

# Attachment V

## Post-Closure Care Plan

Solid Waste Permit #498  
Bristol Integrated Solid Waste Management Facility  
2655 Valley Drive  
Bristol, VA 24201  
(276) 645-7233

**SCS ENGINEERS**

02218208.17 | February 17, 2023

15521 Midlothian Turnpike Suite 305  
Midlothian, VA 23113  
804-378-7440

## Table of Contents

Section	Page
1.0 Post-Closure Purpose.....	1
2.0 Post-Closure Contact.....	1
3.0 Inspection, Monitoring And Maintenance Plan .....	1
3.1 Security Control Devices .....	2
3.2 Final Cover Integrity.....	2
3.2.1 Erosion Control Damage .....	2
3.2.2 Correction Of Settlement, Subsidence And Displacement .....	2
3.2.3 Bare Or Dead Vegetative Cover .....	3
3.2.4 Presence Of Woody Stemmed Vegetation .....	3
3.3 Run-On And Runoff Control Structures .....	3
3.4 Vegetative Cover Condition.....	<b>Error! Bookmark not defined.</b>
3.4.1 Vegetation .....	<b>Error! Bookmark not defined.</b>
3.5 Leachate Collection System.....	3
3.6 Groundwater Monitoring System.....	5
3.7 Landfill Gas Monitoring System.....	5
3.8 Benchmarks.....	6
4.0 Post-Closure Uses .....	6
5.0 Post-Closure Care Cost Estimate.....	6
6.0 Post-Closure Care Termination.....	7

## Appendices

Appendix A	1
Appendix B	1

## 1.0 POST-CLOSURE PERIOD

The City of Bristol, Virginia (City) Landfill, Solid Waste Permit (SWP) #498, has a required Post-Closure Care period of 30 years. During that time, inspection, monitoring, and maintenance activities will be performed as described below.

The following narrative, permit drawings, and specifications for the landfill describe those activities necessary to maintain proper post-closure monitoring and maintenance in order to reduce the potential of the landfill becoming a hazard to the environment through post-closure. The plans include items as set forth in the Virginia Department of Environmental Quality (VDEQ) Submission Instructions Number 6. The drawings, appendices, tables and figures should be considered an integral part of this post-closure plan.

## 2.0 POST-CLOSURE CONTACT

Title: City of Bristol Administrator/Manager  
Name: Michael Martin  
Address: 300 Lee Street  
Bristol, VA 24201  
Phone: (276)–645–7380

## 3.0 INSPECTION, MONITORING AND MAINTENANCE PLAN

After closure construction is complete, periodic inspection and maintenance activities will begin. Groundwater and landfill gas monitoring activities will continue for a period of at least 30 years after closure of the landfill. The City will be responsible for routine inspections of the closed facility including periodic visual inspections to review the condition of the vegetative cover, grading, and landfill gas collection system. In addition, inspections will also be made to check for leachate seeps or other problems. Should major problems be identified that could affect the health or welfare of the adjacent property owners, VDEQ will be contacted. However, for routine maintenance, the work required will be completed without notification to the VDEQ. Records will be kept at the Landfill Office. If the Landfill Office is closed, then records will be kept at the Department of Public Works office.

An inspection program will be established for the vegetative cover, erosion control measures, landfill gas collection system, and other physical aspects of the site. VDEQ will be informed of any changes to the frequency of inspection. A log of inspections and resulting maintenance work will be kept on file.

The following post-closure inspection and maintenance schedule is suggested for the site but should be modified as experience dictates:

- As appropriate, after a major storm event, the City will inspect the site to determine if excessive erosion or other damage has occurred. Repairs will be made as necessary.
- Monthly, inspect the security gate, lock and fencing as may be relevant for this site.
- Quarterly, a complete inspection of the site will be made by the City and repairs made as necessary. The inspection will include, but not be limited to, security control devices, erosion damage, cover settlement, subsidence and displacement, vegetative cover, run-on and runoff

control measures, leachate collection and removal system, landfill gas collection system, landfill gas monitoring system, and groundwater monitoring wells. (With final stabilization of the site, this frequency may be reduced to a semi-annual inspection.)

- Annually mow the site. All woody vegetation on the final cover must be cut. Note that site will not be mowed for 1–2 years after the final cover is placed to allow time for the grass cover to mature. Woody vegetation would still be cut.
- Annually reseed as necessary.
- Annually check the integrity of the benchmarks on the site.
- Biannually sample leachate and test for parameters set by the receiving WWTP. Currently, the City samples the combined flow from SWP #498 and SWP #588. The City may consider sampling the SWP #498 flow at some time in the future as budgets allow in preparation for post closure termination.

An inspection form has been prepared for use in the post-closure care period (see Appendix A).

Post-closure inspection and maintenance will consist of the following preventive and corrective maintenance activities:

### **3.1 SECURITY CONTROL DEVICES**

SWP #498 is located within the City of Bristol Integrated Solid Waste Management Facility (ISWMF) which includes the landfill SWP 588. The security control devices include the gate and fence at the landfill entrance which are part of the security for the SWP 588 landfill. The gate will be inspected monthly and damages recorded. Damage that would interfere with the function of the devices will be corrected. Portions of the site perimeter are fenced. The fence will be inspected and repaired as needed. Additional security measures will be implemented if there are signs of intrusion.

### **3.2 FINAL COVER INTEGRITY**

The landfill will be inspected quarterly for the following items (see attached inspection forms):

#### **3.2.1 Erosion Damage**

Areas to be inspected will include the landfill slopes, diversion berms and downchutes, sediment basins, and silt fence. Erosion gullies will be filled with soil, compacted, and reseeded. Surface berms and sediment basins filled with sediment will be cleaned as needed. Damage to access roads will be repaired. Additional erosion control measures will be installed if existing measures prove to be inadequate.

#### **3.2.2 Final Cover Settlement, Subsidence and Displacement**

It is not expected that major portions of the landfill will be subject to excessive settlement. However, if areas appear to have settled to create ponding of stormwater, the final cover will be repaired to provide positive drainage. This may require excavation of the settled area, regrading and placement of the final cover. Testing of the final cover materials as per the original construction quality control program will be needed. Major repairs to the final cover will be reported to VDEQ as will any major changes in the final cover configuration. The final surface will be seeded and mulched. The side

slopes of the closed landfill will not exceed 33 percent (3:1). Erosion control matting or mulch may be placed along the slopes of the landfill to control erosion after final grading. The minimum top slope is to be 5 percent immediately after construction. A minimum top slope of 2 percent will be maintained during the post-closure period.

### **3.2.3** Bare or Dead Vegetative Cover

If bare or dead vegetation is found, soil will be tested to determine if lime and fertilizer is needed. Bare spots or areas of sparse vegetation will receive overseeding and mulching. Reseeding activities will occur annually, typically in the early fall season.

### **3.2.4** Presence of Woody Stemmed Vegetation

To prevent the final cover from being damaged, woody stemmed vegetation will be cut.

## **3.3** RUN-ON AND RUNOFF CONTROLS

Inspections will be conducted per the inspection schedule noted above. Maintenance activities will be conducted as needed. Eroded channels and pipe entrance/exits will be returned to design conditions. Clogs will be removed from pipes and basin riser structures to allow the free flow of water. If problems with underground pipes are suspected (e.g., joints coming apart, low spots in alignment, and crushed pipe), the pipes will be video surveyed, visually surveyed (as allowable per applicable regulations), or excavated to confirm damage and ascertain the best remedy. The stormwater basin will be cleaned out whenever the storage volume in the sediment basin is reduced to less than 34 cubic yards per acre of runoff.

In the future, after the site is fully stabilized, Bristol can determine if the basin is still required. If removal of the basin is considered, proper notification to the VDEQ will be required, and appropriate land disturbance permitting completed through the City.

## **3.4** LEACHATE COLLECTION SYSTEM

The facility has a leachate collection system as shown on the Closure Drawings. Operation is generally described below assuming closure is completed.

SWP498 has a leachate collection and management system in place. Leachate is collected from the leachate collection system from beneath the landfill. There are two 6-inch PVC discharge pipes that connect into an 8-inch header system which flows into the 75,000-gallon sewage pump station and overflow tank.

Condensate and sewage from the Ingenco Power Plan also flow into the pump station.

The pump station includes three pumps one identified as low flow rated at 50 gpm/5 HP and two identified as high flow 150-300 gpm/20 HP. All pumps are non-clog submersible pumps. The pump station also includes 3 sets of diffusers in the vault. There is a flow meter on the discharge side of the pump station. Records of leachate flow will be maintained during the Post-Closure care period.

This system must remain fully active during the post closure period until terminated as approved by VDEQ. At termination, the final disposition of this system will be determined.

Installation of the final cover will significantly decrease infiltration and leachate production at the facility specifically because the contact water leachate will no longer be collected.

Under VDEQ guidelines records will be kept on the operation and maintenance of this facility.

Items to be evaluated during inspections may include the following:

- Flow and test information will be reviewed to assess any changes in the system.
- Valves will be exercised as appropriate.
- The condition of the leachate pump station and overflow tank will be inspected.
- Pump station will be evaluated for maintenance requirements.
- Routine maintenance on pumps shall be scheduled (includes motors, gaskets, bearings, impellers, alarms, flow meters, control panel or other mechanical systems or instrumentation.)
- Annually, manhole covers will be removed and the condition of the interior of the manholes assessed. Extreme care will be required given the potential for methane and other landfill gases to be present. At no time will personnel be allowed into the manholes.

Inspections and maintenance activities will be recorded in logs made available for a VDEQ inspector's review.

If action items are identified they will be initiated as soon as practical. VDEQ will be informed of any major repairs or modifications to the system.

Precautions will be taken to reduce leachate problems from developing at the site once the final cover is installed. However, if evidence indicates that a problem has occurred, Bristol will initiate a course of action to repair the affected area. The following procedures will be used in the event leachate seeps are observed:

- Inspection of site: The site will be closely inspected for run-on and infiltration points that may be introducing excessive water into the fill area. The landfill may have settled, creating a ponding situation. Grading and erosion and sediment control plans shall be closely reviewed. Based on the inspection, a plan identifying necessary field modification will be developed, and a schedule established for the repair work. Significant modification to the closure configuration of the site will be submitted to VDEQ for review and completed under the supervision of a professional engineer.
- Repairs to the final cover: If the inspection indicates that infiltration is occurring through a breach in the final cover, the breach will be repaired. Materials for the final cover repair shall be approved by a registered professional engineer and must meet the requirements of the solid waste permit closure specifications. The breached area will be excavated to allow adequate space for interfacing the repair with the unaffected final cover and for proper construction. Repairs to the final cover will conform with VDEQ requirements and the approved closure plan. After the repair, appropriate documentation will be submitted to VDEQ.
- Where the final cover has been damaged by traffic, whether authorized, such as maintenance vehicles, or unauthorized, such as motorcycles or ATVs, access will be restricted through enhanced control devices. Additional fencing, gates, berms or other barriers may be needed. Patrol of the area may need to be increased. Training may be enhanced with the maintenance personnel to assure the final cover is protected.
- Vegetation will be re-established where damaged. The damaged location will be reseeded in

accordance with the seeding schedule provided with the approved closure construction documents.

- Leachate seep control: Depending on the severity of the seep and the findings of the inspection, the leachate seep may need to be treated. The seep may be covered with clay, excavated and backfilled with gravel to facilitate infiltration into the waste mass, or collected in a supplementary collection system and piped to a holding tank. Damage to the final cover will be repaired as outlined above. Sizes and types of materials will depend on the type and location of the seep. If the seep is to be engineered for collection, VDEQ will be provided with design information for review and comment. Bristol will act quickly to assure that leachate does not exit the facility boundary and does not create a public or environmental hazard.
- Treatment and disposal of leachate: If leachate is collected, it will be piped to the holding tank and/or transported to an approved wastewater treatment facility.
- Inspection and Maintenance Plan: Once the leachate seep has been controlled, an inspection and maintenance plan will be implemented. Inspection reports will be kept in the operating record. Maintenance programs will include reseeding, fertilizing, liming and mowing as necessary and assuring that the stormwater control system is kept in good working order.

### **3.5** GROUNDWATER MONITORING SYSTEM

Groundwater monitoring will be conducted in accordance with the Virginia Solid Waste Management Regulations (VSWMR) and the approved Groundwater Monitoring Plan. For further details on the system, consult the Groundwater Monitoring Plan.

Maintenance of the groundwater monitoring system will include quarterly inspections. Signs of damage or contamination shall be recorded. Minor damage shall be repaired within 30 days of discovery. If major damage or contamination is suspected, a professional geologist or engineer will be retained to evaluate the condition of the monitoring well. If the well must be replaced, the old well will be abandoned and the new one installed in accordance with the specifications contained in the Groundwater Monitoring Plan. VDEQ will be notified of proposed changes to the system and a permit modification request prepared as necessary.

In accordance with the Groundwater Monitoring Plan, groundwater monitoring reports will be submitted to VDEQ. The reports will summarize the findings of the sampling and analysis program and the program elements. The report is an opportunity for the monitoring system and its function to be reviewed. If changes to the system are indicated, the appropriate documentation and permit modification request will be filed with VDEQ.

The closure plat included as Appendix 4 to the Closure Plan identifies the monitoring system.

### **3.6** LANDFILL GAS MONITORING SYSTEM

Under the Virginia Solid Waste Management Regulations, 9 VAC 20-81-170.A.1.d and 9 VAC 20-81-200, a municipal solid waste landfill must provide a landfill gas monitoring plan. This monitoring plan is a part of the ISWMF permit. The gas monitoring and management system consists of a series of perimeter probes and landfill gas collection wells (additional horizontal collector wells installed in the landfill during final cover construction).

### **3.6.1** Permit 498 Gas Probe Monitoring Network

The closure design plans show the gas monitoring probe network associated with Permit No. 498. Currently probes GP-4, 5, 6 and 9 comprise the compliance monitoring network. Gas probes GP-2, 3, 7 and 8 are located on the northern and southern edges of 498. These probes have been removed in previous permit amendments as they are on interior boundaries of the landfill. These probes are still in place but are no longer monitored.

Probes are monitored, inspected and repaired in accordance with the monitoring plan. If probes must be replaced, VDEQ will be notified and the post-closure plan modified accordingly.

If gas levels exceeding the allowable limits are found in the probes, VDEQ will be notified in accordance with the regulations and action taken as required by regulation.

### **3.6.2** Permit 498 Active Gas Collection System

There are seven landfill gas collection system wells number GW-16 through GW-22 associated with Permit No. 498. The locations of the gas wells and associated active system piping are shown on the closure design plans. These seven gas wells convey the collection landfill gas (LFG) to the flare or the on-site LFG to energy plant. During the installation of the final cover system, new landfill gas header pipe and horizontal collector wells will be installed.

The landfill gas collection system will be inspected quarterly. Repairs will be initiated as practical. Inspection will include the area around each wellhead. If subsidence is noted, the area will be graded with clean soil sloped to drain away from the wellhead and seeded.

The closure plat identifies the monitoring system.

## **3.7** BENCHMARKS

If a benchmark is found to be damaged, Bristol will notify DEQ and repair as warranted. There is limited need for a benchmark on the closed landfill site unless significant repair work or installation of a new compliance point is needed. Bristol will determine the need to replace the benchmark as soon as practical or wait to re-establish the benchmark when surveying is required. When notifying DEQ, Bristol will indicate their next action.

## **4.0** POST-CLOSURE USES

The closed waste unit is planned for use as an open green space during and after the post-closure care period. Written approval from the VDEQ will be required if the site use is proposed for something other than open green space during the post-closure period.

## **5.0** POST-CLOSURE CARE COST ESTIMATE

The post-closure cost estimates for the facility are included in Appendix B. Post-closure care costs assume a 30-year post-closure care period. Annually, the costs will be evaluated and updated. Bristol will submit the appropriate information to VDEQ as required by regulation.



## 6.0 POST-CLOSURE CARE TERMINATION

Procedures for terminating Post-Closure Care are provided in “Waste Guidance Memo 01-2007: Post-Closure Care Termination”. The format of the termination request, evaluation and certification are addressed in Submission Instruction No. 20: Termination of Post-Closure Activity Evaluation per 9VAC 20-81-170.B.3 and C.

## ACKNOWLEDGEMENTS

This plan has been prepared by SCS Engineers. Some portions of the narratives, exhibits, and calculations have been retained from permit documentation prepared by Thompson & Litton, Inc and Draper Aden Associates to maintain consistency of Permit Documents.

# Appendix A

## Post-Closure Inspection Report Forms (Inspection Checklist)

**POST-CLOSURE INSPECTION CHECKLIST  
BRISTOL LANDFILL**

Inspector Name:		Inspection Date:			
<b>Category</b>	<b>No.</b>	<b>Inspection to be conducted</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Security Control Devices	1	Is entrance gate and lock functioning properly?			
	2	Is fencing maintained?			
	3	Is access controlled by wooded areas where no fence exists?			
Leachate Seeps	4	Are there leachate seeps on slopes?			
	5	Are there signs of leachate seeps at perimeter of landfill?			
Erosion Damage	6	Are there signs of erosion damage on the landfill cap, such as gullies or rills on the surface?			
	7	Are ditches and channels collecting siltation?			
	8	Does the sediment basin need cleanout?			
	9	Is the sediment basin riser intact and properly maintained?			
	10	Are the spillways cleaned, functional, and undamaged?			
	11	Are rodent burrows evident?			
Cover Settlement	12	Are internal or access roads in need of repair?			
	13	Is there sign of settlement on the landfill?			
Vegetative Cover Condition	14	Is there evidence of slope failures on the landfill cap?			
	15	Are there areas of the cap needing vegetation?			
	16	Does the vegetation require mowing?			
	17	Does the vegetation appear healthy?			
Run-on and Runoff Control	18	Is there woody stem vegetation requiring removal?			
	19	Are surface water control features functional? (Is run on collected and run-off diverted from site?)			
	20	Are surface water control features adequate for site			
Air Quality	21	Is ponding of water on top of cap in evidence			
	22	Is there indication of landfill gas collection indicating active decomposition?			
	23	Is there concentration of decomposition gases in a manner that will pose an explosion or toxicity hazard?			
	24	Are there areas of dead vegetation on the landfill?			
	25	Are the landfill gas wells damaged?			
	26	Is there settlement around the landfill gas wells?			
	27	Are landfill gas probes damaged (lids, casings, apron, labels)?			
Groundwater Monitoring System	28	Are groundwater monitoring well locks missing or inoperable?			
	29	Are wells legibly labeled?			
	30	Are well inner casings damaged?			
	31	Are well outer casings damaged?			
	32	Are there signs of well contamination?			
	33	Are there signs of settlement or damage to concrete apron?			
	34	Are purge water barrels upright, intact, not leaking and lids closed?			

**POST-CLOSURE INSPECTION CHECKLIST  
BRISTOL LANDFILL**

Leachate Collection System	35	Was the flow and test data reviewed?			
	36	Do any leachate lines require cleanout?			
	37	Are the manhole covers in good shape?			
	38	Is the interior of the manholes in good shape			
	39	Were the valves exercised			
	40	Does the pump out area need any repairs			
	41	Do the tanks or pumps require maintenance			
Benchmarks	42	Have the benchmarks been damaged or struck			
	43	Is there sign of settlement around the benchmarks			
	44	Are the benchmarks readily accessible			
Comments – describe any needed follow up actions: (Include item number from checklist where applicable)					

# Appendix B

## Post-Closure Care Cost Estimate

**Worksheet CEW-02: FORMAT FOR THE ESTIMATION OF POST-CLOSURE COSTS**

**City of Bristol SWP 498 Landfill, Post Closure Financial Assurance Estimate**

**I. Groundwater Monitoring**

		<u>Calculation or Conversion</u>	
a. Total number of monitoring wells	6 wells		
b. Total number of sampling events/year	2 events/yr	a x b	12 samples/yr
c. Quantity of additional samples (e.g. QA/QC)	2 samples/event	b x c	4 samples/yr
d. Total samples per year		b + c	16 samples/yr
e. Analysis unit cost (Table 3.1 constituents)	\$650.00/sample		
f. <i>Total Analysis cost</i>		d x e	\$10,400.00 /yr
g. GW Monitoring unit cost	\$13,000.00/event		
i. <i>Total sampling cost</i>		f + (g x b)	\$36,400.00 /yr
j. Engineering fees & reports	\$40,000/yr		
<b>Yearly Groundwater Monitoring Cost</b>		i + j	<b>\$76,400 /yr</b>

**II. Landfill Gas Monitoring, Maintenance, and Control**

a. Frequency of LFG compliance monitoring	4 events/yr		
b. LFG Monitoring unit cost	\$4,000.00/event		
c. <i>Total perimeter LFG monitoring cost</i>		a x b	\$16,000 /yr
d. Frequency of surface monitoring (air permit)	1 events/yr		
e. Surface monitoring unit cost	\$3,000.00/event		
f. <i>Total surface monitoring cost</i>		d x e	\$3,000 /yr
g. Control system operating unit cost	\$15,000/yr		
h. Frequency of LFG control system inspections	4 events/yr		
i. Control system inspection cost	\$1,000.00/event		
j. <i>Total control system cost</i>		g + (h x i)	\$19,000 /yr
<b>Yearly Landfill Gas Monitoring, Maintenance, &amp; Control Cost</b>		c + f + j	<b>\$38,000 /yr</b>

**III. Leachate Management**

a. Quantity of leachate generated	430,000 gal/yr		
<i>On-site Leachate Management or Pre-Treatment</i>			
b. On-site treatment operating unit cost	\$0.00/gal		
c. <i>Total on-site management cost</i>		a x b	\$0 /yr

*Leachate Disposal*

d. Private disposal unit cost	\$0.00/gal		
e. POTW disposal unit cost	\$0.0070/gal		
f. Direct discharge to POTW unit cost	\$0.00/gal		
g. Pump & Haul unit cost	\$0.000/gal		
h. Subtotal leachate disposal unit cost		d + e + f + g	\$0.01
i. <i>Total leachate disposal cost</i>		a x h	\$3,010 /yr
j. Leachate sampling & analysis unit cost	\$2,600.00/sample		
k. Frequency of leachate sampling & analysis	2 sample/yr		
l. <i>Total leachate sampling &amp; analysis cost</i>		j x k	\$5,200.00 /yr
<b>Yearly Leachate Management Cost</b>		c + i + l	<b>\$8,210 /yr</b>

*Closure of Leachate Storage Units*

m. Total Cost to Decommission/Remove	\$350,000.00		
<b>One-time Leachate Unit Closure Cost at end of PCC</b>		m	<b>\$350,000</b>

**IV. Cap Maintenance & Repair**

a. Closed Landfill Area	12.4 acres		
-------------------------	------------	--	--

*Mowing & Fertilization*

b. Mowing frequency	<input type="text" value="2"/> visits/yr		
c. Mowing unit cost	<input type="text" value="\$200.00"/> /acre/visit		
d. <i>Total mowing cost</i>		$a \times b \times c$	\$4,960 /yr
e. Fertilizer frequency	<input type="text" value="-"/> visits/yr	Included with seeding	
f. Fertilizer unit cost	<input type="text" value="\$0.00"/> /acre/visit		
g. <i>Total fertilizer cost</i>		$a \times e \times f$	\$0 /yr
<b>Cap Erosion &amp; Repair</b>			
h. Area to reseed/year		$33\% \times a$	4.1 acres
i. Reseeding unit cost	<input type="text" value="\$2,000.00"/> /acre		
j. <i>Total reseeding cost</i>		$h \times i$	\$8,266.67 /yr
k. Area of cap erosion/year		$10\% \times a$	1.2 acres
l. Cap erosion repair unit cost	<input type="text" value="\$1,500.00"/> /acre		
m. Mobilization/Demobilization	<input type="text" value="\$2,000.00"/> /yr		
n. <i>Total cap erosion repair cost</i>		$(k \times l) + m$	\$3,860 /yr
<b>Yearly Cap Maintenance &amp; Repair cost</b>		$d + g + j + n$	<b>\$17,087 /yr</b>
<b>V. Sediment Basin Maintenance &amp; Repair</b>			
a. Sediment basin cleanout frequency, 1 per	<input type="text" value="3"/> years	$1 / a$	0.33 event/yr
b. Sediment basin cleanout unit cost	<input type="text" value="\$27,000"/> /event		
c. Mobilization/Demobilization	<input type="text" value="\$2,500"/> /event		
d. <i>Total sediment basin maintenance cost</i>		$a \times (b + c)$	\$9,833 /yr
e. Total number of stormwater sampling locations	<input type="text"/> locations		
f. Stormwater sampling frequency	<input type="text"/> events/yr		
g. Total number of stormwater samples		$e \times f$	0 samples/yr
h. Analysis unit cost (VPDES permit parameters)	<input type="text"/> /sample		
i. <i>Total Analysis cost</i>		$g \times h$	\$0 /yr
j. Mobilization unit cost	<input type="text"/> /event		
k. Technician field unit cost	<input type="text"/> /event		
l. <i>Total sampling cost</i>		$f \times (j + k)$	\$0.00 /yr
m. Engineering fees & reports	<input type="text"/> /yr		
n. <i>Total Stormwater Sampling &amp; Analysis cost</i>		$i + l + m$	\$0 /yr
<b>Yearly Sediment Basin Maintenance &amp; Repair</b>		$d + n$	<b>\$9,833 /yr</b>
<b>VI. Vector &amp; Rodent Control</b>			
a. Vector and rodent control unit cost	<input type="text" value="\$800.00"/> /yr		
<b>Yearly Vector and Rodent Control Cost</b>		$a$	<b>\$800 /yr</b>
<b>VII. Post-Closure Care General Inspections</b>			
a. General Inspection unit cost	<input type="text" value="\$3,000.00"/> /inspection		
b. Number of inspections per year	<input type="text" value="1"/>		
<b>Yearly Post-Closure Care General Inspection Cost</b>		$a \times b$	<b>\$3,000 /yr</b>
<b>VIII. Underdrain Monitoring</b>			
	<b>Not required</b>	<u>Calculation or Conversion</u>	
a. Total number of monitoring locations	<input type="text"/> wells		
b. Total number of sampling events/year	<input type="text"/> events/yr	$a \times b$	0 samples/yr
c. Quantity of additional samples (e.g. QA/QC)	<input type="text"/> samples/event	$b \times c$	0 samples/yr
d. Total samples per year		$b + c$	0 samples/yr
e. Analysis unit cost (leachate indicator parameters)	<input type="text"/> /sample		
f. <i>Total Analysis cost</i>		$d \times e$	\$0.00 /yr
g. Underdrain Monitoring unit cost	<input type="text"/> /event		
i. <i>Total sampling cost</i>		$f + (g \times b)$	\$0.00 /yr
j. Engineering fees & reports	<input type="text"/> /yr		
<b>Yearly Underdrain Monitoring Cost</b>		$i + j$	<b>\$0 /yr</b>

<b>Annual Post-Closure Care Cost (APCC)</b>		I + ... + VIII	\$153,330 /yr
<b>Length of post-closure care (LPCC)</b>	<input type="text" value="30"/> years		
<b>Post-Closure Care Cost</b>		(APCC x LPCC) + III.m.	\$4,949,900
<b>Engineering &amp; Documentation</b>		Engineering Sum	\$21,000
Post-Closure Care Evaluation	<input type="text" value="\$17,500"/>		
Post-Closure Care Certification	<input type="text" value="\$3,500"/>		
Cost for survey and deed notation (if not completed at time of landfill closure)	<input type="text" value="\$0"/>		
<b>FA Mechanism Maintenance Cost</b>	<input type="text" value="\$0"/> /yr	FA maintenance x LPCC	\$0
<b>Total Post-Closure Care Cost</b>		Post-Closure Cost + Engineering + FA Maintenance	<b>\$4,970,900</b>