

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. R2-2004-0030

**UPDATED WASTE DISCHARGE REQUIREMENTS AND
RESCISSION OF ORDER NO. 89-105 FOR:**

**CITY OF SUNNYVALE
SUNNYVALE LANDFILL
SUNNYVALE, SANTA CLARA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

DISCHARGER AND LOCATION

1. Owner, operator, and discharger named: The City of Sunnyvale is the property owner and operator of the Sunnyvale Landfill. The landfill is no longer accepting municipal waste but continues to accept minor amounts of biosolids and dredged materials. Post-closure maintenance of the landfill has been conducted by the City of Sunnyvale. The City of Sunnyvale (City) is hereinafter referred to as the Discharger.
2. Landfill location and description: The 93 acre landfill is located at the northern terminus of Borregas Avenue in Sunnyvale, Santa Clara County, adjacent to the former Cargill Salt Ponds at the southern end of San Francisco Bay (refer to Figure 1, Site Location Map). The landfill is approximately 5700 feet long and varies between 400 and 1100 feet wide and consists of four refuse hills separated by valleys. With the exception of a concrete crushing facility the landfill is undeveloped and covered with grass. To the north of the landfill are the Sunnyvale Water Pollution Control Plant (WPCP), the Sunnyvale Materials Recovery and Transfer (SMaRT) station, Lockheed and Baylands No. 1 stormwater pump stations, water treatment ponds, and a former Cargill Salt pond. South of the landfill are commercial and industrial areas. East of the landfill are the Twin Creeks Sports Complex and Baylands Park.

PURPOSE OF ORDER UPDATE

3. Update of Waste Discharge Requirements: The purpose of this order updating Waste Discharge Requirements is to: 1) change the dischargers named; 2) specify prohibitions and reporting requirements for disposal at the biosolids monofill; 3) implement changes to the site monitoring program; 4) specify reporting requirements to address future developments at the landfill; and 5) bring the landfill into compliance with the appropriate portions of Title 27 of the California Code of Regulations, referred to hereinafter as Title 27.

SITE DESCRIPTION

4. Waste placement: Prior to landfill operations, the ground surface was a flat, bayward-sloping plain with surface elevation at or near mean sea level. Sunnyvale Landfill began accepting waste in the 1920's. Waste material, including municipal waste, construction debris, and non-hazardous industrial and commercial waste, was placed directly on the ground surface and formed into four hill areas: West Hill, Recycle Hill, South Hill, and East Hill. The landfill stopped accepting municipal waste in September 1993 and was closed in 1994 with construction of a landfill cap. Subsequently a biosolids monofill located in the valley between the East and South Hills was constructed with a clay liner and a leachate collection system and continued to accept minor amounts of dried digester biosolids and digester bottoms from the WPCP, sediment dredged from the Guadalupe Slough boat ramp, and sediment dredged from the Baylands No. 1 Pump Station forebay.
5. Waste containment controls: No liner was installed below the waste material prior to placement, with the exception of the biosolids fill area. Landfill gas is extracted on site. Leachate is extracted from eight leachate risers. Condensate from the landfill gas extraction system and leachate is discharged to the South Bayside System Authority (SBSA) Waste Water Treatment Plant in Redwood City because the discharge contains levels of constituents which preclude discharge to the Sunnyvale Water Pollution Control Plant without pretreatment. The landfill is currently designing a pretreatment system to allow the discharge to be directed to the WPCP. Leachate extraction has maintained leachate elevations to approximate groundwater elevations. Minor amounts of reclaimed water are used for dust control on the West Hill and East Hill.
6. Landfill cap: Waste containment, leachate generation, and groundwater and surface water impacts are minimized by the installation of a landfill cap in accordance with an approved Closure Plan submitted in 1990. The landfill cap consists of a minimum four foot thick cover consisting of 1-2 feet of foundation layer, 1-1.5 feet of low permeability clay layer, and 1-1.5 feet of vegetative soil. The topsoil was seeded with native grasses

and irrigated. Infiltration of rain water through the landfill cap is minimized by conveyance of rainwater through a surface drainage system. Surface water drainage ditches installed along the roads of the landfill provide continuous drainage flow. Drain pipes and catch basins installed at low points carry drainage beyond the landfill footprint.

REGULATORY HISTORY

7. Previous Orders: The Regional Board adopted two separate orders for the landfill in 1978 and 1989. The orders included specifications regarding landfill construction, operation, and closure. The orders include:
- Order No. 78-3, Waste Discharge Requirements, which permitted disposal at the Sunnyvale Landfill
 - Order No. 81-14, amendment of Order No. 78-3
 - Order No. 89-105 - Updated Waste Discharge Requirements, which specified conditions of waste placement, containment, monitoring, and closure.
 - Order No. 93-113 - General Order Amendment of Order No. 89-105

SITE GEOLOGIC AND HYDROGEOLOGIC SETTING

8. Regional hydrogeologic conditions: The site is located at the northern end of the Santa Clara Valley groundwater basin. The alluvial fill of the Santa Clara Valley is composed of a heterogeneous mixture of gravel, sand, silt, and clay. Gravel and sand were deposited in meandering stream channels draining into the San Francisco Bay. These coarser deposits are the primary aquifers or water producing zones in the Sunnyvale area. These aquifers are interspersed within thick clay layers deposited by Bay waters. Regionally, these channel deposits are grouped into upper and lower aquifer zones. The upper aquifer zone generally extends to depths of 60 feet; the lower aquifer zone generally occurs below this depth. These aquifers are separated from each other by an extensive clay aquitard. The upper aquifer zone along the Bay margin in the vicinity of the site is saline due to its proximity to the San Francisco Bay and historic salt evaporator ponds.
9. Local groundwater conditions: Although regional shallow groundwater flows north, shallow groundwater beneath the landfill is influenced by surface water ponds, channels, ditches, storm drain pipelines, and sanitary sewers, which result in a generally radial flow of groundwater toward the center of the landfill. Shallow groundwater is encountered at depths near mean sea level. An aquitard separating the shallow aquifer from the deeper aquifer and the upward vertical gradient between the aquifers prevents groundwater in contact with landfill waste from moving downward. The primary sources of recharge to

the shallow groundwater units are through direct infiltration in areas upgradient of the landfill. Runoff from the landfill flows to the Lockheed Channel at the northern perimeter of the site and surface ditches tributary to the Guadalupe Slough. Other channels include the Cargill Salt Channel, West Hill Slough, West Sunnyvale Channel, and East Sunnyvale Channel.

10. Geologic structure and faulting: Within the mountain ranges on both sides of the Santa Clara Valley are well defined active earthquake faults. The major active fault zones in the region include the San Andreas, Hayward, and Calaveras fault zones. The site is approximately 11 miles northeast of the San Andreas fault zone, and approximately six and seven miles southwest of the Hayward and Calaveras fault zones, respectively. The closest fault to the landfill is the Silver Creek Fault located 2 miles to the east. Seismic evaluation indicates that the landfill is relatively stable under static conditions but is subject to deformation under seismic loading. Monitoring of the landfill slopes since 1991 indicates vertical settlement of the landfill of up to 7.5 feet.

SITE CONTAMINATION AND WATER QUALITY

11. Impacts at landfill: Monitoring at the landfill indicates that leachate contains VOCs including benzenes, chlorobenzenes, toluene, xylenes, and naphthalene. Monitoring also indicates that some of these compounds, plus other VOCs, including PCE, DCE, TCE, TCA, DCA, Freon 113, 1,4-dioxane, and vinyl chloride are detected in shallow groundwater at the landfill. No compounds detected in leachate or groundwater exceed USEPA Freshwater or Saltwater Estuarine Water Quality Criteria. Upgradient and adjacent to the landfill are two VOC remediation sites. It is possible that these sources have contributed to groundwater impacts at the landfill. Monitoring at the landfill also indicates no significant impacts to surface waters draining from the landfill.
12. Corrective action measures: The Discharger submitted a Corrective Action Program and Water Quality Monitoring Plan in December 1995, which was approved by Board staff. The Corrective Action Program is based on hydraulic capture of groundwater by flow toward existing sinks, primarily sanitary sewer pipelines and the Water Pollution Control Plant within the landfill. Extensive groundwater monitoring at the site indicates that groundwater contaminant concentrations are stable or declining. Buildup and migration of leachate is prevented by capping, surface water drainage controls, and leachate extraction and removal. The Discharger also operates a landfill gas collection system.
13. Board Resolution No. 89-39: Board Resolution 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas containing high TDS (greater than 3000 mg/l TDS), high

background contaminant levels, or those areas with a low-yield. Some groundwater underlying and adjacent to the site qualifies as a potential source of drinking water, though there is no current use of the site's groundwater, nor any anticipated plans for its use.

14. Potential source of drinking water: Shallow groundwater beneath the southern two thirds of the landfill does not exceed the 3000 mg/l total dissolved solids (TDS) threshold for drinking water. Shallow groundwater beneath the northern one-third of the landfill contains high chloride and total organic carbon levels, and generally exceeds 3000 mg/l TDS. Therefore, the upper aquifer zone in the northern 1/3 of the site meets the exemption criteria of the State Water Resources Control Board's Sources of Drinking Water Policy.
15. Basin Plan: The Regional Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The State Water Resource Control Board and the Office of Administrative Law approved the revised Basin Plan on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

The beneficial uses of groundwater beneath the landfill include:

- a. Municipal supply
 - b. Industrial process supply
 - c. Industrial service supply
16. The beneficial uses of Guadalupe Creek and San Francisco Bay include:
 - a. Wildlife habitat
 - b. Water contact recreation
 - c. Non-contact water recreation
 - d. Commercial and sport fishing
 - e. Fish habitat
 - f. Fish migration

MONITORING PROGRAMS

17. Groundwater Monitoring – Thirty-two groundwater monitoring wells are located at the landfill perimeter and in interior areas. All of the wells are monitored for groundwater elevation, and a portion of the wells are monitored for chemical concentrations to verify that hydraulic capture and water quality objectives of the Corrective Action Program are

maintained. Monitoring of the groundwater wells indicates that groundwater pollution is contained within the footprint of the landfill and that the landfill may be impacted by VOCs originating from upgradient off-site sources.

18. Leachate Monitoring - Eight leachate wells are located within the interior of the landfill (GR-1-GR-8). The leachate wells serve to monitor landfill leachate elevations and chemical concentrations and determine whether landfill waste materials are leaching and impacting groundwater. The monitoring indicates that some of the contaminants detected in the groundwater originate from landfill waste.
19. Surface Water Monitoring – Surface water monitoring is conducted at three stations (SWM-1, SWM-2, and SWM-3) in surface drainage ditches at the landfill which drain to Guadalupe Slough and San Francisco Bay. The monitoring indicates no significant impacts from drainage to surface waters tributary to Guadalupe Creek and San Francisco Bay.

CALIFORNIA ENVIRONMENTAL QUALITY ACT AND PUBLIC NOTICE

20. CEQA: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the Resources Agency Guidelines.
21. Public notice: The Board has notified the Discharger and interested agencies and persons of its intent to adopt revised, updated Waste Discharge Requirements for the Discharger and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
22. Public meeting: The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, its agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2, Subdivision 1 of the California Code of Regulations and Division 7 of the California Water Code and shall comply with the following:

A. PROHIBITIONS

1. The relocation of wastes to or from waste management units shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code. Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever. Wastes shall not be relocated to

any location where they can be discharged into waters of the State or of the United States.

2. Leachate and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.
3. Buildup of leachate levels shall be prevented by leachate extraction. The depth of leachate shall be kept at the minimum level necessary to insure efficient leachate extraction.
4. The creation of any new waste management units is prohibited without prior Regional Board approval.
5. The Discharger shall not excavate within or reconfigure any existing waste management unit without prior Regional Board approval.
6. No additional waste shall be deposited or stored at this site, excepting biosolids from the WPCP, materials dredged from the Baylands pump station forebay, and sediment dredged from the Guadalupe Slough boat ramp, which shall be placed into the monofill located between the East and South Hills.
7. The Discharger, or any future owner or operator of the site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

a. Surface Waters

- Floating, suspended, or deposited macroscopic particulate matter or foam.
- Bottom deposits or aquatic growths.
- Alteration of temperature, turbidity, or apparent color beyond natural background levels.
- Visible, floating, suspended or deposited oil or other products of petroleum origin.
- Toxic or other deleterious substances in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

- Further degradation of groundwater quality.
- Substantial migration of groundwater impacts.

8. The Discharger shall not disc the landfill cap. Alternate methods of controlling vegetative growth, which do not affect the integrity or permeability of the landfill cap, shall be utilized.
9. Water application rates at the concrete crushing facility on top of the East Hill shall not exceed the 0.06 inch per day design criteria (averaged over the area of the facility footprint and associated roads).

B. SPECIFICATIONS

1. All reports pursuant to this order shall be prepared under the supervision of a California registered civil engineer, California registered geologist or certified engineering geologist.
2. The site shall be protected from any washout or erosion of wastes or cover material and from inundation that could occur as a result of a 100-year, 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.
3. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.
4. The existing containment, drainage, and monitoring systems at the facility shall be maintained as long as leachate is present and poses a threat to water quality.
5. The Discharger shall assure that the structures which control leachate, surface drainage, erosion and gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
6. The final cap system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.
7. The Discharger shall analyze the samples from groundwater and leachate wells as outlined in the Discharge Monitoring Program (Attachment A).
8. The Discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future Discharge Monitoring Program issued by the Executive Officer.
9. Landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water.

10. The Discharger shall maintain all devices or designed features installed in accordance with this Order, such that they continue to operate as intended without interruption.
11. The Discharger shall provide a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. A licensed land surveyor or registered civil engineer shall install these monuments.
12. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
13. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
14. The Discharger shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at points of compliance as provided in Section 20420 of Title 27.

C. PROVISIONS

1. The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].
2. All technical and monitoring reports required pursuant to this Order are being requested pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code.

4. **ANNUAL MONITORING REPORT**

COMPLIANCE DATE: April 30 of each year

The Discharger shall submit an Annual Monitoring Report, acceptable to the Executive Officer, by April 30 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The annual report to the Board shall cover the previous year as described in Part A of the Monitoring Program. In addition to the requirements outlined in Attachment A, this report shall also include the following: location and operational condition of all leachate and groundwater monitoring wells; and a site map delineating groundwater and leachate elevation contours for each monitoring event. The report should also describe and document placement of dried sludge and sediment within the biosolids monofill area.

6. **ANNUAL MAINTENANCE REPORT**

COMPLIANCE DATE: April 30 of each year

The Discharger shall submit a technical report, acceptable to the Executive Officer, detailing the repair and maintenance activities that need to be completed prior to the commencement of the next rainy season (starting October 15 of each year). This letter report shall also include a schedule for repair and maintenance activities, and a cost analysis detailing the anticipated expense for all repairs, maintenance and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the Discharge Monitoring Program.

7. **CHANGES TO POST-CLOSURE DEVELOPMENT DESIGN**

COMPLIANCE DATE: 120 days prior to any material change in site operations or features

The Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, describing any material proposed changes to site development, redevelopment projects, site features, or site operations for the landfill. The technical report shall describe the project, identify key changes to the design which may impact the landfill, and specify components of the design necessary to maintain integrity of the landfill cap and prevent water quality impacts. No material changes to the site shall be made without approval by the Executive Officer.

8. **CHANGE IN SITE CONDITIONS**

NOTIFICATION DUE DATE: Immediately upon occurrence
REPORTING DUE DATE: 30 days after initial notification

The Discharger shall immediately notify the Board of any flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, or other change in site conditions that could impair the integrity of the landfill cap, waste or leachate containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

9. **STORMWATER CONTROL PLANS**

COMPLIANCE DATE: October 15 of the year of construction or prior to construction if commencing between October 15 and May 15

For each proposed development greater than 1 acre in size, the Discharger shall submit a Notice of Intent to the State Water Resources Control Board, prepare and submit a Storm Water Pollution Prevention Plan acceptable to the Executive Officer, and implement Best Management Practices (BMPs) for the control of storm water, in accordance with requirements specified in the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000002).

10. **WELL INSTALLATION REPORT**

COMPLIANCE DATE: 45 days following completion of well installation activities

The Discharger shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the present or future Discharge Monitoring Program (Attachment A).

11. The Discharger shall maintain a copy of these waste discharge requirements and these requirements shall be available to operating personnel at the facility at all times [CWC Section 13263].
12. This Board considers the property owner(s) and site operator(s) to have responsibility for correcting any problems that arise in the future as a result of the

waste discharged or related operations on their respective parcels which each owns or controls.

13. In the event that the property adjacent to the landfill is developed into residential dwellings, the Discharger will notify prospective home purchasers of the presence of the landfill.
14. The Discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:
 - a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
 - b. Access to copy any records required under the terms and conditions of this order.
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
 - d. Sampling of any discharge or groundwater governed by this order.
15. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes.
16. In the event of any change in control/operator or ownership of land or parcel of land, or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. The Discharger must notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]. The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.
17. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics [CWC Section 13263].

18. Where the Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information [CWC Sections 13260 and 13267].
19. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from his liability under Federal, State or local laws, nor do they create a vested right for the Discharger to continue the waste discharge [CWC Section 13263(g)].
20. Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.
21. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order [CWC Section 13263(f)].
22. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the Discharger is in violation of a prohibition in the applicable water Quality Control Plan [CWC Section 13271(a)].
23. The Discharger shall report any noncompliance that may endanger public health or the environment. Any such information shall be provided orally to the

Executive Officer within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours [CWC Sections 13263 and 13267].

24. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
25. This Board's Order No. 89-105 is hereby rescinded.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 19, 2004.



Bruce H. Wolfe
Executive Officer

Figures: Figure 1 - Site Location Map

Attachment: Attachment A - Discharge Monitoring Program



FIGURE 1
LOCATION MAP

SUNNYVALE LANDFILL
SUNNYVALE
SANTA CLARA COUNTY, CA

ATTACHMENT A

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

DISCHARGE MONITORING PROGRAM

FOR

**SUNNYVALE LANDFILL
SUNNYVALE, SANTA CLARA COUNTY**

ORDER NO. R2-2004-0030

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Title 27 of the California Code of Regulations.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the dischargers in complying with the requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Regional Board shall be signed by a duly authorized representative of the laboratory.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any water that actually or potentially receives surface or groundwaters that pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, the surface runoff from the site, and the San Francisco Bay are considered receiving waters.

3. Standard observations refer to:
 - a. Receiving Waters
 - 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
 - 2) Discoloration and turbidity: description of color, source, and size of affected area.
 - 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 4) Evidence of beneficial use: presence of water associated wildlife.
 - 5) Flow rate
 - 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.
 - b. Perimeter of the waste management unit.
 - 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion and/or daylighted refuse.
 - c. The waste management unit.
 - 1) Evidence of ponded water at any point on the waste management facility.
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion, slope or ground movement, and/or daylighted refuse.
 - 4) Adequacy of access road
 - 5) Condition of site drains, silt basin capacity
 - 6) Standard Analysis and measurements are listed on Table A (attached)

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The Discharger is required to perform sampling, analyses, and observations in the following media:

1. Storm drain discharges per Section 20415
2. Groundwater and leachate per Section 20415

and per the general requirements specified in Section 20415(e) of Title 27.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. A written corrective action monitoring report shall be filed by April 30 of each year. The report shall be comprised of the following:

- a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

- b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

- 1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.
 - 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.
 - 3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.
- c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
- d. Laboratory statements with the results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.
- 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.
 - 2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that are outside laboratory control limits; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

- e. An evaluation of the effectiveness of the leachate monitoring facilities, which includes an evaluation of leachate buildup within the disposal units.
- f. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.
- g. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a computer data disk, tabulating the year's data in Microsoft Excel.
- h. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
- i. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.
- j. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units.

2. CONTINGENCY REPORTING

A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:

- 1) a map showing the location(s) of discharge if any;
- 2) approximate flow rate;
- 3) nature of effects; i.e. all pertinent observations and analyses; and
- 4) corrective measures underway, proposed, or as specified in the Waste Discharge Requirements.

3. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 45 days after well installation.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. ON-SITE OBSERVATIONS – Observe quarterly, Report annually

<u>STATION</u>	<u>DESCRIPTION</u>	<u>OBSERVATIONS</u>	<u>FREQUENCY</u>
A-1 to A-'n'	Located on the area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Quarterly
P-1 thru P-'n'	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Quarterly
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area	Standard test as outlined in Table A (perform analysis) once per seep)	Daily until remedial action is taken and seepage ceases.

B. SURFACE, GROUNDWATER AND LEACHATE MONITORING -

Report Annually

- i. Surface water: Surface water shall be monitored as outlined below and in Table A (Attached). These monitoring points are also shown on Figure 2 (Attached).

Water Quality Monitoring Points:

Surface Water	SWM-1, SWM-2, and SWM-3
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- ii. Groundwater: Groundwater shall be monitored as outlined below and in Table A (Attached).

Water Elevation Monitoring Points:

Groundwater	G1, G2, G4, G5, G6, G7, G8, G10, G11-G22, GX23-GX-25, G26-G32, GC3, GC4, and any new wells
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Water Quality Monitoring Points:

Groundwater	G4-G8, G10, G11, G13, G15, G20-G22, G28, and any new wells
-------------	--

- iii. Leachate: Leachate shall be monitored as outlined below and in Table A (Attached).

Water Elevation and Water Quality Monitoring Points:

Leachate	GR1-GR8 and any new wells
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C. FACILITIES MONITORING

The Discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report annually.

D. Reports shall be due on the following schedule:

Annual Report:

April 30 of each year

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. R2-2004-0030.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.


Bruce H. Wolfe
Executive Officer

Date Ordered: May 19, 2004

Attachment: Table A - Schedule for Sampling, Measurement, and Analysis

Figure 2 - Monitoring Locations

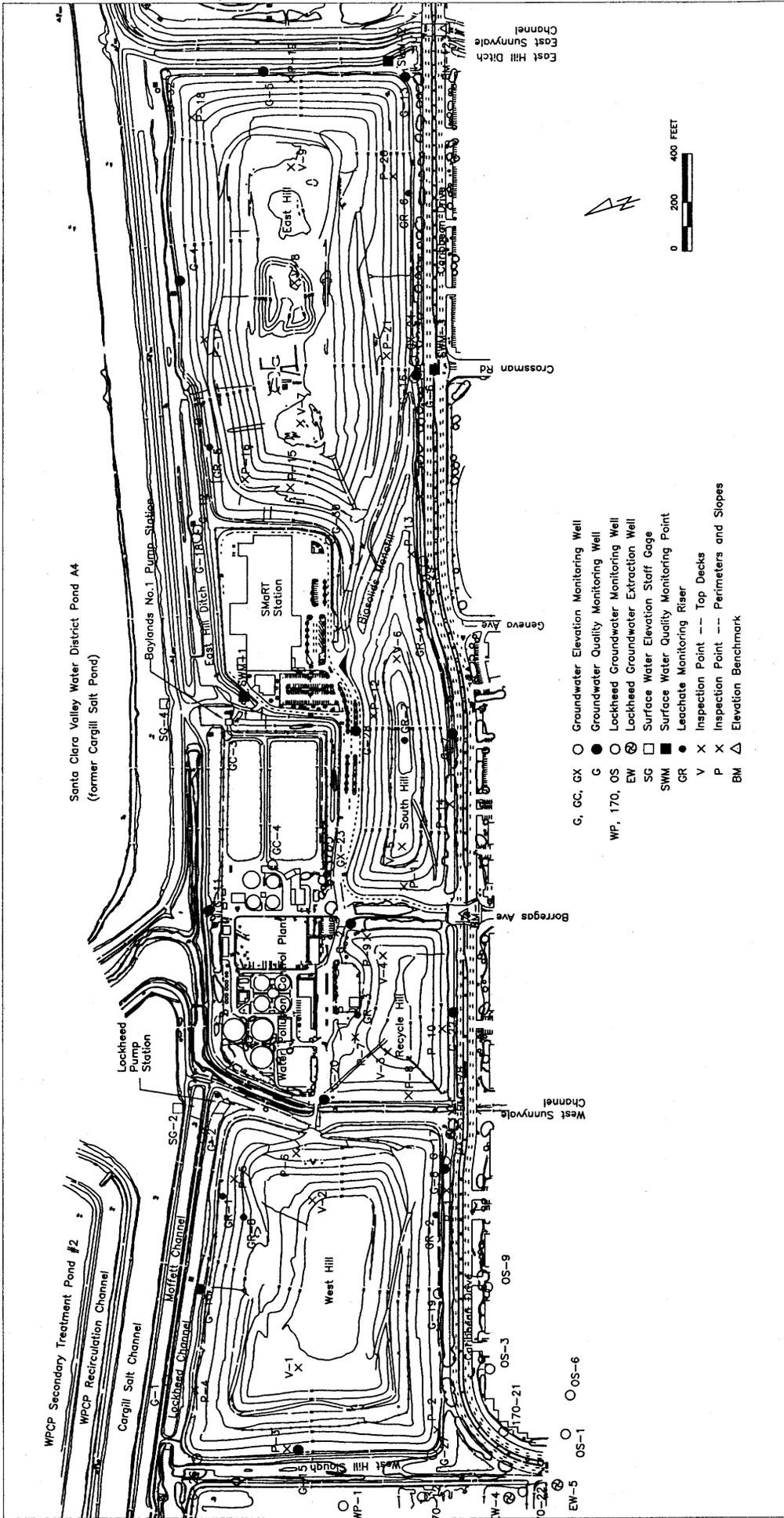
Table A - Discharge Monitoring Plan, List of Analytical Parameters, Surface Water, Leachate and Groundwater

Parameters	Method*	Frequency
Leachate Elevation**	Field	semi-annually
Groundwater Elevation**	Field	semi-annually
pH	Field	annually
pH	150.1	annually
Chloride	300.0	annually
Ammonia (un-ionized)	350.3	annually
Nitrate as Nitrogen	353.2	annually
COD	410.1	annually
Electrical conductivity	Field	annually
Electrical conductivity	120.1	annually
Volatile Organic Compounds (8010 list)	8260	annually
BTXE	8021	annually
MTBE	8021	annually
Phenols, total	420.1	annually
Total Kjeldahl Nitrogen	351.4	annually
Turbidity	Field	annually

Notes:

* Test methods per Methods for Chemical Analysis of Water and Waste, USEPA 600/4/79/029, revised March 1983, or Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, USEPA SW-846, 3rd edition, November 1986 and revisions.

** Leachate and groundwater elevation monitoring to be performed semi-annually (in March and September)



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CITY OF SUNNYSIDE LANDFILL

Figure 1
 08/25/03