

DEPARTMENT OF TOXIC SUBSTANCES CONTROLREGION 2
100 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737
(510) 540-2122

February 16, 1995

Commander
Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
Attn: Mr. Stephen Chao, Project Manager
900 Commodore Drive, Bldg. 101
San Bruno, California 94066-2402

Dear Mr. Chao:

**REVISED DRAFT FINAL FEASIBILITY STUDY, OPERABLE UNIT 1, MOFFETT
FEDERAL AIRFIELD**

The California Environmental Protection Agency (Cal/ EPA), the Department of Toxic Substances Control (DTSC), the San Francisco Regional Water Quality Control Board (RWQCB), and the California Integrated Waste Management Board (CIWMB) has reviewed the subject document. Comments and the specific ARARs are enclosed for your consideration. Please respond to all comments, then the document can be finalized. If you have any questions, please contact me at (510) 540-3830.

GENERAL COMMENTS

1. The State realizes that the complexity of the hydrogeology in OU-1 area and the heterogeneity of the landfill refuse made it very difficult to determine the groundwater flow direction in different season, or the leachate offsite migration. Throughout the document, significant efforts were made to conclude that no leachate has been migrated to the surrounding water bodies. Based on our observation, the chemical data in Section 1.3.3 and 1.3.6 may not necessarily fully support this conclusion. The State believes it is appropriate to present the data and list different rationale to explain the findings. However, without concrete evidence, the Navy should not exclude that the landfills are the potential sources of contaminants.
2. It has been mentioned many times in the subject document that OU1 landfills were operated like or similar to municipal landfills. However, it is also stated that OU1 landfills received industrial wastes in the past. In addition, hazardous wastes were detected from OU1 soil/groundwater analyses. Unless the landfills were operated according to municipal landfills by today's definition, these areas should be treated as hazardous waste/substance release sites.

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SPECIFIC COMMENTS

1. Page 12, 1st Para., Sec. 1.3.1

The NASA's reuse plan of operating a pistol range at Site 1 should be further discussed (e.g., potential impact on ecological receptors).

2. Page 14, 2nd Para., Sec. 1.3.2

It is stated that "water level elevations within the landfill indicate that refuse is saturated with water to about the same elevation as groundwater outside the landfills". This is contradictory to the statement in page 21 "Water levels in the landfill leachate are greater than any of the surrounding waterbodies...". If the later statement is correct, should the groundwater table in Figure 5, 6, and 7 be revised?

3. Figure 7 and Figure 8-C

The leachate water level in well W1-10 is always higher than mean sea level (msl) in Figure 8-C. However, in Figure 7, the water level at well W1-10 is lower than msl. Please explain the discrepancy between these two figures.

4. Page 29, 4th Para., Sec. 1.3.3.1

The Navy should submit the well abandonment work plan to the state and local regulatory agencies for review and approval.

5. Page 45, 3rd Para., Sec. 1.3.3.5

It is inappropriate to eliminate the possibility that the elevated arsenic, antimony, and chromium concentrations found in Site 1 perimeter wells were not migrated from the landfill leachate.

6. Page 53, Figure 17

Please explain the inconsistency of the SB2-15 soil boring logs in Figure 17 and Figure 18. In Figure 17, a layer of "fill soils (sand, silt, gravel and clay mixtures)" underlies the "fill soils with refuse" at SB2-15. However, this layer cannot be found in Figure 18.

7. Page 67, Last Para., Sec. 1.3.6.5

Please see General Comment 1.

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8. Page 112, Table 9

It is stated that the OU1 landfills were operated like municipal solid waste landfill. The Navy should explain how this determination has been made.

9. Page 113, Table 9

The resolution 92-49 should be considered applicable because 92-49 has been promulgated.

10. Page 124, Table 11

A code section should be listed after "California Fish and Game Code"

11. Page 126, 127, Table 12

If the "comment" section of this page is accurate, then the federal ARARs should drop out because California, as an authorized state, would have regulations that are as stringent, or more stringent, than the federal regulations.

12. Page 127, Table 12, 3rd and 4th boxes

If it turns out that there is hazardous waste at OU-1, and hazardous waste regulations apply, there are RCRA monitoring requirements that would have to be considered as ARARs as well.

13. Page 128, Table 12, 3rd box

The citation " 40 CFR 262 and 264 " should be replaced with 22 CCR Chapter 12 and 14.

14. Page 133, Table 12, 2nd box

The state regulation is an ARAR only if the waste is subject to land ban.

15. Page 133, Table 12, 2nd through 7th boxes, and Page 134, 1st box, 3rd requirement

The state and federal regulations should not be listed as ARARs simultaneously. If there is a difference between the two regulatory schemes, California's regulations will be as stringent or more stringent than the federal regulations, and the federal regulations should drop out as ARARs.

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16. Page 165, 2nd Para., Sec. 4.2.3

It is mentioned that the collected leachate could be transferred to on-base groundwater treatment system such as OU-5 or Site 9. However, the above treatment system will not remediate inorganic contaminations effectively. Please include the O&M and treatment costs in Alternative 2 and 3.

17. Page 202, 4th Para., Sec. 6.2

The State agrees that when refuse is below groundwater table, the leachate may migrate offsite regardless of the types of capping. However, at Site 2, most of the refuse is above groundwater table which is different from site 1. Therefore, the navy should explain why native soil cap will provide the same protection of preventing leachate migration at site 2.

18. Page 204, No.3

Please see Comment 17.

19. Appendix I

It is noted that in page "5/24" the average annual precipitation of Moffett Field is 13.05 inches. However, according to the Environmental Science Services Administration, the 30 year (1931 to 1960) annual average precipitation of the San Francisco Airport is 18.69 inches. Please explain the difference between them. Furthermore, the 13.05 inches average precipitation is lower than other Bay area station records as well. Should the Navy consider using the 18.69 inches average annual precipitation as a reference number? How it will affect the output of the Hydrologic Evaluation of Landfill Performance (HELP) model? In addition, please compare the selected 24-hour peak precipitation data with the storm event on Jan 9, 1995.

EDITORIAL COMMENTS

1. Page 20, Figure 9

The title of Figure 9 should be renamed as "Slough/Leachate/Aquifer Hydrographs".

2. Page 22, Figure 10

The title of Figure 10 should be renamed as "SWRP/Leachate/Aquifer Hydrographs".

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3. Page 57, Figure 20

Please add a "minus" sign in front of all the water table measurements.

If you have questions regarding these comments, please contact me at (510) 540-3830 to ensure a coordinated approach for all regulatory comments.

Sincerely,



C. Joseph Chou
Remedial Project Manager
Base Closure Unit
Office of Military Facilities

Enclosure

cc:Mr. Michael Bessette
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Mr. Michael D. Gill
U.S. Environmental Protection Agency
Region IX, Mail Stop H-9-2
75 Hawthorne St.
San Francisco, California 94105

Ms. Diane Nordstrom
Closure and Remediation Branch
Permitting and Enforcement Division
California Integrated Waste Management Board
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STATE OF CALIFORNIA

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Post-It™ brand fax transmittal memo 7671		# of pages > 26
To Joseph CHOW	From M. M. Bessette	
Co. DTSC	Co. RWQCB	
Dept. DOD	Phone # (510) 286-1028	
Fax # (510) 540-3819	Fax # (510) 286-3986	

PETE WILSON Governor



February 14, 1995
File No. 2189.8009 (MMB)

Mr. Joseph Chou
DTSC Region 2
Office of Military Facilities
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2737

SUBJECT: RWQCB's Comments on the Operable Unit 1, Revised Draft Final Feasibility Study Report, for Moffett Federal Airfield dated December 20, 1994.

Dear Mr. Chou:

Enclosed are RWQCB staff's comments on the above referenced report. Please contact me at (510) 286-1028 if you have any questions or comments.

Sincerely,

Michael M. Bessette
Remedial Project Manager

Enclosure

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

FRANCISCO BAY REGION

2101 WEBSTER STREET, SUITE 300

OAKLAND, CA 94612

(510) 284-1255



Prepared By: Michael M. Bessette Phone No.: (510) 286-1028
Date: February 14, 1995 File No.: 2189 8009 (MMB)
Subject: Operable Unit 1 Revised Draft Final Feasibility Study Report, December 20, 1994

General Comments:

- The discussion of hydraulic containment of leachate within the Site 1 refuse area should be caveated by the fact that the approximately 4 feet thick silty clay horizon underlying the refuse area is known to be a discontinuous (see boring log W1-17, IT 1993a) and, in turn, is underlain by a sandy gravel (Figure 6, Site 1 - Cross Section B-B'). Horizontal groundwater flow rates based on discrete soil samples with low, $1E-08$, hydraulic conductivity values in an area of complex interfingering of fine- and coarse-grained geology may not be representative the actual hydraulic conditions that may vary by several orders of magnitude. Site 2 containment based on similar hydraulic conductivity values and geology also needs to be caveated.
- Please provide an explanation why a slurry wall containment has not been considered as a remedial alternative. Additionally, explain why the cap as described in California Code of Regulations (CCR) Title 23, Div. 3, Chapter 15, Article 2581(a)(1) and (2) has not been considered as a remedial alternative, since it would be an intermediate between the proposed native soil cap and the proposed multilayer cap.
- Please provide specific time frames for the monitoring of leachate migration and how the moneys for operation, maintenance and, if necessary, contingency actions will be secured.
- Please clarify the Navy's understanding regarding the classification of the landfills at Site 1 and Site 2. The RWQCB's position is that classification is not applicable if the landfills are not leaking but if leakage is detected the landfill must be classified and closed in accordance with CCR, Title 23, Div. 3, Chapter 15. Additionally, please note that Chapter 15 is an action specific ARAR for both landfills and that bonding for closure and post closure is required.
- Please clarify soil capping in the area of the former pistol range and if the risk assessment addressed such activities in the future.
- Please present a Groundwater Well Status Table for Sites 1 and 2, including, but not limited to, the following information: identification number, installation dates, phase of investigation, aquifer screened, depth of first encountered water, static water table, total depth explored, bottom of well, screened interval, slot size, diameter, and well function.

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Date: February 14, 1995 File No.: 2189 8009 (MMB)
Subject: Operable Unit 1 Revised Draft Final Feasibility Study Report, December 20, 1994

Specific Comments:

- Page 3, Sec. 1.2:** This discussion should reference the location of the adjacent Mountain View Landfill.
- Page 10, Sec. 1.3.1, 1st par.:** The statement that average ground surface elevations are 1 to 2 feet below mean sea level (msl) does not correlate with the elevation drawn in the cross sections for Site 1, which appear to approximately average around 6 feet above msl.
- Page 11, Figure 4:** Locate the drainage ditch on this figure. Additionally, please label the channel as formerly located in the position shown.
- Page 12, Sec. 1.3.1, 1st par.:** Include a physical description of the pistol range.
- Page 16, Site 1, Cross Section C - C':** Section line C-C' appears to intersect the pistol range but is not indicated on the cross section.
- Page 21, Sec. 1.3.2, 4th par.:** The statement "Water levels in the leachate are greater than any of the surrounding water bodies..." seems to contradict any earlier statement on Page 14, Sec. 1.3.2, 1st par. which states "Water level elevations within the landfill indicate that refuse is saturated with water to about the same elevation as groundwater outside the landfills, please elucidate.
- Page 23, Figure 11:** The conceptual model should show the interfingering of the fine and coarse-grained units. Please label the boundary of the "fill soils with refuse". All vertical and horizontal groundwater flow arrows should be labeled as such in a Legend.
- Page 24, Sec 1.3.2, 1st par.:** Please consider revising impermeable usage with semi-permeable.
- Page 24, Sec 1.3.2, 3rd par.:** The statement "In general, groundwater in the A1-aquifer zone in the northern part of MFA flows in the direction of the storm sewer lift station (north to south, in the direction of Building 191)" appears to contradict Figure 13 Site 1 - A1 Aquifer Potentiometric Surface Map, please elucidate.
- Page 25, Sec 1.3.2, Figure 12:** Please differentiate wells screened in the leachate aquifer from wells screened in other aquifers.
- Page 26, Sec 1.3.2, Figure 13:** This figure should include its full title of "Site 1 - A1 Aquifer Potentiometric Surface Map". Revise contour lines with equal contour intervals. Please differentiate wells screened in the A1 aquifer from wells screened in other aquifers.
- Page 27, Sec 1.3.2, 1st par.:** How was the gradient between the A1 and A2 aquifers "estimated"? As seen in Figure 13, the A1 aquifer potentiometric surface for February 1994

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Date: February 14, 1995 File No.: 2189.8009 (MMB)
Subject: Operable Unit 1 Revised Draft Final Feasibility Study Report, December 20, 1994

varies over 0.6- feet between the locations of W1-14 (-2.44 feet msl, given) and W1-7 (approximately -1.78 feet msl projected) which is approximately 2.5 times greater than the 0.23 feet difference estimated. The wells are stated as "nearby" and (as with all qualifiers) the measured distance of approximately 120 feet should be stated. A projected pieometric differentiation between the A1 and A2 aquifers of approximately 0.23 feet based on wells 120 feet away from each other is very questionable. Additionally, the cross sections do not show A1 and A2 delineation. Please revise.

Describe the following; the November 1993 precipitation characterization and dry periods and wet seasons. Page 78, Sec. 1.3.7.3 states "Approximately 80 percent of the rainfall occurs between the months of November and March with an average of 7 to 10 days of rain each month." if November 1993 is a wet season hydrograph the upward gradient is stated to diminish or disappear, please elucidate.

Page 28, Sec. 1.3.2, 1st par.: Please define modeling clay or preferably delete this term.

Page 31, Figure 14: Please indicate the boundaries of Sites 1 and 2.

Page 33, Table 1: Include the analytical method for each analysis and filter size.

Page 35, Sec. 1.3.3.2: Please indicate the locations of the collection points for the embankment soil samples on a figure.

Page 35, Sec. 1.3.3.3: Please indicate the locations of the collection points for perimeter soil samples on a figure.

Page 38, Table 2: Include detection limits for each analysis.

Page 39, Sec. 1.3.3.5, 3rd par.: This statement "Acetone and bis(2-ethylhexyl)phthalate are common laboratory contaminants and were detected frequently during the RI in several media throughout Site 1 as well as in blank samples" appears to be discounting the statement on Page 34, Sec. 1.3.3.2, 2nd par. "Although acetone and 2-butanone are common laboratory contaminants, personnel interviews indicate that these solvents may have been disposed of in the landfill (IT 1993a)."

Page 40, Sec. 1.3.3.5, 5th par.: The statement "Contamination is not migrating past landfill boundaries..." should be revised to reflect the unknown source of contamination and that the landfill has not been precluded as a source.

Page 48, Sec. 1.3.3.6, 4th par.: The statement "In conclusion, landfill contamination has not migrated into the adjacent surface waters of the SWRP and Jagel..." should be revised to reflect the unknown source of contamination and that the landfill has not been precluded as a source.

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Subject: Operable Unit 1 Revised Draft Final Feasibility Study Report, December 20, 1994

Page 56, Sec. 1.3.5, 4th par.: A projected pieometric differentiation between the A1 and A2 aquifers of approximately 0.14 feet based on wells 190 feet away from each other is very questionable. Additionally, the cross sections do not show A1 and A2 delineation. Please revise.

Page 57, Figure 20: Please differentiate wells screened in the A1 aquifer from wells screened in other aquifers.

Page 62, Table 5: Include the analytical method for each analysis and filter size.

Page 64, Sec. 1.3.6.3: Please locate the collection points for perimeter soil samples on a figure.

Page 66, Table 6: Include detection limits for each analysis.

Page 68, Sec. 1.3.6.5, 5th par.: The statement "...contaminants are not leaching into groundwater and subsequently migrating past Site 2 boundaries." should be revised to reflect the unknown source of contamination and that the landfill has not been precluded as a source.

Page 70, Sec. 1.3.6.5, 4th par.: The statement "The landfill is not a source of other metal constituents in the downgradient groundwater." should be revised to reflect the unknown source of contamination and that the landfill has not been precluded as a source.

Page 80, Sec. 1.3.7.3, 42nd par.: The hydraulic conductivity values of the encountered sandy gravels must be used if worst case approximations are stated to be an objective.

Page 98, Sec. 1.4.3.1, 2nd par.: A mitigation plan to off set the negative ecological impacts of capping should be proposed.

Page 162, Sec. 4.2.2: Describe the origin of the native soil cap material and include an ASTM soil description of the cap material.

Page 163, Figure 31: Please include compass orientation, continuous groundwater table, and groundwater flow arrows.

Page 165, Sec. 4.2.3, 2nd par.: The statement "...will intercept any leachate..." would be more accurate by stating "will be designed to intercept any leachate."

Page 166, Figure 32: Please include A1 groundwater flow arrows.

Page 169, Figure 33: Please include A1 groundwater flow arrows. The location of the proposed monitoring wells appears to be inappropriate due to the nature of the site. The spacing of the wells by distances of 300 feet or more will not provide adequate monitoring for a landfill this size. Along the western perimeter of the refuse area, two additional wells are requested. One at the mid point between wells W1-5 and W1-8 and another at the midpoint between wells W1-8 and W1-16. Along the southern perimeter of the refuse area, one additional

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Subject: Operable Unit 1 Revised Draft Final Feasibility Study Report, December 20, 1994

monitoring well is requested to be located approximately 250 feet west of monitoring well W1-15. The proposed monitoring well W1-19 is requested to be relocated approximately 280 feet south of the proposed location. The proposed monitoring well W1-18 is requested to be relocated approximately 350 feet east south-east of the proposed location.

Page 170, Figure 34: Please include A1 groundwater flow arrows. The proposed groundwater monitoring network appears to be inadequate due to the nature of the site. Along the southern perimeter of the refuse area, one additional well is requested to be located approximately 200 feet west of monitoring well W2-6.

Pages 173 and 175, Tables 16 and 17: Include the analytical method for each analysis and filter size.

Page 187, Sec. 5.2.2.1, 2nd par.: Please include action specific land fill ARARs.

Page 205, Sec. 6.3, 1st par.: Please include the specific discussions regarding the reduction of toxicity and volume in this section.

Page 208, Table 19: The total cost is projected for 30 years, please describe how this length of time was determined and what is the projected life of the monitoring program.

Page G-1, Appendix G, 3rd par: The statement "possible but unrealistic assumption" appears to cast doubt on the sincerity at which the risk assessment is being performed, please consider revising.

Appendix J, 1 of 37: Please discuss the classification of the OU-1 landfills.

Appendix J, 13 of 37: Please discuss the fund for closure and post-closure maintenance of the OU-1 landfills.

Appendix J, 14 of 37: Please discuss CCR, Title 23, Div. 3, Chapter 15, 2581(a)(1).

Appendix J, 15 of 37: Please discuss CCR, Title 23, Div. 3, Chapter 15 2581(c)(2).

Concurred by:

Ron Gervason 2/14/95
Ron Gervason, DOD Section Leader

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

8800 Cal Center Drive
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FEB 10 1995

Mr. Joseph Chow
Remedial Project Manager
Department of Toxic Substances Control
Region No. 2, Office of Military Facilities
700 Heinz Ave., Suite 200
Berkeley, CA 94710-2737

Subject: Applicable or Relevant and Appropriate Requirements for
Moffett Federal Airfield, SWIS No. 43-AA-0005

Dear Mr. Chow:

This letter is in response to your solicitation for State applicable or relevant and appropriate requirements (ARARs), dated February 3, 1995 for the Moffett Federal Airfield, Revised Draft Final Feasibility Study Report for Landfill Operable Unit I dated December 20, 1994. The California Integrated Waste Management Board (CIWMB) has the following general statutory and regulatory authority:

- ▶ Statutory authority: The Integrated Waste Act of 1989, as embodied in Public Resources Code Section 40000 et seq.
- ▶ Regulatory authority: Title 14, California Code of Regulations, Division 7.

Pursuant to Public Resources Code Sections 43021 and 43509 the CIWMB has adopted regulations that include substantive standards for the design, operation, maintenance, closure, and ultimate reuse of solid waste disposal sites. These regulations are contained in the California Code of Regulations, Title 14 (14 CCR), Division 7, and were reviewed by U.S. EPA as part of the RCRA Subtitle D Approved State Program.

The enclosed table provides 14 CCR ARARs for closure and postclosure maintenance of solid waste disposal sites. These ARARs are being submitted pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 121(d) and the National Contingency Plan. Upon reviewing the Feasibility Study, CIWMB staff has determined that Sites #1, #2 and #22 meet the definition of a solid waste disposal site pursuant to PRC 40122 and have not closed pursuant to the definition 14 CCR 18011, and therefore meet the scope and applicability of closure and postclosure standards in 14 CCR.

Mr. Chow
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If you have any questions or changes regarding ARAR determination or substantive requirements, please contact me at (916) 255-2352 prior to forwarding to the military, so that the CIWMB can assure consistent application of its requirements throughout California.

Sincerely,



Diane Nordstrom
Associate Engineering Geologist
Closure and Remediation Branch
Permitting and Enforcement Division

Enclosure: Table, "State ARARs for Solid Waste Disposal Sites
Closure and Postclosure Maintenance"

cc: Regional Water Quality Control Board
Antone Pacheco, Santa Clara County Environmental Health

State ARARs for Solid Waste Disposal Site Closure and Postclosure Maintenance

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment	Associated Site
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17766 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Emergency Response Plan (ERP): potential emergency conditions that may exceed the design of the site and could endanger the public health or environment must be anticipated. Response procedures for these conditions must be addressed in the RD/RA plans.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17767 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Security at Closed Sites: all points of access to the site must be restricted, except permitted entry points. All monitoring, control, and recovery systems shall be protected from unauthorized access.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17773 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Final Cover: the design and construction of the final cover must meet specific prescriptive standards. These include minimum thickness and quality of the construction material.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17774 (a)to(b) Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Construction Quality Assurance (CQA): a CQA program must be designed and implemented. It must include specific parameters (and for some components specific testing methods) for each component of the final cover.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17776 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Final Grades: the final grades for the covered landfill must meet grading standards provided in 23 CCR 2581, they must be appropriate to control runoff and erosion.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17777 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Final Site Face: the design of the final site face must provide for the integrity of the final cover both under static and dynamic conditions.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17778 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Final Drainage: the design of the final cover must control runoff and runoff produced by a 100 year 24 hour storm event and must be prepared according to CQA requirements.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22

State ARARs for Closure and Postclosure Maintenance of Solid Waste Disposal Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment	Associated Site
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17779 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Slope Protection and Erosion Control: the design and construction of the slopes must protect the integrity of the final cover and minimize soil erosion.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17781 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Leachate Control During Closure and Post Closure: leachate must be monitored, collected, treated, and discarded appropriately.	The state does not intend that subsurface leachate monitoring and collecting systems need to be added to existing landfills unless leachate production and/or accumulation is evident.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17783 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Gas Monitoring and Control During Closure and Post Closure: landfill gases must be collected and analyzed; the concentration of combustible gas at the landfill boundary must be 5% or less, trace gases must not be at levels that cause adverse health or environmental impacts.	Monitoring should be conducted for 30 years or until authorized to be discontinued by showing that there is no potential threat to public health and safety or the environment.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17788 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Post Closure Maintenance: the landfill must be maintained and monitored for no less than 30 years following closure.	Monitoring is continued for 30 years following closure unless it can be demonstrated that the landfill does not pose a threat to public health and safety or a threat to the environment.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	14 CCR 17796 Chapter 3, Article 7.8 Disposal Site Closure and Postclosure Maintenance	Applicable	Post Closure Land Use: Site Closure Design shall show one or more proposed uses of the closed site or show development that is compatible with open space. Changes in postclosure land use must be approved by the appropriate State agency prior to implementation.	Closure or Postclosure Maintenance Standard of Title 14, CCR, Chapter 3, Article 7.8. Scope and Applicability pursuant to 14 CCR 17760.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43509	14 CCR 18262.3 Chapter 5, Article 3.4 Closure and Postclosure Maintenance Plans	Relevant and Appropriate	Provides the content requirements for closure plans for solid waste disposal sites.	Applies to solid waste disposal sites that received waste after January 1, 1988.	Sites #1, #2, #22
California Integrated Waste Management Act of 1989 PRC 40502 & 43509	14 CCR 18265.3 Chapter 5, Article 3.4 Closure and Postclosure Maintenance Plans	Relevant and Appropriate	Provides the content requirements for postclosure maintenance plans for solid waste disposal sites.	Applies to solid waste disposal sites that received waste after January 1, 1988.	Sites #1, #2, #22

14 CCR - California Code of Regulations, Title 14

ARAR - applicable or relevant and appropriate requirement

ROD - Record of Decision

RD/RA - remedial design/remedial action

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