

Regional Water Quality Control Board
Central Valley Region

Response to Written Comments for
Tentative Waste Discharge Requirements
for
Orange Avenue Disposal, Inc.
Orange Avenue Landfill, Fresno County

This document contains the responses to written comments received from interested parties regarding the proposed tentative Waste Discharge Requirements (WDRs) for Orange Avenue Disposal, Inc., Orange Avenue Landfill, Fresno County for post-closure maintenance and corrective action. The Tentative WDRs, R5-2014-XXXX, were prepared to incorporate corrective action requirements. Currently, WDRs Order R5-2010-0110 regulate the Facility.

The Tentative WDRs were circulated on 19 March 2014 for public comment, ending on 18 April 2014.

Comments submitted during the comment period were received from the following:

- A. John Jowers, on behalf of Orange Avenue Disposal, Inc., 18 April 2014

RESPONSE TO COMMENTS

In response to each comment below, any changes made to the tentative WDRs are indicated where additional language is underlined and deleted language is shown in ~~strike through~~ format.

Comments on Tentative WDRs

Comment 1: Clarify distinction between implemented water Corrective Action Program (CAP) for remediation of exiting groundwater plume and water CAP for future foreseeable release for purposed of maintaining adequate financial assurance

From the tentative WDRs, Page 1, (3)

On 9 December 2011, the Discharger submitted an Engineering Feasibility and Corrective Action Program (EFS/CAP) for the landfill to establish a corrective action program (CAP). The EFS/CAP serves as an amendment to the report of waste discharge. The information in the EFS/CAP has been used in revising these waste discharge requirements (WDRs). The EFS/CAP contains the applicable information required in Title 27.

Page 7, (43)

Title 27 section 22221 requires a cost estimate for corrective action of all known or foreseeable releases. The Discharger submitted a 2013 cost estimate of \$579,973 for corrective action of all known or reasonable foreseeable releases. This Order requires that the Discharger maintain financial assurance with the CalRecycle in at least the amount of the cost estimate adjusted annually for inflation.

Referencing April 16, 2014 electronic correspondence from OAD to CalRecycle:

(The most recent Annual Inflation Factor 2012) erroneously referenced a 2011 study conducted by EBA Engineering (titled: Engineering Feasibility Study and Corrective

Action Program) as the highest corrective action cost estimate (\$558,000). The 2011 EBA report is an Engineering Feasibility Study to address specific existing contamination to groundwater caused by the previous operation of the landfill, not possible future releases or emergency situations...

The proper corrective action cost estimate which should have been used is listed in a 2007 report by Vector Engineering (titled: Corrective Action Cost Estimate). This Vector amount (\$250,526) has been used as the financial assurance estimate for corrective action since before Orange Avenue's closure. In a September 8, 2010 letter from the CRWQCB, Dane Johnson references the Vector amount, after inflation adjustment, stating:

"The current cost estimate of \$266,105 for corrective action financial assurance appears adequate."

The WDRs should be clarified to note the 2011 EFS/CAP outlines the current, ongoing remediation of the existing groundwater plume while the 2007 CAP defines the actions to be taken in case of future release and the required financial assurance value.

Response 1:

For clarification, Title 27 section 22221 requires a cost estimate and financial assurance for corrective action of **all known or foreseeable releases**. The reference in Finding 3 to the 2011 EFS/CAP is appropriate, as the EFS/CAP serves as a report of waste discharge to establish corrective action. Central Valley Water Board staff will work with CalRecycle and the Discharger to establish an appropriate corrective action cost estimate. Finding 43 has been revised as follows to remove reference to the current specific corrective action cost estimate dollar amount:

43. Title 27, section 22221 requires a cost estimate for corrective action of all known or reasonably foreseeable releases. ~~The Discharger submitted a 2013 cost estimate of \$579,973 for corrective action of all known or reasonably foreseeable releases.~~ This Order requires that the Discharger maintain financial assurance with the CalRecycle in at least the amount of the corrective action cost estimate adjusted annually for inflation.

Comment 2: Correct post-closure financial assurance requirement amount

From the tentative WDRs, Page 7, (42):

The amount of the cost estimate for post-closure maintenance in 2013 dollars is \$1.3 million.

Referencing April 16, 204 electronic correspondence from OAD to CalRecycle:

The highest post-closure amount (\$1,114,200) yields a 2013 amount of \$1,183,552, not the previously reported \$1,314,221. The previously reported value was incorrectly computed.

The WDRs should be updated to reflect the correct post-closure financial assurance amount of \$1,183,552.

Response 2:

Central Valley Water Board staff will work with CalRecycle and the Discharger to establish an appropriate post-closure maintenance cost estimate. Finding 42 has been revised to remove reference to the current specific post-closure maintenance cost estimate dollar amount; as shown below:

42 Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance. The *Final Closure and Post Closure Maintenance Plan* includes a cost estimate for landfill post-closure maintenance. ~~The amount of the cost estimate for post-closure maintenance in 2013 dollars is \$1.3.~~ This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation

Comment 3: Include provision for reducing post-closure financial assurance funds in accordance with CCR Title 27 Section 22211

From the tentative WDRs, Page 7, (42):

This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation.

From CCR Title 27 Section 22211(b)(2), referencing the multiplier (30) for calculating post-closure cost:

Upon request by the operator and verified by CalRecycle, at the end of each year of postclosure maintenance, the operator may reduce the multiplier on a one-for-one basis with the number years of postclosure maintenance complete, but shall not reduce the multiplier to less than fifteen (15).

OAL's post closure cost estimate was finalized in November 2009 and meets the requirements for allowing annual post-closure cost estimate reduction. The tentative WDRs should be updated to reflect the ability of OAD to reduce post-closure funds annually.

Response 3:

The tentative WDRs require the Discharger maintain financial assurance with CalRecycle pursuant to section 22211 of Title 27, which includes the possibility to reduce the post-closure fund. Therefore, the additional language is not necessary and was not added.

Comments on Tentative MRP

Comment 1: Clarify unsaturated zone monitoring network probe usage

From the tentative MRP, Page 3, (2):

The current unsaturated zone monitoring network shall consist of:

<u>Mon Pt.</u>	<u>Status</u>
GW-1	Detection/Corrective Action, Soil-Pore Gas
GW-2	Detection/Corrective Action, Soil-Pore Gas
GW-3	Detection/Corrective Action, Soil-Pore Gas
GW-7	Detection/Corrective Action, Soil-Pore Gas

The MRP should include a note that only the middle probes of the listed GW wells are used for unsaturated zone monitoring.

Response 1:

On Page 4 of the MRP, under the Unsaturated Zone Monitoring section, the following paragraph has been added below the table:

As stated in the Sampling and Analysis Plan dated December 2010, the “middle” probe of each gas monitoring well (GW-1 through GW-3 and GW-7) is utilized for the performance of the unsaturated zone monitoring.

Comment 2: Remove unnecessary requirements for surface water monitoring

From the tentative MRP, Page 11, (C)(1)(a):

Identify all distinct bodies of surface and ground water that could be affected in the event of a release from a waste management unit or portion of a unit.

From the tentative MRP, Page 11, (C)(1)(b):

Include a map showing the monitoring points and background monitoring points for the surface water monitoring program...

(Additional references to surface water monitoring not included.)

From CCR Title 27 Section 20415 (c)(1):

General-The discharger shall establish a surface water monitoring system to monitor each surface water body that could be affected by a release from the Unit.

No surface waters are located near to OAL. All provisions for surface water monitoring should be removed from the MRP.

Response 2:

Page 11 of the MRP, Section C.1.a&b define components of the Water Quality Protection Standard report. If any component is not applicable, then the Water Quality Protection Standard should identify it as not applicable. Therefore, Section C.1.a &b were revised to add "if applicable" to references to surface water.

- a. Identify **all distinct bodies of surface (if applicable) and ground water** that could be affected in the event of a release from a waste management unit or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program (if applicable), groundwater monitoring program and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27, Section 20405.

Additional references to surface water were found in Section A (Page 1 of the MRP) and were deleted as follows:

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, ~~surface water~~, and the unsaturated zone in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section G of the WDRs. All monitoring shall be conducted in accordance with the approved December 2010 *Sample Collection and Analysis Plan*, which includes quality assurance/quality control standards.

All compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, and leachate, ~~and surface water~~ monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern (COCs) as indicated and listed in Tables I through V.

Comment 3: Remove unnecessary requirements for monitoring leachate accumulation on liners and leachate collection and removal systems

From the tentative MRP, Page 9, (g) [B.1.g]:

An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off-run-on control facilities. Include a summary of any instances where leachate depth on an MSW landfill liner system exceeded 30 cm (excluding the leachate sump), and information about the required notifications and corrective action in Standard Facility Specifications E.13 of the SPRRs.

From the tentative MRP, Page 10, (g) [B.2.g]:

The results of the annual testing of leachate collection and removal systems required under Standard Facility Specification E.14 of the SPRRs.

OAL has no liner system or leachate collection and removal system. All requirements to monitor liners or leachate collection systems should be removed from the MRP.

Response 3:

Page 9 of the MRP Item B.1.g) & Page 10 of the MRP Item B.2.g) were removed:

- ~~B.1.g) An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities. Include a summary of any instances where leachate depth on an MSW landfill liner system exceeded 30 cm (excluding the leachate sump), and information about the required notification and corrective action in Standard Facility Specification E.13 of the SPRRs.~~
- ~~B.2.g) The results of the annual testing of leachate collection and removal systems required under Standard Facility Specification E.14 of the SPRRs.~~

Comment 4: Clarify due date for financial assurance

From the tentative MRP, Page 11, (7) [B.7]:

Financial Assurances Report: By 1 June of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for closure, post-closure maintenance, and corrective action. Refer to Financial Assurances Specifications F.1 through F.3 of the WDRs.

The WDRs state the due date for financial assurance reporting is June 30. The MRP should be updated to agree with the WDRs.

Response 4:

Item B.7 **Financial Assurances Report** contained a typographical error. The date has been revised to **30 June**:

- 7. Financial Assurances Report:** By ~~4~~ **30 June** of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for closure, post-closure maintenance, and corrective action. Refer to Financial Assurances Specifications F.1 through F.3 of the WDRs.

Comment 5: Clarify a Table III reference to a “short list” in Table V

Table V has no “short list.” The reference in Table III should be changed to note the correct table.

Response 5:

The reference in Table III for the short list was revised to Table IV: (USEPA Method 8260B, short list, see Table ~~III~~ IV)

Comment 6: Update monitoring program tables for consistency with the approved, ongoing 2011 EFS/CAP.

Table I should note: Only applied to CMT-1 (all saturated channels) and CMT-2 through CMT-4 (uppermost saturated channel).

Add "Table II: Groundwater Corrective Action Monitoring Program" with the note: Applies to CMT-2 through CMT-4 (all channels below uppermost saturated channel) and CMT-5 through CMT-7 (all saturated channels). Table II will contain identical information to Table I, with the following Monitoring Parameters removed: chloride, bicarbonate, calcium, magnesium, potassium. Subsequent tables should be renumbered accordingly.

Response 6:

Table I was revised to include both groundwater and corrective action monitoring with appropriate footnotes: (see the attached Table I with revisions). Section 1, Groundwater Monitoring, (see the attached page 9 with revisions) was revised to include additional details to better describe the groundwater sampling network and testing/sampling requirements.

TABLE I
GROUNDWATER DETECTION AND
CORRECTIVE ACTION MONITORING PROGRAMS

<u>Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Field Parameters			
Groundwater Elevation	Ft. & 100ths, M.S.L.	Quarterly	Semiannual
Temperature	°F	Semiannual	Semiannual
Electrical Conductivity	umhos/cm	Semiannual	Semiannual
pH	pH units	Semiannual	Semiannual
Turbidity	Turbidity units	Semiannual	Semiannual
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L ¹	Semiannual	Semiannual
Chloride ²	mg/L	Semiannual	Semiannual
Carbonate ²	mg/L	Semiannual	Semiannual
Bicarbonate ²	mg/L	Semiannual	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual	Semiannual
Sulfate	mg/L	Semiannual	Semiannual
Calcium ²	mg/L	Semiannual	Semiannual
Magnesium ²	mg/L	Semiannual	Semiannual
Potassium ²	mg/L	Semiannual	Semiannual
Sodium	mg/L	Semiannual	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table IV)	ug/L ²	Semiannual	Semiannual
5-Year Constituents of Concern (see Table V)			
Total Organic Carbon	mg/L	5 years	30 January 2014
Inorganics (dissolved)	ug/L	5 years	and every 5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	ug/L	5 years	thereafter
Semi-Volatile Organic Compounds (USEPA Method 8270D)	ug/L	5 years	" "
Chlorophenoxy Herbicides (USEPA Method 8151A)	ug/L	5 years	" "
Organophosphorus Compounds (USEPA Method 8141B)	ug/L	5 years	" "

¹ Milligrams per liter

² Micrograms per liter

³Parameter excluded from Corrective Action Monitoring

1. Groundwater Monitoring

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27, Sections 20415 and 20420. The detection monitoring system shall be certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27. The current groundwater detection monitoring system meets the applicable requirements of Title 27. The Discharger shall revise the groundwater detection monitoring system (after review and approval by Central Valley Water Board staff) as needed each time a new landfill cell or module is constructed.

The current groundwater monitoring network shall consist of the following:

<u>Well</u>	<u>Depth</u>	<u>Status</u>
CMT-1	<u>Shallow, Intermediate, Deep</u>	Background
CMT-2	<u>Shallow, Intermediate, Deep</u>	Detection/ <u>Corrective Action</u>
CMT-3	<u>Shallow, Intermediate, Deep</u>	Detection/ <u>Corrective Action</u>
CMT-4	<u>Shallow, Intermediate, Deep</u>	Detection/ <u>Corrective Action</u>
CMT-5	<u>Shallow, Intermediate, Deep</u>	Corrective Action
CMT-6	<u>Shallow, Intermediate, Deep</u>	Corrective Action
CMT-7	<u>Shallow, Intermediate, Deep</u>	Corrective Action

Each groundwater monitoring well location consists of continuous multi-channel tubing monitoring at three discrete depth intervals (channels): shallow (75 feet), intermediate (85 feet), and deep (120 feet).

Groundwater samples shall be collected from the background wells, detection monitoring wells, corrective action monitoring wells, and any additional wells added as part of the approved groundwater monitoring system. For the detection monitoring program, CMT-1 will be tested for all parameters listed in Table I at all channels where sufficient groundwater is available for sampling. For CMT-2 through CMT-4 all parameters listed in Table I will be sampled only at the shallowest channel at each well location with sufficient groundwater available for sampling.

For corrective action monitoring, the deepest channel at CMT-2 through CMT-4 will be sampled for all monitoring parameters listed in Table I except chloride, carbonate, bicarbonate, calcium, magnesium, and potassium. CMT-5 through CMT-7 will be sampled for all monitoring parameters listed in Table I except chloride, carbonate, bicarbonate, calcium, magnesium, and potassium at all channels where sufficient groundwater is available for sampling.

The collected samples shall be analyzed for the parameters and constituents listed in Table I in accordance with the specified methods and frequencies. The

Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.....