	0.3 0.63	7-28-2022	2 1	Yes Yes
SMPLR-94795[c]	7-30-2022	0.72	8-3-2022	5	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection work order was not issued for the rain event on July 30, 2022. The SMA was next visited on August 3, 2022, for a sampler inspection, and there were no findings of deficiency noted.

Table 188-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-95242 (follow up to BMP-94473)	Returned displaced rock cover on Earthen Berms F00103010029, F00103010030, and F00103010028.	8-17-2022	20 days	Maintenance was conducted as soon as practicable.

188.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on August 15, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (866 µg/L), copper (72.5 µg/L), and gross-alpha activity (140 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the 2014 installation of enhanced control measures at F-SMA-2, corrective-action stormwater samples were collected on July 15 and July 31, 2014. Analytical results from these corrective-action monitoring samples yielded TAL exceedances for copper (10.8 µg/L) and gross-alpha activity (112 pCi/L and 58.9 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following the 2015 installation of enhanced control measures at F-SMA-2, a corrective-action stormwater sample was collected on August 26, 2021. Analytical results from this corrective-action monitoring sample yielded TAL exceedances for aluminum (839 µg/L), copper (8.87 µg/L) gross-alpha activity (37.2 pCi/L), and selenium (6.91 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at F-SMA-2 under the 2010 IP requirements from March 29 through July 28, 2022, resulting in a monitoring season of 122 days. Four inspections were performed during the monitoring period and are summarized in Table 188-5. Rain gage RG267.4 recorded 14 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. A second corrective-action confirmation-monitoring sample was collected on July 27, 2022. Analytical results from this sample yielded TAL exceedances for aluminum (932 µg/L), copper (10.7 µg/L) gross-alpha activity

(284 pCi/L), and selenium (14.2 µg/L). The complete results are presented in Appendix B of the SDPPP Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 188-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91713	4-26-2022	No	None	None
SMPLR-92197	5-25-2022	No	None	None
SMPLR-92583	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.32 0.1/0.19 0.11/0.3 0.08/0.18 0.12/0.62 0.24/1.46 0.17/1.09 0.04/0.14
SMPLR-93512	7-28-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022	0.07/0.27 0.48/0.75 0.16/0.17 0.14/0.17 0.3/0.5 0.63/0.75

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

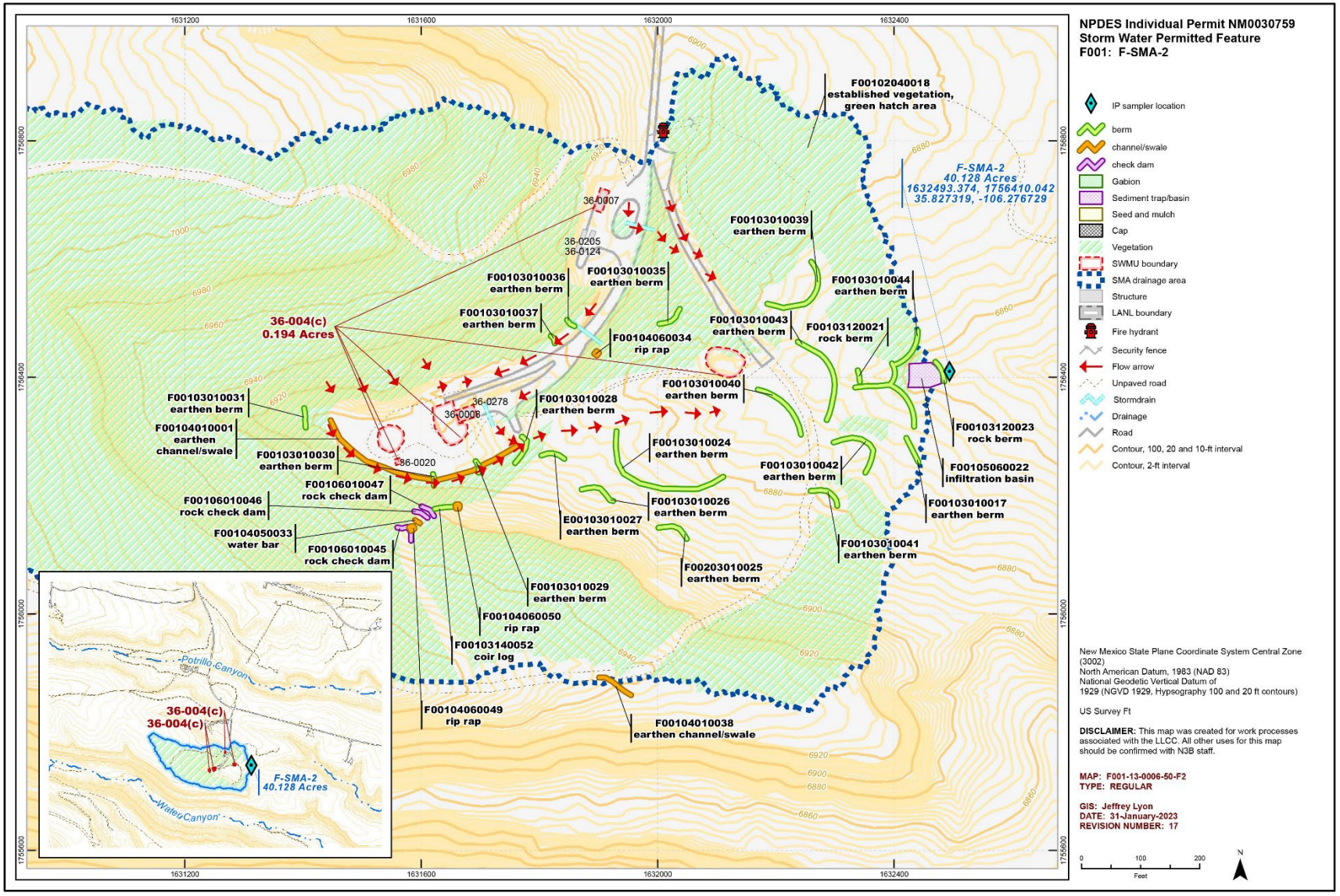

Figure 188-1 F-SMA-2 location map

189.0 PT-SMA-0.5: SWMU 15-009(e) and AOC C-15-004

Two historical industrial activity areas, Sites 15-009(e) and C-15-004, are associated with PT-SMA-0.5 (permitted feature I001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

189.1 Site Descriptions

15-009(e) (8/17/2021)

SWMU 15-009(e) is a decommissioned septic system that served building 15-27 at E-F Firing Site [SWMU 15-004(f)] at TA-15. The 1990 SWMU Report describes SWMU 15-009(e) as a semi-active septic system consisting of a septic tank (structure 15-72) reportedly measuring 4 ft long × 3 ft wide × 5 ft deep, with a 1,200-gal. capacity that discharged to an outfall in Potrillo Canyon and served building 15-27. During the 1997 VCA conducted at SWMU 15-009(e), the decommissioned septic tank (structure 15-72) was uncovered and determined to have been constructed of reinforced concrete with a 1,500-gal. capacity, and dimensions of 9 ft long × 7 ft wide × 5 ft deep. The septic system was constructed in 1947 and received sanitary waste from the E-F Firing Site control building 15-27 located approximately 175 ft northeast of septic tank 15-72. Engineering drawings show a 4-in.-diameter VCP inlet drainline exited the west side of building 15-27 and connected to the decommissioned septic tank (structure 15-72) southwest of the building. A 4-in.-diameter VCP outlet drainline discharged from the septic tank (structure 15-72) to an outfall in Potrillo Canyon approximately 40 ft southwest of the decommissioned septic tank. The septic tank was used until 1981 when E-F Firing Site last operated.

C-15-004 (2/21/2020)

AOC C-15-004 is a former transformer station (former structure 15-56) located approximately 30 ft southwest of the former E-F Firing Site [SWMU 15-004(f)] control room (building 15-27) at TA-15. Two transformers (18-gal. and 30-gal. mineral oil capacity) were located on a 5-ft-long wooden platform 10 ft above the ground. Each transformer contained mineral oil with PCBs of unknown concentrations. The date of installation is not known, but the transformers were removed from the site in 1989. No evidence was found of a release on the wooden platform or on the soil beneath the platform.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 189-1.

Table 189-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
15-009(e)	Septic system	Metals, lead, mercury, nitrate, uranium
C-15-004	Former transformer station	PAHs, PCBs

189.2 Control Measures

All active control measures in use at PT-SMA-0.5 are listed in Table 189-2. Their locations are shown on the project map (Figure 189-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 189-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00102040009	Established Vegetation	-	X	X	-	B	5-8-2013
I00103010007	Earthen Berm	-	X	-	X	EC	10-29-2012
I00103010008	Earthen Berm	X	-	-	X	EC	10-29-2012
I00103140014	Coir Log	-	X	-	X	B	10-8-2021
I00103140015	Coir Log	-	X	-	X	B	10-8-2021
I00104030012	Rock Channel/Swale	X	-	X	-	B	3-27-2014

189.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at PT-SMA-0.5 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 189-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 189-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93193[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94084[b]	7-14-2022 7-20-2022	0.25 0.25	7-21-2022	7 1	Yes Yes
BMP-94496[b]	7-26-2022 7-27-2022 7-30-2022	0.44 0.72 0.69	8-5-2022	10 9 6	Yes Yes Yes
BMP-95392	8-11-2022	0.88	8-24-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

189.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 1, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (1380 µg/L), copper (6.5 µg/L), and gross-alpha activity (79.5 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at PT-SMA-0.5 under the 2010 IP requirements from April 1 through November 1, 2022, resulting in a monitoring season of 215 days. Six inspections were performed during the monitoring period and are summarized in Table 189-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 189-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91791	5-3-2022	No	None	None
SMPLR-92339	6-6-2022	No	None	None
SMPLR-92754	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93519	8-5-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12
SMPLR-95254	9-16-2022	No	8-6-2022 8-11-2022 8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022	0.22/0.32 0.88/0.89 0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18
SMPLR-95929	11-1-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

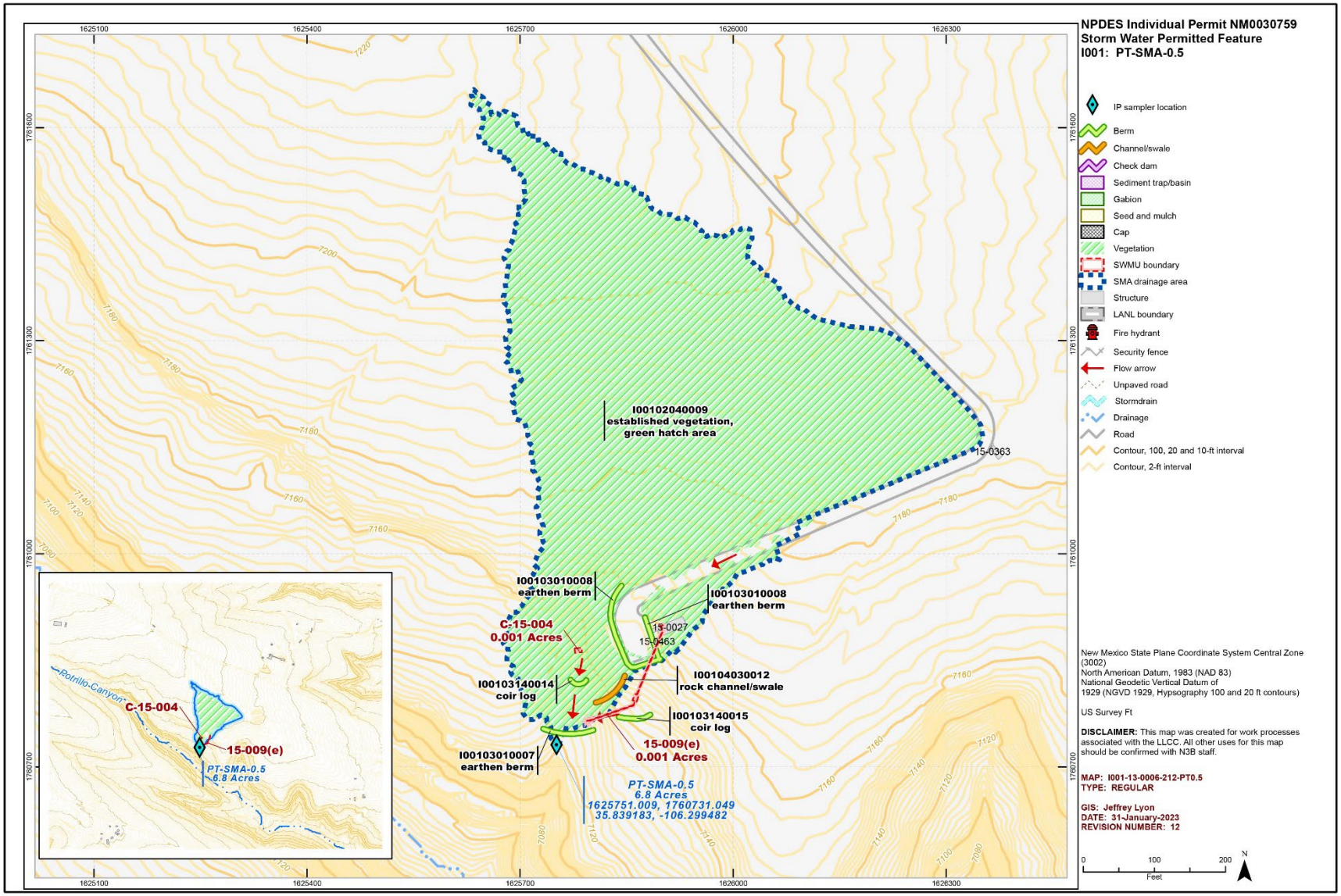

Figure 189-1 PT-SMA-0.5 location map

190.0 PT-SMA-1: SWMUs 15-004(f) and 15-008(a)

Two historical industrial activity areas, Sites 15-004(f) and 15-008(a), are associated with PT-SMA-1 (permitted feature I002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

190.1 Site Descriptions

15-004(f) (8/17/2021)

SWMU 15-004(f) is inactive E-F Firing Site consisting of three inactive firing points (D, E, and F) covering a total area of approximately 60 acres at TA-15. E-F Firing Site began operations in 1946 and was last used in 1981. The Firing Site was operated extensively from 1947 to 1973 and was the largest firing site at the Laboratory.

The 1990 SWMU Report describes SWMU 15-004(f) as E-F Firing Site, a decommissioned firing site, consisting of a control chamber (structure 15-27) and an x-unit chamber (former structure 15-26) at TA-15. The 1990 SWMU Report incorrectly associated decommissioned Firing Site D with SWMU 15-004(e); Firing Point D is part of SWMU 15-004(f). Originally, E-F Firing Site consisted of a single firing point (D), which operated from 1946 to 1949. The structures associated with Firing Point D were a control chamber (former structure 15-34) and an x-unit chamber (former structure 15-36) as shown on engineering drawing ENG-R 130. In 1946, the firing area was expanded to include Firing Point E, which was used for large-scale shots containing up to 2,500 lb of HE, and Firing Point F, which was used for smaller-scale shots. Firing Points E and F were approximately 650 ft apart and were wired to an underground control bunker (structure 15-27). Firing Points E and F were subsequently combined into E-F Firing Site. Tests at the two new firing points were conducted on the ground and created depressions in the ground. After test shots, the firing points were either regraded or backfilled with gravel to fill in depressions caused by the test shots. Eventually, nearby soil was mounded on the north and south sides of Firing Point E to protect structures at TA-15 from shrapnel. The x-unit chamber (former structure 15-26) associated with Firing Site E was damaged and removed in April 1952 and subsequently replaced with a new x-unit chamber (structure 15-134) according to the TA-15 Structure History Book and engineering drawing ENG-R 5110. As-built drawing ENG-C 12820 (pg. 1 of 7), engineering drawing A5-C37, and a 1958 aerial photograph indicate the approximate locations and dimensions of Firing Points D, E, and F. Firing Point D measures approximately 110 ft long by 85 ft wide, Firing Point E measures approximately 60 ft in diameter, and Firing Point F measures approximately 60 ft in diameter. Tests at E-F Firing Site involved HE, uranium, beryllium, lead, and mercury.

15-008(a) (2/21/2020)

SWMU 15-008(a) consists of two small surface disposal areas located on the edge of Potrillo Canyon, one south and one east of E-F Firing Site [SWMU 15-004(f)], at TA-15. The disposal areas are located within approximately 350 ft of each other, with each disposal area having dimensions of approximately 8 ft in diameter × 2 ft high. Both areas were used to dispose of debris from tests conducted at the E-F Firing Site, including soil, rock, pebbles, metal fragments, plastic, electrical cable, and electrical accessories. The exact period of operation of the surface disposal areas is not known but probably falls within the period of operation for E-F Firing Site (1946 to 1981). All debris was removed from both surface disposal areas during the 2010–2011 Phase I Consent Order investigation. Excavated environmental media and manmade debris from SWMU 15-008(a) was characterized as low-level waste (LLW) and disposed of at TA-54.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 190-1.

Table 190-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
15-004(f)	EF firing site	Barium, beryllium, copper, lead, mercury, HE, uranium, DU
15-008(a)	Two surface disposal areas	Barium, beryllium, copper, lead, mercury, HE, uranium, DU

190.2 Control Measures

All active control measures in use at PT-SMA-1 are listed in Table 190-2. Their locations are shown on the project map (Figure 190-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 190-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00201010022	Seed and Wood Mulch	-	-	X	-	CB	2-17-2011
I00202040034	Established Vegetation	-	X	X	-	B	5-8-2013
I00203010018	Earthen Berm	-	X	-	X	CB	2-16-2011
I00203010019	Earthen Berm	-	X	-	X	CB	2-16-2011
I00203010020	Earthen Berm	-	X	-	X	CB	2-16-2011
I00203010021	Earthen Berm	-	X	-	X	CB	2-16-2011
I00203010023	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010024	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010025	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010026	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010027	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010028	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010029	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010030	Earthen Berm	-	X	-	X	EC	5-30-2012
I00203010039	Earthen Berm	-	X	-	X	EC	9-15-2015
I00203060035	Straw Wattle	-	X	-	X	B	9-15-2015
I00203060036	Straw Wattle	-	X	-	X	B	8-3-2015
I00203060037	Straw Wattle	-	X	-	X	B	8-3-2015
I00203120012	Rock Berm	X	-	-	X	CB	2-16-2011
I00203120013	Rock Berm	X	-	-	X	CB	2-16-2011
I00203120038	Rock Berm	X	-	-	X	EC	9-15-2015
I00203140040	Coir Log	-	X	-	X	EC	9-15-2015
I00203140041	Coir Log	-	X	-	X	EC	9-15-2015
I00206010031	Rock Check Dam	-	X	-	X	EC	5-30-2012
I00206010032	Rock Check Dam	-	X	-	X	EC	5-30-2012

190.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at PT-SMA-1 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 190-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 190-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93194[a]	6-25-2022	0.3	6-29-2022	4	Yes
BMP-93675[b]	7-4-2022 7-14-2022	0.71 0.25	7-15-2022	11 1	Yes Yes
BMP-94290	7-20-2022	0.25	7-21-2022	1	Yes
BMP-94497[b]	7-26-2022 7-27-2022 7-30-2022	0.44 0.72 0.69	8-5-2022	10 9 6	Yes Yes Yes
BMP-95392	8-11-2022	0.88	8-24-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

190.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 1, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (6550 µg/L), copper (174 µg/L), gross-alpha activity (104 pCi/L), and zinc (75.9 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at PT-SMA-1, corrective-action stormwater samples were collected on July 9 and July 31, 2014. Analytical results from these corrective-action monitoring samples yielded TAL exceedances for copper (45.5 µg/L and 21.4 µg/L) and gross-alpha activity (650 pCi/L and 4400 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following a sampler move to a more representative monitoring location, a corrective-action monitoring stormwater sample was collected on September 26, 2017. Analytical results from this sample yielded TAL exceedances for copper (4.8 µg/L) and gross-alpha activity (17.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was not conducted at PT-SMA-1 in 2022 under the 2010 IP requirements.

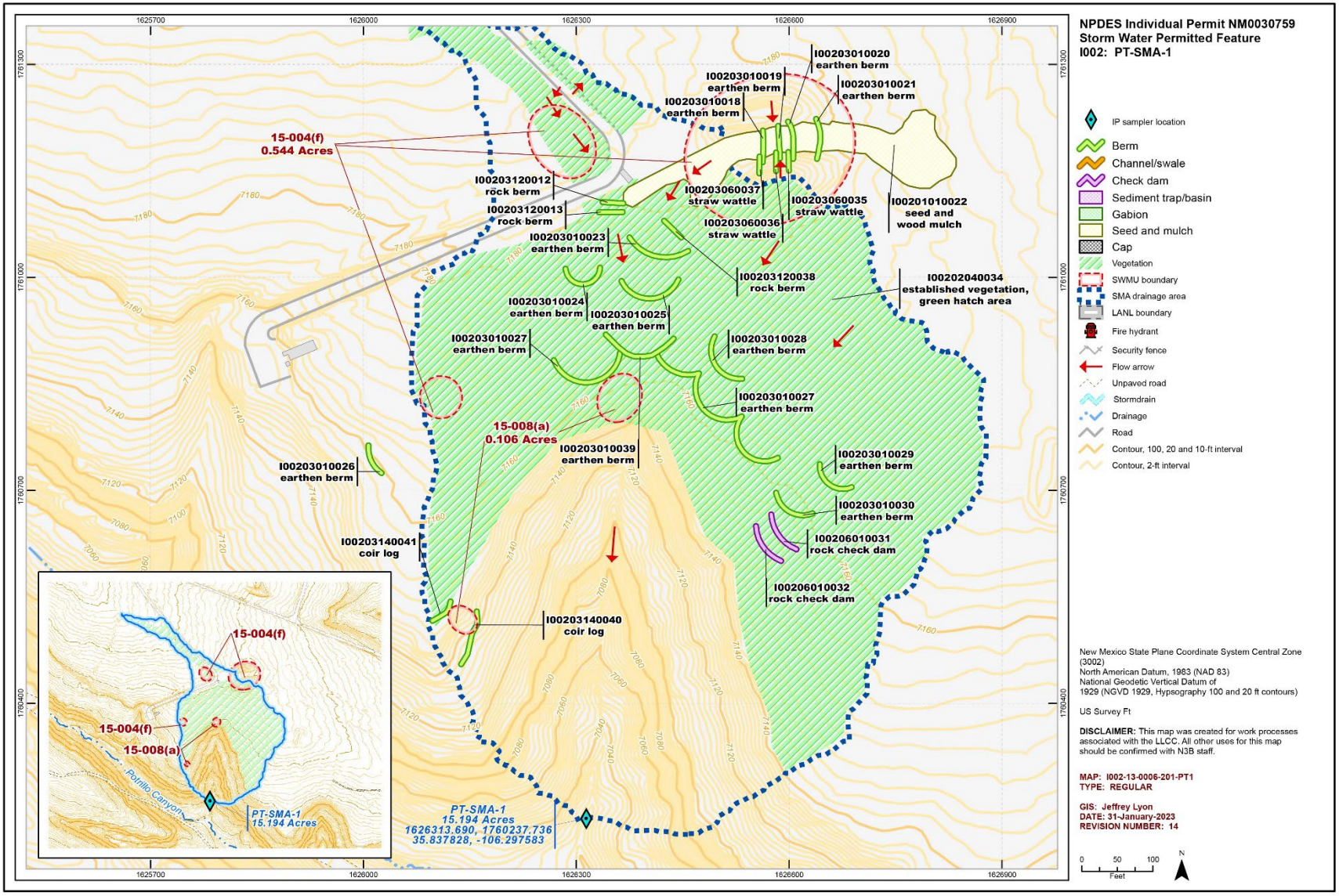

Figure 190-1 PT-SMA-1 location map

191.0 PT-SMA-1.7: SWMU 15-003

One historical industrial activity area, Site 15-003, is associated with PT-SMA-1.7 (permitted feature I003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

191.1 Site Descriptions

15-003 (4/14/2022)

SWMU 15-003 consists of a steel firing pad located within the PHERMEX firing site [SWMU 15-006(a)]. The 1990 SWMU Report describes SWMU 15-003 as an active open detonation pad at the PHERMEX facility associated with the chamber building (structure 15-184) at TA-15. SWMU 15-003 consists of a 6-in.-thick steel pad approximately 12 ft wide × 24 ft long. Although the SWMU 15-003 steel firing pad was originally intended for the treatment of hazardous explosive waste by OD and had been granted a RCRA interim status designation under hazardous waste regulations, the steel pad was never actually used to treat hazardous explosives waste. Additionally, the Laboratory operating division responsible for this site determined that this unit was not needed for future HE waste-treatment activities. Therefore, in 1998, the Laboratory requested that this unit be withdrawn from the LANL Part B application as an OD Site, and the NMED concurred. The steel pad was used for non-treatment-related experimental test shots [SWMU 15-006(a)]. The exact dates of use of the steel pad are not known; however, operations at the PHERMEX facility began in approximately 1961.

The PHERMEX Firing Site and associated facilities were built in the early 1960s. The PHERMEX chamber building (structure 15-184) housed a radiographic machine used for radiographic studies of explosives and explosive-driven metal systems. The PHERMEX chamber is equipped with a bullnose, an exposed exterior piece of the radiographic machine on the east side of chamber 15-184, as shown in a 1991 photograph (pg. 19 of 137) in the 2004 "The Hollow and GMX Manor at TA-15 (R-Site): Historic Context and Property Documentation" report (LANL 2004, 702622). As-constructed drawings ENG-C 30691 (pg. 77 of 186) and ENG-C 30518 (pg. 4 of 186) show the PHERMEX Firing Point is located directly east of the bullnose at the east end of the PHERMEX chamber building (structure 15-184), on its midline. The PHERMEX facility is currently inactive.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 191-1.

Table 191-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-003	Phermex firing site	Beryllium, lead, mercury, HE, thorium, DU

191.2 Control Measures

All active control measures in use at PT-SMA-1.7 are listed in Table 191-2. Their locations are shown on the project map (Figure 191-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 191-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00302040017	Established Vegetation	-	X	X	-	B	4-3-2013
I00303010018	Earthen Berm	-	X	-	X	EC	5-22-2013
I00305040019	Gravel Infiltration Strip	-	X	-	X	EC	5-22-2013
I00306010020	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010021	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010022	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010023	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010024	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010025	Rock Check Dam	-	X	-	X	EC	5-22-2013
I00306010026	Rock Check Dam	-	X	-	X	B	8-11-2014

191.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at PT-SMA-1.7 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 191-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 191-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93195[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94086	7-14-2022	0.25	7-20-2022	6	Yes
BMP-942991[b]	7-20-2022 7-26-2022 7-27-2022 7-30-2022	0.25 0.44 0.72 0.69	8-2-2022	13 7 6 3	Yes Yes Yes Yes
BMP-95394	8-11-2022	0.88	8-25-2022	14	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

191.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on September 10, 2012. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (92.6 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was conducted at PT-SMA-1.7 under the 2010 IP requirements from March 28 through November 1, 2022, resulting in a monitoring season of 219 days. Six inspections were performed during the monitoring period and are summarized in Table 191-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 191-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91720	5-4-2022	No	None	None
SMPLR-92342	6-6-2022	No	None	None
SMPLR-92757	6-30-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93619	8-5-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12
SMPLR-95255	9-16-2022	No	8-6-2022 8-11-2022 8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022	0.22/0.32 0.88/0.89 0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18
SMPLR-95930	11-1-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

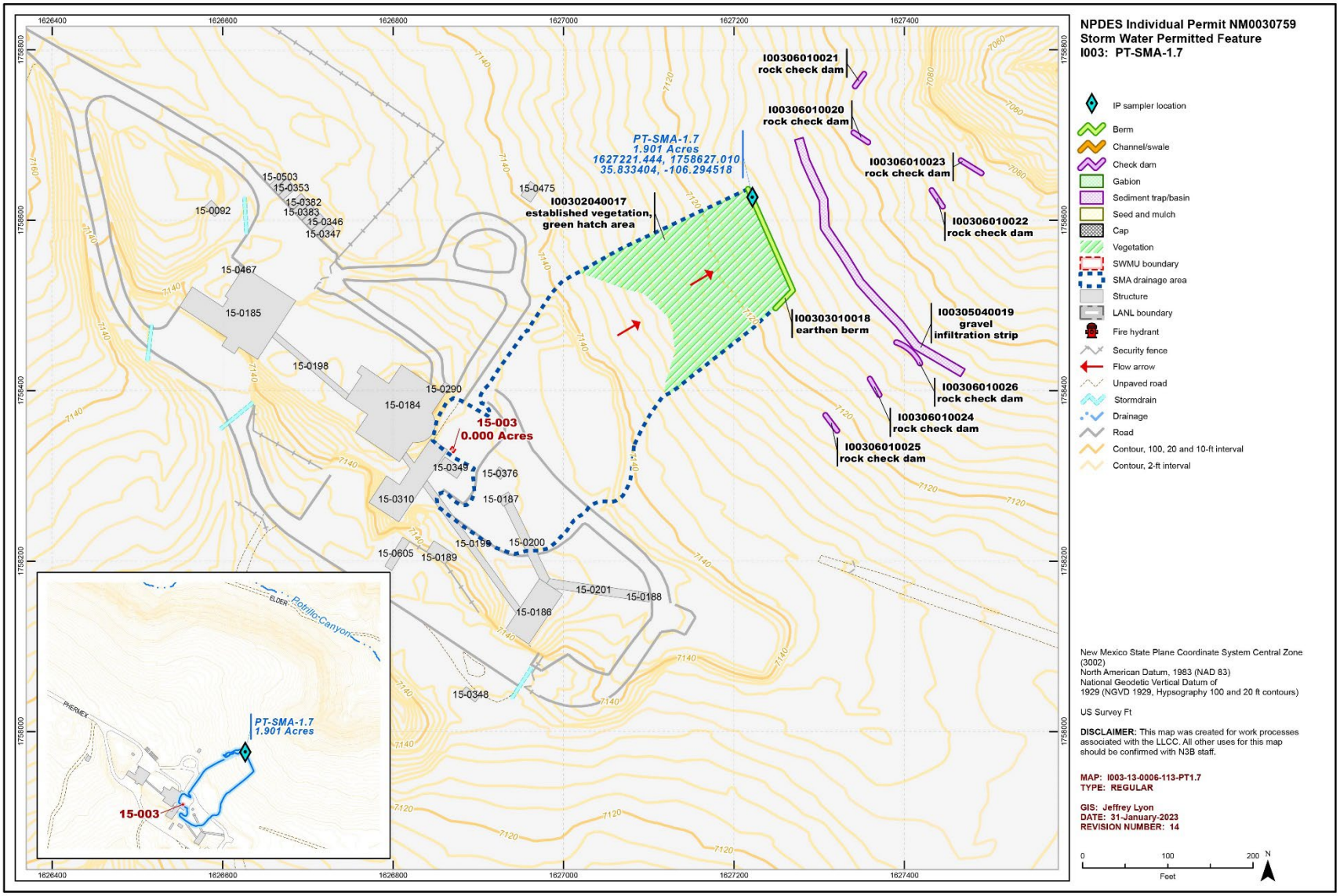

Figure 191-1 PT-SMA-1.7 location map

192.0 PT-SMA-2: SWMU 36-003(b) and AOCs 15-008(f) and 36-004(e)

Three historical industrial activity areas, Sites 36-003(b), 15-008(f), and 36-004(e), are associated with PT-SMA-2 (permitted feature I004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

192.1 Site Descriptions

15-008(f) (4/18/2022)

AOC 15-008(f) consist of two small inactive surface disposal areas located on the northern edge of Potrillo Canyon; one south and one east of inactive E-F Firing Site [SWMU 15-004(f)] at TA-15. The disposal areas are located within approximately 350 ft of each other, with each disposal area measuring approximately 8 ft in diameter × 2 ft high. Both areas were used to dispose of debris from tests conducted at E-F Firing Site, including soil, rock, pebbles, metal fragments, plastic, electrical cable, and electrical accessories. The exact period of operation of the surface disposal areas is not known but likely falls within the period of operation for E-F Firing Site (1946 to 1981). All debris was removed from both surface disposal areas during the 2010–2011 investigation.

36-003(b) (2/21/2020)

SWMU 36-003(b) is a decommissioned sanitary septic system located at the west end of TA-36. The septic system served building 36-55, the control bunker for the I-J Firing Site, and consist of a septic tank (structure 36-61), inlet and outlet drainlines, and an outfall near the edge of Potrillo Canyon. The septic tank sits near the edge of Mesita del Potrillo, approximately 100 ft southeast of building 36-55. The control bunker housed the electronics and instrumentation used in the operation of the I-J Firing Site [AOC 36-004(e)], and housed a toilet, sink, and water fountain, all of which were connected to the septic tank via a 4-in.-diameter clay-tile inlet drainline. The septic tank is constructed of reinforced concrete and measures 7 ft long × 3.5 ft wide × 5.73 ft deep with a capacity of 420 gal. The tank has a buried overflow drainline that previously discharged to an outfall near the north rim of Potrillo Canyon. The overflow outlet from the septic tank was capped in 1989. After the overflow outlet was capped, the septic tank continued to be used as a holding tank and its contents were periodically removed and taken to a sanitary wastewater treatment plant for treatment and disposal. The SWMU 36-003(b) septic system was taken out of service in the early 1990s.

36-004(e) (4/14/20222)

AOC 36-004(e) is inactive I-J Firing Site located at the west end of TA-36 on Mesita del Potrillo along the north rim of Potrillo Canyon. I-J Firing Site consist of two firing points (I and J), two control buildings (one designated as structure 36-55), a dirt bunker, a covered work area, and an old chamber for enclosed firing. Construction of I-J Firing Site began in 1948 and the firing sites were ready for use by 1950. Firing Point J is located near control building 36-55 and Firing Point I, which is a firing pad with a radius of 15 ft, is located approximately 75 ft northeast of the former control building. The hazard radius for the I and J Firing Sites is 5,000 ft. I-J Firing Site was constructed in 1948 and was located within TA-15 until 1981 when the boundary of TA-36 was expanded to encompass the portion of TA-15 where the I-J Firing Site is located. Shots at I-J Firing Site used up to 500 lb of HE where tests involved a variety of solid and liquid explosives and inorganic chemicals. According to former employees, significant amounts of DU were used at I-J Firing Site in addition to small quantities of mercury and cadmium. Some shots were fired into iron, copper, or lead targets. Other metals used in shots included aluminum, antimony, various

steels, lithium-magnesium alloys, and lithium hydride. In addition, hydrocarbons, argon, benzene, small amounts of mercury, cadmium, and beryllium were used in shots.

All shots involving radioactive materials at the I-J Firing Site were conducted in fully enclosed containment vessels. These vessels were removed from the I-J Firing Site for use at TA-15, although one was later returned to the I-J Firing Site. The returned vessel was identified in the 1990 SWMU Report as AOC C-36-001 and was subsequently removed from the site in 1994 and disposed of at MDA G at TA-54. Other firing-site activities conducted at I-J Firing Site included tests in which DU projectiles were fired into an embankment. This projectile test area is designated as AOC C-36-006(e).

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 192-1.

Table 192-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
15-008(f)	Surface disposal area	Aluminum, beryllium, cadmium, copper, iron, lead, mercury, PAHs, HE, DU, antimony
36-003(b)	Septic tank	Lead, inorganic and organic chemicals, HE, DU
36-004(e)	Active firing site – IJ	Inorganic chemicals, HE, DU

192.2 Control Measures

All active control measures in use at PT-SMA-2 are listed in Table 192-2. Their locations are shown on the project map (Figure 192-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 192-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00402040011	Established Vegetation	-	X	X	-	B	5-8-2013
I00403010021	Earthen Berm	-	X	-	X	EC	8-31-2015
I00403010022	Earthen Berm	X	-	-	X	EC	8-31-2015
I00403010024	Earthen Berm	-	X	-	X	EC	8-31-2015
I00403060012	Straw Wattle	X	-	-	X	EC	8-31-2015
I00403060031	Straw Wattle	-	X	-	X	B	12-21-2021
I00403120010	Rock Berm	-	X	-	X	CB	2-28-2011
I00403120023	Rock Berm	-	X	-	X	EC	8-31-2015
I00403140026	Coir Log	-	X	-	X	EC	4-21-2021
I00403140027	Coir Log	-	X	-	X	EC	4-21-2021
I00403140028	Coir Log	-	X	-	X	EC	4-21-2021
I00403140029	Coir Log	-	X	-	X	EC	4-21-2021
I00403200030	Compost Log	-	X	-	X	EC	4-21-2021
I00404060020	Riprap	X	-	X	-	EC	8-31-2015
I00406010014	Rock Check Dam	-	X	-	X	EC	8-31-2015

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00406010015	Rock Check Dam	-	X	-	X	EC	8-31-2015
I00406010016	Rock Check Dam	-	X	-	X	EC	8-31-2015
I00406010017	Rock Check Dam	-	X	-	X	EC	8-31-2015
I00406010018	Rock Check Dam	-	X	-	X	EC	8-31-2015
I00406010019	Rock Check Dam	-	X	-	X	EC	8-31-2015
I00406010025	Rock Check Dam	-	X	-	X	EC	8-31-2015

192.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at PT-SMA-2 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 192-3. All other control-measure inspections conducted at the SMA are summarized in Table 192-4. No maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 192-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93196[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94087[b]	7-14-2022 7-20-2022	0.250.25	7-21-2022	7 1	Yes Yes
BMP-94499[b]	7-26-2022 7-27-2022 7-30-2022	0.44 0.72 0.69	8-3-2022	8 7 4	Yes Yes Yes
BMP-95395	8-11-2022	0.88	8-15-2022	4	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 192-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection for PT-SMA-2. CAM5-2 Sample 2 collected 8/11/22. Gross Alpha (13x).	COMP-96397	12-21-2022	No immediate action recommended. Corrective-action alternatives analysis is ongoing.

192.4 Stormwater Monitoring

SWMU 36-003(b) and AOCs 15-008(f) and 36-004(e) are monitored within PT-SMA-2. Following the installation of baseline control measures, a baseline stormwater sample was collected on July 7, 2014. Analytical results from this sample yielded TAL exceedances for copper (10.3 µg/L) and gross-alpha activity (290 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following the 2015 installation of enhanced control measures at PT-SMA-2, corrective-action stormwater samples were collected on July 25 and October 4, 2019. Analytical results from these samples yielded TAL exceedances for copper (3.66 µg/L and 5.15 µg/L) and gross-alpha activity (78.6 pCi/L and 137 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2019" (N3B 2020, 700767).

Following the 2021 installation of enhanced control measures at PT-SMA-2, a corrective-action stormwater sample was collected on August 26, 2021 (Figure 203-2). Analytical results from this sample yielded TAL exceedances for copper (5.19 µg/L) and gross-alpha activity (175 pCi/L). The complete results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021" (N3B 2022, 701895).

Stormwater monitoring was conducted at PT-SMA-2 under the 2010 IP requirements from March 29 through November 7, 2022, resulting in a monitoring season of 224 days. Seven inspections were performed during the monitoring period and are summarized in Table 192-5. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active.

A corrective-action confirmation-monitoring sample was collected on August 11, 2022. Analytical results from this sample yielded TAL exceedances for copper (5.69 µg/L) and gross-alpha activity (197 pCi/L). The complete results are presented in Appendix B of the SDPPP Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 192-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91709	4-26-2022	No	None	None
SMPLR-92195	6-14-2022	No	None	None
SMPLR-92864	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93504	8-3-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12
SMPLR-95230	8-15-2022	Yes	8-6-2022 8-11-2022	0.22/0.32 0.88/0.89

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95445	9-29-2022	No	8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022 9-22-2022	0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18 0.14/0.24
SMPLR-96178	11-7-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

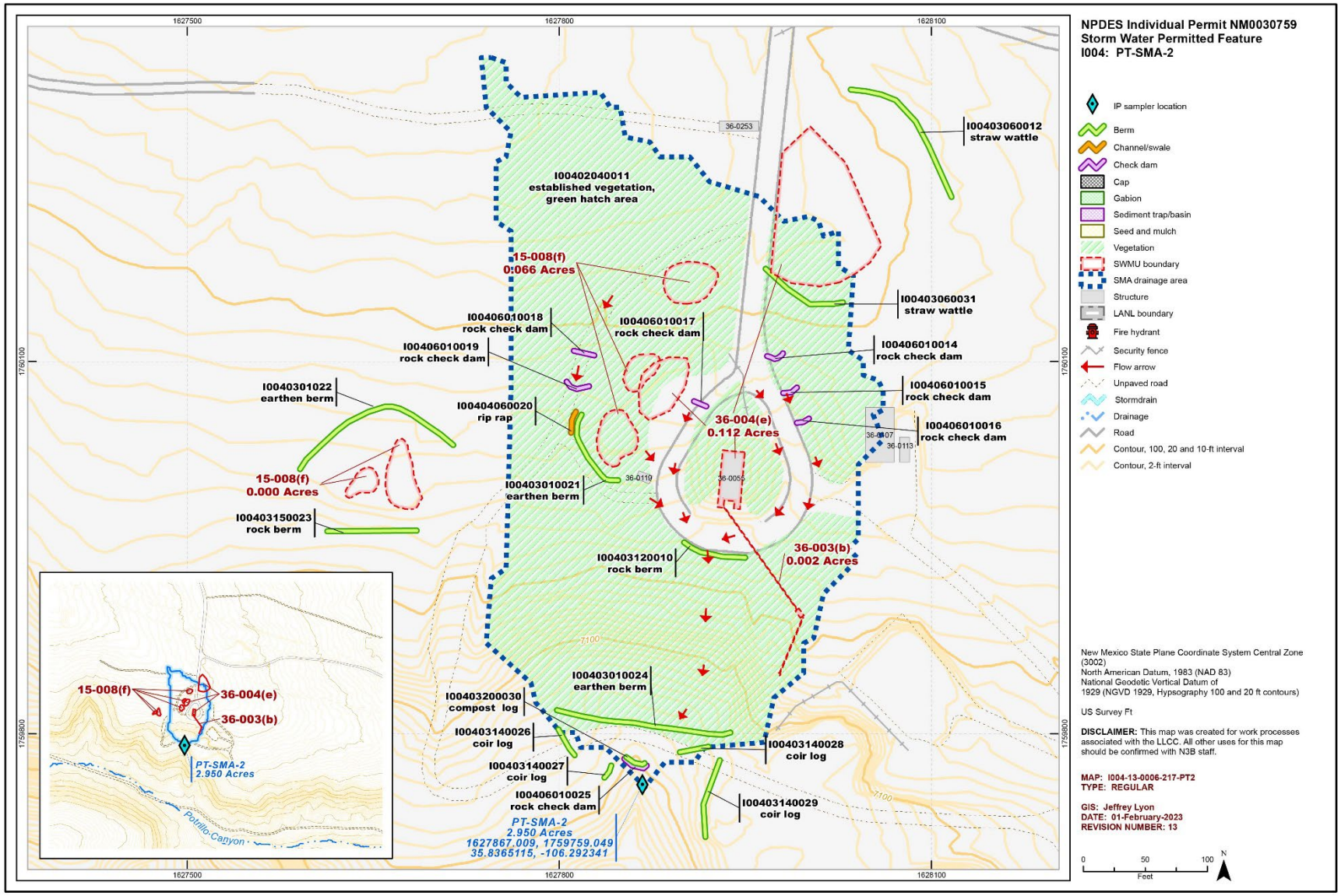

Figure 192-1 PT-SMA-2 location map

193.0 PT-SMA-2.01: AOCs C-36-001 and C-36-006(e)

Two historical industrial activity areas, Sites C-36-001 and C-36-006(e), are associated with PT-SMA-2.01 (permitted feature I004A). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

193.1 Site Descriptions

C-36-001 (4/14/2022)

AOC C-36-001 is a former containment vessel that provided secondary containment for explosives tests at TA-36. The containment vessel was manufactured in 1970 and located at the PHERMEX test facility at TA-15. The containment vessel was later relocated to the I-J Firing Site [SWMU 36-004(e)] and placed south of building 36-55 where it remained until 1983 when it was removed. The containment vessel consisted of a 19.5-ton steel sphere that was 12 ft in diameter. An explosive device was placed and detonated in a primary containment vessel, which, in turn, was placed inside the AOC C-36-001 containment vessel. The explosion gases were vented through a filtration system that captured particulates and did not allow release of the test material. The interior of the containment vessel was contaminated from the tests, but the exterior remained uncontaminated. Plutonium remained in the filtration system and was disposed of at MDA G at TA-54 as low-level radioactive waste.

C-36-006(e) (4/6/2022)

AOC C-36-006(e) is a former projectile test area located within the southern portion of the I-J Firing Site [AOC 36-004(e)] along the north rim of Potrillo Canyon at TA-36. AOC C-36-006(e) was formerly used for testing DU projectiles as part of I-J Firing Site activities. Projectiles were fired from a 120-mm gun into a nearby embankment. Although some projectiles were recovered after an experiment was completed, much of the projectile material remains on site. Originally, the I-J Firing Site was located within the boundary of TA-15. In 1981, the boundary of TA-36 was expanded to include portions of TA-15. As part of this expansion, the area where I-J Firing Site is located was transferred to TA-36. Although the 1990 SWMU Report addresses the I-J Firing Site as AOC 36-004(e), it identifies the nearby projectile test area (which was also part of the 1981 transfer to TA-36) as AOC 15-006(e). AOC 15-006(e) was renamed AOC C-36-006(e) in the OU 1086 work plan because the projectile test area was within the boundaries of TA-36 when the work plan was written.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 193-1.

Table 193-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
C-36-001	Containment Vessel	Metals, HE, plutonium
C-36-006(e)	Projectile test area	Copper, iron, lead, DU

193.2 Control Measures

All active control measures in use at PT-SMA-2.01 are listed in Table 193-2. Their locations are shown on the project map (Figure 193-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 193-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I004A02040005	Established Vegetation	-	X	X	-	B	5-8-2013
I004A03010004	Earthen Berm	-	X	-	X	EC	5-30-2012

193.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at PT-SMA-2.01 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 193-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 193-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93299[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94098[b]	7-14-2022 7-20-2022	0.25 0.25	7-21-2022	7 1	Yes Yes
BMP-94506[b]	7-26-2022 7-27-2022 7-30-2022	0.44 0.72 0.69	8-3-2022	8 7 4	Yes Yes Yes
BMP-95401	8-11-2022	0.88	8-15-2022	4	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

193.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on August 18, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (295 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at PT-SMA-2.01 under the 2010 IP requirements from March 29 through November 7, 2022, resulting in a monitoring season of 224 days. Seven inspections were performed during the monitoring period and are summarized in Table 193-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 193-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91715	4-26-2022	No	None	None
SMPLR-92198	6-14-2022	No	None	None
SMPLR-92869	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93513	8-3-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12
SMPLR-95233	8-15-2022	No	8-6-2022 8-11-2022	0.22/0.32 0.88/0.89
SMPLR-95450	9-29-2022	No	8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022 9-22-2022	0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18 0.14/0.24
SMPLR-96182	11-7-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

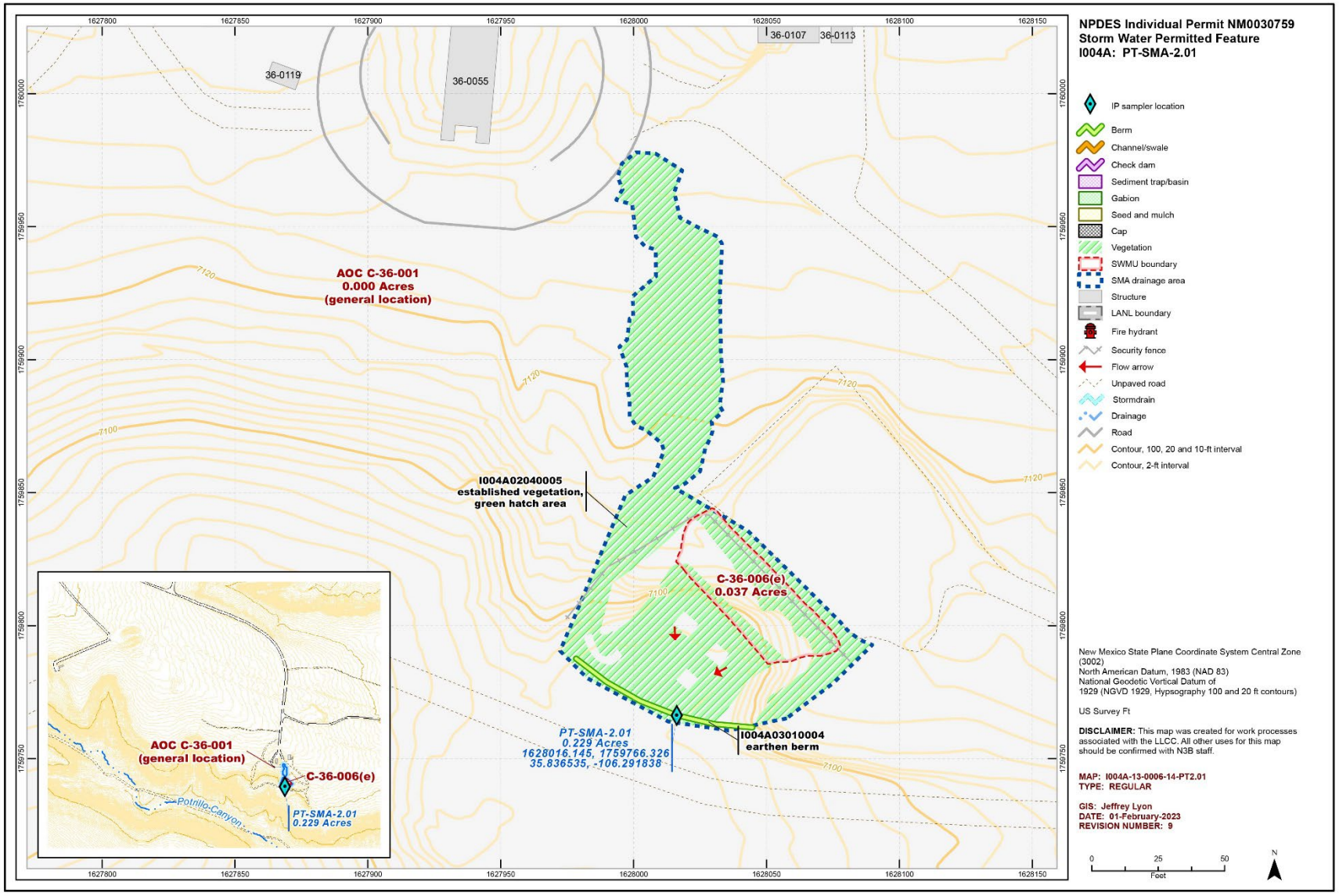

Figure 193-1 PT-SMA-2.01 location map

194.0 PT-SMA-3: SWMU 36-006 and AOC 36-004(a)

Two historical industrial activity areas, Sites 36-006 and 36-004(a), are associated with PT-SMA-3 (permitted feature I005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

194.1 Site Descriptions

36-004(a) (4/18/2022)

AOC 36-004(a) is the active Eenie Firing Site at TA-36 on Mesita del Potrillo on the rim of Potrillo Canyon. AOC 36-004(a) consist of the firing pad, a control bunker (building 36-3), and a make-up building (36-4) that houses a SAA [SWMU 36-007(a)]. Construction of the Eenie Firing Site began in 1949 and was completed in 1951. The established hazard radius for Eenie Firing Site is 3,000 ft. Materials used in experimental shots at this firing site have included lead oxide, mercury, copper, nickel, brass, DU, and nitroglycerine. Other activities conducted at the Eenie Firing Site include shoulder-mounted projectiles fired into targets south of the firing site.

36-006 (2/21/2020)

SWMU 36-006 consist of an inactive surface disposal area located on the southern slope of Potrillo Canyon, approximately 600 ft north of the Eenie Firing Site [AOC 36-004(a)] at TA-36. Cables, metal, concrete, and other similar debris from the TA-36 firing sites was disposed of at SWMU 36-006 from 1955 to 1970. This debris was dumped into the canyon from trucks on the canyon rim. The majority of the debris covered an area approximately 75 ft wide that extended approximately 100 ft down the south canyon slope. The remainder of the debris was scattered laterally 300 ft along the south canyon slope. Although the TA-36 firing sites are still active, SWMU 36-006 was not used as a surface disposal area after 1996. Firing site personnel removed most of the debris between 1999 and 2006. All remaining debris was removed from the SWMU 36-006 surface disposal area during the 2010–2011 Consent Order investigation.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 194-1.

Table 194-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
36-004(a)	Active firing site – Eenie	Aluminum, barium, beryllium, copper, iron, lead mercury, nickel, HE, DU
36-006	Surface disposal area	Aluminum, barium, beryllium, copper, iron, lead mercury, nickel, HE, DU

194.2 Active Control Measures

All active control measures in use at PT-SMA-3 are listed in Table 194-2. Their locations are shown on the project map (Figure 194-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 194-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00502040009	Established Vegetation	-	X	X	-	B	5-8-2013
I00503010030	Earthen Berm	X	-	X	-	EC	5-28-2015
I00503140039	Coir Log	X	-	-	X	B	9-4-2015
I00504040005	Culvert	-	X	X	-	CB	6-1-2009
I00504040044	Culvert	-	-	X	-	B	7-10-2019
I00504060038	Riprap	-	X	-	X	EC	5-28-2015
I00504060042	Riprap	-	-	X	-	B	7-10-2019
I00505020037	Sediment Basin	-	X	-	X	EC	5-28-2015
I00505020041	Sediment Basin	-	X	-	X	B	7-10-2019
I00506010031	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010032	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010033	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010034	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010035	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010036	Rock Check Dam	X	-	-	X	EC	5-28-2015
I00506010040	Rock Check Dam	-	X	-	X	B	7-10-2019

194.3 Inspections and Maintenance

Rain gage RG262.4 recorded four storm events at PT-SMA-3 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 194-3. All other control-measure inspections conducted at the SMA are summarized in Table 194-4. No maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 194-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93768[a]	7-4-2022	0.48	7-4-2022	11	Yes
BMP-94500[b]	7-26-2022 7-27-2022	0.3 0.63	7-28-2022	2 1	Yes Yes
SMPLR-94832[c]	7-30-2022	0.72	8-3-2022	5	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

[c] Due to an administrative error an inspection work order was not issued for the July 30, 2022 rain event. The SMA was next visited on August 3, 2022 for a sampler inspection and there were no findings of deficiency noted.

Table 194-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection. CAM5 sample 1 collected 7/4/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-94144	8-29-2022	Potential replacement of Coir Log I00503140039 noted. Control is operating effectively. Corrective-action alternatives analysis is ongoing.

194.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 15, 2014. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (548 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at PT-SMA-3 under the 2010 IP requirements from March 29 through August 15, 2022, resulting in a monitoring season of 140 days. Nine inspections were performed during the monitoring period and are summarized in Table 194-5.

Rain gage RG262.4 recorded 19 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. A corrective-action monitoring sample was collected on July 4, 2022. Analytical results from this sample yielded TAL exceedances for aluminum (1690 µg/L), copper (36.3 µg/L), and gross-alpha activity (15.1 pCi/L). The complete results are presented in Appendix B of the SDPPP Overview. A sample collected on July 27, 2022 had insufficient volume for analysis under 2010 IP requirements.

On August 15 it was determined that the monitoring stage was complete with the collection of the July 4, 2022 sample and the sampler was deactivated for the season. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 194-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91714	5-2-2022	No	None	None
SMPLR-92290	5-25-2022	No	None	None
SMPLR-92584	6-22-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18
SMPLR-92972	7-1-2022	No	6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15
SMPLR-93609	7-6-2022	Yes	7-1-2022 7-4-2022	0.2/0.61 0.71/1.04

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93867	7-29-2022	Yes	7-14-2022 7-20-2022 7-26-2022 7-27-2022	0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85
SMPLR-94832	8-3-2022	No	7-29-2022 7-30-2022 7-31-2022	0.07/0.22 0.69/0.87 0.09/0.12
SMPLR-95232	8-12-2022	No	8-6-2022 8-11-2022	0.22/0.32 0.88/0.89
SMPLR-95427	8-15-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

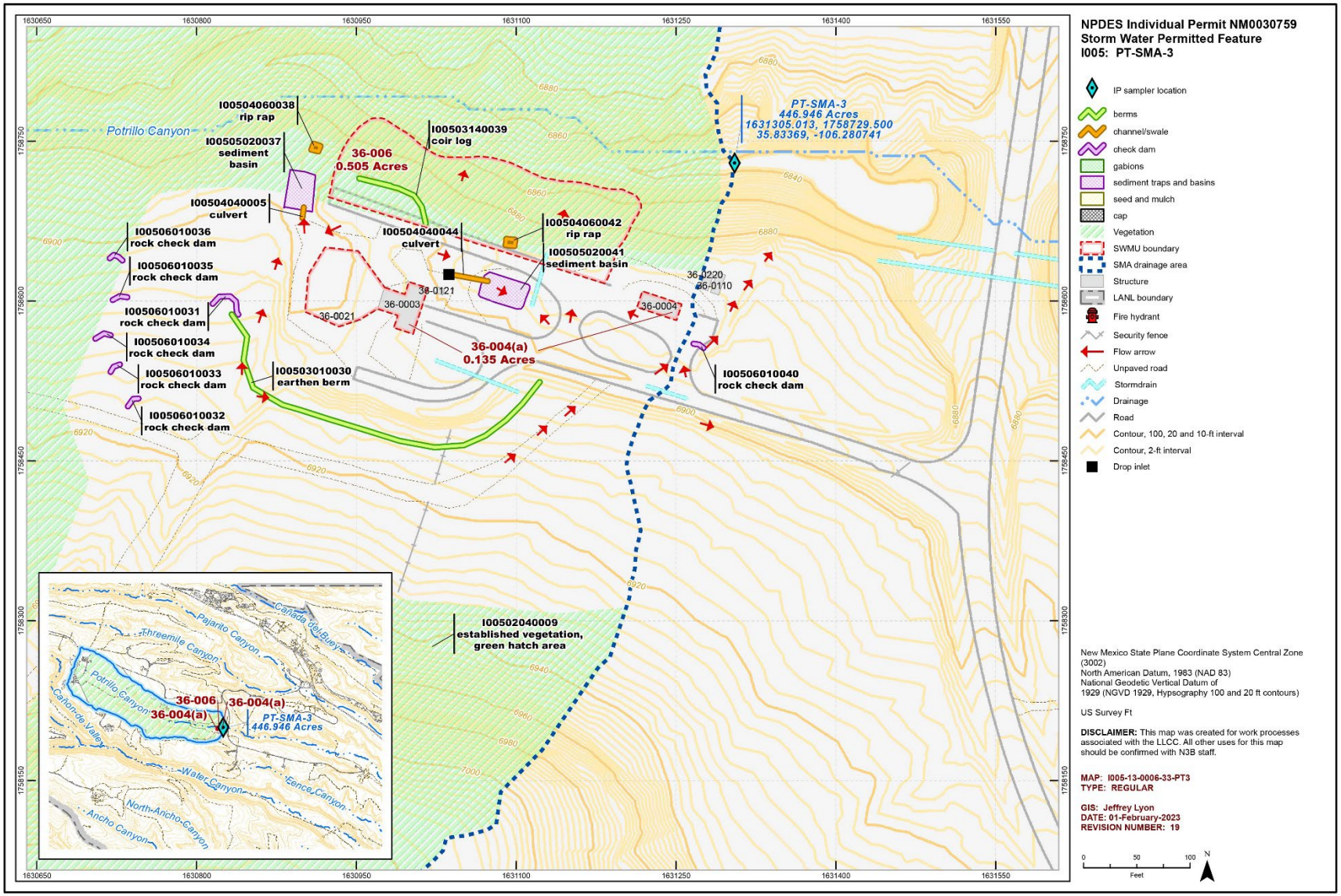

Figure 194-1 PT-SMA-3 location map

195.0 PT-SMA-4.2: SWMU 36-004(d)

One historical industrial activity area, Site 36-004(d), are associated with PT-SMA-4.2 (permitted feature I007). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2023, 702608) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

195.1 Site Descriptions

36-004(d) (4/18/2022)

SWMU 36-004(d) consists of the active Lower Slobbovia Firing Site and the inactive Skunk Works Firing Site in Potrillo Canyon, and three former burn pits located on the mesa top above Potrillo Canyon at TA-36. The Lower Slobbovia Firing Site consists of two active firing points and a control building (36-12). One of the firing points (structure 36-13) was constructed in 1950 and is located on top of an approximately 200-ft-diameter sand and dirt pad. The control building (structure 36-12) was constructed into the side of the pad. The second firing point consisted of a wooden tower (structure 36-120) constructed in 1986 at the northwest end of a 1,000-ft-long sled track for conducting drop tests. Shots fired at the Lower Slobbovia Firing Site primarily involved HE. Less than 2% of the shots involved significant amounts of metal [e.g., DU, lead, copper, aluminum, and steel]. The largest shot fired at Lower Slobbovia used 5,000 to 6,000 lb of HE. In addition, underground tests, buried to approximately 100 ft, were conducted at this site.

The Skunk Works Firing Site, located approximately 0.5 mi northwest of the Lower Slobbovia Firing Site, was used to conduct small-explosives experiments during the early to mid-1950s. These experiments involved gas (acetylene and oxygen), liquid (tetranitromethane), and solid explosives. Beryllium and radioactive materials were not used at the site. Structures at the Skunk Works Firing Site included a 5-ft × 5.5-ft × 5-ft below-grade structure that previously served as a battery storage room and two buildings (structures 36-44 and 36-45) that were moved to the site from TA-15. All of the structures have since been removed. The Skunk Works firing pad was located next to building 36-45. A shallow depression, located approximately 100 ft further north in the canyon, was also used as a firing pad.

The burn pits were used for burning and disposal of test debris before MDA AA (SWMU 36-001) was established in the mid-1960s. These pits are located on Mesita del Potrillo approximately 4000 ft west of the Lower Slobbovia control building (structure 36-12). The largest pit is bermed and located north of Potrillo Road and is approximately 40 ft in diameter. Two smaller areas are located south of Potrillo Road. Contaminated firing site debris was transported by truck from the TA-36 firing sites to the burn pits, placed in the pits, and burned. The debris consisted of wood, nails, other metal fragments, plastics, and sand contaminated with barium, uranium, and HE.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 195-1.

Table 195-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
36-004(d)	Active firing site – Lower Slobbovia	Barium, steel, inorganic chemicals, dioxins/furans, HE, unspecified explosive compounds, uranium, DU

195.2 Control Measures

All active control measures in use at PT-SMA-4.2 are listed in Table 195-2. Their locations are shown on the project map (Figure 195-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 195-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00702040008	Established Vegetation	X	X	X	-	B	5-8-2013
I00703010014	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010022	Earthen Berm	-	-	X	-	EC	10-7-2015
I00703010024	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010025	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010026	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010027	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010028	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010029	Earthen Berm	-	X	-	X	EC	10-7-2015
I00703010035	Earthen Berm	-	X	-	X	B	9-23-2016
I00703010044	Earthen Berm	-	X	-	X	B	9-23-2016
I00703140015	Coir Log	-	X	-	X	EC	10-7-2015
I00703140016	Coir Log	-	X	-	X	EC	10-7-2015
I00703140017	Coir Log	-	X	-	X	EC	10-7-2015
I00703140018	Coir Log	-	X	-	X	EC	10-7-2015
I00703140019	Coir Log	-	X	-	X	EC	10-7-2015
I00703140020	Coir Log	-	X	-	X	EC	10-7-2015
I00704040005	Culvert	X	-	X	-	CB	6-1-2009
I00704050023	Water Bar	-	X	-	X	EC	10-7-2015
I00704060034	Riprap	-	X	-	X	EC	10-7-2015
I00704060036	Riprap	-	X	X	-	B	9-23-2016
I00704060040	Riprap	-	X	X	-	B	9-23-2016
I00704060041	Riprap	-	X	X	-	B	9-23-2016
I00704060043	Riprap	-	X	X	-	B	9-23-2016
I00704060045	Riprap	-	X	X	-	B	9-23-2016
I00704060046	Riprap	-	X	X	-	B	9-23-2016
I00704060048	Riprap	-	X	X	-	B	9-23-2016
I00704060055	Riprap	-	X	X	-	B	9-23-2016
I00704060057	Riprap	-	X	X	-	B	9-23-2016
I00704080049	TRM-Lined Swale	-	X	X	-	B	9-23-2016
I00704080050	TRM-Lined Swale	-	X	X	-	B	9-23-2016

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
I00704080051	TRM-Lined Swale	-	X	X	-	B	9-23-2016
I00706010010	Rock Check Dam	X	-	-	X	EC	10-7-2015
I00706010011	Rock Check Dam	X	-	-	X	EC	10-7-2015
I00706010012	Rock Check Dam	-	X	-	X	EC	10-7-2015
I00706010013	Rock Check Dam	-	X	-	X	EC	10-7-2015
I00706010031	Rock Check Dam	-	X	-	X	EC	10-7-2015
I00706010032	Rock Check Dam	-	X	-	X	EC	10-7-2015
I00706010033	Rock Check Dam	-	X	-	X	EC	10-7-2015
I00706010039	Rock Check Dam	-	X	-	X	B	9-23-2016
I00706010042	Rock Check Dam	-	X	-	X	B	9-23-2016
I00706010047	Rock Check Dam	-	X	-	X	B	9-23-2016
I00707010052	Gabion	-	X	X	-	B	9-23-2016

195.3 Inspections and Maintenance

Rain gage RG267.4 recorded four storm events at SMA during the 2022 season, requiring two post-storm inspections, which are summarized in Table 195-3. Maintenance activities conducted at the SMA are summarized in Table 195-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 195-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93798[a]	7-4-2022	0.48	7-15-2022	11	Yes
BMP-94511[b]	7-26-2022	0.3	8-5-2022	10	Yes
	7-27-2022	0.63		9	Yes
	7-30-2022	0.72		6	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 195-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-90881 (follow up to COMP-89544, 2021 TAL exceedance inspection)	Repaired Gabion I00707010052 to address piping noted at 2021 TAL exceedance inspection.	4-15-2022	465	Maintenance was delayed while permits were obtained, and good weather. Earthen Berm I0703010035 functioned as a backup control in interim.

195.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 2, 2014. Analytical results from this sample yielded TAL exceedances for gross-alpha activity (393 pCi/L) and radium-226 and -228 activity (95.9 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following the installation of enhanced control measures at PT-SMA-4.2, corrective-action stormwater samples were collected on August 10, 2018 and August 22, 2021. Analytical results from these corrective-action monitoring samples yielded TAL exceedances for gross-alpha activity (84.5 pCi/L and 46.1 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was not conducted at PT-SMA-4.2 in 2022 under the 2010 IP requirements.

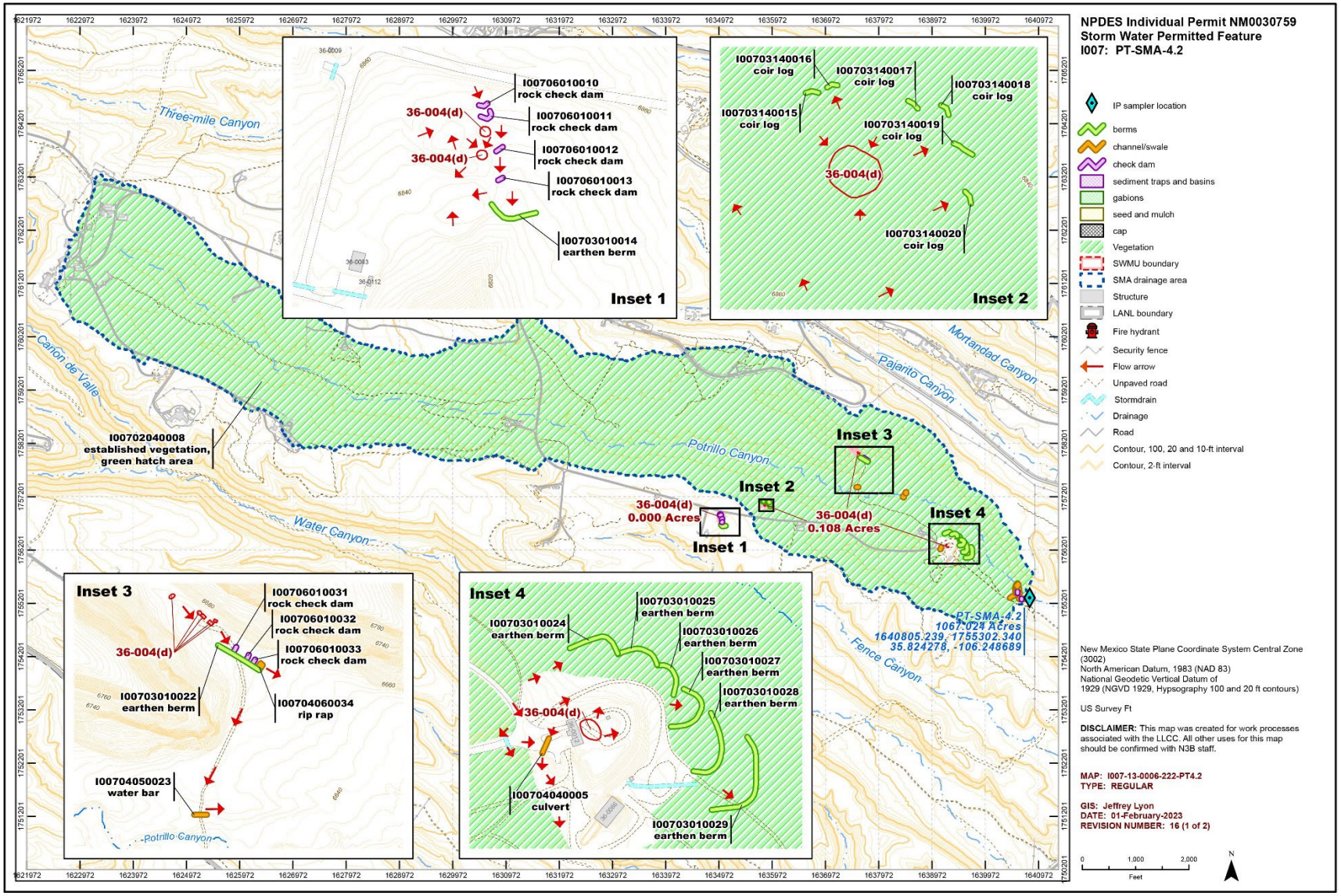

Figure 195-1 PT-SMA-4.2 location map

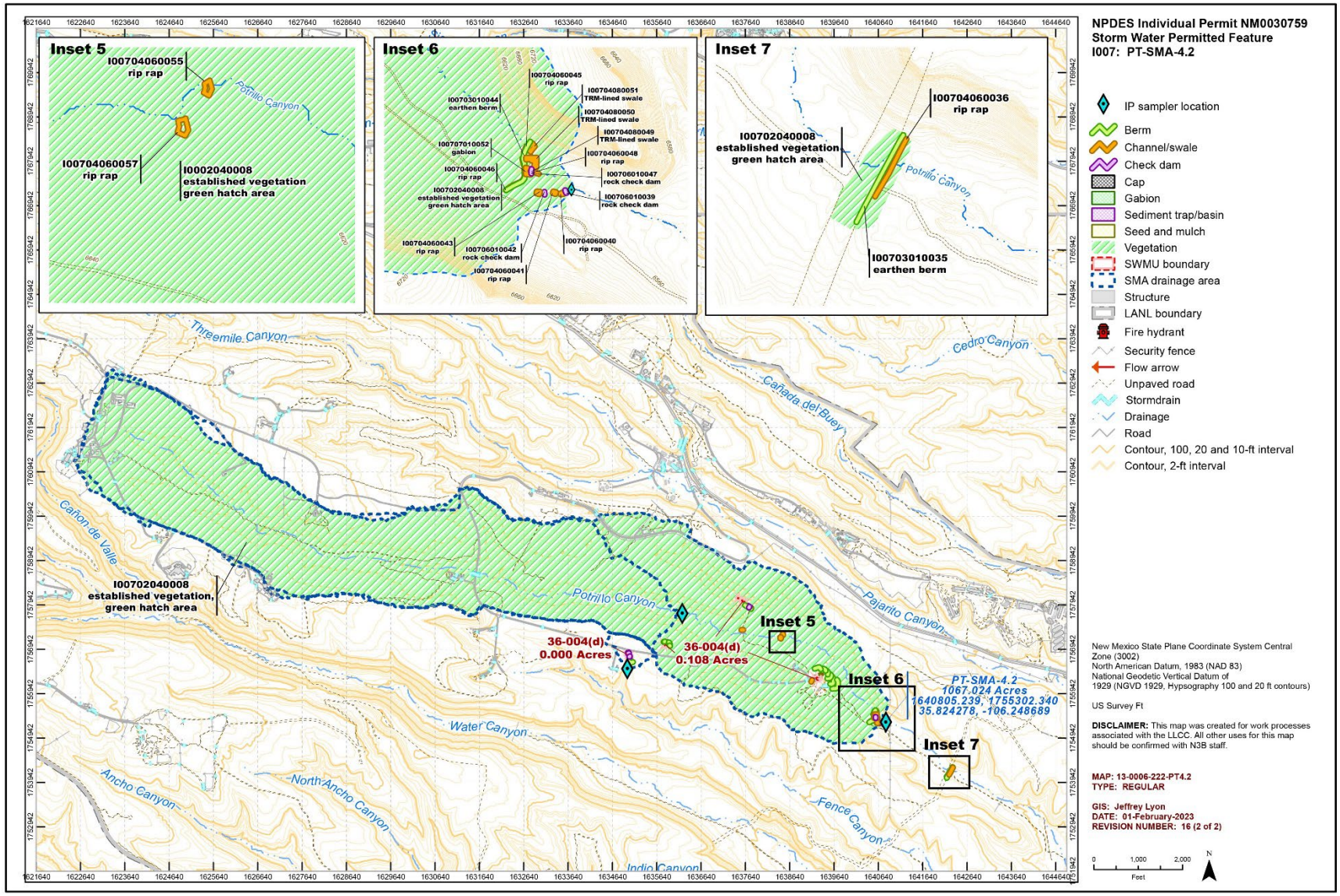

Figure 195-1 (continued) PT-SMA-4.2 location map

196.0 W-SMA-1: SWMUs 16-017(j)-99, 16-026(v), and 16-026(c2)

Three historical industrial activity areas, Sites 16-017(j)-99, 16-026(v), and 16-026(c2), are associated with W-SMA-1 (permitted feature W001). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

196.1 Site Descriptions

16-017(j)-99 (2/27/2019)

SWMU 16-017(j)-99 is a former HE magazine (former structure 16-63) at TA-16. The magazine was a 24 ft × 26 ft × 9 ft wood-framed structure surrounded by an earthen berm on three sides and the top. The magazine was built in 1945 and removed in 1998. The storage magazine was built at grade, and there is no longer any evidence of the berm that once surrounded the magazine. Any remaining berm material is indistinguishable from the surrounding soil.

This SWMU was originally designated as part of SWMU 16-017, a group of 24 structures in central TA-16. During the 1999 AUA, SWMU 16-017 was separated into 24 SWMUs, each consisting of a single structure.

16-026(c2) (5/17/2019)

SWMU 16-026(c2) consists of two former outfalls and associated drainlines that served former chemical storage building 16-462 at TA-16. The outfalls were located approximately 30 ft southeast of the former building 16-462. Each of the two rooms in building 16-462 had a floor trough that drained to 6-in.-diameter VCP drainline that exited the south and southeast side of the former building. Effluent flowed from the drainline outfalls southeast to a drainage ditch. Building 16-462 was built in 1952 to store chemicals for use in the analytical chemistry laboratory (building 16-460). All drains at building 16-462 were plugged in 1991. One of the storage rooms contained solvents and oils and the other contained inorganic and organic chemicals including acetone, benzene, mineral oil, nitric acid, propanol, and trichloroethene, no HE were stored in the building. Building 16-462 was removed post 2010.

16-026(v) (3/21/2019)

SWMU 16-026(v) is an inactive former NPDES-permitted outfall (05A072) that served a decommissioned analytical chemistry laboratory building in 16-460 at TA-16. The outfall is located approximately 60 ft southeast of the building. The outfall received effluent from a sump [SWMU 16-003(c)], which served building floor drains, steam-cup drains, sink drains, and a drinking fountain. Waste containing fine grains of HE from analytical chemistry experiments in addition to small quantities of a wide range of solvents and other chemicals were discharged to the sump from the 1950s to the 1990s. The outfall was plugged by 1995 and was removed from the LANL NPDES permit effective September 19, 1997.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 196-1.

Table 196-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-017(j)-99	Former storage building 16-63	No known POCs
16-026(c2)	Outfall from building 16-432	No applicable POCs
16-026(v)	Outfall from building 16-460	Metals, HE

196.2 Control Measures

All active control measures in use at W-SMA-1 are listed in Table 196-2. Their locations are shown on the project map (Figure 196-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 196-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install date
		Run-On	Runoff	Erosion	Sediment		
W00102040019	Established Vegetation	-	X	X	-	B	5-7-2013
W00103010014	Earthen Berm	X	-	-	X	EC	3-11-2013
W00103010015	Earthen Berm	X	-	-	X	EC	3-11-2013
W00104060011	Riprap	X	-	X	-	CB	10-8-2009
W00104060017	Riprap	-	X	X	-	EC	3-11-2013
W00105030016	Sand Filter	-	X	-	X	EC	3-11-2013
W00106010008	Rock Check Dam	-	X	-	X	CB	6-1-2009
W00106010012	Rock Check Dam	X	-	-	X	EC	3-11-2013
W00106010013	Rock Check Dam	X	-	-	X	EC	3-11-2013
W00108020018	Rock Cap	-	-	X	-	EC	3-11-2013

196.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at W-SMA-1 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 196-3. All other control-measure inspections conducted at the SMA are summarized in Table 196-4.

The D&D activities at the SMA continued into spring of 2022. These activities included the removal of structures 16-460, 16-462, and 16-463. SWPPP team members resumed performing regular inspections of active control measures to ensure the functionality of IP controls during this facility-managed activity.

A final inspection and evaluation of the area was conducted on June 14, 2022. No changes in condition were observed. Stabilization-control installations included rock-check dams and TRM, which will not be tracked as IP control measures. Maintenance activities conducted at the SMA are summarized in Table 196-5.

Table 196-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92921[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-24-2022	6 2	Yes Yes
BMP-93249[b]	6-25-2022 6-26-2022	0.42 0.3	7-1-2022	6 5	Yes Yes
BMP-93714[b]	7-2-2022 7-4-2022	0.25 0.8	7-12-2022	10 8	Yes Yes
BMP-94339	7-20-2022	0.66	7-26-2022	6	Yes
BMP-94994[b]	7-30-2022 7-31-2022	0.59 0.4	8-10-2022	11 10	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 196-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-90577	1-6-2022	Site unchanged since previous inspection. No action recommended.
Remediation Construction Compliance Inspection	COMP-90631	1-11-2022	Construction related control measures in need of maintenance. No impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-90661	1-18-2022	Stabilization activities beginning in area of former building 16-0460, including installation of control measures. Construction related controls around excavated soil pile in need of maintenance. No impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-90886	1-25-2022	Construction controls beginning to be removed. No impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-90990	2-1-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-91048	2-8-2022	
Remediation Construction Compliance Inspection	COMP-91083	2-15-2022	
Remediation Construction Compliance Inspection	COMP-91149	2-22-2022	
Remediation Construction Compliance Inspection	COMP-91201	3-1-2022	
Remediation Construction Compliance Inspection	COMP-91264	3-8-2022	
Remediation Construction Compliance Inspection	COMP-91297	3-15-2022	

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-91508	3-22-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-91620	3-29-2022	
Remediation Construction Compliance Inspection	COMP-91731	4-5-2022	
Remediation Construction Compliance Inspection	COMP-91892	4-12-2022	
Remediation Construction Compliance Inspection	COMP-91979	4-19-2022	
Remediation Construction Compliance Inspection	COMP-92104	4-26-2022	
Remediation Construction Compliance Inspection	COMP-92209	5-3-2022	
Remediation Construction Compliance Inspection	COMP-92429	5-18-2022	
Remediation Construction Compliance Inspection	COMP-92454	5-24-2022	
Remediation Construction Compliance Inspection	COMP-92544	6-1-2022	
Remediation Construction Compliance Inspection	COMP-92684	6-7-2022	
Remediation Construction Compliance Inspection	COMP-92773	6-14-2022	Closeout inspection. Soil disturbance is complete. No impact to IP controls or Sites.

Table 196-5 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-94115 (follow up from BMP-93714)	Returned displaced rock in Riprap W00104060017 to section of control where underlying matting has become exposed.	7-26-2022	14 days	Maintenance was performed as soon as practicable. Control operated effectively in interim.

196.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline stormwater samples were collected on August 3 and September 9, 2011. Analytical results from these samples yielded TAL exceedances for aluminum (918 µg/L and 1410 µg/L) and gross-alpha activity (50.7 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-1, corrective-action stormwater samples were collected on September 12, 2013, and July 19, 2014. Analytical results from these samples yielded TAL exceedances for aluminum (1010 µg/L and 858 µg/L), copper (4.45 µg/L), and gross-alpha activity (314 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following certification of no exposure for Site 16-017(j)-99 within W-SMA-1, a corrective-action investigation stormwater sample was collected on October 24, 2018. Analytical results from this sample were submitted to EPA on January 14, 2020, and the complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2018, NPDES Permit No. NM0030759" (N3B 2019, 700320).

Stormwater monitoring was not conducted at W-SMA-1 in 2022 under the 2010 IP requirements.

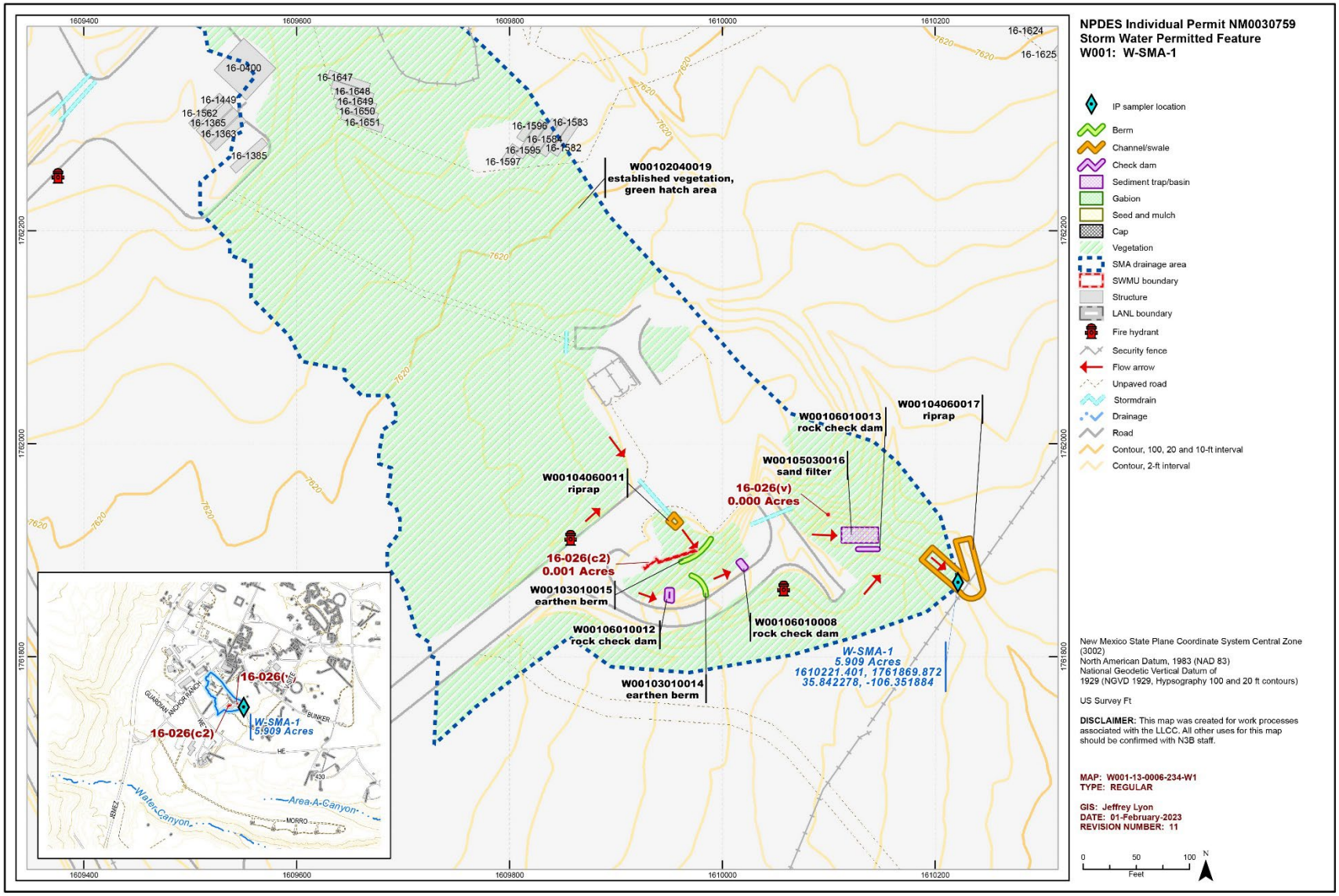

Figure 196-1 W-SMA-1 location map

197.0 W-SMA-1.5: SWMUs 16-026(b2) and 16-028(d)

Two historical industrial activity areas, Sites 16-026(b2) and 16-028(d), are associated with W-SMA-1.5 (permitted feature W002). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

197.1 Site Descriptions

16-026(b2) (5/17/2019)

SWMU 16-026(b2) is an outfall and associated drainline that served decommissioned machine shop building 16-202 in the administrative area at TA-16. The drainline existed the northeast corner of building 16-202 and discharged to an outfall located approximately 135 ft east-southeast of the building in the drainage ditch along Anchor Ranch Road. The outfall received discharge from an oil-water separator, which consisted of a 3-ft × 3-ft × 3-ft cement pit located below floor level in a millwright shop. The separator was installed in 1952, when building 16-202 was built, and remains in place but is covered. Use of the separator ceased after 1977 and the millwright shop is now an office.

16-028(d) (no date)

SWMU 16-028(d) is a formerly NPDES-permitted outfall (04A083) located approximately 80 ft southeast of decommissioned building 16-202 in the administrative area of TA-16. The outfall formerly served the decommissioned machine shop in building 16-202 and connected to the building through an 8-in.-diameter VCP. The outfall received noncontact cooling water and wash water from two floor drains, effluent from two non- HE sumps, discharge from two sink drains, and rainwater from 16 roof drains. A variety of materials associated with machining metals and plastics were used in the building and could have been present in discharges to the outfall, including brazing alloy, trichloroethene, petroleum distillates, oils, and hydrochloric acid. In 1995, building 16-202 was converted to office space and the drains within the building were modified so that the outfall only receives stormwater from the building roof drains. The outfall was removed from the NPDES permit effective September 19, 1997.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 197-1.

Table 197-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-026(b2)	Outfall from building 16-202 drain	Metals
16-028(d)	Outfall from building 16-202	Metals

197.2 Control Measures

All active control measures in use at W-SMA-1.5 are listed in Table 197-2. Their locations are shown on the project map (Figure 197-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 197-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00202040017	Established Vegetation	-	X	X	-	B	5-7-2013
W00203010015	Earthen Berm	-	X	-	X	EC	8-21-2012
W00203010020	Earthen Berm	-	X	-	X	EC	7-21-2015
W00203160024	Wood Chip Wattle	X	-	-	X	B	11-2-2021
W00204060007	Riprap	-	X	X	-	CB	9-29-2009
W00204070002	Vegetated Swale	-	X	X	-	CB	6-1-2009
W00204070003	Vegetated Swale	-	X	X	-	CB	6-1-2009
W00205020013	Sediment Basin	-	X	-	X	EC	8-21-2012
W00205020021	Sediment Basin	-	X	-	X	EC	7-21-2015
W00206010008	Rock Check Dam	X	-	-	X	CB	12-2-2009
W00206010009	Rock Check Dam	X	-	-	X	CB	12-2-2009
W00206010010	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00206010016	Rock Check Dam	-	X	-	X	EC	8-21-2012

197.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at W-SMA-1.5 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 197-3. All other control-measure inspections conducted at the SMA are summarized in Table 197-4. No maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 197-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92922[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-24-2022	6 2	Yes Yes
BMP-93250[b]	6-25-2022 6-26-2022	0.42 0.3	7-1-2022	6 5	Yes Yes
BMP-93715[b]	7-2-2022 7-4-2022	0.25 0.8	7-12-2022	10 8	Yes Yes
BMP-94340	7-20-2022	0.66	7-26-2022	6	Yes
BMP-94995[b]	7-30-2022 7-31-2022	0.59 0.4	8-10-2022	11 10	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 197-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
TAL Exceedance inspection. CAM5-2 sample 2 collected 7/4/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-94000	8-19-2022	Recommends installation of coir log at northwest corner of Riprap W00204060007 to cut off runoff and repair rilling. Maintenance will be conducted in 2023.

197.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline stormwater samples were collected on August 3 and September 1, 2011. Analytical results from these samples yielded TAL exceedances for copper (9.7 µg/L), gross-alpha activity (22 pCi/L), and zinc (49.3 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the 2012 installation of enhanced control measures at W-SMA-1.5, a corrective-action stormwater sample was collected on July 19, 2014. Analytical results from this sample yielded a TAL exceedance for copper (6.9 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Following the 2015 installation of enhanced control measures at W-SMA-1.5, a corrective-action stormwater sample was collected on September 28, 2017. Analytical results from this sample yielded no TAL exceedances. The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was conducted at W-SMA-1.5 under the 2010 IP requirements from March 28 through July 8, 2022, resulting in a monitoring season of 103 days. Five inspections were performed during the monitoring period and are summarized in Table 197-5. Rain gage RG253 recorded 11 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active.

A corrective-action confirmation-monitoring sample was collected on July 4, 2022. Analytical results from this sample yielded TAL exceedances for aluminum (968 µg/L), copper (9.14 µg/L), and zinc (218 µg/L). The complete analytical results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 197-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91685	4-20-2022	No	None	None
SMPLR-92166	6-9-2022	No	None	None
SMPLR-92799	6-22-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022	0.06/0.33 0.38/0.55 0.05/0.23 0.08/0.19
SMPLR-92971	7-1-2022	No	6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11
SMPLR-93606	7-8-2022	Yes	7-1-2022 7-2-2022 7-4-2022	0.15/0.32 0.25/0.35 0.8/1.49

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

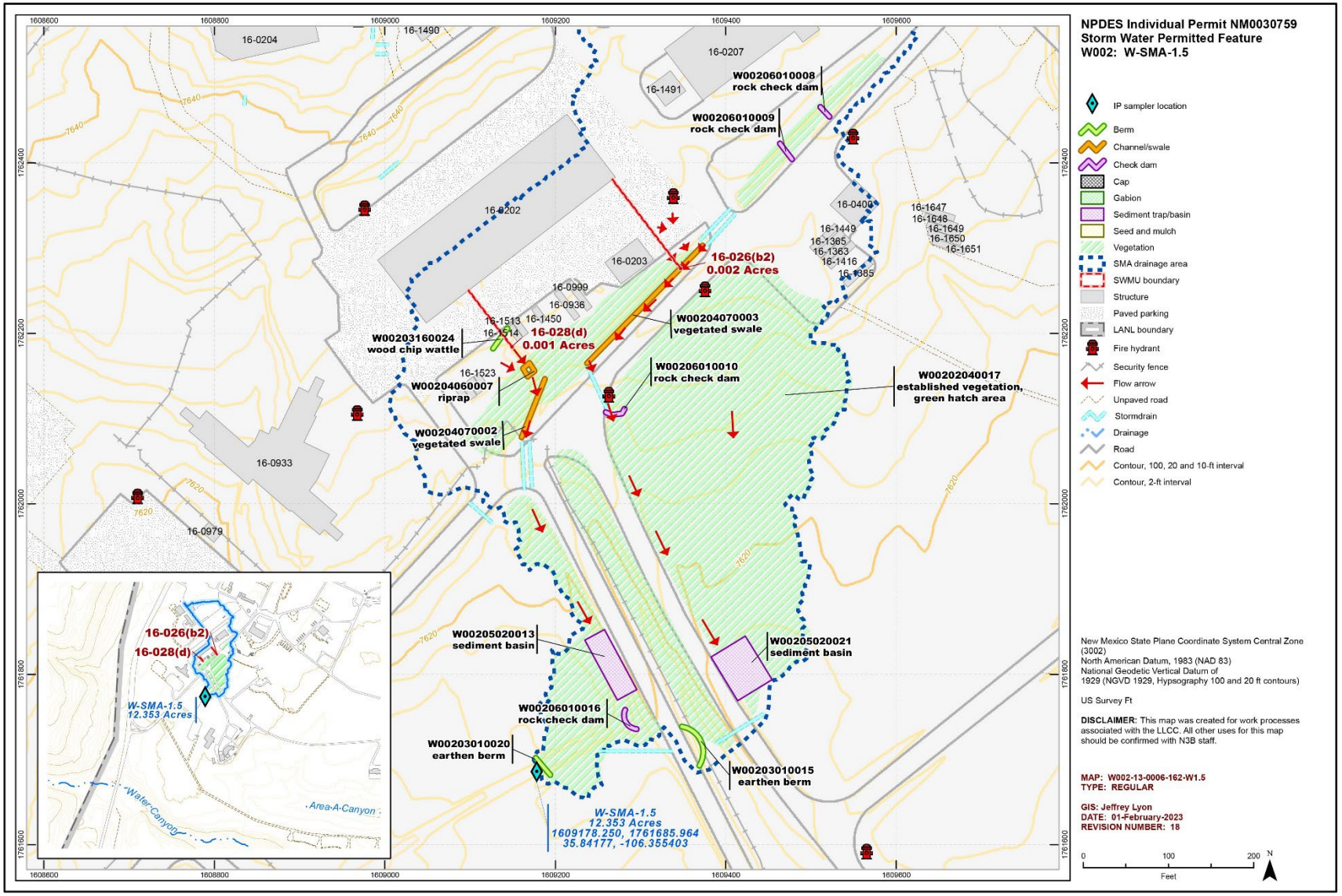

Figure 197-1 W-SMA-1.5 location map

198.0 W-SMA-2.05: SWMU 16-028(e)

One historical industrial activity area, Site 16-028(e), is associated with W-SMA-2.05 (permitted feature W003). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

198.1 Site Descriptions

16-028(e) (3/21/2019)

SWMU 16-028(e) is a formerly NPDES-permitted outfall (EPA 04A091) that served the materials-testing laboratory in building 16-450 at TA-16. The outfall was located southeast of building 16-450 and received discharges through an outlet drainline from a former HE sump [SWMU 16-029(g)]. The outfall discharged outside the security fence at the edge of Water Canyon. The SWMU 16-029(g) sump was removed in 1997 and the outfall drainline was plugged and left in place. The outfall was removed from the LANL NPDES permit effective September 19, 1997.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 198-1.

Table 198-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-028(e)	Outfall associated with building 16-450	Metals, HE

198.2 Control Measures

All active control measures in use at W-SMA-2.05 are listed in Table 198-2. Their locations are shown on the project map (Figure 198-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 198-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00302040010	Established Vegetation	-	X	X	-	B	5-7-2013
W00303010007	Earthen Berm	-	X	-	X	EC	8-23-2012
W00303010008	Earthen Berm	-	X	-	X	EC	8-23-2012
W00306010009	Rock Check Dam	-	X	-	X	EC	8-23-2012

198.3 Inspections and Maintenance

Rain gage RG253 recorded nine storm events at W-SMA-2.05 during the 2022 season, requiring five post-storm inspections, which are summarized in Table 198-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 198-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-92923[a,b]	6-18-2022 6-22-2022	0.38 0.29	6-24-2022	6 2	Yes Yes
BMP-93251[b]	6-25-2022 6-26-2022	0.42 0.3	6-29-2022	4 3	Yes Yes
BMP-93716[b]	7-2-2022 7-4-2022	0.25 0.8	7-12-2022	10 8	Yes Yes
BMP-94341	7-20-2022	0.66	7-26-2022	6	Yes
BMP-94996[b]	7-30-2022 7-31-2022	0.59 0.4	8-10-2022	11 10	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

198.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on August 21, 2011. Analytical results from this sample yielded a TAL exceedance for aluminum (1240 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at W-SMA-2.05 under the 2010 IP requirements from March 24 through November 16, 2022, resulting in a monitoring season of 238 days. Eight inspections were performed during the monitoring period and are summarized in Table 198-4. Rain gage RG253 recorded 41 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 198-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91666	4-21-2022	No	None	None
SMPLR-92173	6-9-2022	No	None	None
SMPLR-92802	6-21-2022	No	6-17-2022 6-18-2022 6-19-2022	0.06/0.33 0.38/0.55 0.08/0.19
SMPLR-92950	6-28-2022	No	6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.08/0.19 0.29/0.91 0.42/1.4 0.3/2.02 0.05/0.11

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93469	8-10-2022	No	7-1-2022 7-2-2022 7-4-2022 7-14-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-7-2022	0.15/0.32 0.25/0.35 0.8/1.49 0.06/0.12 0.66/0.8 0.13/0.13 0.15/0.25 0.08/0.18 0.14/0.24 0.12/0.29 0.59/0.64 0.4/0.87 0.2/0.24 0.44/1.41 0.39/0.42
SMPLR-95340	9-21-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 8-31-2022 9-9-2022 9-13-2022 9-20-2022	0.18/0.18 0.08/0.25 0.09/0.26 0.08/0.19 0.05/0.3 0.13/0.16 0.13/0.25 0.24/0.25 0.16/0.27 0.11/0.15 0.05/0.12
SMPLR-96050	10-20-2022	No	9-22-2022 10-2-2022 10-3-2022 10-9-2022 10-15-2022 10-16-2022 10-17-2022	0.2/0.22 0.07/0.18 0.07/0.15 0.18/0.19 0.17/1.13 0.06/0.22 0.05/0.14
SMPLR-96435	11-16-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

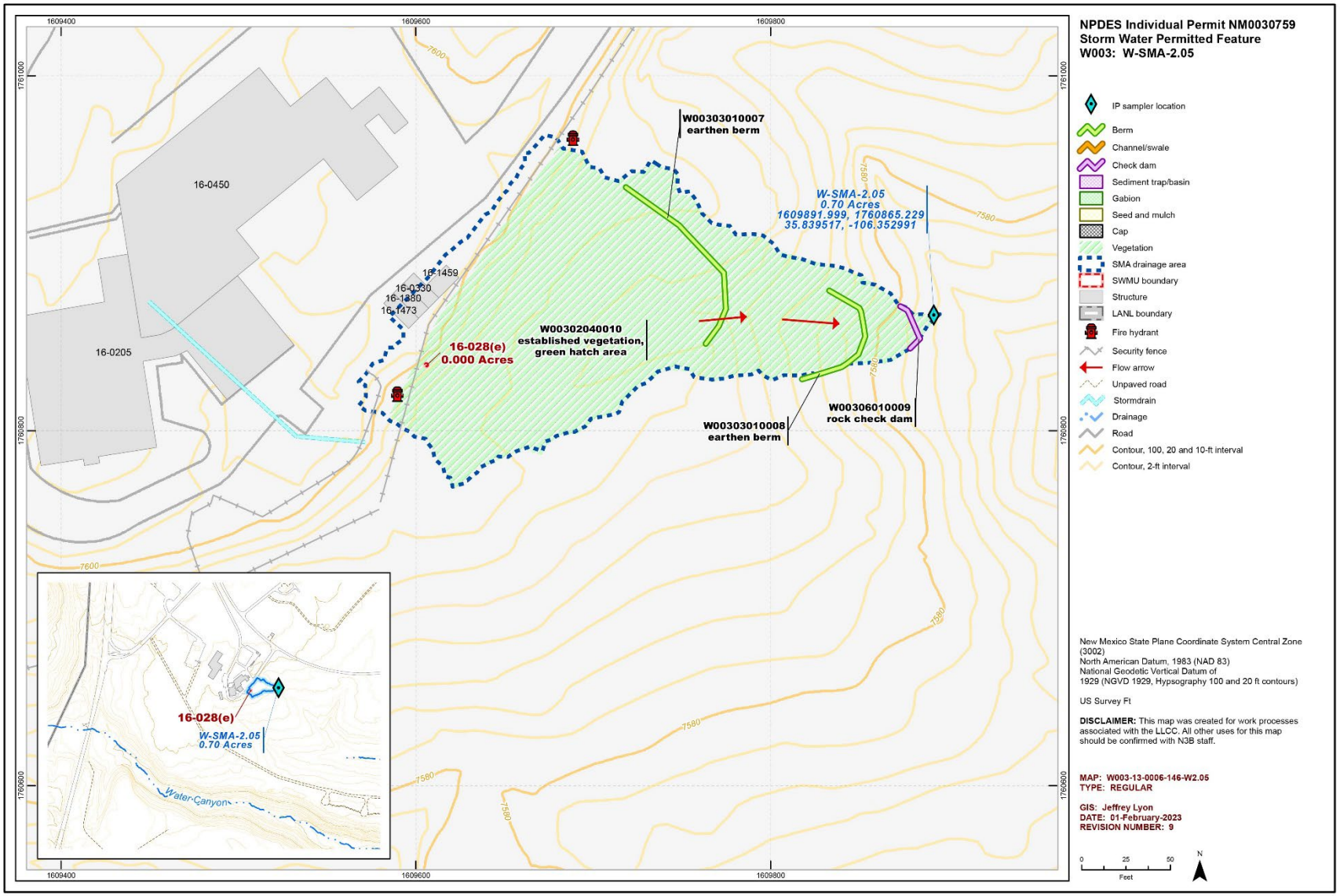

Figure 198-1 W-SMA-2.05 location map

199.0 W-SMA-3.5: SWMU 16-026(y)

One historical industrial activity area, Site 16-026(y), is associated with W-SMA-3.5 (permitted feature W004). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

199.1 Site Descriptions

16-026(y) (no date)

SWMU 16-026(y) is an inactive outfall and associated outlet drainline that served building 16-411 at TA-16. The outlet drainline is a 4-in.-diameter VCP that exits the southwest wall of building 16-411 and turns south to terminate at its discharge point on the hill slope of Water Canyon. The discharge point is located south of a double security fence at the edge of Water Canyon. Building 16-411 was built in 1951 and used for the assembly of finished HE components. The outfall received discharges from an equipment room floor drain, a sink, roof drains, a water fountain, and an eyewash station. The outfall was decommissioned in the late 1980s when the roof drains were rerouted to a separate outfall and the other drains were either plugged or rerouted to a holding tank.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 199-1.

Table 199-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-026(y)	Outfall from building 16-411	HE

199.2 Control Measures

All active control measures in use at W-SMA-3.5 are listed in Table 199-2. Their locations are shown on the project map (Figure 199-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 199-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00402040008	Established Vegetation	-	X	X	-	B	5-7-2013
W00403060013	Straw Wattle	X	-	-	X	B	7-6-2016
W00403060014	Straw Wattle	X	-	-	X	B	9-26-2016
W00403060015	Straw Wattle	X	-	-	X	B	9-11-2018
W00403140016	Coir Log	X	-	-	X	B	9-28-2021
W00404060003	Riprap	-	X	X	-	CB	12-3-2009
W00406010007	Rock Check Dam	-	X	-	X	CB	12-7-2009

199.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-3.5 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 199-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 199-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93238[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93783	7-4-2022	0.33	7-18-2022	14	Yes
BMP-94329[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94983	7-30-2022	0.56	8-10-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

199.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at W-SMA-3.5.

Stormwater monitoring was conducted at W-SMA-3.5 under the 2010 IP requirements from March 25 through October 25, 2022, resulting in a monitoring season of 215 days. Eight inspections were performed during the monitoring period and are summarized in Table 199-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 199-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91673	4-21-2022	No	None	None
SMPLR-92167	6-9-2022	No	None	None
SMPLR-92800	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93610	7-21-2022	No	7-1-2022 7-2-2022 7-4-2022 7-20-2022	0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45
SMPLR-94362	9-1-2022	No	7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022	0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91 0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15
SMPLR-95775	10-11-2022	No	9-9-2022 9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022	0.08/0.17 0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18
SMPLR-96302	10-17-2022	No	10-15-2022 10-16-2022	0.18/1.06 0.06/0.23
SMPLR-96351	10-25-2022	No	10-17-2022	0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

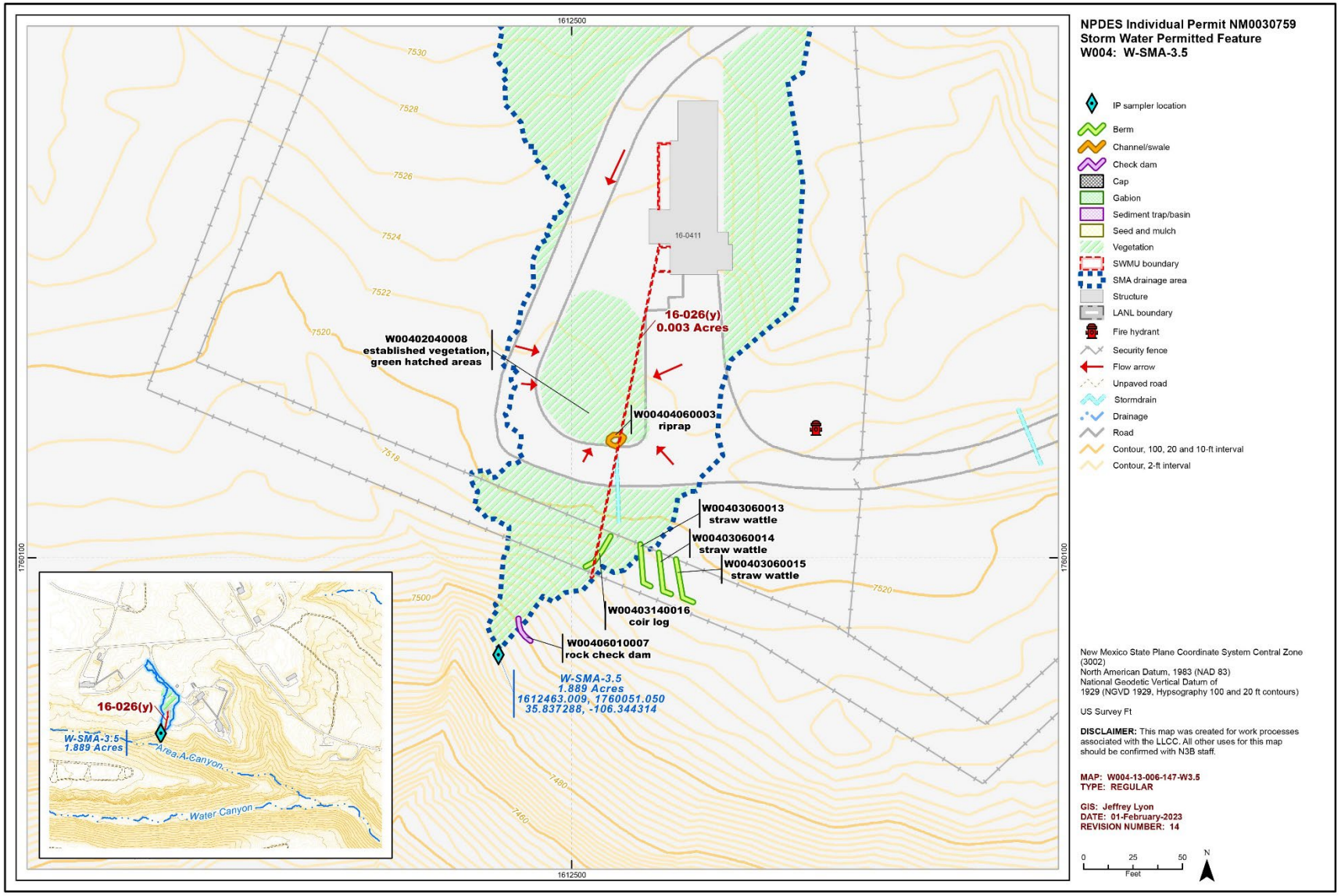

Figure 299-1 W-SMA-3.5 location map

200.0 W-SMA-4.1: SWMU 16-003(a)

One historical industrial activity area, Site 16-0003(a), is associated with W-SMA-4.1 (permitted feature W005). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

200.1 Site Descriptions

16-003(a) (3/21/2019)

SWMU 16-003(a) is an inactive HE sump, associated inlet and outlet drainlines, and former NPDES-permitted outfall (05A053) that served assembly building 16-410 at TA-16. The concrete sump is located on the exterior southeast wall of the building and measures 9.5 ft long × 3.5 ft wide × 2.5 ft deep. The sump served floor, roof, and equipment drains and removed suspended HE solids from process water before it was discharged to the outfall, which is located approximately 320 ft southeast of the building. The sump was installed in the early 1950s and modified in 1966 to improve its effectiveness and to reduce HE handling. The outlet drainline from the sump was plugged by 1995. The outfall was removed from the LANL NPDES permit effective January 14, 1998.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 200-1.

Table 200-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-003(a)	Sump	HE, uranium

200.2 Control Measures

All active control measures in use at W-SMA-4.1 are listed in Table 200-2. Their locations are shown on the project map (Figure 200-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 200.2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00502040006	Established Vegetation	-	X	X	-	B	5-7-2013
W00503060009	Straw Wattle	-	X	-	X	B	7-6-2016
W00503060011	Straw Wattle	X	-	-	X	B	9-29-2021
W00503140010	Coir Log	-	X	-	X	B	4-21-2017

200.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-4.1 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 200-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 200-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93239[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93784	7-4-2022	0.33	7-18-2022	14	Yes
BMP-94330	7-20-2022	0.34	7-29-2022	9	Yes
BMP-94754[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

200.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at W-SMA-4.1.

Stormwater monitoring was conducted at W-SMA-4.1 under the 2010 IP requirements from March 25 through November 16, 2022, resulting in a monitoring season of 237 days. Seven inspections were performed during the monitoring period and are summarized in Table 200-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 200-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91669	4-21-2022	No	None	None
SMPLR-92165	6-10-2022	No	None	None
SMPLR-92810	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93451	8-10-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95333	9-19-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-96005	10-20-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96404	11-16-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

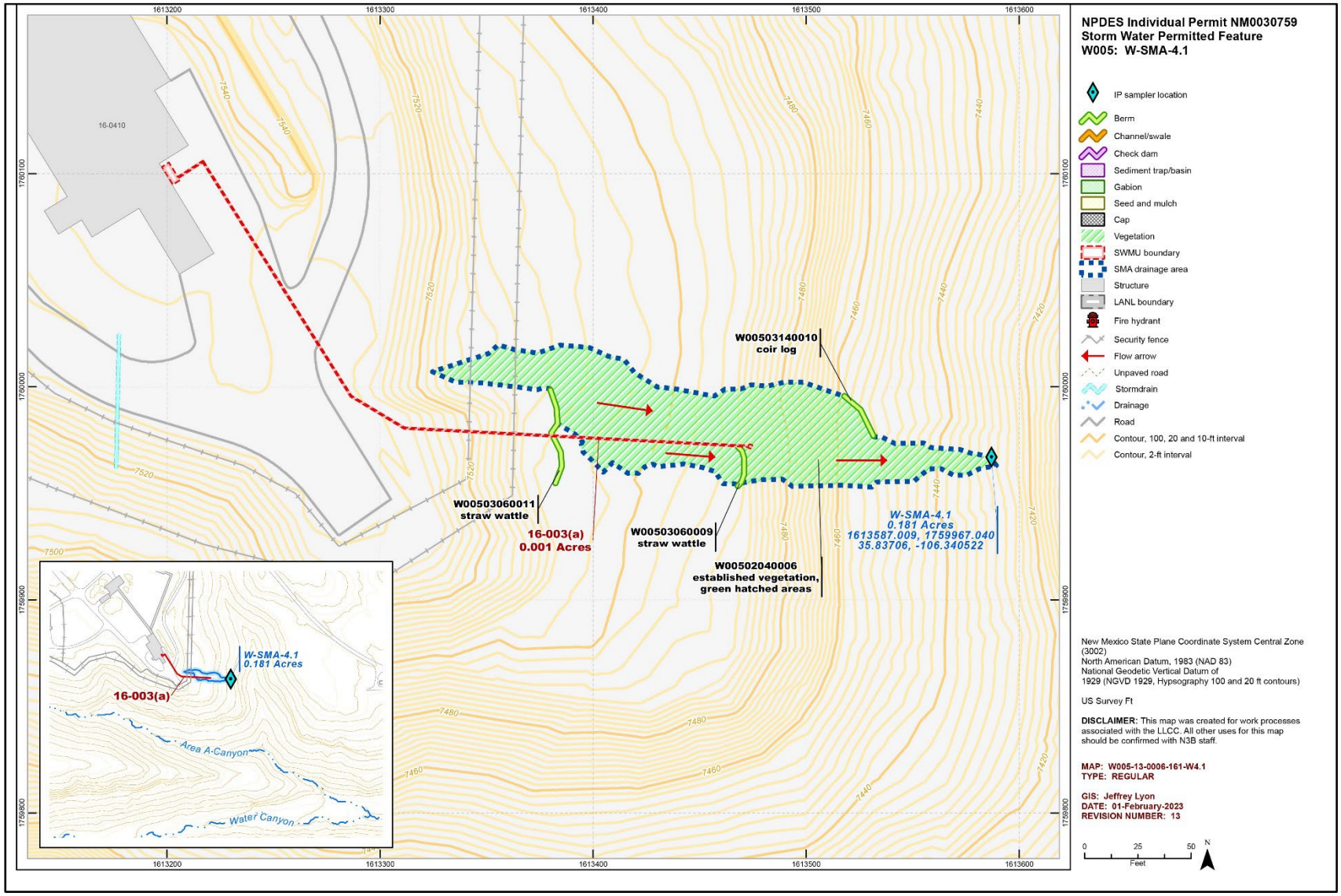

Figure 200-1 W-SMA-4.1 location map

201.0 W-SMA-5: SWMUs 16-001(e), 16-003(f), 16-026(b), 16-026(c), 16-026(d), and 16 026(e)

Six historical industrial activity areas, Sites 16-001(e), 16-003(f), 16-026(b), 16-026(c), 16-026(d), and 16-026(e), are associated with W-SMA-5 (permitted feature W006). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

201.1 Site Descriptions

16-001(e) (9/6/2019)

SWMU 16-001(e) is an inactive dry well located approximately 170 ft east of HE processing building 16-306 at the head of a small tributary to Water Canyon at TA-16. Constructed in the 1980s, the dry well served the building 16-300 series process line and never functioned properly because it drained to impermeable tuff. Building 16-300 was initially an HE-casting facility and was later converted to a mock (inert) explosives-preparation facility in 1962. The well was constructed of a 4-ft diameter corrugated metal pipe buried vertically to an unknown depth. A T-pipe was subsequently installed in the dry well to allow liquids discharged to the dry well to flow to a former NPDES-permitted outfall (EPA 05A058) where the liquid waste trunk line discharged effluent from HE sumps associated with the building 16-300 series process line. The dry well was filled with soil from the surrounding area and capped with concrete before 1992.

16-003(f) (9/6/2019)

SWMU 16-003(f) consists of two inactive HE sumps located on the exterior east side of building 16-304 at TA-16. Building 16-304 was constructed between 1951 and 1953 and was used as a plastics and plastics components development and production facility for the weapons program. Polycarbonate components were fabricated using injection molding machines and other components were fabricated using hydraulic presses. Large, high-temperature ovens were used for drying molding powders and curing thermoset plastics. Wash water from the building drained to the sumps. Chemical solvents including acetone and methyl ethyl ketone were used in the plastics processing operations were also discharged to the SWMU 16-003(f) sumps. One sump measured 123 in. × 41 in. × 31 in. with a 6 in. VCP outlet drainline, and the other sump measured 203 in. × 41 in. × 31 in. with an 8 in. VCP outlet drainline. HE-contaminated water and solvents from the SWMU 16-003(f) sumps discharged into the shared liquid waste trunk line located on the east side of the building. The effluent flowed through the liquid waste trunk line and discharged through a former NPDES-permitted outfall (EPA 05A058) into a well-defined drainage across HE Road and southeast of building 16-306. In the early 1990s, solvents were no longer discharged to the sumps. Discharges from the SWMU 16-003(f) sumps ceased in the mid-1990s, and the outfall was removed from the NPDES permit in 2000.

16-026(b) (11/26/2019)

SWMU 16-026(b) is an inactive outfall located northeast of a rest house (structure 16-307) at TA-16. The outfall formerly received discharges from two HE sumps [SWMU 16-029(a)] located adjacent to the exterior southeast wall of the rest house. The outfall discharged to Water Canyon. The sumps were plugged in 1990–1991. structure 16-307 was built between 1951 and 1953 to serve building 16-306. Structure 16-307 was used to store molds and other materials used in plastics development facilities and also previously housed a solvent disassembly tank used to remove HE from test devices. This operation was the principal source of potential HE contamination in the drainage downgradient of the inactive outfall.

16-026(c) (11/26/2019)

SWMU 16-026(c) is an inactive outfall located south of a rest house (structure 16-305) at TA-16. The outfall formerly received discharges from two HE sumps [SWMU 16-029(b)] located adjacent to the exterior southwest wall of the rest house. The outfall discharged to Water Canyon. The sumps were plugged in 1990–1991. Structure 16-305 was built between 1951 and 1953 to serve buildings 16-304 and 16-306, the plastics development and production facility. Structure 16-305 was used to store chemicals and solvents for plastics development and production, and was also used for filament winding of developmental weapons components.

16-026(d) (11/26/2019)

SWMU 16-026(d) is an inactive outfall located southeast of a rest house (structure 16-303) at TA-16. The outfall formerly received discharges from two HE sumps [SWMU 16-029(c)] located adjacent to the exterior west wall of the rest house. The outfall discharged to Martin Spring Canyon. The sumps were plugged in 1990–1991. Structure 16-303 was built between 1951 and 1953 to serve building 16-302, an HE casting facility. The rest house was used to store raw materials used in the casting process and HE castings produced in casting building 16-302.

16-026(e) (11/26/2019)

SWMU 16-026(e) is an inactive outfall located southwest of a structure 16-301 at TA-16. The outfall formerly received discharge from two high explosives HE sumps [SWMU 16-029(d)] located on the exterior west side of structure 16-301. The outfall discharged to Martin Spring Canyon. The sumps were plugged in 1990–1991. Structure 16-301 was built in 1951 and 1952 and originally housed mock-HE processing operations and stored raw materials that were used to prepare mock HE. Structure 16-301 was later used as an environmental testing laboratory for research into the effects of temperature, pressure, and humidity on weapons and components.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 201-1.

Table 201-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-001(e)	Dry well	SVOCs, HE, chloride
16-003(f)	Sumps	SVOCs, chloride
16-026(b)	Outfall	Barium, SVOCs, HE
16-026(c)	Outfall	Barium, HE
16-026(d)	Outfall	Barium, HE
16-026(e)	Outfall	Barium, HE

201.2 Control Measures

All active control measures in use at W-SMA-5 are listed in Table 201-2. Their locations are shown on the project map (Figure 201-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 201-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00602040029	Established Vegetation	-	X	X	-	B	5-7-2013
W00604040011	Culvert	X	-	X	-	CB	6-11-2009
W00604050033	Water Bar	X	-	X	-	B	10-23-2014
W00604060006	Riprap	X	-	X	-	CB	8-31-2004
W00606010003	Rock Check Dam	-	X	-	X	CB	9-18-2008
W00606010012	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00606010013	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00606010014	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00606010015	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00606010017	Rock Check Dam	-	X	-	X	CB	12-2-2009
W00606010021	Rock Check Dam	-	X	-	X	B	9-6-2011
W00606010022	Rock Check Dam	-	X	-	X	B	6-6-2012
W00606010023	Rock Check Dam	-	X	-	X	B	6-6-2012
W00606010024	Rock Check Dam	-	X	-	X	B	6-6-2012
W00606010028	Rock Check Dam	-	X	-	X	B	8-1-2012
W00606010031	Rock Check Dam	X	-	-	X	B	10-23-2014
W00606010032	Rock Check Dam	X	-	-	X	B	10-23-2014

201.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-5 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 201-3. All other control-measure inspections conducted at the SMA are summarized in Table 201-4.

LANL managed D&D activities of structure 16-306 that began in 2021 and continued into the spring of 2022. This structure is associated with historical activities of SWMUs associated with W-SMA-5. SWPP team members continued conducting weekly inspections of controls in areas of potential soil disturbance during these facility-managed activities.

A final inspection and evaluation of the area was conducted on April 19, 2022. No changes in condition were observed. No maintenance activities were conducted at the SMA in 2022.

Table 201-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93240[b]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93785	7-4-2022	0.33	7-18-2022	14	Yes
BMP-94331	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94755[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 201-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-90574	1-6-2022	No action recommended.
Remediation Construction Compliance Inspection	COMP-90627	1-11-2022	
Remediation Construction Compliance Inspection	COMP-90658	1-19-2022	Construction related controls are functioning. Demolition activities are ongoing.
Remediation Construction Compliance Inspection	COMP-90883	1-25-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-90987	2-1-2022	
Remediation Construction Compliance Inspection	COMP-91045	2-8-2022	
Remediation Construction Compliance Inspection	COMP-91080	2-15-2022	
Remediation Construction Compliance Inspection	COMP-91146	2-22-2022	
Remediation Construction Compliance Inspection	COMP-91198	3-1-2022	
Remediation Construction Compliance Inspection	COMP-91260	3-8-2022	All demolition debris has been moved off site. Stabilization operations soon to begin.
Remediation Construction Compliance Inspection	COMP-91294	3-15-2022	Stabilization operations ongoing.
Remediation Construction Compliance Inspection	COMP-91505	3-22-2022	
Remediation Construction Compliance Inspection	COMP-91617	3-30-2022	
Remediation Construction Compliance Inspection	COMP-91728	4-5-2022	
Control measure verification after cessation of Facility-managed construction in area.	BMP-91889	4-19-2022	Closeout inspection. Stabilization operations complete. No action recommended.

201.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 3, 2012. Analytical results from this sample yielded a TAL exceedance for copper (6.28 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2012, NPDES Permit No. NM0030759" (LANL 2013, 237680).

Stormwater monitoring was not conducted at W-SMA-5 in 2022 under the 2010 IP requirements.

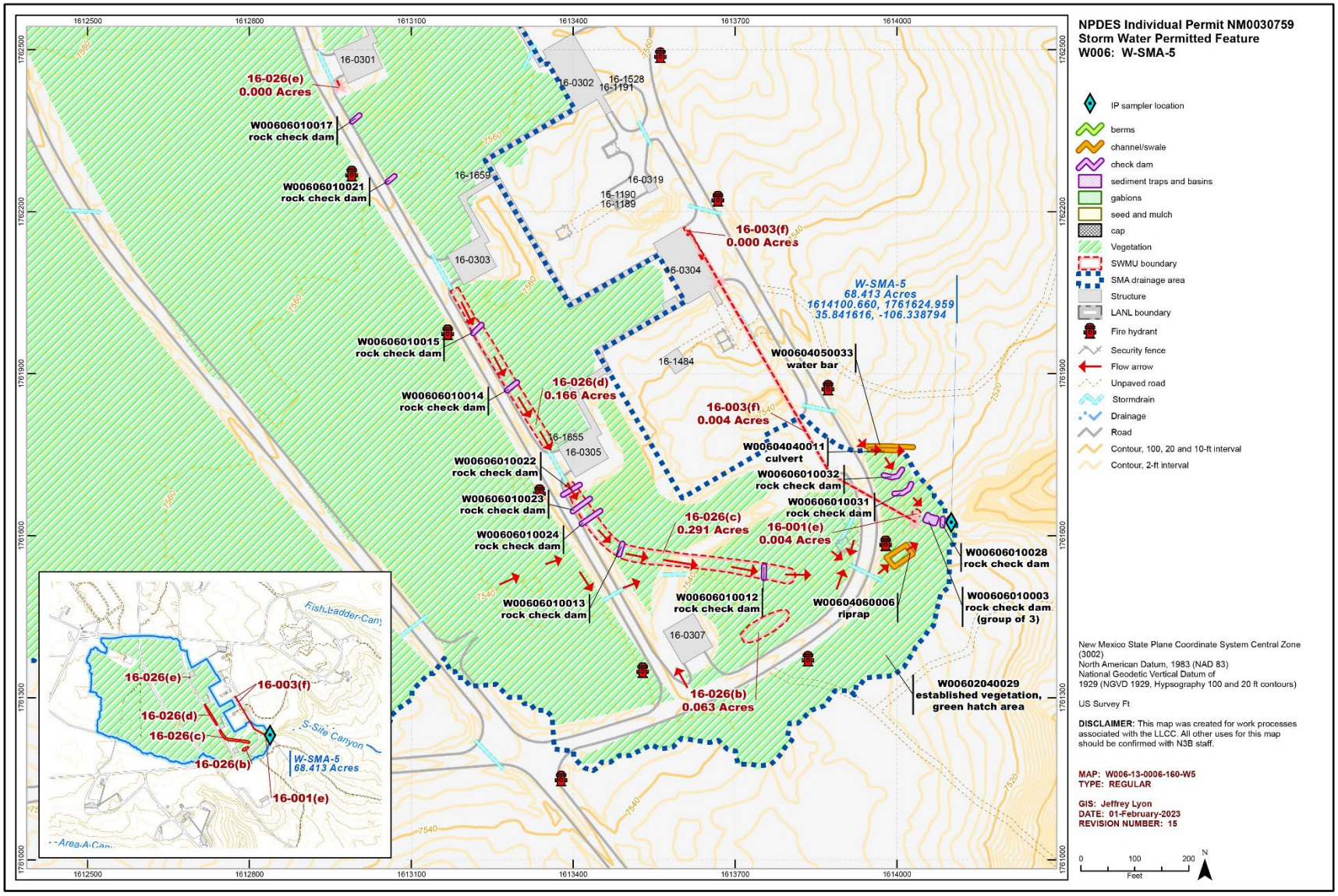

Figure 201-1 W-SMA-5 location map

202.0 W-SMA-6: SWMU 11-001(c)

One historical industrial activity area, Site 11-001(c), is associated with W-SMA-6 (permitted feature W007). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

202.1 Site Descriptions

11-001(c) (3/21/2019)

SWMU 11-001(c) is a former firing pit (former structure 11-15 that was located northwest of former building 16-370, near the edge of Water Canyon at TA-16). According to the 1990 SWMU Report, the firing pit was similar in construction to firing pit 11-14 [SWMU 11-001(a)], which consisted of a 12.5-ft semicircular concrete wall that was 4.5 ft high and 37 in. thick. The SWMU 11-001(c) firing pit was first used in 1944. The former TA-11 firing pits were arranged so that testing could be controlled and observed remotely. Components and assemblies were exposed to extreme physical environments including vibration, shock, and thermal testing. Shots fired at the former TA-11 firing pits reportedly contained uranium and aluminum. Use of the firing pit ceased by the early 1950s.

In 1989 when technical area boundaries were redefined within the Laboratory, portions of former TA-11 were absorbed into TA-16. As a result, SWMU 11-001(c) is now located within the northeast portion of TA-16.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 202-1.

Table 202-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
11-001(c)	Firing site	Aluminum, barium, HE, uranium

202.2 Control Measures

All active control measures in use at W-SMA-6 are listed in Table 202-2. Their locations are shown on the project map (Figure 202-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 202-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00701010007	Seed and Wood Mulch	-	-	X	-	B	7-22-2013
W00702040004	Established Vegetation	-	X	X	-	B	7-22-2013
W00703060008	Straw Wattle	-	X	-	X	B	9-18-2020
W00703060009	Straw Wattle	-	X	-	X	B	8-18-2022

202.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-6 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 202-3. Maintenance activities conducted at the SMA are summarized in Table 202-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 202-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93241[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93786	7-4-2022	0.33	7-11-2022	7	Yes
BMP-94332	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94756[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 202-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-95241 (follow up to BMP-94332)	Installed Straw Wattle W00703060009 as a replacement for Straw Wattle W00703060006.	8-18-2022	23 days	Maintenance was performed as soon as practicable. Control was still operating effectively in interim.

202.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 7, 2019. Analysis for this sample did not include total metals so monitoring was continued. An additional limited volume baseline stormwater sample was collected on October 4, 2019. Analytical results from the July sample yielded a TAL exceedance for gross-alpha activity (60.5 pCi/L), and there were no TAL exceedances in the October sample. The complete analytical results for both samples are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2019, NPDES Permit No. NM0030759" (N3B 2020, 700767).

Stormwater monitoring was not conducted at W-SMA-6 in 2022 under the 2010 IP requirements.

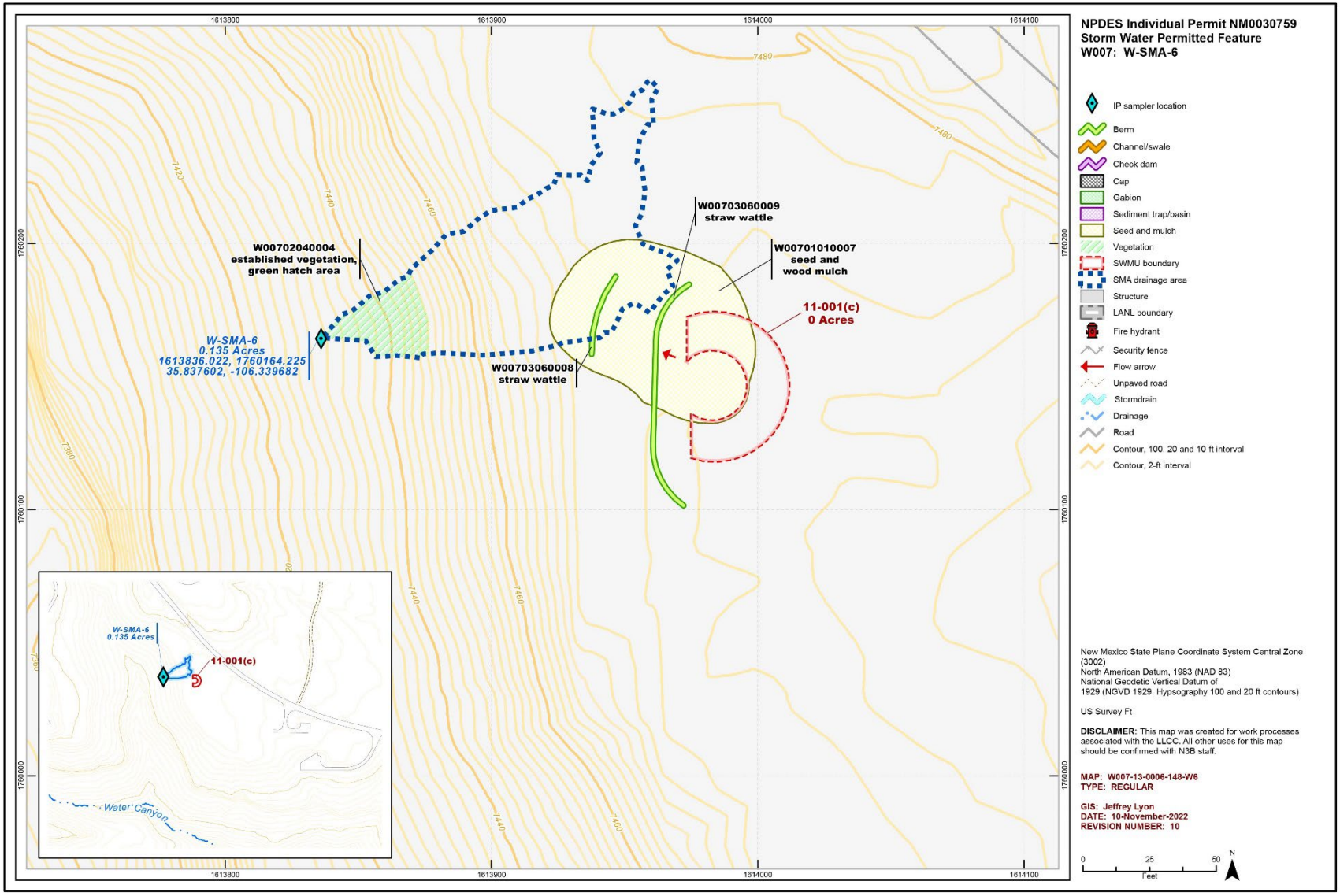

Figure 202-1 W-SMA-6 location map

203.0 W-SMA-7: SWMU 16-029(e)

One historical industrial activity area, Site 16-029(e), is associated with W-SMA-7 (permitted feature W008). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

203.1 Site Descriptions

16-029(e) (5/17/2019)

SWMU 16-029(e) consists of an inactive HE sump and formerly NPDES-permitted outfall (05A159) that served HE equipment assembly building 16-360 at TA-16. The sump is a 12-ft × 4-ft × 5-ft reinforced-concrete structure located on the exterior southeast side of the building. The sump received wash water from historical cleaning activities and discharged southeast to the outfall through a 6-in.-diameter drainline. In the 1990s, the sump outlet was plugged. The outfall was removed from the NPDES permit effective August 16, 1995.

The OU 1082 RCRA RFI work plan identifies SWMU 16-029(e) as an HE sump at building 16-360 with SWMU 16-026(h2) as the associated NPDES permitted outfall. However, the 1990 SWMU Report identifies SWMU 16-026(h2) as four outfalls from building drains at building 16-360. Because the four outfalls identified as SWMU 16-026(h2) in the SWMU Report are not associated with the HE sump, SWMU 16-029(e) is identified as the inactive HE sump, and the associated inlet and outlet drainlines and the outfall.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 203-1.

Table 203-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-029(e)	Sump	HE

203.2 Control Measures

All active control measures in use at W-SMA-7 are listed in Table 203-2. Their locations are shown on the project map (Figure 203-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 203-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00802040014	Established Vegetation	-	X	X	-	B	5-7-2013
W00803010049	Earthen Berm	-	X	-	X	EC	8-24-2015
W00803060010	Straw Wattle	X	-	-	X	CB	12-2-2009
W00806010001	Rock Check Dam	-	X	-	X	CB	6-27-2005

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00806010003	Rock Check Dam	-	X	-	X	CB	8-13-2009
W00806010004	Rock Check Dam	-	X	-	X	CB	8-11-2009
W00808040023	Metal Cap	X	-	-	-	B	7-22-2013

203.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-7 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 203-3. Maintenance activities conducted at the SMA are summarized in Table 203-4. No other control-measure inspections or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 203-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93242[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93787	7-4-2022	0.33	7-18-2022	14	Yes
BMP-94333	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94757[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 203-4 Maintenance Activities Conducted During 2022

Maintenance Reference	Maintenance Conducted	Maintenance Date	Response Time	Response Discussion
BMP-93843 (follow up to BMP-93242)	Installed Straw Wattle W00803060054 as a replacement for Straw Wattle W00803060052.	7-18-2022	17 days.	Maintenance was performed as soon as practicable. Control operated effectively in interim.

203.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 8, 2014. Analytical results from this sample yielded TAL exceedances for gross-alpha activity (427 pCi/L) and radium-226 and -228 activity (42 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was conducted at W-SMA-7 under the 2010 IP requirements from March 24 through October 25, 2022, resulting in a monitoring season of 216 days. Seven inspections were performed during the monitoring period and are summarized in Table 203-5. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 203-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91659	4-14-2022	No	None	None
SMPLR-92011	6-3-2022	No	None	None
SMPLR-92740	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15
SMPLR-93605	8-15-2022	No	7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95448	9-28-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022 9-20-2022 9-22-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17 0.12/0.17 0.2/0.22
SMPLR-96158	10-18-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96411	10-25-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

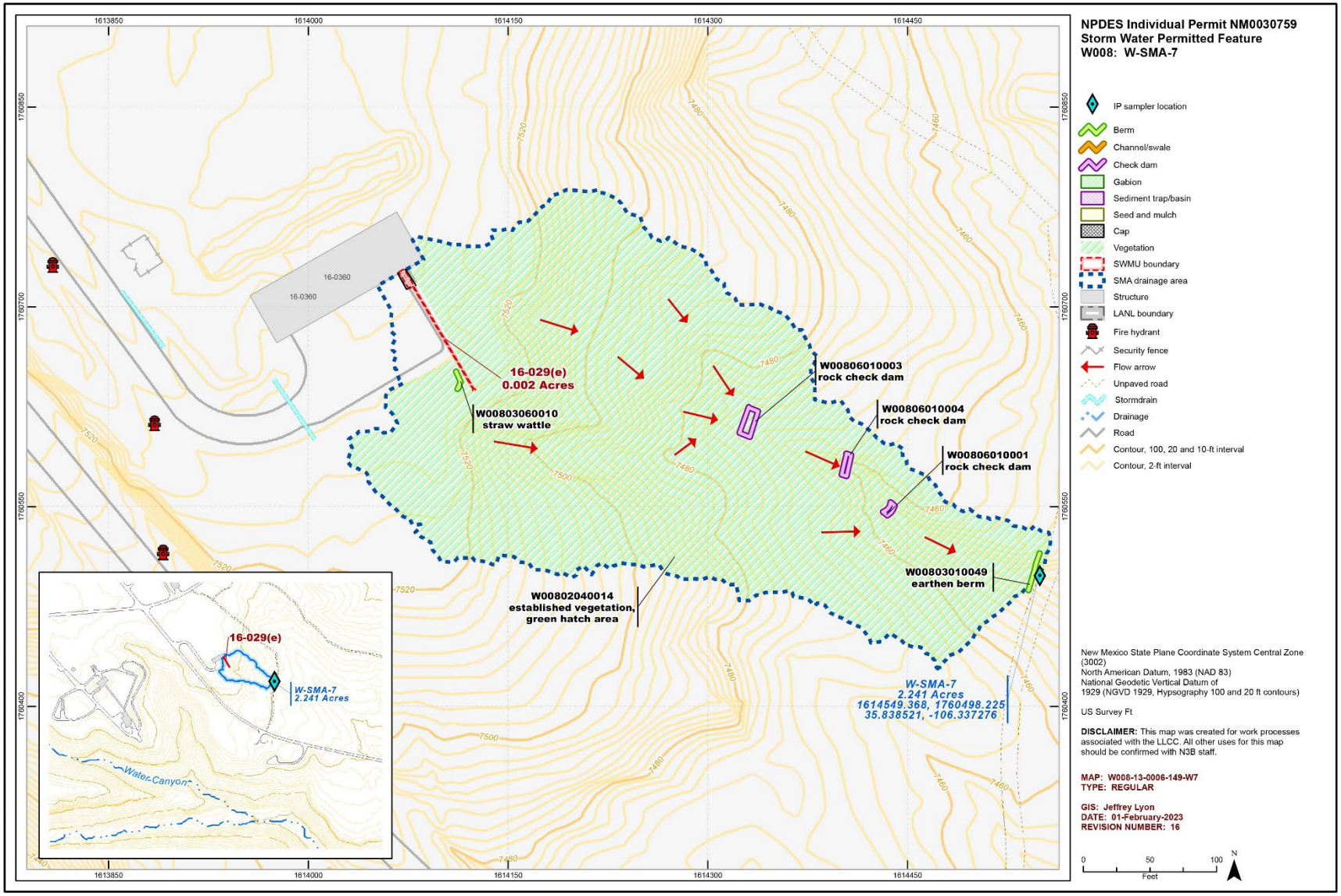

Figure 203-1 W-SMA-7 location map

204.0 W-SMA-7.8: SWMU 16-031(a)

One historical industrial activity area, Site 16-031(a), is associated with W-SMA-7.8 (permitted feature W009). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

204.1 Site Descriptions

16-031(a) (5/17/2019)

SWMU 16-031(a) is a former outfall and drainline that served a former cooling tower (former structure 16-372) at TA-16. The outfall discharged approximately 150 ft south of the cooling tower at the edge of Water Canyon. The outfall drainline was a 6-in.-diameter VCP that originated from a drain inside the southeast corner of the cooling tower. The cooling tower served building 16-370, a barium nitrate-grinding facility and metal-forming shop. The cooling tower received chilled water that was cycled through pumps and machinery in building 16-372. The cooling water may have contained chromates, but there is no documentation confirming the use of chromates. The cooling tower was built in 1953 and burned down during the Cerro Grande fire in 2000. The concrete foundation remains in place.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 204-1.

Table 204-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-031(a)	Outfall from Cooling Tower 16-372	Metals, chromium, barium

204.2 Control Measures

All active control measures in use at W-SMA-7.8 are listed in Table 204-2. Their locations are shown on the project map (Figure 204-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 204-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W00902040009	Established Vegetation	-	X	X	-	B	5-7-2013
W00903010004	Earthen Berm	X	-	-	X	CB	11-18-2009
W00903100010	Gravel Bags	-	X	-	X	B	4-21-2017
W00906010001	Rock Check Dam	X	-	-	X	CB	4-1-2009
W00906010005	Rock Check Dam	X	-	-	X	CB	11-18-2009
W00906010006	Rock Check Dam	X	-	-	X	CB	11-18-2009
W00906010007	Rock Check Dam	-	X	-	X	CB	11-18-2009

204.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-7.8 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 204-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 204-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93243[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93788	7-4-2022	0.33	7-14-2022	10	Yes
BMP-94334[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94988	7-30-2022	0.56	8-10-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

204.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on July 15, 2019. Analytical results from this sample yielded no TAL exceedances; the complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2019, NPDES Permit No. NM0030759" (N3B 2020, 700767).

An additional baseline stormwater sample was collected on May 30, 2021. Analytical results from this sample yielded TAL exceedances for gross-alpha activity (63.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was not conducted at W-SMA-7.8 in 2022 under the 2010 IP requirements.

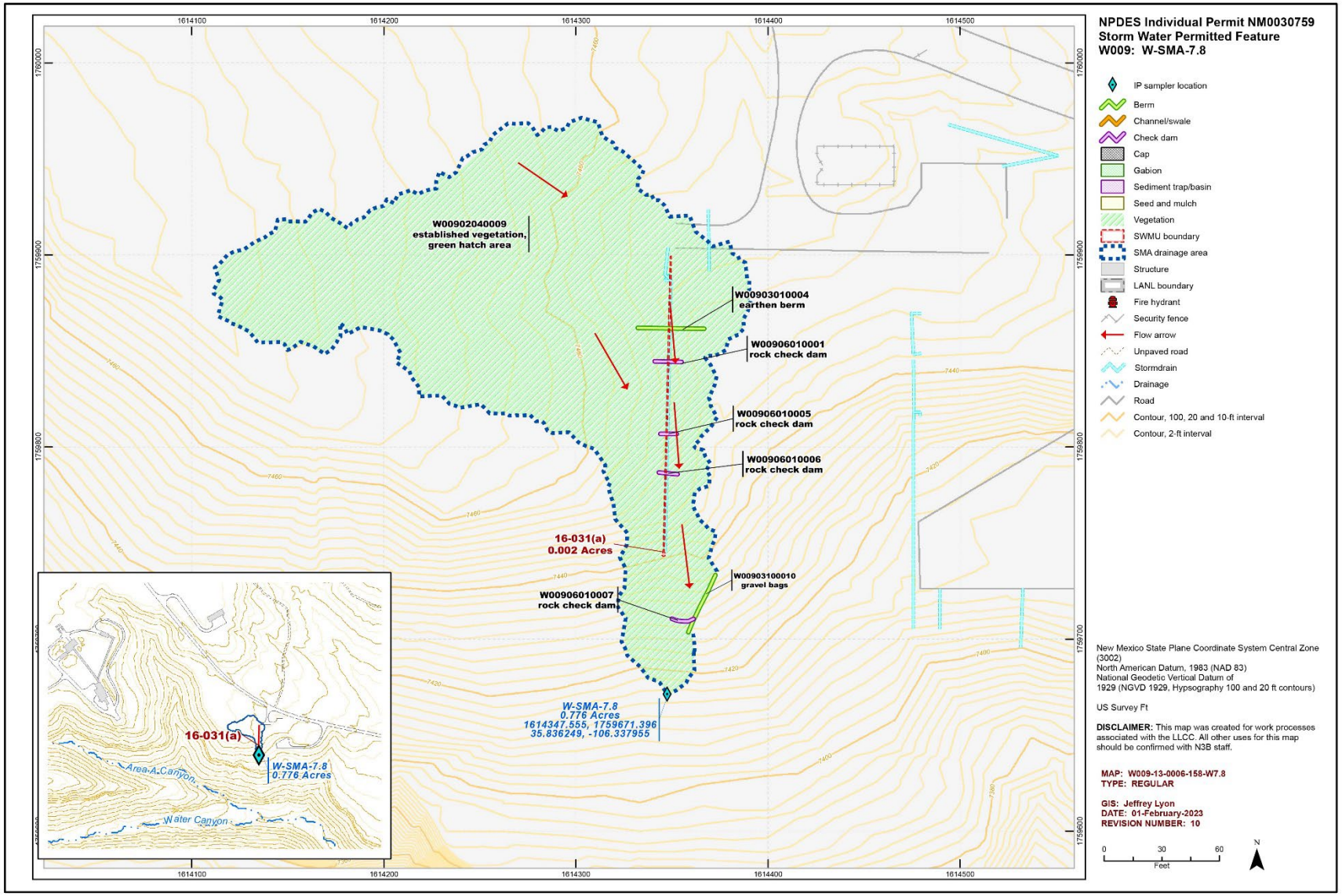

Figure 204-1 W-SMA-7.8 location map

205.0 W-SMA-7.9: SWMU 16-006(c)

One historical industrial activity area, Site 16-006(c), is associated with W-SMA-7.9 (permitted feature W010). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

205.1 Site Descriptions

16-006(c) (3/21/2019)

SWMU 16-006(c) is an inactive septic system located directly west of former building 16-370 in the eastern portion of TA-16. The septic system served building 16-370 and consists of a 1200-gal. concrete septic tank (structure 16-371), a manhole (structure 16-813), inlet and outlet drainlines, and an outfall near the rim of Water Canyon. The 1990 SWMU Report states the septic tank discharged to a drain field; however, engineering drawings do not verify the existence of a drain field. Building 16-370 was constructed in 1953 as a barium nitrate grinding facility. In the late 1950s, the building was converted to a metal forming shop for steel and aluminum operations. The septic system was constructed in 1953 and served floor drains and bathrooms on the third floor of former building 16-370. Associated drainlines connect to a manhole (structure 16-813), which drained to the septic tank. The outlet drainline discharged to an outfall approximately 260 ft south of the septic tank at the edge of Water Canyon. After the outlet drainline was plugged, the tank was pumped regularly during the time building 16-370 remained operational; the building was removed in 2005.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 205-1.

Table 205-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-006(c)	Septic tank	Inorganic and organic chemicals

205.2 Control Measures

All active control measures in use at W-SMA-7.9 are listed in Table 205-2. Their locations are shown on the project map (Figure 205-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 205-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01002040004	Established Vegetation	-	X	X	-	B	5-7-2013
W01006010003	Rock Check Dam	-	X	-	X	CB	11-18-2009

205.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-7.9 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 205-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 205-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93230[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93775	7-4-2022	0.33	7-11-2022	7	Yes
BMP-94321	7-20-2022	0.34	7-25-2022	5	Yes
BMP-94745[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

205.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at W-SMA-7.9.

Stormwater monitoring was conducted at W-SMA-7.9 under the 2010 IP requirements from March 24 through October 25, 2022, resulting in a monitoring season of 216 days. Eight inspections were performed during the monitoring period and are summarized in Table 205-4.

Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 205-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91658	4-14-2022	No	None	None
SMPLR-92010	5-18-2022	No	None	None
SMPLR-92472	6-13-2022	No	None	None
SMPLR-92822	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93455	8-10-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95334	9-19-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-96008	10-18-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96410	10-25-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

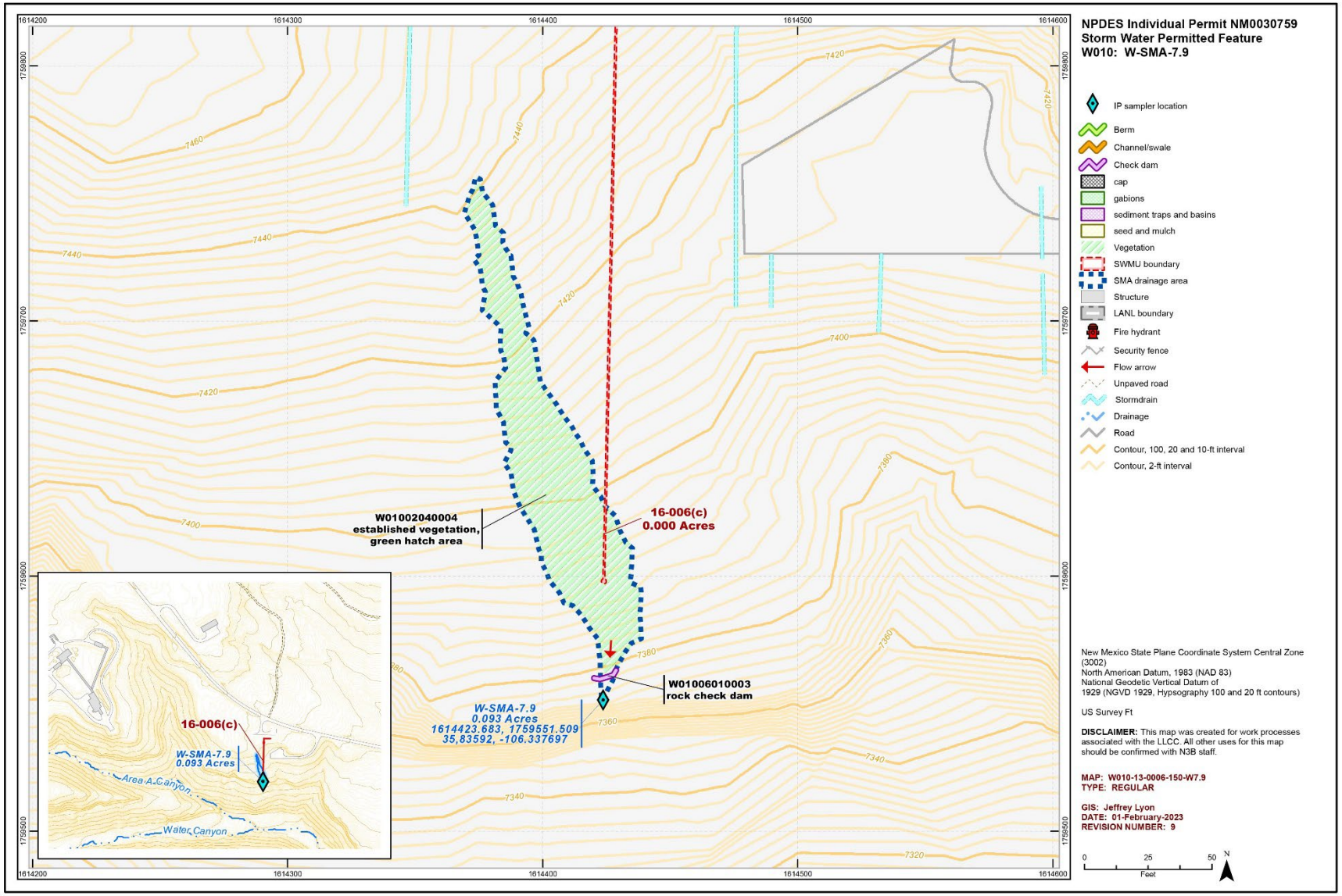

Figure 205-1 W-SMA-7.9 location map

206.0 W-SMA-8: SWMUs 16-016(g) and 16-028(b)

Two historical industrial activity areas, Sites 16-016(g) and 16-028(b), are associated with W-SMA-8 (permitted feature W011). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

206.1 Site Descriptions

16-016(g) (3/21/2019)

SWMU 16-016(g) is a surface disposal area located in a drainage ditch approximately 60 ft south of former building 16-370 in the eastern portion of TA-16. Debris at the site includes cans and pipes distributed over a 20-ft-diameter area. The surface disposal area lies in the drainage ditch shared by SWMUs 16-026(a) and 16-028(b). Field observations indicate the debris is likely from construction-related activities and not of a hazardous nature.

16-028(b) (no date)

SWMU 16-028(b) is a former NPDES-permitted outfall (04A092) and associated outlet drainline that served former building 16-370 at TA-16. The outfall is located approximately 50 ft south of former building 16-370. The outlet drainline consists of a 6-in. VCP that exited the northwest side of former building 16-370 and discharged at the rim of Water Canyon. The outfall formerly received effluent from 29 floor drains, an eyewash station, a drinking fountain, a sink, and noncontact treated cooling water. Building 16-370 was constructed in 1953 as a barium nitrate–grinding facility. In the late 1950s, the building was converted to a metal-forming shop for steel and aluminum. Materials potentially present in discharges to the drains include barium compounds, metal chips, oils, kerosene, and trichloroethylene. HE were not used in building 16-370 due to explosive hazard posed by grinding and machining activities. All drains that discharged to the outfall were plugged in the 1990s. The outfall was removed from the NPDES permit effective January 14, 1998. Building 16-370 was removed in 2000.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 206-1.

Table 206-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
16-016(g)	Surface disposal area	Metals, aluminum, barium, nitrate
16-028(b)	Outfall from building 16-370	Metals, nitrate, PAHs

206.2 Control Measures

All active control measures in use at W-SMA-8 are listed in Table 206-2. Their locations are shown on the project map (Figure 206-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 206-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01102040009	Established Vegetation	-	X	X	-	B	5-7-2013
W01103010012	Earthen Berm	X	-	-	X	EC	12-22-2014
W01103010013	Earthen Berm	X	-	-	X	EC	12-22-2014
W01103010014	Earthen Berm	X	-	-	X	EC	12-22-2014
W01103010015	Earthen Berm	X	-	-	X	EC	12-22-2014
W01103040010	Asphalt Berm	X	-	X	-	EC	12-22-2014
W01106010006	Rock Check Dam	X	-	-	X	CB	11-17-2009
W01106010011	Rock Check Dam	X	-	-	X	B	12-22-2014
W01106010016	Rock Check Dam	-	X	-	X	EC	12-22-2014

206.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-8 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 206-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 206-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93231[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93776	7-4-2022	0.33	7-11-2022	7	Yes
BMP-94322	7-20-2022	0.34	7-25-2022	5	Yes
BMP-94746[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

206.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 12, 2013. Analytical results from this sample yielded TAL exceedances for aluminum (823 µg/L) and copper (28.1 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at W-SMA-8 under the 2010 IP requirements from March 24 through October 26, 2022, resulting in a monitoring season of 217 days. Eight inspections were performed during the monitoring period and are summarized in Table 206-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 206-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91665	4-14-2022	No	None	None
SMPLR-92021	5-18-2022	No	None	None
SMPLR-92477	6-13-2022	No	None	None
SMPLR-92824	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93468	8-10-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95339	9-19-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-96016	10-18-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96433	10-26-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

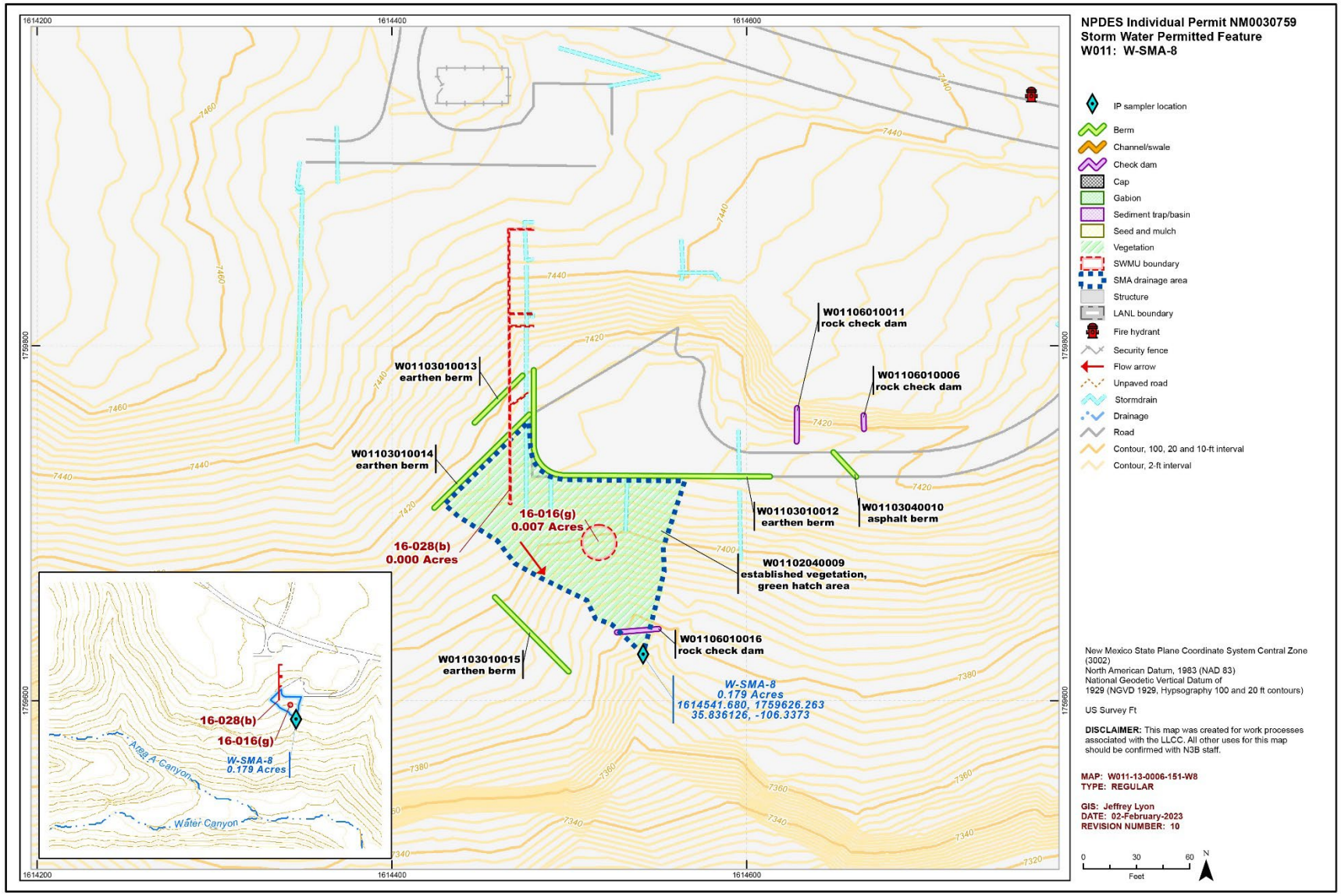

Figure 206-1 W-SMA-8 location map

207.0 W-SMA-8.7: SWMUs 13-001, 13-002, 16-004(a), 16-026(j2), 16-029(h), and 16-035

Six historical industrial activity areas, Sites 13-001, 13-002, 16-004(a), 16-026(j2), 16-029(h), and 16-035, are associated with W-SMA-8.7 (permitted feature W012). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

207.1 Site Descriptions

13-001 (11/26/2019)

SWMU 13-001 is an inactive firing site located east of former building 16-340, between battleship bunker buildings 16-477 and 16-478 at eastern end of TA-16. The firing site was associated with firing activities conducted at P-Site (former TA-13) and operated from 1944 to 1949. The battleship bunker buildings 16-477 and 16-478 housed x-ray and magnetic equipment and were capped with steel nose cones to protect this equipment from explosive detonations that occurred at the firing site between the two bunkers. Debris from firing site experiments includes shrapnel and debris, including firing cables, lead balls, and chunks of steel and copper.

13-002 (11/26/2019)

SWMU 13-002 is an inactive surface disposal area located east of former building 16-340, and south and east of the SWMU 13-001 firing point at eastern end of TA-16. The disposal area contains debris and shrapnel associated with firing activities conducted at P-Site (former TA-13) and based on a 1948 aerial photograph, the site includes the two battleship bunkers (buildings 16-477 and 16-478) and extends approximately 500 ft south of the SWMU 13-001 firing point. A portion of the former TA-16 WWTP [SWMUs 16-004(b, c, and d)] is located on top of the southern end of the surface disposal area. The SWMU 13-001 firing site was decommissioned in 1949. It is not known if contaminated materials were removed from SWMU 13-002 at the time of the firing site decommissioning.

16-004(a) (11/26/2019)

SWMU 16-004(a) is the inactive Imhoff tank (structure 16-530) that was used for sewage treatment at the former sanitary WWTP at TA-16. The concrete structure is approximately 18 ft × 35 ft × 22 ft deep, with nine interconnected compartments that served as settling boxes, with a total area of 700 ft^2. Located southeast of the former 16-340 Complex and 15 ft north of the communitor (a cutting device for sewage solids), the Imhoff tank received solids that the communitor had shredded into fine particles. In addition to functioning as a settling box, the tank also offered some sludge digestion capability. Effluent from the boxes flowed over a weir into a dosing siphon. Any sludge that may have collected in the tank was digested before being discharged to drying beds [SWMUs 16-004(d) and 16-004(f)]. The Imhoff tank also had an emergency overflow pipe that discharged onto the slope northeast of the tank. The TA-16 WWTP began operations in 1952 and was decommissioned in 1992 when the sanitary sewer system was connected to a Laboratory-wide system. There is no evidence that this tank has ever leaked, and a site inspection in October 2014 revealed that the tank contains water.

16-026(j2) (6/19/2017)

SWMU 16-026(j2) is the former outfall for a former HE sump [SWMU 16-029(f)] associated with former building 16-345, an HE rest house that served as a storage facility for building 16-340. The sump received wash-down water from cleaning activities in former building 16-345. Waste in the effluent

consisted primarily of HE. The sump was connected to a 6-in. VCP that discharged to the SWMU 16-026(j2) outfall that was not visible on the ground surface. This outfall was located southeast of building 16-345. The sump removed suspended solids from wash-down water before it was discharged to the outfall. HE fines were collected in a cloth filter bag and secured inside a metal filter basket. The baskets and filter bags were periodically removed and taken to the TA-16 basket-washing facility for cleaning. HE fines too small to collect in the filter bags settled to the bottom of the sump. To help separate the suspended solids, the water flowed under an aluminum baffle and over a concrete weir before it discharged to the outfall. HE fines in the bottom of the sump were periodically removed and burned.

Building 16-345, the sump, and drainlines were decommissioned in 1999 and underwent D&D in 2004 and 2005.

16-029(h) (11/26/2019)

SWMU 16-029(h) consists of a former NPDES-permitted outfall and two inactive drainlines (one known and one alleged) from an inactive HE sump [AOC 16-003(p)] located on the south side of former structure 16-478 at TA-16. The known drainline exits the southeast corner of the sump and extends 80 ft east of the sump to the rim of Cañon de Valle. This 6-in. VCP drainline discharged directly into Cañon de Valle before it was plugged in 1987. A second drainline possibly existed until the late 1960s and reportedly was a French drain that extended approximately 125 ft south of the sump. It was believed to be an 8-in. CI pipe connected to an 8-in. VCP that intersected a drainage channel. Former structure 16-478 was used as a bunker, utility room, control room, and high-speed machining room for tests on experimental HE. When structure 16-478 was removed in 2005, the sump was left in place. During Phase I Consent Order investigation activities conducted in 2010, no evidence of the French drain was found.

SWMU 16-029(h) was identified as an HE sump (structure 16-487) in the 1990 SWMU Report. The SWMU Report identified this sump twice: once as an inactive HE sump designated as SWMU 16-029(h) and also as an active HE sump designated as AOC 16-003(p). Addendum 2 to the OU 1082 Work Plan redefined SWMU 16-029(h) to be the drainlines and outfall associated with the sump adjacent to former structure 16-478. Currently, the boundary of SWMU 16-029(h) is adjacent to, and receives runoff from, an old paved roadway and parking area associated with former structure 16-478 and also includes areas impacted by the 2000 Cerro Grande wildfire.

16-035 (2/5/2020)

SWMU 16-035 is an area of potential soil contamination associated with a former control bunker (former structure 13-2 renumbered to 16-476), located approximately 200 ft east of former building 16-340 within former TA-13 and SWMU 13-001 at TA-16. The control bunker was one of several structures constructed at former TA-13 in 1944 to support the Manhattan Project. It was principally designed as a site for counter x-ray diagnostics of HE lens configurations. Between 1950 and 1999, former building 16-476 was used for a variety of LANL activities including operating counter x-ray equipment, HE assembly, and research in the magnetic method program. The control bunker was removed during D&D activities in 2005.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 207-1.

Table 207-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
13-001	Firing site	Beryllium, copper, lead, steel, HE, uranium
13-002	Surface disposal area	Metals, beryllium, lead, steel, HE, polonium, uranium
16-004(a)	Imhoff tank	Inorganic and organic chemicals, radionuclides
16-026(j2)	Outfall	HE, aluminum
16-029(h)	Drainlines and outfall	HE, uranium, niobium
16-035	Soil contamination	Metals, beryllium, HE, polonium, uranium

207.2 Control Measures

All active control measures in use at W-SMA-8.7 are listed in Table 207-2. Their locations are shown on the project map (Figure 207-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 207-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01202040011	Established Vegetation	-	X	X	-	B	5-3-2013
W01203060010	Straw Wattle	-	X	-	X	CB	9-30-2010
W01206010006	Rock Check Dam	-	X	-	X	CB	12-2-2009
W01206010007	Rock Check Dam	-	X	-	X	CB	12-2-2009
W01206010008	Rock Check Dam	X	-	-	X	CB	12-1-2009

207.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-8.7 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 207-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 207-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93232[a,b]	6-25-2022 7-4-2022	0.47 0.33	7-7-2022	12 3	Yes Yes
BMP-94323	7-20-2022	0.34	7-25-2022	5	Yes
BMP-94747[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

207.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 12, 2013. Analytical results from this sample yielded a TAL exceedance for aluminum (1920 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was not conducted at W-SMA-8.7 in 2022 under the 2010 IP requirements.

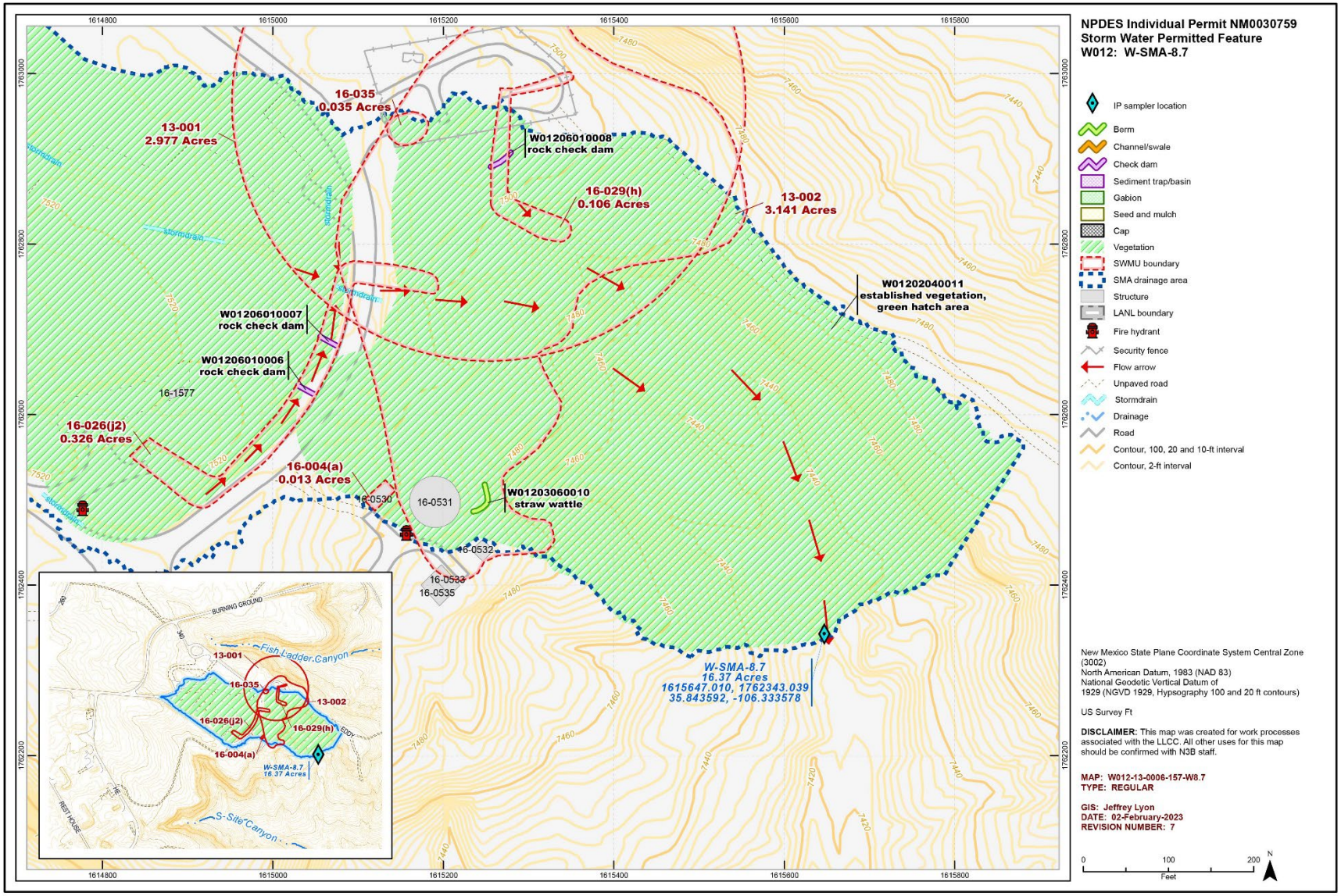

Figure 207-1 W-SMA-8.7 location map

208.0 W-SMA-8.71: SWMU 16-004(c)

One historical industrial activity area, Site 16-004(c), is associated with W-SMA-8.71 (permitted feature W012A). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

208.1 Site Descriptions

16-004(c) (11/26/2019)

SWMU 16-004(c) is the inactive clarifier or final tank (structure 16-532) used for sewage treatment at the former sanitary WWTP at TA-16. The structure is approximately 20 ft × 20 ft concrete box located approximately 45 ft below and southeast of the trickling filter [SWMU 16-004(b)], with a total area of 400 ft^2. The clarifier received discharges from the trickling filter; water flowed through an outlet in the clarifier and discharged through an 8-in. CMP to a metering concrete outfall box, and then to formerly NPDES-permitted outfall EPA SSS03S, which discharged to a tributary of Water Canyon. At full capacity, structure 16-532 could manage 117,600 gal./day. The TA-16 WWTP began operations in 1952 and was decommissioned in 1992 when the sanitary sewer system was connected to a Laboratory-wide system. The clarifier has been inactive since 1992.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 208-1.

Table 208-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-004(c)	Tank	Inorganic and organic chemicals, radionuclides

208.2 Control Measures

All active control measures in use at W-SMA-8.71 are listed in Table 208-2. Their locations are shown on the project map (Figure 208-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 208-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W012A02040006	Established Vegetation	-	X	X	-	B	5-3-2013
W012A03010005	Earthen Berm	X	-	-	X	EC	11-6-2012
W012A03010007	Earthen Berm	-	X	-	X	EC	7-13-2015
W012A03060008	Straw Wattle	-	X	-	X	B	8-17-2015
W012A03060009	Straw Wattle	-	X	-	X	B	8-17-2015

208.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-8.71 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 208-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 208-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93244[a]	6-25-2022	0.47	7-1-2022	6	Yes
BMP-93789	7-4-2022	0.33	7-14-2022	10	Yes
BMP-94335[b]	7-20-2022 7-27-2022	0.34 0.35	7-29-2022	9 2	Yes Yes
BMP-94989	7-30-2022	0.56	8-10-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

208.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on August 21, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (15.8 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-8.71, a corrective-action stormwater sample was collected on September 13, 2013. Analytical results from this corrective-action monitoring sample yielded TAL exceedances for copper (19.8 µg/L), mercury (1.51 µg/L), and zinc (55.4 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at W-SMA-8.71 under the 2010 IP requirements from March 29 through October 25, 2022, resulting in a monitoring season of 211 days. Five inspections were performed during the monitoring period and are summarized in Table 208-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 208-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91707	6-2-2022	No	None	None
SMPLR-92713	7-1-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022 6-30-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15
SMPLR-93599	8-15-2022	No	7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022 8-11-2022	0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91 0.24/0.25
SMPLR-95444	9-28-2022	No	8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022 9-20-2022 9-22-2022	0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17 0.12/0.17 0.2/0.22
SMPLR-96153	10-25-2022	No	10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

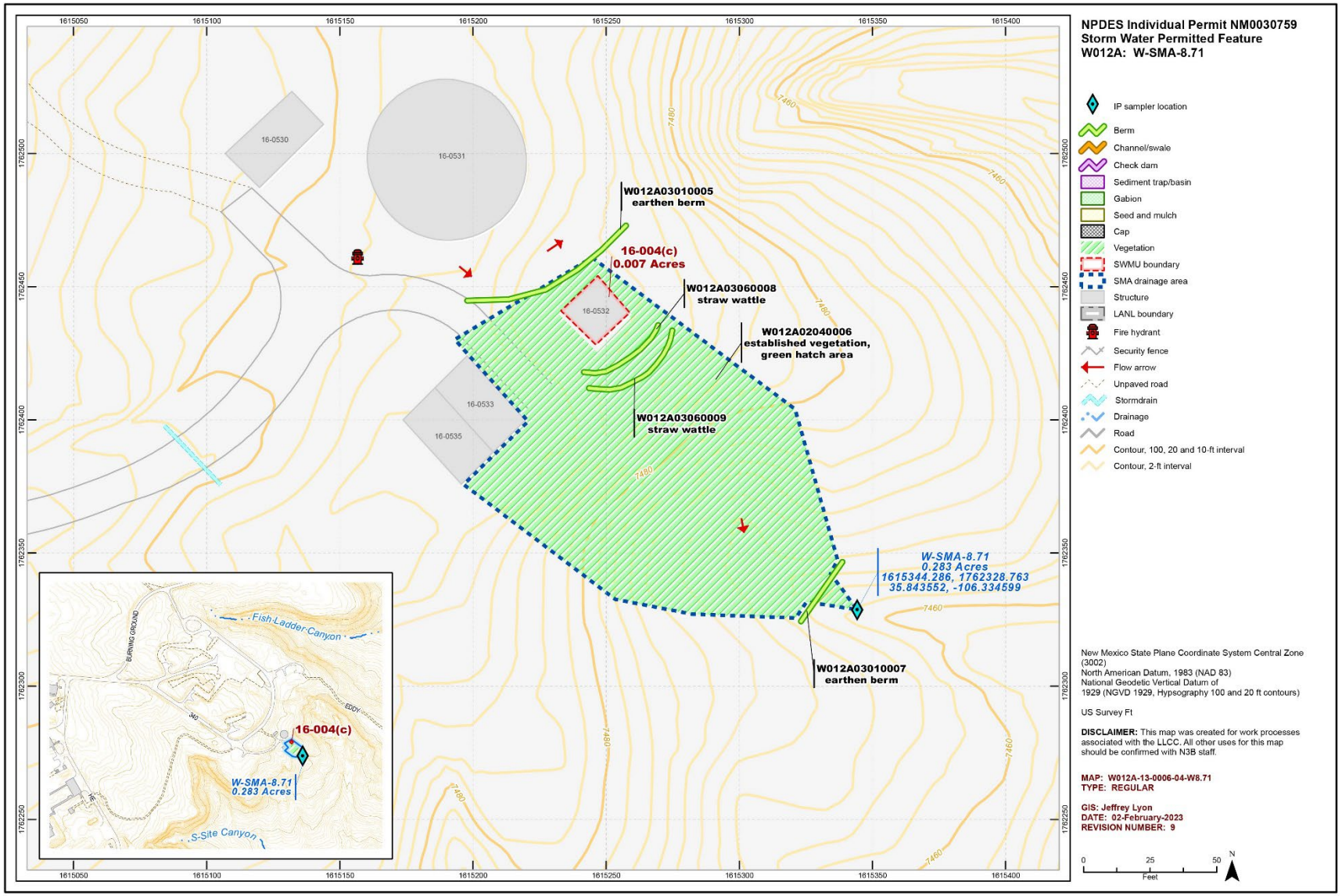

Figure 208-1 W-SMA-8.71 location map

209.0 W-SMA-9.05: AOC 16-030(g)

One historical industrial activity area, Site 16-030(g), is associated with W-SMA-9.05 (permitted feature W013). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

209.1 Site Descriptions

16-030(g) (3/21/2019)

AOC 16-030(g) is a former NPDES-permitted outfall (05A052) and associated drainlines located adjacent to the southeast corner of building 16-380 in the eastern portion of TA-16. The outfall received effluent from a HE sump [SWMU 16-003(m)], two roof drains, a steam-heating system, and a drop inlet from a parking lot and discharged to Water Canyon. Building 16-380 was originally used to inspect raw HE powder brought into TA-16 and was later used to store ammunition for LANL security forces. From 1952 to the early 1990s, the sump received washdown water from building cleaning activities containing HE. Discharges from the sump ceased in 1993 when the outlet from the sump was plugged; the outfall was subsequently removed from the LANL NPDES permit effective June 24, 1994. The sump and the steam-heating system discharge lines have been plugged, and the outfall currently receives only roof drain and parking lot runoff. In 2010, building 16-380 was being used to store ammunition for LANL security forces.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 209-1.

Table 209-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
16-030(g)	Outfall from building 16-380	HE

209.2 Control Measures

All active control measures in use at W-SMA-9.05 are listed in Table 209-2. Their locations are shown on the project map (Figure 209-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 209-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01302040013	Established Vegetation	-	X	X	-	B	5-7-2013
W01303010010	Earthen Berm	-	X	-	X	B	11-14-2011
W01303010011	Earthen Berm	-	X	-	X	B	11-14-2011
W01304010004	Earthen Channel/Swale	X	-	X	-	CB	6-1-2009
W01306010001	Rock Check Dam	-	X	-	X	CB	1-1-2000
W01306010012	Rock Check Dam	-	X	-	X	B	11-14-2011

209.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-9.05 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 209-3. All other control-measure inspections conducted at the SMA are summarized in Table 209-4.

LANL managed water-line infrastructure improvements near the SMA that began in 2021 and continued into 2022. SWPP team members continued conducting weekly inspections of controls in areas of potential soil disturbance during these facility-managed activities. A final inspection and evaluation of the area was conducted on June 14, 2022. No changes in condition were observed. No maintenance activities were conducted at the SMA in 2022.

Table 209-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93227[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93773	7-4-2022	0.33	7-11-2022	7	Yes
BMP-94318	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94742[b]	7-27-2022 7-30-2022	0.35 0.56	8-1-2022	5 2	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 209-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-90575	1-6-2022	Construction related control measures in place but need maintenance. No impacts to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-90628	1-11-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-90659	1-19-2022	
Remediation Construction Compliance Inspection	COMP-90884	1-25-2022	
Remediation Construction Compliance Inspection	COMP-90988	2-1-2022	
Remediation Construction Compliance Inspection	COMP-91046	2-8-2022	
Remediation Construction Compliance Inspection	COMP-91081	2-15-2022	Construction related control measures have been repaired. No action recommended.
Remediation Construction Compliance Inspection	COMP-91147	2-22-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-91199	3-1-2022	Construction related control measures in place but need maintenance. No impacts to IP controls or Sites.

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-91261	3-8-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-91295	3-15-2022	
Remediation Construction Compliance Inspection	COMP-91506	3-22-2022	
Remediation Construction Compliance Inspection	COMP-91618	3-29-2022	
Remediation Construction Compliance Inspection	COMP-91729	4-5-2022	
Remediation Construction Compliance Inspection	COMP-91890	4-12-2022	
Remediation Construction Compliance Inspection	COMP-91977	4-20-2022	
Remediation Construction Compliance Inspection	COMP-92102	4-26-2022	
Remediation Construction Compliance Inspection	COMP-92207	5-3-2022	
Remediation Construction Compliance Inspection	COMP-92427	5-18-2022	
Remediation Construction Compliance Inspection	COMP-92453	5-24-2022	
Remediation Construction Compliance Inspection	COMP-92542	6-1-2022	
Remediation Construction Compliance Inspection	COMP-92682	6-7-2022	
Remediation Construction Compliance Inspection	COMP-92771	6-14-2022	Closeout inspection. Fill pile has been removed, soil disturbance is complete. No impacts to IP controls or Sites.
TAL Exceedance inspection. MEX sample 2 collected 6/26/22. Analytical data pending, conduct field visit of site condition after sample.	COMP-94146	8-19-2022	No action recommended.

209.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded no TAL exceedances. The complete analytical results are presented in “Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759” (LANL 2014, 254067).

Stormwater monitoring was conducted at W-SMA-9.05 under the 2010 IP requirements from March 24 through June 28, 2022, resulting in a monitoring season of 97 days. Four inspections were performed during the monitoring period and are summarized in Table 209-5. Rain gage RG257 recorded nine rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active.

A second confirmation-monitoring sample was collected on June 26, 2022. Analytical results from this sample yielded a TAL exceedance for copper (4.65 µg/L). The complete analytical results are presented in Appendix B of the Overview. The SIP will be updated in 2023 with the inclusion of 2022 analytical results into the SSD.

Table 209-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91660	4-14-2022	No	None	None
SMPLR-92012	5-18-2022	No	None	None
SMPLR-92473	6-8-2022	No	None	None
SMPLR-92789	6-28-2022	Yes	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022[c] 6-30-2022[c]	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1 0.15/0.15

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

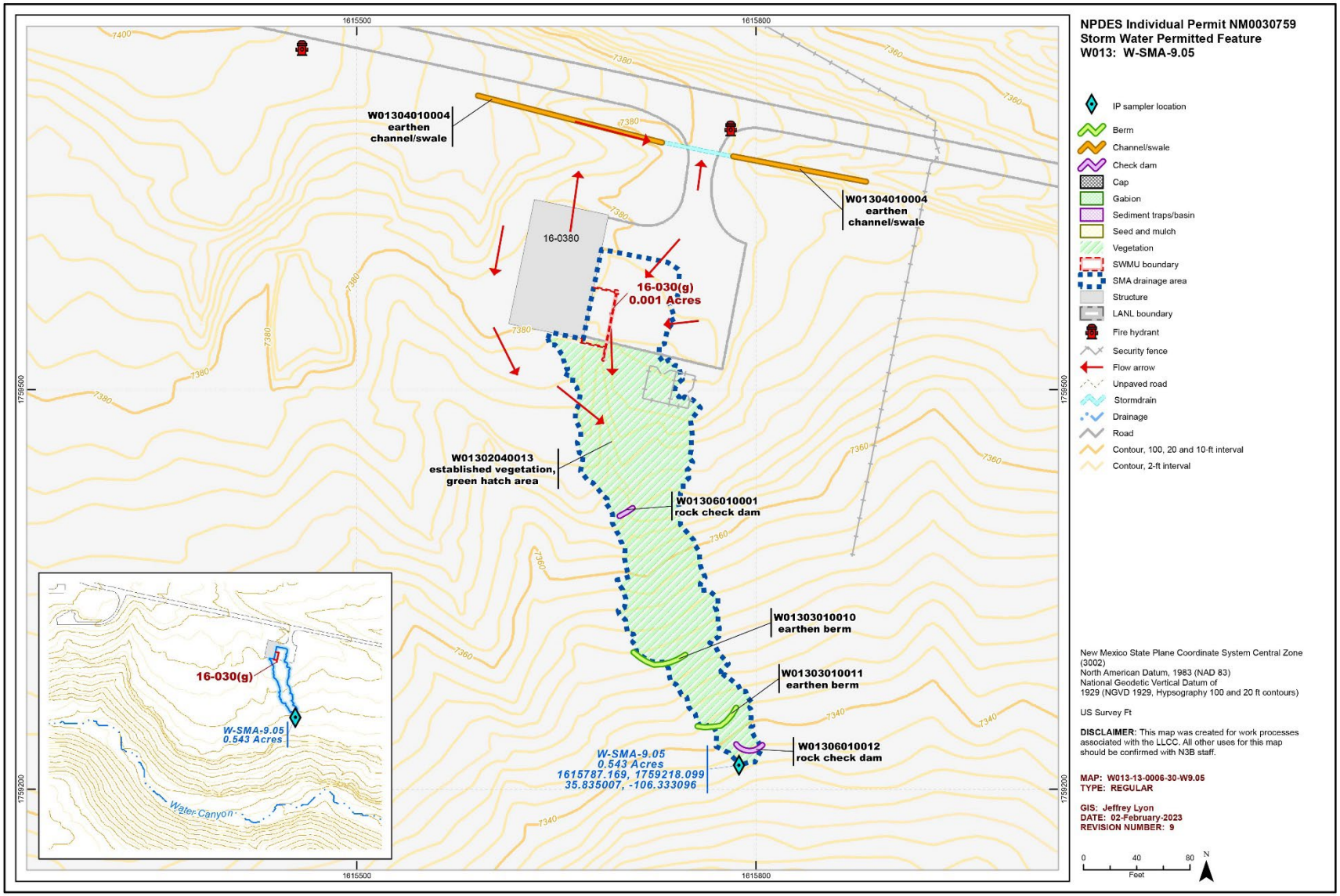

Figure 209-1 W-SMA-9.05 location map

210.0 W-SMA-9.5: AOC 11-012(c)

One historical industrial activity area, Site 11-012(c), is associated with W-SMA-9.5 (permitted feature W014). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

210.1 Site Descriptions

11-012(c) (5/31/2022)

AOC 11-012(c) is an area of potential soil contamination associated with the footprint of former HE storage magazine 11-9 that was located approximately 500 ft west of building 11-4 at TA-11. Constructed of wood, the 16-ft square by 9-ft high HE magazine was built in 1945 and destroyed by intentional burning in 1960. In 1956, a survey of four HE storage magazines, including magazine 11-9, was found to be free of radioactive contamination. A second survey in 1959, again found all four HE magazines free of radioactivity, but did show HE contamination. After burning in 1960, any remaining post-burn combustible materials were segregated and removed to the TA-16 burning ground and burned again. Post-burn non-combustibles were taken to former MDA P [SWMU 16-018] for disposal.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 210-1.

Table 210-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
11-012(c)	Potential soil contamination	HE

210.2 Control Measures

All active control measures in use at W-SMA-9.5 are listed in Table 210-2. Their locations are shown on the project map (Figure 210-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 210-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01403010010	Earthen Berm	-	X	X	X	EC	2-25-2020
W01404060011	Riprap	-	X	X	-	EC	2-25-2020

210.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-9.5 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 210-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 210-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93233[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93778	7-4-2022	0.33	7-12-2022	8	Yes
BMP-94324	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94748[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

210.4 Stormwater Monitoring

Following the installation of baseline control measures and a sampler move to a more representative location, a baseline stormwater sample was collected on June 25, 2017. Analytical results from the sample yielded TAL exceedances for gross-alpha activity (81 pCi/L) and mercury (1.1 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2017, NPDES Permit No. NM0030759" (LANL 2018, 602910).

Stormwater monitoring was conducted at W-SMA-9.5 under the 2010 IP requirements from March 25 through October 31, 2022, resulting in a monitoring season of 221 days. Six inspections were performed during the monitoring period and are summarized in Table 210-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 210-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91675	4-20-2022	No	None	None
SMPLR-92174	6-8-2022	No	None	None
SMPLR-92793	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93470	8-9-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
			7-26-2022	0.1/0.24
			7-27-2022	0.35/0.46
			7-29-2022	0.11/0.25
			7-30-2022	0.56/0.94
			7-31-2022	0.16/0.38
			8-1-2022	0.05/0.12
			8-6-2022	0.36/0.91
SMPLR-95312	9-16-2022	No	8-11-2022	0.24/0.25
			8-16-2022	0.09/0.25
			8-18-2022	0.06/0.17
			8-19-2022	0.08/0.22
			8-20-2022	0.05/0.33
			8-21-2022	0.19/0.22
			8-22-2022	0.09/0.15
			9-9-2022	0.08/0.17
SMPLR-95932	10-31-2022	No	9-20-2022	0.12/0.17
			9-22-2022	0.2/0.22
			10-2-2022	0.14/0.42
			10-3-2022	0.14/0.21
			10-4-2022	0.05/0.18
			10-15-2022	0.18/1.06
			10-16-2022	0.06/0.23
			10-17-2022	0.05/0.13

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

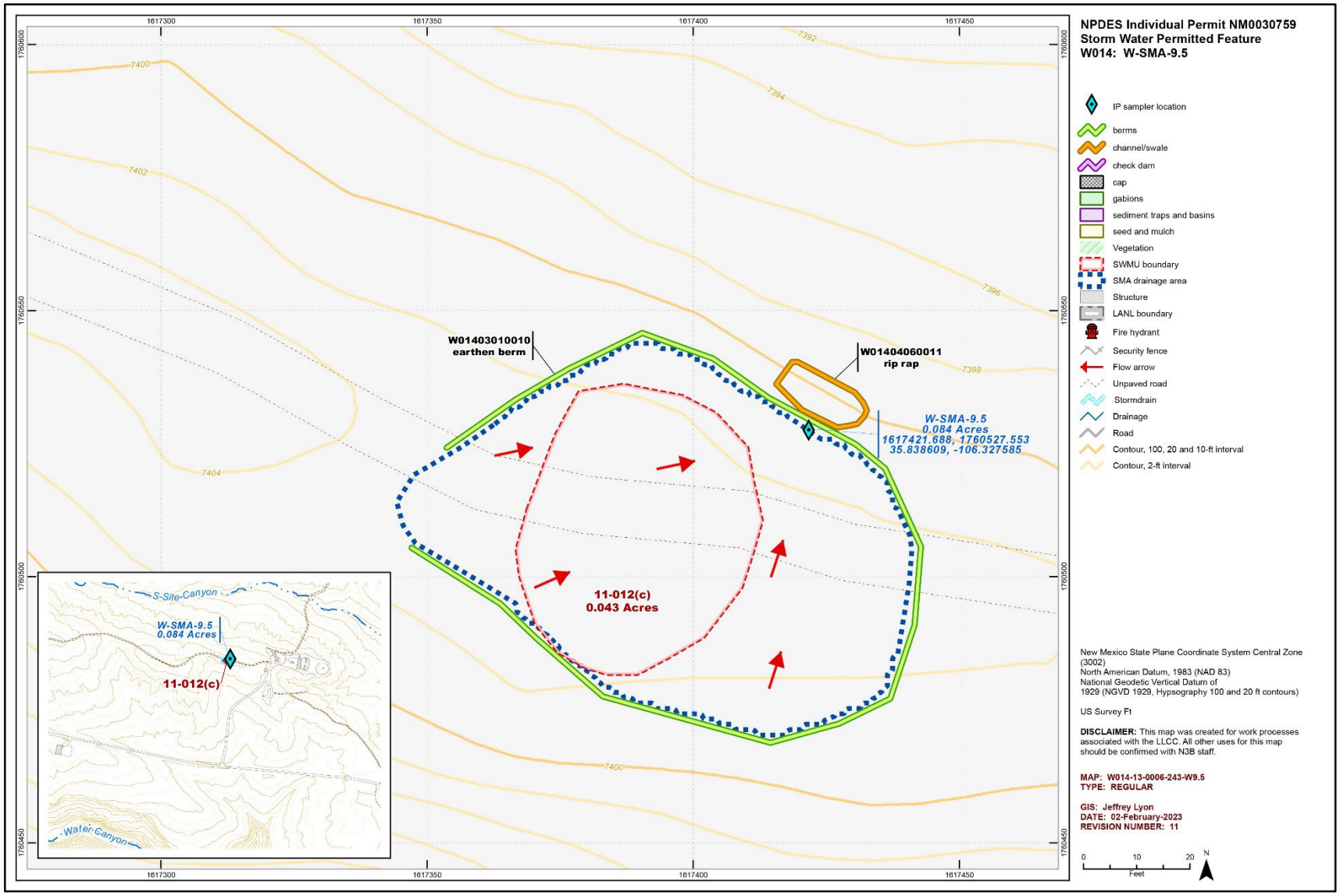

Figure 210-1 W-SMA-9.5 location map

211.0 W-SMA-9.7: SWMUs 11-011(a) and 11-011(b)

Two historical industrial activity areas, Sites 11-011(a) and 11-011(b), are associated with W-SMA-9.7 (permitted feature W015). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

211.1 Site Descriptions

11-011(a) (9/3/2019)

SWMU 11-011(a) is an inactive drainline and former NPDES-permitted outfall (EPA 03A130) located north of the K-Site complex and approximately 6 ft northeast of the Electrodynamics Vibration Test Facility (building 11-30) at TA-11. An insulated 2-in. pipe received cooling water blowdown from a cooling tower and deionized water from floor drains in from building 11-30A (an adjunct of building 11-30). The drainline discharged northward to an outfall in a drainage channel that flowed to a tributary of Water Canyon. The outfall became inactive following removal of the water-cooled equipment in building 11-30 and was removed from the NPDES permit during the 2013 permit renewal.

11-011(b) (9/6/2019)

SWMU 11-011(b) is an inactive 3-in.-diameter outlet drainline and outfall located north of the Electrodynamics Vibration Test Facility (building 11-30) at TA-11. The 3-in.-diameter outlet drainline extends about 10 ft beyond the side of a hill to the outfall. The outfall received discharge from floor drains in building 11-30 from the early 1960s until the early 1990s. A sink drain that formerly discharged to the outfall was removed prior to 1990. A 1992 wastewater characterization report prepared by Santa Fe Engineering stated discharges from two floor drains in building 11-30 consisted of deionized water and residual HE potentially released from containers processed on shakers in the building. The report recommended the outlet drainline be plugged; the drainline was subsequently plugged.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 211-1.

Table 211-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
11-011(a)	Outfall	Naturally occurring metals concentrated by evaporation; copper, cyanide
11-011(b)	Outfall	HE

211.2 Control Measures

All active control measures in use at W-SMA-9.7 are listed in Table 211-2. Their locations are shown on the project map (Figure 211-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 211-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01502040008	Established Vegetation	-	X	X	-	B	5-7-2013
W01503060018	Straw Wattle	-	X	-	X	B	8-18-2015
W01503060022	Straw Wattle	X	-	-	X	B	9-28-2021
W01503100017	Gravel Bags	X	-	-	X	B	10-28-2014
W01503140020	Coir Log	X	-	-	X	B	7-13-2017
W01506030004	Juniper Bales	X	-	-	X	CB	12-1-2009
W01506030005	Juniper Bales	X	-	-	X	CB	12-1-2009

211.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-9.7 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 211-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 211-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93246[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93791	7-4-2022	0.33	7-12-2022	8	Yes
BMP-94337	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94761[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

211.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 13, 2013. Analytical results from this sample yielded a TAL exceedance for copper (9.74 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 54067).

Stormwater monitoring was not conducted at W-SMA-9.7 in 2022 under the 2010 IP requirements.

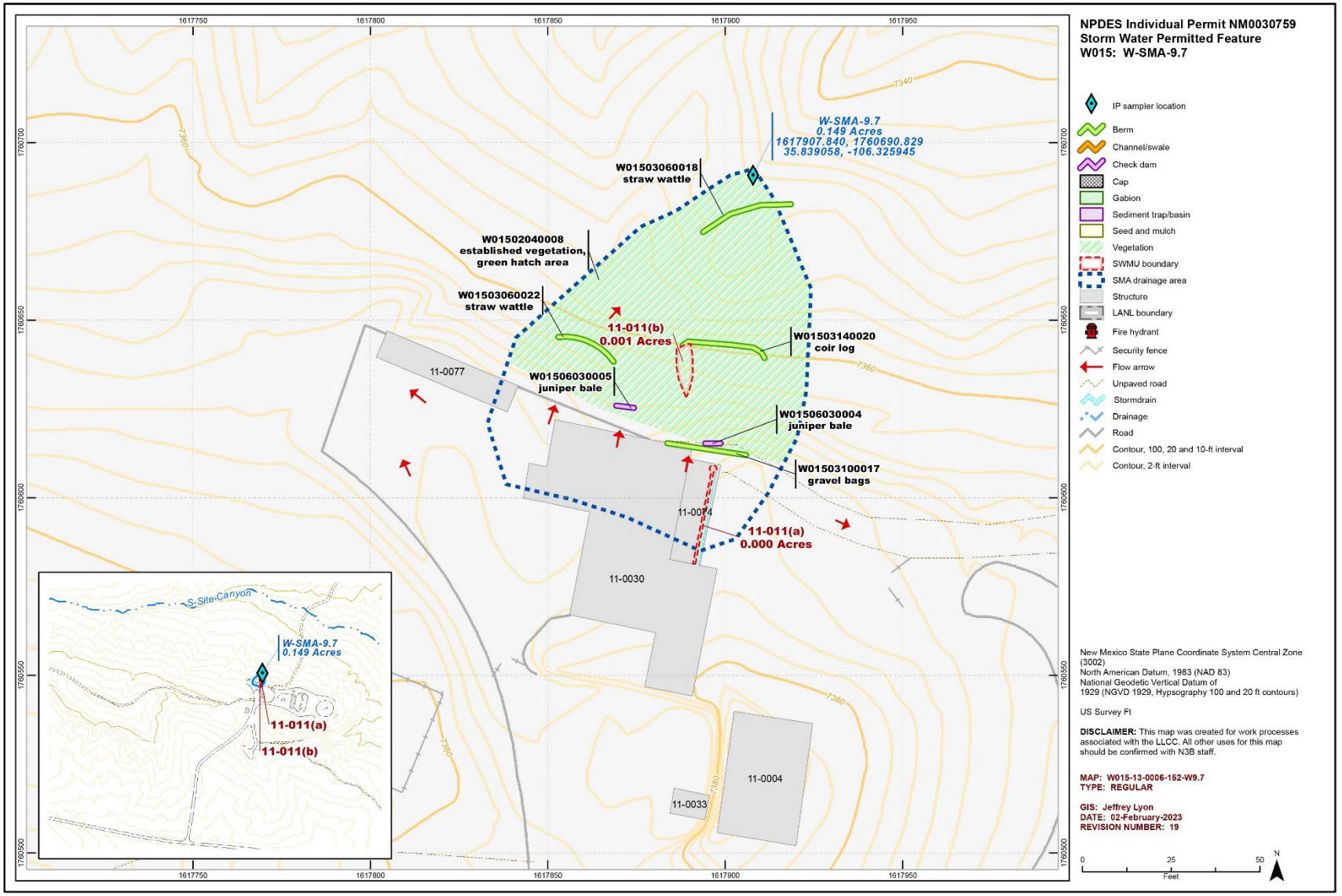

Figure 211-1 W-SMA-9.7 location map

212.0 W-SMA-9.8: SWMU 11-005(c)

One historical industrial activity area, Site 11-005(c), is associated with W-SMA-9.8 (permitted feature W016). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

212.1 Site Descriptions

11-005(c) (9/3/2019)

SWMU 11-005(c) is an inactive outlet drainline and outfall and located approximately 50 ft north of building 11-2 at TA-11. The drainline was installed in 1944 and received discharges from a sink, hot water heater, and floor drain in building 11-2. The outfall discharged to a slightly sloped area consisting of fill from an adjacent roadbed. The outlet drainline from building 11-2 was capped before the drop tower complex was constructed in 1956. Building 11-2 was used as a control room for the drop tower and is currently vacant.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 212-1.

Table 212-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
11-005(c)	Outfall	Inorganic chemicals, plutonium, uranium

212.2 Control Measures

All active control measures in use at W-SMA-9.8 are listed in Table 212-2. Their locations are shown on the project map (Figure 212-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 212-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01602040012	Established Vegetation	-	X	X	-	B	5-7-2013
W01603020007	Base Course Berm	X	-	-	X	CB	7-28-2009
W01603140013	Coir Log	-	X	-	X	B	9-21-2021

212.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-9.8 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 212-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 212-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93247[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93792	7-4-2022	0.33	7-12-2022	8	Yes
BMP-94338	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94762[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

212.4 Stormwater Monitoring

Through calendar year 2022, Stormwater flow has not been sufficient for full-volume sample collection at W-SMA-9.8.

Stormwater monitoring was conducted at W-SMA-9.8 under the 2010 IP requirements from March 25 through November 9, 2022, resulting in a monitoring season of 230 days. Seven inspections were performed during the monitoring period and are summarized in Table 212-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 212-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91667	4-20-2022	No	None	None
SMPLR-92163	6-8-2022	No	None	None
SMPLR-92787	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93452	8-9-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95308	9-16-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17
SMPLR-95925	10-18-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96402	11-9-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

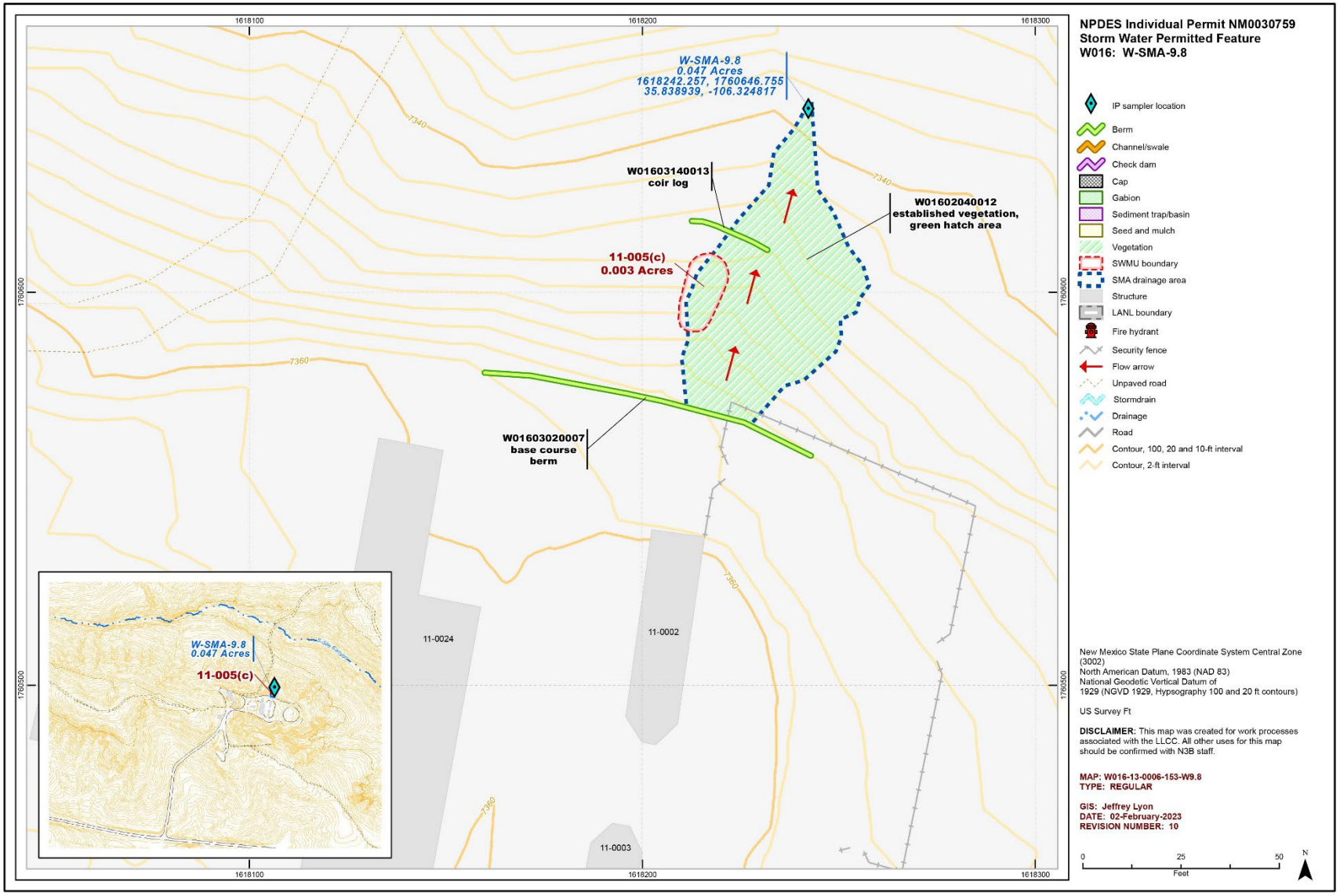

Figure 212-1 W-SMA-9.8 location map

213.0 W-SMA-9.9: SWMU 11-006(b)

One historical industrial activity area, Site 11-006(b), is associated with W-SMA-9.9 (permitted feature W017). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

213.1 Site Descriptions

11-006(b) (2/5/2020)

SWMU 11-006(b) is one of three inactive HE catch basins and a former NPDES-permitted outfall (EPA 05A069) located on the north side of the former drop-tower complex [SWMUs 11-004(a-f)] at TA-11. The SWMU 11-006(b) catch basin consists of a concrete basin (structure 11-50) measuring 6 ft × 4 ft × 2 ft deep, equipped with an overflow drain, and a former NPDES-permitted outfall (EPA 05A069). Historically, following a drop test of an experiment containing HE, DU, and potentially small quantities of beryllium, the concrete pad and asphalt apron at the base of the former drop tower were washed down to remove residual HE not detonated upon impact. SWMU 11-006(b) received washdown water from the concrete pad and asphalt apron at the base of the former drop tower via an HE sump [SWMU 11-006(a)]. Any HE particles remaining in the washdown water after it exited the sump were further filtered out in the catch basin. After exiting the catch basin, the remaining washdown water was channeled to a drainage and the NPDES-permitted outfall on the northeast side of the catch basin, which discharged into Water Canyon. Waste HE collected from the catch basin was disposed of at the TA-16 burning ground. The outfall was removed from the LANL NPDES permit in May 1998 after drop tower activities ceased. In 2002, the sump and catch basins were pumped and any associated debris was treated at the HEWTF.

The drop tower underwent D&D and was removed in 2004. Currently, the catch basin is capped and sealed; however, the outfall still receives storm-water runoff. Any runoff collected on the concrete pad and asphalt apron is now diverted to the other two catch basins associated with the former drop-tower complex [SWMUs 11-006(c) and 11-006(d)].

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 213-1.

Table 213-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
11-006(b)	Catch basin	Beryllium, HE, uranium

213.2 Control Measures

All active control measures in use at W-SMA-9.9 are listed in Table 213-2. Their locations are shown on the project map (Figure 213-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 213-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01702040022	Established Vegetation	-	X	X	-	B	5-7-2013
W01703010017	Earthen Berm	X	-	-	X	EC	11-14-2011
W01703010018	Earthen Berm	-	X	-	X	EC	11-14-2011
W01703010019	Earthen Berm	-	X	-	X	EC	11-14-2011
W01703010020	Earthen Berm	-	X	-	X	EC	11-14-2011
W01703090001	Curbing	X	-	-	X	CB	1-1-2000
W01703110023	Eco-Block	X	-	-	X	B	4-19-2019

213.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at W-SMA-9.9 during the 2022 season, requiring four post-storm inspections, which are summarized in Table 213-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 213-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93248[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93805	7-4-2022	0.33	7-12-2022	8	Yes
BMP-94349	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94763[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

213.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on August 21, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (962 µg/L) and gross-alpha activity (95.9 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-9.9, a corrective-action stormwater sample was collected on September 13, 2013. Analytical results from this corrective-action monitoring sample yielded a TAL exceedance for gross-alpha activity (74.4 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067).

Stormwater monitoring was conducted at W-SMA-9.9 under the 2010 IP requirements from March 25 through November 9, 2022, resulting in a monitoring season of 230 days. Seven inspections were performed during the monitoring period and are summarized in Table 213-4. Rain gage RG257 recorded 38 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022 and no sampling operability issues were encountered.

Table 213-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91668	4-20-2022	No	None	None
SMPLR-92164	6-8-2022	No	None	None
SMPLR-92788	6-28-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.33 0.13/0.25 0.04/0.2 0.08/0.18 0.12/0.68 0.47/1.52 0.24/1.79 0.06/0.1
SMPLR-93453	8-9-2022	No	6-30-2022 7-1-2022 7-2-2022 7-4-2022 7-20-2022 7-21-2022 7-24-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-1-2022 8-6-2022	0.15/0.15 0.16/0.71 0.05/0.13 0.33/0.79 0.34/0.45 0.09/0.16 0.11/0.15 0.1/0.24 0.35/0.46 0.11/0.25 0.56/0.94 0.16/0.38 0.05/0.12 0.36/0.91
SMPLR-95309	9-16-2022	No	8-11-2022 8-16-2022 8-18-2022 8-19-2022 8-20-2022 8-21-2022 8-22-2022 9-9-2022	0.24/0.25 0.09/0.25 0.06/0.17 0.08/0.22 0.05/0.33 0.19/0.22 0.09/0.15 0.08/0.17

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95924	10-18-2022	No	9-20-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.17 0.2/0.22 0.14/0.42 0.14/0.21 0.05/0.18 0.18/1.06 0.06/0.23 0.05/0.13
SMPLR-96401	11-9-2022	No	None	None

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

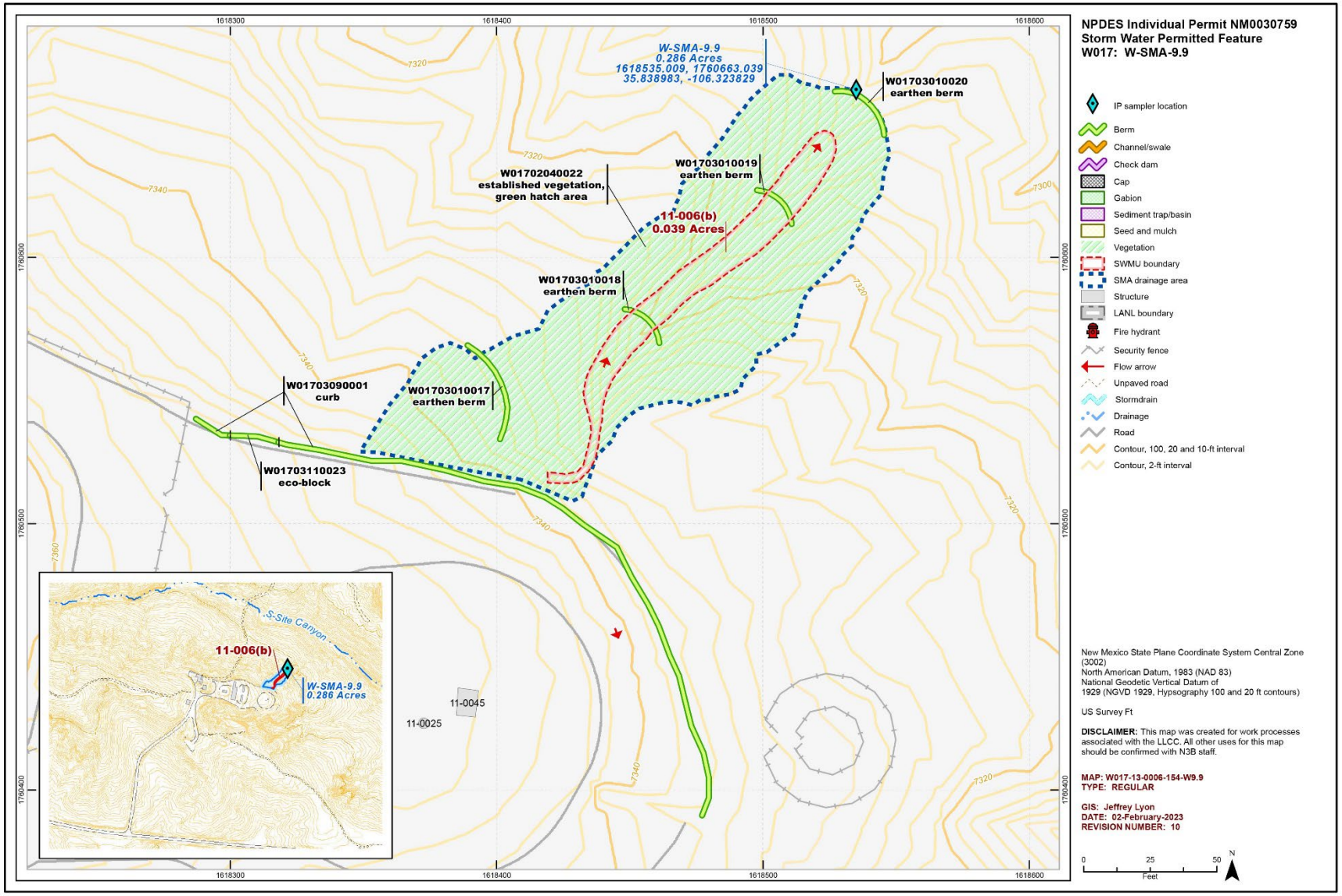

Figure 213-1 W-SMA-9.9 location map

214.0 W-SMA-10: SWMUs 11-002, 11-005(a), 11-005(b), 11-006(c), 11-006(d), and 11-011(d) and AOC 11-003(b)

Seven historical industrial activity areas, Sites 11-002, 11-003(b), 11-005(a), 11-005(b), 11-006(c), 11-006(d), and 11-011(d), are associated with W-SMA-10 (permitted feature W018). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

214.1 Site Descriptions

11-002 (5/31/2022)

SWMU 11-002 is an inactive open burning area that consisted of two sand pads located east of the former TA-11 drop tower (former structure 11-25) at the edge of the asphalt apron at TA-11. The 1990 SWMU Report describes the former burn site as a 10-ft × 10-ft area where two former sand burn pads were located. The July 1993 RCRA RFI Work Plan for OU 1082 indicates the open burn area measured 30 ft in diameter. Beginning in 1948, this area was used as an experimental burning area for components on or in assembled configurations with HE, propellants, and jet fuel. HE and propellant burns were conducted directly on the sand pads, and jet fuel was burned within an open-top steel containment tank. In 1975, a burn test involving thorium was performed at the site. Wastes burned at the site contained uranium-238 and HE-contaminated materials. Infrequent burning activities continued through 1992.

11-003(b) (5/31/2022)

AOC 11-003(b) is a former mortar impact area used as a target associated with the decommissioned air gun facility (building 11-24) located immediately adjacent to the inactive drop tower complex at TA-11 (K-Site). The air gun facility was completed in 1956. The gun had a 24-in. bore and an overall length of 96 ft and was used to launch experimental packages into targets located south of building 11-24. The targets, located 150 ft to 250 ft south of building 11-24, were 12-ft × 12-ft × 12-in.-thick concrete slabs set in line with the gun bore. Firing into the targets tested various weapons packages designed to withstand extremes of acceleration and deceleration. Some devices contained HE and DU. Interviews with site personnel who worked at the air-gun facility indicated the outer payload envelope was never compromised, which was concurred by OU 1082 personnel after review of post-shot target/projectile photographs. On a single occasion in 1972, during an impact test involving an inert mockup consisting of a 12-in.-diameter, hollow-steel sphere filled with steel or lead ball bearings suspended in a graphite matrix, the sphere fractured upon impact, potentially leaving behind 0.5-in.-diameter steel or lead balls.

11-005(a) (9/3/2019)

SWMU 11-005(a) is an active septic system located at approximately 70 ft southwest of building 11-24 at TA-11. The septic system began operation in 1944 and consists of inlet drainlines from buildings 11-1 and 11-4, a 500-gal. capacity concrete septic tank (structure 11-20) that discharged to an open-joint tile drainline in a rock-filled trench that extends to an outfall on a sloped area to the south of the septic tank. Building 11-1 was originally used as a control building for the Betatron Facility (building 11-2) and the Cloud Chamber (building 11-3), and building 11-4 was historically used as a machine shop and photo-processing facility. A memorandum from 1950 indicated a mercury spill occurred in building 11-4; however, the location, source, and extent of the spill are unknown.

Building 11-1 is currently a storage area for electrical equipment and building 11-4 is currently the control building for the Vibration-Test Facility (building 11-30). The drainline from building 11-1 has been plugged. Currently, only a restroom in building 11-4 discharges to the SWMU 11-005(a) septic tank. The outlet drainline from SWMU 11-005(a) was plugged in 1992; since that time, the septic tank has been pumped out on a regular basis.

11-005(b) (9/3/2019)

SWMU 11-005(b) is an active septic system located approximately 70 ft south of building 11-3 at TA-11. The septic system began operation in 1963 and consists of inlet drainlines from a restroom on the exterior of building 11-3 and building 11-24, a concrete septic tank (structure 11-43), an outlet drainline to an outfall south of the septic tank, and a drain field west of the outlet drainline. The septic system serves the restroom added to the exterior of building 11-3. Engineering drawings confirm the drainline for floor drains in building 11-24 was tied into septic tank 11-43 in 1992. Discharges to the outfall ceased in 1992. Building 11-24, a former air-gun facility now houses offices and a light machine shop and no longer discharges to the septic system.

11-006(c) (12/10/2019)

SWMU 11-006(c) is one of three inactive HE catch basins and a former NPDES-permitted outfall (EPA 05A096) located on the southeast side of the former drop-tower complex [SWMUs 11-004(a-f)] at TA-11. The SWMU 11-006(c) catch basin consists of a concrete basin (structure 11-51) measuring 6 ft × 4 ft × 2 ft deep, equipped with an overflow drain, and a former NPDES-permitted outfall (EPA 05A096). Historically, following a drop test of an experiment containing HE, DU, and potentially small quantities of beryllium, the concrete pad and asphalt apron at the base of the former drop tower were washed down to remove residual HE not detonated upon impact. SWMU 11-006(c) received washdown water from the concrete pad and asphalt apron at the base of the former drop tower via an HE sump [SWMU 11-006(a)]. Any HE particles remaining in the washdown water after it exited the sump were further filtered out in the catch basin. After exiting the catch basin, the remaining washdown water was channeled to a drainage and the NPDES-permitted outfall on the northeast side of the catch basin, which discharged into Water Canyon. Waste HE collected from the catch basin was disposed of at the TA-16 burning ground. The outfall was removed from the LANL NPDES permit in May 1998 after drop tower activities ceased. In 2002, the sump and catch basins were pumped and any associated debris was treated at the HEWTF.

The drop tower underwent D&D and was removed in 2004. Since 1998, any stormwater runoff collected in the SWMU 11-006(c) catch basin is routed to the SWMU 11-006(d) catch basin and the associated outfall.

11-006(d) (12/10/2019)

SWMU 11-006(d) is one of three inactive HE catch basins and a former NPDES-permitted outfall (EPA 05A097) located on the south side of the former drop-tower complex [SWMUs 11-004(a-f)] at TA-11. The SWMU 11-006(d) catch basin consists of a concrete basin (structure 11-52) measuring 6 ft × 4 ft × 2 ft deep, equipped with an overflow drain, and a former NPDES-permitted outfall (EPA 05A097). Historically, following a drop test of an experiment containing HE, DU, and potentially small quantities of beryllium, the concrete pad and asphalt apron at the base of the former drop tower were washed down to remove residual HE not detonated upon impact. SWMU 11-006(d) received washdown water from the concrete pad and asphalt apron at the base of the former drop tower via an HE sump [SWMU 11-006(a)]. Any HE particles remaining in the washdown water after it exited the sump were further filtered out in the catch basin. After exiting the catch basin, the remaining washdown water was

channeled to a drainage and the NPDES-permitted outfall on the northeast side of the catch basin, which discharged into Water Canyon. Waste HE collected from the catch basin was disposed of at the TA-16 burning ground. In 2002, the sump and catch basins were pumped and any associated debris was treated at the HEWTF. The outfall was removed from the LANL NPDES permit in January 2006 after drop tower activities ceased.

The drop tower underwent D&D and was removed in 2004. Since drop tower operations ceased in 1998, this catch basin has collected only stormwater runoff, including runoff routed from the SWMU 11-006(c) catch basin, and discharges only stormwater to the outfall.

11-011(d) (9/6/2019)

SWMU 11-011(d) is an inactive drainline and outfall located south of building 11-24, the former air-gun facility at TA-11. The SWMU consists of a 4-in. steel drainline tied to floor drains and a sink in building 11-24. Originally, operations at building 11-24 consisted of acceleration and impact tests on full-scale warhead mockups. After World War II, building 11-24 was converted to an office and light machine shop. The drainline was tied into the SWMU 11-005(b) septic tank in 1992 and all discharges to the outfall ceased at that time.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Sites are listed in Table 214-1.

Table 214-1 POCs Known or Suspected to Have Been Used Historically at the Sites

Site	Potential POC Source	Potential POCs
11-002	Burn site	Dioxins/furans, HE, gross alpha, thorium, DU, iridium
11-003(b)	Air gun	Lead, HE, DU
11-005(a)	Septic system	Metals, silver, cyanide
11-005(b)	Septic system	Metals, organic chemicals
11-006(c)	Catch basin	Beryllium, HE, uranium
11-006(d)	Catch basin	Beryllium, HE, uranium
11-011(d)	Outfall	No known POCs

214.2 Control Measures

All active control measures in use at W-SMA-10 are listed in Table 214-2. Their locations are shown on the project map (Figure 214-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 214-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01802040025	Established Vegetation	-	X	X	-	B	5-7-2013
W01803010022	Earthen Berm	-	X	-	X	EC	7-31-2012
W01803010023	Earthen Berm	-	X	-	X	EC	7-31-2012
W01803010024	Earthen Berm	-	X	-	X	EC	7-31-2012
W01803040010	Asphalt Berm	X	-	-	X	CB	12-2-2009

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01803040016	Asphalt Berm	X	-	-	X	CB	6-1-2009
W01803060028	Straw Wattle	-	X	-	X	B	8-19-2015
W01803060032	Straw Wattle	-	X	-	X	B	9-11-2018
W01803090002	Curbing	X	-	-	X	CB	4-1-2009
W01803140031	Coir Log	X	-	X	-	B	7-18-2017
W01804060004	Riprap	-	-	X	-	CB	4-1-2009
W01804060013	Riprap	X	-	X	-	CB	6-10-2009

214.3 Inspections and Maintenance

Rain gage RG257 recorded five storm events at SMA during the 2022 season, requiring four post-storm inspections, which are summarized in Table 214-3. All other control-measure inspections conducted at the SMA are summarized in Table 214-4.

LANL managed infrastructure improvements within the SMA that began in 2021 and continued into 2022. SWPP team members continued conducting weekly inspections of controls in areas of potential soil disturbance during these facility-managed activities. A final inspection and evaluation of the area was conducted on October 18, 2022. No changes in condition were observed. No maintenance activities were conducted at the SMA in 2022.

Table 214-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93234[a]	6-25-2022	0.47	6-29-2022	4	Yes
BMP-93779	7-4-2022	0.33	7-12-2022	8	Yes
BMP-94325	7-20-2022	0.34	7-26-2022	6	Yes
BMP-94749[b]	7-27-2022 7-30-2022	0.35 0.56	8-2-2022	6 3	Yes Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 214-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-90580	1-6-2022	Construction related control measures in place but need maintenance. No impacts to IP controls or Sites. Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-90634	1-11-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-90664	1-19-2022	

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-90889	1-25-2022	Construction related control measures in place but need maintenance. No impacts to IP controls or Sites. Excavation south of building 11-0024 has been filled.
Remediation Construction Compliance Inspection	COMP-90993	2-1-2022	Construction related control in place have been improved. Curbing W01803090002 is also acting as a backup control. No impacts to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-91051	2-8-2022	Construction related controls in place and functioning. Curbing W01803090002 is also acting as a backup control. No impacts to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-91086	2-15-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-91152	2-22-2022	
Remediation Construction Compliance Inspection	COMP-91204	3-1-2022	
Remediation Construction Compliance Inspection	COMP-91267	3-8-2022	
Remediation Construction Compliance Inspection	COMP-91300	3-15-2022	
Remediation Construction Compliance Inspection	COMP-91511	3-22-2022	
Remediation Construction Compliance Inspection	COMP-91623	3-30-2022	
Remediation Construction Compliance Inspection	COMP-91734	4-5-2022	
Remediation Construction Compliance Inspection	COMP-91895	4-12-2022	
Remediation Construction Compliance Inspection	COMP-91982	4-19-2022	
Remediation Construction Compliance Inspection	COMP-92107	4-26-2022	Construction related control measures in place but need maintenance. Curbing W01803090002 is also acting as a backup control. No impacts to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-92212	5-3-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-92432	5-18-2022	
Remediation Construction Compliance Inspection	COMP-92457	5-24-2022	
Remediation Construction Compliance Inspection	COMP-92547	6-1-2022	

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-92687	6-7-2022	Construction related control measures in place but need maintenance. Curbing W01803090002 is also acting as a backup control. Fill pile is beginning to bypass Curbing. No other impact to IP controls or Sites. Spoke to project manager, fill pill is expected to be remediated today.
Remediation Construction Compliance Inspection	COMP-92776	6-14-2022	Construction related control measures have been repaired. Curbing W01803090002 is also acting as a backup control. No impacts to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-92855	6-21-2022	Construction related control measures in place. Curbing W01803090002 is also acting as a backup control. Fill pile is beginning to bypass Curbing. No other impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-92957	6-28-2022	Construction related control measures in place but need maintenance. Curbing W01803090002 is also acting as a backup control. Fill pile is beginning to bypass Curbing. Construction debris existing near north sections of excavation pile. No other impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-93492	7-5-2022	Construction related control measures in place but need maintenance. Curbing W01803090002 is also acting as a backup control. Fill pile is beginning to bypass Curbing. No other impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-93848	7-12-2022	Excavation and fill piles have been removed. Area has been leveled and construction related control measures have been removed. Leftover pipe being stored west of building 11-003. Recommend stabilization of area. No other impact to IP controls or Sites.

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Remediation Construction Compliance Inspection	COMP-93960	7-19-2022	Leftover pipe being stored west of building 11-003. No impact to IP controls or Sites.
Remediation Construction Compliance Inspection	COMP-94190	7-26-2022	Site unchanged since previous inspection.
Remediation Construction Compliance Inspection	COMP-94525	8-2-2022	
Remediation Construction Compliance Inspection	COMP-95220	8-9-2022	
Remediation Construction Compliance Inspection	COMP-95317	8-16-2022	
Remediation Construction Compliance Inspection	COMP-95505	8-23-2022	
Remediation Construction Compliance Inspection	COMP-95623	8-30-2022	
Remediation Construction Compliance Inspection	COMP-95746	9-6-2022	
Remediation Construction Compliance Inspection	COMP-95811	9-13-2022	
Remediation Construction Compliance Inspection	COMP-95901	9-20-2022	
Remediation Construction Compliance Inspection	COMP-96036	9-27-2022	
Remediation Construction Compliance Inspection	COMP-96259	10-13-2022	
Remediation Construction Compliance Inspection	COMP-96308	10-18-2022	Closeout inspection. Site disturbance is no longer occurring, site is stable, and there are no IP impacts. Existing staged material west of building 11-003 is not impacting IP and is Triad responsibility.

214.4 Stormwater Monitoring

Following the installation of baseline control measures at W-SMA-10, a baseline confirmation sample was collected on August 21, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (106 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-10, a corrective-action stormwater sample was collected on August 1, 2015. Analytical results from this sample yielded a TAL exceedance for gross-alpha activity (77.8 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2015, NPDES Permit No. NM0030759" (LANL 2016, 601240).

Stormwater monitoring was not conducted at W-SMA-10 in 2022 under the 2010 IP requirements.

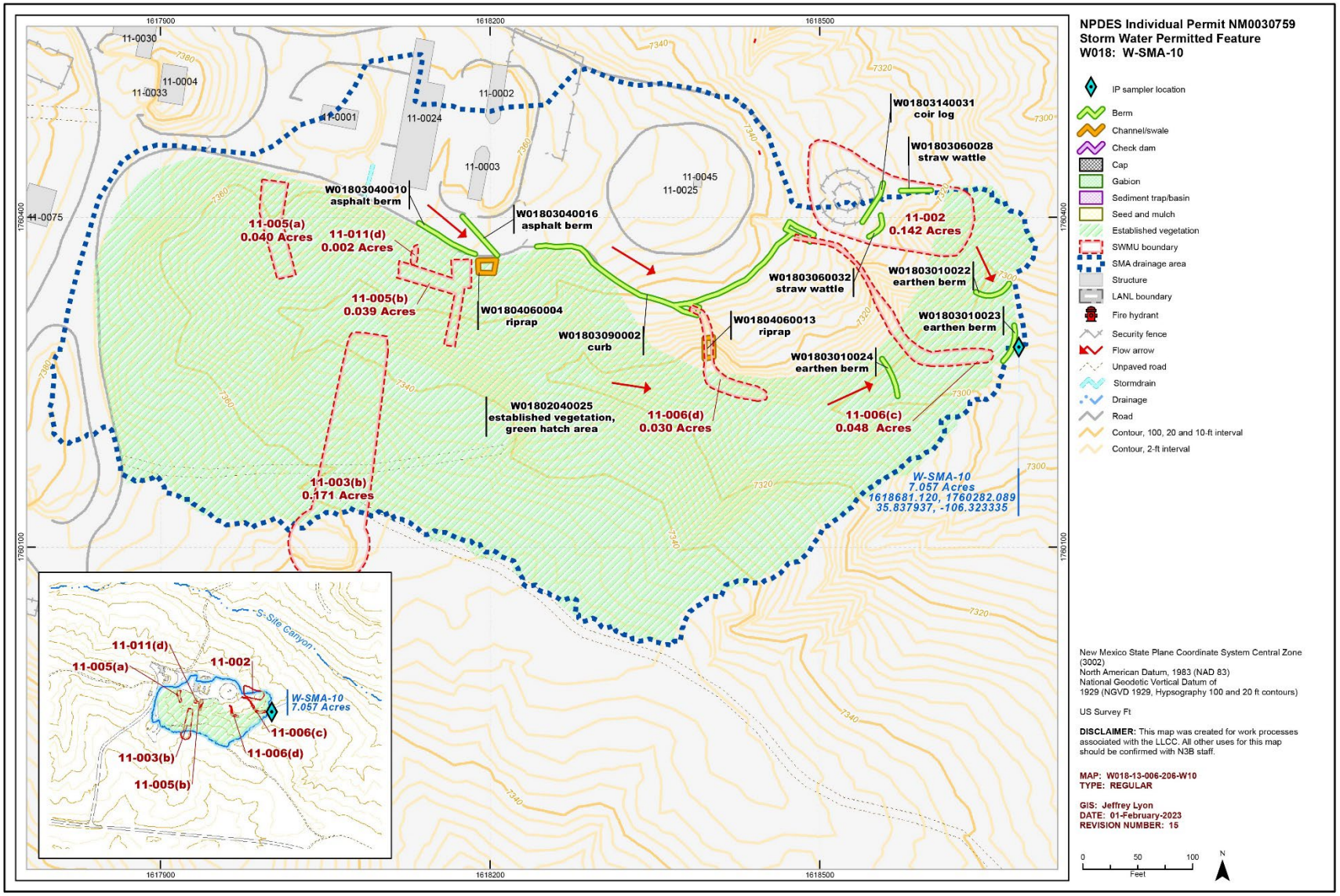

Figure 214-1 W-SMA-10 location map

215.0 W-SMA-11.7: AOC 49-008(c)

One historical industrial activity area, Site 49-008(c), is associated with W-SMA-11.7 (permitted feature W019). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

215.1 Site Descriptions

49-008(c) (8/30/2017)

AOC 49-008(c) consists of an area of potentially contaminated soil from historical radiochemistry operations and small-scale containment experiments within Area 11 at TA-49. Area 11 is an approximately 220 ft × 300 ft area. Activities conducted at Area 11 from 1959 to 1961 supported hydronuclear experiments conducted elsewhere at TA-49. Radiochemistry operations were conducted in a former laboratory and change house (former building 49-15) that was the main structure at Area 11. Other structures included a small storage building, latrines, and butane and propane tanks. The former building 49-15 laboratory was used to analyze samples collected during experiments in the experimental shafts at Areas 2, 2A, 2B, and 4. Laboratory processes included sample dissolution in acids (nitric, hydrochloric, hydrofluoric, sulfuric, and perchloric) and solvent extraction using methyl isobutyl ketone, ammonium hydroxide, and sodium hydroxide. Wastes generated during radiochemical operations were typically collected in containers and taken to radioactive waste disposal facilities elsewhere at the Laboratory. Interim waste storage boxes were stored south of former building 49-15. Some liquid wastes reportedly discharged to a drain field [SWMU 49-003]. Small-scale containment experiments were conducted in 13 underground shafts located on the west side of Area 11. These shafts were drilled to a depth of 12 ft and lined with 10-in.-diameter steel casing. HE was placed in the shafts, which were backfilled to contain the explosions. Small amounts of irradiated uranium-238 tracer were used in some experiments. The structures in Area 11 were decontaminated and removed in 1970 and 1971. Contamination was detected in sinks, ducts, and hoods in former building 49-15. Contaminated debris was removed and disposed of at TA-54, and uncontaminated debris (approximately 2,160 ft^3) was taken to the open-burning/landfill area at Area 6 (SWMU 49-004).

In May 2015, the TA-49 NES boundary was reduced to encompass three individual shaft fields at TA-49; SWMU-49-001(a) – Area 1; SWMUs 49-001(b), 49-001(c), and 49-001(d) - Area 2; and SWMU 49-001(f) - Area 4. Area 11 including SWMU 49-008(c) are no longer within the TA-49 NES boundary.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 215-1.

Table 215-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
49-008(c)	Soil contamination	HE, radionuclides, uranium-238

The project map (Figure 215-1) is located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

215.2 Control Measures

All active control measures in use at W-SMA-11.7 are listed in Table 215-2. Their locations are shown on the project map (Figure 215-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Enhanced controls were certified and submitted to EPA on September 7, 2022 as part of corrective action, as described in "NPDES Permit No. NM0030759 - Certification of Installation of Enhanced Control Measures for W-SMA-11.7" (N3B 2022, 702307). Photographs of the enhanced controls are available at https://ext.em-la.doe.gov/IPS/Home/ConstructionCertifications.

Table 215-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W01902040052	Established Vegetation	-	X	X	-	B	5-9-2013
W01903010040	Earthen Berm	X	-	-	X	B	9-22-2011
W01903010041	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010042	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010043	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010044	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010045	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010046	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010047	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010048	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010049	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903010050	Earthen Berm	-	X	-	X	EC	9-25-2012
W01903160053	Wood Chip Wattle	-	X	-	X	EC	6-1-2022
W01903160054	Wood Chip Wattle	-	X	-	X	EC	6-1-2022
W01903160055	Wood Chip Wattle	-	X	-	X	EC	6-1-2022
W01904010051	Earthen Channel/Swale	X	-	X	-	EC	9-25-2012

215.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at W-SMA-11.7 during the 2022 season, requiring six post-storm inspections, which are summarized in Table 215-3. All other control-measure inspections conducted at the SMA are summarized in Table 215-4. No maintenance activities, or facility modifications affecting discharge, were conducted at the SMA in 2022.

Table 215-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93235[a]	6-25-2022	0.3	6-29-2022	4	Yes
BMP-93780	7-4-2022	0.71	7-13-2022	9	Yes
BMP-94099	7-14-2022	0.25	7-19-2022	5	Yes
BMP-94326[b]	7-20-2022 7-26-2022	0.25 0.44	7-27-2022	7 1	Yes Yes
BMP-94750[b]	7-27-2022 7-30-2022	0.72 0.69	8-8-2022	12 9	Yes Yes
BMP-95402	8-11-2022	0.88	8-22-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Table 215-4 Other Control-Measure Inspections During 2022

Inspection Type	Inspection Reference	Inspection Date	Summary of findings
Verification of installation of enhanced controls.	BMP-92275	6-1-2022	No deficiency found.

215.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline stormwater sample was collected on September 1, 2011. Analytical results from this sample yielded TAL exceedances for aluminum (1020 µg/L) and gross-alpha activity (38.1 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-11.7, corrective-action stormwater samples were collected on September 13, 2013, and August 26, 2021. Analytical results from these corrective-action monitoring samples yielded TAL exceedances for gross-alpha activity (39.6 pCi/L and 49.9 pCi/L) and aluminum (4760 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2021, NPDES Permit No. NM0030759" (N3B 2022, 701895).

Stormwater monitoring was conducted at W-SMA-11.7, after certification of completion of enhanced control installation under the 2010 IP requirements, from September 14 through October 24, 2022, resulting in a monitoring season of 40 days. One inspection was performed during the monitoring period and is summarized in Table 215-5. Rain gage RG262.4 recorded seven rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022, and no sampling operability issues were encountered.

Table 215-5 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-95915	10-24-2022	No	9-22-2022	0.14/0.24
			10-2-2022	0.08/0.24
			10-3-2022	0.07/0.15
			10-4-2022	0.03/0.17
			10-15-2022	0.14/0.82
			10-16-2022	0.05/0.16
			10-17-2022	0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

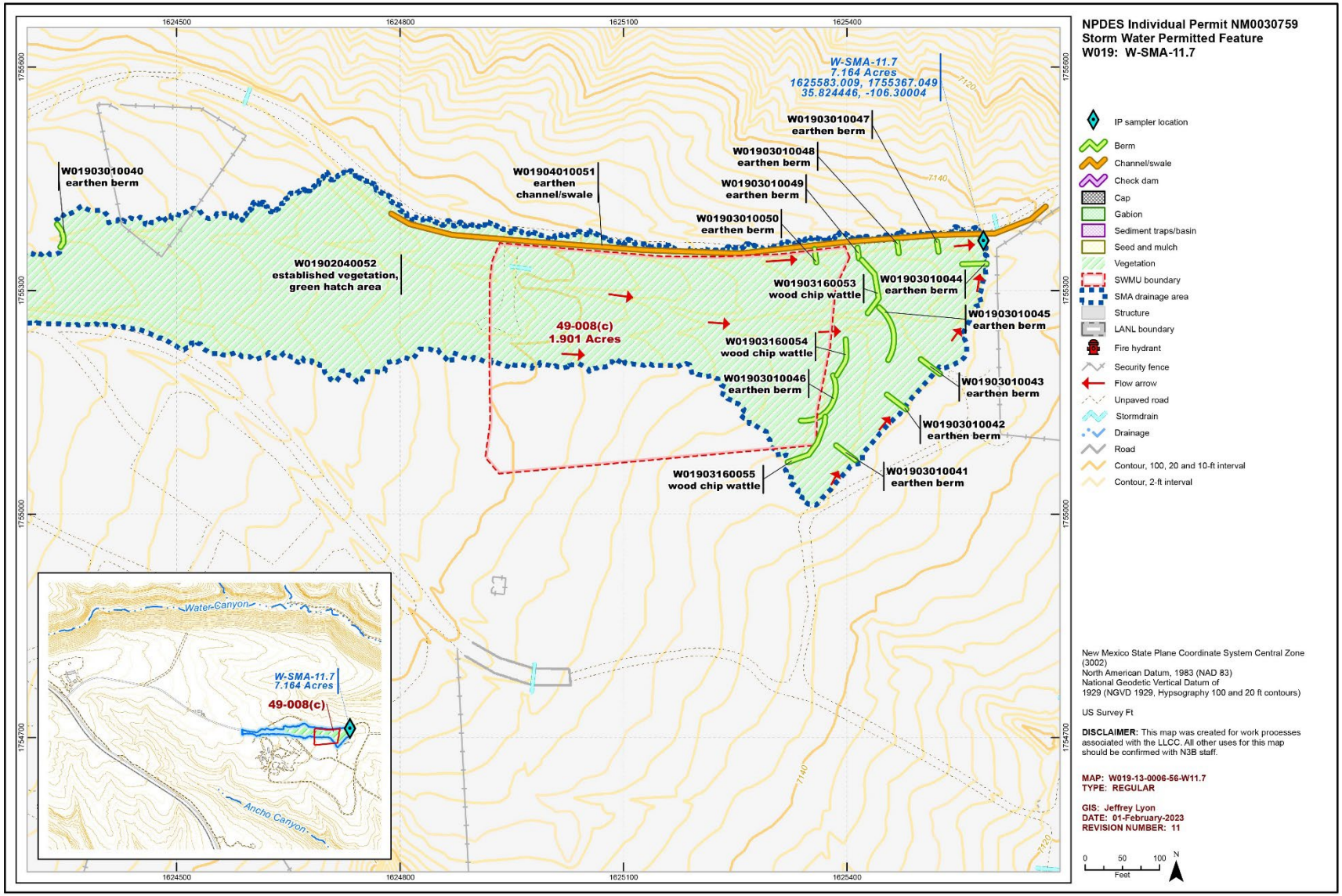

Figure 215-1 W-SMA-11.7 location map

216.0 W-SMA-12.05: SWMU 49-001(g)

One historical industrial activity area, Site 49-001(g), is associated with W-SMA-12.05 (permitted feature W020). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

216.1 Site Descriptions

49-001(g) (1/31/2017)

SWMU 49-001(g) is an area of potential soil contamination directly north of SWMUs 49-001(b) and 49-001(c) (Areas 2 and 2A), resulting from the transport of surface and near-surface radionuclide contamination associated with the shaft 2-M incident at Area 2. During the drilling of a drift at the bottom of shaft 2-M at SWMU 49-001(b), (Area 2) in November 1960, contamination was encountered from the experiment previously detonated at the bottom of shaft 2-L in April 1960, (Shaft 2-L is 25 ft west of shaft 2-M). As a result, alpha contamination was measured at 100,000 cpm within unused shaft 2-M, and as high as 800,000 cpm on the ground surface within Area 2. Contaminated equipment and surface soils from this incident were placed in shaft 2-M and the shaft was backfilled and capped. SWMU 49-001(g) is the approximate 0.8-acre natural drainage on the slope north of Area 2 that runs from the mesa to the bottom of Water Canyon.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 216-1.

Table 216-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
49-001(g)	Soil contamination (MDA AB)	Beryllium, lead, plutonium, tritium, uranium

216.2 Control Measures

All active control measures in use at W-SMA-12.05 are listed in Table 216-2. Their locations are shown on the project map (Figure 216-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 216-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W02002040018	Established Vegetation	-	X	X	-	B	5-9-2013
W02003010015	Earthen Berm	-	X	-	X	B	9-22-2011
W02003010016	Earthen Berm	-	X	-	X	B	9-22-2011
W02003010017	Earthen Berm	-	X	-	X	B	9-22-2011
W02004060002	Riprap	X	-	X	-	CB	1-1-2000
W02006010001	Rock Check Dam	-	X	-	X	CB	1-1-2000

216.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at W-SMA-12.05 during the 2022 season, requiring six post-storm inspections, which are summarized in Table 216-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 216-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93245[a]	6-25-2022	0.3	6-29-2022	4	Yes
BMP-93790	7-4-2022	0.71	7-13-2022	9	Yes
BMP-94102	7-14-2022	0.25	7-19-2022	5	Yes
BMP-94336[b]	7-20-2022 7-26-2022	0.25 0.44	7-27-2022	7 1	Yes Yes
BMP-94760[b]	7-27-2022 7-30-2022	0.72 0.69	8-8-2022	12 9	Yes Yes
BMP-9540	8-11-2022	0.88	8-22-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

216.4 Stormwater Monitoring

Through calendar year 2022, stormwater flow has not been sufficient for full-volume sample collection at W-SMA-12.05.

Stormwater monitoring was conducted at W-SMA-12.05 under the 2010 IP requirements from March 28 through October 27, 2022, resulting in a monitoring season of 214 days. Eight inspections were performed during the monitoring period and are summarized in Table 216-4.

Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 216-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91687	4-11-2022	No	None	None
SMPLR-91955	5-17-2022	No	None	None
SMPLR-92434	6-16-2022	No	None	None
SMPLR-92884	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93520	7-27-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63
SMPLR-94537	7-29-2022	No	7-27-2022	0.72/0.85
SMPLR-94835	9-6-2022	No	7-29-2022 7-30-2022 7-31-2022 8-6-2022 8-11-2022 8-16-2022 8-19-2022 8-20-2022 8-21-2022	0.07/0.22 0.69/0.87 0.09/0.12 0.22/0.32 0.88/0.89 0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13
SMPLR-95801	10-27-2022	No	9-9-2022 9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.12/0.18 0.14/0.24 0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

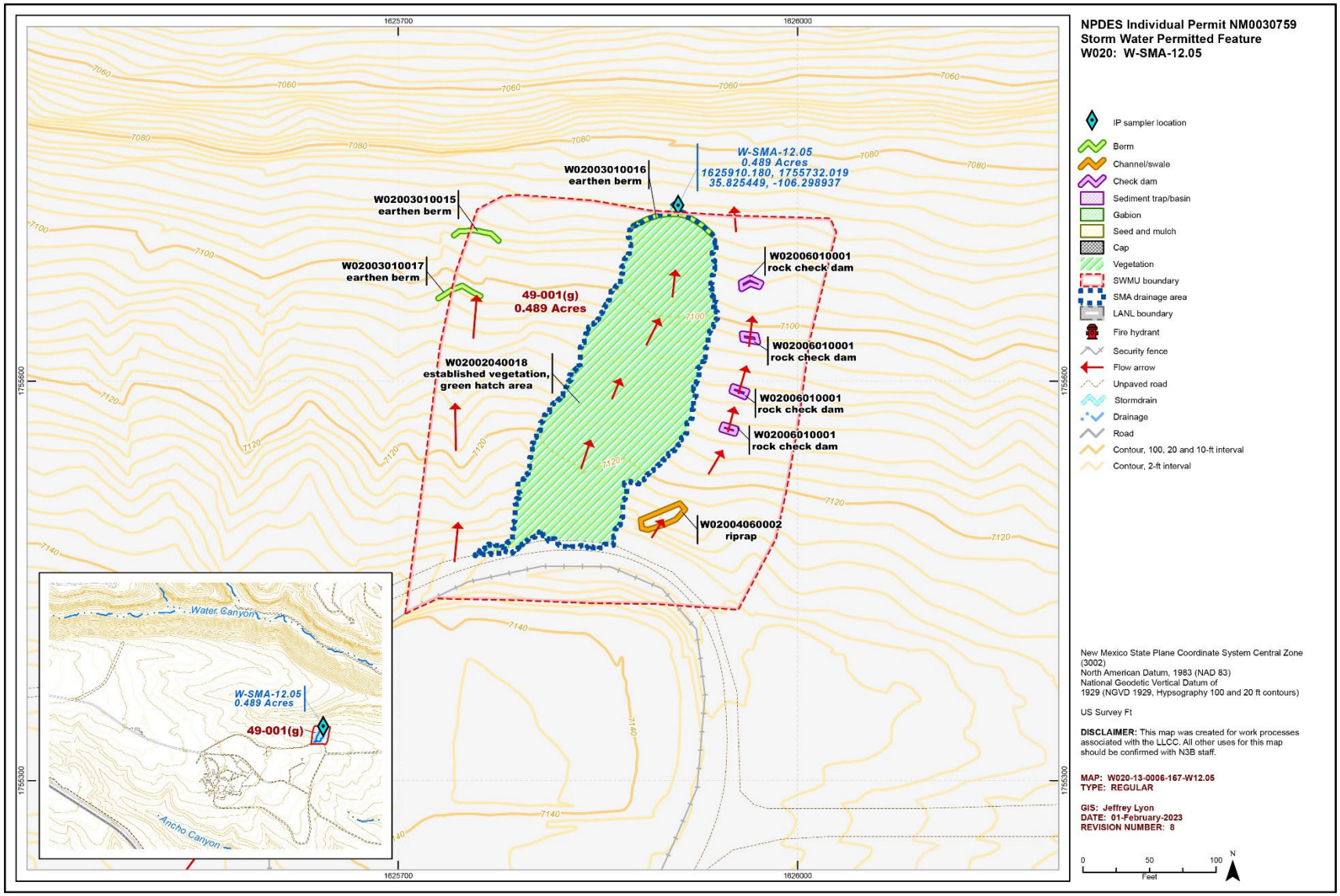

Figure 216-1 W-SMA-12.05 location map

217.0 W-SMA-14.1: SWMU 15-014(l) and AOC 15-004(h)

Two historical industrial activity areas, Sites 15-014(l) and 15-004(h), are associated with W-SMA-14.1 (permitted feature W021). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

217.1 Site Descriptions

15-004(h) (4/7/2017)

AOC 15-004(h) is an inactive Firing Site H located northwest of the PHERMEX facility at TA-15. Firing Site H is located approximately 100 ft north of the PHERMEX power control building (structure 15-185). The explosives testing firing site was constructed in 1948 and included a concrete pad, a protective berm, an instrument chamber (former structure 15-17), and a camera chamber (structure 15-92). The exact nature of the materials used during tests is not known but may have included DU, beryllium, lead, and HE. Firing site operations were discontinued in approximately 1953 and the instrument chamber was demolished in 1967. The camera chamber and the concrete pad remain on-site, but the concrete pad has been partially covered with fill. Hazardous debris from explosions at PHERMEX may have impacted AOC 15-004(h).

15-014(l) (4/7/2017)

SWMU 15-014(l) consists of a former NPDES-permitted outfall (EPA 03A028) and associated drainline for a cooling tower (structure 15-202) located at the PHERMEX facility at TA-15. This drainline and outfall received blowdown discharge from the cooling tower, which was installed in 1961. Cooling water was piped to building 15-185 and blowdown discharged to a basement floor drain. The basement floor drain discharged to a concrete gutter in the paved area south of building 15-185. Discharges from the gutter flowed to a drainage ditch adjacent to the roadway and into a culvert that drained to the ground surface south of the roadway. This culvert also received discharges from the floor drains in building 15-184. In 1969, a corrugated metal pipe was installed to convey discharges from the SWMU 15-014(l) outfall to a new outfall south of the parking area and roadway, AOC 15-014(d). The SWMU 15-014(l) outfall is currently located within a drop inlet in a paved area outside the southeast corner of building 15-185. Outfall 03A028 was removed from the Laboratory's NPDES permit in 2007. The SWMU 15-014(l) outfall currently receives only stormwater discharges from the paved area around the drop inlet.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 217-1.

Table 217-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
15-004(h)	Firing Site H	Beryllium, lead, HE, DU
15-014(l)	Outfall from building 15-202	Inorganic chemicals

217.2 Control Measures

All active control measures in use at W-SMA-14.1 are listed in Table 217-2. Their locations are shown on the project map (Figure 217-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 217-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W02102040021	Established Vegetation	-	X	X	-	B	4-3-2013
W02103010016	Earthen Berm	-	X	-	X	EC	7-23-2012
W02103010017	Earthen Berm	-	X	-	X	EC	7-23-2012
W02103010018	Earthen Berm	-	X	-	X	EC	7-23-2012
W02103010019	Earthen Berm	-	X	-	X	EC	7-23-2012
W02103010020	Earthen Berm	X	-	-	X	EC	7-23-2012
W02104060014	Riprap	X	-	X	-	CB	6-29-2010
W02106010008	Rock Check Dam	X	-	-	X	CB	6-29-2010
W02106010009	Rock Check Dam	X	-	-	X	CB	6-29-2010
W02106010011	Rock Check Dam	X	-	-	X	CB	6-29-2010
W02106010012	Rock Check Dam	-	X	-	X	CB	6-29-2010

217.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at W-SMA-14.1 during the 2022 season, requiring three post-storm inspections, which are summarized in Table 217-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 217-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93236[a,b]	6-25-2022 7-4-2022	0.3 0.71	7-7-2022	12 3	Yes Yes
BMP-94327[b]	7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-30-2022	0.25 0.25 0.44 0.72 0.69	8-2-2022	20	No Yes Yes Yes Yes
BMP-95403	8-11-2022	0.88	8-24-2022	13	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

Because of an administrative error, the post-storm inspection for the July 14, 2022 storm event was not conducted within 15 days of the storm date. The SMA was next inspected on August 2, 2022. No findings of deficiency or recommendations for maintenance resulted from that or any other inspections in 2022.

217.4 Stormwater Monitoring

Following the installation of baseline control measures, two baseline stormwater samples were collected on July 25 and August 18, 2011. Analytical results from these samples yielded TAL exceedances for copper (20 µg/L) and zinc (49.3 µg/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Following the installation of enhanced control measures at W-SMA-14.1, corrective-action stormwater samples were collected on September 13, 2013 and July 15, 2014. Analytical results from these samples yielded TAL exceedances for gross-alpha activity (38.7 pCi/L and 96.2 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No. NM0030759" (LANL 2014, 254067) and "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2014, NPDES Permit No. NM0030759" (LANL 2015, 600241).

Stormwater monitoring was not conducted at W-SMA-14.1 in 2022 under the 2010 IP requirements.

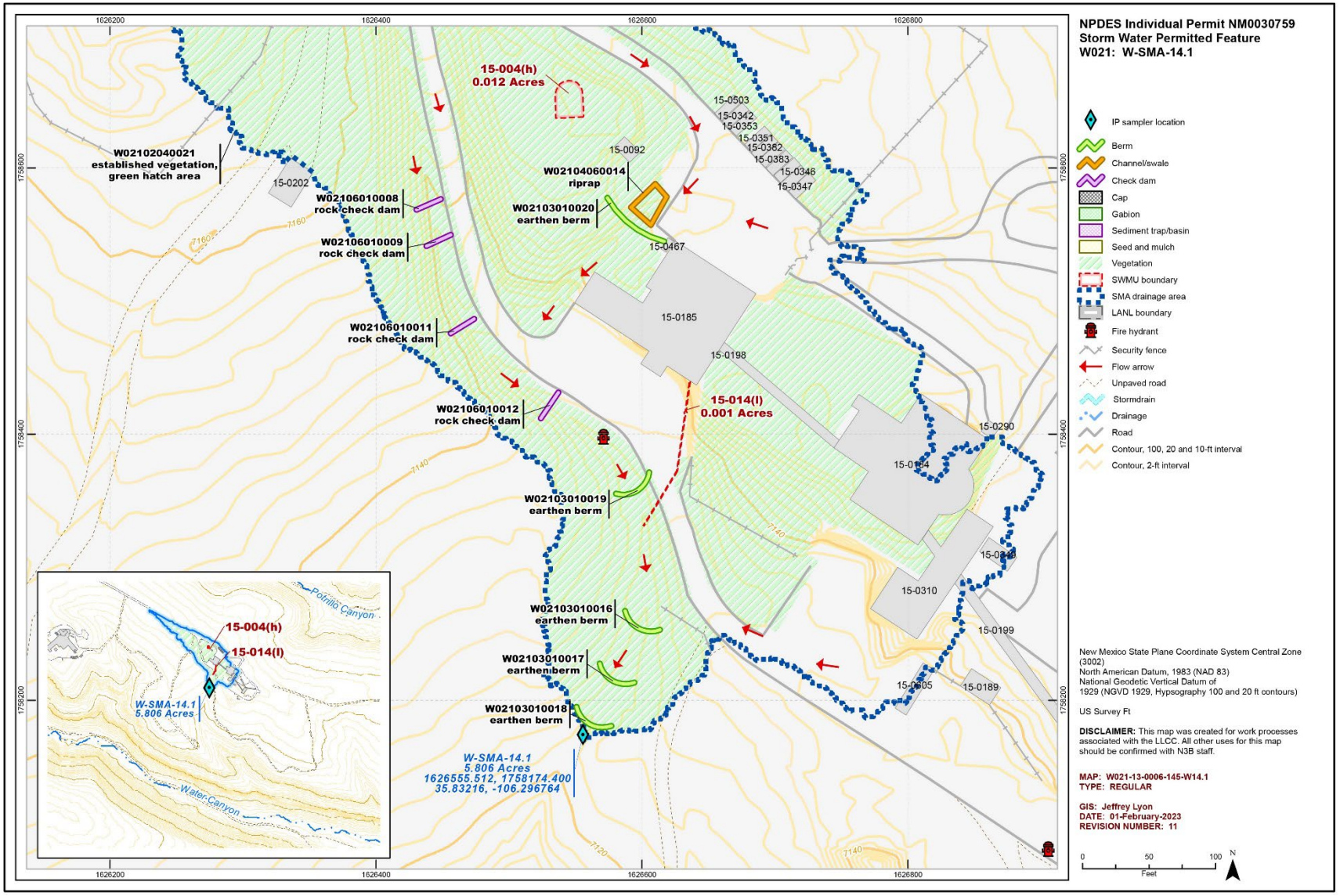

Figure 217-1 W-SMA-14.1 location map

218.0 W-SMA-15.1: SWMU 49-005(a)

One historical industrial activity area, Site 49-005(a), is associated with W-SMA-15.1 (permitted feature W022). Summaries of all inspection, monitoring, and maintenance actions conducted in 2022 are provided below. Refer to the "2022 Sampling Implementation Plan, NPDES Permit No. NM0030759" (N3B 2022, 702502) for more information on Consent Order investigation activities, the SSD, and planned stormwater monitoring at the SMA for future monitoring seasons.

218.1 Site Descriptions

49-005(a) (1/31/2017)

SWMU 49-005(a) is an inactive landfill located east of Area 10 at TA-49. The landfill is located north of the road that runs east from Area 10 and is approximately 75 ft northeast of the Area 10 experimental chamber facility [AOC 49-002]. The landfill, described as a small pit in the 1990 SWMU Report, was excavated in 1984 for the disposal of uncontaminated debris generated during the 1984 general surface cleanup of TA-49.

Known or Potential Use of POCs

POCs known to be managed or potentially used at the Site are listed in Table 218-1.

Table 218-1 POCs Known or Suspected to Have Been Used Historically at the Site

Site	Potential POC Source	Potential POCs
49-005(a)	Landfill	Metals, beryllium, lead, plutonium, uranium

218.2 Control Measures

All active control measures in use at W-SMA-15.1 are listed in Table 218-2. Their locations are shown on the project map (Figure 218-1) located at the end of this SMA update. Future map updates will be posted on the IP website: https://ext.em-la.doe.gov/ips/Home/SiteMonitoringAreaMaps.

Table 218-2 Active Control Measures

Control ID	Control Name	Purpose of Control				Control Status	Install Date
		Run-On	Runoff	Erosion	Sediment		
W02202040006	Established Vegetation	-	X	X	-	B	5-9-2013
W02203010004	Earthen Berm	X	-	-	X	EC	9-27-2012
W02203010005	Earthen Berm	-	X	-	X	EC	9-27-2012

218.3 Inspections and Maintenance

Rain gage RG262.4 recorded eight storm events at W-SMA-15.1 during the 2022 season, requiring six post-storm inspections, which are summarized in Table 218-3. No other control-measure inspections, maintenance activities, or facility modifications affecting discharge were conducted at the SMA in 2022.

Table 218-3 Post-Storm Inspections During 2022

Inspection Reference	Storm Date	30-Minute Maximum Intensity (in.)	Inspection Date	Days to Inspection	Inspected within 15 days?
BMP-93237[a]	6-25-2022	0.3	6-29-2022	4	Yes
BMP-93782	7-4-2022	0.71	7-13-2022	9	Yes
BMP-94101	7-14-2022	0.25	7-19-2022	5	Yes
BMP-94328[b]	7-20-2022 7-26-2022	0.25 0.44	7-27-2022	7 1	Yes Yes
BMP-94752[b]	7-27-2022 7-30-2022	0.72 0.69	8-8-2022	12 9	Yes Yes
BMP-95404	8-11-2022	0.88	8-22-2022	11	Yes

[a] Inspection also qualifies as the Annual Erosion Evaluation per 2010 IP Part I.G.1.

[b] Inspection qualifies for multiple Storm Dates per 2010 IP Part I.G.2 and 2022 IP Part I.B.8.b.

218.4 Stormwater Monitoring

Following the installation of baseline control measures, a baseline confirmation sample was collected on September 1, 2011. Analytical results from this baseline sample yielded a TAL exceedance for gross-alpha activity (33.2 pCi/L). The complete analytical results are presented in "Stormwater Individual Permit Annual Report, Reporting Period: January 1–December 31, 2011, NPDES Permit No. NM0030759" (LANL 2012, 211408).

Stormwater monitoring was conducted at W-SMA-15.1 under the 2010 IP requirements from March 28 through October 27, 2022, resulting in a monitoring season of 214 days. Seven inspections were performed during the monitoring period and are summarized in Table 218-4. Rain gage RG262.4 recorded 31 rain events exceeding 0.1 in. in 24 hours while the sampling equipment was active. No new confirmation-monitoring samples were collected in 2022.

Table 218-4 Sampler Inspections During 2022

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-91688	4-11-2022	No	None[c]	None
SMPLR-91956	5-17-2022	No	None	None
SMPLR-92435	6-10-2022	No	None	None
SMPLR-92811	6-29-2022	No	6-17-2022 6-18-2022 6-19-2022 6-21-2022 6-22-2022 6-25-2022 6-26-2022 6-27-2022	0.07/0.35 0.06/0.19 0.09/0.28 0.08/0.18 0.11/0.67 0.3/1.52 0.19/1.33 0.07/0.15

Inspection Reference	Inspection Date	Sample Retrieved?	Date(s) of Rain Events Exceeding 0.1 in. in 24 hr since previous inspection	Rainfall Intensity[a]/ Total[b] (in.)
SMPLR-93521	8-10-2022	No	7-1-2022 7-4-2022 7-14-2022 7-20-2022 7-26-2022 7-27-2022 7-29-2022 7-30-2022 7-31-2022 8-6-2022	0.2/0.61 0.71/1.04 0.25/0.26 0.25/0.3 0.44/0.63 0.72/0.85 0.07/0.22 0.69/0.87 0.09/0.12 0.22/0.32
SMPLR-95337	9-19-2022	No	8-11-2022 8-16-2022 8-19-2022 8-20-2022 8-21-2022 9-9-2022	0.88/0.89 0.16/0.54 0.12/0.28 0.05/0.31 0.11/0.13 0.12/0.18
SMPLR-96015	10-27-2022	No	9-22-2022 10-2-2022 10-3-2022 10-4-2022 10-15-2022 10-16-2022 10-17-2022	0.14/0.24 0.08/0.24 0.07/0.15 0.03/0.17 0.14/0.82 0.05/0.16 0.05/0.11

[a] Intensity = Maximum amount of precipitation in any 30-min interval.

[b] Total = Total amount of precipitation in 24 hr.

[c] The sampler had period(s) of inoperability since previous inspection. See CSR comment in the SDPPP Overview Appendix E for more details.

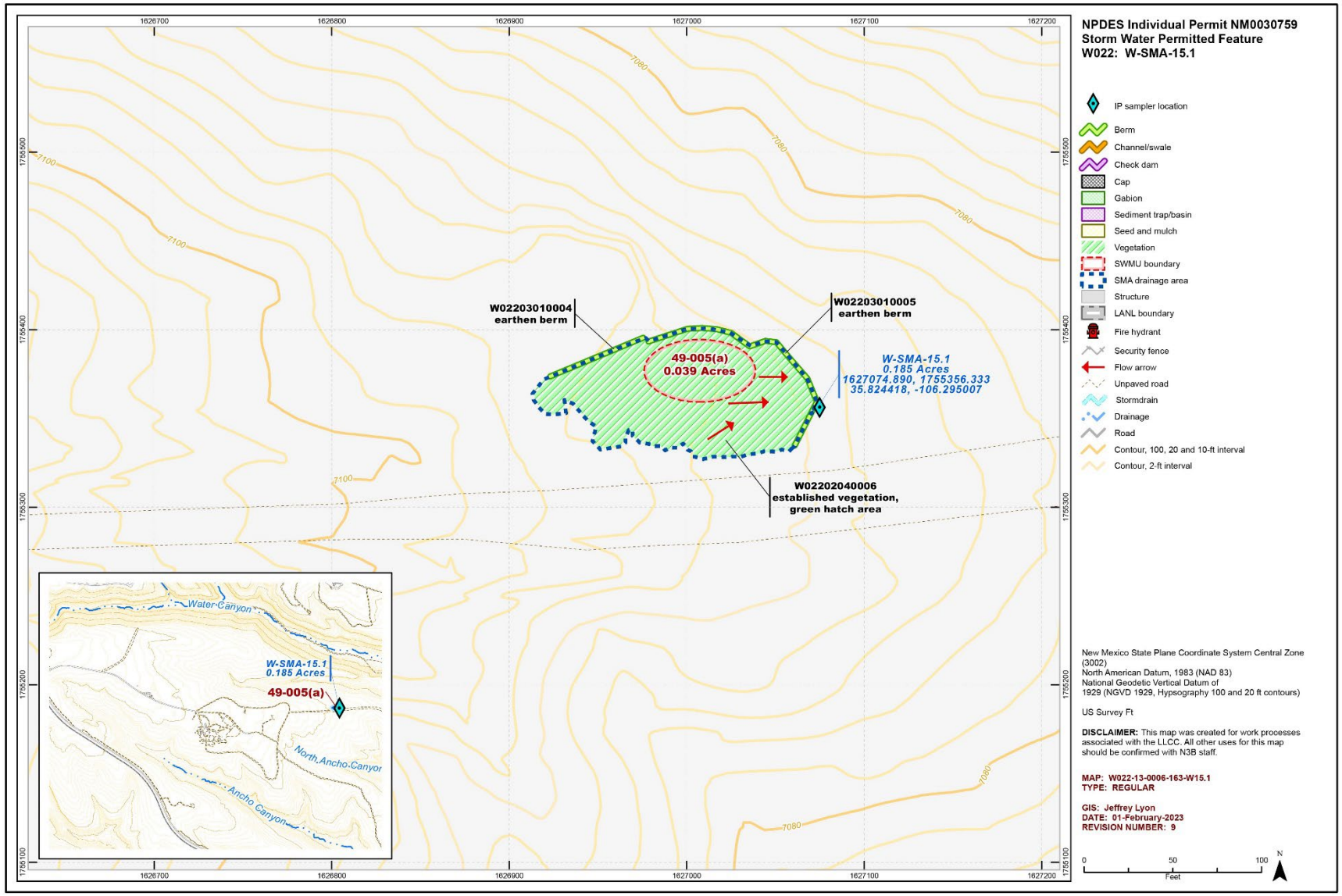

Figure 218-1 W-SMA-15.1 location map

Attachment 1
Amendments

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5057	2/3/2022	W-SMA-3.5	Per spatial PRS Database Change request CR2021-2561, approved 1/25/2022: • Generate new map revision showing updated spatial presentation of Site 16-026(y).	T	CCN-90985
V.4 5058	2/3/2022	W-SMA-3.5	Site Boundary Change - 16-026(y). Updated location in Map Revision	T	CCN-90985
V.4 5059	2/3/2022	W-SMA-3.5	Map Revision (13)	T	CCN-90985
V.4 5060	4/13/2022	W-SMA-7	Per spatial PRS Database Change requests CR2022-2652 approved 4/4/2022 and CR2022-2653 approved 3/28/2022: • Generate new map revision showing updated spatial presentation of Sites 16-026(h2) and 16-029(e).	T	CCN-91289
V.4 5061	4/13/2022	W-SMA-7	Site Boundary Change - 16-029(h2). Updated location in Map Revision	T	CCN-91289
V.4 5062	4/13/2022	W-SMA-7	Site Boundary Change - 16-029(e). Updated location in Map Revision	T	CCN-91289
V.4 5063	4/13/2022	W-SMA-7	Map Revision (14)	T	CCN-91289
V.4 5064	4/13/2022	W-SMA-4.1	Per spatial PRS Database Change request CR2022-2651, approved 3/28/2022: • Generate new map revision showing updated spatial presentation of Site 16-003(a).	T	CCN-91287
V.4 5065	4/13/2022	W-SMA-4.1	Site Boundary Change - 16-003(a). Updated location in Map Revision	T	CCN-91287
V.4 5066	4/13/2022	W-SMA-4.1	Map Revision (12)	T	CCN-91287
V.4 5067	4/20/2022	W-SMA-2.05	Per spatial PRS Database Change request CR2022-2722, approved 4/12/2022: • Generate new map revision showing updated spatial presentation of Site 16-028(e).	T	CCN-92023
V.4 5068	4/20/2022	W-SMA-2.05	Site Boundary Change - 16-028(e). Updated location in Map Revision	T	CCN-92023
V.4 5069	4/20/2022	W-SMA-2.05	Map Revision (8)	T	CCN-92023
V.4 5070	7/21/2022	W-SMA-11.7	Per control measure verification BMP-92275 conducted 6/1/2022, please update as necessary to: • Add three wood chip wattles W01903160053, W01903160054, and W01903160055 installed as an enhanced runoff and sediment controls. Install date 6/1/2022.	T	CCN-94118
V.4 5071	7/21/2022	W-SMA-11.7	New Control - Corrective Action Control-Control ID: W01903160053 - Wood Chip Wattle	T	CCN-94118

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5072	7/21/2022	W-SMA-11.7	New Control - Corrective Action Control-Control ID: W01903160054 - Wood Chip Wattle	T	CCN-94118
V.4 5073	7/21/2022	W-SMA-11.7	New Control - Corrective Action Control-Control ID: W01903160055 - Wood Chip Wattle	T	CCN-94118
V.4 5074	7/21/2022	W-SMA-11.7	Map Revision (10)	T	CCN-94118
V.4 5075	8/22/2022	W-SMA-7	Per issuance of 2022 IP, effective date 8/1/2022, please update all DB systems as necessary to: • Retire SWMU16-026(h2) (Outfall Associated with Building 16-360) as an IP site associated with W-SMA-7 in MainConn, SDE, and EIM, retire date 8/1/2022. • Produce new map revision without 16-026(h2). • Remove associated IP Site from label for 16-029(e). This Site that was administratively added to the databases on the 2010 IP is included in the 2022 IP and is now the only site associated with W-SMA-7.	T	CCN-95186
V.4 5076	8/22/2022	W-SMA-7	Site Boundary Change - 16-026(h2) (Outfall Associated with Building 16-360). Retire Site	T	CCN-95186
V.4 5077	8/22/2022	W-SMA-7	Map Revision (15)	T	CCN-95186
V.4 5078	8/22/2022	CDV-SMA-2	Per preparations for implementation of new 2022 Individual Permit, please update as necessary to: • Generate draft project map for SMA using proposed monitoring location SS220431 and associated drainage area identified in 2016 SIP reviews.	T	CCN-95313
V.4 5079	8/22/2022	CDV-SMA-2	SMA Boundary Modification, Updated Area in Map Revision	T	CCN-95313
V.4 5080	8/22/2022	CDV-SMA-2	Minor Sampler Adjustment, Updated location with coordinates in Map Revision 12 (amendment V.1 3649).	T	CCN-95313
V.4 5081	8/22/2022	CDV-SMA-2	Map Revision (10)	T	CCN-95313

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5082	9/1/2022	PT-SMA-1.7	Per issuance of 2022 IP, effective date 8/1/2022, please update all DB systems as necessary to: • Retire SWMU 15-006(a) (Phermex Firing Site) as an IP site associated with PT-SMA-1.7 in MainConn, SDE, and EIM, retire date 8/1/2022. • Produce new map revision without 15-006(a). • Remove associated IP Site from label for 15-003. This Site that was administratively added to the databases on the 2010 IP is included in the 2022 IP and is now the only site associated with PT-SMA-1.7.	T	CCN-95184
V.4 5083	9/1/2022	PT-SMA-1.7	Site Boundary Change - 15-006(a) (Phermex Firing Site). Retire Site	T	CCN-95184
V.4 5084	9/1/2022	PT-SMA-1.7	Map Revision (13)	T	CCN-95184
V.4 5085	9/1/2022	CDV-SMA-1.4	Per issuance of 2022 IP, effective date 8/1/2022, please update all DB systems as necessary to: • Retire SWMU 16-030(C) (Outfall from Former Building 16-222) as an IP site associated with CDV-SMA-1.4 in MainConn, SDE, and EIM, retire date 8/1/2022. • Produce new map revision without 16-030(c), all other Sites assocaited with SMA should remain active.	T	CCN-95182
V.4 5086	9/1/2022	CDV-SMA-1.4	Site Boundary Change - 16-030(C) (Outfall from Former Building 16-222). Retire Site	T	CCN-95182
V.4 5087	9/1/2022	CDV-SMA-1.4	Map Revision (18)	T	CCN-95182
V.4 5088	9/1/2022	CDV-SMA-6.02	Per issuance of 2022 IP, effective date 8/1/2022, please update all DB systems as necessary to: • Retire SWMU 14-002(D) (Firing Site) and 14-002(E) (Firing Site) as IP sites associated with CDV-SMA-6.02 in MainConn, SDE, and EIM, retire date 8/1/2022. • Produce new map revision without 14-002(d) or 14-002(e). • Remove associated IP Site from label for 14-002(c). This Site that was administratively added to the databases on the 2010 IP is included in the 2022 IP and is now the only site associated with CDV-SMA-6.02.	T	CCN-95185
V.4 5089	9/1/2022	CDV-SMA-6.02	Site Boundary Change - 14-002(D) (Firing Site). Retire Site	T	CCN-95185
V.4 5090	9/1/2022	CDV-SMA-6.02	Site Boundary Change - 14-002(E) (Firing Site). Retire Site	T	CCN-95185
V.4 5091	9/1/2022	CDV-SMA-6.02	Map Revision (13)	T	CCN-95185

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5092	10/14/2022	W-SMA-1	Per spatial PRS Database Change requestz CR2022-2766 and CR2022-2794, approved 5/31/2022: • Generate new map revision showing updated spatial presentation of Site 16-026(c2). • Generate new map revision showing updated spatial presentation of Site 16-026(v).	T	CCN-96129
V.4 5093	10/14/2022	W-SMA-1	Site Boundary Change - 16-026(c2). Updated location in Map Revision	T	CCN-96129
V.4 5094	10/14/2022	W-SMA-1	Site Boundary Change - 16-026(v). Updated location in Map Revision	T	CCN-96129
V.4 5095	10/14/2022	W-SMA-1	Map Revision (10)	T	CCN-96129
V.4 5096	11/7/2022	W-SMA-1.5	Per spatial PRS Database Change requests CR2022-2771 and CR2022-2772, approved 5/31/2022: • Generate new map revision showing updated spatial presentation of Site 16-026(b2). • Generate new map revision showing updated spatial presentation of Site 16-028(d). 10/17/2022 addition. Per TAL exceedance inspection COMP-94000 conducted 8/19/2022, please update as necessary to: • Update southern edge of SMA boundary as identified by Emmalee Blender on attached DOC.pdf document. Update SMA area label as applicable.	T	CCN-96130
V.4 5097	11/7/2022	W-SMA-1.5	SMA Boundary Modification, Updated Area in Map Revision	T	CCN-96130
V.4 5098	11/7/2022	W-SMA-1.5	Site Boundary Change - 16-026(c2). Updated location in Map Revision	T	CCN-96130
V.4 5099	11/7/2022	W-SMA-1.5	Site Boundary Change - 16-026(v). Updated location in Map Revision	T	CCN-96130
V.4 5100	11/7/2022	W-SMA-1.5	Map Revision (17)	T	CCN-96130

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5101	11/17/2022	CDV-SMA-2.3	Per control measure/installation WO BMP-94028, completed 7/29/2022, please update as necessary to: • Retire Straw Wattle V00703060030, retire date 7/29/2022. • Add new Straw Wattle V00703060033 as a replacement runoff/sediment control for -0030, same map location. Install date 7/29/2022. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-96251
V.4 5102	11/17/2022	CDV-SMA-2.3	Retire Control - Damaged and/or Replaced-Control ID: V00703060030 - Straw Wattle	T	CCN-96251
V.4 5103	11/17/2022	CDV-SMA-2.3	New Control - Replacement -Control ID: V00703060033 - Straw Wattle	T	CCN-96251
V.4 5104	11/17/2022	CDV-SMA-2.3	Map Revision (20)	T	CCN-96251
V.4 5105	11/17/2022	W-SMA-6	Per control measure maintenance/installation WO BMP-95241, completed 8/18/2022, please update as necessary to: • Retire Straw Wattle W00703060006, retire date 8/18/2022. • Add new Straw Wattle W00703060009 as a replacement runoff/sediment control for -0006, same map location. Install date 8/18/2022. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-95683
V.4 5106	11/17/2022	W-SMA-6	Retire Control - Damaged and/or Replaced-Control ID: W00703060006 - Straw Wattle	T	CCN-95683
V.4 5107	11/17/2022	W-SMA-6	New Control - Replacement -Control ID: W00703060009 - Straw Wattle	T	CCN-95683
V.4 5108	11/17/2022	W-SMA-6	Map Revision (10)	T	CCN-95683

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5109	1/31/2023	CDV-SMA-1.2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97357
V.4 5110	1/31/2023	CDV-SMA-1.2	Map Revision (11)	T	CCN-97357
V.4 5111	1/31/2023	CDV-SMA-1.3	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97358
V.4 5112	1/31/2023	CDV-SMA-1.3	Map Revision (8)	T	CCN-97358
V.4 5113	1/31/2023	CDV-SMA-1.4	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97359
V.4 5114	1/31/2023	CDV-SMA-1.4	Map Revision (19)	T	CCN-97359
V.4 5115	1/31/2023	CDV-SMA-1.45	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97360

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5116	1/31/2023	CDV-SMA-1.45	Map Revision (8)	T	CCN-97360
V.4 5117	1/31/2023	CDV-SMA-1.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97361
V.4 5118	1/31/2023	CDV-SMA-1.7	Map Revision (17)	T	CCN-97361
V.4 5119	1/31/2023	CDV-SMA-2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97362
V.4 5120	1/31/2023	CDV-SMA-2	Map Revision (11)	T	CCN-97362
V.4 5121	1/31/2023	CDV-SMA-2.41	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97363
V.4 5122	1/31/2023	CDV-SMA-2.41	Map Revision (11)	T	CCN-97363

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5123	1/31/2023	CDV-SMA-2.42	Per new 2022 IP map reporting requirements, please update as necessary to: • -Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97364
V.4 5124	1/31/2023	CDV-SMA-2.42	Map Revision (15)	T	CCN-97364
V.4 5125	1/31/2023	CDV-SMA-2.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97365
V.4 5126	1/31/2023	CDV-SMA-2.5	Map Revision (16)	T	CCN-97365
V.4 5127	1/31/2023	CDV-SMA-2.51	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97366
V.4 5128	1/31/2023	CDV-SMA-2.51	Map Revision (12)	T	CCN-97366
V.4 5129	2/6/2023	CDV-SMA-3	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97367

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5130	2/6/2023	CDV-SMA-3	Map Revision (14)	T	CCN-97367
V.4 5131	1/31/2023	CDV-SMA-4	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97368
V.4 5132	1/31/2023	CDV-SMA-4	Map Revision (12)	T	CCN-97368
V.4 5133	2/6/2023	CDV-SMA-6.01	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97369
V.4 5134	2/6/2023	CDV-SMA-6.01	Map Revision (17)	T	CCN-97369
V.4 5135	1/31/2023	CDV-SMA-6.02	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97370
V.4 5136	1/31/2023	CDV-SMA-6.02	Map Revision (14)	T	CCN-97370

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5137	1/31/2023	CDV-SMA-7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97371
V.4 5138	1/31/2023	CDV-SMA-7	Map Revision (13)	T	CCN-97371
V.4 5139	1/31/2023	CDV-SMA-8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97372
V.4 5140	1/31/2023	CDV-SMA-8	Map Revision (12)	T	CCN-97372
V.4 5141	1/31/2023	CDV-SMA-8.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97373
V.4 5142	1/31/2023	CDV-SMA-8.5	Map Revision (9)	T	CCN-97373
V.4 5143	1/31/2023	CDV-SMA-9.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97374

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5144	1/31/2023	CDV-SMA-9.05	Map Revision (8)	T	CCN-97374
V.4 5145	1/31/2023	F-SMA-2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97383
V.4 5146	1/31/2023	F-SMA-2	Map Revision (17)	T	CCN-97383
V.4 5147	1/31/2023	PT-SMA-0.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97375
V.4 5148	1/31/2023	PT-SMA-0.5	Map Revision (12)	T	CCN-97375
V.4 5149	2/6/2023	PT-SMA-1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97376
V.4 5150	2/6/2023	PT-SMA-1	Map Revision (14)	T	CCN-97376

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5151	2/6/2023	PT-SMA-1.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97377
V.4 5152	2/6/2023	PT-SMA-1.7	Map Revision (14)	T	CCN-97377
V.4 5153	2/6/2023	PT-SMA-2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97378
V.4 5154	2/6/2023	PT-SMA-2	Map Revision (13)	T	CCN-97378
V.4 5155	2/6/2023	PT-SMA-2.01	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97379
V.4 5156	2/6/2023	PT-SMA-2.01	Map Revision (9)	T	CCN-97379
V.4 5157	2/6/2023	PT-SMA-3	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97381

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5158	2/6/2023	PT-SMA-3	Map Revision (19)	T	CCN-97381
V.4 5159	2/6/2023	PT-SMA-4.2	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97382
V.4 5160	2/6/2023	PT-SMA-4.2	Map Revision (16)	T	CCN-97382
V.4 5161	2/6/2023	W-SMA-1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97384
V.4 5162	2/6/2023	W-SMA-1	Map Revision (11)	T	CCN-97384
V.4 5163	2/6/2023	W-SMA-1.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97385
V.4 5164	2/6/2023	W-SMA-1.5	Map Revision (18)	T	CCN-97385

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5165	2/6/2023	W-SMA-10	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97400
V.4 5166	2/6/2023	W-SMA-10	Map Revision (15)	T	CCN-97400
V.4 5167	2/6/2023	W-SMA-11.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97401
V.4 5168	2/6/2023	W-SMA-11.7	Map Revision (11)	T	CCN-97401
V.4 5169	3/2/2023	W-SMA-12.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. Note: Shape of earthen berm W02003010017 updated on this map revision based on comparison to ortho map resolution. No other changes at this time.	T	CCN-97402
V.4 5170	3/2/2023	W-SMA-12.05	Map Revision (8)	T	CCN-97402

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5171	2/6/2023	W-SMA-14.1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97403
V.4 5172	2/6/2023	W-SMA-14.1	Map Revision (11)	T	CCN-97403
V.4 5173	2/6/2023	W-SMA-15.1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97404
V.4 5174	2/6/2023	W-SMA-15.1	Map Revision (9)	T	CCN-97404
V.4 5175	2/6/2023	W-SMA-2.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97386
V.4 5176	2/6/2023	W-SMA-2.05	Map Revision (9)	T	CCN-97386
V.4 5177	2/6/2023	W-SMA-3.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97387

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5178	2/6/2023	W-SMA-3.5	Map Revision (14)	T	CCN-97387
V.4 5179	2/6/2023	W-SMA-4.1	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97388
V.4 5180	2/6/2023	W-SMA-4.1	Map Revision (13)	T	CCN-97388
V.4 5181	3/2/2023	W-SMA-5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. Per spatial PRS Database Change requests CR2022-3568 and CR2022-3572, approved 12/16/2022: • Generate new map revision showing updated spatial presentation of Sites 16-003(f) and 16-026(e).	T	CCN-97389
V.4 5182	3/2/2023	W-SMA-5	Site Boundary Change - 16-003(f). Updated location in Map Revision	T	CCN-97389
V.4 5183	3/2/2023	W-SMA-5	Site Boundary Change - 16-026(e). Updated location in Map Revision	T	CCN-97389
V.4 5184	3/2/2023	W-SMA-5	Map Revision (15)	T	CCN-97389
V.4 5185	2/6/2023	W-SMA-7.8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97390
V.4 5186	2/6/2023	W-SMA-7.8	Map Revision (10)	T	CCN-97390

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5187	2/6/2023	W-SMA-7.9	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97391
V.4 5188	2/6/2023	W-SMA-7.9	Map Revision (9)	T	CCN-97391
V.4 5189	2/6/2023	W-SMA-8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97392
V.4 5190	2/6/2023	W-SMA-8	Map Revision (10)	T	CCN-97392
V.4 5191	2/6/2023	W-SMA-8.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97393
V.4 5192	2/6/2023	W-SMA-8.7	Map Revision (7)	T	CCN-97393

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5193	3/2/2023	W-SMA-8.71	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. Note: Shape of earthen berm W012A03010005 updated on this map revision based on comparison to ortho map resolution. No other changes at this time.	T	CCN-97394
V.4 5194	3/2/2023	W-SMA-8.71	Map Revision (9)	T	CCN-97394
V.4 5195	2/6/2023	W-SMA-9.05	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97395
V.4 5196	2/6/2023	W-SMA-9.05	Map Revision (9)	T	CCN-97395
V.4 5197	2/6/2023	W-SMA-9.5	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97396
V.4 5198	2/6/2023	W-SMA-9.5	Map Revision (11)	T	CCN-97396

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5199	2/28/2023	W-SMA-9.7	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. Per spatial PRS Database Change requests CR2022-3567, approved 12/15/2022: • Generate new map revision showing updated spatial presentation of Site 11-011(a).		CCN-97397
V.4 5200	2/28/2023	W-SMA-9.7	Site Boundary Change - 11-011(a). Updated Location in Map Revision	T	CCN-97397
V.4 5201	2/28/2023	W-SMA-9.7	Map Revision (19)	T	CCN-97397
V.4 5202	2/6/2023	W-SMA-9.8	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97398
V.4 5203	2/6/2023	W-SMA-9.8	Map Revision (10)	T	CCN-97398
V.4 5204	2/6/2023	W-SMA-9.9	Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. • Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision.	T	CCN-97399
V.4 5205	2/6/2023	W-SMA-9.9	Map Revision (10)	T	CCN-97399

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5206	3/2/2023	W-SMA-7	Per control measure maintenance/installation WO BMP-93843, completed 7/18/2022, please update as necessary to: • Retire Straw Wattle W00803060052, retire date 7/18/2022. • Add new Straw Wattle W00803060054 as a replacement runoff/sediment control for -0052, same map location. Install date 7/18/2022. Per new 2022 IP map reporting requirements, please update as necessary to: • Update SMA label on maps to include the sampling location coordinates (lat/long and northing/easting). • Update Site labels on maps to include area (in acres) of site boundary that is within SMA boundary. Ensure that most current infrastructure (e.g., roads, structures, utilities, etc.) layers available at this time are used for this map revision. 2/28/2023 addition per SDPPP peer review comments, please update as necessary to: • Retire Rock Check Dams W00806010015, -0016, 0026-0034; Coir logs W00803140035, -0036, -0041-47, -0050, -0051; Straw wattles W00803060019, -0024, -0025, -0053-0054; and Hydromulch W00801030048. Effective date 12/31/2022. These controls were associated with Site 16-026(h2), which is no longer on the IP, and retirement requests were omitted from CCN-95186. Controls abandoned in place.	T	CCN-95532
V.4 5207	3/2/2023	W-SMA-7	Retire Control - Damaged and/or Replaced-Control ID: W00803060052 - Straw Wattle	T	CCN-95532
V.4 5208	3/2/2023	W-SMA-7	New Control - Replacement -Control ID: W00803060054 - Straw Wattle	T	CCN-95532
V.4 5209	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00801030048 - Hydromulch	T	CCN-95532
V.4 5210	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803060019 - Straw Wattle	T	CCN-95532
V.4 5211	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803060024 - Straw Wattle	T	CCN-95532
V.4 5212	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803060025 - Straw Wattle	T	CCN-95532
V.4 5213	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803060053 - Straw Wattle	T	CCN-95532
V.4 5214	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803060054 - Straw Wattle	T	CCN-95532
V.4 5215	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140035 - Coir Log	T	CCN-95532
V.4 5216	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140036 - Coir Log	T	CCN-95532
V.4 5217	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140041 - Coir Log	T	CCN-95532

Attachment 1, Amendments (continued)

Amendment Number	Effective Date	SMA Number or Section Number	Description of Changes	Type of Change*	Reference
V.4 5218	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140042 - Coir Log	T	CCN-95532
V.4 5219	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140043 - Coir Log	T	CCN-95532
V.4 5220	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140044 - Coir Log	T	CCN-95532
V.4 5221	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140045 - Coir Log	T	CCN-95532
V.4 5222	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140046 - Coir Log	T	CCN-95532
V.4 5223	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140047 - Coir Log	T	CCN-95532
V.4 5224	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140050 - Coir Log	T	CCN-95532
V.4 5225	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00803140051 - Coir Log	T	CCN-95532
V.4 5226	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010015 -Rock Check Dam	T	CCN-95532
V.4 5227	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010016 -Rock Check Dam	T	CCN-95532
V.4 5228	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010026 -Rock Check Dam	T	CCN-95532
V.4 5229	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010027 -Rock Check Dam	T	CCN-95532
V.4 5230	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010028 -Rock Check Dam	T	CCN-95532
V.4 5231	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010029 -Rock Check Dam	T	CCN-95532
V.4 5232	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010030 -Rock Check Dam	T	CCN-95532
V.4 5233	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010031 -Rock Check Dam	T	CCN-95532
V.4 5234	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010032 -Rock Check Dam	T	CCN-95532
V.4 5235	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010033 -Rock Check Dam	T	CCN-95532
V.4 5236	3/2/2023	W-SMA-7	Retire Control - Life Cycle Ended -Control ID: W00806010034 -Rock Check Dam	T	CCN-95532
V.4 5237	3/2/2023	W-SMA-7	Map Revision (16)	T	CCN-95532

*T = technical.

Attachment 2
Vicinity Map