

# ROCKY FLATS SITE REGULATORY CONTACT RECORD

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**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

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**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](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><b>Objective:</b> Prevent unacceptable exposure to residual subsurface contamination.</p> <p><b>Rationale:</b> 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><b>Objective:</b> Prevent migration of residual surface soil contamination to surface water.</p> <p><b>Rationale:</b> 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

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**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

<b>Dam A-3</b>	
<b>Item/Feature</b>	<b>Detail</b>
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.
<b>PLF Dam</b>	
<b>Item/Feature</b>	<b>Detail</b>
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  $1 \times 10^{-6}$ .

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.

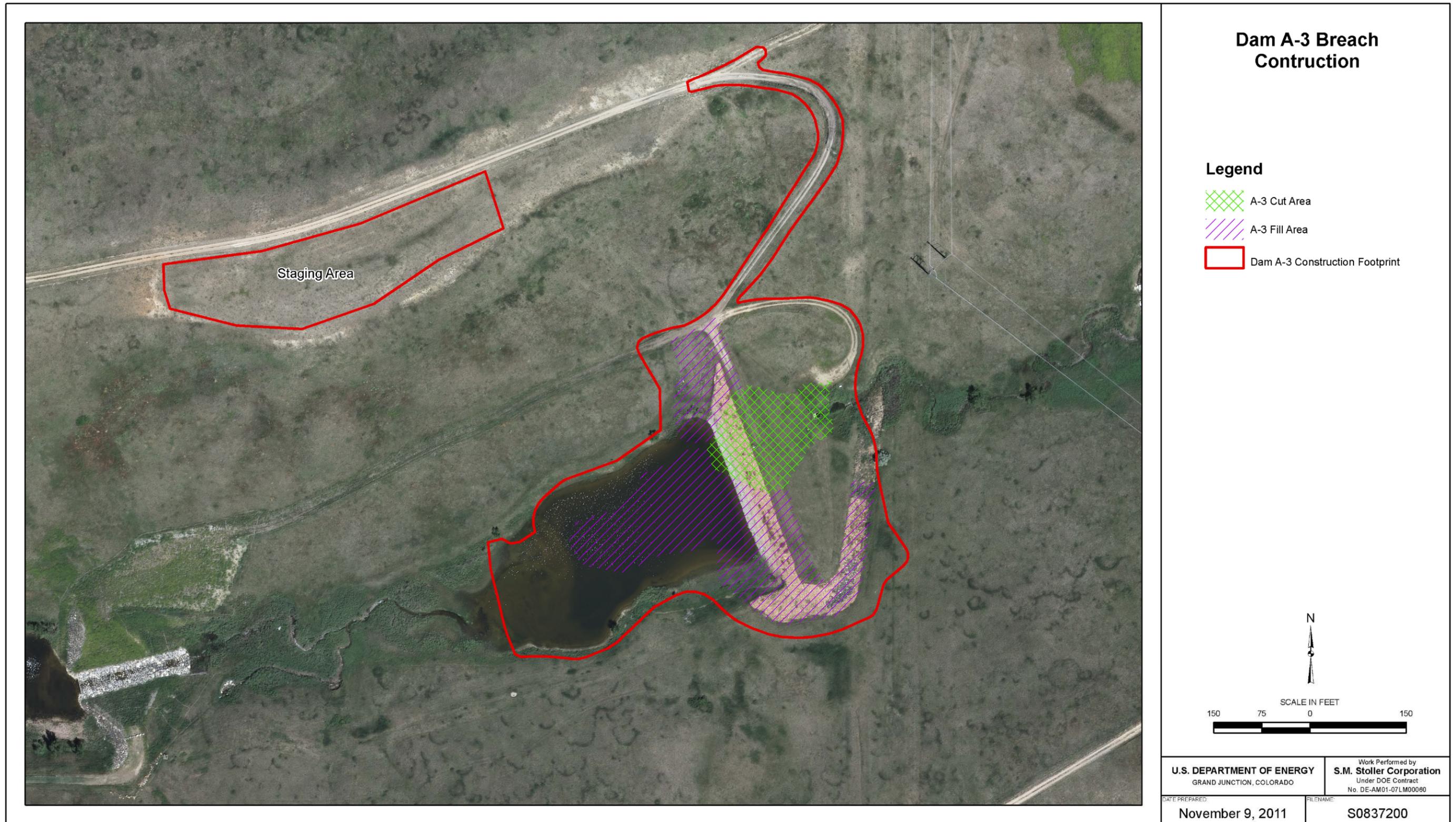
The potential for soil migration during and after construction work will be mitigated by implementation of the CDPHE- and EPA-approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, July 2007 (ECP). The ECP includes requirements for stormwater control best management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

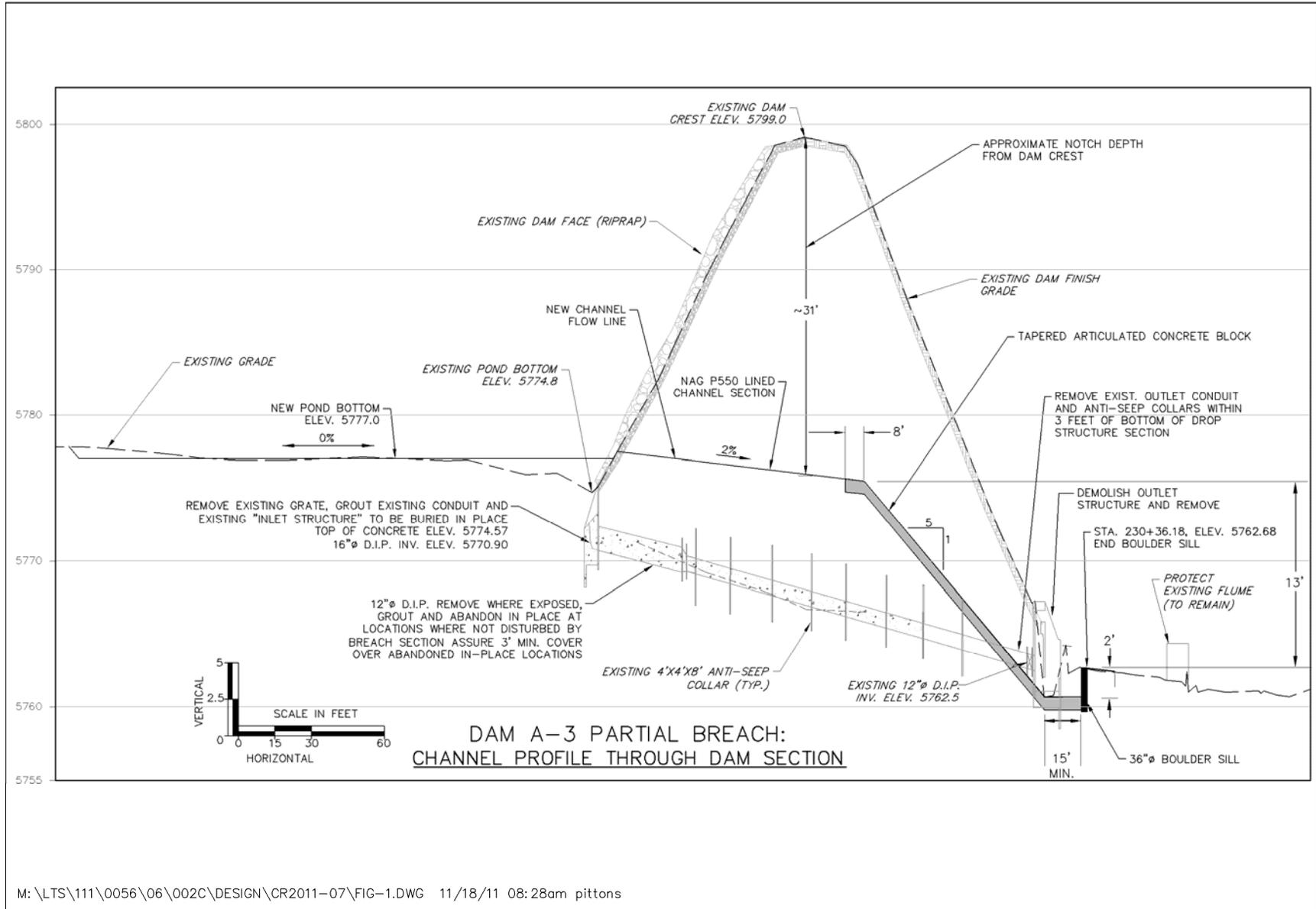


Figure 3. Dam A-3 Profile Section

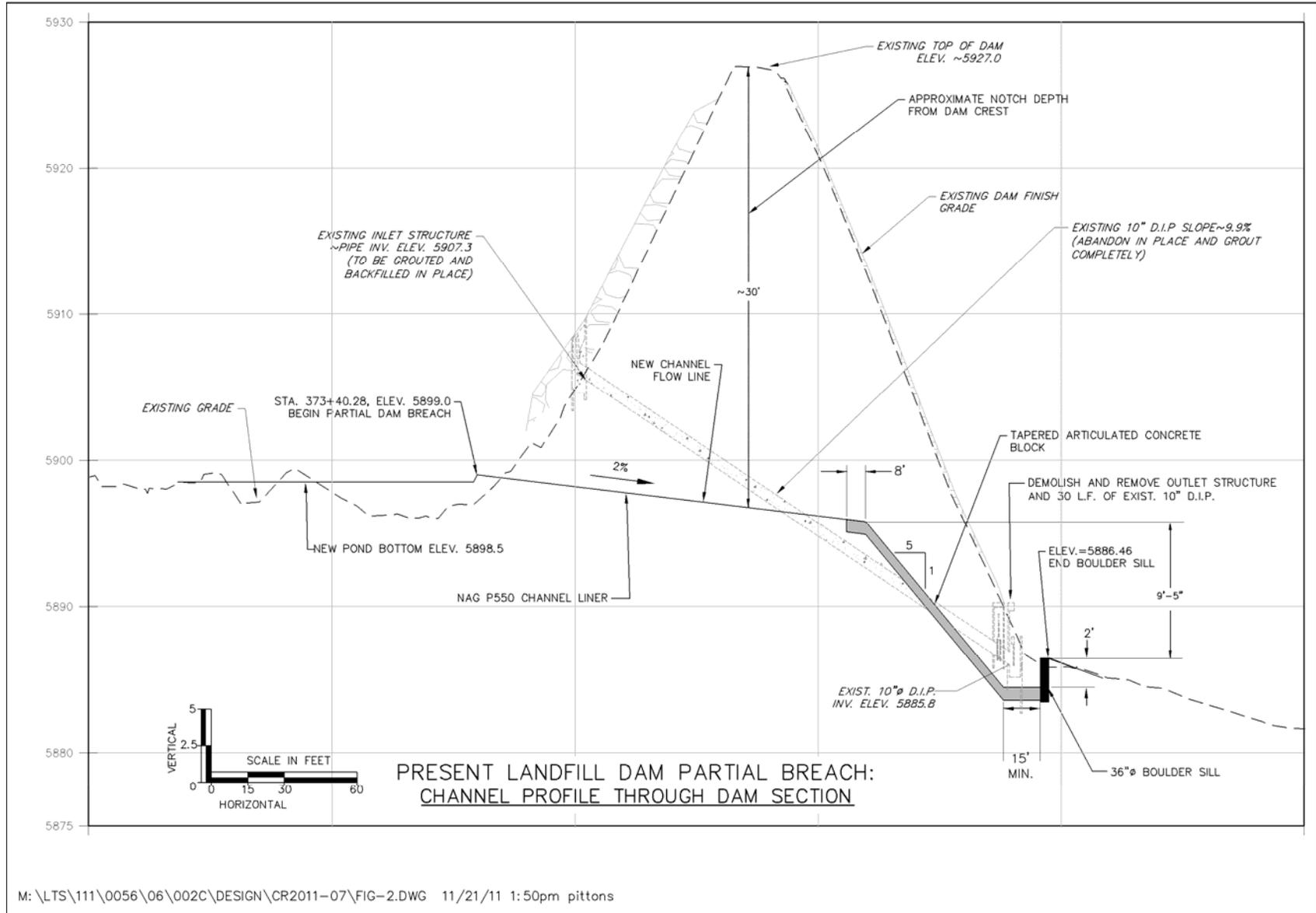


Figure 4. PLF Dam Profile Section

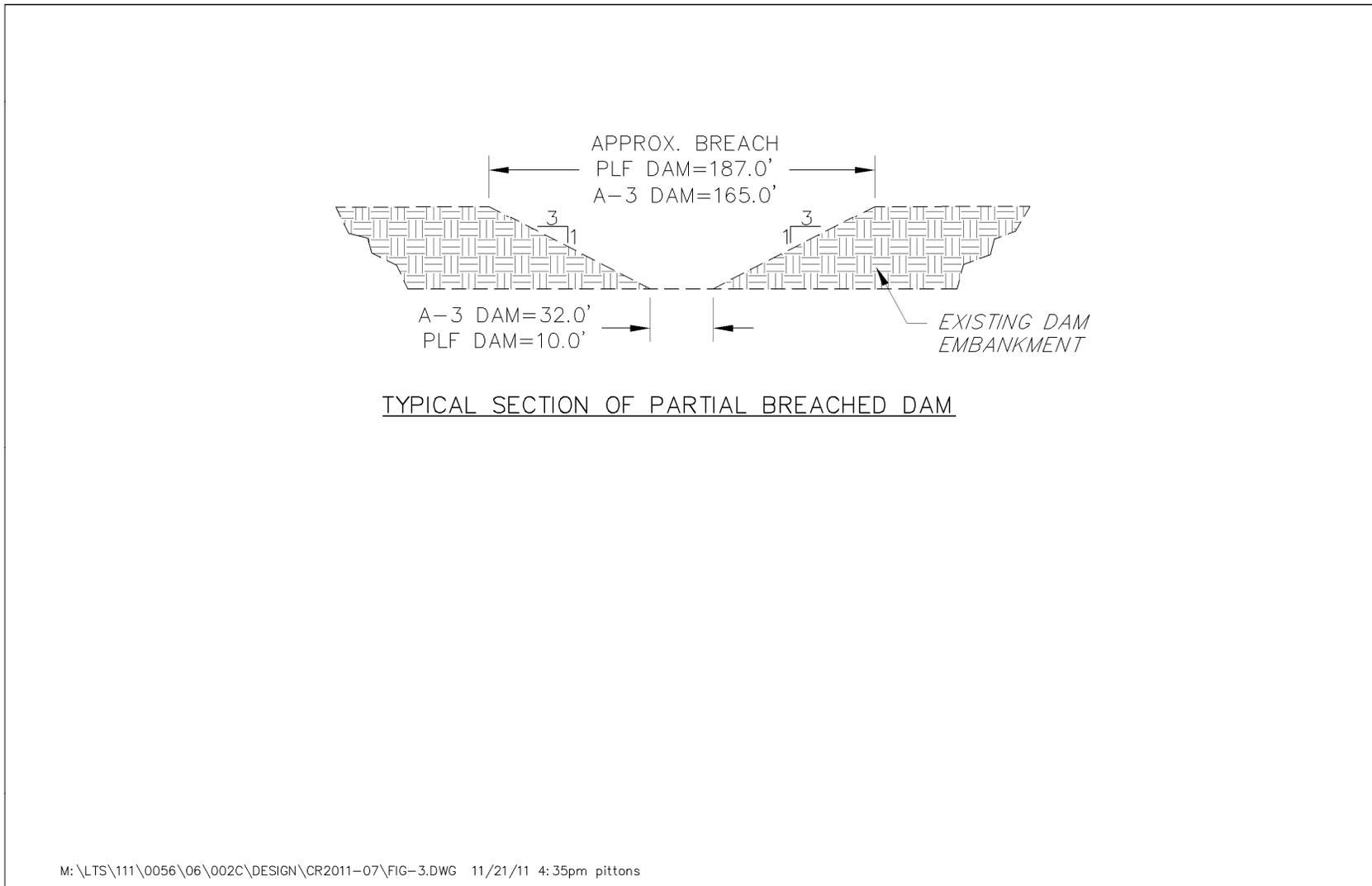


Figure 5. A-3 and PLF Dam Face Section