CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. R2-2007-0049

ADOPTION OF SITE CLEANUP REQUIREMENTS FOR:

CITY OF SAN JOSE
ACOSTA PROPERTIES, LLC
DANNA PROPERTIES
KELLEY PARK COMMUNITY RESOURCE CENTER
JOHNSON AND MARYLOU RUSSELL

For the

STORY ROAD LANDFILL
SAN JOSE, SANTA CLARA COUNTY

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

1. **Site Location:** The Story Road Landfill (herein referred to as the landfill or the site) is located in San Jose near the intersection of Coyote Creek and Interstate 280 (Figure 1). The landfill is bounded by Coyote Creek to the south and west, and Interstate 280 to the north. Several small industrial and commercial businesses are located along the eastern boundary of the landfill in a business park known as Remillard Court. The San Jose Water Company operates a municipal drinking water well field directly across Coyote Creek to the west. Residential subdivisions exist directly across Interstate 280 to the north and northwest. Open space is located directly across Coyote Creek to the south. Two smaller, closed landfills are located nearby, including the Martin Park and Roberts Avenue Landfills (Figure 2).

2. **Site Description:** The Story Road Landfill is a closed, unlined landfill that covers about 60-acres consisting of three discrete waste-filled areas referred to as Parcels 1 through 3, a fourth property where no waste exists but is the location of appurtenant landfill structures (Parcel 4), and the land that lies between and connects these parcels (Figure 2). Portions of five properties within the Remillard Court Business Park (Parcels 1 and 2) are located above waste. Parcel 4 does not contain waste but is the location of the landfill's extraction system where landfill leachate and groundwater impacted by waste discharges from the landfill are extracted and discharged to the City's sanitary sewer system.

3. **Site History:** The landfill was originally the home of the Remillard-Dandini Brick Company. From 1891 to 1957 the brick company produced approximately 10 million bricks a year from clay mined along the east bank of Coyote Creek. The clay pit was subsequently used for refuse disposal beginning in 1957 when the landfill was operated as a private landfill, informally known as the Remillard-Dandini pit. In 1961 the San Jose City Council issued an ordinance condemning the property and established a municipal landfill. The City

of San Jose operated the Story Road Landfill as a municipal landfill from 1961 to 1969. During that time, the unlined pits in which the refuse was placed were eventually filled to a height of 20 to 30 feet above the original ground surface. Approximately 500,000 cubic yards (cy) of refuse were disposed of at the landfill, although no records exist regarding its type or distribution. The landfill was closed with a soil cover about 1970.

About the time the landfill was closed in 1970, CC&F San Jose Properties, Inc. (now known as Cabot, Cabot, and Forbes (CC&F) Investment Co.) acquired a portion of the landfill property along the eastern landfill boundary within Parcels 1 and 2. From 1970 to 1975, CC&F developed its portion of the landfill into the Remillard Court Business Park and subsequently sold individual parcels (Figure 2). CC&F no longer owns any portion of the landfill; however, there are now five individual properties (or portions thereof) within the Remillard Court Business Park that are considered part of the landfill because the properties have waste beneath them. Table 1 summarizes the owners of land above waste within the Remillard Court Business Park.

Table 1. Additional Owners of Land above Waste at the Story Road Landfill

Discharger	Property Description	Assessors Parcel Number
Kelley Park Community Resource Center	749 Story Road	472-11-079
Acosta Properties, LLC	930 Remillard Court	472-11-050
Danna Properties	940 Remillard Court	472-11-078
Johnson and Marylou Russell	925 Remillard Court 931 Remillard Court	472-11-053 472-11-052

4. **Named Dischargers:** The City of San Jose is the majority landowner and a former operator of the landfill and as such is herein named a discharger. All landowners identified in Table 1 are considered current owners of the landfill because they own land situated above landfill waste. Therefore, all landowners identified in Table 1 are also named as dischargers.

   As a former landfill operator and majority landowner, the City of San Jose has taken primary responsibility for compliance with previous Board orders and applicable regulations. The Board recognizes that the City of San Jose is committed to taking primary responsibility for compliance with all obligations in this Order, including all necessary and required corrective action. The Board also recognizes that the City of San Jose, under settlement agreement with the landowners identified in Table 1 (or their predecessors), accepts these responsibilities and agrees to fully indemnify and hold harmless other landowners for obligations under this Order.

   The Board further recognizes that the landowners identified in Table 1 purchased landfill property after the landfill was closed, and did not cause or contribute to the initial placement of waste at the landfill. Therefore, the landowners identified in Table 1 will be responsible

for compliance with this Order only if the Board or Executive Officer finds that the City of San Jose has failed to comply with the requirements of this order.

5. **Regulatory Status:** In October 1992, the Board adopted Waste Discharge Requirements (WDR) Order No. 92-125, which established corrective action and closure requirements for the Story Road Landfill. In 2003 the Board adopted WDR Order No. R2-2003-0086, which rescinded Order No. 92-125 and updated closure, maintenance, and monitoring requirements for the landfill in accordance with Title 27 of the California Code of Regulations.

6. **Purpose of Order:** The Story Road Landfill is an unlined landfill where waste exists directly in contact with groundwater. As such the landfill is discharging waste or waste constituents into waters of the State. Such waste or waste constituents include petroleum fuel hydrocarbons and chlorinated volatile organic compounds (CVOCs) among others. The purpose of this Order is to specify corrective action requirements for the landfill to mitigate threats from the discharge and migration of waste or waste constituents beyond the landfill perimeter and beneath the base of the landfill. Migration of waste or waste constituents beyond the landfill limits can threaten groundwater and surface water resources, including the San Jose Water Company's 12th Street well field and Coyote Creek.

7. **Hydrogeology:** The Story Road Landfill is located in the central portion of the Santa Clara Valley. The water-bearing deposits of the Santa Clara Valley consist of semi-consolidated to unconsolidated valley fill derived from adjacent hills. Regionally and locally, there are two primary aquifer systems. The shallow aquifer is generally unconfined and extends from ground surface to about 200 feet below ground surface (fbgs). The deep aquifer is generally confined and extends from 250 to several hundred fbgs. A regional aquitard separates the aquifer systems from about 200 to 250 fbgs (Table 2).

   Beneath the Story Road Landfill, the shallow aquifer is divided into upper and lower transmissive zones (TZ), separated by an aquitard, which varies in thickness between 3 and 15 feet. The aquitard is discontinuous and leaky and may be perforated by abandoned agricultural wells in the vicinity of the landfill, although a 1996 vertical conduit study conducted by the City of San Jose did not identify any such wells. Water levels in the upper TZ range from about 10 to 30 fbgs, while water levels in the lower TZ range from about 3 to 30 fbgs. The upper TZ is generally unconfined with hydraulic conductivities around 3×10^{-3} centimeters per second (cm/sec). The lower TZ is semi-confined with hydraulic conductivities ranging from 10^{-2} to 10^{-4} cm/sec.

Table 2. Groundwater Transmissive Zones beneath the Story Road Landfill

Regional Aquifers[1]	Transmissive Zones	Typical Depths (fbgs)
Shallow	Upper Water Bearing Zone	0 to 50
	Lower Water Bearing Zone	60 to 200
Deep	---	> 250

[1] Aquitards separate the upper and lower transmissive zones as well as the shallow and deep aquifers.

The horizontal groundwater gradient in the shallow aquifer beneath the landfill is westerly, toward Coyote Creek and the San Jose Water Company's municipal well field. There is a slight downward vertical gradient across the upper and lower TZs in the shallow aquifer system beneath the landfill.

The San Jose Water Company's 12th Street Well Field is located about 500 feet west and down-gradient from the landfill (Figure 2). Nine municipal wells are screened at various depth intervals between 250 and 800 fbgs and pump about two million gallons per day of high quality groundwater for distribution as drinking water to municipal customers.

Coyote Creek forms the western and southern boundaries of the landfill (Figure 2). In total, about 4000 feet of the eastern creek bank borders the landfill. Data indicate that water levels are generally higher in Coyote Creek than groundwater, suggesting that Coyote Creek recharges the groundwater at least during a portion of the year.

8. **Remedial Investigation:** A hydrogeologic investigation and Solid Waste Assessment Test (SWAT) were performed at the landfill in 1987 and 1988 (***Solid Waste Assessment Test (SWAT) Report, Story Road Landfill, EMCON Associates, June 1988***). The SWAT investigation included installation and sampling of six shallow and three deep monitoring wells. The 1988 SWAT report concluded that landfill waste is in direct contact with groundwater because the groundwater table, which is typically 10 to 30 feet deep, is at or above the former quarry pit bottom, which is 20 to 30 feet deep. Contaminants found in one well (MW-5) screened 24 to 44 fbgs, showed 240 parts-per-billion (ppb) cis-1,2 dichloroethylene (DCE), 5200 ppb vinyl chloride (VC), and 280 ppb benzene. Based on the presence of these and other volatile organic chemicals (VOCs) and petroleum fuel hydrocarbons in groundwater beneath the landfill, Water Board staff requested that additional subsurface investigation be conducted.

   In 1990, Wahler Associates performed Phase I of the additional subsurface investigation (***Additional Subsurface Investigation, Story Road Landfill, Wahler Associates, January 1991***). The Phase I results indicated that soil contamination around MW-5 was limited to between 25 and 30 fbgs and consisted of diesel, gasoline, VOCs, and semi-volatile organic chemicals (semi-VOCs). Leachate in Parcel 1 was also found to contain diesel, gasoline, VOCs and semi-VOCs. Based on these results, Water Board staff approved additional work toward establishing a corrective action groundwater monitoring network.

   In 1991, Wahler Associates performed Phase II of the additional subsurface investigation. The Phase II work included upgrading the monitoring system by destroying and replacing four monitoring wells, installing one new well, and conducting additional monitoring. The Phase II results found that an area of chlorinated VOCs (CVOCs) exists at the southwestern edge of Parcel 4 (Figure 2) near the down-gradient boundary (well MW-9R) while petroleum fuel hydrocarbons were found in Parcels 1, 2, and 4 (***Additional Subsurface Investigation, Phase II, Story Road Landfill, Wahler Associates, January 1992***).

   In 1992, Wahler Associates performed a corrective action investigation to evaluate the extent of contamination near the down-gradient boundary of the landfill (***Corrective Action Investigation, Story Road Landfill, Wahler Associates, October 1992***). Four monitoring

wells were installed along the down-gradient boundaries of Parcels 3 and 4. Three of these wells (MW-12, 14, and 15) monitor the upper transmissive zone (TZ) while the fourth well (MW-13) monitors the lower TZ (Figures 3 & 4). A fifth monitoring well (MW-16) was installed off-site across Coyote Creek from Parcel 4 to monitor the upper TZ between the landfill and the 12th Street Well Field. A sixth monitoring well (MW-17) was installed off-site to the east of Parcel 2 to collect background groundwater quality data up-gradient from the landfill. Two stream sampling ports were installed in the Coyote Creek bed up-gradient and down-gradient of the landfill to provide representative groundwater quality samples of potential groundwater underflow to the creek.

Beginning with the third quarter 1993, all six new wells and the two streambed sampling ports were added to the landfill's monitoring program. In 1994, two additional monitoring wells (MW-18 and MW-19) were installed to monitor the upper and lower TZs between Parcel 3 and Coyote Creek (Figures 2 & 3).

In December 2002, the Board officially closed an underground storage tank (UST) case, referred to as Santa Clara Transfer Services (SCTS; see Board Case No. 43-1871). This case is related to the landfill because the USTs involved were known to have leaked diesel fuel directly into the landfill. In 1989, SCTS, a tenant at 925 Remillard Court, removed four USTs containing diesel fuel and gasoline and discovered the leak. SCTS had installed these USTs directly within landfill waste about ten years earlier. After considerable investigation (1989 to 2000), SCTS and the City of San Jose reached agreement in 2001 through judgment by an appointed Special Master that the fuel release from the USTs was indistinguishable from fuel that may have existed in the landfill at the time of the UST release. Based on this judgment, and the fact that the landfill is required to contain all leachate and impacted groundwater (per Board-adopted WDRs), the City of San Jose agreed to take full responsibility for the residual fuel that exists in the landfill.

Under WDR Order No. R2-2003-0086, the City of San Jose performs detection monitoring and corrective action monitoring pursuant to Title 27, Division 2, Subdivision 1 of the California Code of Regulations (Title 27). This includes monitoring of landfill leachate, groundwater in the shallow aquifer (upper and lower zones) beneath the landfill and along its perimeter, and groundwater within the streambed of Coyote Creek. Figures 3 and 4 illustrate current monitoring locations and groundwater gradients at the site. Table 3 summarizes the historic and current groundwater impacts in the upper and lower TZs of the shallow aquifer beneath the landfill.

Table 3 Maximum VOCs and Petroleum Fuel Hydrocarbon Concentrations in Groundwater beneath the Story Road Landfill and Coyote Creek[1]

Contaminant	Maximum Historic Conc. (1988–1995) (ug/l)		Maximum Recent Conc. (2001–2006) (ug/l)		CA Primary/Secondary Maximum Contaminant Level (MCL) (ug/l)
	Upper TZ	Lower TZ	Upper TZ[2]	Lower TZ	
Trichloroethylene (TCE)	130	ND	48	<1	5
Dichlorethylene (cis-1,2-DCE)	840	ND	62	<1	6
Dichloroethane (1,1-DCA)	1100	ND	20	<1	0.5
Vinyl Chloride (VC)	5200	ND	41	<1	0.5
Gasoline (TPH-g)	1900	ND	110	<50	100
Diesel Fuel (TPH-d)	1900	ND	3900	730	100
Benzene	280	ND	---	---	1
Toluene	9200	ND	---	---	40
MTBE	---	ND	1.8	<1	5

[1] Does not include results from the SCTS UST fuel release investigation. Includes data from two streambed sampling ports
[2] Includes data from two streambed sampling ports
"---" No Data
"ND" non-detect

9. **Adjacent Sites:** The San Jose Water Company operates its 12th Street Municipal Well Field located directly across Coyote Creek to the west of the landfill. The well field consists of nine supply wells, which tap the Santa Clara Valley's primary drinking water aquifer at a depth greater than 250 fbgs. The municipal drinking water supply wells are sampled periodically in accordance with drinking water regulations enforced by the California Department of Public Health. To date, no impacts have been detected in the deep aquifer at the 12th Street Well Field.

   A residential subdivision and park have recently been constructed across Interstate 280 along the northern and eastern boundaries of Parcel 4. Residential communities exist across Interstate 280 to the northwest west of Parcel 4 and Coyote Creek, and to the northeast between Interstate 280 and the Martin Park landfill (Figures 1 and 2). Several small industrial and commercial businesses are located along the eastern boundary of the landfill in the Remillard Court business park. Two smaller, closed landfills are located nearby, including the Martin Park and Roberts Avenue Landfills (Figure 2). None of these adjacent sites are threatened by the landfill's groundwater pollution.

10. **Risk Assessment:** Neither a human nor ecological health risk assessment has been performed for the Story Road Landfill. This is because there are no known or reasonable potential exposures to human or ecological receptors based on the current landfill configuration, maintenance, and landuse. A human and/or ecological health risk assessment will be required 1) if data indicate that reasonable potential human or ecological exposures exist as determined by the dischargers or Water Board staff, 2) upon submittal of landfill reuse/redevelopment plans, or 3) upon any actual or proposed material change to the landfill as determined by the dischargers or Water Board staff. The purpose of the risk assessment

would be to identify risks to potential human or ecological receptors posed by landfill waste or waste constituents within the landfill boundary or that may be discharged from the landfill.

11. **Corrective Action Plan:** The City of San Jose submitted a corrective action plan (CAP) in December 1992 in accordance with WDR Order No. 92-125 (***Corrective Action Program, Story Road Landfill, Wahler Associates, December 1992***). The CAP proposed groundwater extraction to contain and minimize off-site impacts. In 1993, the City of San Jose implemented the groundwater extraction system to hydraulically capture contaminated groundwater along the western landfill boundary before it could discharge to Coyote Creek or effect groundwater in the deep aquifer beneath at the San Jose Water Company's 12th Street Well Field.

    Two extraction wells (EW-1, EW-2) were initially installed to control off-site migration of VOCs in the upper TZ. EW-1 screens the upper TZ within Parcel 4, down-gradient from where groundwater impacts were detected within the landfill. Its purpose is to capture shallow groundwater as it migrates from the landfill. EW-2 screens the leachate zone above the upper TZ within Parcel 1. Its purpose is to reduce leachate buildup within the landfill (Figures 2 & 3).

    In 1995, the City of San Jose submitted an effectiveness evaluation report for the extraction system (***Extraction System Capture Zone Evaluation, Story Road Landfill, RUST Environment and Infrastructure, August 1995***). The report concluded that groundwater extraction based on the two extraction wells (EW-1 and EW-2) and optimized extraction rates would be effective at containing shallow groundwater impacts. However, this conclusion relied on a groundwater flow model that was calibrated using insufficient water-level measurement locations. Furthermore, the evaluation did not account for the fact that the necessary extraction rates in EW-1 could not be sustained presumably because the subsurface permeability was lower than anticipated.

    Two additional extraction wells (EW-3 and EW-4) were installed in 1999 between the landfill and Coyote Creek (Figures 2 & 3) because of steadily increasing contaminant levels detected in MW-9R and MW-18. The purpose of EW-3 and EW-4 is to control off-site migration of VOCs and petroleum hydrocarbons in the upper TZ near MW-9R and MW-18.

    Extracted groundwater was initially treated using carbon and air stripping. The treated groundwater was then discharged to Coyote Creek at a point located in Parcel 4 (Figure 2) under National Pollution Elimination Discharge System (NPDES) permit CA0029939 (Board Order No. 93-124). In January 2004, the City of San Jose stopped treating the extracted groundwater and re-routed its discharge from Coyote Creek to the City's sanitary sewer. In April 2004, the Board adopted Order No. R2-2004-0028, which rescinded Order No. 93-124 because it was no longer needed. Currently the City of San Jose operates three extraction wells located along the down-gradient (western) boundary of the landfill, which capture shallow polluted groundwater (EW-1, EW-3, & EW-4), and one extraction well, which captures landfill leachate (EW-2) (Figure 3). Extracted groundwater (approximately 10,000 to 40,000 gallons per day) is currently discharged without treatment to the City's sanitary sewer hookup located in Parcel 4.

12. **Basis for Cleanup Standards:**

a. **General**: State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

b. **Beneficial Uses**: The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the site qualifies as a potential source of drinking water.

The landfill resides within the boundaries of the Santa Clara Valley Groundwater Basin, as defined in the Basin Plan. The Basin Plan designates the following existing and potential beneficial uses of groundwater in this basin, including underlying and adjacent to the landfill:

- Municipal and domestic supply (MUN)
- Industrial process supply (PROC)
- Industrial service supply (IND)
- Agricultural supply (AGR)

Groundwater recharge to the surface waters of Coyote Creek likely occurs at different times of the year, based on measured groundwater and surface water levels. Based on water quality measurements, the groundwater is considered freshwater. Therefore, the groundwater beneath the landfill has the following additional existing and/or potential beneficial use as defined in the Basin Plan:

- Freshwater replenishment to surface waters (FRSH)

The landfill is located adjacent to the San Jose Water Co.'s 12th Street Municipal Well Field. The well field makes beneficial use of deep groundwater for municipal and domestic supply.

The landfill is located adjacent to Coyote Creek, a tributary to San Francisco Bay. The Basin Plan designates the following existing and potential beneficial uses of surface water in Coyote Creek:

- Fish spawning (SPWN)
- Preservation of rare and endangered species (RARE)
- Water contact recreation (REC-1)
- Non-water contact recreation (REC-2)
- Fish migration (MIGR)
- Wildlife habitat (WILD)
- Warm freshwater habitat (WARM)
- Cold freshwater habitat (COLD)
- Groundwater Recharge (GWR)

c. **Basis for Groundwater Cleanup Standards**: The groundwater cleanup standards for the site are based on applicable water quality objectives and are the more stringent of EPA and California primary maximum contaminant levels (MCLs). Cleanup to this level will protect existing and potential beneficial uses of groundwater.

13. **Future Changes to Cleanup Standards**: The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically or economically achievable within a reasonable period of time, then the dischargers may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.

14. **Reuse or Disposal of Extracted Groundwater**: Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

15. **Basis for 13304 Order**: California Water Code Section 13304 authorizes the Board to issue orders requiring dischargers to cleanup and abate waste where the dischargers have caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

16. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to

oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

17. **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 15321 of the Resources Agency Guidelines.

18. **Notification:** The Board has notified the dischargers and interested agencies and persons of its intent to update waste discharge requirements and has provided them with an opportunity to submit their written views and recommendations.

19. **Public Hearing:** The Board, in a public meeting, heard and considered all comments pertaining to the proposed waste discharge requirements for the site.

IT IS HEREBY ORDERED, pursuant to Section 13304 and Section 13263 of the California Water Code, that the dischargers (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. REMEDIAL ACTION PLAN AND CLEANUP STANDARDS

1. **Implement Corrective Action**: The dischargers shall implement corrective action as necessary to control migration of polluted groundwater beyond the lateral and vertical physical limits of waste contained within each and every landfill parcel, cell, unit, or parcel.

2. **Groundwater Cleanup Standards**: The following groundwater cleanup standards shall be met in all wells identified in the Self-Monitoring Program:

Constituent	Standard (ug/l)	Basis
Trichloroethylene (TCE)	5	CA primary MCL
Dichlorethylene (cis-1,2-DCE)	6	CA primary MCL
Dichloroethane (1,1-DCA)	0.5	CA primary MCL
Vinyl Chloride (VC)	0.5	CA primary MCL
Gasoline (TPH-g)	100	CA secondary MCL
Diesel Fuel (TPH-d)	100	CA secondary MCL
Benzene	1	CA primary MCL
Toluene	40	CA secondary MCL
MTBE	5	CA secondary MCL

C. TASKS

1. **Implementation of Corrective Action Plan (CAP) and Self-Monitoring Program (SMP):** The dischargers shall continue to implement groundwater extraction as proposed in the 1992 CAP and as subsequently revised. At a minimum, implementation of corrective action shall be demonstrated through compliance with the SMP attached to this Order, and as may be amended by the Executive Officer. The attached SMP is designed to collect information necessary to evaluate the migration of chemicals of concern (COCs) associated with known landfill releases and the effectiveness of corrective actions implemented to address those releases. The attached SMP may be amended at the discretion of the Executive Officer, as necessary to better evaluate site conditions, discharges, and corrective action effectiveness.

COMPLIANCE DATE: Immediate

2. **Corrective Action Effectiveness Evaluation:** The dischargers shall submit a technical report, acceptable to the Executive Officer, which evaluates the effectiveness of the existing groundwater and leachate extraction system. The purpose of the evaluation is to:

   (1) Demonstrate effective hydraulic capture of contaminated groundwater that has migrated beyond the lateral and vertical limits of landfill waste
   (2) Provide information necessary to evaluate the feasibility of hydraulic capture and leachate extraction as the sole corrective action remedy
   (3) Provide information necessary to develop a proposal for modifying the extraction system in case effective hydraulic capture cannot be demonstrated using the current extraction system and monitoring program
   (4) Provide information to develop a revised corrective action plan if effective hydraulic capture is not feasible.

   Demonstration of effective hydraulic capture must be based on measured water levels and must be illustrated using water level contour maps prepared for each transmissive zone (upper and lower). The full extent of groundwater impacts must also be illustrated using posted contaminant concentrations next to each well or point where measured and the inferred extent of the impacts greater than the cleanup standards. The corrective action effectiveness evaluation shall include the following:

   a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
   b. Comparison of contaminant concentration trends with cleanup standards
   c. Performance data (e.g., groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted)
   d. Cost effectiveness data (e.g., cost per pound of contaminant removed)
   e. Summary of additional investigations (including results) and significant modifications to remediation systems
   f. Additional remedial actions proposed to meet cleanup standards (if applicable) including time schedule

COMPLIANCE DATE: January 15, 2008

3. **Corrective Action Feasibility Evaluation:** The dischargers shall submit a technical report, acceptable to the Executive Officer, which evaluates the feasibility of the corrective action remedy for as long as landfill waste poses a threat to water quality. The feasibility study must consider leachate extraction from each waste-containing parcel/cell to 1) reduce hydraulic pressure within the landfill and 2) create an inward gradient for leachate containment. The feasibility study must also include major capital, operational, and maintenance costs as well as all assumptions.

COMPLIANCE DATE: January 15, 2008

4. **Work Plan for Extraction System/Monitoring Network Modification:** If effective hydraulic capture is believed to be feasible pursuant to Task #3, but cannot be demonstrated using the current extraction system and/or monitoring network, the dischargers shall submit a technical report, acceptable to the Executive Officer, which proposes appropriate modifications to demonstrate corrective action effectiveness. Proposed modifications to the extraction system must include additional leachate extraction, if feasible. The work plan must describe all significant implementation steps needed to modify the existing extraction system and monitoring network and must include an implementation schedule.

COMPLIANCE DATE: April 1, 2008

5. **Revised Corrective Action Plan:** If effective hydraulic capture is found to be infeasible pursuant to Task #3, the dischargers shall submit a technical report, acceptable to the Executive Officer, which proposes a revised corrective action plan. The revised CAP shall be based on a containment/cleanup technology or combination of technologies, which may include hydraulic capture as a component. The feasibility of the proposed revised corrective action remedy shall be demonstrated with respect to achievement of cleanup standards, longevity, and protectiveness of water quality, beneficial uses, and human and environmental health.

COMPLIANCE DATE: July 15, 2008

6. **Implementation of Revised CAP and/or Extraction System/Monitoring Network Modifications:** If a CAP revision or modification is necessary, the dischargers shall submit a technical report, acceptable to the Executive Officer, which certifies implementation of the proposed CAP revision/modification in accordance with approved plans.

COMPLIANCE DATE: November 30, 2008

7. **Five-Year Corrective Action Effectiveness Evaluation**: Every five years, the dischargers shall submit a technical report, acceptable to the Executive Officer, which contains a corrective action effectiveness evaluation as described in Task No. 2. Corrective action effectiveness evaluations shall be submitted every five years until the groundwater cleanup standards are achieved. Each five-year evaluation shall be tailored to the specific remediation type and/or system implemented at the site at that time, if it differs from what is in effect now. A work plan shall be submitted at least six months prior to the five-year

evaluation report due date, if changes to the methods described in Task No. 2 are proposed. The work plan shall describe the proposed evaluation methods. If cleanup standards have not been met and are not projected to be met within a reasonable time, the report shall assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

COMPLIANCE DATE: January 15, 2013, then every five years thereafter

8. **Risk Assessment:** When required, the dischargers shall submit a technical report, acceptable to the Executive Officer, which contains a human and/or ecological health risk assessment (risk assessment). Submittal of a risk assessment is required 1) if data indicate that reasonable potential exposures to human or ecological receptors exist as determined by the dischargers or Water Board staff, 2) upon submittal of landfill reuse/redevelopment plans, or 3) upon any actual or proposed material change to the landfill as determined by the dischargers or Water Board staff. The purpose of the risk assessment would be to identify risks to potential human or ecological receptors posed by landfill waste or waste constituents within the landfill boundary or that may be discharged from the landfill.

COMPLIANCE DATE: Within 90 days of trigger

9. **Proposed Curtailment:** Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g., well abandonment), system suspension (e.g., cease extraction but wells retained), and significant system modification (e.g., major reduction in extraction rates, closure of individual extraction wells within extraction network). The report should include the rationale for curtailment. Proposals for final closure should demonstrate that cleanup standards have been met, contaminant concentrations are stable, and contaminant migration potential is minimal.

COMPLIANCE DATE: 60 days prior to proposed curtailment

10. **Implementation of Curtailment:** Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 9.

COMPLIANCE DATE: 60 days after Executive Officer approval

11. **Evaluation of New Health-Based Criteria:** Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved remedial action plan of revising one or more cleanup standards in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

COMPLIANCE DATE: 90 days after requested by Executive Officer

12. **Evaluation of New Technical Information:** Submit a technical report acceptable to the Executive Officer evaluating new technical information which bears on the approved remedial action plan and cleanup standards for this site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be requested unless the Executive Officer

determines that the new information is reasonably likely to warrant a revision in the approved remedial action plan or cleanup standards.

COMPLIANCE DATE: 90 days after requested by Executive Officer

13. **Delayed Compliance**: If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer, and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good O&M**: The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or its authorized representative:

    a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
    b. Access to copy any records required to be kept under the requirements of this Order.
    c. Inspection of any monitoring or remediation facilities installed in response to this Order.
    d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.

5. **Contractor / Consultant Qualifications**: All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

6. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC)

records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature).

7. **Document Distribution**: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies. The Executive Officer may modify this list as needed.

    a. S.F. Bay Water Board
    b. Santa Clara Valley Water District
    c. City of San Jose, Dept of Planning, Building, & Code Enforcement
    d. Kelley Park Community Resource Center

8. **Electronic Reporting:** In addition to print submittals, all reports submitted pursuant to this Order must be submitted as electronic files in PDF format. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Water Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures & tables.

    Upon request by Water Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel® or similar spreadsheet format. This format facilitates data computations and/or plotting that Water Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public.

    All electronic files, whether in PDF or spreadsheet format, shall be submitted via the Water Board's file transfer protocol (FTP) site, email (only if the file size is less than 3 MB) or on CD. CD submittals may be included with the print report. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's FTP site.

9. **Reporting of Changed Owner or Operator**: The dischargers shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

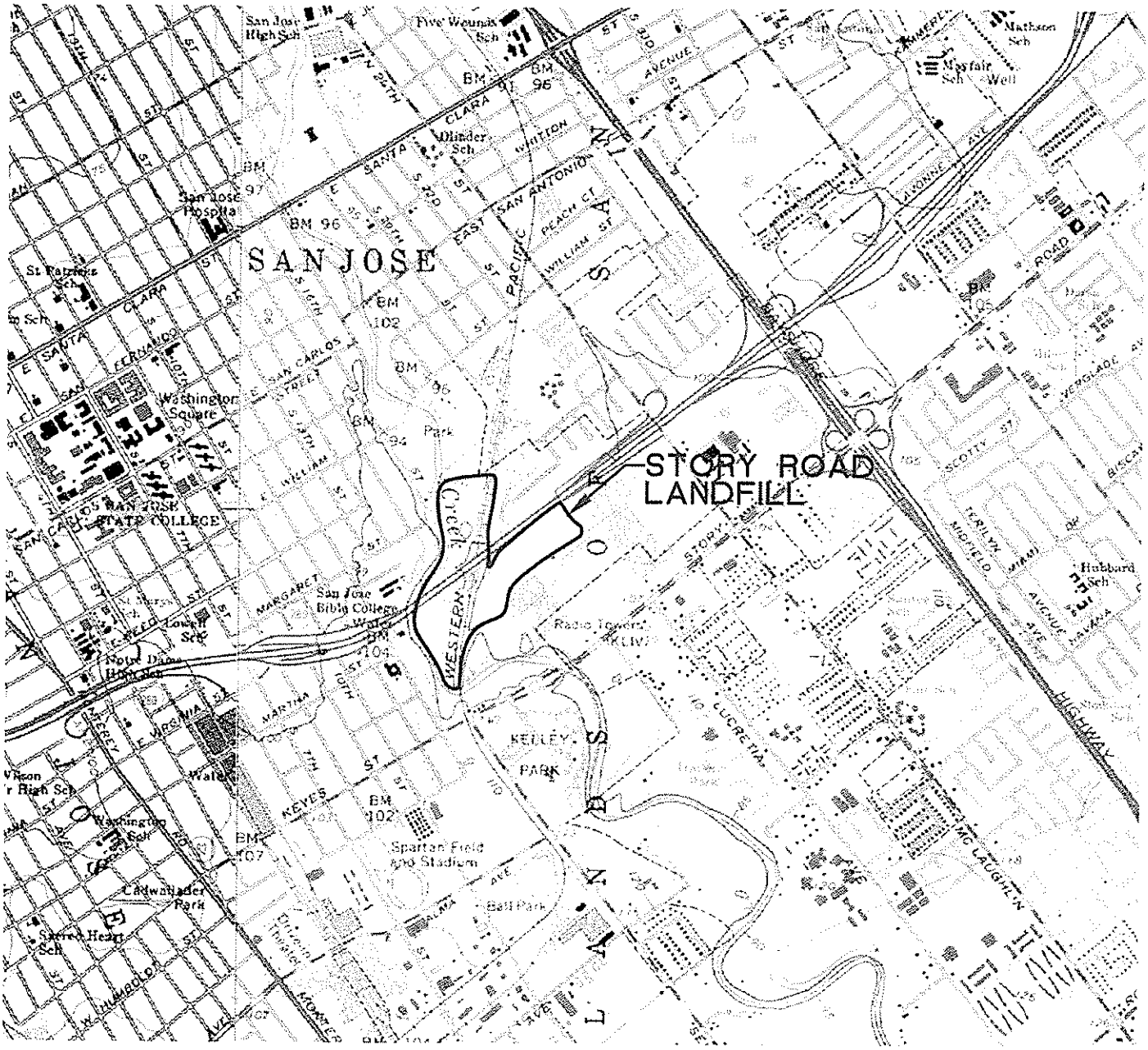
10. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers shall report such discharge to the Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8:00 to 5:00). A written report shall be filed with the Board within five working days. The report shall describe the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified. This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Periodic SCR Review**: The Board will review this Order periodically and may revise it when necessary.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 11, 2007.

_____
Bruce H. Wolfe
Executive Officer

Attachments: Figure 1 - Site Location Map
Figure 2 - Monitoring Locations
Figure 3 - Groundwater Elevation Contour Map, Upper Water-Bearing Zone
Figure 4 - Groundwater Elevation Contour Map, Lower Water Bearing Zone
Self-Monitoring Program



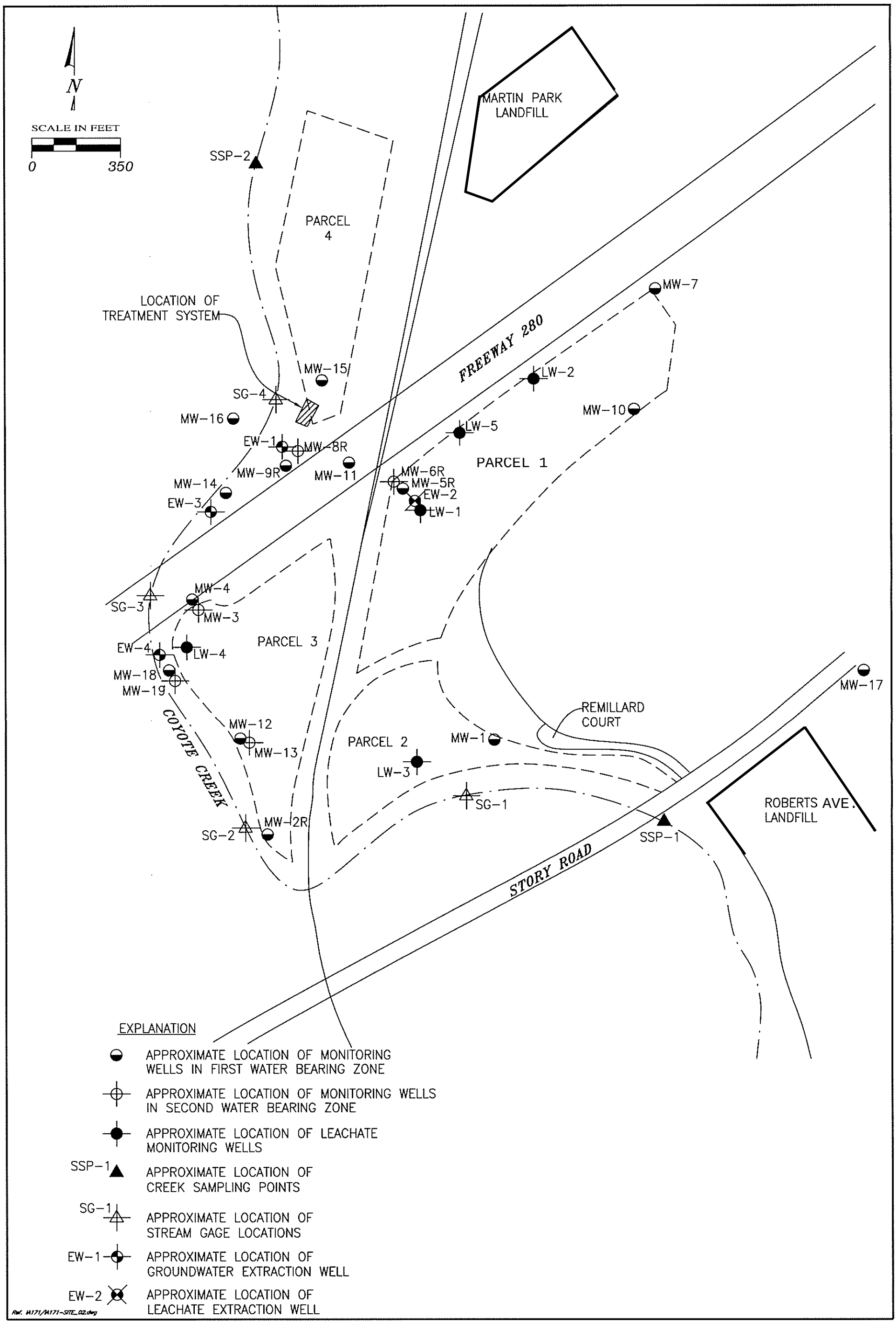
Ref. IA171/SLM.dwg
Base Map from NGN, Inc. TOPO!

PREPARED BY RRM ENVIRONMENTAL ENGINEERING

SITE LOCATION MAP

STORY ROAD LANDFILL
San Jose, California

FIGURE:
1
PROJECT:
IA171



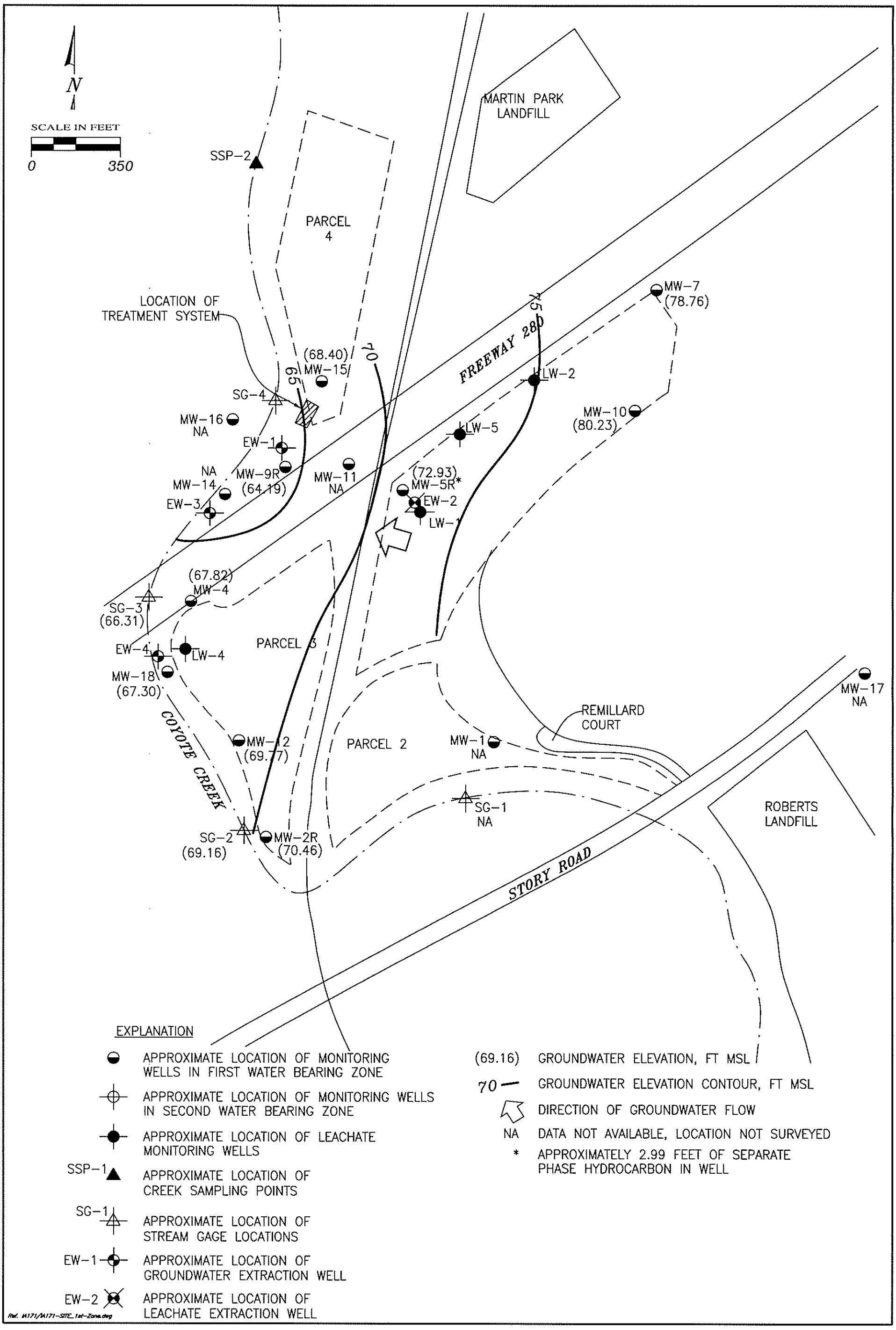
PREPARED BY RRM ENVIRONMENTAL ENGINEERING GEOLOGY

SITE MAP

STORY ROAD LANDFILL
San Jose, California

FIGURE: **2**

PROJECT: IA171



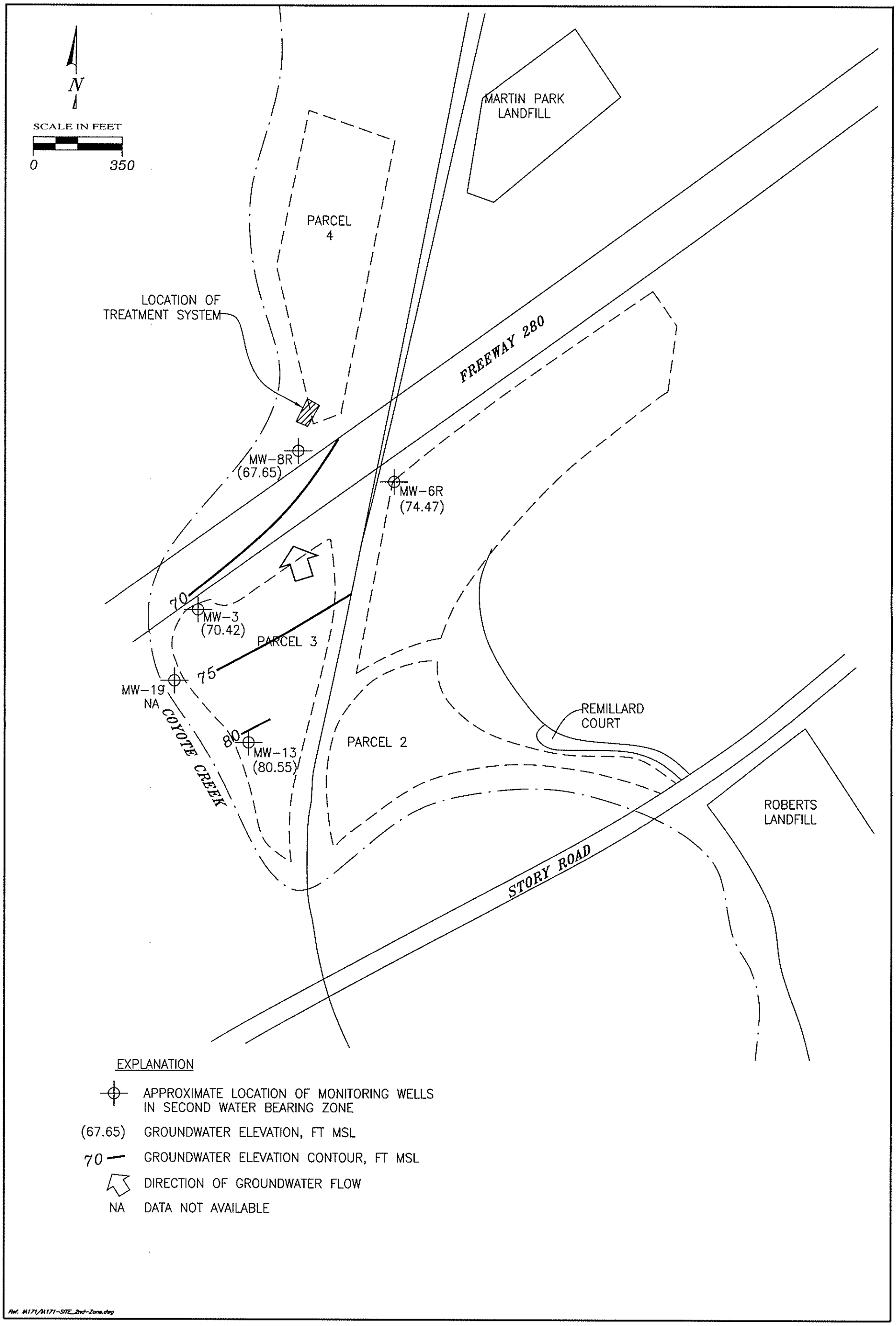
PREPARED BY RRM ENVIRONMENTAL ENGINEERING

GROUNDWATER ELEVATION CONTOUR MAP A-ZONE
SEPTEMBER 27, 2005

STORY ROAD LANDFILL
San Jose, California

FIGURE: **3**

PROJECT: IA171



Ref. IA171/IA171-SITE_2nd-Zone.dwg

PREPARED BY RRM ENVIRONMENTAL ENGINEERING & GEOLOGY

GROUNDWATER ELEVATION CONTOUR MAP B-ZONE
SEPTEMBET 27, 2005

STORY ROAD LANDFILL
San Jose, California

FIGURE: **4**

PROJECT: IA171

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR

CITY OF SAN JOSE
ACOSTA PROPERTIES, LLC
DANNA PROPERTIES
KELLEY PARK COMMUNITY RESOURCE CENTER
JOHNSON AND MARYLOU RUSSELL

For the

STORY ROAD LANDFILL
SAN JOSE, SANTA CLARA COUNTY

1. **Authority and Purpose**: The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. R2-2007-0049 (site cleanup requirements).

2. **Monitoring Requirements**: The dischargers shall measure perform monitoring (water level measurement, observations, and analytical sampling) according to Table SMP-1, which specifies monitoring location ID, frequencies, parameters, and analytes. Monitoring locations are shown in Figure SMP-1. The dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The dischargers may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Reporting Requirements:** The dischargers shall submit self-monitoring reports (SMRs) to Water Board staff in accordance with the following schedule. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable. At a minimum, each SMR shall include the following information:

Reporting Frequency	Report Due Dates
Semi-Annual	**January 31, June 30**

   a. **Transmittal Letter**: A cover letter transmitting the essential points shall be included with each monitoring report. The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall also certify the completion of all monitoring requirements. The letter shall be signed by the

dischargers' principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

b. **Graphic Presentation**: The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:

(1) Plan-view maps showing all monitoring and sampling locations, waste management units, containment and control structures, treatment facilities, surface water bodies, and site/property boundaries
(2) Groundwater level/piezometric surface contour maps for each groundwater-bearing zone of interest showing inferred groundwater gradients and flow directions under/around each waste management unit, based upon the past and present water level elevations and pertinent visual observations
(3) Post-plot maps with analyte concentration posted adjacent to each sampling location and/or isoconcentration contour maps displaying analyte concentrations and sample locations
(4) Concentration vs. time graphs for key sampling parameters for each sampling location
(5) Geologic cross-sections showing groundwater-bearing zones, sample locations, contaminant sources, and the extent of contamination
(6) Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this SMP.

c. **Tabular Presentation**: The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow quick and easy reference:

(1) Well designations
(2) Well location coordinates (latitude and longitude)
(3) Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, and screen interval elevation)
(4) Groundwater depths
(5) Groundwater elevations
(6) Horizontal groundwater gradients
(7) Vertical groundwater gradients (including comparison wells from different zones)
(8) Phase-separated product elevations
(9) Phase-separated product thicknesses
(10) Current analytical results (including analytical method and detection limits for each constituent)
(11) Historical analytical results (including at least the past five years unless otherwise requested)
(12) Measurement dates
(13) Groundwater extraction, including:
    (a) Average daily extraction rate
    (b) Total volume extracted for monitoring period

(c) Cumulative total volume extracted since system inception

(14) Contaminant mass removal, including:
- (a) Average daily removal rate
- (b) Total mass removed for monitoring period
- (c) Cumulative total mass removed since system inception

d. **Compliance Evaluation Summary and Discussion**:

(1) A summary and certification of completion of all environmental media monitoring, standard observations, and facilities inspections

(2) The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations, if applicable

(3) A description of the waste stream including the percentage of each waste type (e.g., residential, commercial, industrial, construction/demolition, etc.), if applicable

(4) The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory

(5) Provide a discussion of the field and laboratory results that includes the following information:
- (a) Data Interpretations
- (b) Conclusions
- (c) Recommendations
- (d) Newly implemented or planned investigations & remedial measures
- (e) Data anomalies
- (f) Variations from protocols
- (g) Condition of wells
- (h) Effectiveness of leachate monitoring and control facilities

e. **Appendices:** The following information shall be provided as appendices in electronic format <u>only</u> unless requested otherwise by Water Board staff and unless the information is already contained in a Sampling and Analysis Plan approved by Water Board staff.

(1) New boring and well logs

(2) Method and time of water level measurements

(3) Purging methods and results including the type of pump used, pump placement in the well, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity, calibration of the field equipment, pH, temperature, conductivity, and turbidity measurements, and method of disposing of the purge water

(4) Sampling procedures, 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 of the person actually taking the samples, and any other relevant observations

(5) Documentation of laboratory results, analytical methods, detection limits, and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

4. **Violation Reports**: If the dischargers violate requirements in the Site Cleanup Requirements, then the dischargers shall notify the Board office by telephone as soon as practicable once the dischargers have knowledge of the violation. Board staff may,

depending on violation severity, require the dischargers to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports**: The dischargers shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

6. **Record Keeping**: The dischargers or their agents shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.

7. **SMP Revisions**: Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the dischargers. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

8. **Electronic Reporting:** In addition to print submittals, all SMRs submitted pursuant to this SMP must be submitted as electronic files in PDF format. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Water Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures and tables.

   Upon request by Water Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel® or similar spreadsheet format. This format facilitates data computations and/or plotting that Water Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public review.

   All electronic files, whether in PDF or spreadsheet format, shall be submitted via the Water Board's file transfer protocol (FTP) site, email (only if the file size is less than 3 MB) or on CD. CD submittals may be included with the print report. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's FTP site.

9. **Maintenance of Written Records:** The dischargers shall maintain information required pursuant to this SMP for at least five years. The five-year period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Water Board.

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program was adopted by the Board on July 11, 2007.

_____
Bruce H. Wolfe
Executive Officer

Attachments: Table SMP-1
Figure SMP-1

Table SMP-1
Story Road Landfill, Self-Monitoring Program for Corrective Action

Well ID	Well Construction Details				Monitoring Parameters and Frequency									
	date installed	well elevation	screen interval	screen interval	Head	VOCs[2]	TPH-d[3]	TPH-g[4]	MtBE[5]	GenCh[6]	NH_3[7]	NO_3[8]	+/-[9]	GeoCh[10]
		ft, MSL	fbgs	ft, MSL										
GROUNDWATER														
Upper Zone[1]														
MW-4	pre-1992	90.95	15-25	66-76	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-9R	pre-1992	93.84	22-32	62-72	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-14	pre-1992	88.55	23-30	59-66	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-15	pre-1992	93.87	25-31	63-69	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-16	pre-1992	78.35	13-18	60-65	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-17	pre-1992	102.66	27-31	72-76	SA-1,3									
MW-18	1993	89.94			SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
Lower Zone[1]														
MW-3	pre-1992	91.39	39-49	42-52	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-8R	pre-1992	93.85	46-50	44-48	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
MW-19	1993	88.87			SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
EXTRACTION														
EW-1 (GW)	pre-1992	93.67	22-32	62-72										
EW-2 (leacahte)	pre-1992	103.68	27-37	67-77										
EW-3 (GW)	1993													
EW-4 (GW)	1993													
LEACHATE														
LW-1	1993	104.26			SA-1,3	5A	5A	5A	5A	5A	5A	5A	5A	5A
LW-2	1993	117.59			SA-1,3	5A	5A	5A	5A	5A	5A	5A	5A	5A
LW-3	1993	103.15			SA-1,3	5A	5A	5A	5A	5A	5A	5A	5A	5A
LW-4	1993	114.95			SA-1,3	5A	5A	5A	5A	5A	5A	5A	5A	5A
LW-5	1993	120.17			SA-1,3	5A	5A	5A	5A	5A	5A	5A	5A	5A
SURFACE WATER														
SSP-1	pre-1992	78.13	1-4	74-77	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A
SSP-2	pre-1992	69.62	4-7	63-66	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	SA-1,3	5A

Footnotes:

(1) Transmissive Zones Beneath the Site:
T1 = Upper Shallow Transmissive Zone; 0 to 50 fbgs
T2 = Lower Shallow Transmissive Zone; 60 to 200 fbgs
T3 = Deep Drinking Water Aquifer; >200 fbgs

(2) Volatile Organic Compounds by EPA Method 8021B or 8260B.

(3) Total Petroleum Hydrocarbons as Diesel by EPA Method 8015.

(4) Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015.

(5) MtBE by EPA Method 8260B.

(6) General Chemistry parameters include pH, specific conductance, temperature, turbidity, total suspended solids, total dissolved solids, and total organic carbon.

(7) Ammonia as Nitrogen (N) by EPA Method 350.1; Unionized Ammonia by EPA Method 300.0; , Total Kjeldahl Nitrogen by EPA Method 351.2.

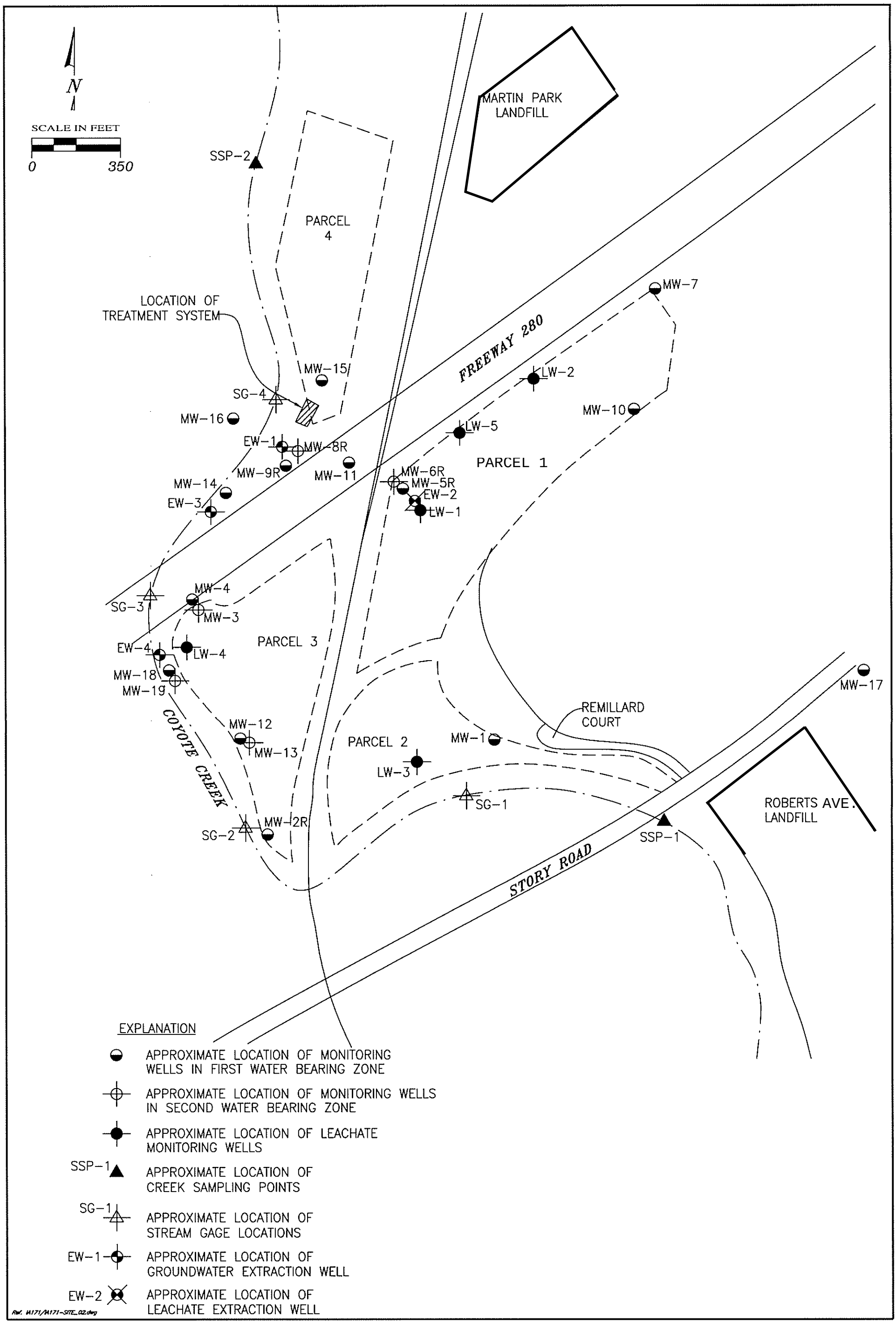
(8) Nitrate as Nitrogen (N) by EPA Method 300.0.

(9) Cations and Anions including chloride, sulfate and potassium.

(10) Dissolved geochemical parameters including calcium, magnesium, sodium, and bicarbonate/carbonate alkalinity.

KEY

M = monthly monitoring
Q = quarterly monitoring according to the following schedule:
1st quarter = Jan thru Mar
2nd quarter = Apr thru Jun
3rd quarter = Jul thru Sep
4th quarter = Oct thru Dec
SA-1,3 = semi-annual monitoring during first and third quarters
A-1 = annual monitoring during first quarter
5A = once every 5 years beginning in 2008



PREPARED BY RRM ENVIRONMENTAL ENGINEERING & GEOLOGY

SITE MAP

STORY ROAD LANDFILL
San Jose, California

FIGURE: SMP-1

PROJECT: IA171