Geosyntec consultants

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29 August 2011

Mr. Harold Singer
Executive Officer
California Regional Water Quality Control Board
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: Response to Comments
Corrective Action Cost Estimate
Known or Reasonable Foreseeable Releases
Nursery Products Hawes Composting Facility
San Bernardino County, California

Dear Mr. Singer

On behalf of Nursery Products, Geosyntec Consultants Inc., (Geosyntec) has revised the Corrective Action Cost Estimate (CACE) for Known or Reasonably Foreseeable Releases to address comments made by the Lahontan Regional Water Quality Control Board in their 7 April 2011 letter regarding the 1 February 2011 CACE prepared by Geosyntec. The Water Board comment or a synopsis of the comment from the referenced letter is presented below in italics, followed by a response to the comment in bolded plain text.

Surface Impoundment

Rather than assuming that all leaks will be detected and intercepted by lysimeters, it is more reasonable to assume that a leak will only be detected at closure of the units and that it will travel vertically at least 7.5 feet with a commensurate lateral spread.

Response: The enclosed CACE assumes that a leak will be detected at closure of the units and that one release from each surface impoundment will travel vertically 7.5 feet with a commensurate lateral spread.

The CACE should be revised to include provisions for removal and disposal of affected soils and subsequent monitoring based on at least one release from each Surface Impoundment.

Response: The enclosed CACE assumes sampling and analysis and removal and disposal of affected soil from one release from each surface impoundment.

The CACE assumes only one documented leak at one Surface Impoundment. No justification for such an assumption was provided.

Response: The enclosed CACE provides justification for the assumptions

<u>Compost Pad</u>

A more reasonable scenario would be that releases would be detected at closure of the facility in multiple locations.

Response: The enclosed CACE assumes that releases would be detected at closure of the facility at multiple locations.

At closure, it will be necessary to sample the entire 80-acre pad on a grid, along with any areas that visually indicate a release. Depth-specific and lateral sampling should be addressed, either as part of the grid sampling or on an iterative basis if initial near-surface samples indicate a release.

Response: The enclosed CACE assumes that the identification of releases would be performed by sampling the entire active composting area (80-acre site, less the area of the surface impoundments, berms, and administrative areas) on a grid along with areas that visually indicate a release. Depth-specific sampling has been outlined, with additional vertical or lateral sampling on an iterative basis if initial near-surface samples indicate a release.

<u>General Comment</u>

It is not necessary for Nursery Products to estimate costs for rebuilding containment units or for including these activities in the CACE. Many of the tasks and costs in the recently submitted CACE can be omitted.

Response: The enclosed CACE does not contain any description or costs associated with rebuilding the containment units.

Some of the affected soils should be handled as designated waste similar to the surface impoundment liners at closure.

Response: The enclosed CACE includes provisions for disposal of all affected soil at the South Yuma County Class II landfill in Arizona. The South Yuma County Class II landfill is permitted to accept designated waste.

Geosyntec consultants

Nursery Products must validate that the analysis conducted to delineate the area of soils affected by a release is sufficient to also characterize those soils that may be suitable for Class III disposal.

Response: Since the CACE includes provisions for disposal of all affected soil at the South Yuma County Class II landfill in Arizona, validation for disposal at a Class III landfill is not necessary. Appendix A of the CACE includes documentation for acceptance of biosolids and biosolids mixed with green material, which is routinely accepted at the site. The analysis described in the CACE to be conducted to delineate the area of soil affected by a release will be sufficient for disposal characterization at a Class II landfill.

Even if it is demonstrated that contaminated soils may be disposed of at a local Class III landfill, it appears that the cost estimates for disposal of this material is based on finished compost…Nursery Products must validate the disposal costs estimates for this contaminated soil.

Response: The enclosed CACE includes provision for disposal of all affected soil at the South Yuma County Class II landfill in Arizona. Validation for disposal at a Class III landfill is not necessary and has not been included.

CLOSURE

The revised CACE is enclosed. Please contact Chris Seney at (760) 272-1224 if you have any additional questions.

Sincerely,

Jennifer L. Nevius

Jennifer L. Nevius, R.C.E. 64932
Project Engineer

Enclosure

Prepared for

Nursery Products, LLC
12277 Apple Valley Road, Suite 131
Apple Valley, CA 92308

CORRECTIVE ACTION COST ESTIMATE KNOWN OR REASONABLY FORESEEABLE RELEASES HAWES COMPOSTING FACILITY

Prepared by

Geosyntec consultants

engineers | scientists | innovators

10875 Rancho Bernardo Rd, Suite 200
San Diego, California 92127

Project Number SC0554

August 2011

Geosyntec consultants

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26 August 2011

Mr. Chris Seney
Nursery Products, LLC
12277 Apple Valley Road, Suite 131
Apple Valley, California 92308

Subject: Corrective Action Cost Estimate
Known or Reasonable Foreseeable Releases
Nursery Products Hawes Composting Facility
San Bernardino County, California

Dear Mr. Seney:

Geosyntec Consultants Inc., (Geosyntec) has reviewed and revised the attached Corrective Action Cost Estimate (CACE) for Known or Reasonably Foreseeable Releases. This document was revised in response to comments made by the Lahontan Regional Water Quality Control Board as presented in their letter dated 7 April 2011 on the CACE prepared Geosyntec dated 1 February 2011.

I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this CACE for the Nursery Products Hawes Composting Facility and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information; I believe the information is true, accurate, and complete. My seal as a registered professional engineer licensed in the State of California is affixed below.

Please contact me at (858) 705-5273 if you have any questions.

Sincerely,

Jennifer L. Nevius, R.C.E. 64932
Project Engineer

CACE Certification.doc

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1. INTRODUCTION

This Corrective Action Cost Estimate (CACE) has been prepared for the Nursery Products Hawes Composting Facility (HCF) in San Bernardino County, California (Site). This CACE has been prepared in accordance with California Code of Regulations Title 27 (27 CCR) §22101 to provide a budgetary cost that responds to Known or Reasonably Foreseeable Releases (KRFR) from the HCF. This estimate was prepared to address the requirements of the Lahontan Regional Water Quality Control Board (RWQCB) Order No. R6V-2010-0010 (Board Order) (RWQCB, 2010).

This updated CACE revises the 1 February 2011 CACE prepared by Geosyntec Consultants, Inc. (Geosyntec) (2011a). Revisions were made to the CACE to address review comments made by the Lahontan Regional Water Quality Control Board (RWQCB) transmitted in their letter dated 7 April 2011 (RWQCB, 2011). Additionally, this CACE has been simplified and refers the reader to the facility Report of Waste Discharge (ROWD) (URS, 2009), and the Board Order for a detailed description of the Site features.

This CACE was prepared by Geosyntec for the use of Nursery Products. Specifically, this plan was prepared by Jennifer Nevius, P.E., and reviewed by Mr. Veryl Wittig, P.G., C.Hg., of Geosyntec in accordance with the peer review policy of the firm.

1.1 <u>Purpose</u>

The purpose of this CACE is to identify KRFR from the HCF and prepare cost estimates pursuant to 27 CCR §22101(c)-(f) for the KRFR to establish financial assurance for potential corrective action. Implementation of activities in response to any actual release would be conducted following confirmation of a release and under the direction of the RWQCB. Additional financial assurance has been provided separately for closure of the facility in the approved Preliminary Closure and Post-Closure Maintenance Plan for the facility (Nursery Products, 2011).

2. REASONABLY FORESEEABLE RELEASE SCENARIOS

Based on the facility design, regional environmental conditions, site-specific geologic and hydrogeologic characteristics, regulatory guidance, and planned operational activities, the following reasonably foreseeable release scenarios have been developed to address the surface impoundments and the waste pile and to develop estimated costs for third party corrective action at the site.

2.1 Surface Impoundment Release Scenario

Under this reasonably foreseeable release scenario, soil sampling at the time of closure indicates one leak in each surface impoundment which has affected soil in the vadose zone. This scenario is reasonably foreseeable because the impoundment liners must be inspected regularly and repaired or replaced as necessary. In addition, the liners are underlain by leak detection monitoring sumps and the vadose zone monitoring system (lysimeters) below the lowest point of the surface impoundments.

Unsaturated flow modeling using the computer program HYDRUS was performed for the surface impoundments, incorporating the site's natural climatic and geologic conditions, the significant depth to groundwater, and the proposed facilities as presented in the ROWD (URS, 2009).

The unsaturated flow modeling referenced for the surface impoundments included the following extremely conservative assumptions:

- A subsurface profile consisting of silty sand – (which neglects the presence of low permeability clayey lenses).
- Continuously full and completely full impoundments – (which neglects evaporation, potential removal of water for use as dust control at the site, and required removal of any water within 30 days as set forth in numerous permits).
- Impoundments leaking continuously (which neglects monitoring and maintenance of the engineered liner).

The modeling in the ROWD indicated that infiltration to groundwater from a potential leak in the lined surface impoundment would take in excess of 1,300 years. Based on the modeling results, it is reasonable to assume that if the surface impoundment were to leak, the leak would be identified long before the release reached groundwater.

Therefore, impacts to groundwater are not considered reasonably foreseeable and this scenario only considers corrective action for the unsaturated zone.

2.1.1 Extent of Impacts

To evaluate the extent of impacts of a release scenario identified at closure, it is important to consider the on-going surface impoundment monitoring requirements. Routine monitoring during operations is performed to identify and evaluate any releases that may be discovered. The monitoring requirements will result in an increased frequency of liner repair and reduced potential for ongoing leakage.

2.1.1.1 Monitoring Requirements

The following monitoring activities are required by the Board Order in association with the surface impoundments:

- The surface impoundment dikes and liners must be visually monitored monthly to determine if there are any indications of loss of integrity.

- The leak detection monitoring sumps, located below the lowest point of each surface impoundment must be monitored weekly for the presence of liquids.

- The unsaturated zone beneath the surface impoundments is proposed to be monitored by lysimeters located below the lowest point of each surface impoundment. The unsaturated zone is required to be monitored quarterly for the presence of liquids.

The potential leak scenario would require simultaneous or overlapping damage to both the Geosynthetic Clay Liner (GCL) and the High Density Polyethylene (HDPE) geomembrane. Because the GCL is "self repairing" for small holes, (because the bentonite clay within the GCL hydrates to seal the small hole), the damage would need to be large enough to result in leakage through the geomembrane and GCL. Holes up to 75 millimeters in diameter in GCL will repair themselves (EPA, 2001); therefore, the potential hole diameter is assumed to be 76 millimeters (3 inches).

For the purposes of the scenario, one leak per surface impoundment has been assumed considering the following:

- Holes greater than three inches would be observed during the required routine visual inspections and repaired during operations.

- Leaks below the lowest part of each surface impoundment would be identified in either the leak detection monitoring sumps or the lysimeters during the required routine inspections and repaired during operations.

2.1.1.2 Scenario Impacts

Considering the results of the unsaturated flow modeling presented in Appendix F of the ROWD, and the comments provided in the 7 April 2011 RWQCB letter, the assumed infiltration depth of a leak from each of the surface impoundments is 7.5 feet (ft) with a commensurate lateral spread extending downward with an inclination of 1:1 from the point of origin.

Under the corrective action scenario, the affected soil would be delineated, characterized, and removed and replaced. To develop the costs for the corrective action, it was assumed that during closure, following removal of the liner system, soil samples would be collected in the vicinity of the potential leak at 5 ft and 7.5 ft below the liner of each surface impoundment. It is further assumed that subsequent sampling could be performed if needed, during the same mobilization. During sampling, the excavated materials would be logged in accordance with American Society for Testing and Materials (ASTM) Test Standard D2488.

In this scenario, analytical testing would be performed on the soil samples for the analytes presented in Table 3 of the Board Order for the annual soil monitoring. The results of the analytical testing on the soil samples would be compared to background soil analyte concentrations to determine if there was a measurably significant release and the depth of impacts. For the purposes of this CACE, it is assumed impacts are detected in samples collected from 5 ft below the liner, and a sample with no impacts is collected at 7.5 feet below the liner. Therefore, the excavation would extend to a depth of 7.5 ft below the surface impoundment in the area of the leak. For the cost estimate, 8 samples will be tested for the annual monitoring parameters and 2 samples will be tested for the five year constituents of concern. The scenario rationale for analytes and testing frequency is based on the monitoring program outlined in Table 3 of the Board Order. More samples are tested for the annual monitoring parameters, as those are more likely constituents to be detected, and some of those samples are also tested for the full suite of constituents of concern. In our experience, the analysis conducted to delineate the area of soil affected by a release would be sufficient for disposal characterization at a Class II landfill.

2.1.2 Corrective Action

The corrective action scenario would remove and replace the affected soil and the impacted soil would be disposed offsite at an appropriate waste management unit. A total excavation volume of 250 cubic yards (cy) of soil is assumed based on excavating a 15 ft square base at a depth of 7.5 ft with 1:1 excavation side slopes beneath each surface impoundment. For the purposes of this cost estimate, these soil are assumed to be transported to and disposed of at the Class II South Yuma County Landfill in Yuma, Arizona. Non-impacted soil would be replaced and compacted in the excavation. The soil replacement would be documented in accordance with the an approved Construction Quality Assurance (CQA) Plan for closure, and similar to the CQA procedures for facility construction outlined in the ROWD (URS, 2009). Additional cost for earthwork construction observation and reporting has been included in the cost estimate.

2.2 <u>Waste Pile Release Scenario</u>

Under this reasonably foreseeable release scenario, soil sampling at the time of closure would indicate releases from the waste pile at multiple locations which has affected soil in the vadose zone. This scenario is reasonably foreseeable because the waste pile must be monitored regularly and replaced as necessary.

Unsaturated flow modeling using the computer program HYDRUS was performed for the waste pile, incorporating the site's natural climatic and geologic conditions, the significant depth to groundwater, and the proposed facilities as presented in the ROWD (URS, 2009).

The unsaturated flow modeling referenced for the waste pile included the following extremely conservative assumptions:

- A subsurface profile consisting of silty sand – (which neglects the presence of low permeability clayey lenses).
- A range of permeability and unsaturated hydraulic parameters for the silty sand (which again neglects the known areas of lesser permeability characteristics).

The modeling indicated that infiltration to groundwater which is located at greater than 300 feet below ground surface from the waste pile would take in excess of 450 years for the most conservative model evaluated. Based on the modeling results, it is reasonable to assume that a release would be identified long before the release reached groundwater. Therefore, impacts to groundwater are not considered reasonably foreseeable and this scenario only considers corrective action for the unsaturated zone.

2.2.1 Extent of Impacts

To evaluate the extent of impacts of a release scenario identified at closure, it is important to consider the waste pile monitoring requirements. Routine monitoring during operations is performed to reduce the potential for releases by addressing issues on a much more frequent basis. These monitoring requirements increase the frequency of liner repair and would reduce the potential for ongoing leakage.

2.2.1.1 Monitoring Requirements

Prior to operations, a statistically valid analytical data set will be developed for the native site soil to determine background concentrations and to provide a basis for comparison for determining whether a measurably significant release from the facility has occurred for the monitoring parameters and constituents of concern listed in Table 3 of the Board Order.

As required by the Board Order, soil samples will be collected annually at a minimum of 10 locations within the waste pile footprint to a depth of 18 inches at 6 inch intervals. These soil samples will be analyzed for eleven monitoring parameters annually and thirty-eight additional constituents of concern every five years. This analytical data will evaluate the potential impact of the waste pile on the native soil.

The quantity of analytical data will increase with the operational life of the facility and will help to establish a statistically valid data set for comparison of the closure testing results. For example, over an assumed 30-year operational period, at least 300 samples would be tested, equating to about 4 samples per acre over the approximately 70-acre area of active composting (80-acre site, less the area of the surface impoundments, berms, and administrative areas).

In addition, the routine monitoring of the waste pile would identify areas which require repair and remediation during operation. The annual monitoring required for the waste pile also requires repair when the soil sample from 12 inches below finished grade indicates a measurably significant release. Therefore, it was assumed that only some portion of the waste pile would be affected at the time of closure.

2.2.1.2 Scenario Impacts

The extent of impacts for this scenario will be determined based on sampling the entire waste pile on a grid and sampling other areas if visual evidence of a release is found. Discrete soil samples from areas that visually indicate a release would be tested. Samples collected from the grid would be tested in an iterative approach.

For the purposes of developing the cost estimate, the sampling and testing program for the waste pile considers the following:

- 5 areas visually indicating a release, and sampling lateral grid spacing of approximately 200 feet across the waste pile, resulting in approximately 66 initial grid sampling locations and a total of 71 waste pile sampling locations (approximately one per acre of active composting area).

- Collecting 3 samples at each of the lateral sampling locations at 6-inch depth increments to a depth of 18 inches vertically.

- Compositing of the 6-inch depth samples from two adjacent lateral grid sampling locations for approximately 33 composite samples.

- Performing initial analytical testing on a total of 38 (33+5) samples for the tested for the annual monitoring parameters listed in Table 3 of the Board Order as indicators of potential constituents of concern.

- Testing 14 of those 38 samples for the constituents of concern listed in Table 3 of the Board Order with a five year monitoring frequency.

- Subsequent analytical testing of up to 32 additional samples, either deeper from the initial sampling locations and/or on a finer grid spacing for delineation of the extent of impacts. Samples assumed to be tested for the annual monitoring parameters listed in Table 3 of the Board Order.

The scenario rationale for analytes and testing frequency is based on the monitoring program outlined in Table 3 of the Board Order. More samples are tested for the annual monitoring parameters, as those are more likely constituents to be detected above background for composting operations, and some of those samples are also tested for the full suite of other constituents of concern. For the purposes of the cost estimate, the sampling and testing will occur on an iterative basis and additional sampling will be performed, both laterally and vertically as warranted by the results to develop a statistically valid data set.

2.2.2 Corrective Action

The corrective action scenario outlined herein will remove the affected soil from multiple areas of the waste pile and dispose it offsite at an appropriate waste management unit. The scenario assumes that routine monitoring of the facility and some portion of the waste pile would be affected at the time of closure.

This scenario relies upon the higher extent of testing to at closure combined with the results of routine testing and as needed repair during operations. These requirements will reduce the amount of soil requiring disposal if a release is discovered at closure. A total disposal volume of 2,420 cy of soil is assumed, with a commensurate amount of earthwork to refine site grades. This excavated soil volume is roughly equivalent to 12 inches of excavation over a total of one and a half acres, but it is acknowledged that it would be more likely to be distributed over multiple potentially affected areas to variable depths.

Although some affected soil materials removed could have potential beneficial reuses such as for agricultural purposes or for cover at a landfill, for the purposes of this cost estimate, the impacted soil materials are assumed to be transported to and disposed at the Class II South Yuma County Landfill in Yuma, Arizona. The excavated areas will be regraded and documented in accordance with the an approved CQA Plan for closure, and similar to the CQA procedures for facility construction outlined in the ROWD (URS, 2009). Additional cost for earthwork construction observation and reporting has been included in the cost estimate.

3. FINANCIAL ASSURANCE

Table 1 summarizes the corrective action cost estimates for the reasonably foreseeable release scenario described herein for the surface impoundments and the waste pile upon closure of the facility. The estimated costs are intended to serve as a conservative approximation of typical industry costs to address the presented theoretical reasonably foreseeable release scenario. Appendix A presents reference information used to develop the KRFR cost estimate.

The estimated cost for a third party to perform the corrective action in accordance with 27 CCR §22220 is $289,300 in 2011 dollars. Nursery Products will prepare and submit to the RWQCB a letter of credit to cover the corrective action cost estimate. The cost estimate will be reviewed and updated every year or as necessary to reflect changing site and/or market conditions, and the RWQCB will be identified as the beneficiary of the corrective action funding mechanism.

4. REFERENCES

EPA, 2001. Geosynthetic Clay Liners Used in Muncipal Solid Waste Landfills EPA530-F-97-002.

Geosyntec, 2011a. "Corrective Action Cost Estimate, Known or Reasonably Foreseeable Releases, Hawes Composting Facility," dated 1 February.

Geosyntec, 2011b. "Final Design Plan, Construction Quality Assurance Plan & Technical Specifications, Hawes Composting Facility," dated 25 May.

Nursery Products, 2011. Nursery Products Hawes Composting Facility, Preliminary Closure & Post-Closure Maintenance Plan, Third Revision, dated January.

RWQCB, 2011. Comments on Revised Corrective Action Cost Estimate, Known or Reasonably Foreseeable Releases (February 2011), Nursery Products Hawes Composting Facility, San Bernardino County. RWQCB letter dated 7 April.

RWQCB, 2010. Board Order No. R6V-2010-0010, WDID No. 6B360903006, Waste Discharge Requirements and Monitoring and Reporting Program for Hawes Composting Facility. Adopted March 2010.

URS, 2009. Report of Waste Discharge, Nursery Products Hawes Composting Facility, San Bernardino County, California. April, Revised July 2009.

TABLES

Table 1 - Corrective Action Cost Estimate for Known or Reasonably Foreseeable Releases

Surface Impoundments and Waste Pile

Nursery Products Hawes Composting Facility

ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)	NOTES
Surface Impoundments					
Soil sampling to identify potential releases at closure	0.5	DAYS	$ 4,350	$ 2,175	Includes time for sampling and field expenses. Unit cost assumes average environmental consulting hourly rate at $100/hour and that the sampling will be performed with a direct push rig. Includes consultant and driller mobilization and per diem expenses.
Analytical testing of soil samples - 5 year monitoring parameters	2	EA	$ 1,000	$ 2,000	Cost estimate for the analytical testing for soil samples for the five year analytes in Table 3 of the Board Order.
Analytical testing of soil samples - annual parameters	8	EA	$ 315	$ 2,520	Cost estimate for the analytical testing for soil samples for the annual analytes in Table 3 of the Board Order.
Soil excavation	250	CY	$ 1.25	$ 313	Unit cost for grading of a small area with conventional earthmoving equipment. Excavating 7.5 ft depth, 15 ft by 15 ft width with 1:1 excavation side slopes below each surface impoundment.
Transportation and disposal of soil	410	TONS	$ 50.00	$ 20,500	Assumes a unit weight of soil of 120 pounds per cubic foot. Cost for transportation ($27.50) and disposal ($22.50) of excavated soil at the South Yuma County Class II Landfill in AZ, approximately 310 miles from HCF.
Import of fill materials	250	CY	$ 2.00	$ 500	Cost for transportation of soil fill material from other portions of the property. Assumed unit cost is 65% of transportation cost to local landfill. Material at no cost.
Grading and compaction	250	CY	$ 2.25	$ 563	Unit cost for grading of a small area with conventional earthmoving equipment.
Waste Pile					
Soil sampling to identify potential releases at closure	2.5	DAYS	$ 4,350	$ 10,875	Includes time for consultant sampling and field expenses. Unit cost assumes average environmental consulting hourly rate at $100/hour and that the sampling will be performed with a direct push rig. Quantity assumes an approximate 200-foot grid spacing for closure sampling. Includes consultant and driller mobilization and per diem expenses.
Analytical testing of soil samples - annual and 5 year monitoring parameters	14	EA	$ 1,000	$ 14,000	Cost estimate for the analytical testing for soil samples for the five year analytes in Table 3 of the Board Order.
Analytical testing of soil samples - annual parameters	70	EA	$ 315	$ 22,050	Cost estimate for the analytical testing for soil samples for the annual analytes in Table 3 of the Board Order. Quantity assumes initial sampling on an approximate 200-foot grid spacing for closure sampling and subsequent monitoring for further delineation.
Soil excavation	2,420	CY	$ 1.25	$ 3,025	Unit cost for grading of a small area with conventional earthmoving equipment. Excavating multiple small areas with the total volume shown.
Transportation and disposal of soil	3,930	TONS	$ 50.00	$ 196,500	Assumes a unit weight of soil of 120 pounds per cubic foot. Assumes the material classifies as Class II waste. Cost for transportation ($27.50) and disposal ($22.50) of excavated soil at the South Yuma County Class II Landfill in AZ, approximately 310 miles from HCF.
Grading and compaction	2,420	CY	$ 2.25	$ 5,445	Unit cost for grading of a small area with conventional earthmoving equipment.
General					
Additional earthwork observation and closure reporting	1	LS	$ 8,800	$ 8,800	Assumes 25 additional hours of soil technician at $100/hour plus expenses and consultant time at an average environmental consulting hourly rate of $150 for 40 hours. Additional earthwork observation and reporting costs are included in the closure financial assurance cost estimate.

Total Cost: $ 289,300

APPENDIX A

Reference Information

Terra Renewal

Greenology at Work

The world is more aware of "green" solutions than ever before. Greenology at Work describes our environmental leadership – and our ability to provide planet-friendly answers to organic waste questions.

Welcome to TERRA renewal

Our website is designed to quickly and easily get you the information you need to learn more about us. If you're a **food processor**, a **municipal water or wastewater treatment facility**, a **family-owned restaurant**, or an **energy company** with a need to dispose of fluids and other waste, we have low-cost solutions for your liquid and semi-solid waste needs.

We collect, store, transport, recycle, reuse, dispose of fluids and other waste, we have low-cost solutions for your liquid and semi-solid waste needs.

- Commercially generated wastewater
- DAF skimmings
- Scrap food/condiment products
- Contents of municipal and industrial lagoons
- Yellow and brown cooking oil
- Grease trap waste
- Cuttings and fluids generated by energy exploration

We are exactly the partner your company requires – from offering 24-hour disposal services to working as part of your project team as needed. And, in every case, we'll develop the exactly-right methods to meet your specific needs.

Call us if we can serve you! **800-711-0637**.

From: Chris Seney
To: Jennifer Nevius;
Subject: FW: Quote
Date: Monday, January 03, 2011 4:58:52 PM

-----Original Message-----
From: Chris Marks [mailto:Chris.Marks@terrarenewal.com]
Sent: Monday, January 3, 2011 4:22 PM
To: nurseryproducts@charter.net
Subject: Quote

Chris,

The price for transportation of 5,000 tons from Hinkley to Yuma is $27.50/ton.

Thx

Chris Marks
714.799.0801
Terra Renewal Services
http://www.terrarenewal.com/

TERRA
renewal

SOUTH YUMA COUNTY LANDFILL
EPA#AZR000506980 A CERCLA APPROVED FACILITY
19536 S. AVE 1E, YUMA, AZ 85366
(928) 341-9300

WASTE PROFILE #
C-373

GENERATOR WASTE PROFILE SHEET

I. GENERATOR INFORMATION		DATE: 12/9/10
GENERATOR NAME: NURSERY PRODUCTS COMPOST FACILITY		
GENERATOR SITE ADDRESS: 14479 COUGAR RD		
CITY: HELENDALE	COUNTY: SAN BERNARDINO	STATE: CA ZIP: 92342
GENERATOR MAILING ADDRESS: 647 CAMINO DE LOS MARES, #108-174		
CITY: SAN CLEMENTE	COUNTY: ORANGE	STATE: CA ZIP: 92673
GENERATOR CONTACT NAME: CHRIS SENEY		
PHONE NUMBER: 760-272-1224	FAX NUMBER: 949-366-2117	

II. TRANSPORTER INFORMATION

TRANSPORTER NAME: TERRA		
TRANSPORTER ADDRESS: 12812 VALLEY VIEW		
CITY: GARDEN GROVE	COUNTY: ORANGE	STATE: CA ZIP: 92845
TRANSPORTER CONTACT NAME: JOEL SANTOS		
PHONE NUMBER: 310-466-8115	FAX NUMBER: 714-799-0140	

III. WASTE STREAM INFORMATION

NAME OF WASTE: BIOSOLIDS / BIOSOLIDS MIXED WITH GREEN WASTE					
PROCESS GENERATING WASTE: SECONDARY DIGESTED SLUDGE / COMPOST					
TYPE OF WASTE:	INDUSTRIAL WASTE	OR	POLLUTION CONTROL WASTE (circled)		
PHYSICAL STATE:	SOLID (circled)	SEMI-SOLID	LIQUID	OTHER:	
METHOD OF SHIPMENT:	BULK (circled)	DRUM	BAGGED	OTHER:	
ESTIMATED ANNUAL VOLUME:		CUBIC YARDS:		5000 TONS	
FREQUENCY:	ONE TIME ONLY (circled)		WEEKLY	MONTHLY	
SPECIAL HANDLING INSTRUCTIONS:					

IV. REPRESENTATIVE SAMPLE CERTIFICATION

IS THE REPRESENTATIVE SAMPLE COLLECTED TO PREPARE THIS PROFILE AND LABORATORY ANALYSIS COLLECTED IN ACCORDANCE WITH U.S. EPA AND 40 CFR 261.2 (C) GUIDELINES OR EQUILAVENT RULES?			YES (circled) NO
SAMPLE DATE:	CHECK ONE:	COMPOSITE SAMPLE	GRAB SAMPLE (circled)
SAMPLERS EMPLOYER: NURSERY PRODUCTS			
SAMPLERS NAME (PRINTED): CHRIS SENEY	SIGNATURE: [signature]		

WASTE PROFILE #

% BY WEIGHT (RANGE)

V. PHYSICAL CHARACTERISTICS OF WASTE

CHARACTERISTIC COMPONENTS

1. BIOSOLIDS / GREEN MATERIAL 100
2.
3.
4.

Color	Odor (describe)	Free Liquids	% Solid	Ph:	Flash Point:	Phenol
BLACK	SLIGHT	YES (NO) Content: %	15-80	6-9	NA	ND ppm

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet)
Including Required Parameters provided for this profile

Does this waste or generating process contain regulated concentrations of the following pesticides and/or herbicides: Chlordane, Endrin, Hepachlor (and its epoxides), Lindane, Methoxychlor, Texaphene, 2.4-D.2,4.5,-TP Silvex as defined in 40 CFR 261.33?	YES	NO
Does this waste or generating process cause it to exceed OSHA exposure limits from high levels of Hydrogen Sulfide or Hydrogen Cyanide as defined in 40 CFR 261.23?	YES	NO
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCB's) as defined in 40 CFR Part 761?	YES	NO
Does this waste contain regulated concentrations of 2,3,7,8- tetrachlorodienzodioxin (2,3,7,8-TCCD) or any other dioxin as defined in 40 CFR 261.31?	YES	NO
Is this a hazardous waste as defined by 40 CFR Part 261 or ARS 49-921?	YES	NO
Is this radioactive waste as defined by federal or state regulations?	YES	NO
Is this a regulated medical or infectious waste as defined by federal or state regulations?	YES	NO
Is this waste generated at a Federal Superfund clean-up site?	YES	NO

VI. GENERATOR CERTIFICATION

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself or any other employees of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic, hazardous waste, medical or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

CHRIS SENEY OPS MGR
AUTHORIZED REPRESENTATIVE NAME & TITLE (PRINTED)

NURSERY PRODUCTS
COMPANY NAME

[signature]
AUTHORIZED REPRESENTATIVE SIGNATURE

12/10/10
DATE

#22.50 per ton

VII. SOUTH YUMA COUNTY LANDFILL DECISION

(APPROVED) FAE REJECTED EXPIRATION 12/12/2011

CONDITIONS:

Remove air-cell pipe insulation with glove bags in semi-isolated work area (cont.)						
7" to 12" pipe	af@.168	LF	2.91	9.34	.72	12.97
Remove mag-block pipe insulation with glove bags in semi-isolated work area						
Using two 2 HP electric HEPA vacuums, miscellaneous power tools and small tools.						
1/2" to 4" pipe	af@.168	LF	2.18	9.34	.72	12.24
4" to 6" pipe	af@.194	LF	2.18	10.80	.83	13.81
7" to 12" pipe	af@.320	LF	2.91	17.80	1.38	22.09
Remove hand-packed asbestos plaster insulation from pipe fittings in semi-isolated work areas						
Using glove bags, using two 2 HP electric HEPA vacuums, miscellaneous power tools and small tools.						
1/2" to 4" pipe	af@1.00	Ea	6.84	55.60	4.30	66.74
4" to 6" pipe	af@1.07	Ea	6.84	59.50	4.60	70.94
7" to 12" pipe	af@1.60	Ea	10.30	89.00	6.88	106.18
Remove asbestos pipe and ductwork insulation in semi-isolated work areas						
Removed by the "cut, wrap and take" method, using two 2 HP electric HEPA vacuums, miscellaneous power tools and small tools.						
Pipe under 6" diameter	af@.085	LF	.47	4.73	.37	5.57
Metal duct under 12"	af@.107	LF	.38	5.95	.46	6.79
Remove asbestos board in semi-isolated work area						
Using small tools.						
Remove cement-asbestos transite board	ab@.015	SF	.03	.83	.01	.87
Remove asbestos millboard	ab@.020	SF	.02	1.11	.02	1.15
Remove asbestos siding in semi-isolated work area						
Using 40-ton hydraulic crane with 84' boom and small tools.						
Remove transite shingle siding	ah@.043	SF	.03	2.35	.94	3.32
Remove asbestos roofing in semi-isolated work area						
Using two 2 HP electric HEPA vacuums, miscellaneous power tools and small tools.						
Remove asbestos shingle roofing	af@.021	SF	.01	1.17	.09	1.27
CSI 02-210, Site grading						
CSI 02-210	Craft@Hrs	Unit	Material	Labor	Equip	Total
Using a Cat 12-G motor grader.						
Rough roadway clearing with grader, general area grading.	jm@.572	MSY	--	22.80	11.00	33.80
Subgrade, fine grading to + or - .1'	jm@.925	MSY	--	36.80	17.80	54.60
Cut and grade embankment, ditch to 3' (1m), slopes to 1 vertical in 2 horizontal	jm@1.60	MSY	--	63.60	30.70	94.30
Grading and compacting						
Based on 8" lifts and 3 passes at 5' wide, using a D-8L crawler tractor dozer with universal blade and a 25.5-ton towed vibrating sheepsfoot roller.						
Grade and compact large area with 300 HP dozer	gr@.012	CY	--	.62	1.52	2.14
Grading and compacting						
Based on 6" lifts and 3 passes at 5' wide, using a D-4H crawler tractor dozer with angle tilt blade.						
Grade and compact small area with 75 HP dozer	gk@.018	CY	--	.72	.44	1.16

Table 3- UNSATURATED ZONE - WASTE PILE
Monitoring Parameters and Constituents of Concern

Field Parameters	Units	Monitoring Frequency
Composting Pad Thickness	Inches	Annually
Sample Locations	Northing and Easting	Annually
Monitoring Parameters	**Units**	**Monitoring Frequency**
Aluminum	mg/kg	Annually
Antimony	mg/kg	Annually
Arsenic	mg/kg	Annually
Copper	mg/kg	Annually
Iron	mg/kg	Annually
Manganese	mg/kg	Annually
MBAS	mg/kg	Annually
Nickel	mg/kg	Annually
Nitrate as Nitrogen	mg/kg	Annually
Sulfate	mg/kg	Annually
TDS	mg/kg	Annually
Constituents of Concern	**Units**	**Monitoring Frequency**
Barium	mg/kg	Five Year
Beryllium	mg/kg	Five Year
Bicarbonate	mg/kg	Five Year
Boron	mg/kg	Five Year
Bromide	mg/kg	Five Year
Cadmium	mg/kg	Five Year
Calcium	mg/kg	Five Year
Carbonate	mg/kg	Five Year
Chloride	mg/kg	Five Year
Chromium (hexavalent)	µg/kg	Five Year
Chromium (total)	µg/kg	Five Year
Cobalt	mg/kg	Five Year
Fluoride	mg/kg	Five Year
Total Kjeldahl Nitrogen	mg/kg	Five Year
Lead	mg/kg	Five Year
Magnesium	mg/kg	Five Year
Mercury	mg/kg	Five Year
Molybdenum	mg/kg	Five Year
Nitrite (as Nitrogen)	mg/kg	Five Year
Orthophosphate Phosphorous	mg/kg	Five Year
Phosphate	mg/kg	Five Year
Potassium	mg/kg	Five Year
Selenium	mg/kg	Five Year
Silver	mg/kg	Five Year
Sodium	mg/kg	Five Year
Thallium	mg/kg	Five Year
Total Alkalinity	mg/kg	Five Year
Total Anions	mg/kg	Five Year
Total Cations	mg/kg	Five Year

Table 3- UNSATURATED ZONE - WASTE PILE, Continued

Constituents of Concern	Units	Monitoring Frequency
Total Phosphorus	mg/kg	Five Year
Vanadium	mg/kg	Five Year
Zinc	mg/kg	Five Year
VOCs	µg/kg	Five Year
SVOCs	µg/kg	Five Year
Organochlorine Pesticides	µg/kg	Five Year
Organophosphorus Pesticides	µg/kg	Five Year
Chlorinated Herbicides	µg/kg	Five Year
CCR, Title 22 Metals	mg/kg	Five Year

CCR = California Code of Regulations
MBAS = Methylene Blue Active Substances
µg/kg = Micrograms per kilogram
mg/L = Milligrams per kilogram
SVOC = Semi-Volatile Organic Compound
TDS = Total Dissolved Solids
VOC = Volatile Organic Compound