

Appendix G: RFLMA Contact Records

RFLMA contact records issued during 2011 are included in this appendix.

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Replace Mound Site Plume Treatment System (MSPTS) media and maintain/repair discharge gallery.

Contact Record Approval Date: 1/14/11

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, S.M. Stoller (Stoller); Rick DiSalvo, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: A routine maintenance activity to remove the MSPTS spent treatment media (zero valent iron [ZVI] filings) and replace it with new ZVI media is scheduled for January-February 2011. The last MSPTS media replacement was performed in 2006. See Contact Record 2010-07, which provides information about the MSPTS and the planned media replacement. The scope of the work was also discussed at a consultation meeting with DOE, CDPHE, EPA and Stoller staff on December 13, 2010. The work is summarized in this Contact Record.

The PVC piping in the two treatment cells will also be removed with the media (it is, by design, sacrificial). New PVC piping will be installed as part of the media replacement, but the piping configuration will be changed slightly to prepare for future plumbing changes, should they be desired, to allow easier field operational alignment to provide either up flow or down flow of water through the media. Although the system plumbing was improved in 2006 to allow both of these flow configurations, the currently proposed upgrades will provide improved components within the treatment cells; if desired in the future, additional components will be installed between cells to finalize these plumbing improvements. The end result of the completion of these plumbing improvements will be to provide for easier adjustments to flow configuration, and will eliminate subsurface valves that have proved problematic in some cases. The flexibility to switch the flow directions based on treatment system monitoring results allows flow characteristics to be optimized within the media as conditions warrant.

As discussed in Contact Record 2010-07, additional measures to reduce effluent concentrations of residual volatile organic compounds (VOCs) have been considered. In conjunction with the media replacement, a solar powered pump will be installed in the existing effluent metering manhole (which is approximately 5 feet diameter by 10 feet deep) to pump water from the bottom of the manhole up and through a spray nozzle (also situated within the effluent manhole). This optimization measure will reduce the residual low levels of VOCs via air stripping. Effluent water will only be sprayed within the manhole void space. The air space in the manhole will be vented using small vents installed in the lid and/or side of the manhole, as appropriate, and solar powered fans may assist in promoting ventilation. Data will be collected to help inform improvements in pump rate and spray pattern in order to optimize the effectiveness of this simple air stripping design. If these efforts lead to the conclusion that this air stripper does not perform satisfactorily or is not cost-effective, the RFLMA parties will consult on the feasibility of other air stripper designs.

The work will include excavation to approximately 4 to 5 feet below the ground surface to perform maintenance and make repairs as necessary on existing effluent discharge gallery components including the terminal section of discharge gallery pipe situated adjacent to FC-4 and the surrounding gravel drain. The work includes removing existing piping and aggregate, cleaning any excessive biological or mineralogical detritus, and replacing the piping components and aggregate. This work will be conducted generally within the footprint of the existing discharge gallery components. Attachment 1 shows the general location of the components to be excavated. Excavation at some locations along the run of the 2-inch pipe from the french drain manhole to the gravel drain components may also be done to investigate conditions and to verify locations for updating as-built drawings.

This excavation work will exceed the 3-foot depth limit specified by Rocky Flats Legacy Management Agreement (RFLMA) institutional control (IC) 2 (RFLMA, Attachment 2, Table 4, Control 2); thus, the procedures require preapproval.

The objective of IC 2 regarding excavations with a depth that exceeds 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. These ICs also result in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6} . As discussed below, the proposed work achieves the risk management policy goal.

Excavation will be reduced to the extent feasible, and soils will be returned to approximately the preexisting grade. Excess soils and aggregate from the excavation after the new discharge gallery is installed will be used in the immediate area to reduce the potential for ponding, enhance drainage away from the treatment cells and associated components, and improve the road servicing the MSPTS. The best management practices in the *Erosion Control Plan for Rocky Flats Property Central Operable Unit, DOE-LM/1497-2007* (July 2007) will also be implemented to provide erosion controls for the construction area so that run-on and runoff will be minimized.

The MSPTS is expected to be shut down for several weeks to accomplish the work. Water within the treatment cells at the start of the project will be pumped out through the MSPTS effluent manhole. Water from precipitation in the excavation that may impact the construction work, or that accumulates in the treatment cells during the work, will be pumped to the ground in the area west of the excavation area. If water that collects in the MSPTS collection trench needs to be managed to reduce the levels in the trench, it will be transferred to the East Trenches Plume Treatment System.

CDPHE has requested that the following information related to ICs be included in contact records for soil excavation:

1) Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

The work is at the MSPTS. Except for MSPTS-related components, there are no other subsurface structures in the immediate vicinity.

2) Provide information about any former IHSSs/PACs [Individual Hazardous Substance Sites/Potential Areas of Concern] or other known soil or ground water contamination in the vicinity (or state that there is no known contamination).

The Mound Site Plume and Oil Burn Pit #2 Plume are upgradient of the MSPTS. There are no former IHSSs or PACs in the vicinity of the excavation area. Several former IHSSs or PACs are north, east, and south of the work area, but are not near the area to be disturbed. All of these were dispositioned by CDPHE and EPA approved "No Further Action Recommendations", and thus do not pose risk of contamination. These IHSSs/PACs are:

- Former IHSS 190, Caustic Leak (also referred to as the Central Avenue Ditch);
- Former IHSS 192, Anti-Freeze Discharge;
- Former PAC 900-1311, Septic Tank East of Building 991; and
- Former PAC 900-1312, OU 2 Water Spill.

The discharge gallery components function to carry the treated effluent water from the MSPTS. When flow to the MSPTS is shut down for the work, the effluent will stop. The volume of residual effluent in the components, if any, will be small. Contact Record 2010-07 includes an evaluation of MSPTS effluent concentrations and provides the basis for the conclusion that the effluent does not pose any significant risk to human health or the environment.

3) Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When completed, the surrounding soil will be generally consistent with the existing grade, with some very minor improvements to facilitate drainage and prevent ponding at the treatment cells.

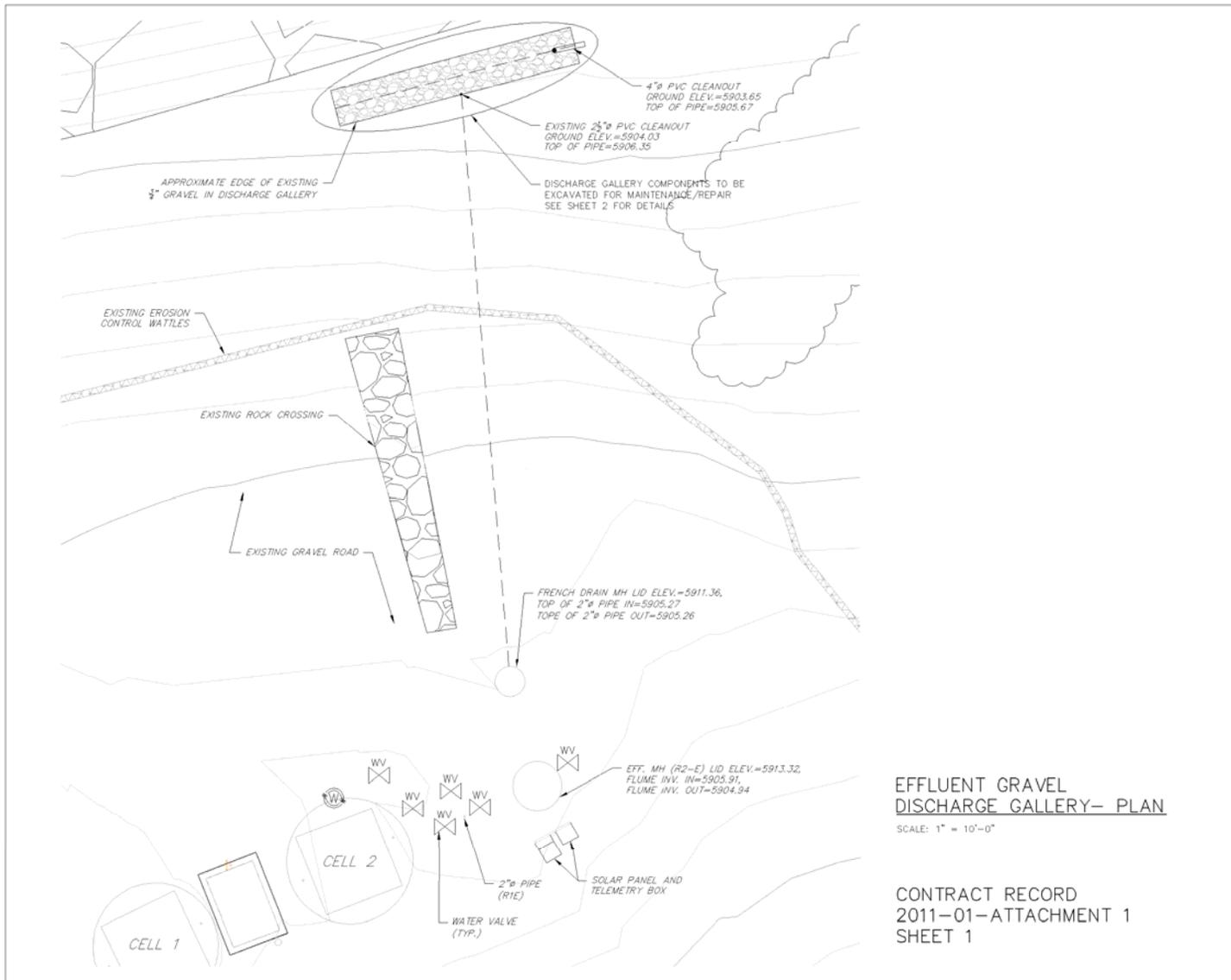
Closeout of Contact Record: This contact record will be closed when the work is completed and post-construction revegetation and erosion controls are in place.

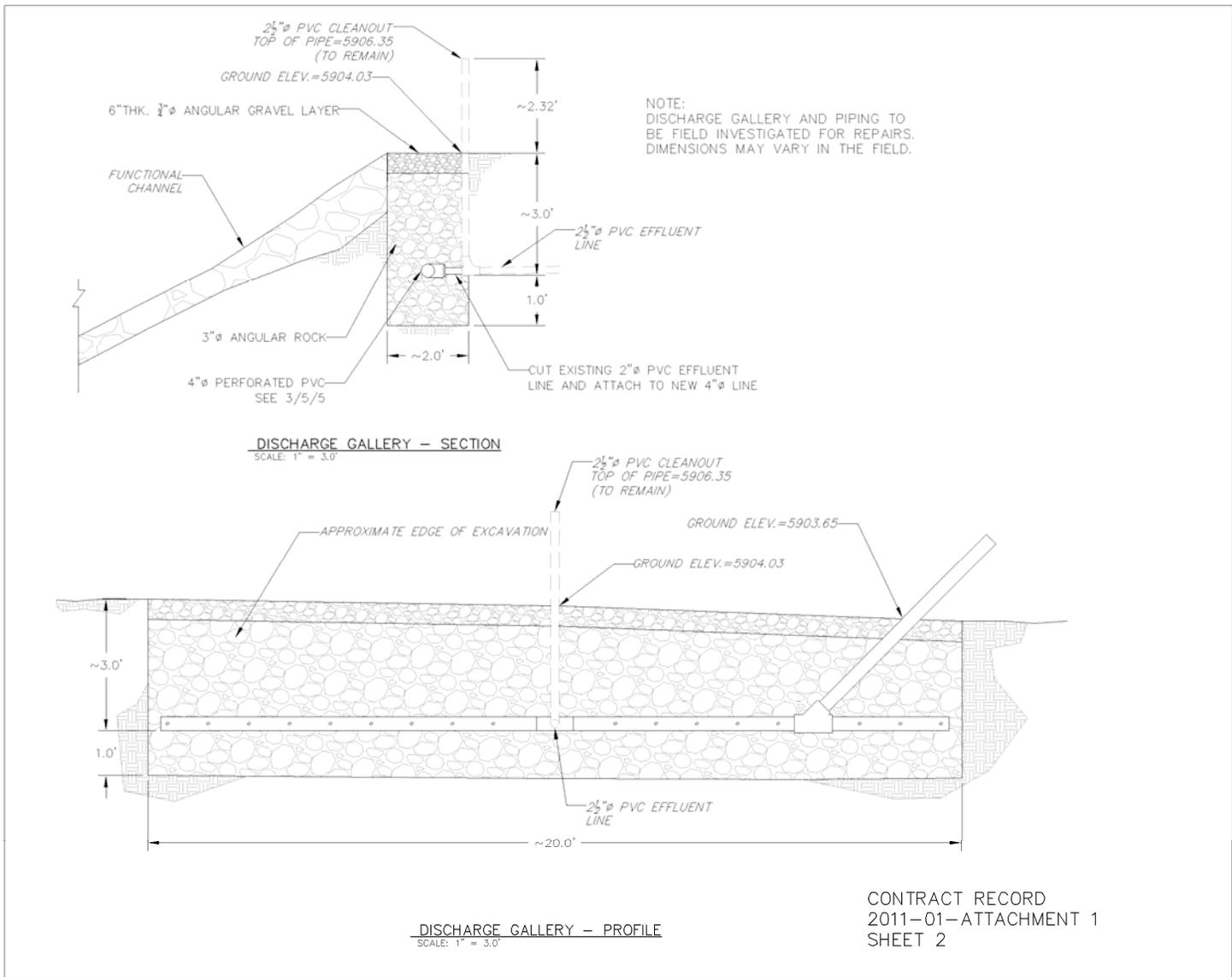
Resolution: Carl Spreng, CDPHE, approved this contact record.

Contact Record Prepared By: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
File





ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Replace sentinel well 33703.

Contact Record Approval Date: March 23, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, S.M. Stoller Corporation (Stoller); Rick DiSalvo, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: The casing is kinked in sentinel well 33703, which monitors groundwater within the buried drainage south of former B371 and downgradient of former Oil Burn Pit #1. This drainage was filled and graded for construction of the parking lot for the former PACS-2. The kink has gradually worsened, and the well now requires replacement.

This Contact Record documents DOE's consultation with CDPHE and EPA on February 17, 2011, regarding the proposed well replacement.

This monitoring well was installed in 2003 using a Geoprobe. Similar equipment will be used to install its replacement, and the well design will be similar to that of the existing well. The table below provides construction information for well 33703; all depths are in feet below ground surface.

Top of screen	Bottom of screen	Total depth of well	Casing diameter	Screened materials
5.4	33.5	33.6	1 inch	Fill, colluvium/claystone

The replacement well will be assigned the identification number 33711. This well will be constructed of 1.5-inch PVC with a pre-packed well screen incorporating 20/40 silica sand filter pack. It will be installed approximately 3 feet south (upgradient within the buried valley) of the original well and will be assigned the same Rocky Flats Legacy Management Agreement (RFLMA) classification and objectives as the original well. Once the replacement well is confirmed operable, the original well will be abandoned in place per Colorado rules (2 CCR 402-2), with the casing backfilled and the above-grade components removed and disposed of.

This well replacement and, potentially, the abandonment of the original well will include subsurface disturbance that exceeds the 3-foot depth limit specified by RFLMA institutional control (IC) 2 (RFLMA, Attachment 2, Table 4, Control 2); thus, the procedures require preapproval. In addition, a small (approximately 3 feet × 3 feet) area centered on the replacement well will be excavated a few inches for the concrete well pad that forms part of the surface protection.

The objective of IC 2 regarding excavations with a depth exceeding 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. These ICs also result in achieving compliance with the CDPHE risk management policy of ensuring that residual excess lifetime cancer risk to the site user is at or below 1×10^{-6} . As discussed below, the proposed work achieves the risk management policy goal.

Excavation will be reduced to the extent feasible, and soils will be returned to approximately the preexisting grade. The well will be installed using push technology, which creates a relatively small borehole (in this case, under 4 inches in diameter). Any excess soils will be used to backfill any depression resulting from abandonment of well 33703. Clean, native fill will be used to augment excess soils to backfill any depressions resulting from well installation and abandonment. No road will be created to support the well installation; instead, a track-mounted Geoprobe will be used, and crewmembers will either walk or travel by ATV from the nearest road to the well site. Best management practices in the *Erosion Control Plan for Rocky Flats Property Central Operable Unit, DOE-LM/1497-2007* (July 2007) will also be implemented as appropriate to provide erosion controls for the work area so that run-on and runoff will be minimized.

CDPHE has requested that the following information related to ICs be included in contact records for soil excavation:

1) Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

The work location for sentinel well 33703 and new sentinel well 33711 is near the north side of the former PACS-2 parking area south of former B371. There are no subsurface structures in the immediate vicinity.

2) Provide information about any former IHSSs/PACs [Individual Hazardous Substance Sites/Potential Areas of Concern] or other known soil or ground water contamination in the vicinity (or state that there is no known contamination).

Sentinel well 33703 is downgradient of the groundwater plume originating from the Oil Burn Pit #1 source area.

Well 33703 is sampled semiannually. The most recent results, from October 18, 2010, include the following validated detections:

Constituent	Concentration µg/L	Lab Qualifier	RFMLA Table 1 Standard/PQL µg/L	Above RFLMA Standard/PQL?
1,3-Dichlorobenzene	1.3		94	No
1,4-Dichlorobenzene	12		63	No
Benzene	0.59	J	2.2	No
Chlorobenzene	16		100	No
cis-1,2-Dichloroethene	0.69	J	70	No
trans-1,2-Dichloroethene	1.8		100	No
Vinyl chloride	2		0.2 (PQL)	Yes

PQL = practical quantitation limit; µg/L = micrograms per liter; J = estimated quantity

The exposure pathway to contaminants by incidental contact with groundwater is considered insignificant, in accordance with the evaluation in the *Final Comprehensive Risk Assessment Work Plan and Methodology*, Revision 1, September 2005.

Groundwater brought to the surface during development of new well 33711 will be collected as investigation derived material (IDM) and disposed of through the Mound Site Plume Treatment System in the same manner as IDM water from well 33703. The direct push method for installing new well 33711 will not generate any IDM soils.

The well locations are in the northwest corner of former IHSS 156.1, Building 371 Parking Lot, which has been identified as the historical location of a pile of radioactively contaminated soils. The area was investigated, and no contaminant source was indicated. The IHSS was dispositioned by a No Further Accelerated Action decision.

3) Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When installation of well 33711 and abandonment of well 33703 are complete, the grade of the surrounding soil will be generally consistent with the currently existing grade.

Closeout of Contact Record: This contact record will be closed when the work is completed and post-construction revegetation and any necessary erosion controls are in place.

Resolution: Carl Spreng, CDPHE, approved this contact record.

Contact Record Prepared By: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record File

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Resource Conservation and Recovery Act (RCRA) Well Monitoring Results at Original Landfill (OLF) and Present Landfill (PLF)

Contact Record Approval Date: April 25, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, S.M. Stoller Corporation (Stoller); Rick DiSalvo, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: Groundwater monitoring results were reviewed in accordance with Rocky Flats Legacy Management Agreement (RFLMA) requirements and for the preparation of the 2010 RFLMA Annual Report. The results of statistical evaluations of analytical data from the OLF and PLF RCRA wells required consultation among the RFLMA Parties. This contact record documents the specific results driving the need for consultation. More detailed information will be provided in the 2010 Annual Report.

The RFLMA decision flowchart for RCRA wells at the OLF and PLF is presented in Figure 10 of Attachment 2 to the RFLMA. The following summary describes conditions that require consultation to determine an appropriate response. These conditions were discussed in a consultation meeting on March 31, 2010.

OLF

1. Downgradient groundwater contains statistically significant higher concentrations of a constituent included in RFLMA Table 1 than are present in upgradient groundwater, *OR*
2. Trending calculations indicate a constituent in downgradient groundwater at the OLF is on a statistically significant increasing trend.

PLF

1. Downgradient groundwater contains statistically significant higher concentrations of a constituent included in RFLMA Table 1 than are present in upgradient groundwater, *AND* trending calculations indicate a constituent in downgradient groundwater at the PLF is on a statistically significant increasing trend.

Analytical data from the RCRA wells at each landfill was evaluated using the analysis of variance (ANOVA) approach to determine if downgradient concentrations significantly exceeded upgradient concentrations; and using the Seasonal Kendall trending method to assess whether any constituents are on a statistically significant increasing trend.

OLF

At the OLF, the result of corresponding evaluation condition number 1 above is true for 2010: the groundwater results for all three downgradient wells indicate a statistically significant higher

concentration of boron (B) is present in downgradient than upgradient groundwater. The same applies to uranium (U) in downgradient groundwater monitored at well 80205, the easternmost of the three downgradient wells. The concentration of B is below the RFLMA Table 1 standard and the concentration of U is below the RFLMA groundwater threshold value. Furthermore, the U in this well has been characterized as 100% natural U by Los Alamos National Laboratory using Thermal Ionization Mass Spectrometry analysis.

The result for evaluation condition number 2 is not true for 2010.

The overall 2010 evaluation results for these analytes were no different than the 2009 results, which are summarized in contact record 2010-05 and the 2009 RFLMA Annual Report.

PLF

At the PLF, the result of the corresponding evaluation condition is true for 2010 for B in groundwater monitored at well 73105. The concentration of B is below the RFLMA Table 1 standard.

The overall 2010 evaluation results were no different than the 2009 results, which are summarized in contact record 2010-05 and the 2009 RFLMA Annual Report.

Resolution: The appropriate response is to continue monitoring RCRA wells in accordance with RFLMA.

The RFLMA Parties also agreed that no further contact record documentation for evaluation of these analytes at the PLF or OLF is required, and the evaluation is to be provided in subsequent RFLMA Annual Reports. After review of the RFLMA Annual Reports, the RFLMA Parties may decide that subsequent consultation regarding appropriate response is appropriate. Such consultation will be documented in a contact record.

Closeout of Contact Record: This contact record will be closed when it is posted to the Rocky Flats website.

Resolution: Carl Spreng, CDPHE, approved this contact record.

Contact Record Prepared By: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record File

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Reportable Condition for Uranium at Point of Evaluation GS10

Contact Record Approval Date: July 8, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE, John Boylan, S.M. Stoller Corporation (Stoller); Rick DiSalvo, Stoller; Linda Kaiser, Stoller; George Squibb, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: A reportable condition at surface water Point of Evaluation GS10 was determined based on an evaluation of validated analytical results for uranium from the composite sample collected during the period from 10:50 a.m. on April 11, 2011, to 11:39 a.m. on May 4, 2011.

The evaluation was performed in accordance with *Rocky Flats Legacy Management Agreement* (RFLMA) Attachment 2, Figure 6, "Points of Evaluation," which resulted in a calculated 12-month rolling average concentration for uranium on April 30, 2011, of 18.8 µg/L. This amount exceeds the RFLMA applicable Table 1 standard of 16.8 µg/L. Validated results were received on June 14, 2011, and notification to the regulatory agencies and the public, in accordance with RFLMA Attachment 2, Figure 6, was made by e-mail on June 16, 2011.

Pursuant to RFLMA Attachment 2, Section 6.0, "Action Determinations," for a reportable condition:

- DOE must submit a plan and schedule for an evaluation to address the condition within 30 days of receiving the validated data for the reportable condition.
- DOE will consult with CDPHE and EPA to determine if mitigating actions are necessary.
- The objective of the consultation will be to determine a course of action (if determined necessary) to address the reportable condition and to ensure that the remedy remains protective.
- The results of the consultation will be documented in contact records, in written correspondence, or both.

This Contact Record documents DOE's consultation with CDPHE and EPA on June 16, 2011.

The RFLMA Parties agreed on the evaluation steps described below and agreed that no mitigating actions are necessary while the condition is being evaluated, for the following reasons:

- Downstream monitoring indicates that the remedy remains protective. The current 12-month rolling-average uranium concentration at the Pond B-5 outlet, Point of Compliance GS08, is 7.8 µg/L and includes the sample results through the last Pond B-5 discharge from March 24

to 30, 2011. Uranium results from the non-RFLMA monitoring project location B5INFLOW, which is upstream of GS08, have been reviewed, and concentrations are also below the RFLMA standard. B5INFLOW is also a flow-paced sampling station.

- The groundwater in the GS10 area has high concentrations of naturally occurring uranium as well as lower concentrations of anthropogenic uranium. Measured concentrations of uranium at GS10 include both naturally-occurring as well as anthropogenic uranium. Historically, naturally-occurring uranium has made up a much greater proportion of the concentration at GS10 - generally about 70 percent.
- In recent years, the elevated uranium concentrations at GS10 are a result of proportionally increased groundwater contribution to surface water baseflow due to reduced surface runoff resulting from the removal of impervious surfaces (e.g., pavement, buildings) during site closure. In addition to the general increase in groundwater contribution to the stream, the below-normal precipitation from the late fall of 2010 until mid-May 2011 resulted in a further proportional increase in groundwater contribution.
- The uranium concentrations are expected to vary due to the natural variability in environmental conditions such as the amounts of precipitation over time. Elevated uranium concentrations at GS10 above the RFLMA standard previously occurred for the period from April 30, 2006, to March 31, 2009, with the 12-month rolling averages in the range of 10.2 to 15.8 pCi/L. The RFLMA uranium standard was subsequently revised from an activity-based radionuclide parameter of 10 pCi/L to a concentration based metal parameter of 16.8 µg/L, which equates to approximately 11.3 pCi/L. Thus, the ranges in activity summarized above for 2006 to 2009 equate to approximately 15.2 to 23.5 µg/L. Levels returned to below the RFLMA standard after March 31, 2009, because precipitation levels increased.

However, the RFLMA Parties agreed that further evaluation should be done to help confirm the foregoing conclusions and aid in developing mitigating actions in the future if they become necessary.

Plan and Schedule to Address the Reportable Condition:

The RFLMA Parties agreed that steps described in this Contact Record shall serve as the plan and schedule for the evaluation.

The following preliminary steps are being or have been taken and will inform the evaluation.

- The following samples have been sent to Los Alamos National Laboratory (LANL) for isotopic analysis to determine the percentages of natural and anthropogenic uranium to compare with percentages in pre-closure and post-closure samples previously analyzed by LANL:
 - Flow-paced surface water sample from GS10: Historically, this location has had approximately 70 percent natural uranium.
 - Groundwater sample from upgradient well 99405: Historically, this location has had reported uranium concentrations that typically exceed 100 µg/L and have been 99.9 to 100 percent natural uranium.

- Non-RFLMA sampling and analysis of uranium downstream of GS10 at B5INFLOW will continue. Contact Record 2010-03 describes the non-RFLMA sampling project.

In addition to this sampling, two temporary surface water sample locations upstream of GS10 will be established for biweekly uranium grab sampling. The RFLMA Parties will determine the duration of the grab sampling for these upstream locations, based on an evaluation of the results.

The results of the foregoing sampling and analysis will help to determine if the percentages of natural and anthropogenic uranium differ significantly from previous results or if levels of uranium upstream of GS10 might suggest the need for further investigation or mitigating actions.

DOE will report the results of this monitoring and subsequent evaluation in RFLMA quarterly and annual reports of surveillance and monitoring activities. This plan and schedule may be modified based on the outcome of RFLMA Party consultation related to the evaluation.

To keep the public informed, the outcome of continuing RFLMA Party consultation regarding the evaluation will be reported in RFLMA quarterly and annual reports of surveillance and monitoring activities or in subsequent Contact Records.

Closeout of Contact Record: This Contact Record will be closed when the evaluation is completed.

Resolution: Carl Spreng, CDPHE, approved this Contact Record.

Contact Record Prepared By: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record File

ROCKY FLATS SITE

REGULATORY CONTACT RECORD

Purpose: Update for Reportable Condition for Uranium at Point of Evaluation GS10

Contact Record Approval Date: October 4, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE; John Boylan, S.M. Stoller Corporation (Stoller); Rick DiSalvo, Stoller; Linda Kaiser, Stoller; George Squibb, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: This Contact Record documents DOE's consultation with CDPHE and EPA on September 12, 2011 regarding the evaluation of the reportable condition at surface water Point of Evaluation GS10. All sampling locations discussed in this Contact Record 2011-05 are shown on Figure 1 at the end of this document.

The reportable condition was determined based on an evaluation of validated analytical results for uranium from the composite sample collected during the period from 10:50 a.m. on April 11, 2011, to 11:39 a.m. on May 4, 2011. The initial consultation regarding the reportable condition is documented in Contact Record 2011-04, approved July 8, 2011. Contact Record 2011-04 describes the **Plan and Schedule to Address the Reportable Condition**.

All of the planned actions described in Contact Record 2011-04 have been implemented, as follows:

- The following samples have been sent to Los Alamos National Laboratory (LANL) for isotopic analysis to determine the percentages of natural and anthropogenic uranium to compare with percentages in pre-closure and post-closure samples previously analyzed by LANL:
 - Flow-paced surface water sample collected June 3 through 13, 2011, from GS10. Historically, samples from this location have contained approximately 70 percent natural uranium.
 - Groundwater sample from upgradient well 99405, which is on the southeast side of former Building 991. Historically, this location has reported uranium concentrations ranging from 98 to 712 µg/L that have been 99.9 to 100 percent natural uranium.
- Non-Rocky Flats Legacy Management Agreement (RFLMA) sampling and analysis of uranium downstream of GS10 at sampling location B5INFLOW is continuing. Contact Record 2010-03 describes the non-RFLMA sampling project that includes B5INFLOW.

- Two temporary surface water sample locations upstream of GS10 were established for biweekly uranium grab sampling. The RFLMA Parties will determine the duration of the grab sampling for these upstream locations, based on an evaluation of the results. These locations are:
 - FC4750 in Functional Channel 4, east of the former location of the 750 Pad.
 - FC4991 in Functional Channel 4, at the east end of the wetland south of former Building 991.

The results of the LANL analysis were informally reported by LANL to Stoller staff while the formal LANL report is being prepared:

- The signature results for GS10 do not match the historical natural uranium percentage of approximately 70 percent. Natural uranium was reported as 49 percent. The uranium concentration was 21.6 µg/L. The previous LANL sample, taken on March 17, 2010, was 24.1 µg/L and 71.7 percent natural uranium.
- The results for well 99405 were 411.1 µg/L uranium, with a 100 percent natural uranium signature. These results are consistent with historical data.

Results for samples from GS10 and relevant upstream and downstream surface water locations collected in 2011 are provided below in Tables 1 through 3, and a map illustrating these locations is attached as Figure 1. A sample for the analysis of uranium was also collected on December 21, 2010, from the Mound Site Plume Treatment System (MSPTS) effluent, and uranium was not detected at a detection limit of 1 µg/L. The MSPTS effluent discharge gallery is upstream of GS10.

The downstream monitoring results continue to indicate that the remedy remains protective, since uranium results are below the RFLMA surface water standard, 16.8 µg/L.

While the uranium concentration at GS10 appears to be decreasing from the levels that triggered the reportable condition, the 12-month rolling average uranium concentration is still above the RFLMA surface water standard. As stated in Contact Record 2011-04, the plan and schedule to address the reportable condition may be modified based on the outcome of RFLMA Party consultation related to the evaluation.

Table 1. Recent Uranium Grab Sample Results

Locations (upstream → downstream)	FC4750	FC4991	GS10	B3OUTFLOW	B5INFLOW	B5 POND
Sample Date	Result (µg/L)					
1/12/2011	NA	NA	18.0	25.0	14.0	7.2
1/26/2011	NA	NA	20.0	26.0	15.0	7.0
2/10/2011	NA	NA	18.0	20.0	10.0	7.1
2/24/2011	NA	NA	24.0	15.0	11.0	6.1
3/9/2011	NA	NA	22.0	18.0	9.1	7.4
3/23/2011	NA	NA	9.8	17.0	11.0	6.8
4/6/2011	NA	NA	13.0	16.0	9.7	7.9
4/19/2011	NA	NA	18.0	14.0	8.9	8.3
5/4/2011	NA	NA	79.0	14.0	8.2 ^a	8.3
5/18/2011	NA	NA	19.0	17.0	10.0	7.7
6/1/2011	NA	NA	14.0	14.0	7.8	7.3
6/15/2011	NA	NA	12.0	11.0	9.2	8.0
6/30/2011	24.0	6.3	9.6	8.0	7.4	7.5
7/13/2011	14.0	9.7	12.0	6.3	5.5	6.8
7/27/2011	14.0	8.7	8.7	6.2	3.9	6.5
8/10/2011	21.0	4.8	6.6	6.5	No Flow	5.6
8/15/2011 Pre-discharge samples					DOE	5.5
					CDPHE	5.4

Notes: Some results are preliminary and subject to revision.

^a The result returned from the lab for this sample was 72 µg/L. However, it appears that this sample was accidentally switched with the sample collected at location A2EFF. This determination is supported by patterns in both grab and composite samples at GS10, B3OUTFLOW, B5INFLOW, and A2EFF. The table above shows the result that is assumed to be correct.

NA = not sampled

Table 2. Recent Uranium Flow-Paced Composite Sample Results

Locations (upstream → downstream)	GS10		B5INFLOW		GS08	
	Sample Period	Result (µg/L)	Sample Period	Result (µg/L)	Sample Period	Result (µg/L)
	1/3–2/16/2011	21.8	1/18–4/11/2011	13.5		
	2/16–4/11/2011	89.2	4/11–5/4/2011	9.1	3/24 – 3/26/2011	7.9
	4/11–5/4/2011	71.0	5/4–5/13/2011	14.6	3/26 – 3/28/2011	7.5
	5/4–5/13/2011	46.5	5/13–5/18/2011	11.9	3/28 – 3/30/2011	7.9
	5/13–5/20/2011	18.6	5/18–5/19/2011	8.0		
	5/20–6/3/2011	35.8	5/19–5/20/2011	10.3		
	6/3–6/13/2011	20.1	5/20–6/3/2011	10.5		
	6/13–7/1/2011	10.6	6/3–7/1/2011	6.2		
	7/1–7/8/2011	7.8	7/1–7/10/2011	5.3		
	7/8–7/10/2011	4.4	7/10–7/11/2011	4.7		
	7/10–7/11/2011	6.1	7/11–7/14/2011	^a		
	7/11–7/21/2011	^a	7/14–7/21/2011	^a		
	7/21–8/24/2011	^a	7/21–8/24/2011	^a		
	8/24/2011–	^a	8/24/2011–	^b		

Notes: Some results are preliminary and subject to revision.

^a Analysis pending

^b Sample in progress

Table 3. Summary of Recent 12-Month and 30-Day Average Uranium Concentrations (µg/L)

Locations (upstream → downstream)	GS10		B5INFLOW		GS08	
	30-Day	12-Month	30-Day	12-Month	30-Day	12-Month
Date						
1/31/2011	21.4	14.2	9.8	^a	No Flow	9.4
2/28/2011	47.3	14.1	13.5	^a	No Flow	9.4
3/31/2011	89.2	14.1	13.5	^a	No Flow	9.2
4/30/2011	77.1	18.8	10.0	^a	No Flow	8.8
5/31/2011	28.1	21.5	10.9	^a	No Flow	7.8
6/30/2011	17.1	22.8	6.5	9.8	No Flow	7.8
7/31/2011	NA	NA	NA	NA	No Flow	7.8
8/31/2011	NA	NA	NA	NA	No Flow	7.8

Notes: Some values are preliminary and subject to revision.

NA = calculation pending receipt of analytical results

^a B5INFLOW not yet operating for 12 months

No Flow = 30-day averages are not calculated for days with no flow

Based on the LANL results for GS10, the RFLMA Parties agreed the following additional sampling data will help inform the ongoing evaluation.

- The following samples will be collected and sent to LANL for isotopic analysis to determine the percentages of natural and anthropogenic uranium.
 - Flow-paced surface water sample from GS10 to help confirm the previous sample results.

- Grab sample at surface water locations FC4750 and FC4991.
- Flow-paced surface water sample from B5INFLOW. This location does not have a previous LANL sample.
- Grab sample at a surface water location B3OUTFLOW in South Walnut Creek, which is between GS10 and B5INFLOW. One post-closure LANL sample was taken at B3OUTFLOW. The result was a 74.3 percent natural uranium signature.
- Wells 45608, 91203, 91305, and 15699, which are upgradient of GS10, will be sampled for uranium, and a sample from one of these wells will be selected for LANL analysis based on the uranium concentration. Of these, only well 91305 includes uranium as a routine RFLMA analyte.

These data will assist in the possible identification of a source that may have contributed to elevated uranium levels at GS10. Samples from the drainage area will also help determine if and where further evaluation samples may be taken.

- Wells 15699, 45608, and 91203 are not required under RFLMA to be sampled for uranium, but they will be sampled for uranium as a part of this evaluation to determine if the groundwater uranium concentrations are above the concentration at GS10 that triggered the reportable condition.
- The following wells that are required under RFLMA to be sampled for uranium and were most recently sampled before the reportable condition occurred will be sampled again to determine current groundwater uranium concentrations for comparison to historical data: 00203, 79502, and 79605, which are generally south and east of the former Solar Evaporation Ponds. Each of these evaluation wells was last sampled in April 2010. Wells in the former Building 991 area that are typically evaluated for uranium (including sentinel wells 91305, 99305, and 99405) were each sampled in the second half of April 2011, and the reported uranium concentrations were consistent with previous data. However, due to its location with respect to FC4991 and other Mound-area wells described previously, well 91305 again will be sampled for uranium as a part of this evaluation.

To keep the public informed, the outcome of continuing RFLMA Party consultation regarding the evaluation will be reported in RFLMA quarterly and annual reports of surveillance and monitoring activities or in subsequent Contact Records.

Closeout of Contact Record: This Contact Record will be closed when the evaluation is completed.

Resolution: Carl Spreng, CDPHE, approved this Contact Record.

Contact Record Prepared By: John Boylan, George Squibb, and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
 Scott Surovchak, DOE
 Linda Kaiser, Stoller
 Rocky Flats Contact Record File

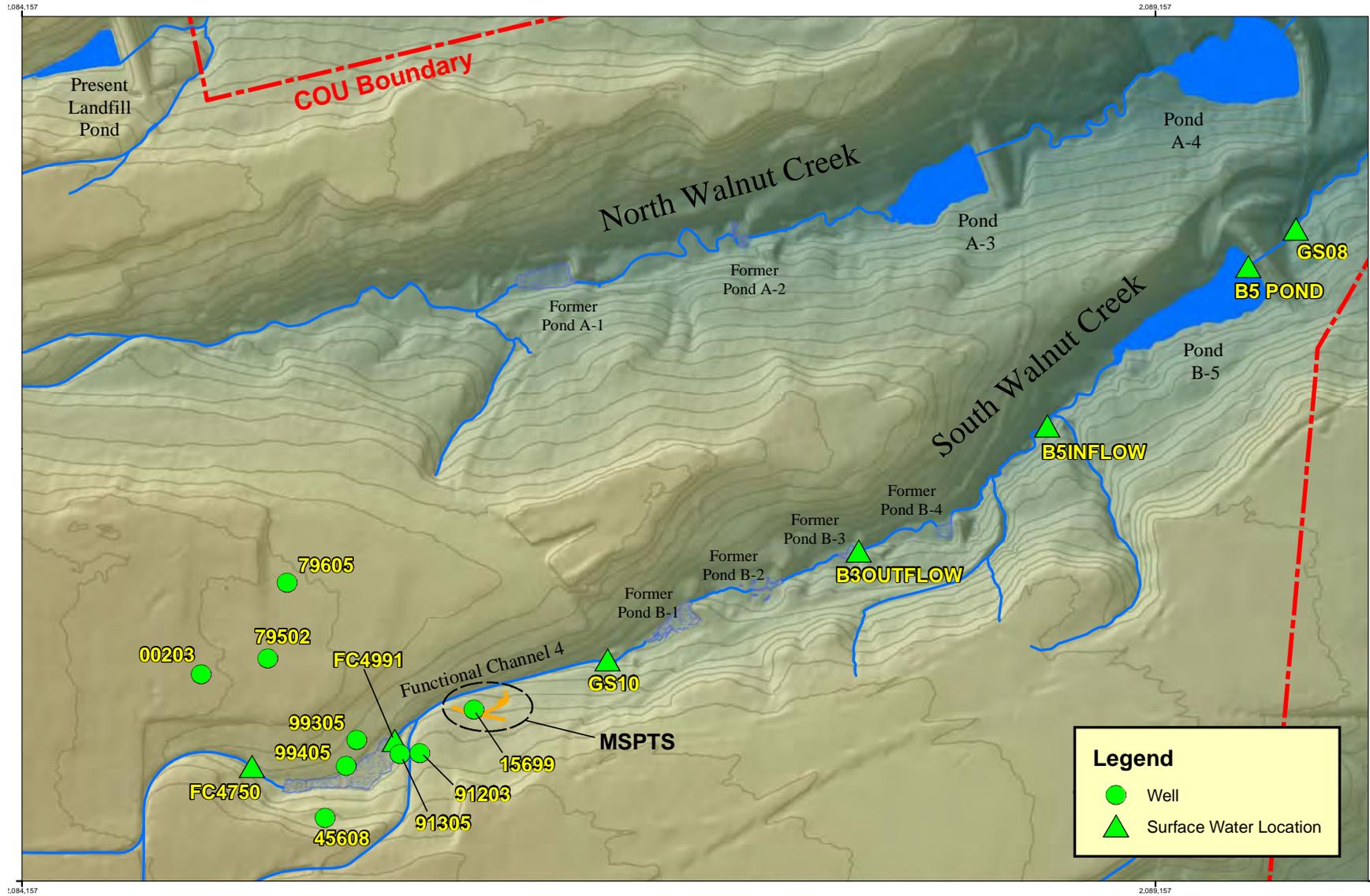


Figure 1. Sampling Location Map

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Soil Disturbance Review Plan—Roads upgrade project involving reconfiguration of a sharp curve west of Functional Channel 1

Contact Record Approval Date: October 18, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE; Rick DiSalvo, S.M. Stoller Corporation (Stoller); Linda Kaiser, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: October 4, 2011

Consultation Meeting Participants: Carl Spreng, CDPHE; Gwen Hooten, DOE; Rick DiSalvo, Stoller; Linda Kaiser, Stoller

Discussion: Maintenance, repair, and upgrades to the gravel road west of Functional Channel 1 within the Central Operable Unit are planned for early November 2011. The upgrades will include reconfiguring a sharp curve in the road south of North Walnut Creek. A drawing showing the topography of the existing roadway curve and the planned reconfiguration for the work is provided in Attachment 1, Soil Disturbance Review Plan.

The reconfiguration will be accomplished by excavating soil and grading soil on the west side of the current curve deeper than 3 feet below the surface. The excavation and grading will not return the area to its preexisting elevation. Therefore this work is subject to the *Rocky Flats Legacy Management Agreement* (RFLMA), Attachment 2, Institutional Controls (ICs) 2 and 3, which are provided in the following table.

IC 2	Excavation, drilling, and other intrusive activities below a depth of three feet are prohibited, without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	<p>Objective: Prevent unacceptable exposure to residual subsurface contamination.</p> <p>Rationale: Contaminated structures, such as building basements, exist in certain areas of the Central OU, and the Comprehensive Risk Assessment did not evaluate the risks posed by exposure to this residual contamination. Thus, this restriction eliminates the possibility of unacceptable exposures. Additionally, it prevents damage to subsurface engineered components of the remedy.</p>

IC 3	No grading, excavation, digging, tilling, or other disturbance of any kind of surface soils is permitted, except in accordance with an erosion control plan (including Surface Water Protection Plans submitted to EPA under the Clean Water Act) approved by CDPHE or EPA. Soil disturbance that will not restore the soil surface to preexisting grade or higher may not be performed without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	<p>Objective: Prevent migration of residual surface soil contamination to surface water.</p> <p>Rationale: Certain surface soil contaminants, notably plutonium-239/240, were identified in the fate and transport evaluation in the Remedial Investigation as having complete pathways to surface water if disturbed. This restriction minimizes the possibility of such disturbance and resultant impacts to surface water. Restoring the soil surface to preexisting grade maintains the current depth to subsurface contamination or contaminated structures.</p>

The required Soil Disturbance Review Plan is in Attachment 1.

CDPHE has reviewed information regarding the proposed soil disturbance and excavation and, after consultation with EPA, CDPHE has approved the proposed activity. CDPHE has determined that the proposed activity will not result in an unacceptable release or exposure to residual subsurface contamination, and will not damage any component of the remedy. CDPHE has also determined that the proposed project meets the rationale and objectives of IC 2 and IC 3.

DOE will not conduct the approved soil disturbance and excavation until 10 calendar days after this contact record is posted on the Rocky Flats website and notification of the posting is made to stakeholders in accordance with the RFLMA Public Involvement Plan.

Closeout of Contact Record: This contact record will be closed when the work is completed, post-construction reseeding has been performed, and erosion controls are in place.

Resolution: Carl Spreng, CDPHE, approved the soil disturbance and excavation work described in the Soil Disturbance Review Plan.

Contact Record Prepared by: Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
 Scott Surovchak, DOE
 Linda Kaiser, Stoller
 Rocky Flats Contact Record File

Attachment 1

Rocky Flats Legacy Management Agreement (RFLMA) Soil Disturbance Review Plan

Proposed Project: Roads upgrade project involving reconfiguration of a sharp curve west of Functional Channel 1

This Soil Disturbance Review Plan provides information required by RFLMA Attachment 2, Legacy Management Requirements, Section 4.1, regarding the work proposed by the U.S. Department of Energy (DOE).

Description of the proposed project, including the purpose, the location, and the lateral and vertical extent of excavation.

The purpose of the project is to maintain and improve the section of gravel road shown in Figure 1. The improvement regrades the area and takes out a sharp curve that is on the edge of a sloping embankment to result in wider radius curve that is farther away from the sloping embankment. The planned location, lateral and vertical extent, and grade upon completion of the work are shown in Figure 1. The excavation for regrading this portion of the road will be approximately 6 feet deep at the deepest portion.

Information about any remaining subsurface structures in the vicinity of the proposed project.

There are no remaining subsurface structures in the vicinity of the proposed project.

Information about any former Individual Hazardous Substance Sites, Potential Areas of Concern, or other known or potential soil or groundwater contamination in the vicinity of the proposed project.

This area of the gravel road is in former PAC 000-501, "Roadway Spraying."

PAC 000-501 included portions of gravel roads that were intermittently sprayed with waste oils, footer drain water with tracer test dye, and reverse osmosis treatment system brine from January 1974 to September 1983.

The characterization and disposition of this PAC is summarized in the *RCRA Facility Investigation—Remedial Investigation/ Corrective Measures Study—Feasibility Study Report for the Rocky Flats Environmental Technology Site (RI/FS)*, Appendix B, "FY2005 Final Historical Release Report." A finding of No Further Action was approved for this PAC by the Colorado Department of Public Health and Environment (CDPHE) and the U.S. Environmental Protection Agency (EPA) on February 14, 2002.

This characterization information is sufficient for DOE to implement appropriate worker health and safety controls for the soil disturbance. Disturbed soils will be regraded in the work area as shown in Figure 1.

The potential for soil migration during and after construction work will be mitigated by implementation of the CDPHE- and EPA-approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, July 2007 (ECP). The ECP includes requirements for stormwater control best management practices and revegetation.

The work will not intercept the water table, and effects on surface water runoff will be negligible.

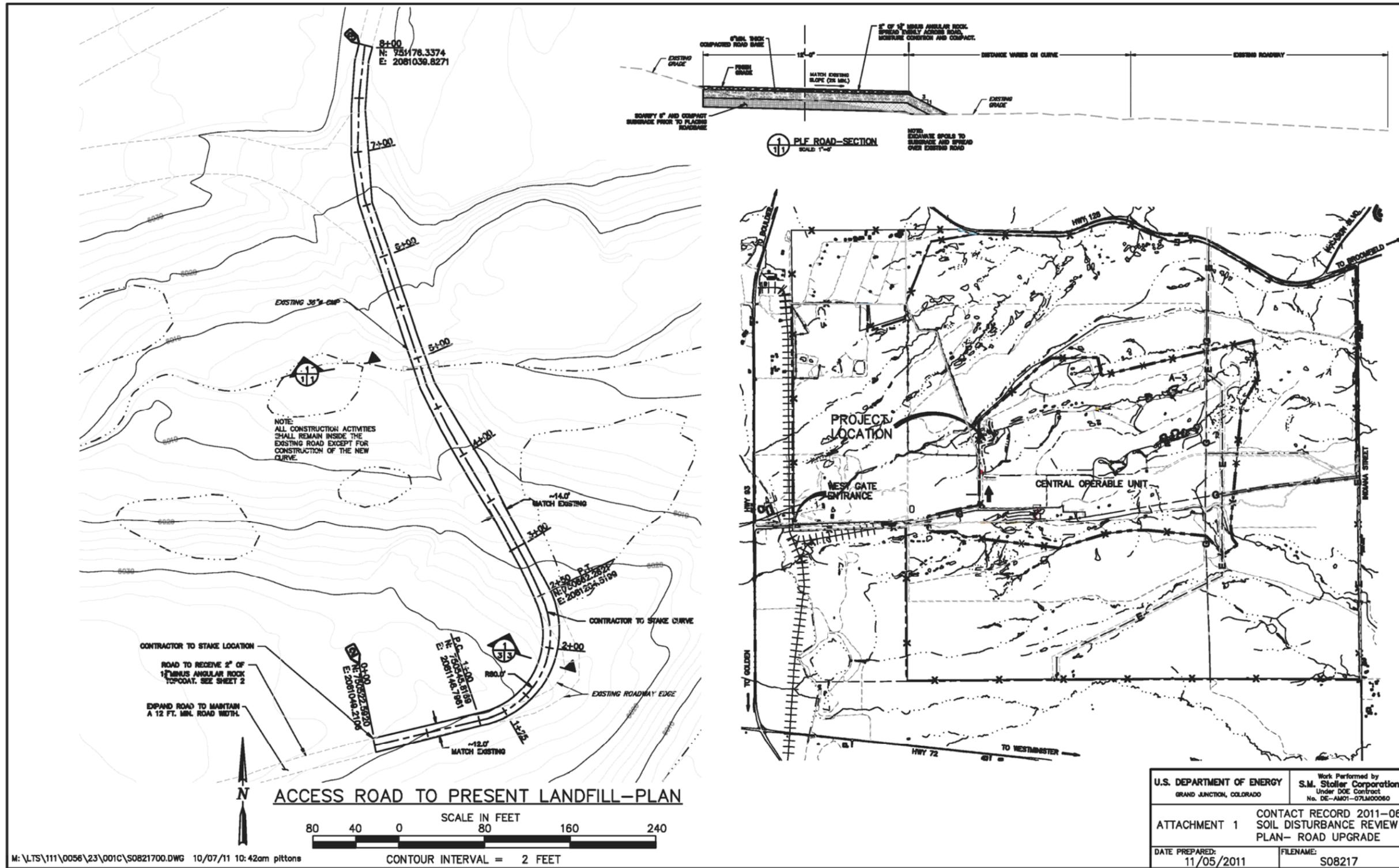


Figure 1. Project Location and Extent of Excavation

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Soil Disturbance Review Plan—Pond A-3 and Present Landfill (PLF) Pond Dam Breach Project

Contact Record Approval Date: December 5, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE; Rick DiSalvo, S.M. Stoller Corporation (Stoller); Linda Kaiser, Stoller; George Squibb, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: November 14, 2011

Consultation Meeting Participants: Carl Spreng, CDPHE; Scott Surovchak, DOE; Vera Moritz, EPA; Rick DiSalvo, Stoller; Linda Kaiser, Stoller

Discussion: Breaching of the remaining dams at Rocky Flats was evaluated in the May 2011 *Surface Water Configuration Environmental Assessment and Finding of No Significant Impact*, DOE/EA-1747, LMS/RFS/S06335, which is posted on the Rocky Flats website at http://www.lm.doe.gov/Rocky_Flats_NEPA.pdf. The five remaining dams are Dams A-3 and A-4 (in North Walnut Creek), Dam B-5 (in South Walnut Creek), Dam C-2 (at the end of the South Interceptor Ditch north of Woman Creek), and the PLF Dam (in No Name Gulch).

Construction work to breach the A-3 and PLF dams is scheduled to begin in December 2011 and be completed in spring 2012. A portion of each dam embankment will be removed to form a channel in the dam and create a flow-through configuration. Because the entire dam is not removed, this is also referred to as a “partial dam breach.” The Colorado State Engineer’s Office approved the designs for the PLF and A-3 dam breaches on August 4, 2011.

The A-4, B-5, and C-2 dams are scheduled to be breached in the 2018–2020 timeframe. The soil disturbance and excavation work for those dams will be addressed in another contact record issued close to when that construction work is scheduled.

The excavation for the PLF and A-3 dams will be deeper than 3 feet below the surface of the excavation, and grading will not return the area to its preexisting elevation.

Therefore, this work is subject to the *Rocky Flats Legacy Management Agreement (RFLMA)*, Attachment 2, Institutional Controls (ICs) 2 and 3, which are provided in the following table.

IC 2	Excavation, drilling, and other intrusive activities below a depth of three feet are prohibited, without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	<p>Objective: Prevent unacceptable exposure to residual subsurface contamination.</p> <p>Rationale: Contaminated structures, such as building basements, exist in certain areas of the Central OU, and the Comprehensive Risk Assessment did not evaluate the risks posed by exposure to this residual contamination. Thus, this restriction eliminates the possibility of unacceptable exposures. Additionally, it prevents damage to subsurface engineered components of the remedy.</p>
IC 3	No grading, excavation, digging, tilling, or other disturbance of any kind of surface soils is permitted, except in accordance with an erosion control plan (including Surface Water Protection Plans submitted to EPA under the Clean Water Act) approved by CDPHE or EPA. Soil disturbance that will not restore the soil surface to preexisting grade or higher may not be performed without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	<p>Objective: Prevent migration of residual surface soil contamination to surface water.</p> <p>Rationale: Certain surface soil contaminants, notably plutonium-239/240, were identified in the fate and transport evaluation in the Remedial Investigation as having complete pathways to surface water if disturbed. This restriction minimizes the possibility of such disturbance and resultant impacts to surface water. Restoring the soil surface to preexisting grade maintains the current depth to subsurface contamination or contaminated structures.</p>

The required Soil Disturbance Review Plan is in Attachment 1.

CDPHE has reviewed information regarding the proposed soil disturbance and excavation and, after consultation with EPA, has approved the proposed activity. CDPHE has determined that the proposed activity will not result in an unacceptable release or exposure to residual subsurface contamination and will not damage any component of the remedy. CDPHE has also determined that the proposed project meets the rationale and objectives of ICs 2 and 3.

DOE will not conduct the approved soil disturbance and excavation until 10 calendar days after this contact record is posted on the Rocky Flats website and stakeholders are notified of the posting in accordance with the RFLMA Public Involvement Plan.

Closeout of Contact Record: This contact record will be closed when the work is completed, post-construction reseeded has been performed, and erosion controls are in place.

Resolution: Carl Spreng, CDPHE, approved the soil disturbance and excavation work described in the Soil Disturbance Review Plan.

Contact Record Prepared by: Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
 Scott Surovchak, DOE
 Linda Kaiser, Stoller
 Rocky Flats Contact Record File

**Rocky Flats Legacy Management Agreement (RFLMA)
Soil Disturbance Review Plan**

Proposed Project: Pond A-3 and Present Landfill (PLF) Pond Dam Breach Project

This Soil Disturbance Review Plan provides information required by RFLMA Attachment 2, "Legacy Management Requirements," Section 4.1, regarding the work proposed by the U.S. Department of Energy (DOE).

Description of the proposed project, including the purpose, the location, and the lateral and vertical extent of excavation.

The purpose of the project is to breach the dams to reduce or eliminate the out-of-priority retention of surface water and return the Rocky Flats surface water flow approximately to the original conditions. Returning flows to a more natural condition will provide ecological benefits by improving riparian habitat and promoting wetlands. In addition, this will reduce or eliminate the inspection and reporting costs associated with meeting dam safety requirements, operating and maintaining the dams, and determining out-of-priority storage and evaporative depletions.

Figures 1 through 5 show the location and the lateral and vertical extent of the excavation. The material excavated for the cut areas will be placed in the fill areas as shown in Figures 1 and 2.

When completed, the new surface elevations will be consistent with the final design drawings for the regrading work for the dams, which the Colorado State Engineer's Office approved on August 4, 2011. Final elevations will be surveyed.

Information about any remaining subsurface structures in the vicinity of the proposed project.

There are no remaining subsurface structures in the vicinity of the proposed project. However, outlet works, pipes, valves, drop structures, spillways, and miscellaneous components are integral to the dam structures. Unneeded surface components or structures will be removed to appropriate depth below the finished grade, and openings in pipes, manholes, and drop structures that are not removed will be stabilized in accordance with the engineering design to meet the Colorado State Engineer's requirements for the breached dam structures. Process knowledge (i.e., familiarity based on past experience at the site) regarding the characteristics for each removed item will be confirmed by visual inspection. If process knowledge cannot be confirmed by visual inspection, additional characterization will be performed to determine proper disposal. It is expected that removed items will be disposed of off site as solid waste or recycled, as appropriate. However, routine radiological field screening of these waste items will also be performed to determine if off-site disposal under DOE directives and policy as radioactive waste is required. Items removed for disposal will be staged in a manner to prevent run-on and runoff of precipitation pending off-site disposal.

Table 1 shows the location of and details regarding the infrastructure. The characterization approach and radiological field screening described above will be applied to the items removed by recycling or waste disposal.

Table 1. Infrastructure Items Related to Dam Breach

Dam A-3	
Item/Feature	Detail
4 piezometers	Remove 2-inch PVC pipe, 4-inch steel casing, and concrete pads to at least 3 feet below final grade, and fill remaining PVC pipe with bentonite chips to abandon.
inlet trash rack	Remove steel grating (approximate dimensions 3'8" x 5'4" x 4").
outlet structure	Remove rebar and concrete (approximate dimensions 11'6" x 12' x 8'5").
outlet butterfly valve	Remove steel valve (approximate dimensions 16" x 16" x 6").
outlet gate valve	Remove steel valve (approximate dimensions 16" x 16" x 3') and associated concrete valve box (approximate dimensions 2' x 2' x 6').
partial outlet pipe	Remove approximately 45 feet of 10-inch-diameter ductile iron pipe (DIP) and grout the remaining pipe before backfilling and final grading.
1.5 anti-seep collars	Remove concrete and rebar collars (farthest downstream collar and top half of next upstream collar; approximate dimensions 5'6" x 5'6" x 18").
partial toe drain	Remove two sections of 6-inch-diameter corrugated metal pipe. One section is north of the outlet, and the other is south of it. Approximately 60 feet of pipe will be removed.
6 bollards	Remove 4-inch-diameter steel, concrete bollards.
PLF Dam	
Item/Feature	Detail
inlet trash rack	Remove steel grating (approximate dimensions 5'4" x 4' x 4").
2 piezometers	Remove 2-inch PVC pipe, 4-inch steel casing, and concrete pads to at least 3 feet below final grade, and fill remaining PVC pipe with bentonite chips to abandon.
outlet structure	Remove rebar and concrete (approximate dimensions 7' x 5' x 10').
outlet butterfly valve	Remove steel valve (approximate dimensions 1' x 1' x 3').
outlet manhole ring and lid	Remove concrete, rebar, and steel lid (approximate dimensions 4' x 6' x 4').
partial outlet pipe	Remove approximately 30 feet of 10-inch-diameter DIP and grout the remaining pipe before backfilling and final grading.
7 bollards	Remove 4-inch-diameter steel, concrete bollards.
valve control wheel, stem, 4 guides	Remove approximately 55 feet of 1.5-inch-diameter steel stem. Remove four steel stem guides (approximate dimensions 2' x 2' x 6"). Remove four concrete stem guide blocks (approximate dimensions 1' x 1'4" x 1'6").
measuring weir structure for north groundwater intercept system (GWIS) line	Remove rebar and concrete (approximate dimensions 3'6" x 3' x 2'6"). Remove two steel plates (approximate dimensions 1'6" x 2' x 1/4").
partial north GWIS line	Remove approximately 6 feet of 8-inch-diameter metal pipe, clean-cut the end, and cover it with rock and dirt for drainage.

Information about any former Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PACs), or other known or potential soil or groundwater contamination in the vicinity of the proposed project.

The dams are associated with the following former IHSSs/PACs:

- IHSS 142.3—Pond A-3
- IHSS 142.4—Pond A-4 (east of Pond A-3 but not being breached at this time)
- IHSS 114—PLF

More detailed information on these IHSSs/PACs and the disposition of these areas is available in the *RCRA Facility Investigation—Remedial Investigation/Corrective Measures Study*—

Feasibility Study Report for the Rocky Flats Environmental Technology Site (RI/FS), Appendix B, "FY2005 Final Historical Release Report."

A Rocky Flats Cleanup Agreement (RFCA) accelerated action removed sediment from the PLF Pond as part of the PLF closure in 2005. The removed sediment was placed in the PLF before the PLF closure cover was constructed. Confirmation sampling after the sediment removal demonstrated that the objectives of the removal were met, and the remaining residual contamination levels were well below the RFCA wildlife refuge worker soil action levels. This accelerated action and the confirmation sampling results are documented in the September 2005 *Final Closeout Report for IHSS Group 000-5 Present landfill (IHSS-114)* (Closeout Report). The Colorado Department of Public Health and Environment (CDPHE) and the U.S. Environmental Protection Agency (EPA) approved the Closeout Report for IHSS 114 on May 15, 2006.

Characterization results for the investigation of Ponds A-3 and A-4 are presented in the October 2005 *Data Summary Report for IHSS Group NE-1 (DSR)*. Based on the DSR characterization information for Ponds A-3 and A-4, all surface and subsurface constituent concentrations or activities were less than the RFCA wildlife refuge worker soil action levels, and no RFCA accelerated action was required. On October 18, 2005, EPA approved the no further accelerated action recommendation in the DSR for these ponds.

As part of the RI/FS, Exposure Units (EUs) were evaluated and documented in Appendix A of the RI/FS, "Comprehensive Risk Assessment" (CRA). Ponds A-3 and A-4 are in the Upper Walnut Drainage EU. The PLF Pond is in the No Name Gulch Drainage EU.

The results of the CRA for the Upper Walnut Drainage EU are in Volume 7 of Appendix A. Benzo(a)pyrene was identified as the only contaminant of concern (COC) for surface soil/surface sediment in this EU. No COCs were identified for subsurface soil. Benzo(a)pyrene was not directly associated with any Rocky Flats site historical source areas but could be associated with vehicle traffic, paving, or pavement degradation prior to closure. The calculated lifetime excess cancer risk for the surface exposure scenario for the wildlife refuge worker for benzo(a)pyrene in the CRA is 1×10^{-6} .

The results of the CRA for the No Name Gulch Drainage EU are in Volume 6 of Appendix A. Vanadium was identified as the only COC for surface soil in this EU. No COCs were identified for subsurface soil. The noncancer hazard index (HI) estimate for vanadium is less than 1, indicating that adverse noncancer health effects are unlikely for the wildlife refuge worker exposure scenario.

This characterization information is sufficient for DOE to implement appropriate worker health and safety controls for the soil disturbance. Excavated soils will be regraded in the work area as shown in Figures 1 and 2.

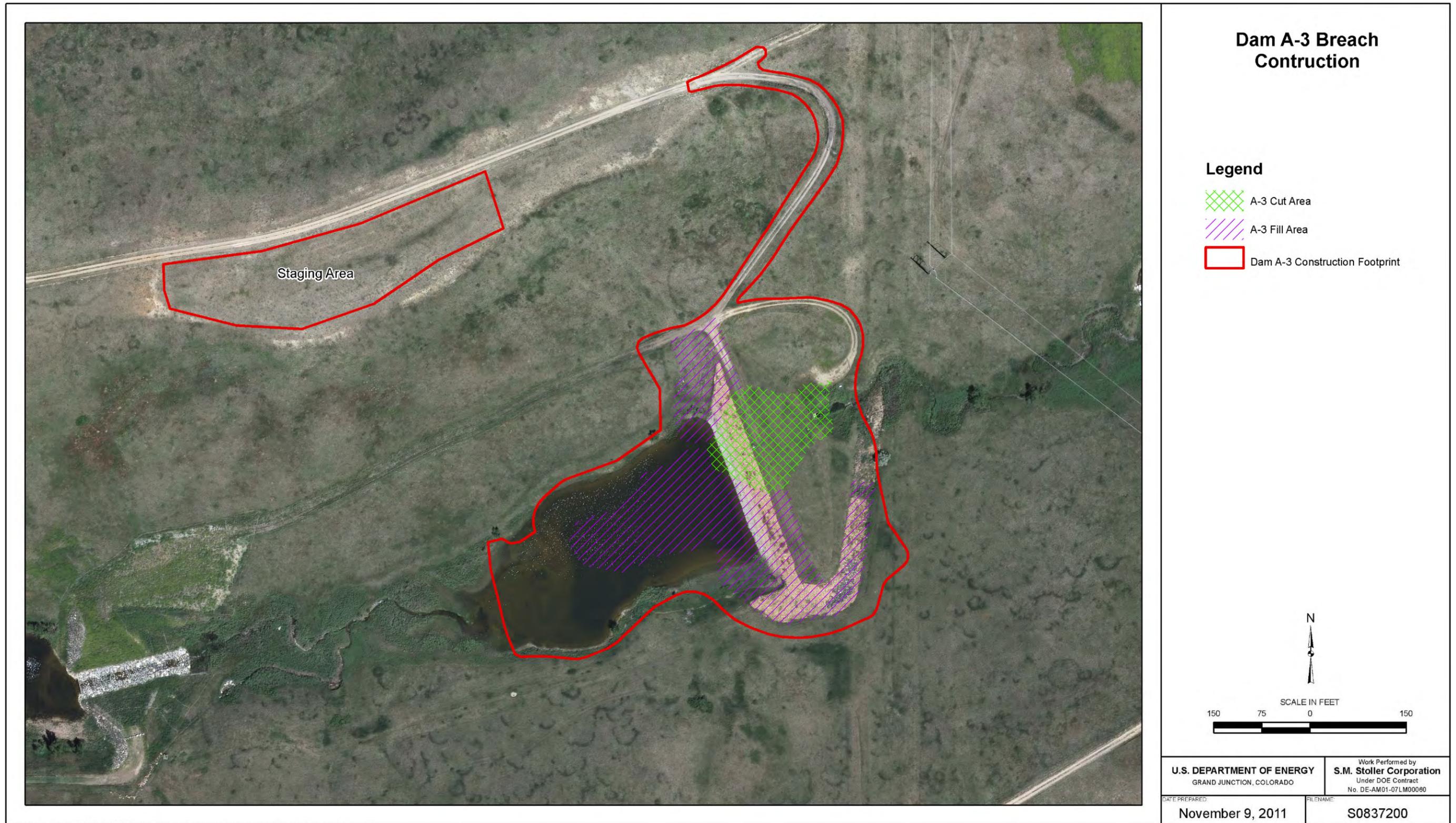
The potential for soil migration during and after construction work will be mitigated by implementation of the CDPHE- and EPA-approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, July 2007 (ECP). The ECP includes requirements for stormwater control best management practices and revegetation. The EPA

stormwater management National Pollution Discharge Elimination System Construction General Permit (CGP) applies to the project, and the conditions of the CGP will be met.

The work may encounter alluvial water in the stream bed. A temporary coffer dam will be constructed to manage surface water upstream of the construction area for each notch. Water in the construction area and water behind the coffer dam will be pumped downstream of the construction area. RFLMA surface water monitoring location WALPOC monitors surface water directly downstream of the construction areas.

The U.S. Department of the Army Corps of Engineers (COE) determined that the dredge and fill work for the breach of the PLF and A-3 dams is authorized under the National Pollution Discharge Elimination System Nationwide Permit No. 43, Stormwater Management Facilities. COE informed DOE of its determination on November 18, 2011.

Impacts on surface water were evaluated in the May 2011 *Surface Water Configuration Environmental Assessment and Finding of No Significant Impact*, DOE/EA-1747, LMS/RFS/S06335 (EA). As determined by the EA, the work will not result in a significant impact.



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Figure 1. Dam A-3 Breach Construction

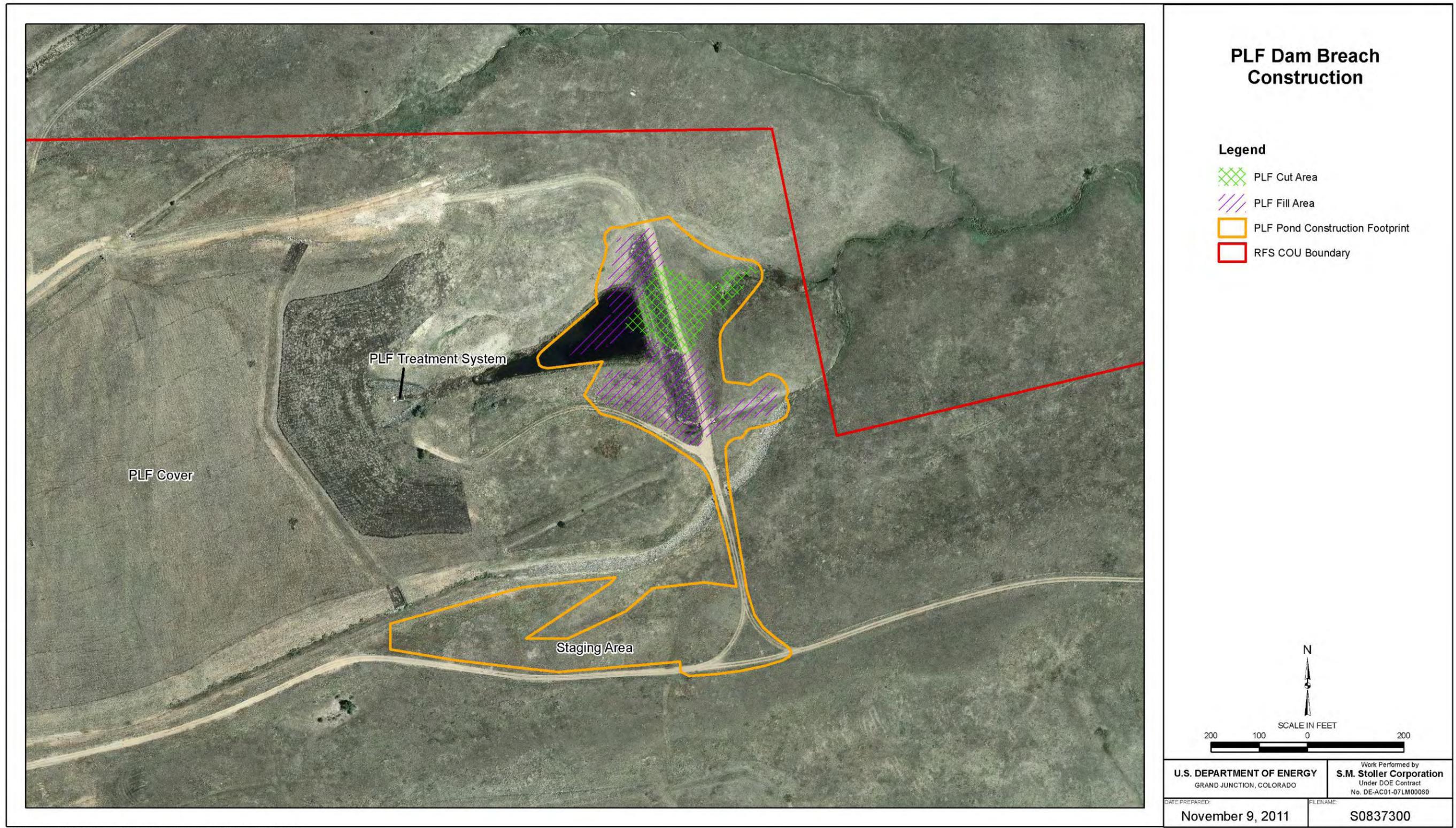


Figure 2. PLF Dam Breach Construction

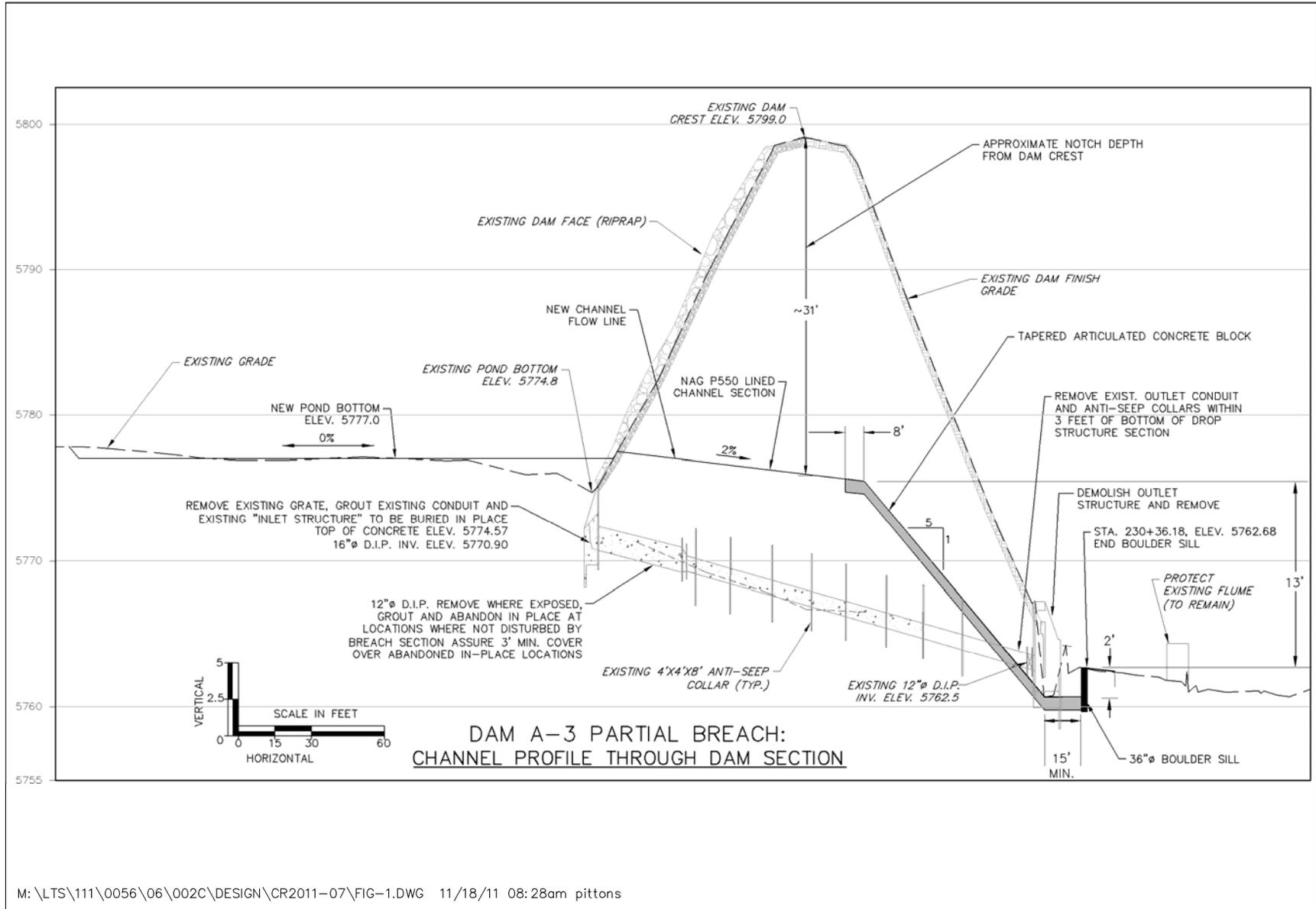


Figure 3. Dam A-3 Profile Section

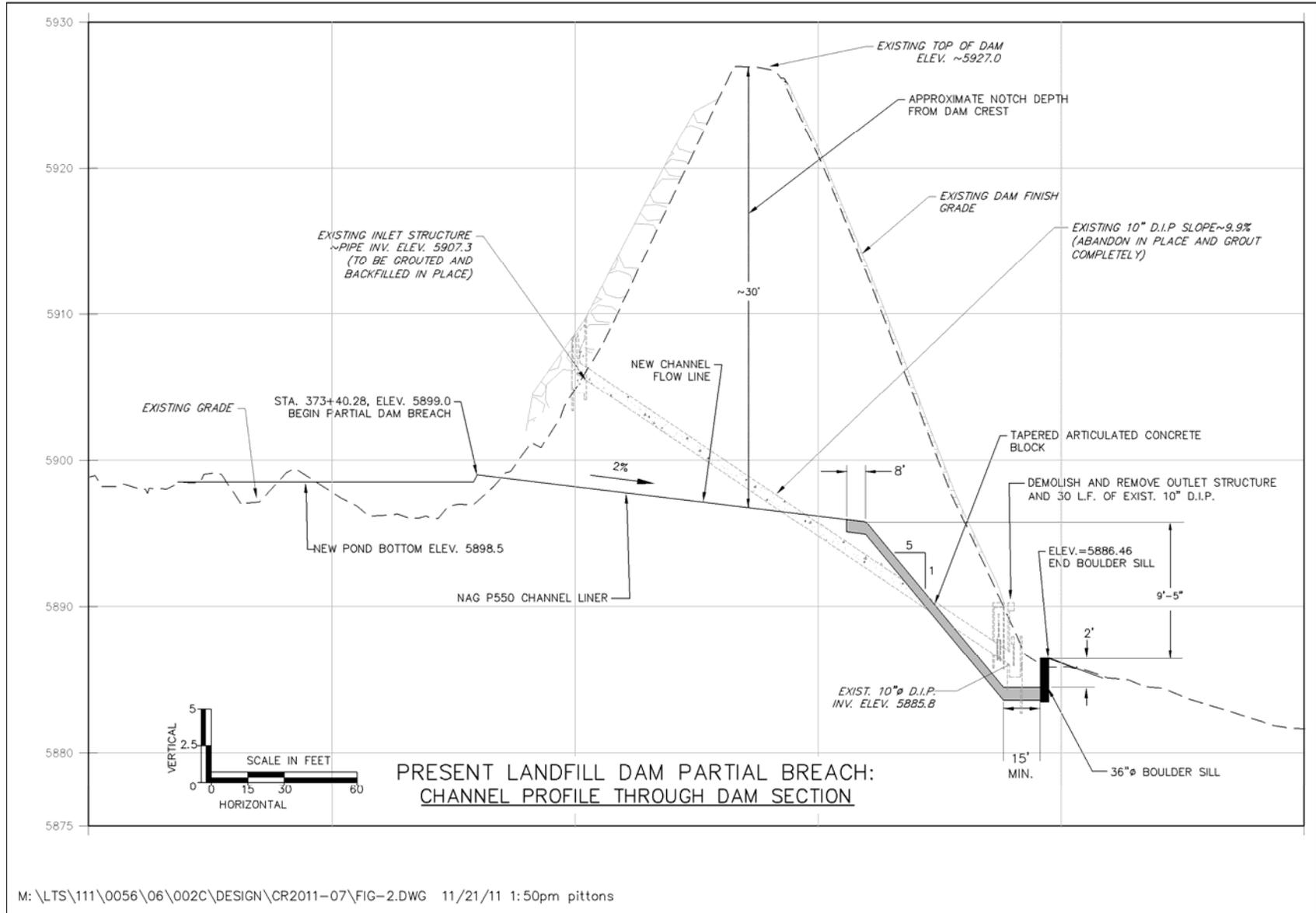


Figure 4. PLF Dam Profile Section

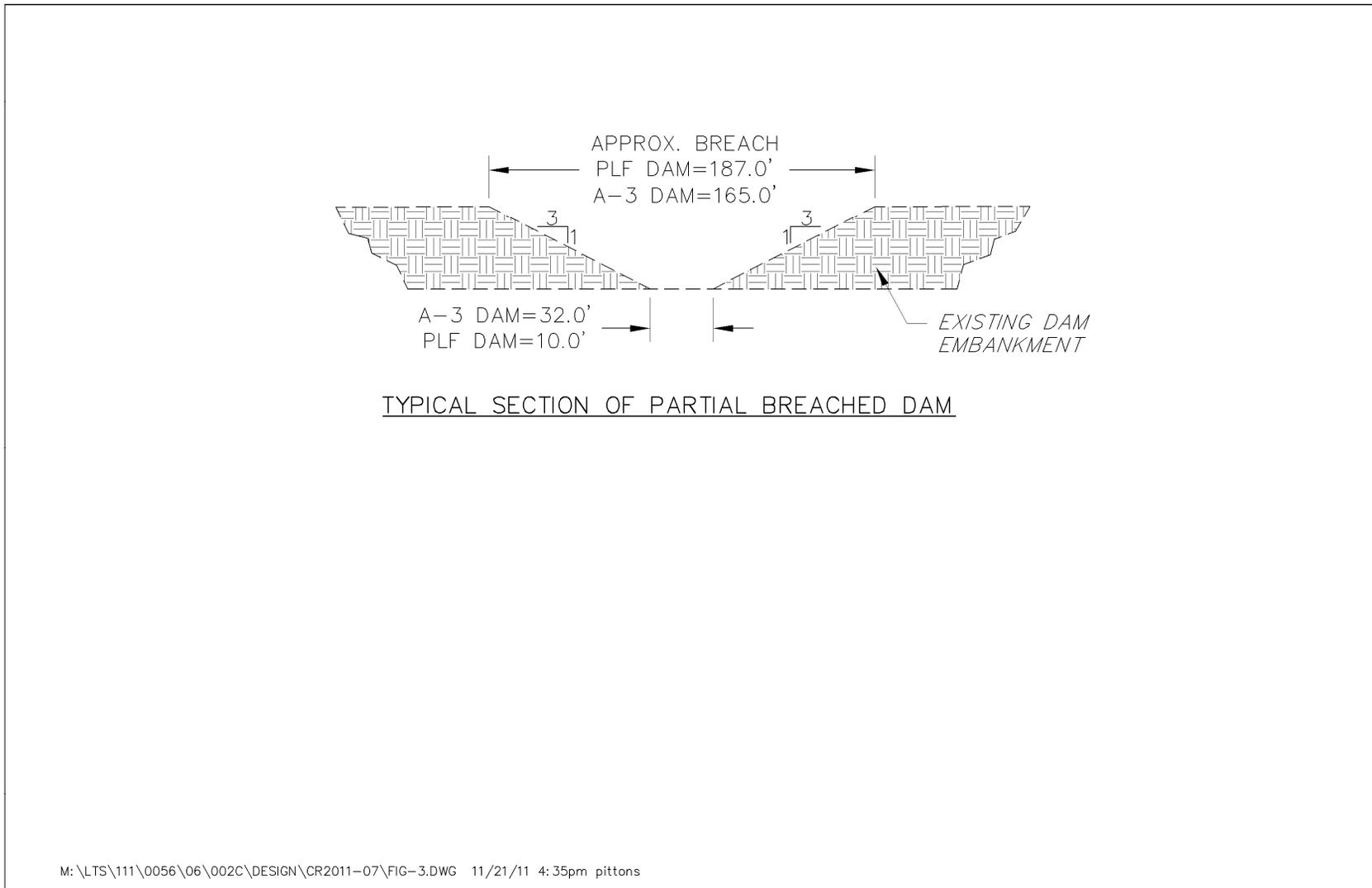


Figure 5. A-3 and PLF Dam Face Section

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Reportable Condition for Americium-241 (Am) at Rocky Flats Legacy Management Agreement (RFLMA) Point of Evaluation (POE) GS10

Contact Record Approval Date: December 23, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE; Rick DiSalvo, S.M. Stoller Corporation (Stoller); Linda Kaiser, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: November 21, 2011

Consultation Meeting Participants: Carl Spreng, CDPHE; Vera Moritz, EPA; Scott Surovchak, DOE; Gwen Hooten, DOE; John Boylan, Stoller; Rick DiSalvo, Stoller; Linda Kaiser, Stoller; George Squibb, Stoller

Discussion: This Contact Record documents DOE's consultation with CDPHE and EPA regarding the evaluation of elevated concentrations of Am at POE GS10, which resulted in a reportable condition under RFLMA Attachment 2, "Legacy Management Requirements," Section 6.0, "Action Determinations."

A reportable condition was determined based on an evaluation of recently available validated analytical results for Am from the composite samples collected at GS10 during the period 7/21/11–10/25/11. Following is a synopsis of the data for plutonium-239/240 (Pu) and Am:

- Composite sample 7/21/11–8/24/11 (initial analysis; results validated 11/2/11): Pu = 0.938 pCi/L, Am = 2.97 pCi/L
- Composite sample 7/21/11–8/24/11 (laboratory reanalysis completed 11/15/11; results validated 11/22/11): Pu = 4.07 pCi/L, Am = 4.01 pCi/L
- Composite sample 8/24/11–9/29/11 (results validated 11/30/11): Pu = 0.020 pCi/L, Am = 0.044 pCi/L
- Composite sample 9/29/11–10/25/11 (results validated 11/22/11): Pu = 0.658 pCi/L, Am = 0.877 pCi/L

Under routine data validation protocols, the relative error ratio (RER) is used to evaluate data pairs (i.e., an initial analysis and a duplicate analysis). If the RER for a data pair is >3 and ≤ 5 , then the results are "J-qualified" (estimated). If the RER for a data pair is >5 , then the results are "R-qualified" (unusable result). During validation of the 7/21/11–8/24/11 analytical results, the Am results were determined to be J-qualified, while the Pu results were determined to be R-qualified. Therefore, the arithmetic average of the Am results is used in the calculation of the 12-month rolling average for Am; the Pu results were rejected and not included in the calculation of the 12-month rolling average for Pu.

The evaluation was performed in accordance with RFLMA Attachment 2, Figure 6, "Points of Evaluation," which resulted in 12-month rolling average values for Am of 0.21 pCi/L on 8/31/11 and 0.22 pCi/L on 9/30/11. The applicable RFLMA Table 1 standard for Am and Pu is 0.15 pCi/L.

Flow-through operations at Pond B-5 were initiated on 9/12/11 (the previous discharge was in March 2011). Pu and Am results from downstream locations GS08 (Pond B-5 outlet), WALPOC (Walnut Creek at the Central Operable Unit boundary), and GS03 (Walnut Creek at Indiana Street) have been received through 9/26/11; all results were below 0.01 pCi/L. The downstream monitoring results continue to indicate that the remedy remains protective, since Pu and Am results are below the RFLMA surface water standard, 0.15 pCi/L.

While the 12-month rolling average for Pu at GS10 is not reportable, the evaluation of the reportable Am values will also include consideration of the Pu results.

Pursuant to RFLMA Attachment 2, Section 6.0, for a reportable condition:

- DOE must inform the RFLMA regulators and stakeholders identified in RFLMA Attachment 2, Figure 6 within 15 days of receipt of validated data for the reportable condition.
- DOE must submit a plan and schedule for an evaluation to address the condition within 30 days of receiving the validated data for the reportable condition.
- DOE will consult with CDPHE and EPA to determine if mitigating actions are necessary.
- The objective of consultation will be to determine a course of action (if determined necessary) to address the reportable condition and to ensure that the remedy remains protective.
- Results of consultation will be documented in Contact Records, written correspondence, or both.

The RFLMA regulators have been kept informed of the elevated levels since the initial results were received, and a public-information e-mail was sent to the stakeholders on 11/15/11 and 12/5/11. The RFLMA Parties agreed that the date of receipt of the validated results from the reanalysis of the composite sample 7/21/11–8/24/11 would be the trigger date for determination of a reportable condition.

This Contact Record describes the plan and schedule to address the reportable condition. Figure 1 shows the sampling locations related to the evaluation. The plan and schedule for evaluation and the status of actions related to the plan are described below:

- Rocky Flats staff walked down the GS10 drainage on 11/16/11 to see if there were any obvious conditions promoting potential soil erosion. Some thin vegetation spots were noted on the north side of the riprap upstream of GS10.
- On 11/22/11, Stoller staff and the RFLMA Project Coordinators for DOE and EPA examined the drainage more closely, focusing on seeps and former utility corridors, to identify possible seeps and observe areas for additional seeding or erosion controls. Based on the observations:

- Several seep sampling locations (SEEP995, SEEP995A, SEEP995B, and SEEP995C) were also grab sampled on 11/25/11. These samples are being analyzed for Pu and Am on a 2-week turnaround.
- Seeding was done along the north side of the riprap upstream of GS10, and a thinly vegetated area east of the confluence of Functional Channel (FC) 4 and FC 5 was identified for revegetation.
- Several of the sampling locations already designated for the evaluation of the reportable condition for uranium at GS10, as discussed in Contact Records 2011-04 and 2011-05 (FC4991, GS10, and B3OUTFLOW), were grab sampled on 11/25/11. These samples are being analyzed for Pu and Am on a 2-week turnaround.
- An aliquot from each flow-paced composite sample routinely being collected at B5INFLOW (also supporting the GS10 uranium evaluation) will also be obtained and held for Pu and Am analysis if upstream sample results suggest that analysis would inform the evaluation.
- Flow-paced composite samples routinely being collected at WALPOC will continue to be analyzed on a 2-week turnaround. Analyses for flow-paced composite samples routinely being collected at GS10 and GS08 will be accelerated to a 2-week turnaround.
- Historical Pu and Am well data from wells in the drainage have been reviewed. The review gave no indication that any additional well sampling would be informative at this stage.
- The previous GS10 evaluation reports for elevated levels of Pu or Am prior to closure were reviewed for information that may aid this current evaluation. Sampling from surface water locations upstream of GS10 and sediment in GS10 were performed as part of these evaluations. Elevated levels at GS10 were determined to most likely be the result of low-level diffuse soil contamination that intermittently impacted the water quality at GS10 due to erosion. The evaluation being done for this recent reportable condition includes sampling of surface water and seep locations upstream of GS10, but it also includes sampling at B3OUTFLOW and B5INFLOW for Pu and Am between GS10 and Point of Compliance WALPOC.

The RFLMA Parties will review the analytical results of the sampling described above and consult on whether any additional evaluation monitoring or any mitigating actions are needed. This evaluation plan and schedule to address the reportable condition may be modified based on the outcome of RFLMA Party consultation related to the evaluation.

To keep the public informed, the outcome of continuing RFLMA Party consultation regarding the evaluation will be reported in RFLMA quarterly and annual reports of surveillance and monitoring activities or in subsequent Contact Records.

Closeout of Contact Record: This Contact Record will be closed when the evaluation is completed.

Resolution: Carl Spreng, CDPHE, approved this Contact Record.

Contact Record Prepared By: George Squibb and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE

Scott Surovchak, DOE

Linda Kaiser, Stoller

Rocky Flats Contact Record File

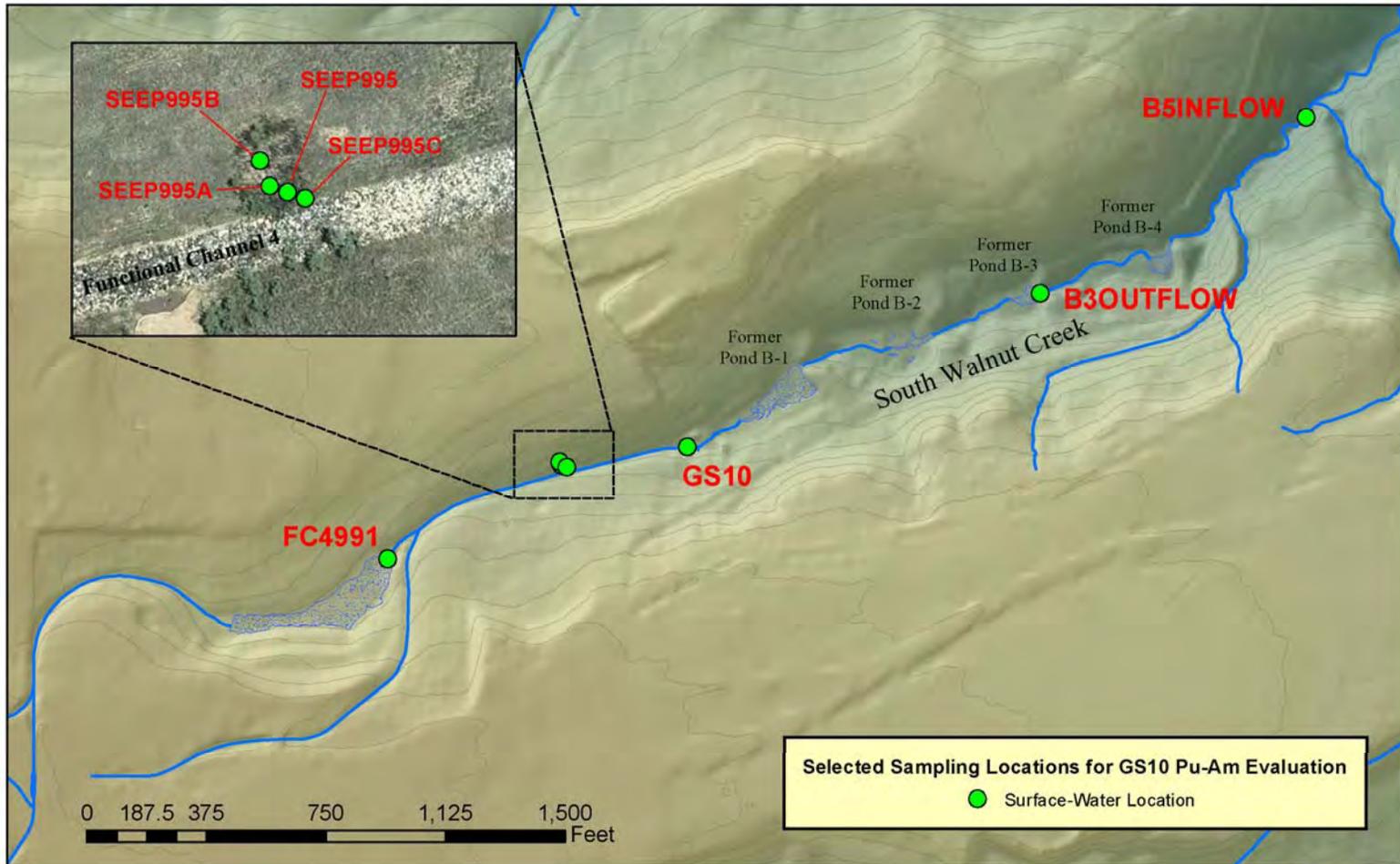


Figure 1. Sampling Location Map