CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 95-088
UPDATED WASTE DISCHARGE REQUIREMENTS
AND RECISION OF ORDER NOS. 72-35 and 78-100 FOR:

CLOSED WEST WINTON LANDFILL
CITY OF HAYWARD and
WASTE MANAGEMENT OF ALAMEDA COUNTY
HAYWARD, ALAMEDA COUNTY

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

1. The City of Hayward is the landfill's current legal owner. Waste Management of Alameda County, a division of Waste Management, Inc., is the previous owner and landfill operator. Waste Management of Alameda County has transferred title of West Winton Landfill to the City of Hayward. Both the City of Hayward and Waste Management of Alameda County (hereinafter referred to as dischargers) are responsible for compliance with this Order.

PURPOSE OF ORDER UPDATE:

2. The primary objectives of this Order are to revise the landfill's groundwater, surface water and leachate monitoring program, and to bring the site into compliance with the current regulations of Article 5, Chapter 15, Title 23 of the California Code of Regulations. Additionally, this Order requires the dischargers to document the integrity of the existing clay cap, complete installation of the vegetative cover layer over the clay cap, repair portions of the drainage control structures and evaluate the need for regrading portions of the landfill to promote runoff.

LANDFILL HISTORY AND LOCATION

3. West Winton Landfill (formerly known as Oakland Scavenger Company's Hayward Site) is a closed bay front landfill located at the western terminus of Winton Avenue in Hayward, Alameda County (Figure 1). The landfill is bounded to the west by Triangle Marsh, to the east by abandoned sludge drying beds, and to the north and south by flood control channels. Historically, the site was a saltmarsh located midway between the mouths of San Lorenzo Creek and Alameda Creek (Figure 3). Landfilling operations began in about 1938 and continued until approximately 1974. The landfill was owned and operated by Waste Management of Alameda County (formerly Oakland Scavenger Company). Subsequent to closure, and prior to acquisition by Waste Management of Alameda County, transfer of maintenance responsibilities for the landfill was assigned to the City of Hayward. The landfill is currently included in East Bay Regional Park District's Hayward Regional Shoreline.

4. The landfill covers approximately 60 acres (See Figure 2), just east of San Francisco Bay and is built on reclaimed tidal mud flats.

5. On June 27, 1972 the Board adopted Order No. 72-35 prescribing the first Waste Discharge Requirements for West Winton Landfill, issued to Oakland Scavenger Company .

6. On June 10, 1976 the Board issued Cleanup and Abatement Order No. 76-012 to Oakland Scavenger Company requiring repair of leachate seeps and proper closure of the landfill.

7. On July 19, 1977 the Board adopted Resolution No. 77-7 titled Minimum Criteria for Proper Closure of Class II Solid Waste Disposal Sites (including West Winton Landfill).

8. On June 8, 1978, the Executive Officer signed a letter to Oakland Scavenger Company rescinding CAO No. 76-012 stating that all Provisions of the Order had been addressed.

9. On November 21, 1978 the Board adopted Order No. 78-100 prescribing Site Closure Requirements for the City of Hayward as new owner of West Winton Landfill.

HYDROGEOLOGIC SETTING OF THE SITE

10. The landfill is underlain by younger Bay mud and an older alluvial unit attributed to the Temescal Formation by WBA (1993). The thickness of the younger Bay mud ranges from about 6 feet beneath the eastern end of the landfill, to more than 20 feet beneath the west side. The thickness of the older alluvial unit has not been determined because no boring has penetrated the entire thickness in the vicinity of the landfill. The Hayward Fault is the closest active fault and is located about 4 miles east of the landfill.

West Winton Landfill is located within the San Lorenzo Cone Subarea of the East Bay Plain Groundwater Basin. Unconsolidated deposits in the vicinity of the landfill are nearly 1000 feet thick (Muir, 1993). Groundwater used in the San Lorenzo Cone Subarea is generally pumped from the Alameda Formation at depths greater than 100 feet below ground surface. The closest municipal water supply well is a City of Hayward Emergency Water Supply Well located at the Hayward Air Terminal about 2 miles east of the landfill.

Groundwater occurs at shallow depths within the Bay mud beneath and adjacent to the landfill. Groundwater levels have been monitored at West Winton Landfill since 1988. Water level elevations fluctuate within a narrow range; nearly all data fall between 1.6 and 2.8 feet above sea level. The gradient across the site is very flat, typically 0.0002 feet/feet. The flat gradient and low hydraulic conductivity of the young Bay mud indicate that very little lateral groundwater flow occurs at this site (Bray, 1994).

11. In 1988, the City installed a low permeability cap over the entire landfill. However, no protective (vegetative) layer was installed above the cap. Thus the integrity of the low permeability cap is in question because it has been subjected to desiccation cracks, rill erosion and sheet erosion. Provision 5 of this Order requires an evaluation of the integrity of the clay cap and repair as necessary.

12. In May 1991, a rusty colored seepage was observed discharging from the landfill by Regional Board staff. Subsequent investigations in 1992 concluded that leachate was leaking through levee soils. In November 1993, the City installed a leachate extraction system and began pumping leachate at a rate of approximately 5 gallons per minute from two wells to control the seep and reduce overall leachate levels. Leachate is pumped via pipeline to the City's Water Pollution Control Facility located one mile south of the landfill.

    The operation of the leachate extraction system was evaluated by the City of Hayward (Bray, 1994) and found to be adequate for collecting leachate and preventing seepage. Leachate generation rates are currently low due the high percent of runoff from the bare clay cap (of current rainfall, runoff is estimated at 73% and leachate generation is 0.24%). However, it is predicted that the leachate generation rate will increase significantly once the vegetative cover is constructed over the clay cap due to slower runoff rates (with vegetative cover in place runoff is estimated at 11% and leachate generation is 27% of rainfall).

MONITORING PROGRAM:

13. Groundwater quality at West Winton Landfill is currently monitored by six groundwater monitoring wells (WW-1,2,5,6,7,8) and two leachate monitoring wells (L-2 and L-6).

14. The shallow groundwater beneath the landfill is generally of poor quality due to naturally occurring high Total Dissolved Solids levels in the range of 14,000 to 47,000 mg/l. These levels are similar to other "bay-front" sites and exceed the Sources of Drinking Water Standard of 3000 mg/l.

15. Shallow groundwater near the western margin of the landfill, at wells WW-1 and WW-6, appears to contain concentrations of total kjeldahl nitrogen (TKN) that are significantly higher than background. Maximum concentrations of TKN in groundwater reach 120 mg/l in WW-1 and 84 mg/l in WW-6. Landfill leachate contains elevated levels of TKN up to 610 mg/l. Volatile organic compounds (VOC) have been detected in two, now-abandoned, leachate monitoring wells at levels exceeding 4 ppm total VOCs. Currently VOCs are not detected in groundwater or leachate. A Corrective Action Program, including leachate extraction and treatment, has been approved by the Executive Officer and was implemented by the City of Hayward in November 1993. The corrective action is ongoing and is expected to be continued throughout the post-closure care period.

16. Federal Regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activities, including landfills, to obtain a NPDES permit for storm water discharges. The State Water Resources Control Board has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001). This facility is subject to these requirements until such time as the vegetative layer is installed over the entire site. Pursuant to the Stormwater Discharge Program, this landfill is required to submit a Notice of Intent for coverage under the General Permit; to prepare and implement a monitoring program; and to submit an annual report. Compliance with the monitoring and reporting requirements of this Order are intended to assure compliance with the requirements of the General Permit. Following installation of the vegetative layer over the entire landfill, the dischargers may submit a notice of termination to the State Water Resources Control Board. At such time the Executive Officer may suspended the requirements of the General Permit.

17. The existing and potential beneficial uses of groundwater in the vicinity of the landfill include municipal and domestic water supply, industrial process water supply, industrial service water supply, agricultural water supply. The beneficial uses of Central San Francisco Bay waters are as follows:

    a. Navigation
    b. Water contact recreation
    c. Non-water contact water recreation
    d. Industrial process supply
    e. Industrial service supply
    f. Wildlife habitat
    g. Fish spawning
    h. Ocean commercial and sport fishing
    i. Preservation of rare and endangered species
    j. Fish migration
    k. Shellfish harvesting
    l. Estuarine habitat

    It is noted that the shallow groundwater less than 20 feet below ground surface in the immediately vicinity of the landfill does not appear to qualify as a source of drinking water pursuant to State Board Resolution No. 88-63 . Historical groundwater monitoring data show that total dissolved solids levels are greater than 14,000 mg/l. These levels exceed the sources of drinking water criteria of 3000 mg/l total dissolved solids.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

18. This action is exempt from the provision of the California Environmental Quality Act pursuant to Section 15308, Title 14 of the California Code of Regulations.

19. Landfills can potentially impact groundwater if not properly designed, maintained and/or operated. Groundwater can also be affected by water that percolates through waste materials and extracts or dissolves substances from it and carries them into the groundwater.

20. The preceding impacts are mitigated or avoided by design measures to control erosion and assure containment of waste and leachate through the use of leachate collection and removal systems.

21. The Board has notified the dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

22. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to authority in Title 23, Chapter 15, Section 2581 and California Water Code Division 7 that the dischargers, their agents, successors and assigns are to conduct postclosure maintenance and monitoring as follows:

A. PROHIBITIONS

1. Wastes shall not be in contact with ponded water.

2. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or of the United States.

3. The landfill is considered a closed facility. Therefore, no additional wastes of any origin or type shall be allowed to be deposited or stored within or upon this site.

4. The dischargers, or any future owner or operator of this 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

      1. Floating, suspended, or deposited macroscopic particulate matter or foam.

      2. Bottom deposits or aquatic growth.

      3. Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

      4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

5. Toxic or other deleterious substances to be present 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

The groundwater shall not be degraded as a result of the waste contained at the facility.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist, or certified engineering geologist.

2. Waste shall not be exposed to the surface.

3. The site shall be protected from any washout or erosion of wastes from inundation which 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.

4. The leachate collection and recovery system shall be inspected monthly or more frequently as necessary and the dischargers are required to keep the system operational permanently.

5. The dischargers shall assure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

6. The landfill's cap shall be graded to prevent ponding and promote lateral runoff of precipitation.

7. A detailed survey of the landfill's cap must be made, to assure the cap meets the postclosure grading requirements.

8. In the event of a release of a constituent of concern beyond the Point of Compliance, the site will begin a Compliance Period pursuant to Section 2550.6(a) of Chapter 15. During the Compliance Period, the dischargers shall perform an Evaluation Monitoring Program and a Corrective Action Program.

9. The dischargers shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive Officer.

10. This Board considers the dischargers to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations during the post-closure maintenance period.

11. The dischargers shall maintain all devices or designed features, installed in accordance with this Order such that they continue to operate as intended without interruption as provided for by the performance standards adopted by the California Integrated Waste Management Board.

12. The dischargers shall provide and maintain a minimum of two permanent surveyed monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post-closure and maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer and resurveyed annually.

13. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure which threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

14. The dischargers may irrigate the vegetative cover with reclaimed waste water provided that it meets appropriate Title 22 requirements, meets Department of Health Services *Guidelines For Use of Reclaimed Waste Water For Irrigation and Impoundments* and *Guidelines for Worker Protection at Reclaimed Use Areas*, and American Water Works Association, California and Nevada Section *Guidelines For Distribution of Nonpotable Water*. The volume of reclaimed water applied should be reported as "gallons per acre per month" and included in the landfill's semi-annual report.

15. The dischargers are permitted to use treated sewage sludge as a soil amendment in the vegetative cover on a one-time bases. However, neither the sewage sludge nor the vegetative cover shall have metals concentrations greater than those shown in 40CFR, Part 503.13, Table 3.

16. The dischargers shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at the point of compliance as provided in Section 2550.5. According to Sections 2550.2 and 2550.3 of Chapter 15, the dischargers are also required to establish a Water Quality Protection Standards (WQPS) and a list of Constituents of Concern (COCs). The dischargers shall meet the following schedule in implementing the requirements of this Provision.

The discharges shall implement a Corrective Action Monitoring Program, as provided in Section 2550.1(a)4 of Chapter 15. Within 15 months following the adoption of this Order, the dischargers shall submit a proposed monitoring program to the Board for approval by the Executive Officer. The proposed monitoring program shall include a list of Constituents of Concern and Monitoring Parameters, and Water Quality Protection Standards according to Section 2550.2 of Chapter 15. The dischargers shall implement the Discharge Monitoring Program attached to this Order until a revised program has been approved by the Executive Officer.

17. Following the establishment of the COC's list, the dischargers are required to monitor the chemical quality of leachate in the extraction system at a point immediately following collection of the leachate into a single pipeline.

18. The dischargers must comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.

C. PROVISIONS:

1. The dischargers shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.

2. The dischargers shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to the Board within 10 days after the occurrence of the earthquake. Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

3. The dischargers shall submit a **Contingency Plan** acceptable to the Executive Officer to be instituted in the event of a leak or spill from the leachate facilities. The dischargers shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control.

REPORT DUE DATE: WITHIN SIX MONTHS OF ADOPTION OF THIS ORDER

4. The dischargers shall submit the results of an **evaluation of the integrity of the low permeability cap and drainage control structures**. Such an evaluation will include measurement of cap thickness and amount of settlement on a grid spacing not to exceed 200 feet on center. The report shall include a plan and a schedule for repairing portions of the cap and drainage control structures as necessary.

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

5. The dischargers shall submit a plan for installing the vegetative layer to the clay cap including a description for bonding to the clay layer and documentation that a vegetative layer 12 inches thick has been installed over the entire landfill by the following dates:

REPORT DUE DATES:

June 15, 1995 - installation plan
September 30, 1995 - 40% completion
September 30, 1996 - 55% completion
September 30, 1997 - 70% completion
September 30, 1998 - 85% completion
September 30, 1999 - 100% completion
September 30, 2000 - document installation of vegetative layer on side slopes

It is noted that as of January 1995, installation of the vegetative layer was approximately 25% complete.

6. The dischargers shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

NOTIFICATION: IMMEDIATELY
REPORT DUE DATE: WITHIN 7 DAYS AFTER THE INCIDENT

7. The dischargers shall prepare, implement and submit a **Storm Water Pollution Prevention Plan** in accordance with requirements specified in State Water Resources Control Board General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001).

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

8. The dischargers shall prepare and submit an **Updated Site Topographic Map** prepared based on aerial photography of the site. The age of the aerial photography shall not be older than December 1, 1994. The map shall be annotated to show all groundwater, surface water and leachate monitoring stations.

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

9. The dischargers shall submit an **Evaluation of the Existing Ground Water, Leachate and Surface Water Monitoring Network and Schedule for Installation of Additional Monitoring Wells** acceptable to the Executive Officer.

- o Evaluate whether well WW-7 is a potential vertical conduit,
- o Compare bottom of well depths to "as constructed" depths,
- o Evaluate need for additional ground water monitoring wells e.g. along north side of site, between WW-2 and WW-6,
- o Evaluate the need for additional ground water monitoring wells such that piezometric surface maps can be drawn for ground water and leachate,
- o Add two new surface water monitoring stations along south side channel, and
- o Propose a surface water monitoring program designed to evaluate whether runoff from the vegetative layer impacts water quality.
- o Evaluate leachate piezometer locations for panhandle portion of site.

The report shall include a plan and schedule for installing the new wells prior to September 1, 1995.

REPORT DUE DATE: July 31, 1995

10. The dischargers shall submit **documentation of installation of new groundwater and leachate piezometers** pursuant to above Provision.

REPORT DUE DATE: November 1, 1995

11. The dischargers shall file with the Regional Board Discharge Monitoring Reports prepared under the supervision of a registered civil engineer or California registered geologist performed according to any **Discharge Monitoring Program** issued by the Executive Officer.

12. The dischargers shall comply with the Self-Monitoring Program which is attached to and made part of this order and/or any amendments thereafter.

13. The dischargers must reconstruct those portions of the landfill's cap which have settled and have damaged the landfill cap due to the refuse decomposition process.

14. The dischargers shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

15. This Board considers the property owner to have continuing responsibility for correcting any problems which may arise in the future as result of this waste discharge or related operations.

16. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the dischargers, the dischargers 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. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contract with the Board and a statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

17. The dischargers shall permit the 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 to be kept under the terms and conditions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order or by any other California State Agency.

    d. Sampling of any discharge or ground water governed by this Order.

18. 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 without appropriate permits from other agencies or organizations.

19. This Order is subject to Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

20. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications and Provisions of this Order, shall also be provided to the Department of Environmental Health, Office of Solid and Medical Waste Management.

21. This Order rescinds Order Nos. 72-35 and 78-100.

I, Steven R. Ritchie, 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, April 19, 1995.

Steven R. Ritchie
Executive Officer

Attachments:
Figure 1. Location Map
Figure 2. Site Map
Figure 3. Historical Map of Hayward Shoreline circa 1893
Discharge Monitoring Program

References:

Bray, T.D., 1994, Evaluation of Leachate Management Program, West Winton Landfill, report prepared for the City of Hayward Public Works Department dated August 1994.

Muir, K. S., 1993, Geologic Framework of the East Bay Plain Groundwater Basin, Alameda County, CA, report prepared for Alameda County Flood Control and Water Conservation District.

Whitley, Burchett and Associates, 1993, Investigation of Landfill Leachate Leakage at West Winton Landfill, report prepared for the City of Hayward Public Works Department dated January 1993.

Whitley, Burchett and Associates, 1991, Assessment of Red Discoloration Near West Winton Landfill, report prepared for the City of Hayward Public Works Department dated November 1991.

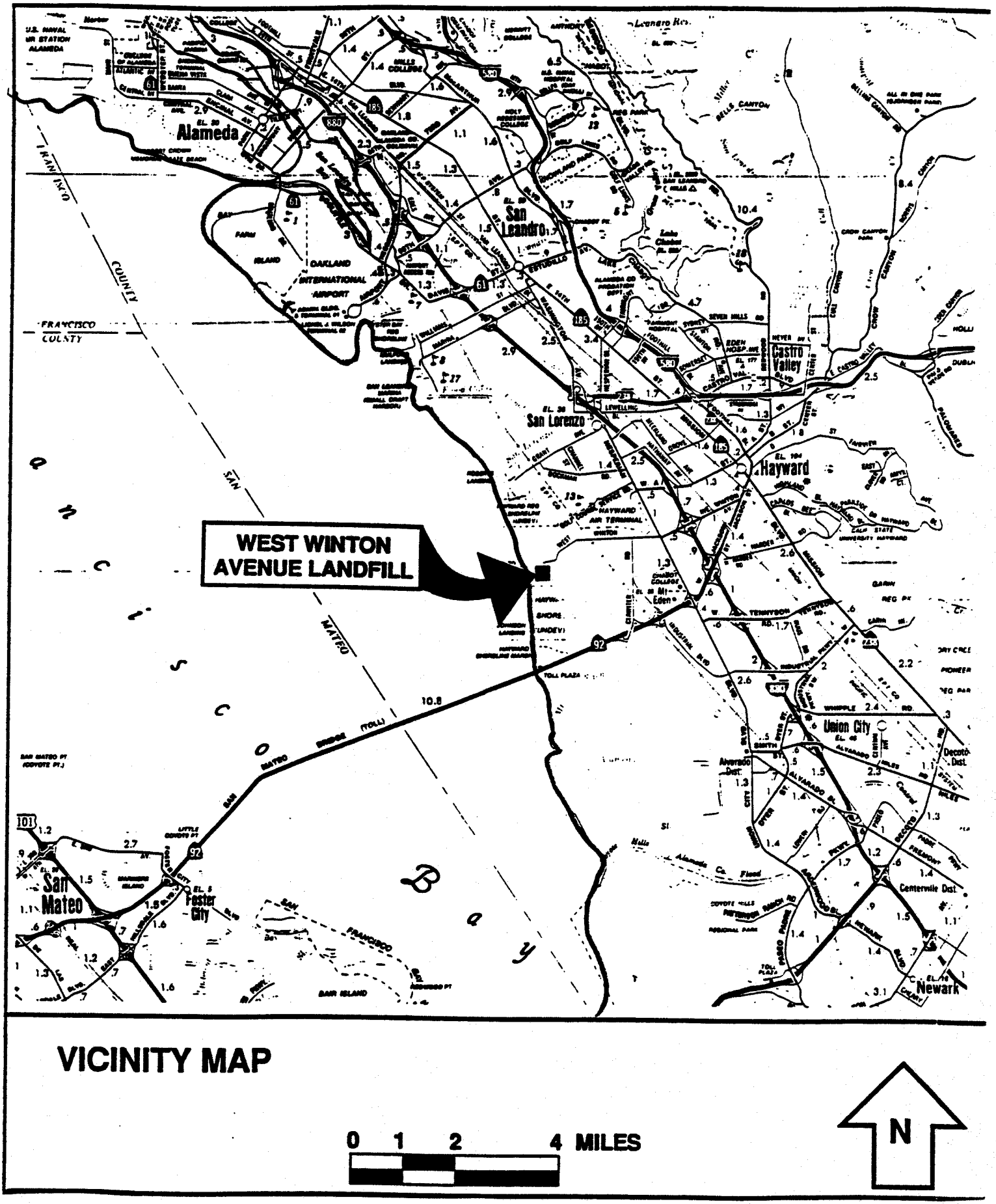

Figure 1. Location Map - West Winton Landfill, Hayward, Alameda County, CA

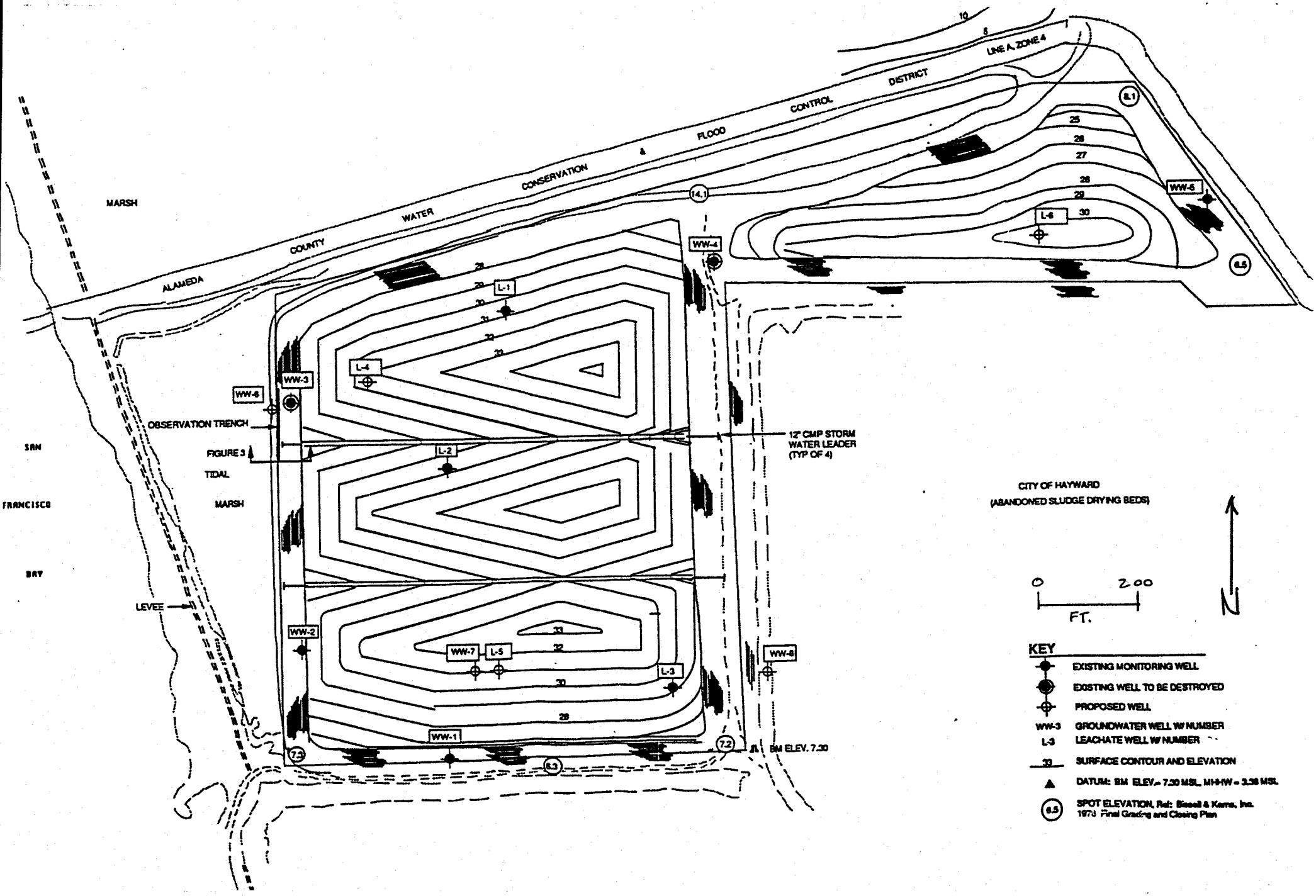

Figure 2. Site Map - West Winton Landfill, Hayward, Alameda County, CA

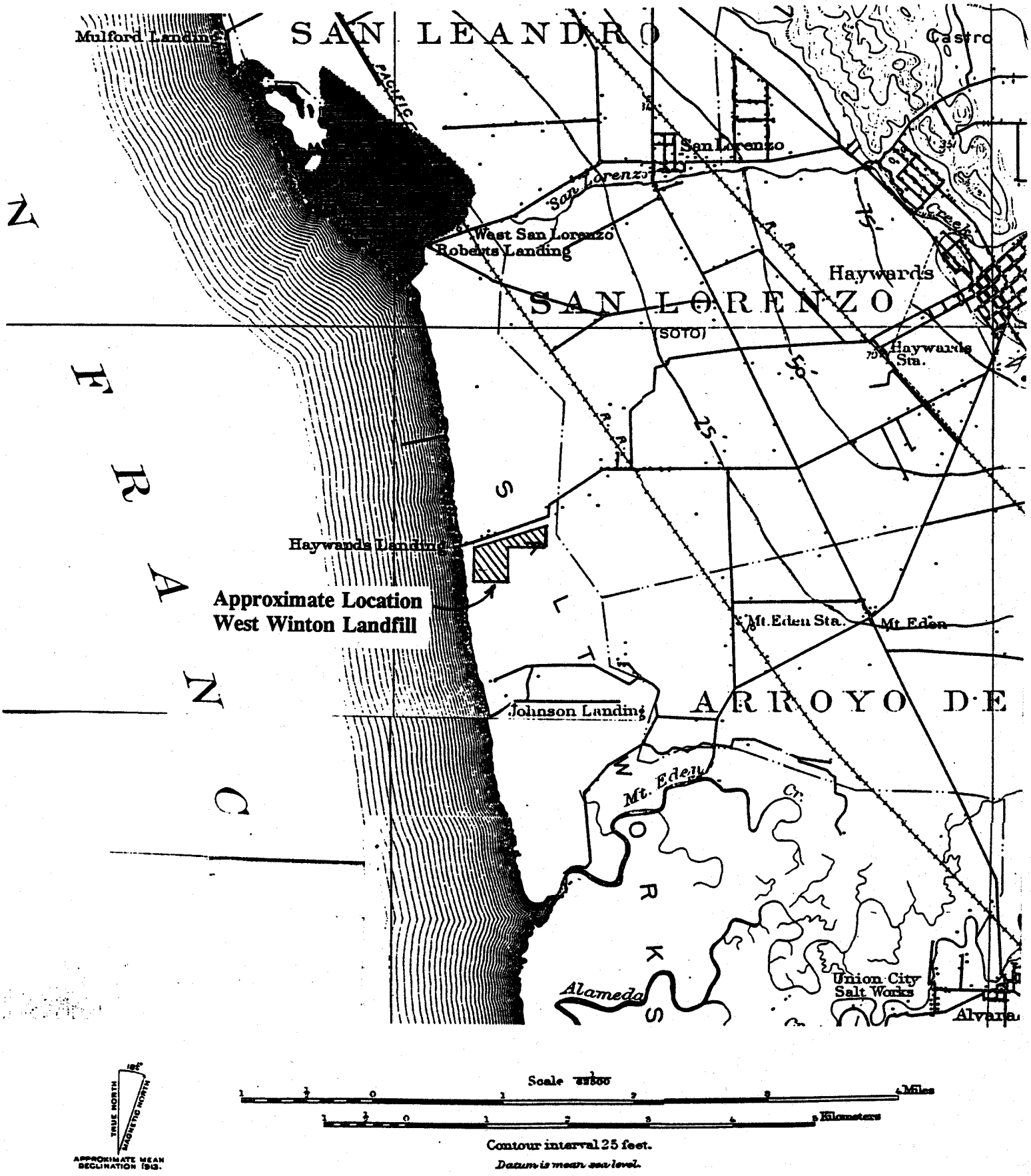

Figure 3. Historical Map of Hayward Shoreline circa 1893.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

CLOSED WEST WINTON LANDFILL
CITY OF HAYWARD and
WASTE MANAGEMENT OF ALAMEDA COUNTY
HAYWARD, ALAMEDA COUNTY

ORDER NO. 95-088

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 Provision C.5 of Regional Board Order No. 95-088.

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 discharger 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 discharger in complying with the requirements of Article 5, Chapter 15 as revised July 1, 1991.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA approved methods or 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 he/she or their authorized representative shall sign all reports of such work submitted to the Regional Board.

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 surface water which actually or potentially receives surface or groundwater which pass over, through, or under waste materials or contaminated soils. In this case, the groundwater beneath and adjacent to the landfill areas and the surface runoff from the site 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 a 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 and/or daylighted refuse.
      4) Standard Analysis (SA) and measurements are listed on Table 2 (attached).

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

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

1. Groundwater per Section 2550.7(b)
2. Surface water per Section 2550.7(c) and per the general requirements specified in Section 2550.7(e) of Article 5, Chapter 15 and
3. Vadose zone per Section 2550.7(d). This item is neither feasible nor applicable for this landfill.

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 of analyses, and name of the personal performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used where applicable; or reference to standard EPA methods.

5. Calculation of results.

6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written corrective action monitoring reports shall be filed by the 30th day of the month following the report period. In addition, an annual report shall be filed as indicated in F.3 below. The reports 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. A summary of the water quality monitoring data for all groundwater compliance points (As required under Part B, Table 1) and a statistical or non-statistical evaluation of the effects of the corrective action program on the water quality.

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 qualification 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 of 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 shall sign all reports of such work submitted to the Board.

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 approval 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; and explanation for any recovery rate that is outside of the normal range specified by the EPA for that method; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name of the person(s) performing the analyses.

e. An evaluation of the effectiveness of the leachate monitoring or control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

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.

2. CONTINGENCY REPORTING

a. 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;
2) approximate flow rate;
3) nature of effects; i.e., all pertinent observations and analyses; and
4) corrective measures underway or proposed.

3. REPORTING

As part of the Winter/Spring report due April 30 of each year, the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous five years; the report should be accompanied by a 5-1/4" or 3-1/2" computer data disk, MS-DOS ASCII format, tabulating the historical data.

b. 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.

c. A written summary of the groundwater analyses indicating any change in the

quality of the groundwater

d. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

4. 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 30 days after well installation.

PART B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. ON-SITE OBSERVATIONS - Report Semi-annually

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as deli-neated by a 500 foot grid network.	Standard observations for the waste management unit.	monthly
P-1 thru P-'n' (perim-eter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	monthly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the semi-annually monitoring report.

B. GROUNDWATER, LEACHATE AND SURFACE WATER MONITORING

Report Semi-annually

Groundwater, surface water, leachate and seepage monitoring points shall be monitored as outlined below on Table 1 and Table 2 and shown on Figure 1 (Attached).

During the wet season (October through April), estimate or calculate the volume of storm water discharge from each outfall and collect and analyze samples of storm water discharge from two storm events during each wet season which produce

significant storm water discharge as defined in State Water Resources Control Board Order No. 92-12-DWQ (General Permit for Storm Water Discharges). The samples must be analyzed for:

- pH, total suspended solids (TSS), specific conductance, and total organic carbon (TOC);

- Toxic chemicals and other pollutants that are likely to be present in storm water discharge in significant quantities.

TABLE 1

Monitoring and Compliance Points For Each Monitoring Medium:

MONITORING MEDIA	MONITORING POINT [1,2]
Surface Water	SW-1 and SW-2 SW-3 is background surface water point
Groundwater	WW-1,2,5,6,&8
Leachate - water quality	combined flow of leachate extraction wells
Leachate extraction wells (flow only)	L-4 and L-5
Leachate piezometers	LP-1,2,3,4&5 L-2&6
Seepage	S-1 thorough S-n

NOTES:

1. Compliance points are as follows: WW-1,2,5,6,7&8 for groundwater, SW-1&2 for surface waters and S-1 thorough S-n for seepages.

2. The bottom of all wells shall be sounded during the first semiannual monitoring period and annually thereafter. The sounded depths shall be compared to the as-built depths and reported in the semiannual reports.

Description of Sampling Points:

Leachate: L-2 and 6 are wells screened in the waste prism within the landfill. LP-1,2,3,4 are proposed leachate piezometers as outlined by Bray (1994). LP-5 and 6 are new leachate piezometers (required by this Discharge Monitoring Program) to be installed on the north and south side of the panhandle parcel.

Surface Water: SW-1 At the tidal inlet to the Triangle Marsh area. The surface water should be sampled at ebb tide, when water is flowing out of the marsh. SW-2 At a point on the Alameda County Water Conservation and Flood Control District Line A Zone 4 Channel. Downstream of West Winton Landfill. SW-3 At a point on the Alameda County Water Conservation and Flood Control District Line A Zone 4 Channel. Upstream of West Winton Landfill

Groundwater: WW-1,2,5,6,7,8 are existing shallow groundwater monitoring wells screened in Bay Mud from approximately four to 20 feet below ground surface.

C. FACILITIES MONITORING

The discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report quarterly. The facilities to be monitored shall include, but not be limited to:

a. Leachate collection and removal systems;
b. Surface water monitoring points;
c. Shallow and deep groundwater monitoring wells;
d. Perimeter diversion channels;
e. Leachate wells;

I, Steven R. Ritchie 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. 95-088.
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.

Steven R. Ritchie
Executive Officer

Date Ordered:April 19, 1995

Attachments:
Figure 2 - Site Map
Table 2 - Discharge Monitoring Plan

Table 2 - Discharge Monitoring Plan, List of Analytical Parameters

CLOSED WEST WINTON LANDFILL
CITY OF HAYWARD AND
WASTE MANAGEMENT OF ALAMEDA COUNTY
HAYWARD, ALAMEDA COUNTY

Parameter	Medium	Method	Frequency[4]	Reference
Leachate Extraction Rate	Leachate	Field	See Note 5	1
Leachate Level Measurements	Leachate	Field	Semi-annual	1
Water Level Measurements	Leachate & GW	Field	Semi-annual	1
Temperature Measurements	Leachate & GW	Field	Semi-annual	1
Electrical Conductivity	Leachate & GW	Field	Semi-annual	3
pH	All	Field	Semi-annual	3
Total Kjeldahl Nitrogen	Leachate & GW	351.2	Semi-annual	2
Turbidity	GW	Field	Semi-annual	1
Biological Oxygen Demand	SW	405.1	Semi-annual	
Ammonia as N (nonionized)	GW & SW	350.1	Semi-annual	
Chemical Oxygen Demand	GW & SW	410.4	Semi-annual	2
Total Dissolved Solids	GW	160.1	Semi-annual	2
Total Suspended Solids	SW	160.2	Semi-annual	2
Volatile Organic Compounds (Appendix I)	GW	8260	Semi-annual	3
Volatile Organic Compounds (Appendix I&II)	GW	8260	Once in 5 yrs[6]	3
Appendix II Semi-volatile Organics Compounds	GW & SW	8270	Once in 5 yrs	3
Organophosphorus Pesticides & PCB's	GW & SW	8140 w/ capillary column	Once in 5 yrs	3
Chlorinated Herbicides	GW & SW	8150 w/ capillary column	Once in 5 yr	3

Parameter	Medium	Method	Frequency[4]	Reference
Bioassay	SW	96-hr % survival static (rainbow trout)	Semi-annual	
Arsenic	All	7061	Semi-annual	3
Cadmium	All	7131	Semi-annual	3
Chromium	All	6010	Semi-annual	3
Copper	All	6010	Semi-annual	3
Lead	All	7421	Semi-annual	3
Mercury	All	7470	Semi-annual	3
Nickel	All	6010	Semi-annual	3
Selenium	All	7740	Semi-annual	3
Silver	All	6010	Semi-annual	3
Zinc	All	6010	Semi-annual	3

NOTES:

1. Not Applicable
2. Methods for Chemical Analysis of Water and Wastes, EPA600/4/79/029, revised March 1983
3. EPA SW-846

4. Winter/Spring Reporting Period: October 1 to March 31 (Samples to be collected between February 1 and March 31) report due by April 30.
   Summer/Fall Reporting Period: April 1 to September 30 (Samples to be collected between August 1 and September 30) report due by October 30.
5. The leachate extraction rates shall be recorded weekly and reported as follows:
   - total weekly flow (gallons per week)
   - total quarterly flow (gallons)
   - total number of days the system was shutdown during the quarter
   - average pumping rate in gallons per minute (average gallons per minute)
   - total cumulative flow since system startup (gallons)
6. Once every 5 yrs beginning with the Winter/Spring Reporting Period report due by April 30, 1996.
7. Monitoring Media: GW=groundwater,SW=surface water, All=leachate, SW&GW.
   Leachate analysis to be conducted on sample from leachate extraction system.
8. Alternative EPA-approved methods may be substituted for the above methods provided the alternative methods provide detection limits that are equal to or less than those attainable by the indicated method.
9. Metals samples shall be field filtered using a 5 micron filter.

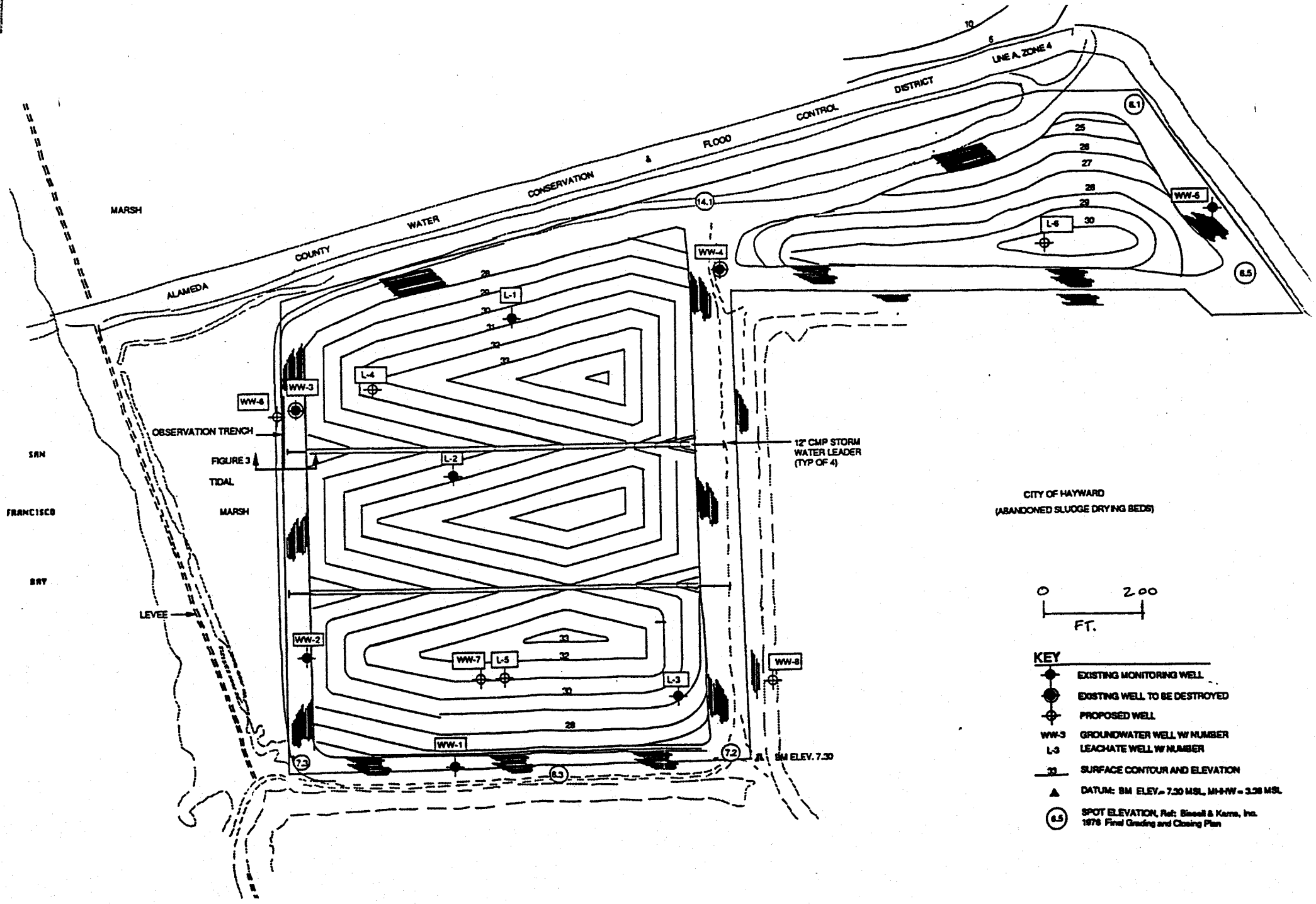

Figure 1. Site Map - West Winton Landfill, Hayward, Alameda County, CA