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Secretary

JON GOLDSTEIN  
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

March 24, 2008

David Gregory  
Federal Project Director  
Los Alamos Site Office  
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Los Alamos, NM 87544

David McInroy  
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Los Alamos National Laboratory  
P.O. Box 1663, MS M992  
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATIONS  
INVESTIGATION WORK PLAN FOR UPPER MORTANDAD CANYON  
AGGREGATE AREA  
LOS ALAMOS NATIONAL LABORATORY (LANL)  
EPA ID #NM0890010515  
HWB-LANL-07-040**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) *Investigation Work Plan for Upper Mortandad Canyon Aggregate Area, Revision 1* (Plan), dated February 2008 and referenced by LA-UR-08-1272/EP2008-0108. NMED has reviewed the Plan and hereby issues this Approval with the following modifications. Comment numbers correspond to the Notice of Disapproval (NOD) dated January 25, 2008 (except the 'additional comments').

**Specific Comments:**

- 3. NMED Comment:** NMED disagrees with the Permittees assertion that one sample location is sufficient to determine the extent of PCB contamination at AOC 03-003(i). The Permittees must collect one sample at two depth intervals (one at the surface and one at 2.5 feet below ground surface (bgs)) for every 150 square feet of the area where the



30112

concrete slabs were located. The sampling grid must cover the entire area the transformer occupied, plus an additional ten feet on all sides. The Permittees shall provide a topographical map of the area sampled and a figure illustrating the sampling grid, as well as the locations of all samples collected, in the Investigation Report.

7. **NMED Comment:** Because the Permittees have not provided a reference to the 1994 RFI document mentioned in the comment or other information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from AOC 03-014(w), the Permittees must pressure test the drainlines to determine if there are any leaks. The procedures used for pressure testing the drainlines and the results of the tests must be included in the Investigation Report.
9. **NMED Comment:** Because the Permittees have not provided a reference to the 1994 RFI document mentioned in the comment or other information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from AOC 03-014(x), the Permittees must pressure test the drainlines and the sewer line to determine if there area any leaks. The procedures used for pressure testing the drainlines and the results of the test must be included in the Investigation Report.
10. **NMED Comment:** Because the Permittees have not provided adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from AOC 03-026(a), the Permittees must collect a sample of the sump contents and obtain swipe samples from the concrete floor beneath the sump. The Permittees must also collect chip samples from areas of staining and from cracks in the floor. Samples must be sent for off-site laboratory analysis of TAL metals, hexavalent chromium, nitrate, perchlorate, gamma spectroscopy, isotopic plutonium, isotopic uranium, tritium, americium-241, strontium-90, SVOCs, VOCs, cyanide, pH, and PCBs. The Permittees must pressure test all pipes that are associated with the sump system to determine if there are any leaks. The procedures used for pressure testing the pipelines, the test results, and the analytical results from the swipe samples, sump contents sampling, and chip samples (if required) must be included in the Investigation Report.
12. **NMED Comment:** Because the Permittees have not provided adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from SWMU 03-026(c), the Permittees must pressure test the pipes and tanks to determine if there are any leaks. The procedures used for the pressure testing and the test results must be included in the Investigation Report.
15. **NMED Comment:** NMED has previously requested additional information related to the integrity of the waste system components comprising this SWMU (see LANL's response to Comment #15, LA-UR-08-1271). Because the Permittees have not provided adequate information (*e.g.*, inspection records, previous or ongoing line testing, building designs) demonstrating that there have been no releases from SWMU 03-031, the Permittees must pressure test the entire system (*e.g.*, vaults, tanks, drain lines) and any other ancillary equipment associated with SWMU 03-031 to determine if any portion of the system

leaks. The Permittees must also plug any inactive influent and effluent lines emanating from all existing vaults, tanks, sumps, and lines associated with SWMU 03-031. The procedures used for pressure testing and the test results, as well as the procedures by which any drainlines were plugged, must be included in the Investigation Report.

**17. NMED Comment:** Figure 3.4.1 does not depict the sampling locations described in Section 3.12.2. The Permittees must submit a revised Figure 3.4.1 in the Investigation Report to indicate where previous samples were collected.

**18. NMED Comment:** Section 3.12.3 indicates that the four proposed samples will be collected from below the concrete tanks, yet Figure 3.5.2 illustrates the sampling locations outside of the perimeter of Building 03-0154. The Permittees must collect samples below each of the two concrete tanks at the following intervals; one at a depth corresponding to the 0 – 1 foot interval below the base of the tanks, the 0-2 foot interval beginning five feet below the bottom of the tanks, and the 0-2 foot interval beginning ten feet below the bottom of the tanks. In addition, the Permittees must collect samples at the four locations proposed in Figure 3.5.2. These locations must be accurately depicted on the appropriate figure in the Investigation Report.

The Permittees must collect swipe samples from the floor of the concrete vault that surrounds the stainless steel tanks, and samples of the soil or tuff that directly underlies the subgrade beneath the center of each concrete tank. The Permittees must collect soil/tuff samples from beneath each piece of pump equipment and associated piping connected to the pump house and tanks. The samples along the piping must be collected every 20 feet and at every elbow or joint in the piping. The samples must be collected from the backfill as well as the native soil-tuff interface directly beneath the lines. The Permittees must also collect soil/tuff samples from directly beneath and five feet below the gravity outflow sump pit that drained liquid waste to the industrial waste line before being pumped to TA-50. The Permittees also must collect a sample of any liquid remaining in the sump pit. The Permittees must submit revised figures and tables that include all additional sample locations in the Investigation Report.

**19. NMED Comment:** Because the Permittees have not provided adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from SWMU 03-034(b), the Permittees must pressure test all ancillary pipelines and the associated tank, to determine if there are any leaks. The procedures used for pressure testing and all results must be included in the Investigation Report.

**24. NMED Comment:** In addition to the proposed sampling, the Permittees must collect two samples (from the ground surface and the soil/tuff interface) at the outfall pipe's (number 03A022) discharge point (the SWMU 03-049(a) portion of Consolidated Unit 03-045(h)-00). Samples must be sent to an off-site fixed laboratory for the same analytical suite proposed in Table 3.15-5 for SWMU 03-049(a). The Permittees must include all final sampling locations in all appropriate figures and tables in the Investigation Report.

**26. NMED Comment:** The Permittees proposed sampling along only a portion of the entire length of the drainages at SWMU 03-045(h). The Permittees must collect samples at the additional locations identified on attached Figure 3.15-1. Samples must be collected at two depth intervals, consistent with the depths proposed in Section 3.15.3. Samples must be sent to an off-site fixed laboratory for the same analytical suite proposed in Table 3.15-5 for SWMU 03-045(h). The Permittees must include all sampling locations in all appropriate figures and tables in the Investigation Report.

**29. NMED Comment:** The Permittees proposed sampling locations in only some of the drainages depicted in Figure 3.15-1 for SWMU 03-039(a). The Permittees must collect samples at the additional locations identified on the attached Figure 3.15-1. Samples must be collected at two depth intervals, consistent with the intervals proposed in Section 3.15.3. All samples must be sent to an off-site fixed laboratory for the same analytical suite proposed in Table 3.15-5 for SWMU 03-049(a). The Permittees must include all sampling locations in all appropriate figures and tables in the Investigation Report.

Sample locations 49a-1, 49a-4, and 49a-5 are not depicted as being in the actual drainage; the Permittees must collect these samples from within the drainage at locations of sediment accumulation.

**33. NMED Comment:** The Permittees have proposed a seventh sample location at the outfall pipe. However, the Permittees did not change the associated text in Section 3.17.3. The Permittees must collect seven samples: four of the sampling locations near the 2001 sampling locations, two downslope of the previous and new locations, and one at the location of the outfall.

**34. NMED Comment:** See comment # 44 below.

**37. NMED Comment:** The Permittees state in their response that “additional sampling to characterize contamination associated with the original release is neither warranted nor practicable.” However, the Permittees did not produce any documentation that indicates that the site was remediated immediately following the spill, nor is there any indication that confirmatory samples were obtained following remediation activities. The Permittees must therefore collect samples at the locations identified on attached Figure 3.18-2. All samples must be collected at the same depth intervals and analyzed for the same analytical suite proposed in Table 3.18-5. The Permittees must include all sampling locations and results in all appropriate figures and tables in the Investigation Report.

**38. NMED Comment:** The Permittees were directed in the NOD to investigate the soil beneath underground drainlines that connected former building 42-0001 to former ash-holding tanks 42-0002 and 42-0003. The Permittees did not address this requirement in their response to the NOD. The Permittees must locate these drainlines and collect soil/tuff samples from beneath the connection of the drainline to the building/structure, and beneath the center of the drainline between the structures. Additionally, the Permittees must collect samples beneath all areas of staining and at drainline joints.

Samples must be collected from two depth intervals at each location: one from the soil/tuff directly beneath the drainline, and one at a depth of five feet below the base of the drainline. The additional samples must be analyzed for the same analytical suite proposed in Table 4.2-4.

- 40. NMED Comment:** Section 5.2.3 of the revised Plan states that “applicable surface sample results for all TA-48 SWMUs and AOCs will be evaluated in the context of AOC 48-001.” The Permittees do not provide a list of the “applicable” surface sample locations, nor do they explain how a surface sample from another SWMU or AOC at TA-48 would be applicable to evaluate the potential risk associated with AOC 48-001. The Permittees must collect surface samples (0 – 0.5-feet) from the nine locations identified on attached Figure 5.1-1. The samples must be analyzed for TAL metals, hexavalent chromium, nitrate, perchlorate, gamma spectroscopy, isotopic plutonium, isotopic uranium, tritium, americium-241, strontium-90, isotopic thorium, SVOCs, VOCs, cyanide, pH, PCBs, dioxins, and furans. The Permittees must also include the results of all surface sampling conducted at all SWMUs and AOCs at TA-48 in the data set for AOC 48-001.
- 41. NMED Comment:** The Permittees did not revise Figure 5.5-1 to depict the small section of unpaved soil as required in the NOD. The Permittees must revise Figure 5.5-1 in the Investigation Report.
- 42. NMED Comment:** The Permittees state in their response that information provided to NMED in March 1997, to demonstrate that no releases from Consolidated Unit 48-004(a)-99 had occurred, included the results of inspections and photographs showing the condition of the contaminated features. NMED has reviewed this document and found that no inspection records were provided. In almost all cases, the included photographs are of the metal plates that cover the inactive sumps and tanks, rather than of the tanks and sumps themselves. Because the Permittees have not provided adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from 48-004(a)-99, the Permittees must pressure test the pipelines and tanks to determine if any leaks exist. In addition, the Permittees must sample the contents of the sumps and collect soil-tuff samples from directly beneath the sumps and tanks. The Permittees must also plug any inactive influent and effluent lines emanating from all existing tanks and sumps associated with SWMUs 48-004(a, b, and c). The procedures used for the pipeline and tank testing and the results of the tests as well as the methods used to plug pipelines must be included in the Investigation Report.
- 43. NMED Comment:** NMED concurs with the four sample locations and analytical suite proposed in Section 5.8.3 and Table 5.11-3 and identified in Figure 5.11-1. However, the Permittees have failed to address NMED’s comment in its entirety. The segments of inactive radioactive liquid waste (RLW) lines, along with the outfall, make up SWMU 48-005. Because the Permittees did not propose investigation activities at the inactive RLW lines and did not provide adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from these lines, the

Permittees must pressure test the lines to determine if there are any leaks. The Permittees must also plug the remaining portions of RLW lines 34, 36, and 38. The procedures used to test the lines and the results of the testing as well as the methods used to plug the lines must be included in the Investigation Report.

- 44. NMED Comment:** The Permittees state in their response that “Mortandad Canyon drainage samples will be used as applicable to determine whether the extent of contamination has been defined.” This does not address NMED’s comment. The Permittees did not propose to collect samples in the drainage, nor was the document that addressed the “Mortandad Canyon drainage samples” identified. The Permittees must collect samples every 50 feet from the top of the slope to the toe of the colluvium in the drainage associated with SWMU 48-007(a)-00. Two depth intervals must be collected at each location (0’-0.5’ and 1.0’-2.0’). Sampling must target areas such as fine-grained sediment in outfall channels or other areas of sediment accumulation. The samples must be analyzed for TAL metals, hexavalent chromium, tritium, SVOCs, VOCs (in samples deeper than 0.5 feet), perchlorate, nitrate, cyanide, pH, dioxins, furans, and gamma spectroscopy.
- 45. NMED Comment:** The Permittees must collect samples every 50 feet from the top of the slope to the toe of the colluvium in the drainage associated with SWMU 48-007(b). See specific comment # 44.
- 46. NMED Comment:** The Permittees must collect samples every 50 feet from the top of the slope to the toe of the colluvium in the drainage associated with SWMU 48-007(c). See specific comment # 44.
- 47. NMED Comment:** The Permittees must collect samples every 50 feet from the top of the slope to the toe of the colluvium in the drainage associated with SWMU 48-007(f). See specific comment # 44.
- 49. NMED Comment:** The Permittees did not address the requirement concerning continuous sampling at each borehole location. NMED reiterates that continuous sampling must be conducted at each borehole location in order to identify the contaminated zone (expected between approximately three and five feet below ground surface (bgs)).
- 50. NMED Comment:** NMED’s comment specified that documentation supporting that the waste lines did not leak in the past or are not currently leaking was to be provided as part of the Response to the NOD. It was not. Therefore, in addition to the records described in the NOD Response, the Permittees must pressure test the lines at AOC 50-001(b) to determine if there are any leaks. The procedures used to test the lines and the results of the pressure tests as well as the methods used to plug the lines must be included in the Investigation Report.

- 51. NMED Comment:** The Permittees state in their response that the sump and all tanks in Building 50-0002 are equipped with level indicators and alarms and are inspected daily. NMED's comment specified that *documentation* supporting that the waste lines did not leak in the past or are not currently leaking was to be provided as part of the Response to the NOD. Because the Permittees did not propose investigation activities at SWMU 50-002(a) nor provide adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from the tanks and waste transfer lines associated with SWMU 50-002(a), the Permittees must pressure test the lines and tanks associated with SWMU 50-002(a) to determine if there are any leaks. The Permittees must also plug any inactive portions of the tanks and transfer lines. The procedures used to test the tanks and lines and the results of the pressure tests as well as the methods used to plug the lines must be included in the Investigation Report.
- 52. NMED Comment:** The Permittees state in their response that according to facility personnel, no documented releases are associated with AOC 50-002(d), the inactive nitric acid product tank. The Permittees also state that any releases would have been captured and neutralized in the concrete sump filled with limestone beneath the tank. NMED's comment specified that *documentation* supporting that the inactive tank did not leak in the past and is not currently leaking was to be provided as part of the Response to the NOD. Because the Permittees did not propose investigation activities at SWMU 50-002(d) or provide adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from the tank, the Permittees must pressure test the tank to determine if there are any leaks. The Permittees must also plug the influent line and any other inactive lines (if applicable) associated with the tank. The procedures used to test the tank and the results of the pressure test as well as the methods used to plug the influent line must be included in the Investigation Report.
- 53. NMED Comment:** The Permittees did not address NMED's comment. The Permittees have proposed to collect eight samples (4a-1 – 4a-8) for Consolidated Unit (CU) 50-004(a)-00. According to Section 5.7 of the Historical Investigation Report (HIR) and Section 6.8 of the Plan, field screening was used to determine if 1994 regulatory levels had been achieved. Based on the above information, and because all waste lines have been decommissioned or removed (except line 56), the Permittees should have proposed sampling along all lines at CU 50-004(a)-00. The Permittees must collect samples at three depth intervals (corresponding to the base of the pipeline backfill, the soil/tuff directly below the backfill and at a depth five feet below the pipeline) from the 41 locations identified on the attached Figure 6.8-1. The samples must be analyzed for TAL metals, nitrate, perchlorate, gamma spectroscopy, isotopic plutonium, isotopic uranium, tritium, SVOCs, VOCs, cyanide, pH, PCBs, dioxins, and furans.
- 58. NMED Comment:** Section 6.11 of the Plan states that SWMU 50-006(d) consists of a drainline and associated NPDES-permitted outfall. The Permittees did not propose any samples beneath the drainline which runs from Building 50-0002 to the outfall. The Permittees must collect samples at the locations shown on attached Figure 6.11-4. Two depth intervals must be sampled at each location (one directly beneath the line and the

other five feet below the base of the line). Samples must be analyzed for the same analytical suite as that proposed for the four outfall samples.

The Permittees state in their response that “[r]esults from samples collected within the main Mortandad Canyon drainage during other investigations will be used, as applicable, to determine whether the extent of contamination has been defined for SWMU 50-006(d).” This does not address NMED’s comment. The Permittees did not propose drainage samples, nor did they identify which document addressed the “Mortandad Canyon drainage samples”. The Permittees must collect samples every 50 feet from the top of the slope to the toe of the colluvium in the drainage(s) associated with SWMU 50-006(d). Two depth intervals must be collected at each location (0-0.5 and 1.0-2.0, feet below ground surface (bgs), respectively). The sampling must target areas of sediment accumulation such as fine-grained sediment in outfall channels. The samples must be analyzed for the same analytical suite as that proposed for the four outfall samples.

**59. NMED Comment:** The Permittees state in their response that the former decontamination bay in Room 34B of the Radioactive Liquid Waste Treatment Facility (RLWTF) now houses two 25,000-gal tanks used to store treated effluent. The Permittees also state that additional information to better document that no releases to the environment have occurred, will be collected during the investigation and included in the Investigation Report. NMED’s comment and General Comment #4 specified that *documentation* supporting that there have been no releases to the environment from AOC 50-010 was to be provided as part of the Response to the NOD. Because the Permittees did not propose investigation activities at AOC 50-010 or provide adequate information (*e.g.*, inspection records, previous or ongoing line testing) demonstrating that there have been no releases from the former decontamination bay, the Permittees must pressure test the tanks and any influent and effluent lines associated with AOC 50-010 to determine if there are any leaks. The Permittees must also plug any inactive lines (if applicable) associated with the tanks. The procedures used to test the lines and tanks and the results of the pressure tests as well as the methods used to plug inactive lines (if applicable) must be included in the Investigation Report.

**60. NMED Comment:** The Permittees state in their response that “[d]uring excavation activities for the pump house foundation, the former seepage pit associated with the SWMU 50-011(a) septic system was discovered and sampled. The seepage pit was subsequently removed along with soil and tuff up to 20 ft below the bottom of the seepage pit.” The location of the “seepage pit” is unclear because there is no mention of a “seepage pit” in the description of SWMU 50-011(a) in Section 6.16 of the Plan. Additionally, the Permittees provide no reference for the document(s) which describes the removal and subsequent sampling of the ‘seepage pit’.

The Permittees have acknowledged that documentation exists describing the removal of the seepage pit and confirmatory sampling. However, this information was not included in the response to the NOD. The Permittees must include all documentation describing the removal of the seepage pit as well as provide a summary of confirmatory sampling in

the Investigation Report. If inadequate information is provided, additional samples must be collected at the location of the former seepage pit in a subsequent phase of work.

**61. NMED Comment:** The Permittees state in their response that AOC 50-001(b) consists of two active sanitary wastewater lift stations and associated piping. The Permittees go on to state that additional information to document the site conditions related to the potential for past releases will be collected during the investigation and presented in the Investigation Report. NMED's comment and General Comment #4 specified that *documentation* supporting that there have been no releases to the environment from AOC 50-011(b) was to be provided as part of the Response to the NOD. Because the Permittees did not propose investigation activities at AOC 50-011(b) or provide adequate information (e.g., inspection records, previous or ongoing line testing) demonstrating that there have been no releases from these wastewater lift stations, the Permittees must pressure test the tanks and all influent and effluent lines associated with AOC 50-011(b) to determine if there are any leaks. The procedures used to test the lines and tanks and the results of the tests must be included in the Investigation Report.

**62. NMED Comment:** Because the Permittees have not provided adequate information (e.g., inspection records, previous or ongoing line testing) demonstrating that there have been no releases from 55-008, the Permittees must pressure test the tanks to determine if there are any leaks. The Permittees must sample the contents of the sumps and the soil/tuff directly beneath the sumps. The samples must be analyzed for TAL metals, nitrate, perchlorate, gamma spectroscopy, isotopic plutonium, isotopic uranium, tritium, SVOCs, VOCs, cyanide, pH, and PCBs. The Permittees must also plug any inactive influent and effluent lines emanating from all existing tanks and sumps associated with SWMU 55-008. The procedures used to test the tanks and lines and the results of the pressure tests as well as the methods used to plug inactive lines must be included in the Investigation Report.

The Permittees state in their response that "[i]n February 2002, to expedite approval of other SWMUs included in the Request for Permit Modification, LANL formally withdrew SWMU 48-004(a,b,c) from consideration for removal from the permit pending collection of additional information requested by NMED." NMED believes that the reference to SWMU 48-004(a,b,c) was a typographical error. SWMU 55-008 was formally withdrawn from consideration for removal from the permit in 2002.

**Additional Comments:**

**1) Section 8.4.2, Vapor Screening for VOCs, page 69:**

**NMED Comment:** The Permittees propose to use a portable VOC monitor equipped with an 11.7-electron volt lamp to screen soil and tuff samples. NMED has allowed the use of a photoionization detector (PID) for field screening of core samples in the past. However, using a PID with an extremely sensitive lamp (e.g., 11.7 ev) will likely yield unreliable field screening

results. NMED reminds the Permittees that only off-site fix laboratory results will be accepted to determine if the nature and extent of contamination has been defined.

**2) Section 8.4.3, Fixed Laboratory Analytical Methods, page 69:**

**NMED Comment:** In accordance with Sections XI.B.7 and XI.B.8 of the Order, the Permittees must provide a description of all anticipated chemical analytical test methods to be performed during the investigation phase. Because the Permittees have not provided a description of the analytical methods to be used, NMED will require use of the following test methods:

VOCs: 8260

SVOCs: 8270

TAL metals: 6000/7000 series

Nitrate: 353.3

Perchlorate: 8321A

PCBs: 8082

Dioxins/furans: 8290

Tritium: liquid scintillation

Explosive compounds: 8330

Cyanide: 9012

Hexavalent chromium: 3060A

TPH-DRO: 8015M

Alpha Spectroscopy (Isotopic Plutonium, Isotopic Uranium, Isotopic Thorium, Americium-241, and Strontium-90)

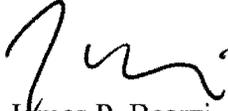
Gamma Spectroscopy

All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order. The Upper Mortandad Canyon Aggregate Area Investigation Report must be submitted to NMED no later than September 29, 2009. The Notice Date will be March 29, 2010.

Messrs. Gregory and McInroy  
March 24, 2008  
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Please contact Kathryn Roberts at (505) 476-6041, should you have any questions.

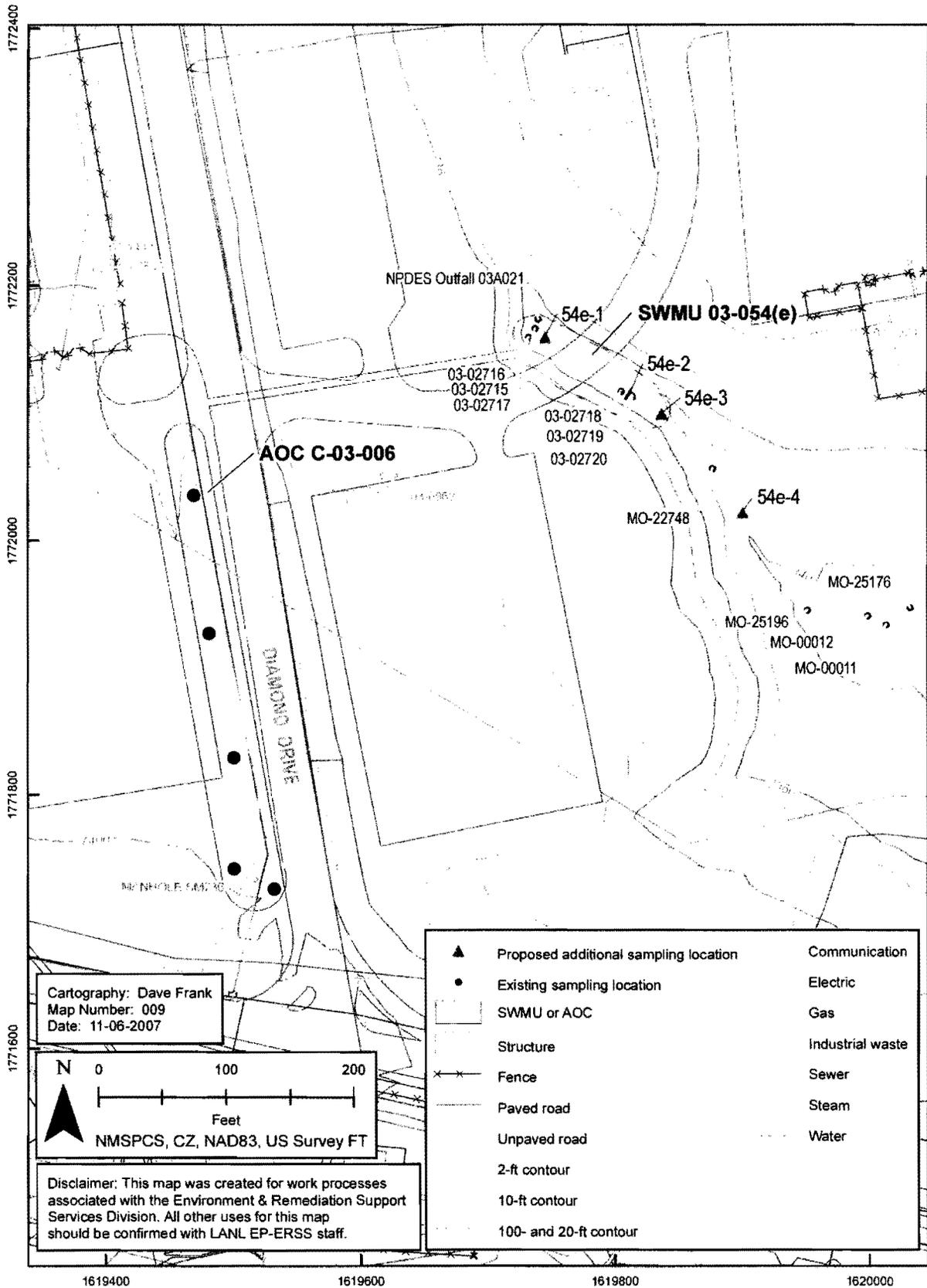
Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

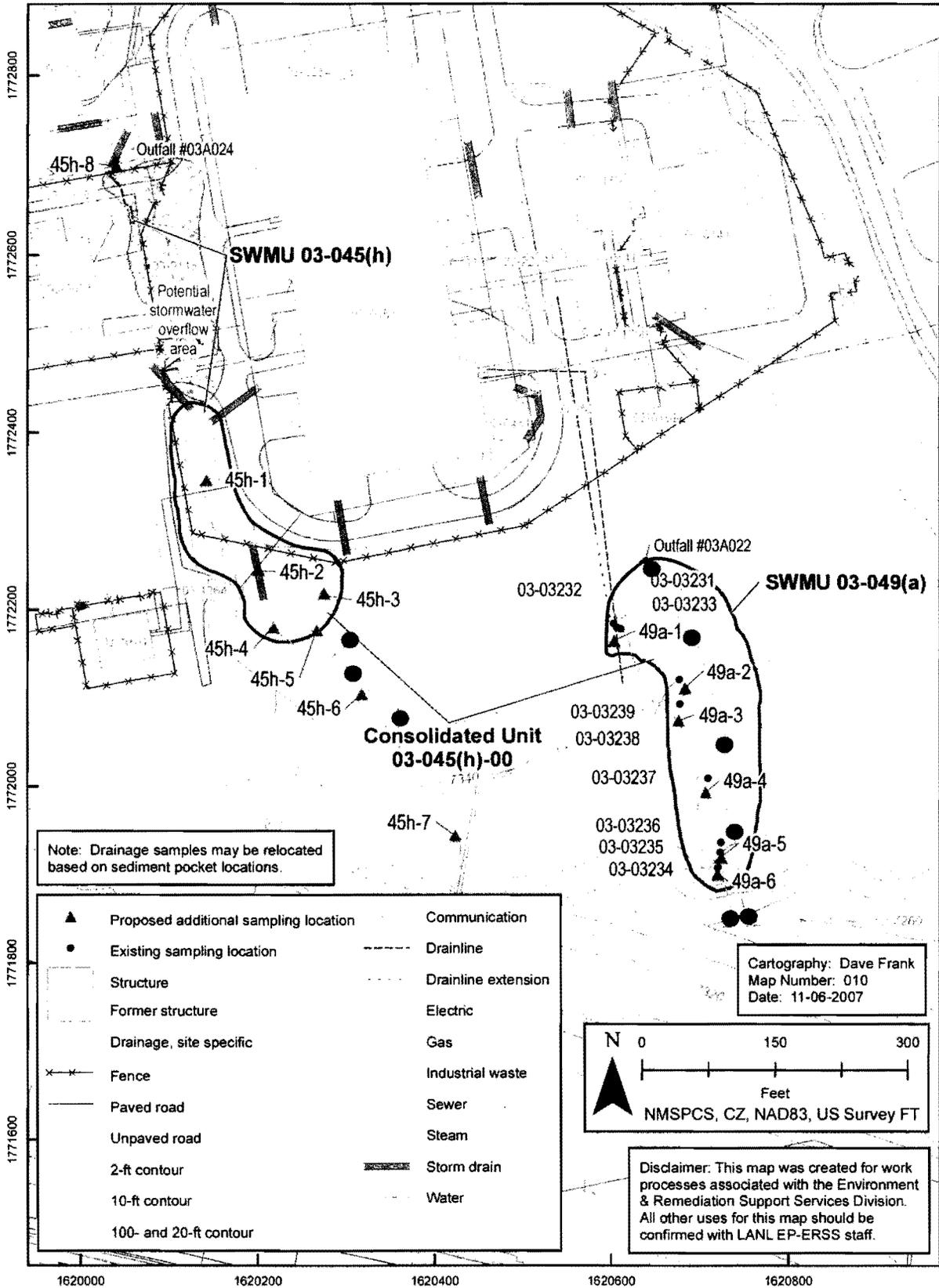
cc:

D. Cobrain, NMED HWB  
K. Roberts, NMED HWB  
N. Dhawan, NMED HWB  
R. Kay, NMED HWB  
S. Yanicak, NMED DOE OB, MS J993  
T. Skibitski, NMED DOE OB  
L. King, EPA 6PD-N  
G. Rael, DOE LASO, MS A316  
S. Stiger, ENV MS J591  
File: Reading and LANL '08, TA-3



**Figure 3.18-2 Proposed sampling locations at SWMU 03-054(e) and AOC C-03-006**

● NMED additional sample location



**Figure 3.15-1 Proposed sampling locations at SWMU 03-045(h) and SWMU 03-049(a) [Consolidated Unit 03-045(h)-00]**

● NMED additional sample location

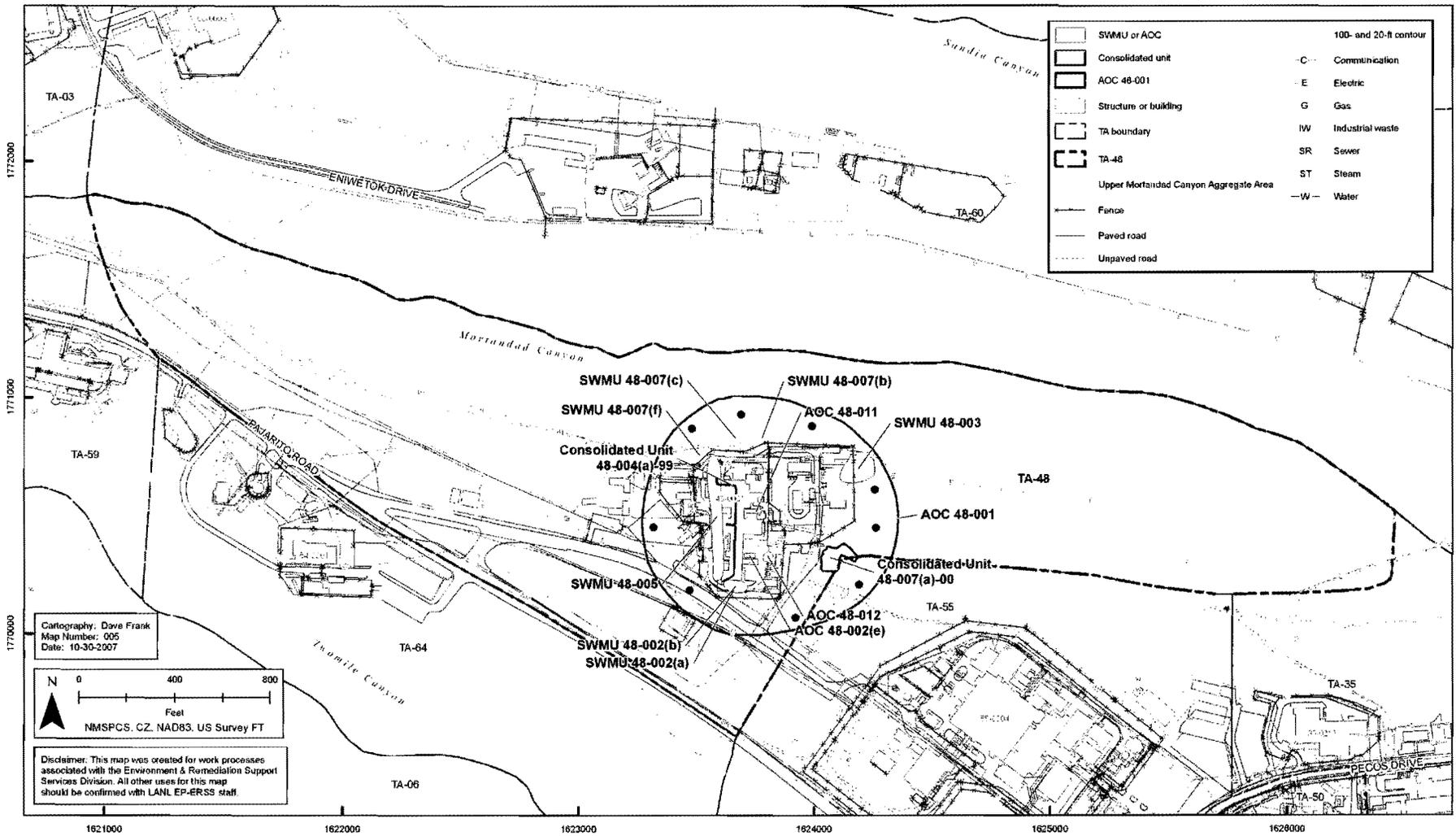


Figure 5.1-1 Site features for TA-48 SWMUs, AOCs, and consolidated units

● NMED additional sample location

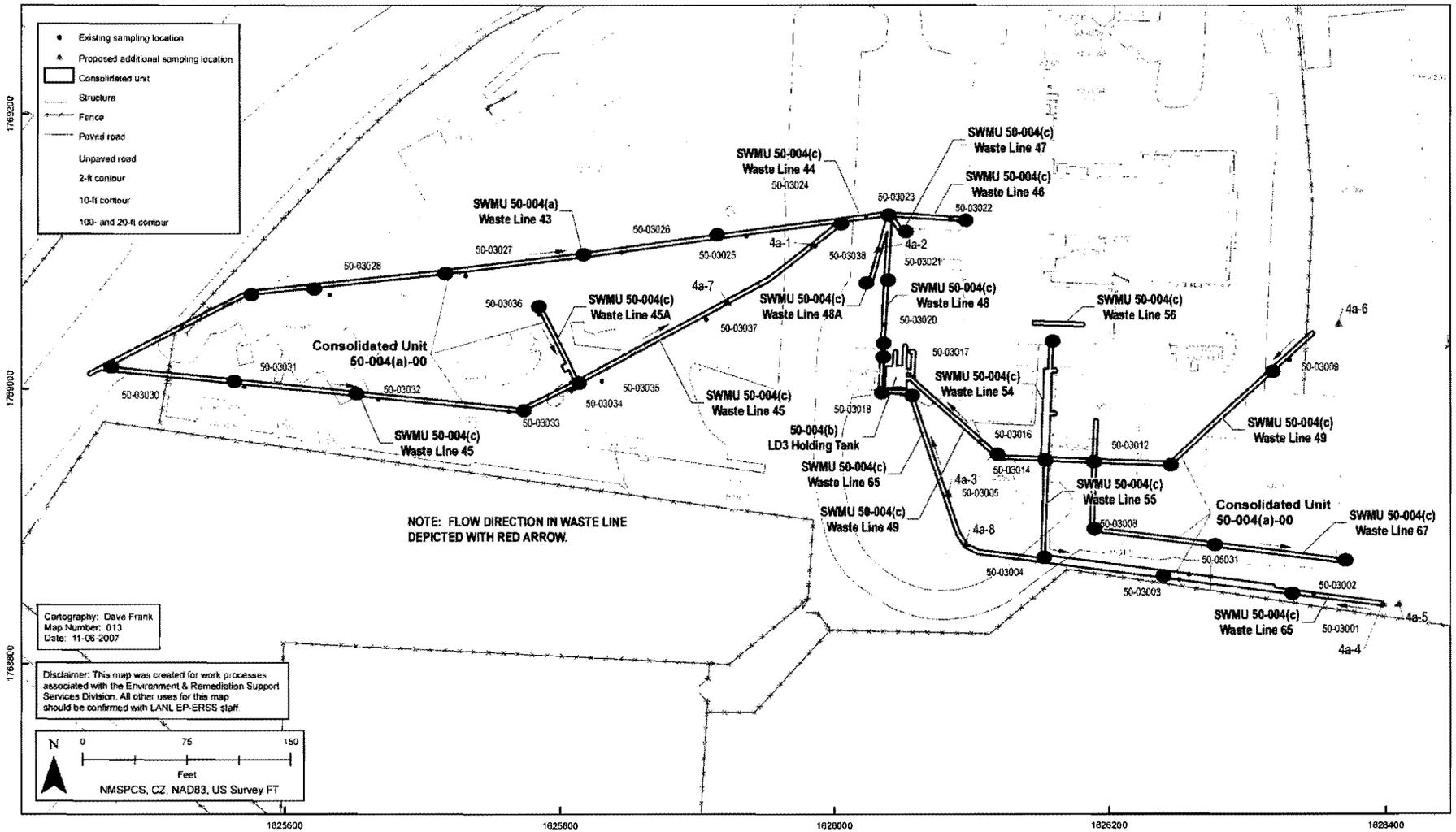


Figure 6.8-1 Proposed sampling locations at Consolidated Unit 50-004(a)-00

● NMED additional sample location

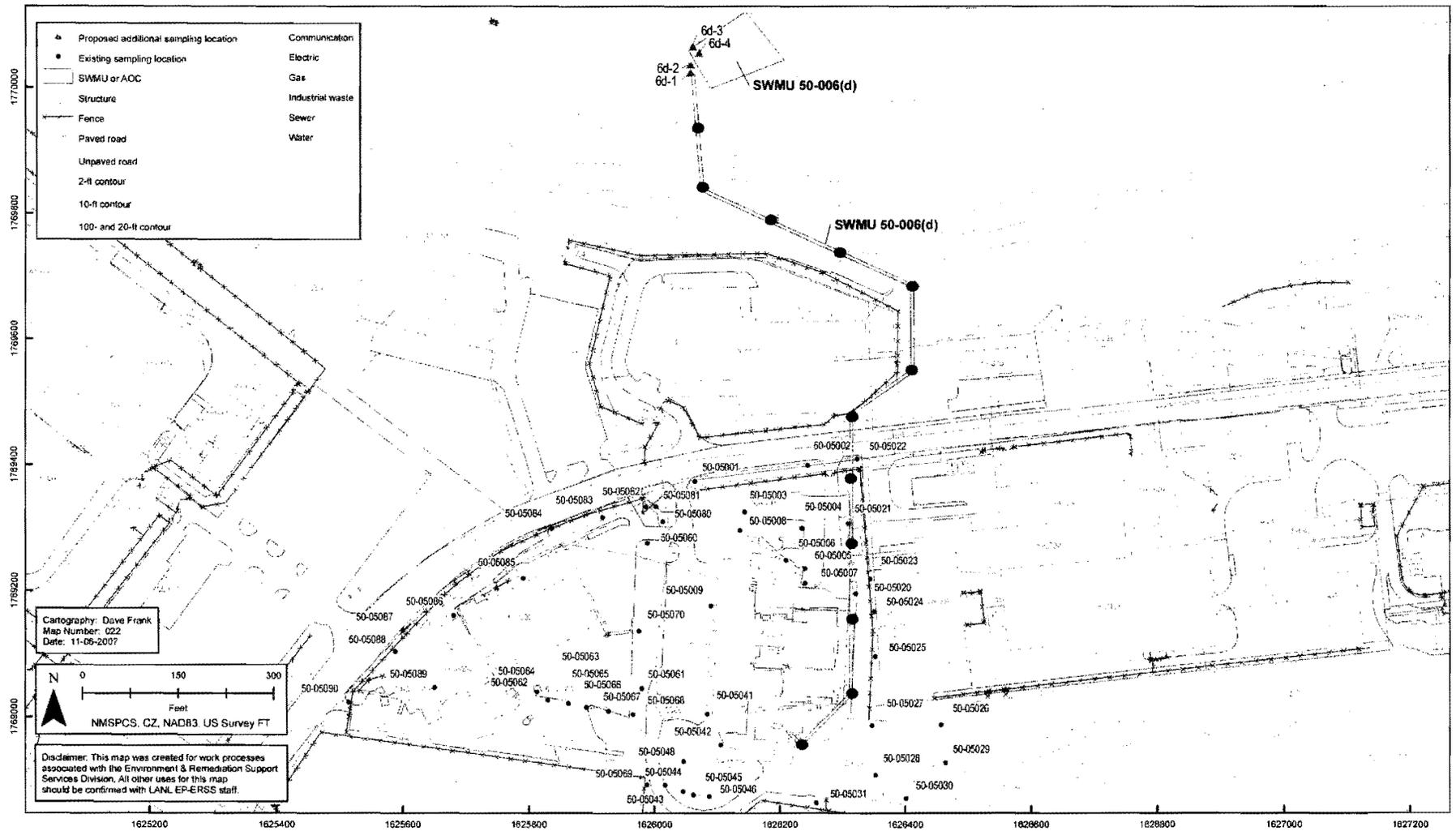


Figure 6.11-4 Proposed sampling locations at SWMU 50-006(d)

● NMED additional sample location