

Appendix A

Landfill Inspection Forms and Survey Data

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ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSPECTOR: J. McLaughlin DATE: 4/29/11 TIME: 1000 REVIEWED BY: [Signature]
 TEMPERATURE: 58° WEATHER CONDITIONS: P+. Cloudy REVIEW DATE: 5-17-11

SUBSIDENCE / CONSOLIDATION

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF DEPRESSIONS?	EVIDENCE OF SINK HOLES?	EVIDENCE OF PONDING?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			

Settlement Plates -- Inspect integrity. Intact? Yes No

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SLOPE STABILITY

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF SEEPS?	EVIDENCE OF BLOCK OR CIRCULAR FAILURE?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
WEST PERIMETER CHANNEL SIDESLOPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST PERIMETER CHANNEL SIDESLOPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER SEEPS (IF PRESENT)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

See Attachment 1 for details

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SOIL COVER

REGION	EVIDENCE OF SOIL DEPOSITION OR EROSION?	EVIDENCE OF EROSION RILLS/GULLIES?	EVIDENCE OF BURROWING ANIMALS?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None

The quarterly vegetation inspection will be completed in May.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

VEGETATION

REGION	CONDITION OF GRASS	UNWANTED VEGETATION PRESENT*?	PERCENTAGE OF GRASS VERSUS BARE GROUND?	PERCENTAGE OF UNWANTED VEGETATION?
COVER- WEST		<input type="checkbox"/> Yes <input type="checkbox"/> No		
COVER - EAST		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 1		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 3		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 4		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 5		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 6		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 7		<input type="checkbox"/> Yes <input type="checkbox"/> No		
WEST PERIMETER CHANNEL		<input type="checkbox"/> Yes <input type="checkbox"/> No		
EAST PERIMETER CHANNEL		<input type="checkbox"/> Yes <input type="checkbox"/> No		
UPPER BUTTERESS FILL SIDESLOPE		<input type="checkbox"/> Yes <input type="checkbox"/> No		
LOWER BUTTRESS FILL SIDESLOPE		<input type="checkbox"/> Yes <input type="checkbox"/> No		

JAM

* Unwanted vegetation includes weeds and "woody vegetation." Woody vegetation within the OLF waste footprint shall be removed. Other locations shall be evaluated per Section 3.5.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

STORMWATER MANAGEMENT STRUCTURES

CHANNELS

STRUCTURE	EVIDENCE OF EXCESSIVE EROSION, GULLYING, SCOUR, OR UNDERMINING?	EVIDENCE OF SETTLEMENT/ SUBSIDENCE OR DEPRESSIONS?	EVIDENCE OF BREACHING OR BANK FAILURE?	EVIDENCE OF BURROWING ANIMALS?	EVIDENCE OF SEDIMENT BUILD-UP OR OTHER BLOCKAGE?
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
TEMPORARY CHECK DAMS*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

* Check dams may be removed after vegetation is established.

OTHER DEFICIENCIES?

None.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

See Attachment 1 for details.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM
STORMWATER MANAGEMENT STRUCTURES (CONTINUED)

OUTFALLS

CHECK EACH STRUCTURE FOR EXCESSIVE EROSION AND SEDIMENT DEPTH. IF SEDIMENT DEPTH IS COMPROMISING THE DESIGN CHARACTERISTICS, REMOVE SEDIMENT.

STRUCTURE	CONDITION / SEDIMENT DEPTH
DIVERSION BERM OUTFALL 1	Good condition / Minimal sediment
DIVERSION BERM OUTFALL 2	
DIVERSION BERM OUTFALL 3	
DIVERSION BERM OUTFALL 4	
DIVERSION BERM OUTFALL 5	
DIVERSION BERM OUTFALL 6	
DIVERSION BERM OUTFALL 7	
WEST PERIMETER CHANNEL OUTFALL	
EAST PERIMETER CHANNEL OUTFALL	
FRENCH DRAIN OUTFALL (SID)	

OTHER DEFICIENCIES?

None.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

“RUN-ON” CONTROL

AREA			ADVERSELY AFFECTING OLF?
NORTH OF THE ORIGINAL LANDFILL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
WEST OF THE WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
EAST OF THE EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
NORTH OF WOMAN CREEK	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —

MAINTENANCE REQUIRED

None

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSTITUTIONAL CONTROLS

ITEM			
EVIDENCE OF EXCAVATION(S) OF COVER AND IMMEDIATE VICINITY OF COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
EVIDENCE OF CONSTRUCTION OF ROADS, TRAILS, OR BUILDINGS ON COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
EVIDENCE OF DRILLING OF WELLS OR USE OF GROUNDWATER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
DAMAGE OR REMOVAL OF ANY SIGNAGE OR GROUNDWATER MONITORING WELLS?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____

OTHER DEFICIENCIES / PHOTO LOG

None

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Original Landfill April 2011 Monthly Inspection – Attachment 1

The monthly inspection of the OLF was completed on April 29. The cover was mostly dry at the time of the inspection. The Rocky Flats Site has received increased amounts of precipitation over the last month with a total accumulation of 1.55” for the entire month. The average rainfall accumulation for April is ~ 2.5”, so we are still below average for the spring months. No new cracks on the OLF cover were observed. The slump in the EPC appeared to be unchanged. As stated in previously submitted reports, the slumping material is not significantly impeding the flow capacities of the EPC at this time.

Project Location Updates

Berm 1 and 7 continue to look good with no new slumping or cracking present.



Berm 1

The Western Perimeter Channel is still in good shape. The vegetation is re-establishing



West Perimeter Channel



End of Berm 7

Seeps

The Seep 1 area was dry as usual. The Seep 2 and 3 areas were wet, but had no surface expression. The Seep 4 and 5 areas had some surface expression, but it was draining through the Berm 3 drain as designed. The Seep 6 area has three locations located above berm #7 that showed some wetness, but had no surface expression. The soil in the Seep7 area is moist, but there was no surface expression. Surface flow at Seep 8 continues to flow at a rate of approximately 2-3 gpm. Pictures of the main seep locations are included below.

As seen in the pictures, wetland vegetation is slowly re-establishing itself in most of the seep locations.



Seep 4 and 5 Area



Seep 6 Area



Seep 7 Area



Seep 8

EPC Slump

The slump that was observed on the eastern slope of the EPC towards the top of the channel appears to be unchanged. The location of the slump has been recorded with a GPS unit and data is being updated on a quarterly basis. Wooden stakes were installed around the perimeter of the slumping area to help evaluate any future movement. There is no vertical displacement being observed at this time. We will continue to monitor the slumping area for any changes during routine and non-routine inspections of the OLF.



EPC Slump Area



OLF Cover from south side of Woman Creek

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSPECTOR: J. McLaughlin DATE: 5/31/11 TIME: 1100 REVIEWED BY: [Signature]
 TEMPERATURE: 67°F WEATHER CONDITIONS: Sunny REVIEW DATE: 6-15-11

SUBSIDENCE / CONSOLIDATION

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF DEPRESSIONS?	EVIDENCE OF SINK HOLES?	EVIDENCE OF PONDING?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			

Settlement Plates – Inspect integrity. Intact? Yes No

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SLOPE STABILITY

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF SEEPS?	EVIDENCE OF BLOCK OR CIRCULAR FAILURE?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
WEST PERIMETER CHANNEL SIDESLOPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST PERIMETER CHANNEL SIDESLOPES	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	EPL Slump
COVER SEEPS (IF PRESENT)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

See Attachment 1 For details.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SOIL COVER

REGION	EVIDENCE OF SOIL DEPOSITION OR EROSION?	EVIDENCE OF EROSION RILLS/GULLIES?	EVIDENCE OF BURROWING ANIMALS?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

The quarterly vegetation inspection will be completed in June.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

VEGETATION

REGION	CONDITION OF GRASS	UNWANTED VEGETATION PRESENT*?	PERCENTAGE OF GRASS VERSUS BARE GROUND?	PERCENTAGE OF UNWANTED VEGETATION?
COVER- WEST		<input type="checkbox"/> Yes <input type="checkbox"/> No		
COVER - EAST		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 1		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 3		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 4		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 5		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 6		<input type="checkbox"/> Yes <input type="checkbox"/> No		
DIVERSION BERM 7		<input type="checkbox"/> Yes <input type="checkbox"/> No		
WEST PERIMETER CHANNEL		<input type="checkbox"/> Yes <input type="checkbox"/> No		
EAST PERIMETER CHANNEL		<input type="checkbox"/> Yes <input type="checkbox"/> No		
UPPER BUTTERESS FILL SIDESLOPE		<input type="checkbox"/> Yes <input type="checkbox"/> No		
LOWER BUTTRESS FILL SIDESLOPE		<input type="checkbox"/> Yes <input type="checkbox"/> No		

* Unwanted vegetation includes weeds and "woody vegetation." Woody vegetation within the OLF waste footprint shall be removed. Other locations shall be evaluated per Section 3.5.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

STORMWATER MANAGEMENT STRUCTURES

CHANNELS

STRUCTURE	EVIDENCE OF EXCESSIVE EROSION, GULLYING, SCOUR, OR UNDERMINING?	EVIDENCE OF SETTLEMENT/ SUBSIDENCE OR DEPRESSIONS?	EVIDENCE OF BREACHING OR BANK FAILURE?	EVIDENCE OF BURROWING ANIMALS?	EVIDENCE OF SEDIMENT BUILD-UP OR OTHER BLOCKAGE?
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
TEMPORARY CHECK DAMS*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

* Check dams may be removed after vegetation is established.

OTHER DEFICIENCIES?

None

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM
STORMWATER MANAGEMENT STRUCTURES (CONTINUED)

OUTFALLS

CHECK EACH STRUCTURE FOR EXCESSIVE EROSION AND SEDIMENT DEPTH. IF SEDIMENT DEPTH IS COMPROMISING THE DESIGN CHARACTERISTICS, REMOVE SEDIMENT.

STRUCTURE	CONDITION / SEDIMENT DEPTH
DIVERSION BERM OUTFALL 1	<i>Good Condition / Minimal Sediment</i>
DIVERSION BERM OUTFALL 2	
DIVERSION BERM OUTFALL 3	
DIVERSION BERM OUTFALL 4	
DIVERSION BERM OUTFALL 5	
DIVERSION BERM OUTFALL 6	
DIVERSION BERM OUTFALL 7	
WEST PERIMETER CHANNEL OUTFALL	
EAST PERIMETER CHANNEL OUTFALL	
FRENCH DRAIN OUTFALL (SID)	

OTHER DEFICIENCIES?

None.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

“RUN-ON” CONTROL

AREA	ADVERSELY AFFECTING OLF?		
NORTH OF THE ORIGINAL LANDFILL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
WEST OF THE WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
EAST OF THE EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
NORTH OF WOMAN CREEK	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —

MAINTENANCE REQUIRED

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSTITUTIONAL CONTROLS

ITEM			COMMENT:
EVIDENCE OF EXCAVATION(S) OF COVER AND IMMEDIATE VICINITY OF COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A
EVIDENCE OF CONSTRUCTION OF ROADS, TRAILS, OR BUILDINGS ON COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A
EVIDENCE OF DRILLING OF WELLS OR USE OF GROUNDWATER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A
DAMAGE OR REMOVAL OF ANY SIGNAGE OR GROUNDWATER MONITORING WELLS?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A

OTHER DEFICIENCIES / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

ACTION ITEMS

DEFICIENCY	DATE NOTED	ACTION	DATE COMPLETED	COMMENTS
/				

JAm

INSPECTOR SIGNATURE: *[Signature]* DATE: 5/31/11
REVIEWER SIGNATURE: *[Signature]* DATE: 6-15-11

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Original Landfill May 2011 Monthly Inspection – Attachment 1

The monthly inspection of the OLF was completed on May 31. The cover was mostly dry at the time of the inspection except for the seep locations. The Rocky Flats Site has received increased amounts of precipitation over the last month with a total accumulation of approximately 4” for the month. Even with the increase in precipitation, no new cracks on the OLF cover were observed. The slump in the EPC remained unchanged as well. As stated in previously submitted reports, the slumping material is not significantly impeding the flow capacities of the EPC at this time.

Project Location Updates

Berm 1 and 7 continue to look good with no new slumping or cracking present.



Berm 1

The Western Perimeter Channel is still in good shape. The vegetation is re-establishing itself nicely following the recent precipitation events.



West Perimeter Channel



End of Berm 7

Seeps

The Seep 1 area was dry as usual. The Seep 2 and 3 areas were wet and showed some surface expression. The Seep 4 and 5 areas had some surface expression, but it was draining through the berm 3 drain as designed. The Seep 6 area has three locations located above berm #7 that were saturated. The Seep7 area was saturated and had a surface flow of ~ 1 gpm that was draining down berms #3 and #7. Surface flow at Seep 8 continues to flow at a rate of approximately 2-3 gpm. Pictures of the main seep locations are included below. As can be seen in the pictures, wetland vegetation is prominent in all of the active seep locations.



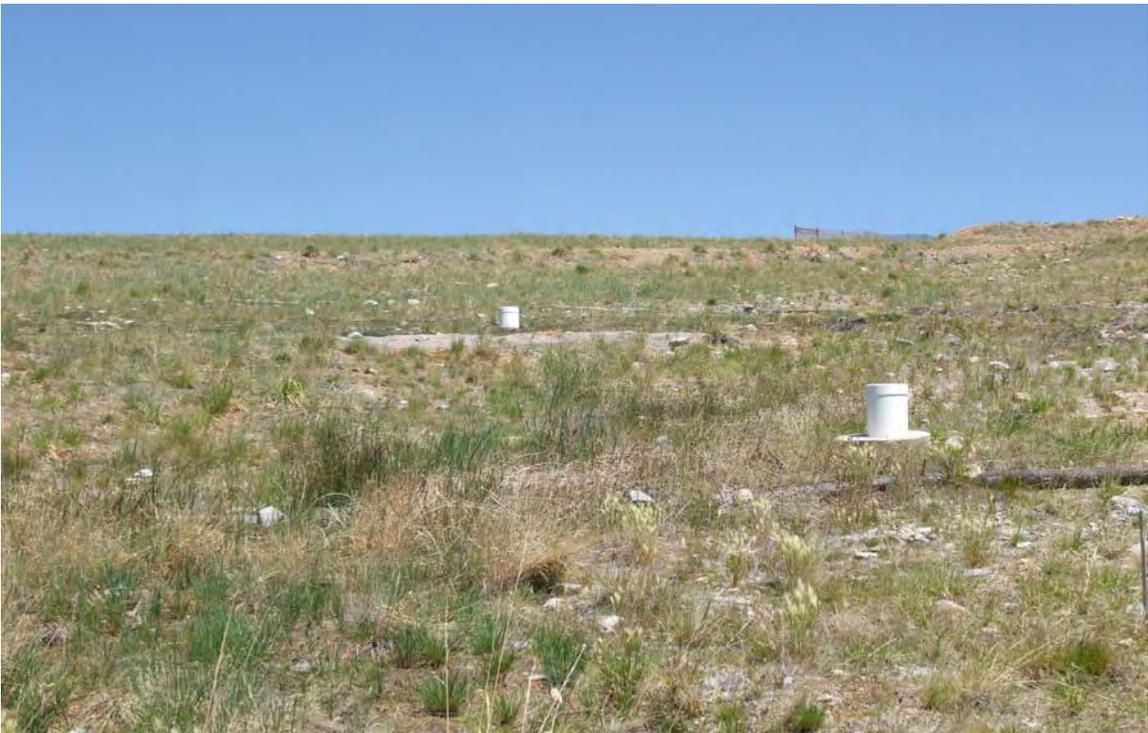
Seep 2 and 3 Area



Seep 4 and 5 Area



Seep 6 Locations



Seep 7 Area



Seep 8

EPC Slump

The slump that was observed on the eastern slope of the EPC towards the top of the channel remains unchanged. The wooden stakes that were installed around the perimeter of the slumping area haven't moved. There is no vertical displacement being observed at this time. We will continue to monitor the slumping area for any changes during routine and non-routine inspections of the OLF.



EPC Slump Area

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ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSPECTOR: J. McLaughlin DATE: 6/30/11 TIME: 1000 REVIEWED BY: Jose Szall
 TEMPERATURE: 76°F WEATHER CONDITIONS: pt. cloudy REVIEW DATE: 7-14-11

SUBSIDENCE / CONSOLIDATION

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF DEPRESSIONS?	EVIDENCE OF SINK HOLES?	EVIDENCE OF PONDING?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			

Settlement Plates – Inspect integrity. Intact? Yes No

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SLOPE STABILITY

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF SEEPS?	EVIDENCE OF BLOCK OR CIRCULAR FAILURE?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
WEST PERIMETER CHANNEL SIDESLOPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST PERIMETER CHANNEL SIDESLOPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER SEEPS (IF PRESENT)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None. See Attachment 1 For seep information.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

SOIL COVER

REGION	EVIDENCE OF SOIL DEPOSITION OR EROSION?	EVIDENCE OF EROSION RILLS/GULLIES?	EVIDENCE OF BURROWING ANIMALS?	OTHER (DESCRIBE BELOW)
COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
BUTTRESS FILL SIDESLOPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL - MONITORING AND MAINTENANCE PLAN INSPECTION FORM

OLF Vegetation Survey
Judy Nelson 5/23/11

VEGETATION

REGION	CONDITION OF GRASS	UNWANTED VEGETATION PRESENT*?	PERCENTAGE OF GRASS VERSUS BARE GROUND?	PERCENTAGE OF UNWANTED VEGETATION?	
COVER - WEST	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-100%	SAAMI, SAGRI, POE1, ELANI	<1%
COVER - EAST	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-100%	VETHI, VEGLI, ERLI, ELANI	<1%
DIVERSION BERM 1	none to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	0-95%	VETHI	<1%
DIVERSION BERM 2	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-95%	VETHI, VEGLI	<1%
DIVERSION BERM 3	none to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-100%	SAAMI, SAEX, POE1	<1%
DIVERSION BERM 4	none to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	0-75%	ERLI	<1%
DIVERSION BERM 5	Spars to good	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5-90%		0%
DIVERSION BERM 6	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15-90%	ERLI, VEGLI	<1%
DIVERSION BERM 7	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-80%	ERLI, CEDII,	<1%
WEST PERIMETER CHANNEL	none to moderate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0-75%		0%
EAST PERIMETER CHANNEL	none to moderate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0-90%		0%
UPPER BUTTERESS FILL SIDESLOPE ^{5/11}	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-90%	VETHI, LIDAI, COAR1	<1%
LOWER BUTTRESS FILL SIDESLOPE ^{5/11}	Spars to good	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5-70%	VETHI, LIDAI	<1%

* Unwanted vegetation includes weeds and "woody vegetation." Woody vegetation within the OLF waste footprint shall be removed. Other locations shall be evaluated per Section 3.5.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

JFN 5/23/11

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

STORMWATER MANAGEMENT STRUCTURES

CHANNELS

STRUCTURE	EVIDENCE OF EXCESSIVE EROSION, GULLYING, SCOUR, OR UNDERMINING?	EVIDENCE OF SETTLEMENT/ SUBSIDENCE OR DEPRESSIONS?	EVIDENCE OF BREACHING OR BANK FAILURE?	EVIDENCE OF BURROWING ANIMALS?	EVIDENCE OF SEDIMENT BUILD-UP OR OTHER BLOCKAGE?
DIVERSION BERM 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
DIVERSION BERM 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
TEMPORARY CHECK DAMS*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

* Check dams may be removed after vegetation is established.

OTHER DEFICIENCIES?

*There is a small slumping area on the east side of the EPC.
See Attachment 1 for details.*

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

No maintenance is required.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM
STORMWATER MANAGEMENT STRUCTURES (CONTINUED)

OUTFALLS

CHECK EACH STRUCTURE FOR EXCESSIVE EROSION AND SEDIMENT DEPTH. IF SEDIMENT DEPTH IS COMPROMISING THE DESIGN CHARACTERISTICS, REMOVE SEDIMENT.

STRUCTURE	CONDITION / SEDIMENT DEPTH
DIVERSION BERM OUTFALL 1	<i>Good condition / Minimal sediment</i>
DIVERSION BERM OUTFALL 2	
DIVERSION BERM OUTFALL 3	
DIVERSION BERM OUTFALL 4	
DIVERSION BERM OUTFALL 5	
DIVERSION BERM OUTFALL 6	
DIVERSION BERM OUTFALL 7	
WEST PERIMETER CHANNEL OUTFALL	
EAST PERIMETER CHANNEL OUTFALL	
FRENCH DRAIN OUTFALL (SID)	

OTHER DEFICIENCIES?

None.

MAINTENANCE REQUIRED / COMMENTS / PHOTO LOG

None.

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

“RUN-ON” CONTROL

AREA			ADVERSELY AFFECTING OLF?
NORTH OF THE ORIGINAL LANDFILL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
WEST OF THE WEST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
EAST OF THE EAST PERIMETER CHANNEL	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —
NORTH OF WOMAN CREEK	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: —

MAINTENANCE REQUIRED

None

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

INSTITUTIONAL CONTROLS

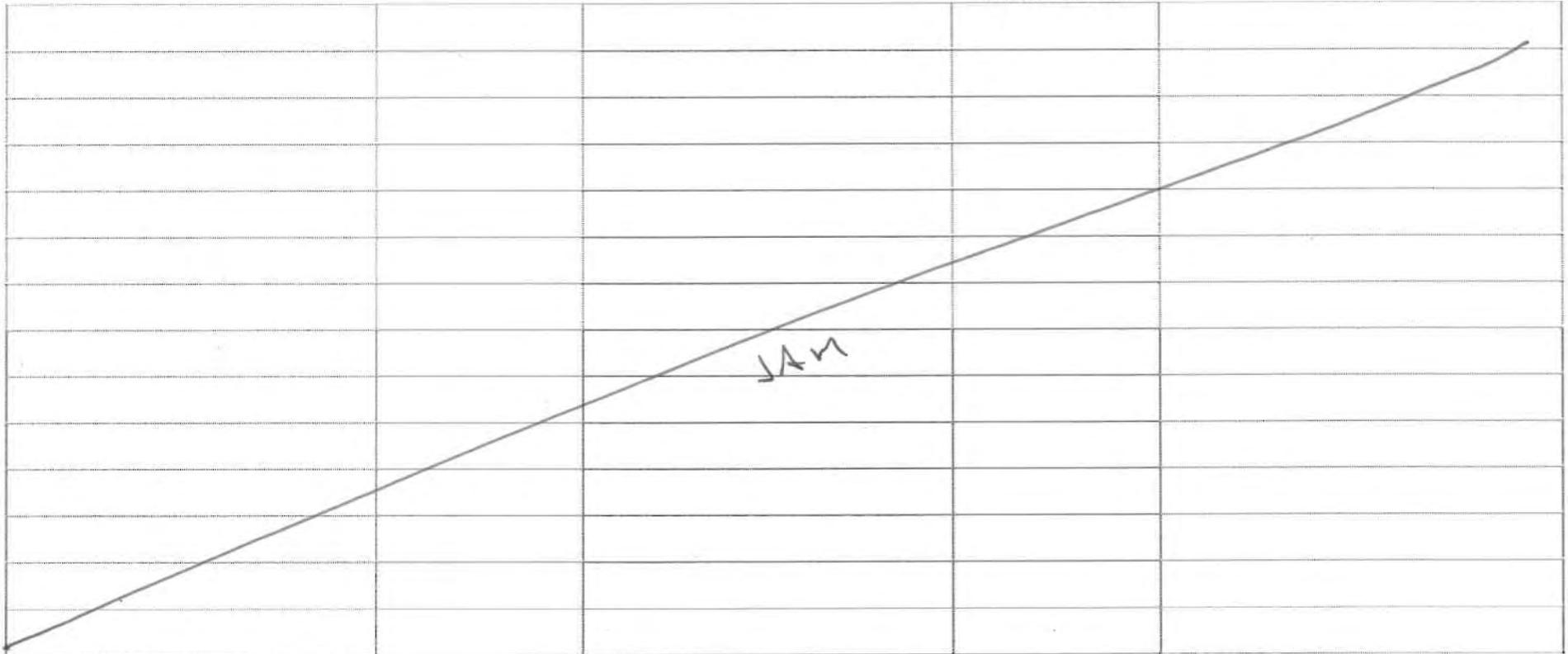
ITEM			
EVIDENCE OF EXCAVATION(S) OF COVER AND IMMEDIATE VICINITY OF COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
EVIDENCE OF CONSTRUCTION OF ROADS, TRAILS, OR BUILDINGS ON COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
EVIDENCE OF DRILLING OF WELLS OR USE OF GROUNDWATER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____
DAMAGE OR REMOVAL OF ANY SIGNAGE OR GROUNDWATER MONITORING WELLS?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: _____

OTHER DEFICIENCIES / PHOTO LOG

None

ORIGINAL LANDFILL – MONITORING AND MAINTENANCE PLAN INSPECTION FORM

ACTION ITEMS

DEFICIENCY	DATE NOTED	ACTION	DATE COMPLETED	COMMENTS
				

JAM

INSPECTOR SIGNATURE:  DATE: 6/30/11

REVIEWER SIGNATURE:  DATE: 7-14-11

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Original Landfill June 2011 Monthly Inspection—Attachment 1

The monthly inspection of the OLF was completed on June 30. The cover was fairly wet at the time of the inspection due to a precipitation event of 0.11 inch the night before. The Rocky Flats Site received decreased amounts of precipitation during June; total accumulation for the month was only 1.27 inches. No new cracks were observed on the OLF cover. The slump in the EPC remained unchanged as well. Vegetation is well established on the majority of the cover, with only a few bare spots on berms 1 and 4. These berms will be reseeded in an effort to establish better vegetation cover.

Project Location Updates

Berms 1 and 7 appear stable and satisfactory, with no new slumping or cracking present.

The Western Perimeter Channel is still in good shape. The vegetation continues to reestablish well.



Berm 1



West Perimeter Channel

Seeps

The Seep 1 area was dry, as usual. The area around Seeps 2 and 3 was saturated and showed some surface expression. The area around Seeps 4 and 5 had some surface expression that was draining through the berm 3 drain as designed. The Seep 6 area has three locations above berm 7 that were saturated. The Seep 7 area was saturated and had a surface flow of about 1–2 gallons per minute (gpm); the flow was draining down berms 3 and 7. Surface flow at Seep 8 continues at a rate of approximately 2–3 gpm. Pictures of the main seep locations are included below. As can be seen in the pictures, wetland vegetation continues to be prominent in all of the active seep locations.



Seeps 2 and 3 Area



Seeps 4 and 5 Area



Seep 6 Area



Seep 7 Area



Seep 8

EPC Slump

The slump that was observed on the eastern slope of the EPC toward the top of the channel remains unchanged. The wooden stakes that were installed around the perimeter of the slumping area have not moved. No vertical displacement or cracking is apparent. We will continue to monitor the slumping area for any changes during routine and nonroutine inspections of the OLF.



EPC Slump Area

PRESENT LANDFILL – MONITORING AND MAINTENANCE PROGRAM

INSPECTION FORM

INSPECTOR: J. McLaughlin DATE: 5/31/11 TIME: 0930 REVIEWED BY: Greg Sgill
 TEMPERATURE: 67°F WEATHER CONDITIONS: Sunny REVIEW DATE: 6-15-11
 METEOROLOGICAL STATION LOCATION: NREL Wind Site

SUBSIDENCE/CONSOLIDATION

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF DEPRESSIONS?	EVIDENCE OF SINK HOLES?	EVIDENCE OF PONDING?	OTHER (DESCRIBE BELOW)
TOP OF COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
TOP OF COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
COVER SIDESLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
COVER SIDESLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
EAST FACE SLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
EAST FACE SLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
EAST FACE SLOPE – CENTRAL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			
EAST FACE SLOPE – NORTH SEEP*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-			

Settlement Plates and side-slope monitoring points to be inspected for integrity. During Year 1, they will be surveyed quarterly, and annually thereafter

Integrity intact?
 Yes No

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG
None

* AREA OF SEEP IS OUTSIDE OF LANDFILL COVER AND EAST OF THE COVER ANCHOR TRENCH

SLOPE STABILITY

REGION	EVIDENCE OF CRACKS?	EVIDENCE OF BLOCK OR CIRCULAR FAILURE?	EVIDENCE OF SEEPS?	OTHER (DESCRIBE BELOW)
COVER SIDESLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
COVER SIDESLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PERIMETER CHANNEL OUTER SLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PERIMETER CHANNEL OUTER SLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
EAST FACE SLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
EAST FACE SLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
EAST FACE SLOPE – CENTRAL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
EAST FACE SLOPE – NORTH SEEP*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG

Small seep located on north side of the east face is saturated but has no surface expression.

* AREA OF SEEP IS OUTSIDE OF LANDFILL COVER AND EAST OF THE COVER ANCHOR TRENCH

SOIL COVER

REGION	EVIDENCE OF SOIL DEPOSITION OR EROSION?	EVIDENCE OF EROSION RILLS/GULLIES?	EVIDENCE OF BURROWING ANIMALS?	OTHER (DESCRIBE BELOW)
TOP OF COVER – WEST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
TOP OF COVER – EAST	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER SIDESLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
COVER SIDESLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST FACE SLOPE – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST FACE SLOPE – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
EAST FACE SLOPE – CENTRAL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
AREA WHERE EAST SLOPE CENTRAL MEETS EAST SLOPE NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
AREA WHERE EAST SLOPE CENTRAL MEETS EAST SLOPE SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
	VENT CAPS IN PLACE & SECURE?	STANDPIPES IN GOOD CONDITION?	BIRDS OR INSECTS IN VENT CAPS?	
COVER – BAROMETRIC VENTS	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG

None.

The quarterly vegetation inspection will be completed in June.

VEGETATION

REGION	CONDITION OF GRASS	UNWANTED VEGETATION PRESENT*?	OTHER (DESCRIBE BELOW)
TOP OF COVER – WEST		<input type="checkbox"/> Yes <input type="checkbox"/> No	
TOP OF COVER – EAST		<input type="checkbox"/> Yes <input type="checkbox"/> No	
EAST FACE SLOPE – NORTH		<input type="checkbox"/> Yes <input type="checkbox"/> No	
EAST FACE SLOPE – SOUTH		<input type="checkbox"/> Yes <input type="checkbox"/> No	
EAST FACE SLOPE – CENTRAL		<input type="checkbox"/> Yes <input type="checkbox"/> No	
COVER SIDESLOPE – NORTH		<input type="checkbox"/> Yes <input type="checkbox"/> No	
COVER SIDESLOPE – SOUTH	<i>JAM</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
VEGETATION-LINED PERIMETER CHANNEL – NORTH		<input type="checkbox"/> Yes <input type="checkbox"/> No	
VEGETATION-LINED PERIMETER CHANNEL – SOUTH		<input type="checkbox"/> Yes <input type="checkbox"/> No	

* Unwanted vegetation includes weeds and deep-rooting trees.

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG

SEEP TREATMENT SYSTEM

REGION	EVIDENCE OF PLUGGING, OBSTRUCTIONS, OR EXCESS DEBRIS?	EVIDENCE OF CRACKS OR DETERIORATION?	OTHER (DESCRIBE BELOW)
GWIS INLET PIPES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
STRIP DRAIN INLET PIPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
NORTH MANHOLE OUTLET PIPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
SOUTH MANHOLE OUTLET PIPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
TREATMENT UNIT	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
TREATMENT UNIT OUTLET PIPE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
NORTH MANHOLE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	-
SOUTH MANHOLE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	-
TREATMENT UNIT GRATING	NA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG

Small hairline cracks in manholes need touched up again.

STORMWATER MANAGEMENT STRUCTURES

CHANNELS/LINING

STRUCTURE	EVIDENCE OF EXCESSIVE EROSION, GULLYING, SCOUR, OR UNDERMINING?	EVIDENCE OF SETTLEMENT/ SUBSIDENCE OR DEPRESSIONS?	EVIDENCE OF BREACHING OR BANK FAILURE?	EVIDENCE OF BURROWING ANIMALS?	EVIDENCE OF SEDIMENT BUILD-UP OR OTHER BLOCKAGE?	EVIDENCE OF LINING DETERIORATION, HOLES, RIPS, OR SEPARATION?	EVIDENCE OF LINING DISPLACEMENT?
DIVERSION BERM	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VEGETATION-LINED PERIMETER CHANNEL - NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VEGETATION-LINED PERIMETER CHANNEL - SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
RIPRAP-LINED PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
C350-LINED EAST FACE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
EAST FACE RIPRAP CHANNEL - NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
EAST FACE RIPRAP CHANNEL - SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						

OTHER DEFICIENCIES?

None.

MAINTENANCE REQUIRED/COMMENTS/PHOTO LOG

Perimeter channels have some wetland vegetation present, but it is not impeding flow capabilities.

STORMWATER MANAGEMENT STRUCTURES (CONTINUED)

OUTFALLS

CHECK EACH STRUCTURE FOR EXCESSIVE EROSION AND SEDIMENT DEPTH. IF SEDIMENT DEPTH IS COMPROMISING THE DESIGN CHARACTERISTICS, REMOVE SEDIMENT.

STRUCTURE	CONDITION/SEDIMENT DEPTH
DIVERSION BERM OUTFALL – NORTH	<i>Good Condition / Minimal Sediment</i> 
DIVERSION BERM OUTFALL – SOUTH	
CULVERT 1 OUTFALL	
CULVERT 2 OUTFALL	
SOUTHWEST CULVERT OUTFALL	

CULVERTS

CHECK EACH STRUCTURE FOR BLOCKAGE, SURROUNDING CONDITIONS, BREACHING, SEDIMENT BUILD-UP, AND INLET/OUTLET CONDITIONS.

STRUCTURE	CONDITION
CULVERT 1	<i>Good condition</i>
CULVERT 2	<i>''</i>
SOUTHWEST CULVERT	<i>''</i>

MAINTENANCE REQUIRED/PHOTO LOG

None.

"RUN-ON" EROSION CONTROL

AREA	ADVERSELY AFFECTING PLF?	
RUN-ON INTO PERIMETER CHANNEL – NORTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COMMENT: —
RUN-ON INTO PERIMETER CHANNEL – SOUTH	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COMMENT: —
NATURAL DRAINAGE FED BY CULVERT 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COMMENT: —
NATURAL DRAINAGE FED BY NORTHEAST PERIMETER CHANNEL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COMMENT: —
NATURAL DRAINAGE FED BY RIPRAP	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COMMENT: —

MAINTENANCE REQUIRED/PHOTO LOG

None.

INSTITUTIONAL CONTROLS

ITEM			
EVIDENCE OF EXCAVATION(S) OF COVER AND IMMEDIATE VICINITY OF COVER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -
EVIDENCE OF CONSTRUCTION OF ROADS OR TRAILS ON COVER OR BUILDINGS?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -
EVIDENCE OF UNAUTHORIZED ENTRY?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -
EVIDENCE OF DRILLING OF WELLS OR USE OF GROUNDWATER?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -
DISRUPTION OR DAMAGE OF SEEP TREATMENT SYSTEM?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -
DAMAGE OR REMOVAL OF ANY SIGNAGE OR GROUNDWATER MONITORING WELLS?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	COMMENT: -

OTHER DEFICIENCIES/PHOTO LOG

None.

Rocky Flats Site

Original Landfill - Settlement Plates Monitoring

Quarterly Survey June 10, 2011 Comparison to Base Survey June 21, 2007

06-10-11 OBSERVATIONS

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
13509	747913.64	2082233.07	6005.93	N RIM PIPE AA
13508	747644.92	2081851.19	5975.30	N RIM PIPE BB
13516	747883.32	2081666.07	6019.60	N RIM PIPE CC
13515	747803.43	2081642.35	6006.09	N RIM PIPE DD
13513	747700.77	2081620.52	5988.51	N RIM PIPE EE
13519	747704.40	2081406.93	5997.16	N RIM PIPE FF
13512	747563.10	2081656.28	5974.17	N RIM PIPE GG
13521	747741.65	2081226.22	6013.15	N RIM PIPE HH

**DELTA
NORTHING DELTA
EASTING DELTA
ELEVATION**

06-21-07 OBSERVATIONS

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
70002	747913.6632	2082233.0456	6005.96	PIPE AA N.RIM
70003	747644.9400	2081851.1200	5975.42	PIPE BB N.RIM
70004	747883.4870	2081666.0909	6019.63	PIPE CC N.RIM
70005	747803.5465	2081642.2892	6006.14	PIPE DD N.RIM
70006	747700.8676	2081620.4622	5988.53	PIPE EE N.RIM (NO LID)
70007	747704.7447	2081406.6865	5997.20	PIPE FF N.RIM

PIPE GG OBSERVED FOR THE FIRST TIME ON 08-21-07 (NO COMPARISON TO BASE)

PIPE HH OBSERVED FOR THE FIRST TIME ON 12-16-08 (NO COMPARISON TO BASE)

DELTA'S ARE CALCULATED AS THE DIFFERENCE BETWEEN THE 06-21-07 OBSERVATION AND THE 06-10-11 OBSERVATION

POINTS ARE GRID BASED COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD 27, NGVD 29