Nursery Products
Planting a Better Tomorrow

VIA ELECTRONIC MAIL

February 1, 2011

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 Reasonably Foreseeable Release Plan
Nursery Products Hawes Composting Facility

Dear Mr. Singer:

On December 8, 2010 Nursery Products received a letter from the California Regional Water Quality Control Board, Lahontan Region (Water Board) requesting clarification in regard to the Corrective Action Cost Estimate, Known or Reasonably Foreseeable Release Plan (KRFR Plan) for the Nursery Products Hawes Composting Facility (HCF). The latest Water Board letter included comments on topics not addressed in the previous written comment letter and on items not altered in the revised KRFR Plan reviewed under the December 8, 2010 letter. The Water Board previously provided comments on July 2, 2010 on the KRFR Plan submitted May 5, 2010 and the latest comments are on the revised KRFR Plan submitted August 13. This letter and the enclosed revised KRFR Plan addresses comments in the December 8, 2010 Water Board letter.

The Water Board's December 8, 2010 letter included seven comments regarding the KRFR Plan. These comments are summarized below with the corresponding response from Nursery Products:

1. COMMENT: The Plan submitted by Nursery Products focuses on repair of the waste management units containment structures while ignoring any potential adverse effect or threatened effect on water quality that would need to be addressed by this analysis and funding guarantee.

RESPONSE: Nursery Products disagrees that earlier versions of the KRFR Plan "ignored" any potential adverse effect or threatened effect on water quality, however the thrust of the comment requests an expanded analysis of the potential impacts from any identified damage from the waste management units. Nursery Products is apparently being held to a higher and different standard from other permittees in that Nursery Products reviewed KRFR Plans for similar facilities that have been approved by the Water Board. None of those plans included the detail in the release scenarios being required of Nursery Products. The enclosed revised KRFR Plan discusses repair of the waste management units containment structures and includes expanded discussion of any potential adverse effect or threatened effect on water quality that would result. See Sections 3 & 4 of the enclosed revised KRFR Plan.

2. COMMENT: The Plan does not include any rationale to support the contention that any foreseeable release would be limited in extent as depicted in the scenarios presented.

   RESPONSE: The enclosed revised KRFR Plan includes significant rationale to support the contention that any foreseeable release would be limited in extent including the permit requirements that limit the extent. The surface impoundments are addressed in sections 2.4.2 & 3.1 and the discussion includes the rationale in support of the conclusion that any foreseeable release would be limited in extent. The waste piles are discussed see sections 2.4.1 & 4.1 and the discussion includes the rationale in support the conclusion that any foreseeable release would be limited in extent.

3. COMMENT: Nursery Products is required to provide a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective actions. It is impossible to determine, based on the information submitted if the cost estimates are reasonable. This is due to the fact that Nursery Products has lumped significant actions and provided no basis for the cost estimates provided.

   RESPONSE: The enclosed revised KRFR Plan includes a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective actions. In Section 5.2, the tables and the appendix in the enclosed revised KRFR Plan the necessary steps are laid out in greater detail.

4. COMMENT: As presented, the Plan list assumptions without any clear rationale for how such assumptions were determined. Corresponding rationales for each assumption that explains how these assumptions are protective of water quality now and into the future must be stated. As submitted, Water Board staff cannot determine if these assumptions are acceptable for this Facility.

   RESPONSE: The enclosed revised KRFR Plan includes additional description of the rationale for the presented foreseeable release scenarios. The surface impoundments are discussed in section 3 and the waste pile in section 4. Assumptions within the enclosed revised KRFR Plan are more fully documented to aid the Water Board in following the logic of the analysis.

5. COMMENT: The pages of the Plan should be numbered and the Table of Contents should reflect the page numbers.

   RESPONSE: See the enclosed revised KRFR Plan. The pages have been numbered.

6. COMMENT: The last paragraph states that you will prepare and submit "a type of funding mechanism (financial instrument) to cover the corrective action" and total cost estimate. However, the cost estimate and Plan must specifically name which funding mechanism you have chosen.

   RESPONSE: Nursery Products will submit a letter of credit. See Section 5.2 of the enclosed revised KRFR Plan.

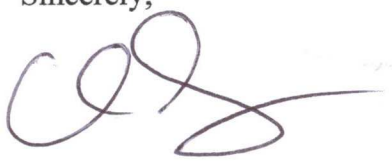
7. COMMENT: The submitted KRFR Plan neglects to include the stamp and signature of a qualified registered professional.

   RESPONSE: The enclosed revised KRFR Plan includes the stamp and signature of a qualified registered professional. See enclosed revised KRFR Plan.

By this letter, Nursery Products has fully responded to every comment by the Water Board regarding the KRFR Plan and attempted to resolve the issues raised by the Water Board. Nursery Products respectfully requests a prompt response from the Water Board approving the revised KRFR Plan for the HCF. As the enclosed revised KRFR Plan has not been altered except in specific response to Water Board comments, we would expect a prompt review and approval. We would appreciate your response by February 11, 2011.

If you have any questions, or if we can be of help in any way, please feel free to call me at 760-272-1224.

Sincerely,



Chris Seney, P.E.

Enclosures: KRFR Plan, Second Revision

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

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Project Number SC0554

February 2011

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1 February 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 originally prepared by Nursery Products, LLC (Nursery Products). This document was prepared in response to comments made by the Lahontan Regional Water Quality Control Board on the prior submittals for this CACE.

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

Geosyntec consultants

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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 required to respond to Known or Reasonably Foreseeable Releases (KRFR) from the HCF. This estimate and plan was prepared to address the requirements of the Lahontan Regional Water Quality Control Board (RWQCB) Order No. R6V-2010-0010 (Board Order).

The CACE was previously prepared by Nursery Products and submitted to the RWQCB on 5 May 2010. The RWQCB provided comments on the May 2010 CACE on 2 July 2010 and the CACE was subsequently revised and resubmitted 13 August 2010. The RWQCB provided comments on the revised CACE on 8 December 2010 (RWQCB 2010a). This CACE revises the CACE prepared by Nursery Products and addresses the RWQCB comments.

This CACE was prepared by Geosyntec Consultants, Inc. (Geosyntec) for the use of Nursery Products. This plan was prepared by Mss. Rebecca Flynn, P.E. and Jennifer Nevius, P.E., and reviewed by Ms. Jane Soule, P.E., all of Geosyntec in accordance with the peer review policy of the firm.

1.1 Purpose

The purpose of this CACE is to identify KRFR from the HCF and prepare cost estimates pursuant to 27 CCR §22101(c)-(f), for all KRFR described in this plan. The KRFR scenario with the highest estimated cost is used to determine the amount of financial assurance pursuant to 27 CCR §22221(b)(2). Implementation of activities in response to an actual release would be conducted following confirmation of a release and under the direction of the RWQCB.

1.2 Report Organization

This CACE is organized as follows:

- Section 2 presents a description of the Site features;
- Section 3 summarizes a reasonably foreseeable release for the surface impoundments;
- Section 4 summarizes a reasonably foreseeable release for the waste pile;

- Section 5 describes the release reporting requirements and the scenario selected for financial assurance; and
- Section 6 presents the references used to prepare this CACE.

2. SITE DESCRIPTION

The facility will recycle certain green materials and pre-treated biosolids into compost. Processed green material and biosolids are placed into windrows on a graded pad where they are processed into saleable compost. Detailed information regarding the Site and proposed operations is presented in the Report of Waste Discharge (ROWD) for the HCF (URS, 2009) and in the Board Order (RWQCB, 2010b). The following information is summarized from the Board Order.

2.1 Location

The Site is located west of Hinkley, California, approximately 10 miles west of Hinkley Road, 12.3 miles east of Kramer Junction, 1 mile south of State Route 58, and 1 mile west of Helendale Road. The Facility is on Assessor's Parcel Number 0492-021-24-0000 and is in the southeast quarter of Section 36, Township 10N, Range 5W, San Bernardino Baseline and Meridian.

2.2 Site Geology

The Site is underlain by medium-dense to very dense silty sand with gravel, poorly graded sand with silt and gravel, and clayey sand. At depth between 168 feet below ground surface (ft bgs) and 362 ft bgs, very dense soils were encountered. A laboratory permeability analysis conducted on a soil sample collected at approximately 235 ft bgs indicated a permeability of 3.7×10^{-9} centimeters per second (cm/s).

2.3 Site Hydrogeology and Hydrology

The Site is located in the Harper Valley Groundwater Basin which has present and potential beneficial uses for municipal and domestic, agricultural, and industrial service supply, and freshwater replenishment. The Basin contains three interconnected aquifers, the Centro floodplain aquifer, the Centro regional aquifer, and the Harper Lake regional aquifer. Groundwater flow in the regional aquifers is toward the north to northeast. As presented in the ROWD, the depth to groundwater was measured at approximately 305 ft bgs in one boring performed in March, 2009 (URS, 2009).

The Site is located approximately 8.5 miles northwest of the Mojave River and 7.5 miles south of Harper Dry Lake. The Site is not within the 100-year floodplain, but is within the 500-year floodplain.

2.4 Features

The HCF includes two stormwater basins regulated as Class II Surface Impoundments, and a composting pad regulated as a Class II Waste Pile. The waste pile is sloped such that all stormwater within the facility is collected in the two surface impoundments or in the bermed area.

2.4.1 Waste Pile

The engineered alternative liner for the waste pile is a compacted native soil liner, graded to drain to the surface impoundments, as presented in the ROWD (URS, 2009). This liner consists of a minimum of 12 inches of moisture conditioned native subgrade soil, compacted to a minimum relative compaction of 90 percent. Relative compaction is defined as the ratio of the in place dry density to the maximum density of a particular soil determined in accordance with American Society for Testing and Materials Test (ASTM) Test Standard D1557.

2.4.2 Surface Impoundments

The surface impoundments will retain stormwater that falls directly on them and runoff from the waste pile. The surface impoundments will be lined to prevent vertical migration of stormwater. A requirement in the HCF Conditional Use Permit (CUP) stipulates that the impoundments be emptied within 30 days of receipt of water. The engineered alternative presented for the surface impoundments liner system is a single composite liner presented in ROWD (URS, 2009). This liner system includes (from bottom to top, in order of construction):

- 6 inches of prepared compacted native subgrade which is moisture conditioned and compacted to 90 percent of the maximum dry density per ASTM Test Standard D1557;
- Leak detection monitoring sump under the lower-most part of each surface impoundment is filled with gravel above a composite liner of geosynthetic clay liner (GCL) and a 60-mil High Density Polyethylene (HDPE) liner;
- A GCL consisting of powdered bentonite clay with a hydraulic conductivity of less than 1×10^{-8} cm/s sewn in between two layers of synthetic fabric; and
- A 60-mil HDPE flexible membrane liner (FML) liner as the primary liner for the surface impoundments.

Consequently, this engineered alternative liner provides a hydraulic conductivity that is two orders of magnitude lower, or more protective of the environment, than the prescriptive liner requirements. The GCL would also help protect the vadose zone if a leak were to occur in the FML because the bentonite would hydrate and swell to "self-repair" a leak in the FML, mitigating the downward migration of water from the basin.

The surface impoundment design includes lined leak detection monitoring sumps immediately below the lowest portions of the surface impoundments and lysimeter sumps located 5 feet below the bottom of the surface impoundment. The leak detection sumps allow detection of the potential vertical migration of water and removal of a water sample for testing. The lysimeter is composed of, from bottom to top, a FML, cushion geotextile, 2 ft of gravel, and nonwoven filter geotextile. A 6-inch diameter HDPE pipe is installed within the gravel to contain moisture detecting equipment and allow for sampling and/or pumping of liquid from the lysimeter (URS, 2009).

3. SURFACE IMPOUNDMENT RELEASE SCENARIO

Based on the facility design, regional environmental conditions, historical site groundwater characteristics, and operational activities, the following reasonably foreseeable release scenario for the surface impoundments has been employed to develop cost estimates to remediate the Site following such an event.

3.1 Release Scenario

The vadose zone for each surface impoundment is monitored by a lysimeter, located approximately 5 feet below the bottom of the lined impoundment. The lysimeters are monitored for moisture on a weekly basis, and under this foreseeable release scenario, moisture is detected in the lysimeter, indicating a potential leak in the surface impoundment.

Based on the frequency of lysimeter monitoring (weekly), the CUP requirement to empty the surface impoundments after 30 days of receipt of water, and the site's natural climatic and geologic conditions which would limit water migration, the great depth to groundwater, and the unsaturated flow modeling presented in the ROWD, it is reasonable to assume that if the surface impoundment were to leak, that it would be identified long before the release reached groundwater. As the unsaturated flow modeling presented in the ROWD using the computer program HYDRUS (for completely full impoundments leaking continuously) indicated that infiltration to groundwater from a potential leak in the lined surface impoundment would take in excess of 1,300 years (URS, 2009), impacts to groundwater from this secnario are not considered reasonablely foreseeable. Therefore, this scenario only considers corrective action for the unsaturated zone.

3.2 Extent of Impacts

For a potential leak in the surface impoundments to occur would require damage to both the GCL and the HDPE geomembrane. Because the GCL is "self repairing" for small holes, as 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. GCL holes up to 75 millimeters will repair themselves (EPA, 2001); therefore, the hole size is assumed to be 76 millimeters (3 inches).

As presented in the ROWD, unsaturated flow modeling was performed for the composting pad and surface impoundments . The unsaturated flow model demonstrated that unsaturated flow is significantly less than the saturated flow (URS, 2009).

Saturated hydraulic conductivity testing of remolded shallow site soils, less than 5 feet, indicated an average permeability of 3.7 x 10^{-3} cm/s (URS, 2009). Assuming the damage occurring immediately after the last monitoring event, the liner would leak over a one week time period. Based on the hole diameter and the more conservative saturated flow assumption, the volume of water which would infiltrate is approximately 4 cubic feet (cf). Assuming a porosity of the underlying soil of 17 percent based on medium dense fine to coarse sand, the volume of soil beneath the surface impoundment liner system potentially impacted by the leak would be approximately 22 cf, or approximately 1 cubic yard (cy). This is a much smaller volume than would be excavated with conventional earthmoving equipment.

3.3 Corrective Action

The corrective action would occur in two phases: 1) characterizing and delineating the leak and repairing the liner system; and 2) based on results of analytical testing, removing and replacing the impacted soil. The first phase would occur immediately following the detection of the leak, and the second phase would occur when the surface impoundment liner was replaced or during closure. These theoretical corrective action phases are discussed in more detail in the following sections.

3.3.1 Release Delineation and Liner Repair

The affected surface impoundment would be taken off-line and the RWQCB would be notified verbally of the determination of the release. This verbal notification would be followed by written notification via certified mail within seven days of the determination of a release in accordance with the provisions of Section G(1)(a) of the Board Order.

After retrieving a sample for analytical testing, the water from the subject surface impoundment and lysimeter would be pumped into the other surface impoundment or other appropriate temporary storage tank. A temporary berm diverting stormwater runoff to the other surface impoundment would be constructed. Analytical testing of the water sample obtained from the lysimeter would be performed to characterize the liquid sampled. It is assumed that the liquid would be tested for the analytes presented in Table 1 of the Board Order for the surface impoundments.

Visual search for liner defect would proceed from the lowest point of the surface impoundment toward the edge closest to the lysimeter which detected the moisture. A thorough inspection would be performed to identify holes and/or damage which may

have resulted in the leak. Traffic on the impoundment liner would be limited to low ground pressure vehicles (if necessary) and foot traffic to protect the liner. Areas of concern identified by visual inspection would be tested by liner Construction Quality Assurance (CQA) personnel. If a "defect" in the HDPE liner is not found, the process would be repeated in the opposite direction until the "defect" is found.

When the "defect" is found, the HDPE liner would be over-cut around the defect 3 inches in each direction to inspect and repair the GCL. The GCL would be repaired using material remaining from construction of the surface impoundments in accordance with the CQA Plan presented in the ROWD (URS, 2009). The HDPE liner would then be repaired by patching using material remaining from construction of the surface impoundment followed by non-destructive testing in accordance with the CQA Plan (URS, 2009).

3.3.2 Impacted Material Removal and Replacement

Phase 2 would be implemented only if analytical testing of the liquid in the lysimeter sump performed during Phase 1 indicates the liquid contains concentrations of constituents indicative of impacts due to composting operations. To minimize damage to the liner system and limit the time of inavailability of the surface impoundment, sampling of the soil beneath the liner system would be postponed until the liner is replaced or closure of the Site. Allowing the material to remain in place for that period of time is reasonable due to the great distance to groundwater and because the source providing the pressure head will be removed by draining the lysimeter and the surface impoundment, inhibiting downward moisture migration.

At the time of liner replacement or during closure, following removal of the liner system components, three soil samples would be collected in the vicinity of the documented leak: one at the surface (0.5 ft bgs) immediately below the liner, one at 2.5 ft bgs, and one at 6 ft bgs, 1 ft below the lysimeter depth. During sampling, the boring/s would be continuously logged in accordance with ASTM Test Standard D2488.

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 statistically significant release and the depth of impacts. For the purposes of this CACE, it is assumed impacts are detected in samples collected from 2.5 ft bgs but not 6 ft bgs; therefore, the excavation would extend to a depth of 5 ft bgs to the top of the lysimeter.

The soil above the sump would be excavated, characterized, and disposed of offsite. A total of 300 cy of material is anticipated based on over-excavating the sump 5 ft on all sides at the base and 1:1 horizontal to vertical excavation side slopes. In this scenario, the impacted material meets analytical requirements as cover material at a nearby landfill, and the soil would be transported and disposed of offsite at a municipal solid waste landfill as cover. Non-impacted soil would be imported and compacted in the excavation. The soil replacement would be documented in accordance with the CQA Plan presented in the ROWD (URS, 2009).

4. WASTE PILE RELEASE SCENARIO

Based on the facility design, regional environmental conditions, historical site groundwater characteristics, and operational activities, the following reasonably foreseeable release scenario for the waste pile has been assumed to develop a cost estimate to remediate the Site following such an event.

4.1 Scenario

Nursery Products has analyzed the native background soils to determine background concentrations for the monitoring parameters and constituents of concern listed in Table 3 of the Board Order. Nursery Products submitted the background native soils report to the RWQCB on August 24, 2010. Additional results of analytical testing performed on near surface soil samples from the site were presented in the ROWD (URS, 2009).

As part of the Site monitoring, soil samples will be collected at 10 locations within the waste pile footprint annually to a depth of 18 inches at 6 inch intervals. The soil samples collected from the 6 inch depth will be analyzed to determine the concentrations of constituents of concern identified in Table 3 of the Board Order.

Under this foreseeable release scenario, one of the 10 waste pile sampling locations sampled during an annual sampling event resulted in the 6 inch sample indicating a release, and the 12 inch and 18 inch samples not indicating a release. Additional sampling was performed on samples laterally to determine the extent of the release.

As infiltration to groundwater, based on the most conservative unsaturated flow model for the waste pile, would take in excess of 450 years (URS, 2009), this scenario only considers corrective action for the unsaturated zone and does not consider an impact to groundwater as reasonably foreseeable.

4.2 Extent of Impacts

The extent of impacts for this scenario would be determined based on additional sampling and analytical testing performed as part of the corrective action. Based on the sloping pad grades and the unsaturated flow modeling presented in the ROWD, significant depth of infiltration is unlikely within the 1-year period between monitoring events, therefore, the assumption of impacts limited to the upper 6 inches is considered a reasonable scenario.

4.3 Corrective Action

Corrective action would be performed in two phases: 1) to delineate the extent of release; and 2) to remove and replace the impacted material and the soil liner. Both phases would occur immediately following the identification of the release. These theoretical corrective action phases are discussed in more detail in the following sections.

4.3.1 Release Delineation

Following detection of the potential release, the RWQCB will be notified and the area of the potential release taken offline. This verbal notification would be followed by written notification via certified mail within seven days of the determination of a release in accordance with the provisions of Section G(1)(a) of the Board Order.

The area of the release would be delineated by additional soil sampling laterally from the subject original sampling point indicating a release. These samples would be collected to a depth of 18 inches at 6 inch intervals. Under this foreseeable release scenario, the samples from a depth of 6 inches would be sent to an analytical testing laboratory and analyzed for the same constituent indicating a release and initiating the delineation activities. Under this scenario, analytical testing completed on eight additional sampling locations delineates an impacted area of one acre.

4.3.2 Impacted Material Removal and Replacement

The scenario assumes that one acre around the original sampling location would be excavated at a depth of 6 inches. The excavated material would be stockpiled on another portion of the waste pile until disposed. In this scenario, the impacted material meets analytical requirements as cover material at a nearby landfill, and the soil would be transported and disposed of offsite at a municipal solid waste landfill as cover. Non-impacted soil would be imported and compacted in the excavation. No composting will be done in the area until the waste pile liner is replaced to its original design specifications. The waste pile liner would be repaired by placing and compacting imported soil or native soil materials to match grades in the location prior to the removal. The liner repair will be consistent with the original liner design and documented in accordance with the CQA Plan presented in the ROWD (URS, 2009).

5. RELEASE REPORTING AND FINANCIAL ASSURANCE

5.1 Release Reporting

For either of the release scenarios described in Sections 3 and 4 of this report, 27 CCR and the Board Order outline the following reporting requirements.

Based on historical site data and the observations and data collected during the initial post-release site evaluation and, an Engineering Feasibility Study would be prepared within 180 days of determination of the release and submitted to the RWQCB in accordance with 27 CCR §20420(k)(6).

An amendment to the ROWD would be prepared within 90 days of determining that measurably significant evidence of a release from the unit exists, and would be submitted to the RWQCB to propose an Evaluation Monitoring Program (EMP) for the site in accordance with 27 CCR §20420(k)(5). Within 90 days of establishing a RWQCB-approved EMP, the delineation of the impacts at the site, as described in the previous sections, would be completed.

Upon completion of the corrective action, a Corrective Action Completion Report (CACR) would be prepared for submittal to the RWQCB.

5.2 Scenario Selected for Financial Assurance Demonstration

Tables 1 and 2 summarize the corrective action cost estimates for the reasonably foreseeable release scenarios for the surface impoundments and the waste pile, respectively. 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 for the cost estimates.

The theoretical release scenario for the waste pile represents the more expensive corrective action, and is therefore selected for demonstration of financial assurance. The estimated cost for a third party to perform the corrective action in accordance with 27 CCR §22220 is $70,300 in 2011 dollars. This cost includes 10 percent contingency. 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.

6. REFERENCES

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

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

RWQCB, 2010a. Addendum to Corrective Action Cost Estimate, Known or Reasonably Foreseeable Release, Hawes Composting Facility, San Bernardino, California. RWQCB comment letter dated 8 December.

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

TABLES

Table 1 - Surface Impoundment Corrective Action Cost Estimate
Nursery Products Hawes Composting Facility

ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)	NOTES
Phase One					
Written notification of the release to the RWQCB	20	HR	$ 150	$ 3,000	Assumes an average environmental consulting hourly rate of $150 to perform a site visit and sample and drain the sump and prepare the written notification.
Removing water and sediment from the affected surface impoundment	1	LS	$ 2,200	$ 2,200	Assumes rental of a pump and an average environmental consulting hourly rate of $150 for one day.
Construction of a temporary stormwater diversion berm to direct flow into other impoundment	400	CY	$ 2.00	$ 800	Assumes a 600 ft long x 3 ft high and 12 ft wide soil berm, compacted in place with conventional earthmoving equipment.
Analytical testing of liquid sampled from vadose zone monitoring sump	1	LS	$ 1,400	$ 1,400	Laboratory quote for analytical testing of water for the analytes in Table 1 of the Board Order.
Visual inspection, testing, and repair of HDPE and GCL liner	1	LS	$ 6,000	$ 6,000	Assumes $1,000 for mobilization of an inspection and repair crew (3 people), and $2,500 each for the inspection and repair over 2 days. Includes liner re-certification. Assumes geosynethtic liner materials are available onsite from the liner construction or provided by the repair crew.
Liner repair observation and CQA Report	16	HR	$ 250	$ 4,000	Assumes liner technician at an hourly rate of $100 and consultant time at an average environmental consulting hourly rate of $150.
Engineering Feasibility Study	60	HR	$ 150	$ 9,000	Assume average environmental consulting hourly rate of $150.
Amendment to the ROWD	60	HR	$ 150	$ 9,000	Assume average environmental consulting hourly rate of $150.
Phase One Corrective Action Completion Report	30	HR	$ 150	$ 4,500	Assume average environmental consulting hourly rate of $150.
Phase Two					
Additional soil borings during phase two to delineate extent of impact	10	HR	$ 375	$ 3,750	Assumes additional driller time and environmental consultant time during the closure site assessment.
Analytical testing of soils	3	EA	$ 1,600	$ 4,800	Conservative cost value for the analytical testing for soil samples for the analytes in Table 3 of the Board Order.
Soil excavation	300	CY	$ 1.25	$ 375	Unit cost for grading of a small area with conventional earthmoving equipment. Excavating 5 ft depth, 35 ft width with 1:1 excavation side slopes.
Transportation and disposal of soil	488	TONS	$ 14.81	$ 7,220	Assumes a unit weight of soil of 120 pounds per cubic foot. Cost for transportation ($3.00) and disposal as cover ($11.81) at the Barstow or Victorville Class III Landfill in CA, approximately 20 and 45 miles, respectively, from HCF.
Import of fill materials	300	CY	$ 2.00	$ 600	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	300	CY	$ 2.25	$ 675	Unit cost for grading of a small area with conventional earthmoving equipment.
Earthwork observation and CQA report	1	LS	$ 5,300	$ 5,300	Assumes 8 additional hours of soil technician at $100/hour and consultant time at an average environmental consulting hourly rate of $150 for 30 hours. Reporting costs included in the overall closure CQA report.

Subtotal Cost:	**$**	**62,620**
10% Contingency:	**$**	**6,262**
Total Cost:	**$**	**68,900**

Table 2 - Waste Pile Corrective Action Cost Estimate
Nursery Products Hawes Composting Facility

ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)	NOTES
Written notification of the release to the RWQCB	20	HR	$ 150	$ 3,000	The assumed unit price assumes an average environmental consulting hourly rate of $150 to perform a site visit, sample, and prepare the written notification.
Move compost to collect additional soil samples	1,000	CY	$ 3.00	$ 3,000	Assumes some windrows will need to be relocated onsite to collect additional samples in vicinity of sample indicating a release. Includes mobilization of equipment.
Construction of a temporary stormwater diversion berm	70	CY	$ 4.50	$ 315	Assumes a 100 ft long, 3 ft high, and 12 ft wide soil berm, compacted in place with conventional earthmoving equipment. Assumed to be twice the cost of grading and compaction for a small quantity.
Soil sampling	20	HR	$ 150	$ 3,000	Assumes an average environmental consulting hourly rate of $150 to perform a site visit and sample soil.
Analytical testing of soil samples	8	EA	$ 140	$ 1,120	Laboratory quote for Title 22 Metals, which is the most expensive test of the annual waste pile soil testing suite.
Engineering Feasibility Study	60	HR	$ 150	$ 9,000	The assumed unit price assumes an average environmental consulting hourly rate of $150 to prepare the Engineering Feasibility Study.
Amendment to the ROWD	60	LS	$ 150	$ 9,000	The assumed unit price assumes an average environmental consulting hourly rate of $150 to prepare the Amendment to the ROWD.
Excavation and stockpiling of impacted soil liner	810	CY	$ 1.25	$ 1,013	Unit cost for grading 1 acre to a depth of 6 inches with conventional earthmoving equipment.
Analytical testing of soil for characterization	4	EA	$ 1,030	$ 4,120	Laboratory quote for soil analytical testing for VOCs, SVOCs, Metals, Pesticides, and Herbicides from Table 3 of the Board Order for disposal purposes
Transportation and disposal of soil	1,310	TONS	$ 14.81	$ 19,401	Assumes a unit weight of soil of 120 pounds per cubic foot. Cost for transportation ($3.00) and disposal as cover ($11.81) at the Barstow or Victorville Class III Landfill in CA, approximately 20 and 45 miles, respectively, from HCF.
Import of fill materials	1,310	CY	$ 2.00	$ 2,620	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	1,310	CY	$ 2.25	$ 2,948	Unit cost for grading of a small area with conventional earthmoving equipment.
Earthwork observation and CQA report	1	LS	$ 5,300	$ 5,300	Assumes 8 additional hours of soil technician at hourly rate of $100 and consultant time at an average environmental consulting hourly rate of $150 for 30 hours at the time of removal and replacement.
			Subtotal Cost:	**$ 63,836**	
			10% Contingency:	**$ 6,384**	
			Total Cost:	**$ 70,300**	

APPENDIX A

Cost Reference Information

DALTON TRUCKING

Dependable Service Since 1963

13560 Whittram Avenue Fontana, CA. 92335
(909) 823-0663

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From: Chris Seney
To: Jennifer Nevius;
Subject: Trucking Quote Compost
Date: Friday, December 31, 2010 10:53:36 AM

Jennifer,

Here is a quote from Dalton Trucking to verify the $3/ton for compost to the landfill. Let me know if you have any other questions. I will be around all day.

Thanks and happy new year.

Chris Seney, P.E.
760-272-1224 (cell)

-----Original Message-----
From: Jim Swegles [mailto:jswegles@daltontrucking.com]
Sent: Friday, December 31, 2010 10:10 AM
To: 'nurseryproducts@charter.net'
Subject: Haul Price

Hi Chris,

Dalton will haul from your facility in Hinkley to The Barstow or Victorville Landfill for $3/ton ($75.00 per load). Please feel free to contact me with any questions or concerns.

Sincerely,
Jim Swegles, Asset Manager DTI
Phone: (760) 246-4141
Mobile (760) 646-5198
FAX : (760) 246-4821
E-Mail: Jswegles@daltontrucking.com
Thanks for choosing Dalton!

COUNTY OF
SAN BERNARDINO

County Administrative Office
385 North Arrowhead Avenue
San Bernardino, CA 92415-0120
(909) 387-5425
FAX: (909) 387-5430

GREGORY C. DEVEREAUX
County Administrative Officer

BOARD OF SUPERVISORS

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Josie Gonzales, Vice Chair.....Fifth District

September 8, 2010

Mr. Jeff Meberg, President
Nursery Products LLC
647 Camino de los Mares #108
San Clemente, CA 92673

RE: NURSERY PRODUCTS COMPOST AS ALTERNATIVE DAILY COVER (ADC) AT BARSTOW AND VICTORVILLE SANITARY LANDFILLS

Dear Mr. Meberg:

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the County of San Bernardino's solid waste disposal system. SWMD has approved and successfully used compost for ADC at the Barstow Sanitary Landfill located at 32553 Barstow Road and the Victorville Sanitary Landfill located at 18600 Stoddard Wells Road. The County is willing to accept, with 30 days prior notice, compost from the Nursery Products LLC compost facility for use as ADC at either landfill.

The County understands that Nursery Products was issued waste discharge requirements in March 2010 by the California Regional Water Quality Control Board (CRWQCB), Lahontan Region. We also understand that Nursery Products is required to submit a closure plan as a requirement of Board Order # R6V-2010-0010 issued by the CRWQCB. For the purposes of the Nursery Products Closure Plan filed with the CRWQCB, San Bernardino County is willing to accept the compost into one or both landfills at the then current Board of Supervisors approved fee for Processed Green Material (PGM). The current PGM tipping fee is $11.81/ton. Please note that this rate is subject to adjustment each year.

Should you have any questions please feel free to contact me at 909-386-8706 or via email at gnewcombe@sbcounty.gov.

Sincerely,

Gerry Newcombe

GERRY NEWCOMBE, Deputy Administrative Officer/Division Manager
Solid Waste Management

c: Mark Dvorak, Operations Superintendent
Art Rivera, Public Works Engineer IV
Claudia Rozzi, Administrative Supervisor II

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