

March 7, 2022

Mr. Nick Lytle  
Tennessee Department of Environment and Conservation  
Division of Solid Waste Management  
312 Rosa L. Parks Avenue  
Nashville, Tennessee 37243

Subject: **RLF Green Duck LLC to Star Hill LLC  
Transfer of Permits  
IDL 600000017**

Dear Mr. Lytle,

Barge Design Solutions, Inc. (Barge) has prepared this letter on Behalf of Star Hill, LLC and Remedial Holdings, LLC to begin the permit transfer process.

Star Hill, LLC and Remedial Holdings, LLC have purchased the real property of the former Monsanto plant site which contain landfills IDL 600000017 and IDL 600000018. As required by the Rule, Star Hill, LLC and Remedial Holdings, LLC are notifying the Tennessee Division of Solid Waste Management of the intent to transfer these permits from RLF Duck River, LLC to Remedial Holdings and Star Hill, LLC as the landowners on IDL 600000017 and Remedial Holdings as the landowner of IDL 600000018. Star Hill, LLC shall be the official Operator of both facilities.

Please find enclosed with this letter the permit transfer form for IDL 600000017, payment and payment form for that facility, an applicant disclosure statement for Star Hill, LLC and Remedial Holdings, LLC as well as the agreement between RLF Duck River, LLC, the former owner and Star Hill, LLC and Remedial Holdings to complete transfer of the liability by May 31, 2022. Revised Closure and Post-Closure amounts have been calculated and will be addressed under a separate cover letter on IDL 600000017 as the facility is active and still has capacity in cell 1 of the facility to receive waste. A figure depicting the two landfill locations on the property has also been provided for reference.

Please let us know if you have any questions or need any additional information.

Sincerely,

*C. Jason Repsher*

C. Jason Repsher, PG  
Environmental Director  
Barge Design Solutions

Attachments:      Transfer Application - 600000017  
                         Transfer Payment Form and Payment - 600000017  
                         Disclosure Forms  
                         Transfer Agreement - RLF Duck River and Star Hill/Remedial Holdings  
                         Figure 1 – Map IDL 600000017 and 600000018

ec:      Steve Wintheiser, Columbia FO  
            Sid Brian, Star Hill, LLC / Remedial Holdings, LLC  
            Blake Brian, Star Hill, LLC / Remedial Holdings, LLC



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF SOLID WASTE MANAGEMENT  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243  
**SOLID WASTE APPLICATION FILING/PROCESSING FEE****

<b>1. Facility Information</b> RLF Green Duck Class II Landfill IDL-60-000-0017 Full Legal Name of Facility 2262 Monsanto Road Mailing Address Columbia, TN 38402 City, State, Zip Code	<b>2. Permittee Information</b> Star Hill LLC Permittee (Name/Legal Entity) 5800 One Perkins Dr, Suite 6A Mailing Address Baton Rouge, LA 70808 City, State, Zip Code (255) 766-1443 Telephone Number of Permittee			
<b>3. Physical Location/Directions to Facility</b> Landfill is located at the former Monsanto plant site off Highway 50 West approximately seven miles west of Columbia, TN at 2292 Monsanto Rd.	<b>4. Type Facility and Fee Due:</b> <input type="checkbox"/> New Disposal Facility* <div style="margin-left: 20px;"><input type="checkbox"/> Class I    <input type="checkbox"/> Class II <input type="checkbox"/> Hydrogeology .....\$ 4,000 <input type="checkbox"/> Construction Plan Review ... 6,000  <input type="checkbox"/> Class III ..... 3,000  <input type="checkbox"/> Major Modification ..... 2,000  <input type="checkbox"/> Processing Facility ..... 1,000 <input checked="" type="checkbox"/> Transfer of Ownership..... 1,000  <input type="checkbox"/> Transfer Station ..... 500  *Includes Lateral Expansions</div>			
<b>5. Total Site Acres (If Disposal Operation):</b> 12.0 Acres	<b>6. Amount of Fee Enclosed:</b> \$ 1,000.00			
<b>7. Total Acres In Landfill Footprint:</b> 6.0 Acres	<b>8. Type and Size Facility If Processing Facility:</b>			
<b>9.</b> I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury. <div style="display: flex; justify-content: space-between; margin-top: 20px;"><div style="width: 45%; text-align: center;"><u>Sidney Brian</u> Print or Type Name  Signature</div><div style="width: 45%; text-align: center;"><u>Owner</u> Title  Date 1.24.22</div></div>				
<b>FISCAL SERVICES USE ONLY BELOW THIS LINE</b>				
<b>ASSIGNED FACILITY ID NUMBER:</b>				
CD Number	Date Received	Amount	Receipt #	Comments

## INSTRUCTIONS FOR APPLICATION FILING/PROCESSING FEE

1. Enter full name of facility, mailing address, and zip code.
2. Enter the permittee's name (person/legal entity to whom permit will be issued), mailing address, zip code, and telephone number complete with area code in this block.
3. Enter the physical location with directions to the proposed facility (not a post office box or mailing address) in this space.
4. Mark the appropriate checkbox to indicate if the application is for a disposal facility, a processing facility, a transfer facility, a major modification, or a transfer of ownership for an existing facility. If the application is for a disposal operation, also mark the appropriate checkbox to indicate the classification of the facility being proposed. For class I and class II facilities, indicate whether the payment is being made for the hydrogeologic report (\$4000.00) or the construction plan review (\$6,000.00). Transfers of ownership apply to all facility types.
5. If this facility is a landfill (any class), enter the number of total permitted site acres, regardless of whether the entire site will be a part of the operational area.
6. Enter the amount of the fee you are enclosing. The correct amount can be determined by referring to item (4) of the form. To the right of the facility type is the amount of the fee due for that type of application (example: a Class III disposal facility has a \$3,000.00 fee).
7. Enter the total area in the landfill footprint here, if applicable.
8. If application is for a processing facility, enter the type and size (example: incinerator--25 tons/day capacity).
9. The owner or an authorized officer of the company must print their name and title before signing and dating the certification.

### Note:

Make checks payable to State of Tennessee, Division of Solid Waste Management.

Mail check and the completed form to: State of Tennessee, Department of Environment and Conservation, Division of Fiscal Services – Fee Section – SWM, 312 Rosa L. Parks Avenue, 10<sup>th</sup> Floor, Nashville, TN 37243.

"TIMELY ACTION" TIMING STARTS WITH THE RECEIPT OF YOUR CHECK AND THE COMPLETED FORM IN THE CENTRAL OFFICE AND THE RECEIPT OF ALL NECESSARY MATERIALS FOR THE REVIEW IN THE FIELD OFFICE.





STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF SOLID WASTE MANAGEMENT  
WILLIAM R. SNODGRASS TENNESSEE TOWER  
312 ROSA L. PARKS AVENUE, 14TH FLOOR  
NASHVILLE, TN 37243

**SOLID WASTE FACILITY MODIFICATION NOTIFICATION**

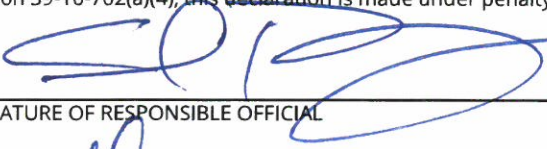
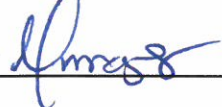
PERMIT #
DATE
TDEC USE ONLY <input type="checkbox"/> MINOR <input type="checkbox"/> MAJ

1 - FACILITY TYPE	2 - TYPES OF MODIFICATIONS	NUMBER OF MODIFICATIONS
<input type="checkbox"/> CLASS I	<input type="checkbox"/> OPERATIONS	1
<input checked="" type="checkbox"/> CLASS II	<input type="checkbox"/> NARRATIVE CHANGE	
<input type="checkbox"/> CLASS III	<input type="checkbox"/> ENGINEERING PLANS	
<input type="checkbox"/> COMPOST	<input type="checkbox"/> GROUND WATER PROGRAM	
	<input type="checkbox"/> CONSTRUCTION QUALITY ASSURANCE PLAN	
	<input type="checkbox"/> CLOSURE / POST CLOSURE PLAN	
	<input checked="" type="checkbox"/> OTHER (SPECIFY) Permit Transfer	

3 - FACILITY INFORMATION	
FULL LEGAL NAME OF FACILITY RLF Green Duck Class II Landfill IDL60-000-0017	COUNTY maury
PHYSICAL LOCATION ADDRESS (GIVE DIRECTIONS IF NECESSARY) 2292 Monsanto Road	CITY STATE ZIP Columbia TN 38401

4 - CONTACT PERSONS	
FACILITY MANAGER OR SITE OPERATOR Blake Brian	PHONE EMAIL (225) 766-1443 bbrian@trinitybusinessgroup.net
RESPONSIBLE OFFICIAL Sidney Brian	PHONE EMAIL (225) 766-1443 sbrian@trinitybusinessgroup.net
FACILITY MAILING ADDRESS 2292 Monsanto Road	CITY STATE ZIP Columbia TN

5 - MODIFICATION INFORMATION	
DESCRIPTION OF MODIFICATION	REASON FOR MODIFICATION
1. Permit Transfer	Property Acquisition
2.	
3.	

6 - CERTIFICATION REQUIRED	
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.	
 SIGNATURE OF RESPONSIBLE OFFICIAL	Sidney Brian PRINTED NAME
Owner  TITLE	1.24.22 DATE SIGNED

**RETURN COMPLETED FORM TO:**

FIELD OFFICE	COUNTIES SERVED	LOCATION, ADDRESS, CONTACT INFORMATION
MEMPHIS	Fayette, Shelby, Tipton	8383 Wolf Lake Drive   Bartlett, TN 38133-4119   Phone: (901) 371-3000   FAX: (901) 371-3170
JACKSON	Benton, Carroll, Decatur, Dyer, Hardin, Haywood, Lake, Lauderdale, Obion, Weakley, Chester, Crockett, Gibson, Hardeman, Henderson, Henry, Madison, McNairy	1625 Hollywood Drive   Jackson, TN 38305   Phone: (731) 512-1300   FAX: (731) 661-6283
NASHVILLE	Cheatham, Davidson, Dickson, Houston, Humphreys, Montgomery, Robertson, Stewart, Sumner, Trousdale, Williamson,	711 R.S. Gass Blvd, Nashville, TN 37216   Phone: (615) 687-7000   FAX: (615) 687-7078
COLUMBIA	Bedford, Coffee, Franklin, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Rutherford, Wayne	1421 Hampshire Pike, Columbia, TN 38401   Phone: (931) 380-3371   FAX: (931) 380-3397
COOKEVILLE	Cannon, Clay, Cumberland, Dekalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren, White	1221 South Willow Avenue, Cookeville, Tennessee 38506   Phone: (931) 520-6688   FAX: (931) 432-6952
CHATTANOOGA	Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie	1301 Riverfront Parkway   Suite #206   Chattanooga, TN 37402   Phone: (423) 634-5745   FAX: (423) 634-6389
KNOXVILLE	Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane,	3711 Middlebrook Pike, Knoxville, TN 37921   Phone: (865) 594-6035   FAX: (865) 594-6105
JOHNSON CITY	Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington	2305 Silverdale Road, Johnson City, TN 37601-2162   Phone: (423) 854-5400   FAX: (423) 854-5401

**INSTRUCTIONS FOR SOLID WASTE FACILITY MODIFICATION NOTIFICATION**

COMPLETE AND SUBMIT THIS FORM FOR EACH FACILITY THAT IS REQUESTING A MINOR MODIFICATION IN TENNESSEE.

**1. FACILITY TYPE**

CHECK THE FACILITY TYPE FOR WHICH THE MODIFICATION IS BEING REQUESTED

**2. TYPES OF MODIFICATIONS**

CHECK THE TYPE(S) AND NUMBER OF MODIFICATIONS BEING REQUESTED. CHECK ALL THAT APPLY

**3. FACILITY INFORMATION**FULL LEGAL NAME OF FACILITY

ENTER THE FULL LEGAL NAME FOR THIS SITE TO DISTINGUISH IT FROM ANY OTHER SITE THAT THE APPLICANT OR ORGANIZATION MAY OWN OR OPERATE IN TENNESSEE.

PHYSICAL LOCATION:

INFORMATION (ADDRESS, DIRECTIONS) THAT WILL AID IN FINDING THIS SITE (NO P.O. BOX NUMBERS!). PROVIDE COUNTY WHERE SITE IS LOCATED.

**4. CONTACT PERSONS**FACILITY MANAGER OR SITE OPERATOR

NAME AND PHONE NUMBER OF PERSON WHO IS RESPONSIBLE FOR THE DIRECTION OF ACTIVITIES AT THIS SITE

RESPONSIBLE OFFICIAL

PERSON AUTHORIZED TO COMPLETE THIS APPLICATION AND WHO MAY BE CONTACTED BY TDEC FOR ANY FURTHER INFORMATION

FACILITY MAILING ADDRESS

PROVIDE COMPLETE MAILING ADDRESS FOR THIS SITE

**5. MODIFICATION INFORMATION**DESCRIPTION OF MODIFICATION

PROVIDE A BRIEF NARRATIVE SUMMARY OF ALL MODIFICATIONS BEING REQUESTED.

REASON FOR MODIFICATION

PROVIDE A BRIEF NARRATIVE SUMMARY OF THE REASONS THE MODIFICATIONS ARE BEING REQUESTED.

**6. CERTIFICATION**

AFTER ALL DOCUMENTS HAVE BEEN COMPILED FOR SUBMISSION TO THE DIVISION, THE MANAGER OR OWNER RESPONSIBLE FOR THE SITE MUST SIGN THE CERTIFICATION AND GIVE DATE AND TITLE.





STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF SOLID WASTE MANAGEMENT  
WILLIAM R. SNODGRASS TENNESSEE TOWER  
312 ROSA L. PARKS AVENUE, 14TH FLOOR  
NASHVILLE, TN 37243

### APPLICATION FOR FACILITY TRANSFER OF REGISTRATION

#### A. TYPE OF NOTIFICATION

- ☒ OWNERSHIP CHANGE  
☐ STOCK TRANSFER % \_\_\_\_\_  
☐ OTHER \_\_\_\_\_

FOR FULLY PERMITTED FACILITIES, ATTACH DISCLOSURE STATEMENT FOR APPLICANT

<b>B.</b>	<input type="checkbox"/> INDIVIDUAL	APPLICANT NAME			
	<input checked="" type="checkbox"/> CORPORATION	Remedial Holdings LLC			
	<input type="checkbox"/> GOVT AGENCY				
		RESPONSIBLE OFFICIAL / TITLE (HAS ULTIMATE CONTROL OF HOLDINGS)	PHONE	EMAIL	
		Sid Brian, Owner	(255) 766-1443	sbrian@trinitybusinessgroup.net	
OTHER SPECIFY:		ADDRESS	CITY	STATE	ZIP
		5800 One Perkins Dr, Suite 6A	Baton Rouge	LA	70808

#### C. ☒ FACILITY NAME CHANGE CHECK IF THERE IS A CHANGE IN THE NAME OF YOUR FACILITY - ENTER CURRENT AND NEW INFORMATION

CURRENT	FACILITY CURRENT LEGAL NAME	PERMIT NUMBER
	RLF Green Duck Class II Landfill	IDL 60-102-0017
NEW	NEW FACILITY NAME	
	FORMON1 Class II Landfill	

#### D. ☒ PERMITTEE CHANGE CHECK IF THERE IS A CHANGE IN THE PERMITTEE NAME - ENTER CURRENT AND NEW INFORMATION

CURRENT	PERMITTEE NAME	ADDRESS	CITY	STATE	ZIP
	RLF Green Duck	1400 16th Street Suite 320	Denver	CO	80202
	(AREA CODE) + PHONE	EMAIL	RESPONSIBLE OFFICIAL / TITLE		
	(719) 332-0205	aaron.patsch@rlholdings.com	Aaron Patsch, Authorized Representative		
NEW	NEW PERMITTEE NAME	NEW PERMITTEE ADDRESS	CITY	STATE	ZIP
	Remedial Holdings LLC	5800 One Perkins Dr	Baton Rouge	LA	70808
	(AREA CODE) + PHONE	EMAIL	RESPONSIBLE OFFICIAL / TITLE		
	(255) 766-1443	bbrian@trinitybusinessgroup.net	Sidney Brian, Owner		

#### E. ☒ FACILITY OPERATOR CHANGE CHECK IF THERE IS A CHANGE IN FACILITY OPERATOR - ENTER CURRENT AND NEW INFORMATION

CURRENT	FACILITY OPERATOR NAME	ADDRESS	CITY	STATE	ZIP
	RLF Green Duck LLC	1400 16th Street, Suite 320	Denver	CO	80202
	(AREA CODE) + PHONE	EMAIL	SITE OPERATOR NAME / TITLE		
	(719) 332-0205	aaron.patsch@rlholdings.com	Aaron Patsch, Authorized Representative		
NEW	FACILITY OPERATOR NAME	ADDRESS	CITY	STATE	ZIP
	Star Hill LLC	5800 One Perkins Dr	Baton Rouge	LA	70808
	(AREA CODE) + PHONE	EMAIL	SITE OPERATOR NAME / TITLE		
	(255) 766-1443	bbrian@trinitybusinessgroup.net	Blake Brian, General Manager TN Operations		

#### F. CHECK IF CURRENT OWNER HAS SUPPLIED COPIES OF THE FOLLOWING:

- ☐ CONSTRUCTION AND OPERATIONAL PLANS ☐ OPERATIONAL MANUAL ☐ CURRENT PERMIT CONDITIONS ☐ CLOSURE / POST CLOSURE PLAN ☐ FINANCIAL ASSURANCE (AMOUNT INDICATED)

G. I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

→  RESPONSIBLE OFFICIAL SIGNATURE  
Sidney Brian /  PRINTED NAME / TITLE  
1.24.22 DATE

# INSTRUCTIONS FOR TRANSFER OF REGISTRATION

<b>A. TYPE OF NOTIFICATION:</b>	CHECK THE APPROPRIATE CHANGE. OWNERSHIP CHANGE IS DEFINED IN RULE 0400-11-01-.02(5)(a)2 IF STOCK TRANSFER, INDICATE PERCENT TRANSFERRED. IF OTHER, EXPLAIN.		
<b>B. APPLICANT:</b>	IDENTIFY APPLICANT TYPE BY CHECKING THE APPROPRIATE BOX OR SPECIFYING "OTHER"  <b>APPLICANT NAME:</b> APPLICANT NAME (MAY OR MAY NOT BE SAME AS PERMITTEE)  <b>RESPONSIBLE OFFICIAL:</b> RESPONSIBLE OFFICIAL WITHIN THE APPLICANT'S ORGANIZATION WHO HAS ULTIMATE CONTROL OF HOLDINGS RESPONSIBLE OFFICIAL IS REQUIRED TO CERTIFY AND SIGN THIS APPLICATION		
<b>C. FACILITY NAME:</b>	GIVE CURRENT FACILITY NAME (NAME PRIOR TO TRANSFER) - - PERMIT NUMBER WILL NOT CHANGE		
<b>D. PERMITTEE NAME:</b>	NAME OF PERSON OR LEGAL ENTITY ACTIVELY REGISTERED WITH THE TENNESSEE SECRETARY OF STATE AND TO WHOM THE PERMIT IS CURRENTLY ISSUED. THE RESPONSIBLE OFFICIAL IS THE NAME OF THE PERSON WITHIN THE PERMITTEE'S ORGANIZATION WHO IS <b>AUTHORIZED TO SIGN BINDING DOCUMENTS ON BEHALF OF THE PERMITTEE</b> . EXAMPLE: COUNTY MAYOR; PRESIDENT OF A CORPORATION; SOLE OWNER ETC.  IDENTIFY NEW PERMITTEE - IF THE PERMITTEE IS A CORPORATION, IT MUST BE A LEGAL ENTITY ACTIVELY REGISTERED WITH THE TENNESSEE SECRETARY OF STATE. ALSO PROVIDE RESPONSIBLE OFFICIAL WITHIN THE PERMITTEE'S ORGANIZATION.		
<b>E. OPERATOR:</b>	SUPPLY CURRENT OPERATOR AND CONTACT PERSON (RESPONSIBLE FOR DAY TO DAY OPERATIONAL ACTIVITY) IF CHANGING, SUPPLY NEW OPERATOR AND CONTACT PERSON (RESPONSIBLE FOR DAY TO DAY OPERATIONAL ACTIVITY)		
<b>F. CURRENT OWNER SUPPLIED INFORMATION:</b>	INDICATE WHAT INFORMATION THE CURRENT OWNER SUPPLIED BY CHECKING THE APPROPRIATE BOXES		
<b>G. CERTIFICATION (REQUIRED):</b>	SIGNED AND CERTIFIED BY THE RESPONSIBLE OFFICIAL DESIGNATED BY THE APPLICANT DESIGNATED IN <b>SECTION B</b>  <b>NOTICE</b> PERSON WHO SIGNS HAS THE ABILITY TO BIND THE PROPOSED OPERATOR AND HAS IN THEIR POSSESSION AND AGREES TO ADOPT CURRENTLY APPROVED CONSTRUCTION AND OPERATIONAL PLANS, OPERATIONAL MANUAL AND PERMIT CONDITIONS AS THEIR OWN AND WILL ABIDE BY THEM UNTIL SUCH TIME AS CHANGES ARE SUBMITTED TO THE COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION OR THE SOLID WASTE DISPOSAL CONTROL BOARD.		
<b>TDEC USE ONLY</b>			
DATE RECEIVED CENTRAL OFFICE	RECEIVED BY	CORPORATION ACTIVE w/ SOS <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	NEW DISCLOSURE STATEMENT REQ? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NEW DISCLOSURE STATEMENT REC'D
<b>EFO</b>	<input type="checkbox"/> CHAT	<input type="checkbox"/> CMBA	<input type="checkbox"/> COOK <input type="checkbox"/> JACK <input type="checkbox"/> JCITY <input type="checkbox"/> KNOX <input type="checkbox"/> MEMP <input type="checkbox"/> NASH
FIELD OFFICE LEAD PERSON		DATE EFO NOTIFIED	
NOTES			





State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1. APPLICANT'S COMPLETE NAME Star Hill LLC  
NAME OF APPLICANT'S BUSINESS Star Hill  
STATE OF INCORPORATION (if applicable) Tennessee  
FEDERAL TAX I.D. NUMBER 30-1289547  
BUSINESS ADDRESS 5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808  
MAILING ADDRESS 5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808

2. Give a brief description of the structure of the business (e. g., partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
5. List the names of all key personnel, including titles and positions held.
6. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s), including facility name, location, permit or license number and name of issuing authority or agency.
7. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s) within the last ten (10) years not listed previously. Include facility name, location, permit or license number and name of issuing authority or agency.
8. List the name and address of solid and/or hazardous waste facilities constructed and operated by any parent or subsidiary corporation, if the applicant is a corporation.
9. List all judicial and/or administrative orders issued for the violations of any state or federal environmental protection law which resulted in a fine or penalty within the five (5) year period immediately preceding the submission date of the applicant's permit application. Include in the description:
  - a. the style of the complaint
  - b. the case file number
  - c. the forms in which the complaint was filed
  - d. the identity of each state or federal agency involved with or named in the complaint
  - e. the amount of the fine(s) or penalty(s)
  - f. whether the fine or penalty has been paid
  - g. the identity and description of each law or regulation violated or alleged to have been violated and upon which fine(s) or penalty(s) is/are based
  - h. state whether the fine was the result of a settlement or agreed order, an administrative order or a court judgment
  - i. if litigation is ongoing, describe any orders or judgments entered and describe the current status of litigation

- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
- a. the style of the case
  - b. the case file number
  - c. the forum in which the conviction was entered
  - d. the date of judgment
  - e. the sentence imposed
  - f. the identity and a description of each law applicant was convicted of violating
  - g. whether the conviction was the result of a plea agreement of a trial
  - h. if currently on appeal, the status of the appeal

An individual, by executing this document on behalf of a corporation or other entity, certifies that she or he is duly authorized as defined in Rule 0400-11-01-.02(2)(a)7. and 8., to act on behalf of the corporation or other entity and provide the information contained herein.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney G. Brian

TITLE Manager

SIGNATURE [Signature]

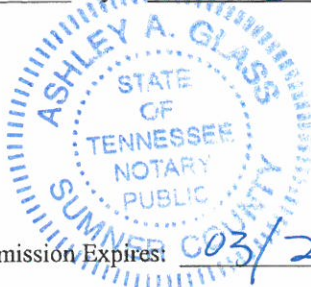
DATE March 2, 2022

STATE OF Tennessee

COUNTY OF Sumner

Subscribed and sworn to before me by Sidney G. Brian this the

2nd day of March, 20 22.



[Signature]  
NOTARY PUBLIC

My Commission Expires 03/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.



ADDENDUM

State of Tennessee-Department of Environment and Conservation  
Division of Solid Waste Management-Solid Waste Program

APPLICANT: STAR HILL LLC

DATE: March 1, 2022



**APPLICANT DISCLOSURE STATEMENT P.1**

1. APPLICANT COMPLETE NAME: Star Hill LLC  
NAME OF APPLICANT BUSINESS: Star Hill  
STATE OF INCORPORATION: Tennessee  
FEDERAL TAX I.D. NUMBER: 30-1289547  
BUSINESS ADDRESS:  
MAILING ADDRESS: 5800 One Perkins Place-Suite 6-A Baton Rouge, LA 70808
2. Single Member Limited Liability Company with the sole member as Trinity Business Group LLC, a Louisiana Limited Liability Company with a mailing address of 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808.
3. Sidney G. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Billie W. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Sidney B. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Joseph Hayes Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Stewart Beau Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Mary Brian Luna, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

Jay Hooper Luna, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

ADDENDUM

State of Tennessee-Department of Environment and Conservation  
Division of Solid Waste Management-Solid Waste Program

APPLICANT: STAR HILL LLC

DATE: March 1, 2022

**APPLICANT DISCLOSURE STATEMENT P.2**

4. Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807  
  
Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778  
  
Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655
5. Sidney G. Brian, Managing Member, Trinity Business Group LLC & Manager, Star Hill LLC  
  
Sidney B. Brian, General Manager, Star Hill LLC
6. Applicant(s): None
7. Applicant (s): None
8. Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807  
  
Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778  
  
Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655
9. NONE
10. NONE
11. NONE





State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1. APPLICANT'S COMPLETE NAME **Star Hill LLC**  
NAME OF APPLICANT'S BUSINESS **Sidney G. Brian**  
STATE OF INCORPORATION (if applicable) **Tennessee**  
FEDERAL TAX I.D. NUMBER **30-1289547**  
BUSINESS ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**  
MAILING ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**

2. Give a brief description of the structure of the business (e. g., partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
5. List the names of all key personnel, including titles and positions held.
6. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s), including facility name, location, permit or license number and name of issuing authority or agency.
7. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s) within the last ten (10) years not listed previously. Include facility name, location, permit or license number and name of issuing authority or agency.
8. List the name and address of solid and/or hazardous waste facilities constructed and operated by any parent or subsidiary corporation, if the applicant is a corporation.
9. List all judicial and/or administrative orders issued for the violations of any state or federal environmental protection law which resulted in a fine or penalty within the five (5) year period immediately preceding the submission date of the applicant's permit application. Include in the description:
  - a. the style of the complaint
  - b. the case file number
  - c. the forms in which the complaint was filed
  - d. the identity of each state or federal agency involved with or named in the complaint
  - e. the amount of the fine(s) or penalty(s)
  - f. whether the fine or penalty has been paid
  - g. the identity and description of each law or regulation violated or alleged to have been violated and upon which fine(s) or penalty(s) is/are based
  - h. state whether the fine was the result of a settlement or agreed order, an administrative order or a court judgment
  - i. if litigation is ongoing, describe any orders or judgments entered and describe the current status of litigation

- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
- a. the style of the case
  - b. the case file number
  - c. the forum in which the conviction was entered
  - d. the date of judgment
  - e. the sentence imposed
  - f. the identity and a description of each law applicant was convicted of violating
  - g. whether the conviction was the result of a plea agreement of a trial
  - h. if currently on appeal, the status of the appeal

An individual, by executing this document on behalf of a corporation or other entity, certifies that she or he is duly authorized as defined in Rule 0400-11-01-.02(2)(a)7. and 8., to act on behalf of the corporation or other entity and provide the information contained herein.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney G. Brian

TITLE Manager

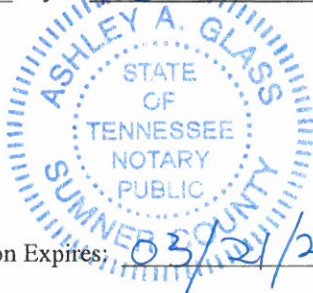
SIGNATURE [Signature] DATE Feb 2, 2022

STATE OF Tennessee

COUNTY OF Sumner

Subscribed and sworn to before me by Sidney G. Brian this the

2nd day of March, 2022.



[Signature]  
NOTARY PUBLIC

My Commission Expires: 03/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.



ADDENDUM

State of Tennessee-Department of Environment and Conservation

Division of Solid Waste Management-Solid Waste Program

APPLICANT: STAR HILL LLC

DATE: March 1, 2022



**KEY PERSONNEL DISCLOSURE STATEMENT**

1. APPLICANT COMPLETE NAME: Star Hill LLC  
KEY PERSON'S COMPLETE NAME: Sidney G. Brian  
STATE OF INCORPORATION: Not Applicable  
BUSINESS ADDRESS:  
MAILING ADDRESS: 5800 One Perkins Place-Suite 6-A Baton Rouge, LA 70808
2. Manager, Star Hill LLC and Member & Manager of Trinity Business Group LLC. Trinity Business Group LLC is the sole Member of Star Hill LLC.
3. NONE
4. NONE
5. NONE
6. NONE
7. Manager, Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807. Ronaldson Field LLC is a single member limited liability company with Trinity Business Group as the sole member.  
Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.  
  
Manager, Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778. Gator, LLC is a single member limited liability company with Trinity Business Group as the sole member.  
Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.  
  
Manager, Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655. Pea Ridge Recycling LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.



State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1. APPLICANT'S COMPLETE NAME **Star Hill LLC**  
NAME OF APPLICANT'S BUSINESS **Sidney B. Brian**  
STATE OF INCORPORATION (if applicable) **Tennessee**  
FEDERAL TAX I.D. NUMBER **30-1289547**  
BUSINESS ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**  
MAILING ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**

2. Give a brief description of the structure of the business (e. g., partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
5. List the names of all key personnel, including titles and positions held.
6. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s), including facility name, location, permit or license number and name of issuing authority or agency.
7. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s) within the last ten (10) years not listed previously. Include facility name, location, permit or license number and name of issuing authority or agency.
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  - b. the case file number
  - c. the forms in which the complaint was filed
  - d. the identity of each state or federal agency involved with or named in the complaint
  - e. the amount of the fine(s) or penalty(s)
  - f. whether the fine or penalty has been paid
  - g. the identity and description of each law or regulation violated or alleged to have been violated and upon which fine(s) or penalty(s) is/are based
  - h. state whether the fine was the result of a settlement or agreed order, an administrative order or a court judgment
  - i. if litigation is ongoing, describe any orders or judgments entered and describe the current status of litigation



- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
- the style of the case
  - the case file number
  - the forum in which the conviction was entered
  - the date of judgment
  - the sentence imposed
  - the identity and a description of each law applicant was convicted of violating
  - whether the conviction was the result of a plea agreement of a trial
  - if currently on appeal, the status of the appeal

An individual, by executing this document on behalf of a corporation or other entity, certifies that she or he is duly authorized as defined in Rule 0400-11-01-.02(2)(a)7. and 8., to act on behalf of the corporation or other entity and provide the information contained herein.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney Blake Brian

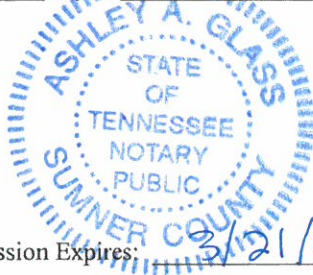
TITLE General Manager

SIGNATURE Sidney Blake Brian DATE 3/2/22

STATE OF Tennessee

COUNTY OF Sumner

Subscribed and sworn to before me by Sidney Blake Brian this the 2nd day of March, 2022.



Ashley A. Glass  
NOTARY PUBLIC

My Commission Expires: 3/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.

ADDENDUM

State of Tennessee-Department of Environment and Conservation  
Division of Solid Waste Management-Solid Waste Program

APPLICANT: STAR HILL LLC

DATE: March 1, 2022



**KEY PERSONNEL DISCLOSURE STATEMENT**

1. APPLICANT COMPLETE NAME: Star Hill LLC  
KEY PERSON'S COMPLETE NAME: Sidney B. Brian  
STATE OF INCORPORATION: Not Applicable  
BUSINESS ADDRESS:  
MAILING ADDRESS: 5800 One Perkins Place-Suite 6-A Baton Rouge, LA 70808
2. General Manager, Star Hill LLC and Member of Trinity Business Group LLC. Trinity Business Group LLC is the sole Member of Star Hill LLC.
3. NONE
4. NONE
5. NONE
6. NONE
7. Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807. Ronaldson Field LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Less than 10% financial interest in Trinity Business Group LLC.

Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778. Gator, LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Less than 10% financial interest in Trinity Business Group LLC.

Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655. Pea Ridge Recycling LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Less than 10% financial interest in Trinity Business Group LLC.

## PERMIT TRANSFER AGREEMENT

This Permit Transfer Agreement is by and between **RLF Green Duck, LLC**, a Colorado limited liability company ("Transferor"), and **Star Hill, LLC**, a Tennessee limited liability company, and **Remedial Holdings, LLC**, a Tennessee limited liability company (collectively, "Transferee"), regarding the transfer of Tennessee Department of Environment and Conservation ("TDEC") Division of Solid Waste Landfill Permit Number IDL 60-0017, currently held by Transferor, and Landfill Permit Number IDL 60-0018, currently held by Transferor (collectively, the "Permits") from the Transferor to the Transferee.


Transferor hereby transfers, conveys, assigns and releases to Transferee all of Transferor's right, title and interest in and to the Permits.

Transferee hereby accepts the foregoing transfer of the Permits and assumes each and all of the obligations to be performed under the Permits, including any and all of the associated financial assurance requirements set forth in the Permits and by TDEC, and Transferee covenants and agrees to perform the same to be submitted on or prior to May 31, 2022, for TDEC's final approval of the Permits transfer.

Transferor hereby releases all liability and rights to the Permits as of the date this Agreement is executed by Transferor. TDEC

### TRANSFEROR:

RLF Green Duck, LLC,  
a Colorado limited liability company

By:   
Name: Aaron M. Patsch  
Title: Authorized Representative

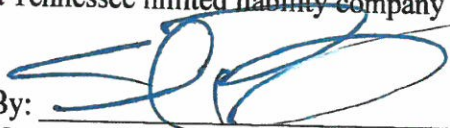
Date of Execution: March 4, 2022

[Signatures continued on following page]



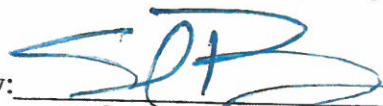
**TRANSFeree:**

Star Hill, LLC,  
a Tennessee limited liability company

By:   
Name: Sidney G. Brin  
Title: LLC

Date of Execution: March 4, 2022

Remedial Holdings, LLC,  
a Tennessee limited liability company

By:   
Name: Sidney G. Brin  
Title: LLC

Date of Execution: March 4, 2022



State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1.	APPLICANT'S COMPLETE NAME	<b>Remedial Holdings LLC</b>
	NAME OF APPLICANT'S BUSINESS	<b>Remedial Holdings</b>
	STATE OF INCORPORATION (if applicable)	<b>Tennessee</b>
	FEDERAL TAX I.D. NUMBER	<b>36-5005327</b>
	BUSINESS ADDRESS	<b>5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808</b>
	MAILING ADDRESS	<b>5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808</b>

2. Give a brief description of the structure of the business (e. g.. partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
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9. List all judicial and/or administrative orders issued for the violations of any state or federal environmental protection law which resulted in a fine or penalty within the five (5) year period immediately preceding the submission date of the applicant's permit application. Include in the description:
  - a. the style of the complaint
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  - f. whether the fine or penalty has been paid
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  - i. if litigation is ongoing, describe any orders or judgments entered and describe the current status of litigation

- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
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  - the case file number
  - the forum in which the conviction was entered
  - the date of judgment
  - the sentence imposed
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An individual, by executing this document on behalf of a corporation or other entity, certifies that she or he is duly authorized as defined in Rule 0400-11-01-.02(2)(a)7. and 8., to act on behalf of the corporation or other entity and provide the information contained herein.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney G. Brian  
TITLE Manager  
SIGNATURE [Signature] DATE March 2, 2022  
STATE OF Tennessee  
COUNTY OF Sumner

Subscribed and sworn to before me by Sidney G. Brian this the 2nd day of March, 2022.



[Signature]  
NOTARY PUBLIC

My Commission Expires: 03/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.



ADDENDUM

State of Tennessee-Department of Environment and Conservation

Division of Solid Waste Management-Solid Waste Program

APPLICANT: REMEDIAL HOLDINGS LLC

DATE: March 1, 2022



**APPLICANT DISCLOSURE STATEMENT P.1**

1. APPLICANT COMPLETE NAME: Remedial Holdings LLC  
NAME OF APPLICANT BUSINESS: Remedial Holdings  
STATE OF INCORPORATION: Tennessee  
FEDERAL TAX I.D. NUMBER: 36-5005327  
BUSINESS ADDRESS:  
MAILING ADDRESS: 5800 One Perkins Place-Suite 6-A Baton Rouge, LA 70808
2. Single Member Limited Liability Company with the sole member as Trinity Business Group LLC, a Louisiana Limited Liability Company with a mailing address of 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808.
3. Sidney G. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Billie W. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Sidney B. Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Joseph Hayes Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Stewart Beau Brian, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Mary Brian Luna, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808  
  
Jay Hooper Luna, Member, Trinity Business Group LLC, 5800 One Perkins Place-Suite 6-A, Baton Rouge, LA 70808

ADDENDUM

State of Tennessee-Department of Environment and Conservation

Division of Solid Waste Management-Solid Waste Program

APPLICANT: REMEDIAL HOLDINGS LLC

DATE: March 1, 2022

**APPLICANT DISCLOSURE STATEMENT P.2**

4. Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807

Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778

Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655

5. Sidney G. Brian, Managing Member, Trinity Business Group LLC & Manager, Remedial Holdings LLC

Sidney B. Brian, General Manager, Remedial Holdings LLC

6. Applicant(s): None

7. Applicant (s): None

8. Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807

Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778

Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655

9. NONE

10. NONE

11. NONE



State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1. APPLICANT'S COMPLETE NAME **Remedial Holdings LLC**  
NAME OF APPLICANT'S BUSINESS **Sidney G. Brian**  
STATE OF INCORPORATION (if applicable) **Tennessee**  
FEDERAL TAX I.D. NUMBER **36-5005327**  
BUSINESS ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**  
MAILING ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**

2. Give a brief description of the structure of the business (e. g.. partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
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  - h. state whether the fine was the result of a settlement or agreed order, an administrative order or a court judgment
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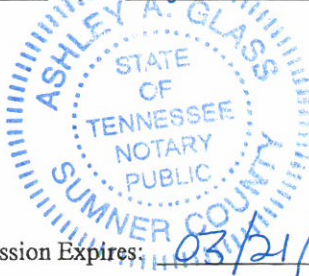
- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
- the style of the case
  - the case file number
  - the forum in which the conviction was entered
  - the date of judgment
  - the sentence imposed
  - the identity and a description of each law applicant was convicted of violating
  - whether the conviction was the result of a plea agreement of a trial
  - if currently on appeal, the status of the appeal

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I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney G. Brian  
TITLE Manager  
SIGNATURE [Signature] DATE March 2, 2022  
STATE OF Tennessee  
COUNTY OF Sumner

Subscribed and sworn to before me by Sidney G. Brian this the 2nd day of March, 20 22.



[Signature]  
NOTARY PUBLIC

My Commission Expires: 03/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.

ADDENDUM

State of Tennessee-Department of Environment and Conservation  
Division of Solid Waste Management-Solid Waste Program  
APPLICANT: REMEDIAL HOLDINGS LLC  
DATE: March 1, 2022



**KEY PERSONNEL DISCLOSURE STATEMENT**

1. APPLICANT COMPLETE NAME: Remedial Holdings LLC  
KEY PERSON'S COMPLETE NAME: Sidney G. Brian  
STATE OF INCORPORATION: Not Applicable  
BUSINESS ADDRESS:  
MAILING ADDRESS: 5800 One Perkins Place-Suite 6-A Baton Rouge, LA 70808
2. Manager, Remedial Holdings LLC and Member & Manager of Trinity Business Group LLC. Trinity Business Group LLC is the sole Member of Remedial Holdings LLC.
3. NONE
4. NONE
5. NONE
6. NONE
7. Manager, Ronaldson Field, 1500 Rafe Mayer Rd., Baton Rouge, LA 70807. Ronaldson Field LLC is a single member limited liability company with Trinity Business Group as the sole member.  
Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.  
  
Manager, Gator Debris Landfill and Recycling, 5194 Highway 70, Sorrento, LA 70778. Gator, LLC is a single member limited liability company with Trinity Business Group as the sole member.  
Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.  
  
Manager, Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655. Pea Ridge Recycling LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Greater than 10% financial interest in Trinity Business Group LLC.





State of Tennessee  
Department of Environment and Conservation  
Division of Solid Waste Management – Solid Waste Program  
312 Rosa L. Parks Avenue, 14<sup>th</sup> Floor  
Nashville, TN 37243

### APPLICANT DISCLOSURE STATEMENT

INSTRUCTIONS: Maintain a copy of your disclosure statement for your records. Submit the disclosure statement and supporting documentation to the address above.

1. APPLICANT'S COMPLETE NAME **Remedial Holdings LLC**  
NAME OF APPLICANT'S BUSINESS **Sidney B. Brian**  
STATE OF INCORPORATION (if applicable) **Tennessee**  
FEDERAL TAX I.D. NUMBER **36-5005327**  
BUSINESS ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**  
MAILING ADDRESS **5800 One Perkins Place Suite 6A, Baton Rouge, LA 70808**

2. Give a brief description of the structure of the business (e. g.. partnership, sole proprietorship, corporation, association).
3. List the names, addresses, and titles of all officers, directors or partners of the applicant, of any parent or subsidiary corporation if the applicant is a corporation, and of any person owning 10% or more interest in the applicant company.
4. List the name and address of all facilities in the field of solid or hazardous waste management in which the applicant business or any of its officers, directors, or partners, holds a 10% or greater interest and the name of the officer, director or partner holding such interest.
5. List the names of all key personnel, including titles and positions held.
6. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s), including facility name, location, permit or license number and name of issuing authority or agency.
7. List all permits and licenses relating to solid and/or hazardous waste management presently held by the applicant(s) within the last ten (10) years not listed previously. Include facility name, location, permit or license number and name of issuing authority or agency.
8. List the name and address of solid and/or hazardous waste facilities constructed and operated by any parent or subsidiary corporation, if the applicant is a corporation.
9. List all judicial and/or administrative orders issued for the violations of any state or federal environmental protection law which resulted in a fine or penalty within the five (5) year period immediately preceding the submission date of the applicant's permit application. Include in the description:
  - a. the style of the complaint
  - b. the case file number
  - c. the forms in which the complaint was filed
  - d. the identity of each state or federal agency involved with or named in the complaint
  - e. the amount of the fine(s) or penalty(s)
  - f. whether the fine or penalty has been paid
  - g. the identity and description of each law or regulation violated or alleged to have been violated and upon which fine(s) or penalty(s) is/are based
  - h. state whether the fine was the result of a settlement or agreed order, an administrative order or a court judgment
  - i. if litigation is ongoing, describe any orders or judgments entered and describe the current status of litigation



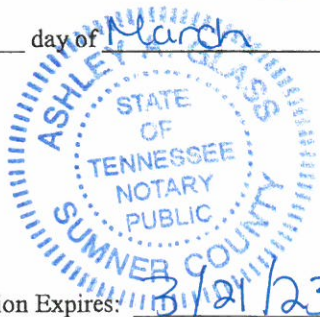
- j. explain all corrective action measures performed to correct or mitigate the violations
10. List and explain all revocations, suspensions or denials of a license, permit, or equivalent authorization, which was issued within the past ten (10) years by any government entity and was issued pursuant to law, rule, or regulation relative to the collection, transportation, treatment, storage, or disposal of solid or hazardous waste. Include the date of the revocation, suspension, or denial and the name of the issuing agency or authority.
11. List and describe all criminal felony convictions entered against the applicant for the violation of any state or federal environmental protection law or regulation within the ten (10) years preceding the submission date of applicant's permit application. Include in the description:
- the style of the case
  - the case file number
  - the forum in which the conviction was entered
  - the date of judgment
  - the sentence imposed
  - the identity and a description of each law applicant was convicted of violating
  - whether the conviction was the result of a plea agreement of a trial
  - if currently on appeal, the status of the appeal

An individual, by executing this document on behalf of a corporation or other entity, certifies that she or he is duly authorized as defined in Rule 0400-11-01-.02(2)(a)7. and 8., to act on behalf of the corporation or other entity and provide the information contained herein.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PRINT NAME Sidney Blake Brian  
TITLE General Manager  
SIGNATURE Sidney Blake Brian DATE 3/2/22  
STATE OF Tennessee  
COUNTY OF Sumner

Subscribed and sworn to before me by Sidney Blake Brian this the 2nd day of March, 20 22.



Ashley E. Glass  
NOTARY PUBLIC

My Commission Expires: 3/21/23

Any person who knowingly makes a false statement under oath or makes a false statement on an official document shall be guilty of a Class A misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed TWO THOUSAND FIVE HUNDRED DOLLARS (\$2,500.00) or by imprisonment of not greater than eleven (11) months twenty-nine days, or by both fine and imprisonment.

ADDENDUM

State of Tennessee-Department of Environment and Conservation  
Division of Solid Waste Management-Solid Waste Program  
APPLICANT: REMEDIAL HOLDINGS LLC  
DATE: March 1, 2022



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Pea Ridge Recycling, 32 PR 3067, Oxford, MS., 38655. Pea Ridge Recycling LLC is a single member limited liability company with Trinity Business Group as the sole member. Nature of Investment: Less than 10% financial interest in Trinity Business Group LLC.



**Tre Hargett**  
Secretary of State

**Division of Business Services**  
**Department of State**  
State of Tennessee  
312 Rosa L. Parks AVE, 6th FL  
Nashville, TN 37243-1102

## Filing Information

Name: **Remedial Holdings, LLC**

### General Information

<b>SOS Control #</b>	<b>001266272</b>	Formation Locale:	TENNESSEE
Filing Type:	Limited Liability Company - Domestic	Date Formed:	12/24/2021
	12/23/2021 11:07 AM	Fiscal Year Close	12
Delayed Effective Date:	12/24/2021 12:00 AM	Member Count:	1
Status:	Active		
Duration Term:	Perpetual		
Managed By:	Manager Managed		

### Registered Agent Address

M. REED MARTZ  
312 FAIRY TRL  
LOOKOUT MOUNTAIN, TN 37350-1606

### Principal Address

SIDNEY G. BRIAN  
STE 6A  
5800 ONE PERKINS PLACE DR  
BATON ROUGE, LA 70808-9118

The following document(s) was/were filed in this office on the date(s) indicated below:

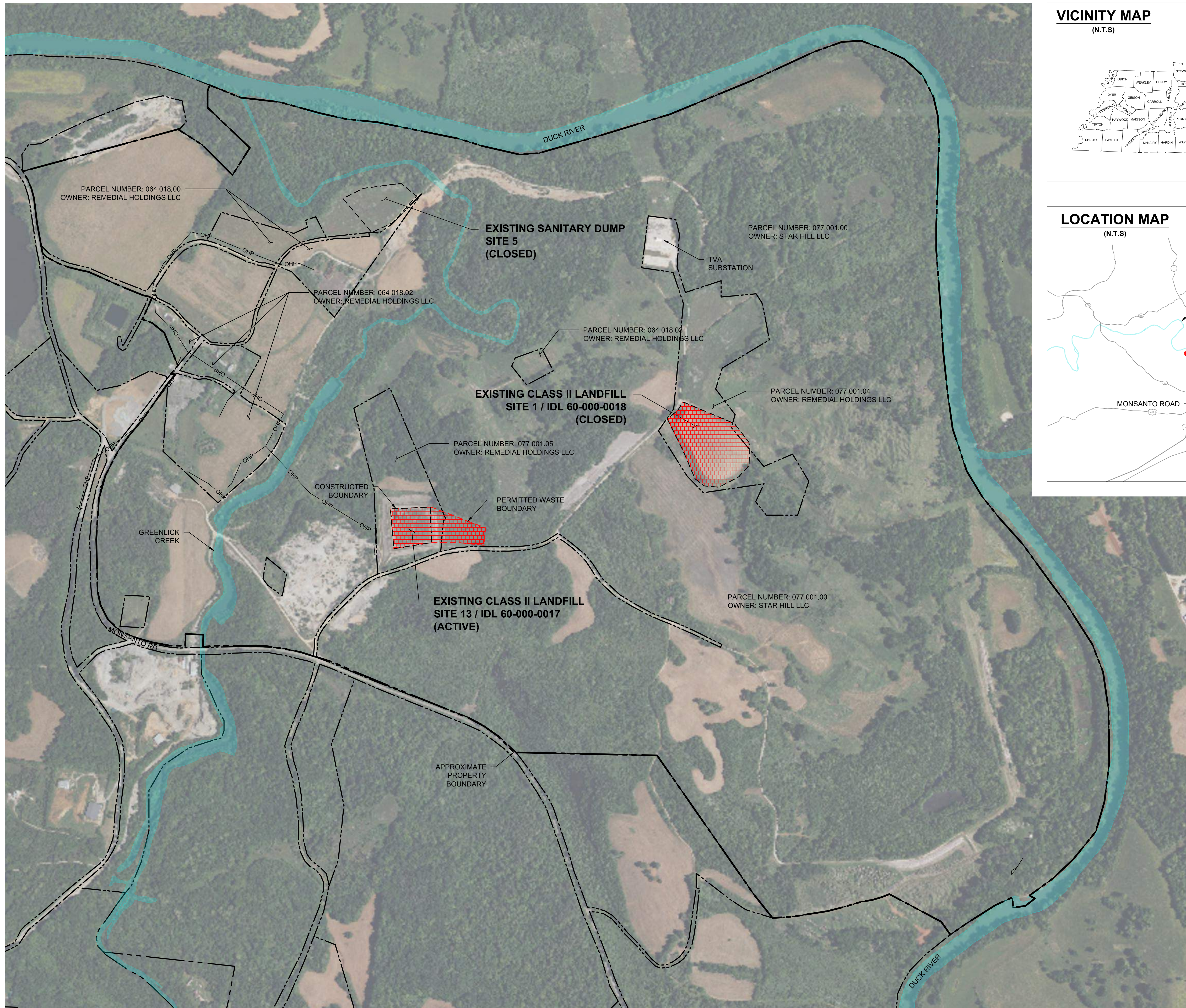
Date Filed	Filing Description	Image #
01/14/2022	Articles/Statement of Correction	B1136-7513
	Principal Address 3 Changed From: SIDNEY G. BROWN To: SIDNEY G. BRIAN	
12/23/2021	Initial Filing (Delayed Date 12/24/2021)	B1138-6228

Active Assumed Names (if any)	Date	Expires
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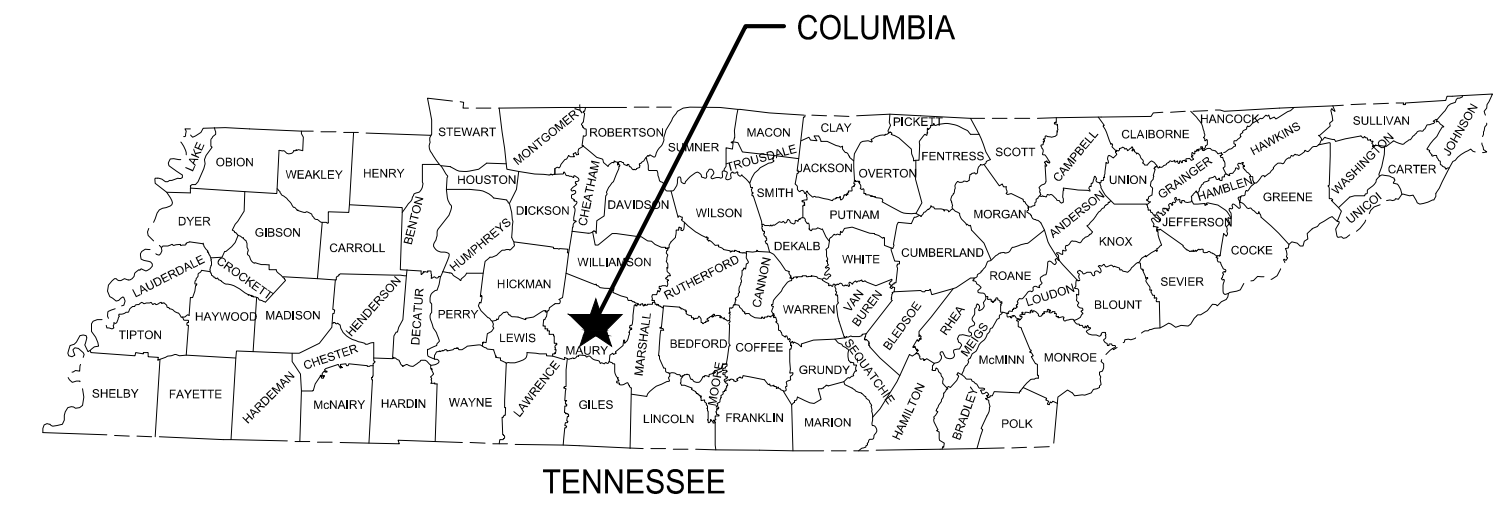




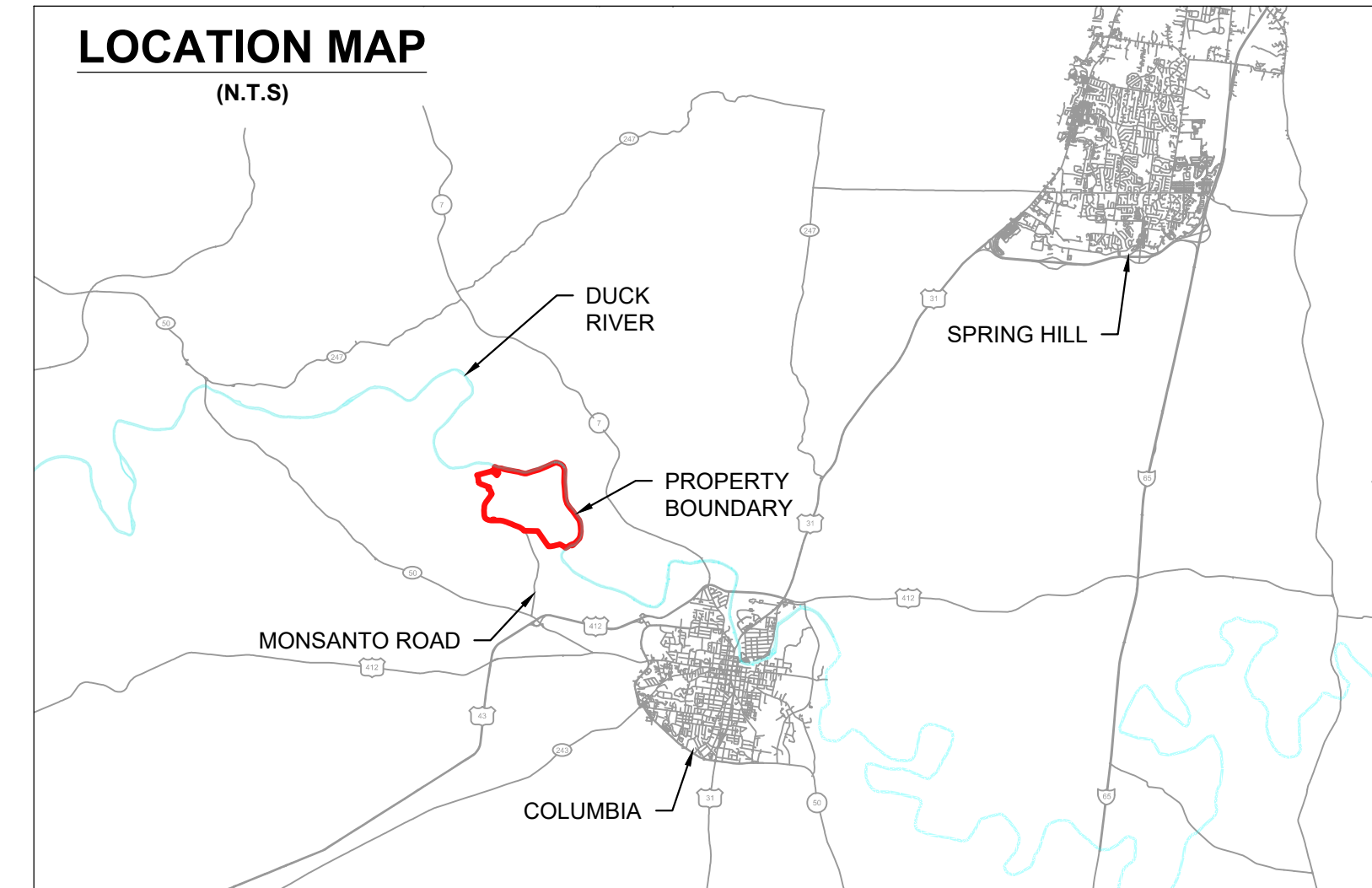




(N.T.S)



(N.T.S)



## 1. PROPERTY

1. PROPERTY LINES ARE BASED ON STATE OF TENNESSEE PROPERTY VIEWER AND ARE APPROXIMATE.
2. PERMITTED WASTE BOUNDARY FOR THE EXISTING ACTIVE CLASS II LANDFILL (IDL 60-000-0017) BASED ON DIGITIZED PLANS FROM 1986 INDUSTRIAL WASTE IMPOUNDMENT / LANDFILL FACILITY PLAN SET BY GEOLOGIC ASSOCIATES, INC.

\_\_\_\_\_

**EXISTING**

— — — — —

PROPERTY LINE

— OHP —

OVERHEAD POWER LINE

— — — — —

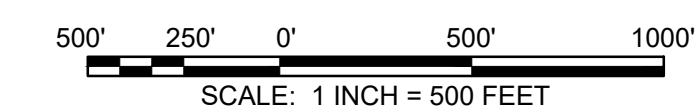
CREEK / RIVER

- - - - -

PERMITTED WASTE BOUNDARY

- - - - -

CONSTRUCTED WASTE BOUNDARY



615 3rd Avenue South // Suite 700 // Nashville, Tennessee 37210  
PHONE (615) 254-1500 // FAX (615) 255-6572

PRELIMINARY  
NOT FOR

DATE \_\_\_\_\_

## SITE LOCATION MAP

LANDFILL PERMIT TRANSFER  
FORMER MONSANTO SITE

MAURY COUNTY, TN

[illegible]

EX

FILE NO. 3712210



Financial Assurance  
FORMON<sub>1</sub> Class II Landfill  
IDL: 60-100-0017

Prepared  
For:

Star Hill, LLC / Remedial Holdings LLC

5800 One Perkins Please Drive, Suite 6A

Baton Rouge, LA 70808

PREPARED BY



615 3rd Avenue South, Suite 700

Nashville, TN 37210

BARGE # 3712210



## TABLE OF CONTENTS

I.	CLOSURE / POST-CLOSURE PLAN FINANCIAL ASSURANCE .....	2
A.	General Information.....	2
II.	COST ESTIMATE.....	2
A.	Closure Costs .....	2
B.	Post-Closure Care Costs .....	2

### APPENDICES

APPENDIX I - MAPS

APPENDIX II - EXISTING CLOSURE / POST-CLOSURE PLAN

APPENDIX III - CLOSURE / POST-CLOSURE COST ESTIMATES / WORKSHEETS

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## **I. CLOSURE / POST-CLOSURE PLAN FINANCIAL ASSURANCE**

### **A. General Information**

The site of the Star Hill LLC / Remedial Holdings LLC FORMON1 Class II Landfill (IDL 60-100-0017) is located just off Monsanto Road, Columbia, Tennessee. Figure 1 in **Appendix I** to this document provides a graphical illustration of the existing location of the site. The existing 1999 Solutia Closure / Post-Closure Plan in **Appendix II** contains the current closure and post closure care activities associated with the existing permit. The final cover system closure costs have been revised to a 50 mil LLDPE with integrated drainage layers to bring the site to the current level of practice of the industry for cover systems.

**Appendix III “Cost Estimates”** of this document contains worksheets with the itemized cost estimates prepared for closure and post-closure activities at the existing Star Hill / Remedial Holdings FORMON1 Class II Landfill. The estimated costs presented in the worksheets are based on hiring a third party to perform the required closure and post-closure activities.

## **II. COST ESTIMATE**

### **A. Closure Costs**

The costs for closure of the permitted waste fills at the Star Hill / Remedial Holdings facility have been previously established by the TDSWM. Revised closure cost estimates are provided in **Appendix III** of this document for the FORMON1 Class II Landfill. The present worth value of the closure costs for the entire facility has been estimated at \$907,645.

### **B. Post-Closure Care Costs**

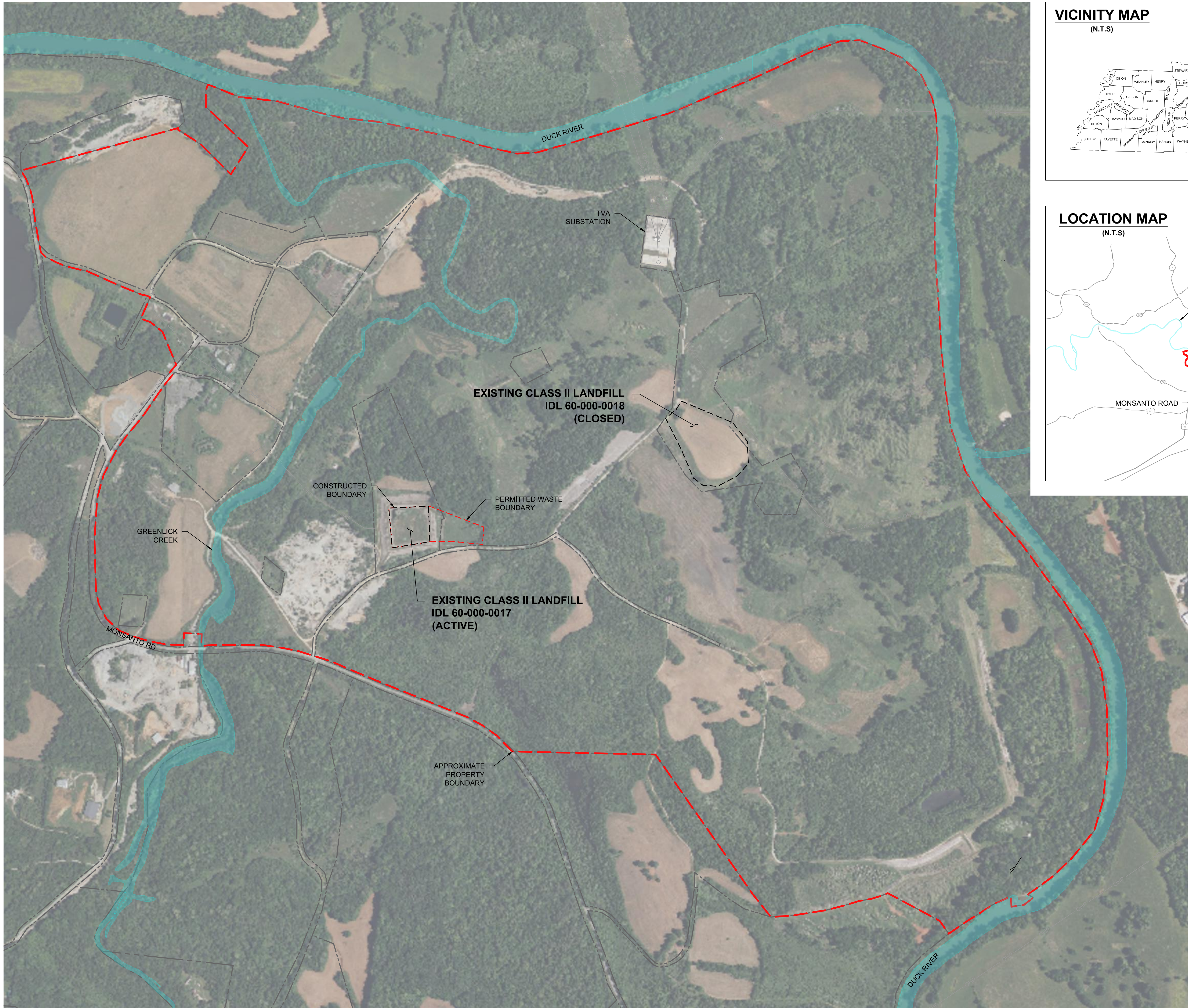
Generally, the landfill infrastructure that is most costly to maintain, at least during the initial years of the post-closure care period, includes the leachate collection system and groundwater monitoring system. Other infrastructure expenditures include maintaining vegetation and the associated erosion of the final cover system.

Costs for monitoring groundwater and surface water are also included in the post-closure care cost estimate. The revised post-closure care costs are provided in Appendix III of this document. The present worth of the initial year post-closure care cost is estimated at \$35,520, with the planned 30-year post-closure period estimate at \$852,573.

Star Hill / Remedial Holdings will post a performance bond as the financial assurance instrument for posting the required closure and post-closure costs. Each year in April the TDSWM provides Star Hill / Remedial Holdings with an opportunity to adjust the total funds posted for closure/post-closure care in the letter of obligation.

**ATTACHMENT I:  
SITE LOCATION MAP**

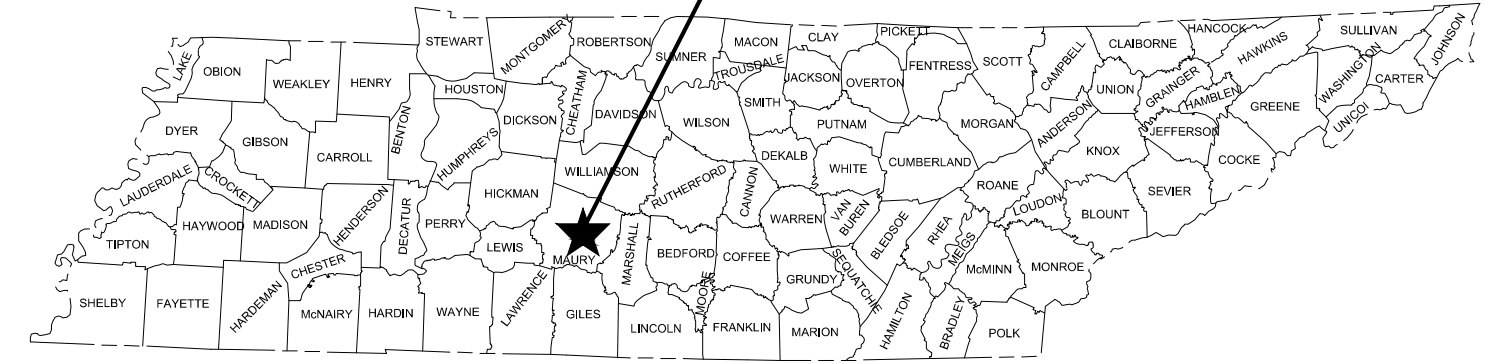




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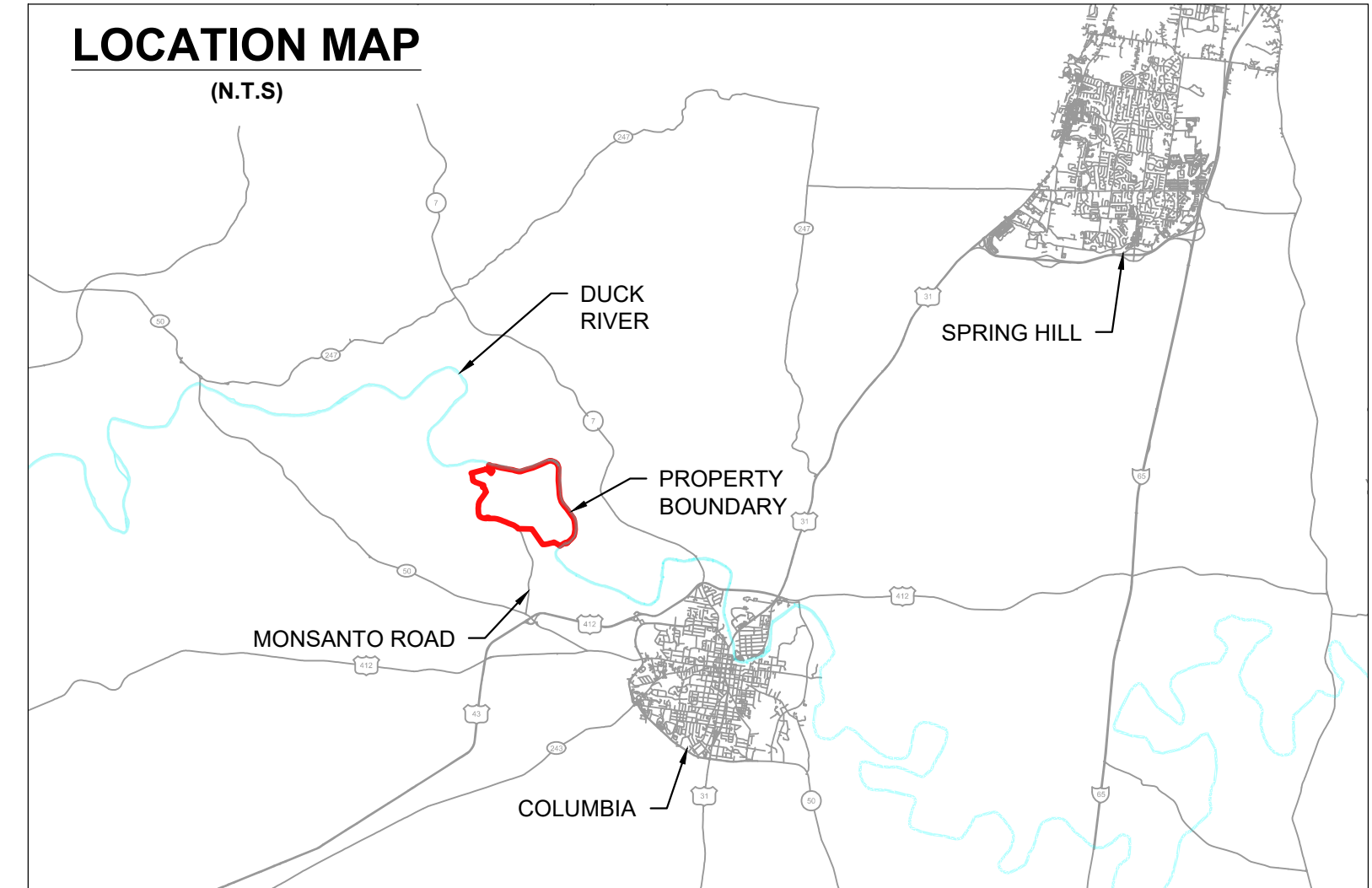
— COLUMBIA



TENNESSEE

(N.T.S)

(N.T.S)



NOTES:

1. PROPERTY LINES ARE BASED ON STATE OF TENNESSEE PROPERTY VIEWER AND ARE APPROXIMATE.
2. PERMITTED WASTE BOUNDARY FOR THE EXISTING ACTIVE CLASS II LANDFILL (IDL 60-000-0017) BASED ON DIGITIZED PLANS FROM 1986 INDUSTRIAL WASTE IMPOUNDMENT / LANDFILL FACILITY PLAN SET BY GEOLOGIC ASSOCIATES, INC.

### LEGEND

EXISTING

---

— OHP —

\_\_\_\_\_

\_\_\_\_\_

500'      250'



SCA

---

N



**ATTACHMENT II:**  
**EXISTING CLOSURE / POST-CLOSURE PLAN**

IDL 611020017

**CLOSURE / POST CLOSURE PLAN  
SOLUTIA INDUSTRIAL WASTE LANDFILL  
COLUMBIA, TENNESSEE  
PERMIT #IDL 60-102-0017**

**GEOSOLUTIONS PROJECT NO. K-098-135**



## **INTRODUCTION**

The subject facility, located within the Solutia (formerly Monsanto) complex near Tennessee coordinates North 463,500; East 1,670,000, approximately 3.5 miles northwest of Columbia, in Maury County, Tennessee. The subject area encompasses approximately 8 acres. Monsanto submitted an application for the subject facility in June 1986. The site originally received approval under Registration Number DML 60-102-0017. Subsequently, in 1993, the Tennessee Department of Environment and Conservation, Division of Solid Waste, notified Monsanto that the permit number should be IDL 60-102-0017. In 1998, due to corporate restructuring, the Monsanto name was changed to Solutia, Inc.; the name Solutia is used for the remainder of this document in lieu of the former name, Monsanto, though there has not been any administrative change in the management of the subject landfill.

The landfill facility is used for the disposal of industrial waste related to the operation and decommissioning of Solutia's phosphate beneficiation plant. Only non-hazardous or RCRA-exempt waste was placed into the landfill. A general list of the waste material placed into the landfill is shown be Table 1.

**TABLE 1**

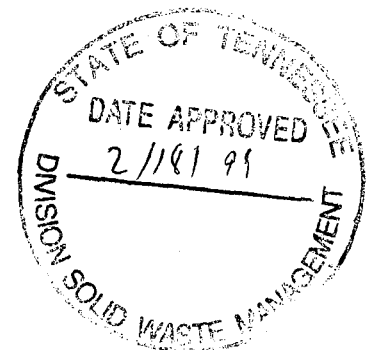
Concrete and brick rubble	Piping and Valves
Sludge, waste water treatment plant	Asbestos
Residue, phosphorous recovery system	Furnace Roofs
Phosphorous contaminated earth	Phosphorous Tanks
Sandblasting Residue	



The landfill was constructed as a single cell with a capacity of 90,000 cubic yards. The as-built cell configuration is shown by Sheet 1 of the drawings (Appendix I). The design concept for this landfill entails the use of a double liner and leachate collection/detection system technology. The facility was constructed by initially building berms, approximately 18 feet in height. The berms were constructed with 3H:1V side slopes, using slag by-product from the manufacturing process. A composite liner system was then constructed on the slag subgrade. A compacted clay layer, a minimum of 3 feet thick was then placed and compacted to at least 95% of the soil's maximum dry density as per ASTM D 698 (standard Proctor). The clay was generated from a borrow source approximately 4000 feet from the site and placed in loose lifts a maximum of 8 inches thick, with a moisture content 1% to 2% above optimum. The hydraulic conductivity of the densified soil was less than  $1 \times 10^{-7}$  centimeters per second. The borrow material had a liquid limit greater than 50 and was classified CH in accordance with the Unified Soil Classification System.

Above the clay liner, the remainder of the liner system, consisting of two layers of high density polyethylene (HDPE), each 60 mil thick, and leachate collection and leak detection systems were constructed. Three sumps were constructed for the collection of leachate, i.e. direct rainfall onto the cell, and two sumps were placed to detect and collect any fluids that leak through the upper HDPE liner into the leak detection system. A strict Construction Monitoring program was maintained and documented during the landfill construction consistent with the approved plans.

Currently, there is a variable thickness of waste across the floor of the landfill. The facility will be closed in a single phase, consequently none of the area was closed prior to March 1990.



17 December 1998

### **Expected Year of Closure**

Considering the current rate of waste generation, closure of this cell is not anticipated prior to 1999. Considering that the subject facility is a single cell, and that closure will incorporate the placement of a HDPE membrane as part of the cap structure, only a single closure operation is anticipated at the end of the facility's operating life.

### **Facility Contact**

The landfill is operated by Solutia personnel with administrative coordination by:

Mr. H. Nelson Lyles . Mr. Lyles can be reached by telephone at (931) 380-9333 or by mail at:

Solutia, Inc.  
PO Box 1059  
Columbia, Tennessee 38402

## COMPLETE CLOSURE STEPS

### Final Cover

The entire cell will be closed in a single phase, consequently no "partial closure" activities will occur. Specifically, when Solutia permanently ceases disposal activities, the entire site will be closed in a single closure operation at the end of the facility's operating life. The waste will be covered with an interval of compacted clay, 3 feet thick. The clay will be overlain by a layer of 60 mil HDPE. The HDPE will be covered with a 6 inch thick layer of sand, a geotextile, above which a layer of topsoil, a minimum of 12 inches thick, will be placed.

The clay will be compacted to 95% standard Proctor density to achieve a maximum value for hydraulic conductivity of  $1 \times 10^{-7}$  centimeters per second. Construction monitoring will be in accordance with the approved plan. The rigorous construction monitoring/quality assurance program will document that the construction of the clay cover and placement of the HDPE liner is accomplished in accordance with the specifications mentioned above. The guide specifications for the earthwork and HDPE materials are described in Appendix II and Appendix III; the Quality Assurance Manual (QAM) is included in Appendix IV. As described in the QAM, quality assurance monitoring will be conducted by an geotechnical technician with a minimum of 10 years of construction monitoring experience. The project will be overseen by a Professional Engineer with a minimum of 10 years geotechnical experience.

The clay cap will be constructed as follows:

- The soil will be placed in maximum 6 inch thick lifts.
- The soil will be compacted to at least 95 % of the standard Proctor (ASTM D 698) maximum dry density. Allowable moisture limits shall be between + 1 % and + 5 % of optimum as defined by the standard Proctor test.



- In-place density tests will be performed at a frequency of one test per 10,000 square feet per lift of fill. At a minimum, one in-place density test will be performed per lift.
- The placement of the HDPE liner shall follow immediately upon completion of the clay cap.
- The design final contours are shown on the drawing, Sheet 1A (Appendix I).

### Vegetative Cover

Upon placement of the topsoil layer, the surface will be vegetated in accordance with the following guidelines. Upon completion of all fill operations, the borrow areas will also be vegetated. Vegetation guidelines are as follows:

- 1) No seeding will be done between December 1 to February 1 or June 1 to August 15.

Usable seed mixtures along with the time of application will be as follows:

<u>Season</u>	<u>Seed</u>	<u>Application</u>
March 15 - May 15	Ky. 31 Fescue or	60 lb/ac
	Bermuda Grass or	40 lb/ac
	Weeping Lovegrass	15 lb/ac
May 15 - June I	Bermuda Grass	40 lb/ac
Aug. 15 - Oct. 15	Mixture of Ky. 31 Fescue & white clover	60 lb/ac
		15 lb/ac
Oct. 15 - Dec. I	Annual Grass & white clover	80 lb/ac
		10 lb/ac

- 2) Fertilizer will be used in conjunction with the seeding rates above. Application of 15-15-15 will be 400 pounds per acre with application of 6-12-12 at 600 pounds per acre. Lime will be applied at 2 tons per acre.
- 3) If mulching is necessary, the mulch will be applied at a thickness of approximately 1 inch (approximately 1 ton per acre). Hay will be used and will be applied immediately after seeding to avoid the loss of moisture from the soil and to prevent erosion.

The berms were constructed using slag from adjacent slag piles. This material does not create a sedimentation problem, though any effect from this material would be negligible relative to the runoff from the adjacent slag piles.

### Leachate Collection

The facility was designed with an integral leachate collection system. Leachate is currently collected and pumped to Solutia's waste water treatment plant. No changes to this system during closure activities is anticipated and operation of this element of the landfill will continue during post-closure. The system will be inspected regularly to maintain its proper operation.

### Gas Collection

Considering the nature of the waste placed into the landfill, the absence of surrounding structures and the control Solutia will continue to maintain on the subject facility, neither gas monitoring nor collection is warranted.

### Closure Schedule

Mr. Lyles or his representative will notify TDEC of Solutia's intent to close the site at least 60 days prior to beginning final closure. After the landfill is determined to be full or otherwise deemed ready for closure, the following schedule will be followed.

<u>Event</u>	<u>Day</u>
1) Final lift of waste in place	Day 1
2) Placement of clay cover	Day 2 through Day 20
3) Placement of geomembrane	Day 21 through Day 35
4) Placement of drainage layer	Day 36 through Day 45
5) Placement of protective cover	Day 46 through Day 60

### **Compliance Monitoring Boundary**

The compliance monitoring boundary for this site can be found on Sheet 1, Appendix I. This boundary is the vertical surface located at the hydraulic downgradient limit of the unit where the vertical surface extends down to the uppermost aquifer.

### **Monitoring System**

Four ground water monitoring wells are installed as located on Sheet 1, Appendix I. The one upgradient and three downgradient wells were originally installed in late 1986. These wells have been used to monitor the initial quality of the ground water, as well as to determine the ground water quality that passes the compliance boundary hydraulically downgradient.

### **Detection Monitoring Program**

The purpose of the monitoring is to obtain representative samples of the ground water system beneath this disposal site to determine the presence or absence of contaminants in that system. The ground water sampling protocol is described in the following section. Until such time as leakage is detected in the leak detection system, the wells will be sampled on an semi-annual basis for the following parameters: Specific conductance, pH, phosphate (soluble), fluoride (soluble), lead (soluble), chromium, arsenic, cyanide, elemental phosphorous. If the leak detection system detects a leak, that fluid will be analyzed. Subsequently, the ground water monitoring wells will be sampled and analyzed for those parameters detected in the leak detection system. The sole source of the waste material and its nature, obviates the need for additional analytical parameters.

As the downgradient surface body of water (Greenlick Creek) is subject to monitoring by Solutia consistent with the plant-site closure plan, no additional surface water monitoring program is proposed.



### **Sampling Procedures**

Prior to any pumping of the wells, the water level in the well will be measured and recorded. Also, the standing water in each well will be purged. The wells will be purged of at least three well volumes, or until dryness, so that any stagnant water will be removed. This will also encourage ground water flow to the well and provide a representative ground water sample. As soon as the well recharges, samples will be collected with the following protocols:

- 1) To minimize cross-contamination from other sources, a dedicated bailer will be used. This bailer will be thoroughly cleaned between sampling events.
- 2) Sample bottles will be clean and prepared with preservatives to insure sample integrity.
- 3) The sample in the bottle must not be agitated since aeration of the sample could change the chemical, biological, or physical characteristics.
- 4) All sample bottles will be labeled with the name of the site, sampling location, date, time, and name of the person taking the sample.
- 5) Samples will be placed on ice and within 24 hours taken to the laboratory for analysis of constituents outlined above.

### **Notification**

Closure activities will be rigorously monitored and documented by qualified personnel. As part of the notification of closure completion, Solutia will include certification, consistent with Rule 1200-1-7-.04(8)(c)9, that the disposal facility has been closed in accordance with the approved closure/post-closure care plan. In addition, notification will include plans depicting the actual final contours, drainage systems, modifications (if any) to the leachate collection systems, and pertinent data regarding the installation of the high density polyethylene membrane cover. Solutia will also provide construction details relative to the placement of the clay cap. Notification will also confirm that vegetative cover was established consistent with the vegetative guidelines, or describe any variations and the rationale for such variations.

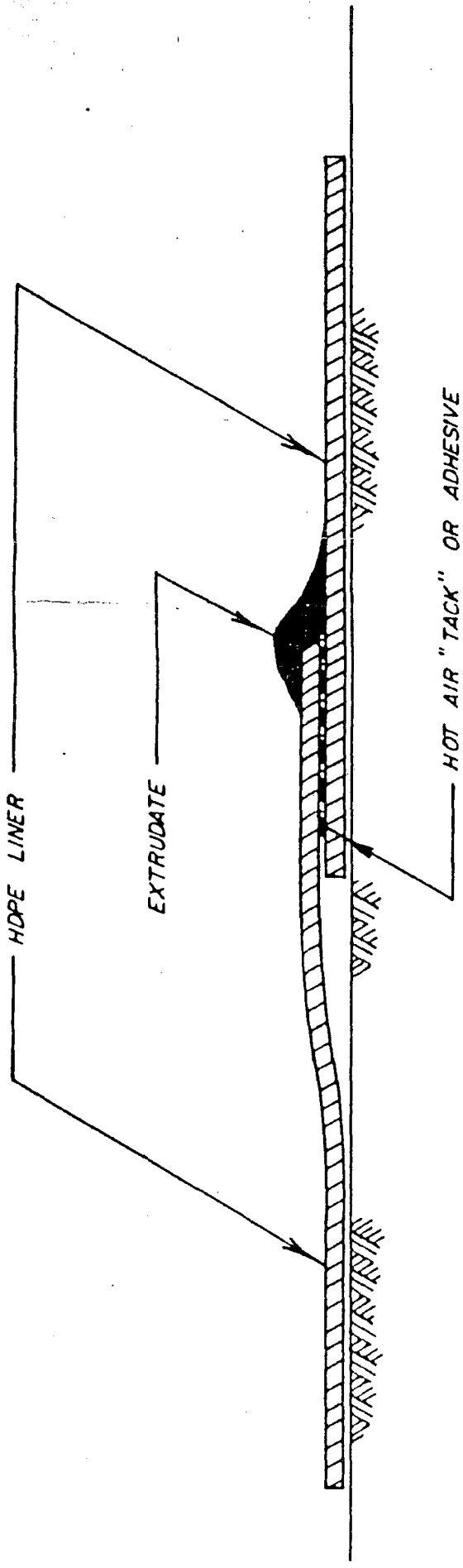
**Deed Notation**

Within 90 days of the completion of final closure of the subject landfill facility and prior to sale or lease of the property on which the facility is located, Solutia will ensure that there is recorded, in accordance with State law and Rule 1200-1-7-.04(8)(f), a notation on the deed to the property or on some other instrument which is normally examined during title search that will, in perpetuity, notify a person conducting a title search that the land has been used as a disposal facility.

## **Appendix I**

### **Drawings**





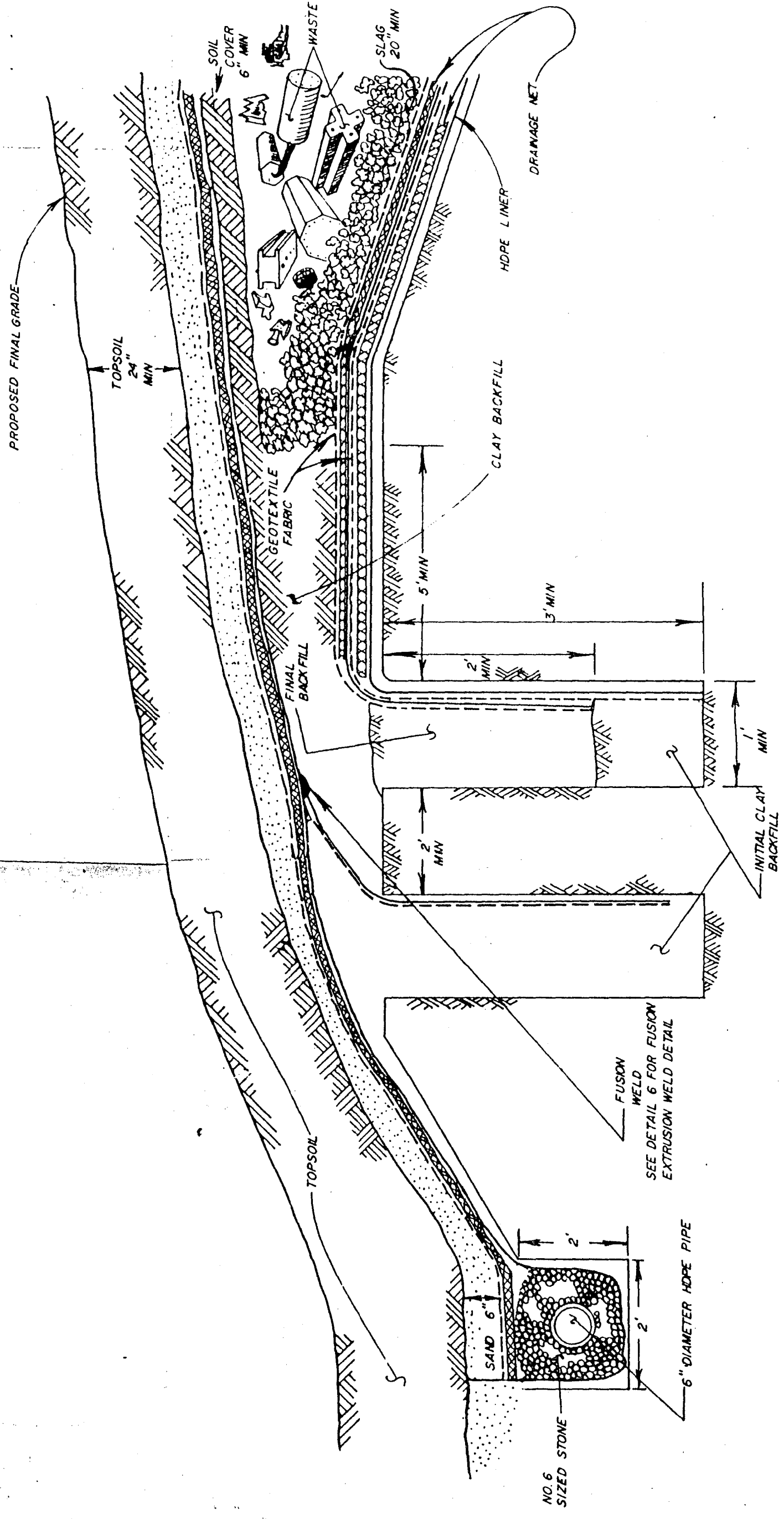
DETAIL 6  
FUSION EXTRUSION WELD  
 NO SCALE

● COPYRIGHT 1986  
 GEOLOGIC ASSOCIATES, INC.  
 ALL RIGHTS RESERVED

PROPOSED INDUSTRIAL WASTE  
 IMPOUNDMENT/LANDFILL FACILITY

6110200

SOLUTIA LANDFILL 017



IDL 611020017

DETAIL 4  
TYPICAL COVER, FRENCH DRAIN, AND ANCHORAGE DETAIL  
NO SCALE

**Appendix II**  
**Earthwork Specifications**



## **APPENDIX II**

### **SOLUTIA, INC. INDUSTRIAL LANDFILL COLUMBIA, TENNESSEE**

#### **GUIDE SPECIFICATIONS**

#### **EARTHWORK**

##### **1. SCOPE**

- 1.1 The work covered in this section consists of furnishing all plant, labor and equipment and performing all operations in connection with the required excavation and placing all fills, including compaction, in accordance with the contract drawings and these specifications.

##### **2. CLASSIFICATION**

##### **3. DRAINAGE STRUCTURES**

Drainage structures including ditches and inlets shall conform to the alignment, grades and details shown by the Plans.

##### **4. GENERAL PROVISIONS**

- 4.1 Lines and Grades The fills shall be constructed to the lines and grades indicated on the drawings, unless otherwise directed by the Owner or the Owner's agent. The Owner reserves the right to increase or decrease the fill widths or slopes and grades or make such other changes in the sections as may be deemed necessary by the Owner. Grading shall be finished with a tolerance of 0.1 foot of the grades indicated.
- 4.2 Conduct of the Work The Contractor shall maintain the site in a satisfactory condition at all times until final completion and acceptance of all work under the contract. Any approved fill material which is rendered unsuitable after being placed in the fill and before final acceptance of the work shall be replaced by the Contractor in a satisfactory manner at no additional cost to the Owner. The Contractor may be required to remove all fill material placed outside of prescribed slope lines.

- 4.3 Density Tests: The grading operation will be continuously monitored by a qualified geotechnical technician. This technician shall have a minimum of 10 years experience in performing geotechnical quality assurance testing. The quality assurance testing will be overseen by the Project Engineer. The Project Engineer shall be a professional engineer with a minimum 10 years geotechnical experience. During the construction of any fill, density and other tests will be conducted which may cause delays in the Contractor's placing and compaction operations. The Contractor shall coordinate his work with the operations of the Project Engineer.

5. MATERIALS

- 5.1 The required volume of fill is presumed to be available on the site. The fill will consist of soil free of topsoil, organics, large rock or any other unsuitable materials. Acceptable materials for use as fill area as follow:

- 5.2 Soil Fill: Clay with liquid limit no less than 35 and plasticity index ranging from 25 to 35. The proposed borrow source has been identified by the Owner.

- 5.3 Sand: ASTM C 33, graded from a number 4 sieve to a number 100 sieve.

6.0 PREPARATION FOR FILL PLACEMENT

- 6.1 General: All areas to have fill placed-upon them will be examined by the Geotechnical Engineer after stripping, and any soft or otherwise deleterious materials will be removed prior to placement. No fill materials shall be placed until the subgrade has been examined and approved by the Geotechnical Engineer.

- 6.2 Proofrolling: After stripping and prior to fill placement, those areas which will have fill placed upon them shall be proofrolled with heavy, pneumatic-tired construction equipment. Any soft, unstable or otherwise unacceptable zones detected thereby, as determined by the Geotechnical Engineer, shall be undercut to firm soil, stabilized by compaction or otherwise repaired as deemed necessary by the Geotechnical Engineer. The subgrade shall then be scarified to a depth of six inches and recompacted to the index specified below. It is the intent of these specifications to provide a uniformly stable surface on which to place fill.

## 7. PLACEMENT

- 7.1 General: No fill shall be placed in any area until such areas have been inspected and approved. The gradation and distribution of materials throughout the compacted fill section shall be such that the fill will be free from lenses, pockets, streaks, layers of materials differing substantially in texture or gradation from surrounding materials of the same class. Successive loads of materials shall be dumped at locations on the fill as directed or approved by the Geotechnical Engineer. No fill shall be placed upon a frozen surface, nor shall snow, ice or frozen earth be incorporated in the fill. Unless otherwise directed, all earth fill materials shall be kept crowned with temporary slopes of at least 2% until completed.

Earth fill will be placed in uniform layers no greater than eight inches in thickness. Successive layers shall be compacted to at least 95% of its maximum density at a moisture content at least 1% in excess of optimum according to ASTM D 698 (standard Proctor). Compaction shall be accomplished by sheepfoot rollers, power rollers or other equipment approved by the Geotechnical Engineer.

After dumping, the materials shall be spread by bulldozer or grader in approximately horizontal layers over the fill areas. Concentration of oversize material will not be permitted. If, in the opinion of the Geotechnical Engineer, any individual stone or stones interfere with proper and smooth compaction, they shall be removed from the lift. During the dumping and spreading processes, the Contractor shall maintain at all times a force of men adequate to remove all roots and debris from all fill materials.

The entire surface of any fill under construction shall be maintained in such condition that construction equipment can travel over it. Ruts in the surface of any layer shall be filled satisfactorily before compacting.

At the completion of all filling operations, all exposed areas shall be further compacted using a smooth drum roller having a gross weight of at least twenty tons to smooth any irregularities of the soil subgrade.

## 8. MOISTURE CONTROL

- 8.1 The materials in each layer of the fill shall contain the amount of moisture at least 1 % in excess of optimum as per ASTM D 698, as determined by the Geotechnical Engineer. Materials that are too wet when placed in the fill shall be spread on the fill and permitted to dry, assisted by disking or harrowing, if applicable, until the moisture content is reduced to an amount within tolerable limits. When the material is too dry, the Contractor will be required to sprinkle each layer of fill. Disking, or other approved methods, will be required to work the moisture into the material until a uniform distribution of moisture is obtained. Water applied on a layer of fill shall be accurately controlled in amounts so that free water will not appear on the surface during or subsequent to rolling.



Should too much water be added to any part of the fill, so that the material is too wet to obtain the desired compaction, the rolling and all work on that section of the fill shall be delayed until the moisture content of the material is reduced to an amount within the specified limits. If, in the opinion of the Geotechnical Engineer, the top or contact surface of a partial fill section becomes too wet or too dry to permit suitable bond between these surfaces and the additional fill to be placed thereon, the Contractor shall loosen the wet or dried materials by scarifying or disking to such depths as may be directed, shall dampen or dry the loosened material to an acceptable moisture content, and shall then compact this layer in accordance with the applicable requirements to densities comparable to the underlying fill.

9. COMPACTION

- 9.1 Equipment: Compaction equipment shall conform to standards of the industry and shall be used as prescribed. The Contractor will furnish and have on the job the various types of compaction and grading equipment which may be required to properly consolidate the various types of materials incorporated in the fill, or which are otherwise required to prepare the site.

## **Appendix III**

### **HDPE Specifications**

APPENDIX III  
SOLUTIA INDUSTRIAL LANDFILL  
COLUMBIA, TENNESSEE

GUIDE SPECIFICATIONS

HDPE MATERIAL

1. SCOPE

These specifications describe High Density Polyethylene (HDPE) Membranes. The supply and installation of these materials shall be in strict accordance with the Engineer's specifications and engineering drawings and be subject to the terms and conditions of the contract.

2. MANUFACTURER'S EXPERIENCE

- 2.1 The manufacturer of the lining materials described herein shall have previously demonstrated his ability to produce this membrane by having successfully manufactured a minimum of ten million square feet of similar liner materials for hydraulic lining installations. The manufacturer must be listed by the NSF (National Sanitation Foundation) Standard 54 as meeting all the requirements for manufacturing HDPE.

3. LINING MATERIAL

- 3.1 The membrane liner shall comprise HDPE material manufactured of new, first-quality products designed and manufactured specifically for the purpose of liquid containment in hydraulic structures.

- 3.2 The Contractor shall, at the time of bidding, submit a certification from the manufacturer of the sheeting, stating that the sheeting meets physical property requirements for the intended application.
- 3.3 The liner material shall be so produced as to be free of holes, blisters, undispersed raw materials or any sign of contamination by foreign matter. Any such defect shall be repaired using the extrusion fusion welding technique in accordance with the manufacturer's recommendations.
- 3.4 The liner material shall meet the specification values according to the specification sheet for HDPE.

4. FACTORY QUALITY CONTROL

- 4.1 Raw Material: All compound ingredients of the HDPE materials shall be randomly sampled on delivery to the HDPE manufacturing plant to ensure compliance with specifications. Tests to be carried out shall include Density ASTM D 1505.68 and Melt Index ASTM D 1238-79 Procedure A, Conditions E and P. The resin used to manufacture the HDPE must be Phillips TR400 or Chevron 9642.
- 4.2 Manufactured Roll Goods: Samples of the production run shall be taken and tested according to ASTM D 638.82 to ensure that tensile strength at yield and break meet the minimum specifications. A quality control certificate shall be issued with the material.
- 4.3 All welding material shall be of a type recommended and supplied by the manufacturer and shall be delivered in the original sealed containers - each with an indelible label bearing the brand name, manufacturer's mark number, and complete directions as to proper storage. The resin used to manufacture the HDPE welding rod must be Phillips TR400 or Chevron 9642.



5. INSTRUCTIONS AND DRAWINGS REQUIRED AFTER CONTRACT AWARD

- 5.1 The manufacturer shall furnish complete written instructions for the storage, handling, installation and seaming of the liner in compliance with this specification and the condition of his warranty.
- 5.2 The material supplier shall furnish complete written instructions for the repair of HDPE material.
- 5.3 The manufacturer or his designated representative shall furnish panel layouts as required for the liner installation.

6. INSTALLATION

- 6.1 Area Subgrade Preparation Surfaces to be lined shall be smooth and free of all rocks, stones, sticks, roots, sharp objects or debris of any kind. The surface should provide a firm, unyielding foundation for the membrane with no sudden, sharp or abrupt changes or break in grade. No standing water or excessive moisture shall be allowed. The installation Contractor shall certify in writing that the surface on which the membrane is to be installed is acceptable before commencing work.
- 6.2 Contractor Approval: The installation of the HDPE must be done by the manufacturer using the manufacturer's extrusion welding equipment and installation methods, or a manufacturer approved installer.
- 6.3 Field Seams: Individual panels of liner material shall be laid out and overlapped by a maximum of four inches prior to welding. Extreme care shall be taken by the installer in the preparation of the areas to be welded. The area to be welded shall be cleaned

and prepared according to the procedures laid down by the material manufacturer. All sheeting shall be welded together by means of integration of the extrudate bead with the lining material. The composition of the extrudate shall be identical to the lining material.

6.4 The welding equipment used shall be capable of continuously monitoring and controlling the temperatures, and pressures, in the zone of contact where the machine is actually fusing the lining material so as to ensure changes in environmental conditions will not affect the integrity of the weld. Only welding systems which utilize the extrusion fusion process shall be used for bonding these lining materials.

6.5 No "fish mouths" shall be allowed within the seam area. Where "fish mouths" occur, the material shall be cut, overlapped and an overlap extrusion weld shall be applied. All-welds on completion of the work shall be tightly bonded. Any membrane area showing injury due to excessive scuffing puncture or distress from any cause shall be replaced or repaired with an additional piece of HDPE membrane.

## 7. FIELD SEAM TESTING/QUALITY CONTROL

7.1 The installer shall employ on-site, physical, non-destructive testing on all welds to ensure watertight, homogeneous seams.

7.2 A quality control technician shall inspect each seam. Any seam showing a defect shall be marked and repaired in accordance with HDPE repair procedures.

7.3 Test weld three (3) feet long from each welding machine shall be run each day prior to liner welding and under the same conditions as exist for the liner welding. The test weld shall be marked with date, ambient temperature and welding machine number.

Samples of weld 1/4-inch to 1/2-inch wide shall be cut from the test weld and tested in shear and peel. Seams should be stronger than the material. The weld sample shall be kept for subsequent testing on laboratory tensometer equipment in accordance with the applicable ASTM standards. Random weld samples may be removed from the installed welded sheeting at a frequency to be agreed (e.g. 1/500 feet of weld).

- 7.4 The end user company, or his designated representative, reserves the right of access for inspection of any or all phases of this installation at their expense.

8. WARRANTY AND GUARANTEE

- 8.1 The manufacturer/installer shall provide a written warranty stating duration of time during which the liner materials and workmanship specifically provided or performed under this project shall be free from any significant defects. Said warranty shall apply to normal use and service by the Owner and specifically excludes mechanical abuse or puncture by machinery, equipment or people, exposure of the liner to harmful chemicals or catastrophe due to earthquake, flood or tornado. Such written warranty shall provide for the total and complete repair or replacement of the defect or defective area of lining materials upon written notification and demonstration by the Owner of the specific non-conformance of the lining material-'or installation with the project specifications. Such defects or non-conformance shall be repaired or replaced within a reasonable period of time at no cost to the Owner provided that portion of the area is question has been made available to the manufacturer/installer and that such areas have been cleared of all liquids, sludges, dirt, sand or gravel.

**Appendix IV**  
**Quality Assurance Manual**



## **APPENDIX IV**

### **SOLUTIA INDUSTRIAL LANDFILL COLUMBIA, TENNESSEE**

#### **CONSTRUCTION QUALITY ASSURANCE MANUAL**

##### **1.0 PURPOSE**

- 1.1 This section serves an introduction to the Construction Quality Assurance Program (CQAM) which establishes the requirements and instructions for quality control for the Industrial Landfill at Columbia, Tennessee, owned and operated by Solutia, Inc.
- 1.2 The procedures are prepared to ensure that the activities affecting the quality of work performed at the site are carried out in a controlled, effective and consistent manner.
- 1.3 It is also intended that these procedures be used by other project personnel not directly responsible for construction quality control to aid them in their understanding of the project quality control program.

##### **2.0 GENERAL REQUIREMENTS**

- 2.1 Program Definition
  - 2.1.1 It is standard industry practice that quality is achieved through the use of skilled personnel, adequate planning, the use of suitable tools and procedures,, the proper definition of job requirements and appropriate craft supervision and technical direction. Verification of quality is achieved through inspection, examination, testing, checking and review of work activities and the associated documentation.

- 2.1.2 Control and verification of the quality of work performed by the subcontractor's forces is the responsibility of the Owner's designated representative hereinafter referred to as the Resident Inspector (RI). The RI will have a minimum of 10 years construction monitoring experience. All work and daily reports will be reviewed by the Project Engineer (PE). The PE will have a minimum of 10 years geotechnical design and construction experience.
- 2.1.3 Monitoring of subcontractor's on-site quality control program implementation (where included as part of the subcontract requirements) is provided by surveillance inspection and/or testing.
- 2.2 Program Scope
  - 2.2.1 The requirements, procedures and instructions for construction quality control shall be applied to items and activities identified in Table 1 and additions to this list may be made by the RI.
  - 2.2.2 A major portion of field sampling and testing (both on and off site) and other laboratory work under this contract shall be performed by a testing laboratory meeting the requirements of the specific technical specification.
- 2.3 Program Criteria
  - 2.3.1 The requirements, procedures and instructions for field quality control are designed to comply with the plans and specifications for construction of the Industrial Waste Landfill Facility at Columbia, Tennessee.

- 2.3.2 Engineering requirements which serve as a basis for inspection activities are contained in the specifications, data, sheets, drawings, correspondence and the design documents issued by the Solutia (Owner) or GeoSolutions, Inc. (designer).

### 3.0 PROCEDURE APPROVAL, DISTRIBUTION AND CONTROL

- 3.1 This plan and the associated procedures are prepared for Solutia, Inc.
- 3.2 Responsibility for distribution and control of copies of these procedures is assigned to the Project Engineer (PE).
- 3.3 Requests for revisions to these procedures shall be forwarded to the Owner. Acceptable and necessary revisions shall be drafted in the appropriate format.
- 3.4 A change indicator, such as a vertical line in the margin, shall be used to show where changes have been made.
- 3.5 Prior to acceptance of a revision, a determination of the impact of a revision on completed work shall be made by the Owner.

### 4.0 INDOCTRINATION/TRAINING

The PE assures that all Field/Quality Control Personnel assigned to perform inspection and acceptance of the work have reviewed and are thoroughly familiar with all applicable documents pertaining to the work (see Section 2).

## 5.0 DOCUMENT CONTROL

### 5.1 Design Document Control

Procedures to control design documents have been generated and are delineated in Section 3 of this Plan.

### 5.2 Documentation and Records Control

Procedures for the documentation and records control have been generated and are delineated in Sections 3 and 6 of this Plan.

## 6.0 MATERIAL CONTROL

6.1 Permanent plant materials and equipment to be purchased by the contractor for incorporation into the work shall be reviewed by the PE prior to purchase in accordance with Section 3, paragraph 3.5.

6.2 Acceptability to specified requirements are verified upon receipt at the jobsite by inspection of the component or material and review of the specified documentation. Receipt inspection ensures that material and equipment are in conformance to the specification and purchase order requirements. Inspection includes: (1) visual inspection, (2) marking and tagging, (3) documentation and (4) preparation for storage. Receipt inspection is documented as per Section 4.

## SECTION 2

### INDOCTRINATION/TRAINING

#### 1.0 PURPOSE

This section describes the field quality control procedures used to provide a uniform method for the indoctrination and training of Field QC personnel.

#### 2.0 INDOCTRINATION

2.1 The Resident Inspector is responsible for developing sufficient orientation and indoctrination to ensure an understanding of the following topics:

- 1) The organization, purpose and objectives of the Project.
- 2) The application and use of the Quality Control Plan and associated Procedures.
- 3) Duties, responsibilities and authority as related to Item 2.



### SECTION 3

#### DESIGN DOCUMENT CONTROL

##### 1.0 PURPOSE

This section describes the field quality control procedure for controlling the receipt, processing and distribution of design documents, including revisions to these documents in the form of field changes. It ensures that project personnel and subcontractors use the correct design document revision.

##### 2.0 GENERAL REQUIREMENTS

2.1 Project Engineer (PE) staff maintains master control registers which identify the current revision of drawings, specifications and other design documents previously transmitted to the job site.

2.2 It is the responsibility of the PE to receive, control and distribute design documents and design document changes at the job site.

##### 3.0 RECEIPT, CONTROL AND DISTRIBUTION OF DESIGN DOCUMENTS

3.1 By issuance of this Plan, a system for the receipt, control and distribution of design documents, including contract drawings and specifications, as-built drawings, subcontractor submittals, and request for information, is established.

3.2 Drawing and Specification Information Issued For Field

3.2.1 The PE is responsible for document control in the field office throughout the construction period. He receives and forwards complete sets of documents, including any requests for information revisions, to each appropriate subcontractor and the RI.

3.4 As Built Drawings

3.4.1 The PE is responsible for maintaining, on a regular basis, a complete set of contract full size drawings, which reflect as-built conditions. Marked up drawings shall conform as follows:

- RED pen is used to indicate all changes to design.
- Pencil is used to indicate all deletions to/or non-performed contract work.
- Request for Information numbers are indicated for all reflected changes, as appropriate.
- Surveyed measurements of final locations and elevations are indicated.
- As revised contract drawings are received, they are checked to determine whether as-built details have been incorporated into the revision. If any further as-built details pertinent to these drawings exist, they are transferred onto the revised drawings which in turn is substituted into the "As-Built Set."

3.4.2 At the end of the construction project, all as-built drawings are stamped or marked as-built and initialed by the RI and PE.

3.5 Subcontractor's Submittals

3.5.1 Subcontractor's submittals (shop drawings, samples, catalog cuts, certifications, manuals, part lists, etc.) are to be transmitted to the RE.

3.5.2 Upon receipt of the transmittal, the RE staff reviews for completeness and assigns each drawing, catalog cut, etc., a print number, marks each accordingly, and enters this number on the appropriate transmittal form.

3.5.3 The RI then logs all submittals on the Subcontractor Print Index Form.

3.5.4 Submittals are reviewed, stamped and signed-off by the RE staff. A copy is sent to the Owner.

3.5.5 Normally, contracts contain provisions to allow sufficient review time. However, this time must be kept to a minimum. Once a submittal is received from a subcontractor, it is given a prompt review by the PE staff and returned with appropriate comments.

4.0 CHANGE TO DESIGN DOCUMENTS

4.1 General

4.1.1 A request for information (RFI) pertaining to any change in design will be submitted by the PE to the Owner for review. If a design change is agreed to, a Project Change Notice (PCN) is issued to the Owner as a formal change.



## SECTION 4

### INSPECTION, EXAMINATION AND TEST CONTROL

#### 1.0 PURPOSE

This section describes the field quality control procedures for performing and documenting quality verification inspection. It provides direction for the preparation and use of Field Inspection Reports (FIR) which document and verify the conformance of quality-related field activities with the contract specifications and drawings.

#### 2.0 GENERAL REQUIREMENTS

- 2.1 The instructions in this section cover the field inspection requirements for the proposed facility. In consonance with the inspection and documentation requirements specified in the design documents, the Resident Inspector (RI) under the direction of the PE, is responsible for determining and documenting what items are inspected, the amount of in-process inspection, and the amount of required inspection documentation. These determinations vary depending upon the importance, complexity of the item and the design document requirements.
- 2.2 Under the direction of the PE, the RI is responsible to monitor the fabrication, installation and remedial work activities at the site through progressive inspection of the work in progress, as well as final inspection after the work is complete.

3.0 INSPECTION

- 3.1 The inspection requirements contained in the design documents form the basis of the inspection program.
- 3.2 The responsible RI reviews and is familiar with the project design documents. He carries out the inspections assigned to him by the PE utilizing the appropriate project design documents for acceptable criteria.

4.0 DOCUMENTATION

- 4.1 The required inspections, examinations and tests are documented on an FIR. The FIR shall identify the applicable specification used, the method of inspection and results, the inspector and date of inspection.
- 4.2 The FIR is used to document the quality verification inspection performed in accordance with this procedure and should not be confused with the Inspector's Daily Report. The Inspector's Daily Report is a fundamental part of the field construction control and is used for the daily reporting of subcontractor monitoring and activities. Where no prepared, specific FIR exists for a particular activity, inspections may be documented on a general FIR.
- 4.3 The FIR is traceable to the item or activity inspected and provides a status of the acceptability of the item or activity.

- 4.4 The PE directs the development of inspection and test procedures/check lists to satisfy the inspections and testing required to comply with Table 1. This Plan will be amended to include the newly developed Inspection and Test Procedures / Check Lists.



## SECTION 5

### CONTROL OF DISCREPANT AND NONCONFORMING ITEMS

#### 1.0 PURPOSE

- 1.1 This section describes the field quality control procedures for controlling discrepant and nonconforming items
- 1.2 Discrepant items are those that have not been completed, inspected and accepted, and in addition to being incomplete, do not comply with the design documents.
- 1.3 Nonconforming items are those that have been completed, inspected and accepted but, are subsequently found to deviate from the design documents.
- 1.4 Discrepant and nonconforming items may be identified and reported to the Project Engineer (PE) or Resident Inspector (RI) by anyone connected with the project.

#### 2.0 REQUIREMENTS

##### 2.1 Changes to Acceptable Items

Items that have been inspected and found in accordance with the design documents are classified as acceptable. Engineering changes that make it necessary to alter these items by further field action are classified as new work subject to the same quality control and inspection requirements as was the original work.

## 2.2 Discrepant Items

Incomplete items that are discovered during field activities to be discrepant, but which are correctable by further prescribed processing are controlled and documented by the use of punch lists prepared and maintained by the field. These punch lists describe the discrepancy which must be corrected before the item is completed, inspected and accepted. Discrepant items that are corrected within the same shift as discovered need not be punch listed, but are reported in the Inspector's Daily Report.

## 2.3 Nonconforming Items

2.3.1 Nonconforming items are controlled and documented by the use "Of a Nonconformance Report."

2.3.2 The verification of corrective actions taken in accordance with the Nonconformance Reports are the responsibility of the RI.

2.3.3 The Nonconformance Report is accurately and concisely written after consultation with the interested parties to ensure that the nonconforming item is correctly described, the appropriate program criteria referenced and sufficient data provided to facilitate a proper and complete disposition for resolving the nonconformity. The RI then validates the Nonconformance Report.

2.3.4 Each Nonconformance Report is given a disposition which is the action required to correct or resolve the nonconformance.

2.3.5 Nonconformance Reports are dispositioned in one of the following three ways:

- 1) "Rework" is the action by which a nonconforming item is repaired to make it conform the specified requirements,
- 2) "Reject" is the action taken to eliminate a nonconforming item from its specified use.
- 3) "Use As Is" is the action taken to obtain the Owner/designer approval to accept an otherwise unacceptable item.

2.3.6 The RI is authorized to make Rework and Reject dispositions. Use "As Is" dispositions are obtained from the Owner/designer by means of a Nonconformance Report. Information copies of each completed Nonconformance Report are sent to the Owner and the designer. Distribution of the Nonconformance Report is shown on the Nonconformance Report.

2.3.7 Upon completion of Rework dispositions, the RI makes a reinspection to determine acceptability.

2.3.8 If the item is found acceptable as the result of the reinspection, the RI documents his acceptance by signing and dating the Nonconformance Report.

2.3.9 If the item is found unacceptable during the reinspection, the RI performing the reinspection signs, dates and reprocesses the Nonconformance Report.



2.3.10 If the final inspection is Reject, the RI signs and dates the Nonconformance Report after ensuring that adequate measures have been taken to prevent the inadvertent use of an unacceptable item.

## SECTION 6

### DOCUMENTATION AND RECORDS CONTROL

#### 1.0 PURPOSE

- 1.1 This section describes the field quality control procedure for control of records received or prepared by the Resident Inspector (RI).
- 1.2 The field quality procedure for control and filing of construction records ensures that the documentation is identified and maintained in an accurate and consistent manner.

#### 2.0 GENERAL COMMENTS

- 2.1 The RI is responsible for administration of the records control system at the job site.
- 2.2 The system includes the project files set up, maintenance and turnover for microfilming (if required by the Owner), the identification and establishment of control logs and a field records index.
- 2.3 Quality Control Records are documents that provide evidence that the quality of items or activities meets the requirements established by the program criteria. The records shall be legible, completely filled out for their intended purpose, and traceable to the items or activities involved. These records may be the original documents or reproduced copies of the original documents.

### 3.0 PROJECT FIELD OFFICE FILES

- 3.1 The fundamental purpose of a filing system is to store data in such a manner that retrieval will be quick, accurate and complete.
- 3.2 The project files shall be set up and maintained by the Project Engineer staff.
- 3.3 All file shall be kept current and complete.
- 3.4 The Project Engineer shall arrange with the Owner for microfilming of all essential documentation at six month intervals, if microfilming is required.
- 3.5 At the time of project closeout, all records shall be checked and those which have not been microfilmed shall be microfilmed, if mircofilming is required.
- 3.7 Records requested by the Owner shall be separated and indexed, then forwarded to the Owner by letter with a receiving receipt required.

### 4.0 RECORDS INDEX

A Quality Control Records Index shall be established to identify the storage location for essential documents. The PE's staff shall have the responsibility of periodically reviewing the records index. He shall ensure all records are in their proper place and that any new records appear on the records index.





# Instructions for Short Form TX



*For nondramatic literary works, including fiction and nonfiction, books, short stories, poems, collections of poetry, essays, articles in serials, and computer programs*

## USE THIS FORM IF—

1. You are the **only** author and copyright owner of this work, *and*
2. The work was **not** made for hire, *and*
3. The work is completely new (does not contain a substantial amount of material that has been previously published or registered or is in the public domain).

*If any of the above does not apply, you must use standard Form TX.*

**NOTE:** Short Form TX is not appropriate for an anonymous author who does not wish to reveal his or her identity.

## HOW TO COMPLETE SHORT FORM TX

- Type or print in black ink.
- Be clear and legible. (Your certificate of registration will be copied from your form.)
- Give only the information requested.

**NOTE:** You may use a continuation sheet (Form     /CON) to list individual titles in a collection. Complete Space A and list the individual titles under Space C on the back page. Space B is not applicable to short forms.

### 1 Title of This Work

You must give a title. If there is no title, state "UNTITLED." If you are registering an unpublished collection, give the collection title you want to appear in our records (for example: "Joan's Poems, Volume 1"). Alternative title: If the work is known by two titles, you also may give the second title. If the work has been published as part of a larger work (including a periodical), give the title of that larger work in addition to the title of the contribution.

### 2 Name and Address of Author and Owner of the Copyright

Give your name and mailing address. You may include your pseudonym followed by "pseud." Also, give the nation of which you are a citizen or where you have your domicile (i.e., permanent residence).

Please give daytime phone, fax numbers, and email address, if available.

### 3 Year of Creation

Give the latest year in which you completed the work you are registering at this time. A work is "created" when it is written down, stored in a computer, or otherwise "fixed" in a tangible form.

### 4 Publication

If the work has been published (i.e., if copies have been distributed to the public), give the complete date of publication (month, day, and year) and the nation where the publication first took place.

### 5 Type of Authorship in This Work

Check the box or boxes that describe your authorship in the copy you are sending with the application. For example, if you are

registering a story and are planning to add illustrations later, check only the box for "text."

A "compilation" of terms or of data is a selection, coordination, or arrangement of such information into a chart, directory, or other form. A compilation of previously published or public domain material must be registered using a standard Form TX.

### 6 Signature of Author

Sign the application in black ink and check the appropriate box. The person signing the application should be the author or his/her authorized agent.

### 7 Person to Contact for Rights and Permissions

This space is optional. You may give the name and address of the person or organization to contact for permission to use the work. You may also provide phone, fax, or email information.

### 8 Certificate Will Be Mailed

This space must be completed. Your certificate of registration will be mailed in a window envelope to this address. Also, if the Copyright Office needs to contact you, we will write to this address.

### 9 Deposit Account

Complete this space only if you currently maintain a deposit account in the Copyright Office.

## MAIL WITH THE FORM

- A \$20.00\* filing fee in the form of a check or money order (**no cash**) payable to "Register of Copyrights," **and**
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**Appendix V**  
**Cost Estimate**



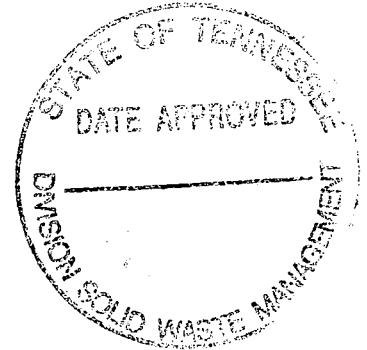
**SOLUTIA INC.  
COLUMBIA, TENNESSEE**

IDL 611020017

**COST ESTIMATE**

**WORKSHEET A:**

**CLOSURE ACTIVITIES**



- NOTES:
- 1) This worksheet is to be submitted as part of the C/PC Plan.
  - 2) Provide a cost for all activities which apply.
  - 3) Additional cost information may be attached as needed.

1. Establishing Final Cover:

A. Top Soil

1.	Quantity needed (yd <sup>3</sup> )	4500
2.	Excavation unit cost (\$/yd <sup>3</sup> )	4.25
3.	Excavation cost (1. x 2.)	19125
4.	Placement and spreading unit cost (\$/yd <sup>3</sup> )	2.75
5.	Placement cost (1. x 4.)	12375

\*TOTAL: Top Soil (3. + 5.) \$31500

B. Landfill Cap

1. On-Site Clay

a.	Quantity needed (yd <sup>3</sup> )	19600
b.	Excavation unit cost (\$/yd <sup>3</sup> )	4.25
c.	Excavation cost (a. x b.)	83300
d.	Placement/spreading unit cost (\$/yd <sup>3</sup> )	1.50
e.	Placement cost (a. x d.)	29400
f.	Compaction unit cost (\$/yd <sup>3</sup> )	2.00
g.	Compaction cost (a. x f.)	39200

\*TOTAL: On-site Clay (c. + e. + g.) \$151900

2. Off-Site Clay

		N/A
a.	Quantity needed (yd <sup>3</sup> )	N/A
b.	Purchase unit cost (\$/yd <sup>3</sup> )	N/A
c.	Purchase cost (a. x b.)	N/A
d.	Delivery unit cost (\$/yd <sup>3</sup> )	N/A
e.	Delivery cost (a. x d.)	N/A
f.	Placement/spreading unit cost (\$/yd <sup>3</sup> )	N/A
g.	Placement cost (a. x f.)	N/A

h.	Compaction unit cost (\$/yd <sup>3</sup> )	N/A
i.	Compaction cost (a. x h.)	N/A

\*TOTAL: Off-site Clay (c. + e. + g. + i) N/A

3. Quality Control/Testing of Clay

a.	Number of samples to be tested	20
b.	Clay testing unit cost (\$/sample)	200
c.	Testing cost (a. x b.)	4000

\*TOTAL: Clay Testing (c) 4000

C. Synthetic Membrane

1.	Quantity needed (yd <sup>2</sup> )	19600
2.	Purchase unit cost (\$/yd <sup>2</sup> )	6.00
3.	Purchase cost (1. x 2.)	117600
4.	Installation unit cost (\$/yd <sup>2</sup> )	3.00
5.	Installation cost (1. x 4.)	58800

\*TOTAL: Synthetic Membrane \$176400

D. Geotextile Filter Fabric

1.	Quantity needed (yd <sup>2</sup> )	19600
2.	Purchase unit cost \$	1.50
3.	Purchase cost (\$/yd <sup>2</sup> )	29400
4.	Installation unit cost (\$/yd <sup>2</sup> )	1.5
5.	Installation cost (1. x 4.)	29400

\*TOTAL: Geotextile Filter Fabric (3. + 5.) \$58800

TOTAL for Establishing Final Cover (\*):  
(A.+B.+C.+D)

\$422600

2. Establishing Vegetation Cover:

A.	Labor (\$/acre)	400
B.	Seeding (\$/acre)	80
C.	Fertilizing (\$/acre)	80
D.	Mulching (\$/acre)	50
E.	Number of acres	1.5

TOTAL for Establishing Vegetation Cover: E. x (A. + B. + C. + D) 915

3. Establishing or Completing a System to Minimize and Control Erosion/Sedimentation:

A. Sediment Pond

1.	Excavation/construction (\$)	N/A
2.	Materials (e.g. pipe, riprap) (\$)	N/A

\*TOTAL: (1. + 2.) N/A

B. Diversion Ditch

1.	Construction (\$)	N/A
2.	Materials (\$)	N/A

\*TOTAL: (1.+2.) N/A

C. Temporary Structures (e.g. silt fence, swales)

1.	Construction (\$)	N/A
2.	Materials (\$)	N/A

\*TOTAL: (1.+2.) N/A

TOTAL for Establishing or Completing a System to Minimize and Control Erosion and Sedimentation (\*): (A.+B.+C.) N/A

4. Establishing or Completing Leachate Collection Removal and Treatment System:

A. Installation

1.	Number of feet	N/A
2.	Unit cost (\$/ft)	N/A
3.	Storage tanks (\$)	N/A
4.	Pumps (\$)	N/A

TOTAL for Establishing or Completing Leachate System: (1.+2.+3.+4.) N/A

5. Establishing or Completing a System to Collect or Vent Gases:

A. Installation

1.	Materials (e.g. piping)	N/A
2.	Equipment (e.g. pumps)	N/A
3.	Labor (e.g. drilling)	N/A

TOTAL for Establishing or Completing a System to Collect or Vent Gases: (1.+2.+3.) N/A

6. Establishing or Completing Groundwater/Surface Water Monitoring System:

A. Installation

1.	Number of wells	N/A
2.	Drilling cost (1.x2.)	N/A
3.	Materials (e.g. casing) (1.x3.)	N/A
4.	Equipment (e.g. pumps)	N/A
5.	Labor	N/A

TOTAL for Establishing or Completing Groundwater Monitoring System: (2.+3.+4.+5.) N/A



TOTAL CLOSURE COSTS:

Sum of TOTALS for Section 1. through 6.

\$423515

**SOLUTIA INC.  
COLUMBIA, TENNESSEE**

**COST ESTIMATE**

**WORKSHEET B:**

**POST CLOSURE ACTIVITIES**

- NOTES:
- 1) This worksheet is to be submitted as part of the C/PC Plan.
  - 2) The facility will be maintained and monitored for 30 years after final closure for Class I and II landfills and 2 years after final closure of Class III and IV landfills.
  - 3) Fill in blanks for all activities which apply.
  - 4) All costs are to be calculated on an ANNUAL BASIS.

1. Surveying Inspections to Confirm Final Grade and Drainage Are Maintained:

A.	Transportation	50
B.	Labor	250
TOTAL for Surveying Inspections: (A.+B.)		\$300

2. Maintain healthy Vegetation:

A.	Transportation	0
B.	Labor	180
C.	Seeding	100
D.	Fertilizing	100
E.	Mulching	100
F.	Rodent Control	20
G.	Mowing	100

TOTAL for Maintaining Healthy Vegetation:  
(A.+B.+C.+D.+E.+F.+G.) \$600

3. Maintain the Drainage Facilities, Sediment Ponds and Other Erosion/  
Sedimentation Control Measures:

A.	Transportation	0
B.	Labor	0
C.	Cleaning out of systems	0
D.	Repair of gullies or rills	
1.	Soil acquisition	
a.	Quantity (yd <sup>3</sup> )	N/A
b.	Purchase unit cost (\$/yd <sup>3</sup> )	N/A
c.	Purchase cost (a.xb.)	N/A

d.	Delivery unit cost (\$/yd <sup>3</sup> )	N/A
e.	Delivery cost (a.xd.)	N/A
2.	Placement/spreading/compaction	250
3.	Revegetation	100
Total D: (1.+2.+3.)		350

TOTAL for Maintaining Drainage: (A.+B.+C.+D.) 350

4. Maintain and Monitor the Leachate Collection, Removal and Treatment System:

A. Treatment of leachate

1.	On-site	
a.	Quantity (gal)	1000
b.	Treatment unit cost (gal.)	1.00
c.	Treatment costs (a.xb.)	1000
d.	Sewer discharge unit cost	0
e.	Discharge cost (a.xd.)	0
Total 1: On-site (c.+e.)		1,000
2.	Off-site	
a.	Quantity (yd <sup>3</sup> )	N/A
b.	Hauling unit cost (\$/yd <sup>3</sup> )	N/A
c.	Hauling cost (a.xb.)	N/A
d.	Treatment unit cost (\$/yd <sup>3</sup> )	N/A
e.	Treatment cost (a.xd.)	N/A
Total 2: (c.+e.)		N/A

B. Maintenance of Leachate Collection System

1.	Transportation	0
2.	Labor	0
3.	Repairs/Materials (e.g. below)	
a.	Pumps	100
b.	Cleaning out system	100
c.	Leak detection	100
d.	Other	100
Total 3: (1.+2.+3.)		400

5. Maintain and Monitor the Gas Collection or Venting System:

A.	Transportation	N/A
B.	Labor	N/A
C.	Repairs/Materials (e.g. below)	
1.	Cleaning	N/A
2.	Caps	N/A



3. Other

N/A

Total: (1.+2.+3.)

N/ATOTAL for Maintaining and Monitoring Gas Control System:  
(A.+B.+C.)0

## 6. Maintain and Monitor the Groundwater and/or Surface Water Monitoring System:

## A. Monitoring of groundwater systems

1. Number of wells/springs
2. Number of samples/well
3. Unit cost of analysis
4. Cost of sampling + analysis (1.x2.x3.)
5. Labor cost per well
6. Labor costs (1.x5.)

4230024002501000

\*TOTAL A: (4.+6.)

\$3400

## B. Inspection and maintenance of system

1. Transportation
2. Labor
3. Repairs/materials
  - a. Caps
  - b. Tubing
  - c. Pumps
  - d. Well replacement
  - e. Other

010050N/AN/AN/A100

Total 3: (a.+b.+c.+d.+e.)

150

\*TOTAL B: (1.+2.+3.)

250TOTAL for Maintaining and Monitoring Groundwater Systems  
(\*) (A.+B.)\$3650

## TOTAL POST CLOSURE COSTS:

Annual Basis:  
(Sum of Section 1. through 6.)\$6300

Inflation Rate Utilized:

6%30 Year Basis:  
(Annual cost)(Inflation rate)(30 yrs.)\$199950

NOTE: If desired because of anticipated cost or inflation fluctuations, we recommend submitting a separate sheet with the year-by-year annual costs (30 year breakdown) for maintaining and monitoring facility.

**ATTACHMENT III:**  
**CLOSURE / POST-CLOSURE COST**  
**ESTIMATES/WORKSHEETS**

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

#### INPUT PARAMETERS

1 ft Soil/1 Acre	Cubic Yards	1,613	Line 1
Organic Biosolids Supplement	Feet	0.25	Line 2
Infiltration Layer	Feet	2.00	Line 3
Geomembrane Layer	Feet	0.05	Line 4
Intermediate Cover	Feet	1.0	Line 5
Total Closure Area ( <i>Based on actual sqft of the final cap / surface area</i> )	Acres	4.3	Line 6

#### 1. ENGINEERING

A. Preparation of Construction Drawings ( <i>Cost Per Sheet</i> ) 10 sheets at \$4500 per sheet	\$45,000	Line 7
B. Preparation of Bid Specifications ( <i>Lump Sum</i> )	\$15,000	Line 8
C. Total Cost For Construction Drawings & Bid Specs	<b>\$60,000</b>	Line 9

#### 2. CONSTRUCTION OF THE FINAL COVER

##### A. Vegetative Support Layer Component of the Final Cover System

##### On-site Topsoil:

a. Quantity Needed ( $yd^3$ )	1,734	Line 10
b. Purchase of Topsoil ( $\$/yr^3$ )	\$0.00	Line 11
c. Transportation Unit Cost ( $\$/yd^3$ )	\$4.50	Line 12
d. Total Cost of Soil ( $(a. * (b. + c.))$ )	<b>\$7,804</b>	Line 13
e. Placement/Spreading Unit Cost ( $\$/yd^3$ )	\$6.50	Line 14
f. Placement Cost ( $a. * e.$ )	<b>\$11,273</b>	Line 15
g. Total Top Soil (d. + f.)	<b>\$19,078</b>	Line 16

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

#### B. Infiltration Cover Component of the Landfill Cover System

##### Borrow area On-site Soil

a. Quantity Needed (yd <sup>3</sup> )	13,875	Line 17
b. Excavation of Soil (\$/yd <sup>3</sup> )	\$2.50	Line 18
c. Excavation Cost (a. * b.)	\$34,687	Line 19
d. Transportation Unit Cost (\$/yd <sup>3</sup> )	\$2.50	Line 20
e. Transportation Cost (a. * d.)	\$34,687	Line 21
f. Placement/Spreading Unit Cost (\$/yd <sup>3</sup> )	\$1.65	Line 22
g. Placement Cost (a. * f.)	\$22,893	Line 23
h. Compaction Unit Cost (\$/yd <sup>3</sup> )	\$0.00	Line 24
i. Compaction Cost (a. * h.)	\$0	Line 25
j. Total Off-Site Clay (c. + e. + g. + i.)	\$109,610	Line 26

#### C. Intermediate Cover / Low Permeability Layer' Component of the Landfill Cover System

##### 1. On-Site Clay

a. Quantity Needed (yd <sup>3</sup> )	includes fill to perimeter berm to drain	13,875	Line 27
b. Excavation of Soil (\$/yd <sup>3</sup> )		\$2.50	Line 28
c. Excavation Cost (a. * b.)		\$34,687	Line 29
d. Transportation Unit Cost (\$/yd <sup>3</sup> )		\$4.50	Line 30
e. Transportation Cost (a. * d.)		\$62,436	Line 31
f. Placement/Spreading Unit Cost (\$/yd <sup>3</sup> )		\$3.50	Line 32
g. Placement Cost (a. * f.)		\$48,561	Line 33
h. Compaction Unit Cost (\$/yd <sup>3</sup> )		\$1.25	Line 34
i. Compaction Cost (a. * h.)		\$17,343	Line 35
j. Total On-Site Clay (c. + e. + g. + i.)		\$163,027	Line 36



## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

#### 2. Quality Control Testing of Low Permeability Clay

a. Number of Acres	4.3	Line 37
b. Sampling & Testing Costs Per Acre	\$7,500	Line 38
c. Total CQA Cost (a. * b.)	\$32,250	Line 39
k. Total On-Site Intermediate Cover (c. + e. + g. + i.)	\$163,027	Line 40
Total Prepared Soil Component of the Landfill Cover System (Line 42 + Line 45)	\$467,915	Line 41
Contractor Equipment Mobilization	\$20,000	Line 42
Total Soil Components (Line 16 + Line 26 + Line 50 + Line 51)	\$506,992	Line 43

#### D. Geosynthetic Components of the Landfill Cover System

##### Installation of Geosynthetic Components of Landfill Cover System

a. Number of Acres (Based on actual sqft of the final cap / surface area)	4.3	Line 44
b. Geosynthetic installer mobilization	\$30,000	Line 45
b. Geotextile Cost Per Square Foot (Installed)	\$0.23	Line 46
c. Geotextile Drainage Cost (Installed)	\$43,081	Line 47
d. 50 mil LDPE Super Gripnet with Integrated Drainage Channels Liner Cost Per Square Foot (installed)	\$0.85	Line 48
e. Textured 50 mil LDPE Super Gripnet with Integrated Drainage Channels Liner Cost (installed)	\$159,212	Line 49
f. Total Geosynthetic Installation Costs (c. + e.)	\$232,293	Line 50
TOTAL COST OF CONSTRUCTION OF FINAL COVER SYSTEM (A+B+C+D+E+F)	\$739,285	Line 51

### 3. CONSTRUCTION MANAGEMENT & ADMINISTRATION

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

1. Interfacing with Contractor, Owner and TDEC (Per Acre Cost)	\$2,500	Line 52
1a. Total Closure Area	4.3	Line 53
2. Total Interfacing with Contractor, Owner and TDEC (Line 64 * Line 65)	\$10,750	Line 54
3. Preparation of Documents for Final Submittal to TDEC	\$30,000	Line 55
Construction Management Total Costs (Line 66 + Line 67)	\$40,750	Line 56

### 4. ESTABLISHING VEGETATIVE COVER

A. Labor (\$/acre)	\$4,200	Line 69
B. Seeding (\$/acre)	Incl. in Item A	Line 70
C. Fertilizing (\$/acre)	Incl. in Item A	Line 71
D. Mulching (\$/acre)	Incl. in Item A	Line 72
E. Number of acres (Line 4)	4.3	Line 73
TOTAL For Establ. Vegetative Cover: (E * (A+B+C+D))	\$18,060	Line 74

### 5. ESTABLISHING OR COMPLETING A SYSTEM TO MINIMIZE AND CONTROL EROSION/SEDIMENTATION

#### A. Sediment Pond (No associated permit with pond)

1. Excavation and/or Fill Quantity (cubic yards)	-	Line 75
2. Cost per cubic yard (\$)	\$0.00	Line 76
3. Principal Spillway and associated appurtenances (\$)	\$0.00	Line 77
Total (1. x 2.)	\$0.00	Line 78

#### B. Benches and Applicable Ditches (No associated benches with permit)

1. Lineal feet of swale	-	Line 79
2. Earthwork per foot (\$)	\$0.00	Line 80
3. Turf Reinforcement Mat C125 per foot (\$)	\$0.00	Line 81

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

Total (1. x (2. + 3.))	\$0.00	Line 82
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#### C. Letdowns (INCLUDED IN ESTABLISHING FINAL COVER SECTION)

1. Lineal feet of letdown	250	Line 83
2. Earthwork per foot (\$)	\$0.00	Line 84
3. Turf Reinforcement Mat W3000 per foot (\$)	\$12.00	Line 85
Total (1. x (2. + 3.))	\$3,000	Line 86

#### D. Turf Reinforcement (TRMs)

1. Lineal feet of lining in Perimeter Ditches (ft)	500	Line 87
2. Earthwork per foot (\$)	-	
3. Cost per foot of TRM (\$)	\$35.00	Line 88
Total (1. x 2.)	\$17,500	Line 89

#### E. Silt Fence

1. Lineal feet of boom (ft)	100	Line 90
2. Cost per foot of boom (\$)	\$2.50	Line 91
Total (1. x 2.)	\$250	Line 92

#### F. Stormwater Control Structures for Final Cover

1. Surface Preparation, Side Slope Swales, and Downpipes (\$ per acre)	\$4,500	Line 93
2. Number of Acres Requiring Stormwater Control	4.3	Line 94
Total (1. x 2.)	\$19,350	Line 95

#### G. Construct Gravel Access Road (Already constructed)

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

1. Construction (per LF)	\$	30	Line 96
2. Total Length (LF)		-	Line 97
Total (1. x 2.)		\$0	Line 98
TOTAL for a system to minimize and control erosion and sedimentation (A. + B. + C.+ D. + E. + F. + G.)		\$40,100	Line 99

### 6. LEACHATE COLLECTION SYSTEM (NOTE: LCS Infrastructure will already be installed with Construction of the Landfill Cells)

#### A. Leachate Collection Piping and Drainage Stone Surrounding Piping

1. Lineal feet of 6" HDPE pipe (SDR 17)	-	Line 100
2. Cost per foot of 6" HDPE pipe	\$20	Line 101
3. Subtotal for 6" HDPE Pipe = (1. x 2.)	\$0	Line 102
4. Quantity (TONS) of Drainage Stone Encapsulating Pipe	-	Line 103
5. Cost per Ton of Drainage Stone	\$25	Line 104
6. Subtotal Cost of Drainage Stone = (7. x 8.)	\$0	Line 105
Total Cost of Leachate Collection Piping (3. + 6.)	\$0	Line 106

#### B. Leachate Sumps (NOTE: Leachate Sumps will already be installed)

1. Lump Sum Cost per Leachate Collection Sump (includes pumps, piping, controls)	\$0	Line 107
2. Number of Leachate Collection Sumps	1	Line 108
Total of Leachate Collection Sumps (1x2)	\$0	

#### C. Lateral Drainage Media (Already installed)

1. Quantity of drainage media required (tons)	-	Line 109
2. Unit Price of drainage / ton	\$0	Line 110
Total Cost of Lateral Drainage Media (1x2)	\$0	Line 111



A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

Closure Plan - All Phases

TOTAL COST OF LEACHATE COLLECTION SYSTEM (A., B., C.)	\$0	Line 112
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## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

#### 7. ESTABLISHING OR COMPLETING A SYSTEM TO COLLECT OR VENT GASES LANDFILL GAS COLLECTION PARAMETERS (N/A)

Mobilization/Demobilization	\$0	Line 113
Number of LFG Wells Required for First 5 YR. Phase	-	Line 114
Gas Wells Depth (ft per well & total)	Varies	Line 115

#### A. LANDFILL GAS WELL INSTALLATION COSTS

Description:

1. Well Head Assembly Installation (\$/well)	\$0	Line 116
2. Costs for Well Head Installation	\$0	Line 117
LFG INSTALLATION COSTS	\$0	Line 118

#### B. LANDFILL GAS SYSTEM PIPE COSTS

Description:

1. Installation Cost - LFG Header ( 18" diameter SDR 17) (\$/LF)	\$0	Line 119
2. Length of LFG Header Pipe (FT)	-	Line 120
3. Cost Installation - Header (1. x 2. )	\$0	Line 121
1. Installation Cost - LFG Laterals ( 8" diameter SDR 17) (\$/LF)	\$0	Line 122
2. Length of LFG Lateral Pipe (Ft.)	-	Line 123
3. Cost Installation - Laterals (Line 124 * Line 125)	\$0	Line 124
TOTAL LFG PIPE COSTS	\$0	Line 125

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

---

### Closure Plan - All Phases

#### C. LANDFILL GAS MISC.

Description:

1. Landfill Gas Sump Installation Cost

\$0

Line 126

2. Cost - Accessories (tees, elbows, valves) 20% of total

\$0

Line 127

LFG MISC COST TOTAL

\$0

Line 128

#### D. LANDFILL GAS FLARE SYSTEM

Description:

1. Landfill Gas Flare w Blowers

\$0

Line 129

2. Landfill Gas Generator

\$0

Line 130

LANDFILL GAS FLARE SYSTEM TOTAL

\$0

Line 131

---

LANDFILL GAS SYSTEM TOTAL COSTS (A. + B. + C. + D.)

\$0

Line 132

## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

#### 8. ESTABLISHING OR COMPLETING GROUNDWATER/SURFACE WATER MONITORING SYSTEM (*System is Presently In-Place*)

##### A. Installation

1. Number of wells	-	Line 133
2. Drilling cost	-	Line 134
3. Well installation oversight	-	Line 135
4. Equipment (e.g., pumps)	-	Line 136
5. Labor	-	Line 137
6. Establish surface sampling points	-	Line 138
TOTAL for establishing or completing groundwater monitoring system (1. x (2. + 3. + 4. + 5. +6.))	<b>\$0.00</b>	Line 139

#### 9. SURVEYING INSPECTIONS TO CONFIRM FINAL GRADE.

A. Transportation	\$1,500	Line 140
B. Labor (acre)	\$1,500	Line 141
C. Total Labor Costs	\$7,950	Line 142
TOTAL for surveying inspections (A. + C.)	<b>\$9,450</b>	Line 143

#### 10. FIVE YEAR CLOSURE COSTS TOTAL

Sum of TOTALS For Sections (1. through 7.)	<b>\$907,645</b>	Line 144
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## SUMMARY



## A. CLOSURE PLAN COST (SUBMIT AS PART OF CLOSURE / POST-CLOSURE PLAN)

### Closure Plan - All Phases

<b>1. ENGINEERING</b>		
Total Cost for Construction Drawings and Bid Specs	\$60,000	Line 9
<b>2. CONSTRUCTION OF THE FINAL COVER SYSTEM</b>		
TOTAL COST OF CONSTRUCTION OF FINAL COVER SYSTEM	\$739,285	Line 51
<b>3. CONSTRUCTION MANAGEMENT &amp; ADMINISTRATION</b>		
Construction Management Total Costs	\$40,750	Line 56
<b>4. ESTABLISHING VEGETATIVE COVER</b>		
TOTAL For Establ. Vegetative Cover:	\$18,060.0	Line 74
<b>5. ESTABLISHING OR COMPLETING A SYSTEM TO MINIMIZE AND CONTROL EROSION/SEDIMENTATION</b>		
TOTAL for establishing or completing a system to minimize and control erosion and sedimentation	\$40,100	Line 99
<b>6. LEACHATE COLLECTION SYSTEM</b>		
TOTAL COST OF LEACHATE COLLECTION SYSTEM	\$0	Line 112
<b>7. ESTABLISHING OR COMPLETING A SYSTEM TO COLLECT OR VENT GASES LANDFILL GAS COLLECTION PARAMETERS</b>		
LANDFILL GAS SYSTEM TOTAL COSTS	\$0	Line 132
<b>8. ESTABLISHING OR COMPLETING GROUNDWATER/SURFACE WATER MONITORING SYSTEM (System is Presently In-Place)</b>		
TOTAL for establishing or completing groundwatermonitoring system	\$0.00	Line 139
<b>9. SURVEYING INSPECTIONS TO CONFIRM FINAL GRADE.</b>		
TOTAL for surveying inspections	\$9,450	Line 143
<b>10. FIVE YEAR CLOSURE COSTS TOTAL</b>		
Sum of TOTALS For Sections (1. through 9.)	\$907,645	

## B. ANNUAL POST-CLOSURE PLAN COST

### All Phases

INPUT PARAMETERS			
CURRENT FOOTPRINT	ACRES =	4.3	Line 1
CLOSED AREA AS OF 2019	ACRES =	-	Line 2
1 FT SOIL/1 ACRE	CUBIC YARDS =	1,613	Line 3
INFILTRATION / VEGETATIVE SUPPORT LAYER	FEET =	2	Line 4
INTERMEDIATE COVER	FEET =	1	Line 5
Volume of Leachate Generated per Giroud's Equation at end of 30 yr p	GAL/ACRE/DAY =	0.0200	Line 6
Volume of Leachate Generated per HELP model initial	GAL/ACRE/DAY =	440.0	Line 7

### 1. SURVEYING INSPECTIONS TO CONFIRM FINAL GRADE AND DRAINAGE ARE MAINTAINED

A. Transportation ( <i>Previously Confirmed</i> )	\$500	Line 8
B. Labor ( <i>Previously Confirmed</i> )	\$4,000	Line 9
TOTAL for surveying inspections (A. + B.)	<b>\$4,500</b>	Line 10

## B. ANNUAL POST-CLOSURE PLAN COST

### 2. MAINTAIN HEALTHY VEGETATION

A. Transportation / mobilization	\$50	Line 11
B. Labor	\$0	Line 12
C. Seeding	\$250	Line 13
D. Fertilizing	\$0	Line 14
E. Mulching	\$0	Line 15
G. Mowing	\$1,000	Line 16
H. Number of Acres	4.3	Line 17
TOTAL for maintaining healthy vegetation (A. + B. + C. + D. + E. + F. + G.) x (H.)		\$6,590 Line 18

## B. ANNUAL POST-CLOSURE PLAN COST

### 3. MAINTAIN THE DRAINAGE FACILITIES, SEDIMENT PONDS AND EROSION/SEDIMENTATION CONTROL MEASURES

#### 1. Maintenance of Sediment Pond and Associated Erosion Control Structures (NO ASSOCIATED POND WITH PERMIT)

A. Trans/Equip Mob to Clean Ponds	No pond on this permit	Incl. in Item B	Line 19
B. Labor for EPSC Measure Maintenance		\$1,800	Line 20
C. Cleaning of Sediment Control Pond & Drainage Structures.		Incl. in Item A	Line 21
D. Repair of gullies or rills		\$2,500	
a. Quantity (yd3)(estimated .5 ft of soil over 3 acres @ 4 mobs broken into an annual cost over 30 yrs)		Inc. in Item D	Line 22
b. Purchase unit cost (\$/yd3)		Inc. in Item D	Line 23
c. Purchase cost (a. x b.)		Inc. in Item D	Line 24
d. Delivery unit cost (\$/yd3)		Inc. in Item D	Line 25
e. Deliver cost (a. x d.)		Inc. in Item D	Line 26
Total 1 (B. + D.)		\$4,300	Line 27

2. Placement/spreading/compaction (\$2.50/yd <sup>3</sup> @ 4 mobs broken into an annual cost over 30 years)	\$1,000	Line 28
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3. Revegetation (vegetate X acres x 4 mobs x \$500/acre broken into an annual cost over 30 years)	\$1,000	Line 29
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Total D (1. + 2. + 3.)	\$6,300	Line 30
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Annual Total For Maintaining Drainage [(A+B+C+D) + Line 21 + Line 22]	\$6,300	Line 31
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## B. ANNUAL POST-CLOSURE PLAN COST

### 4. MAINTAIN AND MONITOR THE LEACHATE COLLECTION, REMOVAL, AND TREATMENT SYSTEM

The estimate of the volume of leachate generated during Post Closure Care are taken from giroud.

#### A. Pre-Treatment of leachate (annual volume to be discharged through on-site NPDES permit)

##### 1. Off-site Disposal

a. Quantity (gal)	on-site NPDES but assumed failure and haul off	5,200	Line 32
b. Hauling unit cost (\$/gal)		\$0.00	Line 33
c. Hauling cost (a.x b.)		\$0.00	Line 34
d. Disposal unit cost (\$/gal)		\$0.00	Line 35
e. Disposal cost (a.x d.)		\$0.00	Line 36

##### 2. Off-site Disposal and Transportation Cost (\$/gal)

\$0.20 Line 37

##### ANNUAL TOTAL

\$1,040.00 Line 38

#### B. Maintenance of leachate collection system

1. Transportation		\$500	Line 39
2. Labor (On-site employee)		\$2,500	Line 40
3. Repairs/Materials (e.g. below)			
a. Pumps (2 new pumps broken over 30 yrs. @ \$4000/pump) - 1/2 full pump cost per year assumed		\$2,000	Line 41
b. Cleaning out system	triannual inspection and cleaning	\$1,500	Line 42
c. Leak detection		\$0	Line 43
d. Leachate Analytical Testing (annual)		\$300	Line 44
TOTAL (a.+ b.+ c.+ d.)		\$3,800	Line 45

##### TOTAL (1.+ 2.+ 3.) [Line 39 + 40 + 45]

\$6,800 Line 46

##### TOTAL for monitoring and maintaining leachate system (A.+ B.)

\$7,840 Line 47

## B. ANNUAL POST-CLOSURE PLAN COST

### 5. MAINTAIN AND MONITOR THE GAS COLLECTION OR VENTING SYSTEM \*\*NOT APPLICABLE\*\*

A. Transportation (12 Trips to Site/Year)	\$0	Line 48
B. Labor / Well / Trip	\$0	Line 49
(Total Labor for Monitoring and Maintenance for 20 LFG wells)	\$0	Line 50
C. Repairs/Materials (e.g. below)		
1. Cleaning	\$0	Line 51
2. Caps	\$0	Line 52
3. Other	\$0	Line 53
TOTAL (1.+ 2.+ 3.)	\$0	Line 54
TOTAL for maintaining/monitoring LFG system (A.+ B.+ C.) [ <i>Line 48+50+54</i> ]	\$0	Line 55

## B. ANNUAL POST-CLOSURE PLAN COST

### 6. MAINTAIN AND MONITOR THE GROUNDWATER AND/OR SURFACE WATER MONITORING SYSTEM

#### A. Monitoring of groundwater systems:

1. Number of wells/springs/blanks	3	Line 56
2. Number of samples/well/year	2	Line 57
3. Unit. cost of analysis	\$250	Line 58
4. Cost of sampling + analysis (1. x 2. x 3.)	\$1,500	Line 59
5. Labor cost per well per year	\$2,500	Line 60
6. Labor costs (1. x 5.)	\$7,500	Line 61
7. Report Preparation	Incl. in Item 3	Line 62
8. Statistical Analysis	Incl. in Item 3	Line 63
ANNUAL TOTAL (4. + 6.)	\$9,000	Line 64

#### B. Inspection and maintenance of system:

1. Transportation	\$150	Line 65
2. Labor	\$200	Line 66
3. Repairs/materials		
a. Caps	\$10	Line 67
b. Tubing	\$20	Line 68
c. Pumps                      annual lease payment for 3 pumps	\$200	Line 69
d. Well Redevelopment	\$0	Line 70
e. Other (accrual for replacement well installation)	\$200	Line 71
Total (a. + b. + c. + d. + e.), per 3 wells	\$1,290	Line 72
TOTAL B (1. + 2. + 3.)	\$1,290	Line 73
TOTAL For Maintaining and Monitoring Groundwater Systems (A+B)	\$10,290	Line 81

## B. ANNUAL POST-CLOSURE PLAN COST

**TOTAL POST CLOSURE COSTS FOR ONE YEAR**

**\$35,520**

Line 82

### SUMMARY

1. SURVEYING INSPECTIONS TO CONFIRM FINAL GRADE AND DRAINAGE ARE MAINTAINED.

\$4,500

Line 10

2. MAINTAIN HEALTHY VEGETATION.

\$6,590

Line 18

3. MAINTAIN THE DRAINAGE FACILITIES, SEDIMENT PONDS AND EROSION/SEDIMENTATION CONTROL MEASURES.

\$6,300

Line 31

4. MAINTAIN AND MONITOR THE LEACHATE COLLECTION, REMOVAL, AND TREATMENT SYSTEM.

\$7,840

Line 47

5. MAINTAIN AND MONITOR THE GAS COLLECTION OR VENTING SYSTEM **\*\*NOT APPLICABLE\*\***

\$0

Line 55

6. MAINTAIN AND MONITOR THE GROUNDWATER AND/OR SURFACE WATER MONITORING SYSTEM.

\$10,290

Line 81

**TOTAL POST CLOSURE COSTS FOR ONE YEAR**

**\$35,520**

Line 82



**ESTIMATED POST-CLOSURE COSTS**

	Year 1	% of Year 1 Cost	Year 2-10	% of Year 1 Cost	Year 11-20	% of Year 1 Cost	Year 21-30
Cap Maintenace	\$ 17,390	75%	\$ 13,043	50%	\$ 8,695	50%	\$ 8,695
Leachate Disposal	\$ 7,840	100%	\$ 7,840	100%	\$ 7,840	100%	\$ 7,840
Gas System Operations	\$ -	100%	\$ -	100%	\$ -	100%	\$ -
Groundwater	\$ 10,290	100%	\$ 10,290	100%	\$ 10,290	100%	\$ 10,290
	\$ 35,520		\$ 280,553		\$ 268,250		\$ 268,250

**TOTAL FOR 30 YEARS****\$ 852,573**