FINAL

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

DAVENPORT PARK EXPANSION PROJECT

CITY OF LONG BEACH

LSA

December 2019

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FINAL

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

DAVENPORT PARK EXPANSION PROJECT

CITY OF LONG BEACH

Submitted to:

City of Long Beach
Development Services, Planning Bureau
411 West Ocean Boulevard, 3rd Floor
Long Beach, California 90802

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. CLB1805

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SECTION 1

INTRODUCTION AND RESPONSE TO COMMENTS

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INTRODUCTION

This section comprises the Comments and Responses of the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Davenport Park Expansion Project (project) in Long Beach, California. The purpose of this document is to respond to all comments received by the City of Long Beach (City) regarding the environmental information and analyses contained in the Draft IS/MND.

As required by the *State California Environmental Quality Act (CEQA) Guidelines,* Section 15073, a Notice of Intent (NOI) to adopt a Mitigated Negative Declaration (MND) was sent to various public agencies and interested individuals concerned with the project. In addition, the NOI was filed with the Los Angeles County Clerk on November 6, 2019.

The Draft IS/MND was circulated for public review for a period of 30 days, from November 7, 2019 through December 6, 2019. Copies of the Draft IS/MND were made available for public review at the City Development Services Department, the Billie Jean King Main Library, the Michelle Obama Neighborhood Library, and on the Internet (http://www.longbeach.gov/lbds/planning/environmental/reports/).

Comments were accepted for a period of 30 days in order to ensure adequate time for residents and agencies to comment on the Draft IS/MND. The City, as the Lead Agency, is required to consider agency and public comments on a CEQA document as part of the decision process to approve a project. Although preparation of responses to comments received on an IS/MND is not required by CEQA, responses have been prepared.

No changes have been made to the information contained in the Draft IS/MND as a result of the comments received. Therefore, no changes have been made to the information contained in the Draft IS/MND, and no new information has been added that would require recirculation of the document.

Together, the responses to comments, the Draft IS/MND, and the Mitigation Monitoring and Reporting Program (MMRP) are collectively referred to as the Final IS/MND. The Final IS/MND will be submitted to the Planning Commission for final adoption on January 16, 2020.

In order to identify tribal cultural resources on the project site and analyze potentially significant impacts associated with construction and implementation of the proposed project, the City conducted Native American consultation in accordance with Assembly Bill (AB) 52 requirements. A consultation meeting with City staff and Mr. Andrew Salas of the Gabrieleno Band of Mission Indians - Kizh Nation was held on December 19, 2019. Due to the project site's prior use as a landfill and since no ground disturbance would be conducted on native soils, Mr. Salas concluded that the project has low to no potential to impact tribal cultural resources. Therefore, tribal consultation under AB 52 has been completed for the project.

COMMENTS RECEIVED

The following is a list of the written comments received on the Draft IS/MND prior to the close of the public comment period or immediately thereafter. Each comment letter received is indexed with

a number below. Responses to each of the comment letters are provided on the following pages. The comment index numbers are provided in the upper right corner of each comment letter, and individual points within each letter are numbered along the right-hand margin of each letter. The City's responses immediately follow each letter and are referenced by index numbers in the margins.

Comment Code	Commenter	Date Received
State Agencies		
S-1	State Water Resources Control Board (SWRCB)	December 6, 2019
S-2	California Department of Transportation (Caltrans)	December 13, 2019
Local Agency		
L-1	Los Angeles County Department of Public Health	December 6, 2019

RESPONSE TO COMMENTS

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CALIFORNIA Water Boards

GAVIN NEWSOM
GOVERNOR

JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

December 6, 2019

VIA E-MAIL AND USPS MAIL

Ms. Maryanne Cronin, Planner
City of Long Beach
411 West Ocean Boulevard, Third Floor
Long Beach, CA 90802

Dear Ms. Cronin:

SCH# 2019119026: CITY OF LONG BEACH DAVENPORT PARK EXPANSION PROJECT

Thank you for the opportunity to review and comment on the Draft Initial Study/Mitigated Negative Declaration (IS/MND) document prepared for the subject project.

A review of the prepared document indicates that the subject project site was a former municipal waste landfill that has been closed and capped. It appears that as part of the landfill closure, landfill monitoring and inspections have been ongoing that appear to ensure that the integrity of the landfill closure option is holding and intact. The Draft IS/MND and accompanying documents indicate that the planned park expansion would include a sports field located on the central and western portion of the site, four sets of three-level bleachers on each side of the of the sports field, six fitness equipment pads scattered around the site (future phase), a 5,000-square foot skate park (future phase), a shaded gathering area, and 31 diagonal parking spaces along the northern boundary of the site. A portion of the existing parking lot would be re-designed as a school bus drop-off location. S-1-1

Based on the review, and facilities and structures planned to be built as described in the foregoing, potable water and potentially recycled water systems could be built at the project site and/or its environs. The State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) is providing the following comments: S-1-2

1. The project proponents and any project activities before, during, and after project implementation shall comply with the State Safe Drinking Water Act and its implementing regulations and requirements including, but not limited to, Chapter 16, Title 22, California Code of Regulations (CCR) that establish criteria for the separation of water mains from non-potable pipelines.

2. Water mains shall not be installed within 100 horizontal feet of the nearest edge of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 horizontal feet of the nearest edge of any cesspool, septic tank, sewage leach field, seepage pit, underground hazardous material storage tank, or groundwater recharge project site, in accordance with §64572(f), Title 22, CCR. S-1-2

3. Any plans for installation of potable water and/or recycled water piping systems shall be submitted to the State Water Board DDW for review and approval. All projects shall comply with the separation requirements under Title 22, CCR.

4. Any proposal to install potable water and/or recycled water systems shall consider/review appropriate backflow prevention devices and shall be built/installed wherever applicable.

5. Cross-connection requirements shall be observed and followed all the time.

Please contact also the Long Beach Water Department for any applicable potable water and/or recycled water requirements.

If you have any questions, please contact Mr. Ric M. Roda, P.E., at (818) 551-2009 or me at (818) 551-2022. S-1-3

Sincerely,

Dmitriy Ginzburg, P.E.
Hollywood District Engineer
Division of Drinking Water

cc: Mr. Dan Bacani
Cross-Connection and Water Pollution Control Program
County of Los Angeles Department of Public Health
5050 Commerce Drive
Baldwin Park, CA 91706

Mr. Tai Tseng
Assistant General Manager, Operations
Long Beach Water Department
1800 E. Wardlow Rd.
Long Beach, CA 90807

Ms. Yan Zhang, Ph.D., P.E.
Senior Program Manager
Long Beach Water Department
2950 Redondo Avenue
Long Beach, CA 90806

Mr. Scott Morgan
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Ms. Vanna Kho, R.E.H.S., CP-FS
Environmental Health Specialist III
Health and Human Services Department
Environmental Health Bureau
Consumer Protection Program – Water Quality
2525 Grand Avenue, Ste. 220
Long Beach, CA 90815

STATE AGENCY: State Water Resources Control Board (SWRCB)

LETTER CODE: S-1

COMMENTER: Dmitriy Ginzburg, P.E., Hollywood District Engineer, Division of Drinking Water

DATE RECEIVED: December 6, 2019

RESPONSE S-1-1

The comment thanks the City of Long Beach (City) for the opportunity to comment on the Davenport Park Expansion Project (project). The comment summarizes information from the project description, including the project features, parking spaces and parking lot reconfiguration to accommodate a school bus drop-off location, and states that the project site was formerly a municipal waste landfill that has since been closed and capped.

The comment provides introductory statements and correctly provides information from the project description. This comment does not contain any substantive comments or questions about the Draft Initial Study/Mitigated Negative Declaration (IS/MND) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-2

The comment outlines the following requirements related to water systems:

- The proposed project shall comply with the State Safe Drinking Water Act and its implementing regulations and requirements including Chapter 16, Title 22, California Code of Regulations (CCR) that establish criteria for the separation of water mains from non-potable pipelines.
- In accordance with Section 64572(f), Title 22, CCR, water mains shall not be installed within 100 horizontal feet of the nearest edge of a sanitary landfill.
- Plans for installation of potable water and/or recycled water systems shall comply with separation requirements under Title 22, CCR and shall be submitted to the State Water Board Division of Drinking Water for review and approval.
- Back flow prevention devices shall be installed where applicable.
- Cross-connection requirements shall be observed and followed at all times.

As part of the project, irrigation systems would be installed on the project site. No new or expanded water mains are included as part of the project. The project would adhere to the Title 22, CCR regulatory requirements as outlined in the comment by SWRCB. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-3

The comment letter requests that the City contact the Long Beach Water Department for any applicable potable water and/or recycled water requirements. The comment letter concludes by providing contact information.

The City has included the Long Beach Water Department in the California Environmental Quality Act (CEQA) review process for the proposed project and will comply with all applicable potable water and/or recycled water regulatory requirements. This comment will be forwarded to the decision-makers for their review and consideration. No further response is required.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7- OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-6536
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

December 6, 2019

Maryanne Cronin
Planner
City of Long Beach
Development Services Department
411 W. Ocean Blvd., 3rd Floor
Long Beach, CA 90802

RE: Davenport Park Expansion Project
Mitigated Negative Declaration (MND)
SCH# 2019119026
GTS# 07-LA-2019-02922
Vic. LA – 19/ PM 5.489
Vic. LA – 91/ R13.617

Dear Ms. Cronin:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. The City is proposing to expand Davenport Park in an effort to meet the City's General Plan Open Space (2002) goal of providing 8 acres of recreational open space for every 1,000 residents. The planned park expansion would include a sports field located on the central and western portion of the site, four sets of three-level bleachers on each side of the sports field, six fitness equipment pads scattered around the site (future phase), a 5,000-square-foot (sf) skate park (future phase), a shaded gathering area, and 31 diagonal parking spaces along the northern boundary of the site on the northern boundary of the site on East 55th Way. A portion of the existing parking lot would be re-designed as a school bus drop-off location. S-2-1

The nearest State facilities to the proposed project are State Route 19 (SR-19), approximately 1.3 miles away, and State Route 91 (SR-91), approximately 1.3 miles away. After reviewing the Mitigated Negative Declaration (MND), Caltrans has the following comments:

The mission of Caltrans is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Senate Bill 743 (2013) mandates that Vehicle Miles Traveled (VMT) be used as the primary metric in identifying transportation impacts of all future development projects under CEQA, starting July 1, 2020. For information on determining transportation impacts in terms of VMT on the State Highway System, see the Technical Advisory on Evaluating Transportation Impacts in CEQA by the California Governor's Office of Planning and Research, dated December 2018: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf S-2-2

Due to the nature of this project will provide, Caltrans recommends creating the safest streetscape possible for pedestrians and people on bikes. Caltrans encourages the Lead Agency to continue the reduction of vehicle speeds in order to benefit pedestrian and bicyclist safety, as there is a direct link between impact speeds and the likelihood of fatality. The most effective methods to reduce pedestrian and bicyclist exposure to vehicles is through physical design and geometrics. Such methods include the construction of physically separated facilities such as Class IV bike lanes, sidewalks, pedestrian refuge islands, landscaping, street furniture, and reductions in crossing distances through roadway narrowing. Visual indicators such as, but not limited to, pedestrian and bicyclist warning signage, flashing beacons, crosswalks, and striping should be used to indicate to motorists that they can expect to see and yield to pedestrians and people on bikes. S-2-3

Any development should keep livability in mind by providing shade trees, native landscaping, bioswales, street furniture, bicycle parking, bus shelters and trash cans. Bus bulb-outs can reduce conflict between bicycles and buses on busy roads. Bus only lanes are encouraged to reduce travel times and make public transit more appealing to discretionary users. S-2-4

As a reminder, any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles of State highways will need a Caltrans transportation permit. We recommend large size truck trips be limited to off-peak commute periods. S-2-5

If you have any questions, please contact project coordinator Mr. Carlo Ramirez, at carlo.ramirez@dot.ca.gov and refer to GTS# 07-LA-2019-02922. S-2-6

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief

Cc: Scott Morgan, State Clearinghouse

STATE AGENCY: California Department of Transportation (Caltrans)

LETTER CODE: S-2

COMMENTER: Miya Edmonson, IGR/CEQA Branch Chief

DATE RECEIVED: December 13, 2019

RESPONSE S-2-1

The comment thanks the City of Long Beach (City) for the opportunity to comment on the Davenport Park Expansion Project (project). The comment summarizes information from the project description, including the intent of the project, project features, number of parking spaces, and parking lot reconfiguration to accommodate a school bus drop-off location.

The comment provides introductory statements and correctly provides information from the project description. This comment does not contain any substantive comments or questions about the Draft Initial Study/Mitigated Negative Declaration (IS/MND) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-2

The comment lists the nearest State facilities to the proposed project, including State Route 19 (SR-19), which is located approximately 1.3 miles from the project site, and State Route 91 (SR-91), which is located approximately 1.3 miles from the project site. The comment provides Caltrans' mission statement, as well as information related to Senate Bill (SB) 743 and the use of vehicle miles travelled (VMT) as the primary metric in identifying transportation impacts of development projects under the California Environmental Quality Act (CEQA) beginning July 1, 2020.

The comment provides informational statements and does not contain any substantive comments or questions about the Draft IS/MND or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-3

The comment provides recommendations aimed at reducing vehicle speeds in order to improve bicycle and pedestrian safety around the project site, including construction of Class IV bike lanes, sidewalks, pedestrian refuge islands, landscaping, street furniture, and reductions in crossing distances through roadway narrowing. Visual indicators, such as pedestrian and bicyclist warning signage, flashing beacons, crosswalks, and striping are also recommended.

The comment provides recommendations and does not contain any substantive comments or questions about the Draft IS/MND or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-4

The comment provides recommendations aimed at improving livability around the project site by providing shade trees, native landscaping, bioswales, street furniture, bicycle parking, bus shelters, bus bulb-outs, bus-only lanes, and trashcans.

The comment provides recommendations and does not contain any substantive comments or questions about the Draft IS/MND or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-5

The comment states that any transportation of heavy construction equipment and/or materials, which require use of oversized-transport vehicles of State highways, would require a Caltrans transportation permit. The comment also recommends that oversized-transport vehicle trips be limited to off-peak commute periods.

The comment provides informational statements and provides information on when a Caltrans transportation permit would be required. The comment does not contain any substantive comments or questions about the Draft IS/MND or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-6

The comment letter concludes with contact information.

The comment is conclusory in nature. The City will provide Caltrans with a copy of this Final IS/MND prior to adoption of the document and approval of the project. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the Draft IS/MND. No further response is required.

L-1

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY HEALTH AGENCY

BARBARA FERRER, Ph.D., M.P.H., M.Ed.
Director

MUNTU DAVIS, M.D., M.P.H.
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Fourth District

Kathryn Barger
Fifth District

December 6, 2019

Maryanne Cronin
Planner
City of Long Beach
Development Services Department
411 W Ocean Blvd, 3rd Floor
Long Beach, CA 90802

SUBJECT: INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE DEVENPORT PARK EXPANSION PROJECT

Dear Ms. Cronin,

The Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA) appreciates the opportunity to comment on the aforementioned proposed project dated November 2019, prepared by LSA.

The project proposes to expand Davenport Park to an abutting undeveloped parcel. The existing site and the adjacent 5.5-acre Davenport Park site were formerly occupied by a municipal waste landfill and later by the Cal Coast Packing Crating Company that has since closed and is now a Closed, Illegal and Abandoned (CIA) Disposal Site under CalRecycle. The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for a total park size of approximately 11.5 acres. Features proposed as part of the park expansion project include a sports field, four sets of three-level bleachers on each side of the sports field, six fitness equipment pads, a skate park, parking spaces and shaded picnic facilities. The existing site is characterized by the presence of scattered vegetation and soil. L-1-1

Based on the previously submitted and LEA approved Phase II Post-Closure Land Use Proposal (PCLUP), dated September 2014, submit an amended PCLUP to reflect the current changes for the 2019 Initial Study/Mitigated Negative Declaration (IS/MND) submittal to address the following since the last LEA approval:

Comment #1. The 2014 IS/MND Davenport Park Phase II PCLUP was analyzed with the concept of no gas exceedances. Now that the site is currently experiencing exceedances of methane gas, the PCLUP should reflect the current gas control system that the City of Long Beach is proposing. All figures and drawings should also be updated. L-1-2

Comment #2. Provide an updated monitoring and maintenance plan (e.g. sports field, trees and shrubs, driving and parking surfaces, etc.).

Paramount Dump
Davenport Park Expansion
19-AK-0084

Comment #3. Provide updates to the Parking Facilities, Realignment of East 55th Way, Revegetation Plan and Irrigation System. L-1-2

An Amended PCLUP needs to be submitted to the LEA for approval before any construction or land preparation can occur. Please refer to Postclosure Land Use regulations in Title 27 of the California Code of Regulations (27 CCR) Section 21190, et seq.

We look forward to working with you on this project. Should you have any questions, please feel free to contact me or Mark Como at (626) 430-5540. L-1-3

Sincerely,

Janet Chairez Gallardo
Solid Waste Management Program

cc: (via electronic mail)
Dawn Liang, CalRecycle CIA Sections
Shikari Nakagawa-Ota, LEA Inspection & Enforcement Chief
Dorcas Hanson-Lugo, LEA Permitting & Surveillance Chief
Mark Como, LEA Inspector

LOCAL AGENCY: Los Angeles County Department of Public Health

LETTER CODE: L-1

COMMENTER: Janet Chairez Gallardo, Solid Waste Management Program

DATE RECEIVED: December 6, 2019

RESPONSE L-1-1

The comment states that the Los Angeles County Department of Public Health, as the Local Enforcement Agency (LEA), appreciates the opportunity to comment on the Davenport Park Expansion Project (project). The comment summarizes information from the project description, including the project's location, the size and conditions of the project site, project features, and that the project site was formerly a municipal waste landfill.

The comment provides introductory statements and correctly states information from the project description. This comment does not contain any substantive comments or questions about the Draft Initial Study/Mitigated Negative Declaration (IS/MND) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE L-1-2

The comments indicates that amendments to the Phase II Post-Closure Land Use Proposal (PCLUP) (September 2014) are required in order to be consistent with the proposed project as described in the Draft IS/MND. The comments regarding the requested updated PCLUP are summarized below.

- Since the project site is currently experiencing exceedances of methane gas, the PCLUP should reflect the current gas control system that the City of Long Beach is proposing.
- The PCLUP should include an updated monitoring and maintenance plan.
- The PCLUP should be updated to include current project details related to parking facilities, the realignment of East 55th Way, and the Revegetation Plan and Irrigation System.
- The PCLUP should be amended and submitted to the LEA for approval prior to construction or land preparation undertaken as part of the project.

The comment is related to amendments to the PCLUP and does not contain any substantive comments or questions about the Draft IS/MND or analysis therein. As a condition of approval for the proposed project, the City will amend the PCLUP and will submit the amended PCLUP to the LEA for approval, in accordance with Title 27 of the California Code of Regulations (27 CCR). No further response is necessary.

RESPONSE L-1-3

The comment letter concludes with contact information.

The comment is conclusory in nature. The City will provide the Los Angeles County Department of Public Health with a copy of this Final IS/MND prior to adoption of the document and approval of the project. Prior to construction or land preparation, the City will provide the LEA with updated information related to the PCLUP monitoring information, including a maintenance plan with attached design plans identifying all new parking amenities related to the proposed project. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the Draft IS/MND. No further response is required.

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SECTION 2

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (CIRCULATED FROM NOVEMBER 7, 2019 THROUGH DECEMBER 6, 2019)

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DRAFT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

DAVENPORT PARK EXPANSION PROJECT

CITY OF LONG BEACH

November 2019

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DRAFT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

DAVENPORT PARK EXPANSION PROJECT

CITY OF LONG BEACH

Submitted to:

City of Long Beach
Development Services, Planning Bureau
411 West Ocean Boulevard, 3rd Floor
Long Beach, California 90802

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. CLB1805

November 2019

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LIST OF ABBREVIATIONS AND ACRONYMS

$\mu g/m^3$	microgram per cubic meter air
AB	Assembly Bill
ADT	average daily traffic
af	acre-feet
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
Basin	South Coast Air Basin
bgs	below ground surface
BMPs	Best Management Practices
Btu	British thermal units
CAAP	Climate Action and Adaptation Plan
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CalGreen Code	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CIA	(CalRecycle) Closed, Illegal, and Abandoned Disposal Site
City	City of Long Beach
CIWMB	California Integrated Waste Management Board
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Los Angeles

dB	Decibel(s)
dBA	A-weighted decibel(s)
DHS	(County of Los Angeles) Department of Health Services
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
ft	foot/feet
GHG	greenhouse gas
GSAs	Groundwater Sustainability Agencies
GWh	gigawatt-hours
H.I.	Health Hazard Index
HCP	Habitat Conservation Plan
HRA	Health Risk Assessment
in/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
JWPCP	(LACSD's) Joint Water Pollution Control Plant
LACSD	Sanitation Districts of Los Angeles County
LARWQCB	California Regional Water Quality Control Board, Los Angeles Region
LBFD	Long Beach Fire Department
LBPD	Long Beach Police Department
LBPL	Long Beach Public Library
lbs/day	pounds per day
LBUSD	Long Beach Unified School District
LBWD	Long Beach Water Department
L_{dn}	day-night average noise level
LEA	Local Enforcement Agency
L_{eq}	equivalent continuous sound level
LGB	Long Beach Municipal Airport
LID	Low Impact Development
LID Plan	Low Impact Development Plan
L_{max}	maximum instantaneous noise level
LOS	level of service

LRA	Local Responsibility Area
LST	Localized Significance Thresholds
LUD	Land Use District
LUE	General Plan Land Use Element
mgd	million gallons per day
MLD	Most Likely Descendant
MM	Mitigation Measure
mpg	Miles per gallon
MRZs	Mineral Resource Zones
MT	metric tons
MT CO_2e	metric tons of carbon dioxide equivalent
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NCCP	Natural Communities Conservation Plan
NPDES	National Pollution Discharge Elimination System
N_2O	nitrous oxide
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
O_3	ozone
OSHA	Occupational Safety and Health Administration
PCH	Pacific Coast Highway
PCLUP	Post-Closure Land Use Proposal
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
ppmV	parts per million by volume
PPV	peak-particle velocity
PRC	Public Resources Code
proposed project	Davenport Park Expansion Project
PVC	polyvinyl chloride (p[iping)
RCM	Regulatory Compliance Measure
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SERRF	Southeast Resource Recovery Facility
sf	square foot/feet

SGMA	Sustainable Groundwater Management Act
SMARA	Surface Mining and Reclamation Act
SOx	oxides of sulfur
SR-1	State Route 1
SR-91	State Route 91
SRA	source receptor area; also State Responsibility Area
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Storm Water Pollution Prevention Program
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
Unified Program	Long Beach Certified Unified Program Agency
USFWS	United States Fish and Wildlife Services
UWMP	Urban Water Management Plan
VOC	volatile organic compounds
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles travelled
WDRs	Waste Discharge Requirements
WRP	Long Beach Water Reclamation Plant

1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines*, this Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the proposed Davenport Park Expansion Project (proposed project) in the northern area of the City of Long Beach (City). Consistent with the *State CEQA Guidelines* Section 15071, this IS/MND includes a description of the proposed project, an evaluation of the potential environmental impacts, and findings from the environmental analysis.

This IS/MND evaluates the potential environmental impacts that may result from construction and operation of the project. Consistent with *State CEQA Guidelines* Section 15050, the City is the Lead Agency under CEQA, and is responsible for adoption of the environmental document and approval of the project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this IS/MND, its assumptions, or its conclusions should be referred to:

Maryanne Cronin, Project Planner
City of Long Beach Development Services, Planning Bureau
411 W. Ocean Blvd., 3rd Floor
Long Beach, CA 90802
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2.0 PROJECT DESCRIPTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to evaluate the environmental impacts that may result from implementation of the proposed Davenport Park Expansion Project (proposed project). As Lead Agency, the City of Long Beach (City) has the authority for preparation of this Draft IS/MND and, after the public review process, adoption of the Final MND and approval of the proposed project as described in this Draft IS/MND. The City and Responsible Agencies have the authority to make decisions on discretionary actions related to the approval of the proposed project. This Draft IS/MND is intended to serve as an informational document to be considered by the City and the Responsible Agencies during deliberations on the proposed project. This Draft IS/MND evaluates for a reasonable worst-case scenario of potential environmental impacts associated with the proposed project and provides mitigation where necessary.

The project site is located on Assessor's Parcel Numbers (APNs) 7157-006-902, -903, -904, and -905, at 5550 Paramount Boulevard, in Long Beach, California. The rectangular parcel is currently undeveloped. The project proposes to expand Davenport Park, located directly east of the project site at 2910 East 55th Way.

2.1 REGIONAL AND LOCAL SETTING

2.1.1 Existing Project Site

The project site is bordered by East 55th Way to the north[1] with residential uses and industrial storage tanks beyond, the Davenport Park site to the east, the Friendly Village Mobile Home Park to the south, and North Paramount Boulevard to the west. The project's nearest cross streets are Paramount Boulevard and East 55th Way. Regional access to the project site is provided by State Route 91 (SR-91), located approximately 1.3 miles to the north of the project site. Refer to Figure 1, Project Location, for an overview of the project site's location within the City.

As illustrated on Figure 2, Project Site, the project site and existing Davenport Park consists of four parcels. The approximately 6-acre project site and the adjacent 5.5-acre existing Davenport Park site were formerly occupied by a municipal waste landfill and later by the Cal Coast Packing Crating Company. The industrial use is no longer in operation on the site, and the landfill has since been closed and capped in compliance with the California Department of Resources, Recycling, and Recovery (CalRecycle) Closed, Illegal, and Abandoned Disposal Site (CIA) program and the CalRecycle Solid Waste Cleanup Program (Assembly Bill [AB] 2136).[2] Under existing conditions, the project site is characterized by the presence of a walking trail and scattered vegetation and soil.

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1 The segment of East 55th Way between Paramount Boulevard and the existing Davenport Park site is a vacated street (APN No. 7157-006-902). For the purposes of the IS/MND discussion, this parcel will be described as East 55th Way.

2 The Post-Closure Land Use Proposal (SWT Engineering 2014) is included as Appendix A to this IS/MND.

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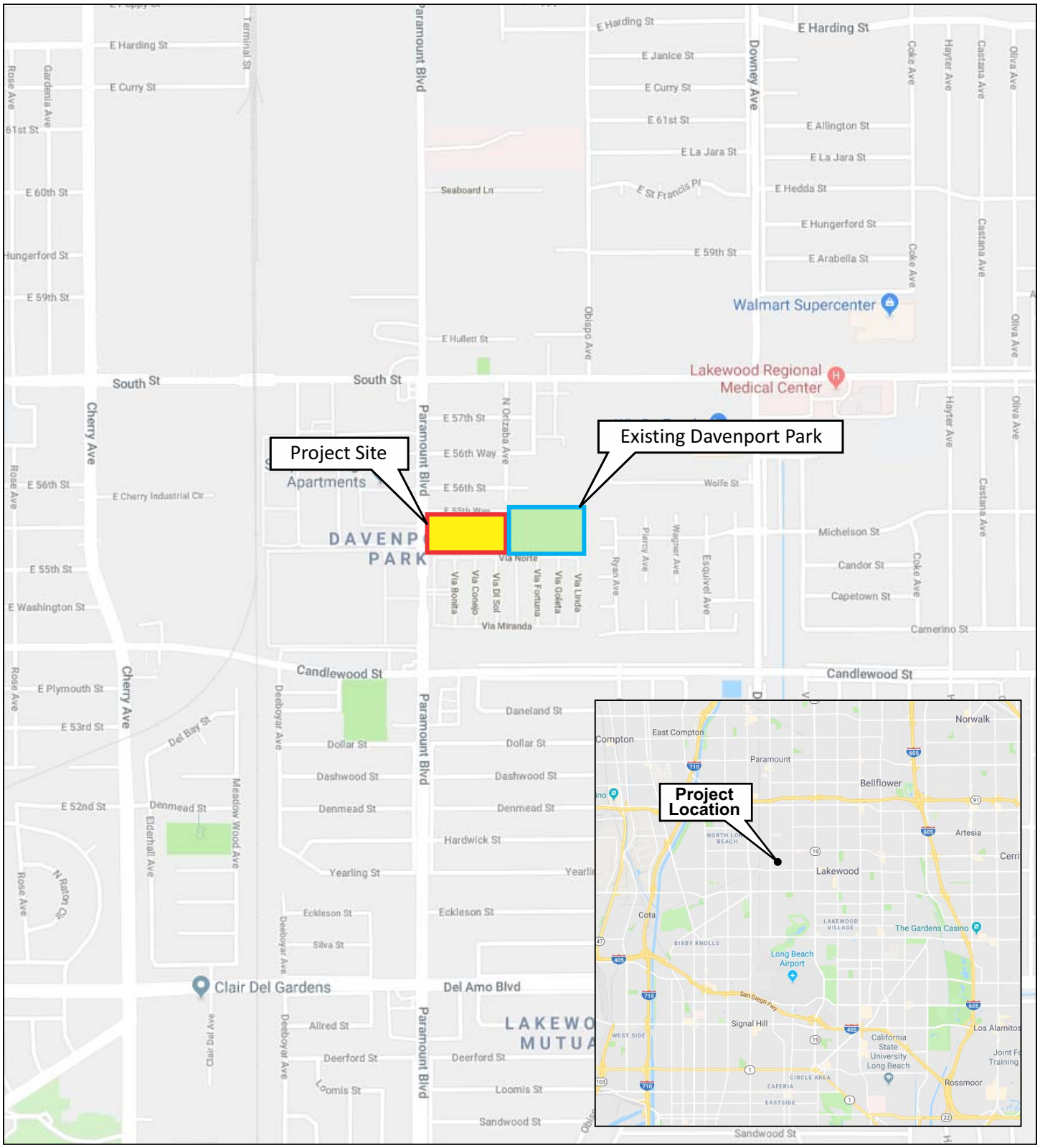

LSA

LEGEND

Project Site

Existing Davenport Park

N

0 500 1000

FEET

SOURCE: Google Maps, 2018

FIGURE 1

Davenport Park Expansion

Project Location

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LSA

FIGURE 2

LEGEND

Project Site

Existing Davenport Park

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SOURCE: Google Earth, 2018

Davenport Park Expansion

Project Site

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The publicly accessible walking trail on the proposed expansion area travels in a loop directly inside of the project site's boundary. The walking trail provides pedestrian access at two points along the eastern site boundary and connects to the sidewalk around the perimeter of the Davenport Park parking lot. Additionally, the walking trail provides pedestrian access at the northern site boundary and connects to the sidewalk near the intersection of East 55th Way and North Paramount Boulevard.

Three driveway aprons are currently located on the northern boundary of the site off of East 55th Way. However, vehicular access to the property is prohibited due to the presence of chain-link fencing on all sides. Chain-link fencing on the northern, southern, and western boundaries of the site allows for partially obstructed views of the project site. The chain-link fence on the eastern boundary of the property is entirely covered in vegetation, thereby serving as a visual buffer between the existing Davenport Park and the undeveloped project site.

Vehicular access to the existing park and future expansion is provided via the right-in/right-out intersection of Paramount Boulevard/East 55th Way (North). Pedestrian access and circulation are provided around the perimeter of the park.

2.1.2 Background

2.1.2.1 Historic Uses

Prior to 1938, the project site was vacant and undeveloped. During the 1940s, however, the project site and the adjacent Davenport Park site were owned and operated by the City of Long Beach and were part of a larger municipal landfill facility (formerly referred to as the Paramount Dump). This landfill facility primarily received municipal refuse and landscape waste. The landfill was in operation until 1948. Following the landfill closure, a building was constructed on the project site in 1954 and the property was subsequently utilized by a number of tenants including a seat cover manufacturer from 1954 to 1968, a bottling company from 1976 through 1983, and the Cal Coast Packing and Crating Company beginning in 1989. In 1993, the building on site was condemned due to excessive settlement and elevated landfill gas concentrations, and it was declared to be a public health nuisance and demolished.[1]

During its occupation of the property, the Cal Coast Packing and Crating Company leased the site from the City for manufacturing crates and packaging for large industrial equipment, specialty items, and smaller household items (i.e., washing machines). The site has remained in its existing condition as a vacant property since 1993 following the lease expiration and subsequent departure of the Cal Coast Packing and Crating Company. The City purchased the proposed Davenport Park expansion site, referred to as the project site throughout this IS/MND, from the Cal Coast Packing and Crating Company Inc. in April 2006.

[1] California Department of Resources, Recycling, and Recovery (CalRecycle). 2010. *Site Investigation Report, Friendly Village Mobile Home Park, Portion of the Former Paramount Dump*. November 9, 2010.

2.1.2.2 Landfill Closure

In compliance with Title 27 of the California Code of Regulations (CCR), specifically 27 CCR 21190 (a), land uses being proposed on closed landfills (post-closure) must be designed and maintained to:

(1) Protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;

(2) Prevent public contact with waste, landfill gas and leachate; and

(3) Prevent landfill gas explosions.

Furthermore, 27 CCR 21190(c) requires that all proposed post-closure land uses, other than non-irrigated open space, are submitted to the Local Enforcement Agency (LEA) (County of Los Angeles Solid Waste Management Program), the Regional Water Quality Control Board (RWQCB), the local air district (SCAQMD), and the local land use agency (City of Long Beach). The LEA approves the proposed post-closure land uses if the project involves structures within 1,000 feet (ft) of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste. Landfill gas monitoring for methane, oxygen, and hydrogen sulfide is conducted quarterly during inspections by the LEA.

In compliance with these regulations, a Post-Closure Land Use Proposal (PCLUP) was prepared for the existing Davenport Park (also known as Phase I) and was approved by the County of Los Angeles Solid Waste Management Program/LEA on May 11, 2004. Subsequently, the first phase of Davenport Park was completed in 2006. The existing Davenport Park (Phase I) has three vents to emit gases from the closed landfill. The vents are constructed of 6-inch diameter polyvinyl chloride (PVC) piping, extending to approximately 5 ft below ground and 13 ft above ground surface. The three existing vents were capped in response to a Notice to Comply issued by the SCAQMD on November 11, 2011, due to a violation related to the surface emission standard for methane.

In 2014, a Phase II PCLUP was prepared and approved for the current project site (Davenport Park Phase II) to describe the activities associated with the conversion of the property into a public park. The Phase II PCLUP is included as Appendix A to this IS/MND. Given the discharge requirements and the present emissions (determined through ongoing monitoring conducted as recently as September 2019), active treatment (rather than venting alone) at the project site will be required to protect public health and maintain compliance. The City has submitted a Workplan to the LEA that includes a conceptual plan of the proposed treatment system, which would include a carbon treatment unit with venting. The carbon treatment unit is comprised of a drum unit with vent on top (not to exceed 15 ft high) that would be enclosed within chain- link fencing and installed aboveground, just west of the existing parking lot, between the proposed park and the existing park (refer to Figure 3, Conceptual Site Plan). The system would connect to the below grade portion of the venting system on Phase I of the park, and to the subgrade piping system installed in 2017 under the project site. The system will be installed and inspected in compliance with the PCLUP and all post-closure regulations.

2.1.2.3 Davenport Park Site

Plans to develop the project site and the adjacent Davenport Park site first began when the North Long Beach Project Area Committee sought these properties for development with parks and recreational uses as part of the implementation of the North Long Beach Redevelopment Plan. Among other things, this plan sought to revitalize neighborhoods within the North Long Beach area through improvements to, and/or the creation of, parks and open space areas. The project site was also targeted for development of a park as part of a mitigation to offset the loss of parkland associated with the conversion of a portion of Scherer Park (located in the northwestern portion of the City) to a non-park use.

An Environmental Impact Report (EIR) was prepared for the existing and adjacent Davenport Park Project and was subsequently certified by the Long Beach City Council on February 5, 2004. The existing park facilities on the adjacent site were opened for public use in 2006.

In its existing condition, recreational facilities at the existing Davenport Park site include walking trails, a large open grass field, a basketball court, playground equipment, shaded areas with picnic facilities, restrooms, and a surface parking lot. The park was named in honor of Long Beach Police Officer Ed "Pops" Davenport.

2.1.3 Proposed Project

The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. The City is proposing to expand Davenport Park in an effort to meet the City's General Plan Open Space (2002) goal of providing 8 acres of recreational open space for every 1,000 residents.

The planned park expansion would include a sports field located on the central and western portion of the site, four sets of three-level bleachers on each side of the sports field, six fitness equipment pads scattered around the site (future phase), a 5,000-square-foot (sf) skate park (future phase), a shaded gathering area, and 31 diagonal parking spaces along the northern boundary of the site on East 55th Way. In addition, a portion of the parking lot for the existing Davenport Park would be re-designated as a school bus drop-off location. The proposed site plan is illustrated on Figure 3, Conceptual Site Plan. As specified in the City's General Plan Recreation Element (2002), amenities typically found in neighborhood parks include landscaping, irrigation, walking paths, seating areas and picnic facilities, drinking fountains, trash receptacles, recreation fields, and parking and drive aisles. Similar amenities would be provided throughout the project site. In addition, security lighting would be provided throughout the project site along the walking paths. Areas surrounding the sports field would include landscaped open space with ornamental trees and shrubbery. To the extent feasible, passive open space areas would include drought-tolerant vegetation and other non-invasive plantings. Pedestrian and bicycle access will also be provided from existing sidewalks along Paramount Boulevard, sidewalks along East 55th Way, and pedestrian pathways surrounding the project boundaries.

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NOTES:

1. Performance in Lighting 25'-0" Light Pole with System Park Square #079280 at 22'-0" AFG
2. Performance in Lighting System Park Line #072290 at 15'-0" AFG on opposite side of pole.

LSA

FIGURE 3

N

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SOURCE: Anchor QEA

Davenport Park Expansion

Conceptual Site Plan

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During project operation, the site would be open for use from 6:00 a.m. to 10:00 p.m., consistent with the hours of operation for the facilities at the Davenport Park site. Primary users of the site are anticipated to be residents in the surrounding neighborhoods.

Due to the site's prior use as a landfill, and as required in the closure documents, the proposed project would include a carbon treatment unit with venting system, as described above, , to provide safe venting of low-level methane emissions. The vent would be located at the carbon treatment unit and would not exceed 15 ft in height. The carbon treatment unit and vent would be installed aboveground and enclosed by chain-link fencing, just west of the existing parking lot, between the proposed park and the existing park (refer to Figure 3, Conceptual Site Plan). The system would connect to the below grade portion of the venting system on Phase I of the park, and to the subgrade piping system installed in 2017 under the project site. The system will be installed and inspected in compliance with the PCLUP and all post-closure regulations.

Following project implementation, pedestrian access to the project site would be provided at East 55th Way and via an entry plaza on Paramount Boulevard.

2.1.4 General Plan and Zoning

The existing Davenport Park site is currently classified as Land Use Designation (LUD) No. 11, Open Space and Parks, on the City's General Plan Land Use Map and is zoned as a Park (P) district on the City's Zoning Map. The project site is designated LUD No. 1, Single-Family District, on the City's General Plan Land Use Map and is zoned as a Park (P) district on the City's Zoning Map. The LUD No. 1, Single-Family District, designation allows for single-family residential uses (including mobile homes), neighborhood-serving retail uses, and uses that support residential uses such as parks.

The City is currently in the process of updating and replacing the existing General Plan Land Use Element (LUE) with an entirely new LUE that would guide future development in the City through the year 2040. The General Plan LUE was approved by the Planning Commission on October 17, 2019, and transferred to be heard by the City Council on December 3, 2019. The proposed LUE would introduce the concept of "PlaceTypes," which would replace the traditional land uses designations and zoning classifications in the existing LUE. The proposed LUE designates the project site as within the North Long Beach Community Plan Area. This Community Plan Area primarily allows for the development of low- to moderate-density housing, open space, community commercial, industrial, and neo-industrial uses. The project site is within the proposed Open Space PlaceType, which encourages various forms of open space and limited commercial recreation uses that complement existing recreation facilities. The proposed project would be consistent with the proposed LUE.

2.1.5 Construction Phasing and Grading

Although the project is anticipated to be constructed all in one phase, it is possible that the skate park and six fitness equipment pads would be installed at a later date once funding is identified. Construction staging areas would be located within the existing Davenport Park parking area, within the street parking area on East 55th Way, and within the project site itself. Preliminary estimates indicate that the project would require the net import of 18,212 cubic yards of fill. Project

construction would not extend further than approximately 2 ft and would not disturb native soils. Construction would commence in 2020 with an anticipated opening year of 2022 for the proposed project.

Clean soil will be imported to the site to provide a minimum 2 ft thick layer of vegetative soil. In areas with trees proposed, berms will be placed so that the cover thickness is a minimum of 4 ft deep. Limited passive open space areas will include some drought-tolerant vegetation and other non-invasive plantings to protect the landfill cover.

2.2 PROJECT BENEFITS

Pursuant to Section 21082.4 of the *State CEQA Guidelines* statute, "In describing and evaluating a project in an environmental review document prepared pursuant to this division, the lead agency may consider specific economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of a proposed project and the negative impacts of denying the project." The proposed project would provide the following benefits:

- Addition of parkland and recreation uses in North Long Beach would have a positive impact on the City's existing park acreage and help the City in meeting the General Plan Open Space (2002) goal of providing 8 acres of recreational open space for every 1,000 residents.

- Development of the park expansion would offset the loss of parkland associated with the conversion of a portion of Scherer Park (located in the northwestern portion of the City) to a non-park use.

- The project would facilitate the installation of actions outlined in the Post-Closure Land Use Proposal (PCLUP) for the Paramount Dump by the County of Los Angeles Department of Health Services (DHS), the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), the Air Quality Management District (AQMD), and the California Integrated Waste Management Board (CIWMB) to ensure that project implementation be in full compliance with the PCLUP.

2.3 DISCRETIONARY ACTIONS, PERMITS, AND OTHER APPROVALS

In accordance with Sections 15050 and 15367 of the *State CEQA Guidelines*, the City is the designated Lead Agency for the proposed project and has principal authority and jurisdiction for CEQA actions and project approval. Responsible Agencies are those agencies that have jurisdiction or authority over one or more aspects associated with the development of a proposed project and/or mitigation. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by a proposed project.

The discretionary actions to be considered by the City as a part of the proposed project include:

- CEQA and Project Approval: Adoption of the MND and approval of the proposed project.

In addition, ministerial permits, including grading permits, building permits, and public works permits, would be issued by the City to allow site preparation and construction of the proposed project and off-site project infrastructure connections.

Actions outlined in the PCLUP (included as Appendix A of this IS/MND) for the Paramount Dump by the County of Los Angeles Department of Health Services (DHS), the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), the Air Quality Management District (AQMD), and the California Integrated Waste Management Board (CIWMB) would also be required to ensure that project implementation be in full compliance with the PCLUP.

The proposed project would also future ministerial permits and approvals from Responsible agencies, as listed below:

- **Regional Water Quality Control Board (RWQCB**) National Pollution Discharge Elimination System (NPDES) Permit

- **State Water Resources Control Board:** Notice of Intent to comply with the NPDES General Permit/Storm Water Pollution Prevention Program (SWPPP)

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3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below potentially would be affected by the project and include at least one impact that is a "Less Than Significant Impact with Mitigation Incorporated," as indicated by the checklist on the following pages. Please see the Environmental Checklist for additional information.

☐ Aesthetics	☐ Agriculture and Forestry	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☒ Hydrology and Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation/Traffic	☐ Tribal Cultural Resources
☒ Utilities and Service Systems	☐ Wildfire	☒ Findings of Mandatory Significance

DETERMINATION. On the basis of this initial evaluation:

1. I find that the project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

2. I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

4. I find that the proposed project **may have a "potentially significant impact" or "potentially significant unless mitigated impact"** on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Project Planner

11-6-19
Date

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4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced, as discussed below).
5. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063 (c)(3)(D)). In this case, a brief discussion should identity the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and Lead Agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
(c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista is the view of an area that is visually or aesthetically pleasing from a certain vantage point. It is usually viewed from some distance away. Aesthetic components of a scenic vista include (1) scenic quality, (2) sensitivity level, and (3) view access. A scenic vista can be impacted in two ways: a development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important factors in determining whether a proposed project would block scenic vistas include the project's proposed height, mass, and location relative to surrounding land uses and travel corridors.

The City of Long Beach General Plan Scenic Routes Element[4] identifies scenic routes in the City in an effort to preserve views of scenic vistas in the City. Scenic vistas afforded to the City include views of the Pacific Ocean and the Port of Long Beach to the south, distant views of the San Gabriel and San Bernardino Mountains to the north, and distant views of the Santa Ana Mountains to the east. There are no locally designated scenic routes near the project site.

The City's Draft General Plan Urban Design Element,[5] when adopted, would replace the currently adopted Scenic Routes Element, and identifies existing scenic vistas in the City.

4 City of Long Beach. 1975. General Plan Scenic Routes Element (Scenic Highways). May.
5 Long Beach Development Services. 2019. City of Long Beach General Plan Urban Design Element. October.

Examples of these scenic vistas include the following: views along Alamitos Avenue south to Villa Riviera; El Dorado Park; 3rd Street to the Port of Long Beach cranes; Ocean Boulevard; Bluff Park to the Pacific Ocean and Belmont Pier; Queensway Bay and Shoreline Park to the Queen Mary and cruise ships; the Downtown; the marinas; and Los Coyotes Diagonal to the distant San Gabriel Mountains. Although the Draft Urban Design Element identifies several examples of existing scenic vistas in the City, these scenic vistas are not officially designated by the City nor has the Draft Urban Design Element been officially adopted by the City. In addition, none of the scenic vistas designated in the Draft Urban Design Element are in proximity to the project site.

The currently vacant project site is located within an urbanized area predominantly developed with residential uses. In its existing condition, the project site is undeveloped and features a walking trail. The proposed project includes the development of new park facilities on a currently vacant site that would be compatible with the existing Davenport Park facilities. Park facilities proposed as part of the project would not include any structures that would block or impede views in the vicinity of the project site. Further, improvements associated with the proposed project are anticipated to improve the existing visual character of the project site and would serve to provide increased visual cohesion between the project site and the existing Davenport Park, which abuts the project site to the east. Therefore, the proposed project would not result in a substantial adverse effect on a scenic vista, and no mitigation is required.

(b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. The California Department of Transportation (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the Streets and Highway Code, Sections 260–263. Scenic Highways are classified as either Officially Listed or Eligible. There are no State-designated scenic routes in the City. However, State Route 1 (SR-1) (i.e., Pacific Coast Highway [PCH]), which traverses the southern portion of the City from northwest to southeast, is currently designated as an Eligible State Scenic Highway.[6] It should also be noted that the City's Draft General Plan Urban Design Element (2019) (which is intended to eventually replace the existing Scenic Routes Element) and the City's existing Scenic Routes Element (1975) identify Ocean Boulevard as a scenic route. However, the eligible section of PCH, located approximately 4.8 miles from the site, and Ocean Boulevard, located approximately 6.5 miles from the project site, are not within the project's vicinity. As discussed in Response 4.1(a), development proposed as part of the project would not include any structures that would block or impede views of scenic resources. In its existing setting, the project site does not contain any trees, buildings, or rock outcroppings and is not located adjacent to or near any potential scenic highway. Therefore, implementation of the proposed project would not impact scenic resources within a State scenic highway. No mitigation is required.

[6] California Department of Transportation, Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed October 31, 2019).

(c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The currently vacant project site is located within an urbanized area predominantly developed with residential uses. In its existing condition, the project site is vacant and consists of a walking trail and a few ornamental trees along East 55th Way. Chain-link fencing on the northern, southern, and western boundaries of the site allows for partially obstructed views of the project site. The chain-link fence on the eastern boundary of the property is entirely covered in vegetation, thereby serving as a visual buffer between the existing Davenport Park and the undeveloped project site.

The project is located in the neighborhood identified as "Cherry Manor" in the City's existing General Plan Land Use Element (LUE) (adopted 1989; revised in 1997 and 2019).[7] According to the LUE, the Cherry Manor neighborhood is characterized primarily by multifamily and single-family residential uses. In addition, the LUE states that Cherry Manor lacks convenient recreation spaces and that a neighborhood improvement program should be implemented to improve the visual quality of the area.

The proposed project would result in the development of a 6-acre park that would serve as an expansion of the existing Davenport Park facilities located directly east of the project site. Upon project implementation, new park amenities and landscaping would be installed on the project site. Landscaping to be provided as part of the project would include drought tolerant plant beds along the western perimeter of the project site, and drought tolerant shrubs and trees dispersed along the perimeter of the walking path and project site. As such, the visual character and quality of the site would be improved as a result of the conversion of the site from a vacant, undeveloped lot to a park use. Furthermore, the proposed project is zoned as a Park (P) district on the City's Zoning Map.[8] Therefore, the proposed project would result in less than significant impacts related to the degradation of the existing visual character and quality of the site and its surroundings, and would not conflict with applicable zoning and other regulations governing scenic quality. No mitigation is required.

(d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact.

The impact of nighttime lighting depends upon the type of use affected, the proximity to the affected use, the intensity of specific lighting, and the background or ambient level of the

7 Long Beach Development Services. 2019. City of Long Beach General Plan Land Use Element. June.

8 Long Beach Technology & Innovation Department and Development Services Department. 2018. City of Long Beach Zoning Districts. Website: http://www.longbeach.gov/lbds/planning/advance/maps/zoning/ (accessed October 31, 2019).

combined nighttime lighting. Nighttime ambient light levels may vary considerably depending on the age, condition, and abundance of point-of-light sources present in a particular view. The use of exterior lighting for security and aesthetic illumination of architectural features may contribute to ambient nighttime lighting conditions.

Spill light occurs when lighting standards, such as streetlights, parking lot lighting, exterior building lighting, and landscape lighting are not properly aimed or shielded to direct light to the desired location and light escapes and partially illuminates a surrounding location. The spillover of light onto adjacent properties has the potential to interfere with certain activities, including vision, sleep, privacy, and general enjoyment of the natural nighttime condition. Light-sensitive uses include residential, some commercial and institutional uses, and, in some situations, natural areas. Changes in nighttime lighting may become significant if a proposed project substantially increases ambient lighting conditions beyond its property line and project lighting routinely spills over into adjacent light-sensitive land use areas.

Reflective light (glare) is caused by sunlight or artificial light reflecting from finished surfaces (e.g., window glass) or other reflective materials. Glass and other materials can have many different reflectance characteristics. Buildings constructed of highly reflective material from which the sun reflects at a low angle commonly cause adverse glare. Reflective light is common in urban areas. Glare generally does not result in the illumination of off-site locations but results in a visible source of light viewable from a distance.

Nighttime illumination impacts are evaluated in terms of the project's net change in ambient lighting conditions and proximity to light-sensitive land uses. The project site is predominantly surrounded by residential uses. Sensitive receptors in the vicinity of the site include residential uses to the north, south, and west of the project site. Other sources of light on and adjacent to the project site include exterior lighting from adjacent residential neighborhoods, street lighting from Paramount Boulevard to the west, and street lighting from Via Norte to the south.

Construction. Construction activities would primarily occur during the daylight hours and within the City's approved construction hours.[9] Any construction-related illumination would be used for safety and security purposes (in compliance with Long Beach Municipal Code light intensity requirements) and would occur only for the duration required for the temporary construction processes. With adherence to Long Beach Municipal Code regulations, construction lighting would not substantially impact sensitive uses, substantially alter the character of off-site areas surrounding the site, or interfere with the performance of an off-site activity. Therefore, construction of the proposed project would not create a new source of substantial light that would adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant. No mitigation is required.

Operation. The proposed project would be located within a developed area of the City, with ambient light levels that are typical for an urban area. In its existing condition, the lighting from adjacent streets and neighborhoods contributes to nighttime light on surrounding residential

[9] City of Long Beach Municipal Code, Section 8.80. Approved construction hours: 7:00 a.m. to 7:00 p.m. Monday through Friday and from 9:00 a.m. to 6:00 p.m. on Saturdays.

properties. Additionally, no field lighting is proposed as part of the project. As shown in Figure 4.1-1, Lighting Plan, proposed lighting for the project includes low-profile security lighting along the perimeter of the pedestrian path and the installation of seven standard light poles for the parking proposed on the northern boundary of the project site along East 55th Way. Although the proposed project would introduce new sources of light to the project site that are typical of recreational and urban uses, all outdoor lighting would be hooded, shielded, and focused downward and prevent light spillage onto adjacent properties. The location and intensity of all exterior lighting would comply with lighting standards outlined in the City's Municipal Code. Impacts related to glare from on-site lighting would not occur because the project would not include the development of structures on site with highly reflective materials (e.g., windows or glass with mirror-like tints). Although the proposed project is not anticipated to include features that would result in excessive lighting or the generation of glare on the site, lighting plans are subject to City review and approval as part of the site plan review process.

Therefore, lighting provided as part of the proposed project would be largely consistent with the type and intensity of existing lighting in the vicinity of the project site. The final lighting plan for the project would be subject to review and approval as part of the site plan review process, and compliance with the City's Municipal Code would be required. As such, the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Furthermore, impacts related to adverse day or nighttime views in the area would be less than significant. No mitigation is required.

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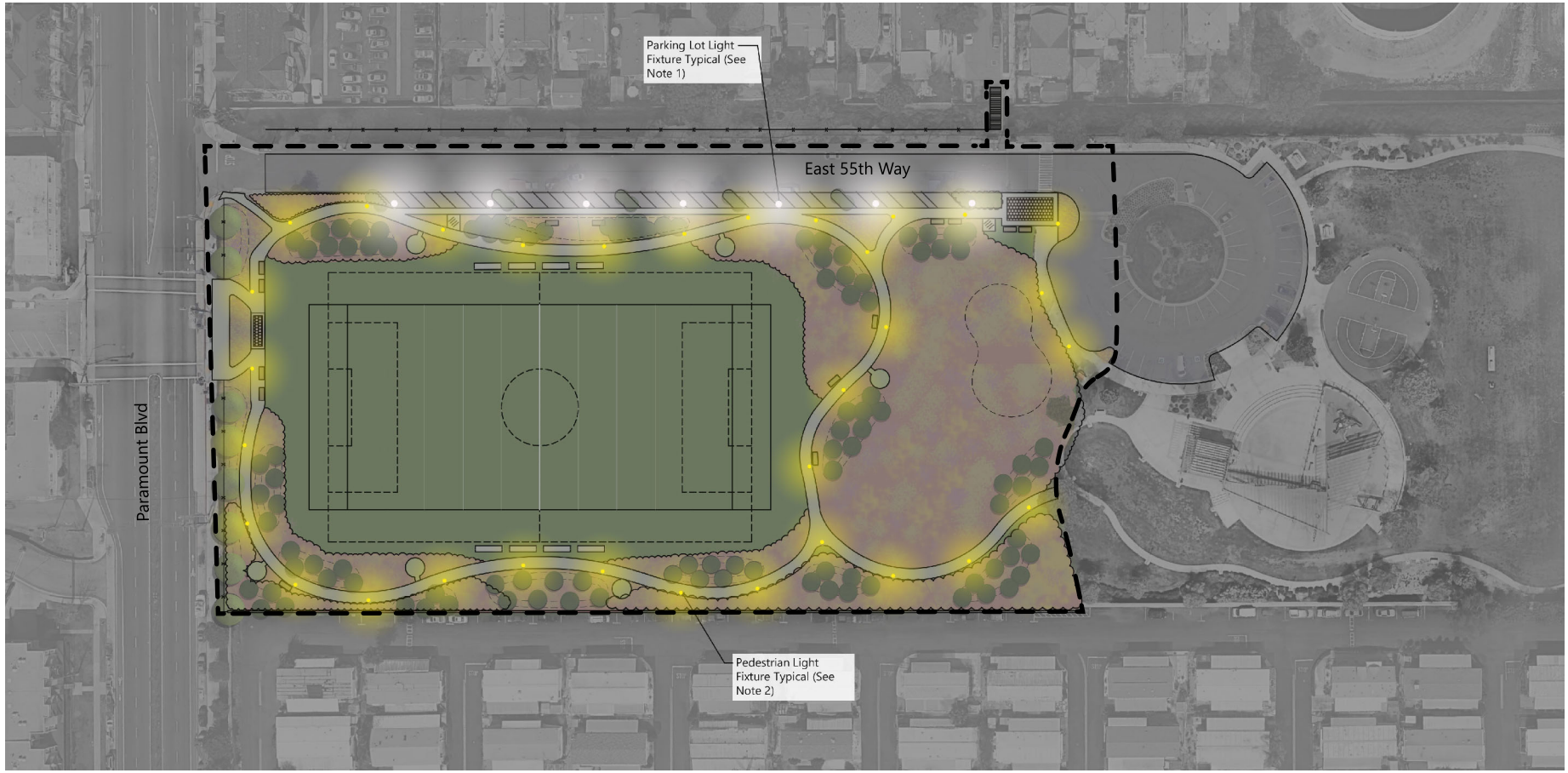

LSA

FIGURE 4.1-1

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Davenport Park Expansion
Conceptual Lighting Plan

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4.2 AGRICULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis:

(a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The proposed project involves the development of an approximately 6-acre park. The project site is in an urbanized area, which has not been and is not currently used for agricultural uses, and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. As a result, the proposed project will not impact designated farmlands. Therefore, no impacts to agricultural resources would occur, and no mitigation is required.

(b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As stated previously, the proposed project involves the expansion of the existing Davenport Park in an urbanized area. The site is currently zoned as Park on the City's Zoning Map, and is not zoned for agricultural uses. Moreover, the site is not used for agricultural

purposes nor are there Williamson Act contracts in effect for the site. As a result, the proposed project will not conflict with existing zoning for agricultural uses or Williamson Act contracts. Therefore, no impacts to agricultural use or a Williamson Act contract would occur, and no mitigation is required.

(c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. As stated previously, the project site is zoned as Park on the City's Zoning Map. The proposed project involves the expansion of the existing Davenport Park in an urbanized area. The project site and the surrounding areas are not designated or zoned as forest land or timberland, or for timberland production. As a result, the proposed project would not result in impacts on timberland resources. Therefore, no impacts to forest land or timberland would occur, and no mitigation is required.

(d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is in an urban, built-out portion of the City. There are no forest or timberland resources on or in the vicinity of the project site. Therefore, the proposed project would not result in impacts related to the loss of forest land or the conversion of forest land to non-forest uses, and no mitigation is required.

(e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The project site is in an urban, built-out portion of the City. While the project site is currently undeveloped, there are no agricultural uses or designated farmlands on or in the vicinity of the project site. The proposed project would not result in the conversion of farmland on or off the project site to non-agricultural use because there are no agricultural uses on or in the immediate vicinity of the project site. As a result, the proposed project will not result in impacts related to the conversion of agricultural land to non-agricultural uses, or the conversion of forest land to a non-forest use. No mitigation is required.

4.3 AIR QUALITY

(Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.) *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b) Result in a cumulatively considerable net increase of any criteria pollutant under an applicable federal or State ambient air quality standard?	☐	☐	☒	☐
(c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d) Result in other emissions (such as those leading to odors or dust) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

The following section is based on the air quality/greenhouse gas (GHG) modeling and analysis conducted by LSA (November 2019) (Appendix B).

Impact Analysis:

(a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact.

The project site is located in the South Coast Air Basin (Basin), which is managed by the South Coast Air Quality Management District (SCAQMD). The United States Environmental Protection Agency (EPA) has designated the status of the Basin as nonattainment for ozone (O_3), coarse inhalable particulate matter less than 10 microns in size (PM_{10}), and fine inhalable particulate matter less than 2.5 microns in size ($PM_{2.5}$) under the California Ambient Air Quality Standards. Under the National Ambient Air Quality Standards, the EPA has designated the status of the Basin as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD and Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The applicable AQMP is the SCAQMD Final 2016 AQMP. The 2016 AQMP incorporates local General Plan land use assumptions and regional growth projections developed by SCAG to estimate stationary and mobile source emissions associated with projected population and planned land uses. If a new land use is consistent with the local General Plan and the regional growth projections adopted in the 2016 AQMP, then the added emissions are considered to have been

evaluated, are contained in the 2016 AQMP, and would not conflict with or obstruct implementation of the regional 2016 AQMP.

The proposed project is not considered a project of statewide, regional, or area-wide significance (e.g., large-scale projects such as airports, electrical generating facilities, petroleum and gas refineries, residential development of more than 500 dwelling units, shopping center or business establishment employing more than 1,000 persons or encompassing more than 500,000 sf of floor space, etc.) as defined in the California Code of Regulations (Title 14, Division 6, Chapter 3, Article 13, Section 15206(b)).

As previously mentioned in the project description section, the City is proposing to expand Davenport Park in an effort to meet the City's General Plan Open Space goal of providing 8 acres of recreational open space for every 1,000 residents. The existing Davenport Park site is currently classified as Land Use Designation (LUD) No. 11, Open Space and Parks, on the City's General Plan Land Use Map and is zoned as a Park (P) district on the City's Zoning Map. The proposed park expansion site is designated LUD No. 1, Single-Family District, on the City's General Plan Land Use Map and is zoned as a Park (P) district on the City's Zoning Map. The LUD No. 1, Single-Family District, designation allows for single-family residential uses (including mobile homes), neighborhood-serving retail uses, and uses that support residential uses such as parks. No changes are proposed to either the General Plan land use designation or the zoning classification. The project would not generate any increase in population that otherwise would not have been planned for in the City. Since the proposed project is consistent with the General Plan land use and zoning designation and would not generate any increase in population beyond that which has already been planned for by SCAG and the City, the proposed project is consistent with the 2016 AQMP. Impacts would be less than significant, and no mitigation is required.

(b) Would the project result in a cumulatively considerable net increase of any criteria pollutant under an applicable federal or State ambient air quality standard?

Less Than Significant Impact.

The SCAQMD's *CEQA Air Quality Handbook* (1993, currently being revised) establishes suggested significance thresholds based on the volume of pollution emitted. According to the Handbook, any project in the Basin with daily emissions that exceed any of the following thresholds should be considered as having an individually and cumulatively significant air quality impact:

- 55 pounds per day (lbs/day) of VOC (volatile organic compounds) (75 lbs/day during construction);
- 55 lbs/day of NO_X (oxides of nitrogen) (100 lbs/day during construction);
- 550 lbs/day of CO (carbon monoxide) (550 lbs/day during construction);
- 150 lbs/day of PM_{10} (particulate matter with a diameter of 10 microns or smaller) (150 lbs/day during construction);

- 55 lbs/day of $PM_{2.5}$ (particulate matter with a diameter of 2.5 microns or smaller) (55 lbs/day during construction); and

- 150 lbs/day of SO_X (oxides of sulfur) (150 lbs/day during construction).

The most recent version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) was used to calculate construction and operation emissions from development of the proposed project (see Appendix B).

No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed the thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Therefore, a project that exceeds the SCAQMD project-specific thresholds would also have a cumulatively considerable contribution to a significant cumulative impact.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by site leveling, trenching, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOC, directly-emitted $PM_{2.5}$ or PM_{10}, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. Construction emissions were estimated for the project using CalEEMod Version 2016.3.2, consistent with SCAQMD recommendations for the proposed project. For purposes of air quality analysis, it is assumed that construction would happen in discrete phases. Each individual phase of project development would include the following construction activities: site preparation; grading; trenching, park construction; paving and surface improvement; and architectural coating (painting). The application of paving and architectural coating starts right after the construction of the park. The construction analysis includes estimating the construction equipment that would be used during each construction activity, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soils hauling, and vendor trips). The proposed earthwork for the project assumes the exportation of 773 cubic yards of soil (i.e., approximately 65 haul trucks) and the importation of 18,985 cubic yards of soil (i.e., approximately 1,585 haul trucks). Trenching activities would include the installations of the water irrigation systems, landfill gas pipeline scrubber, vapor-phase granular activated carbon vessels, and oxidizer equipment. The application of paving and architectural coating starts right after the construction of the park. CalEEMod modeling and defaults are assumed for the construction activities, off-road equipment, on-road construction fleet mix and trip lengths. The tentative project construction schedule would have a probable start date in early 2020 and a planned opening in late 2022.

Table 4.3.A identifies the maximum daily emissions associated with construction activities and indicates no criteria pollutant emission thresholds would be exceeded from construction of the proposed project. Therefore, construction emissions are considered less than significant, and no mitigation is required.

Table 4.3.A: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)							
	VOCs	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Site Preparation	4.17	42.48	22.30	0.04	7.25	2.20	3.93	2.02
Grading	2.87	38.45	19.45	0.06	3.30	1.31	1.54	1.21
Building Construction	0.81	7.23	6.45	0.01	0.09	0.51	0.02	0.47
Trenching	2.83	24.04	22.75	0.05	1.48	1.15	0.40	1.08
Paving	1.36	12.97	15.26	0.02	0.17	0.68	0.04	0.62
Architectural Coating	0.50	1.60	2.70	0.01	0.25	0.10	0.07	0.10
Peak Daily Emissions	**4.17**	**42.48**	**22.75**	**0.06**	**9.45**		**5.95**	
SCAQMD Thresholds	**75.00**	**100.00**	**550.00**	**150.00**	**150.00**		**55.00**	
Significant?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (Appendix B).

Note: Numbers may appear to not sum correctly due to rounding.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = coarse inhalable particulate matter less than 10 microns in size
$PM_{2.5}$ = fine inhalable particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOCs = volatile organic compounds

Operational Emissions. Long-term air pollutant emissions associated with operation of the proposed project include emissions from stationary, energy, and mobile sources. Stationary sources include area sources such as architectural coatings, consumer products, and landscaping. Small energy sources include electricity for security lighting. Mobile-source emissions are from vehicle trips associated with operation of the project. Based on the stationary-source parameters in CalEEMod for a park and trip generation rates estimated for the proposed project, operational emissions are detailed in Table 4.3.B. Projects in the Basin with operation-related emissions that exceed any of the listed emission thresholds are considered potentially significant by the SCAQMD.

The proposed project is estimated to generate 693 vehicle trips per day (LSA 2019).

Table 4.3.B indicates that the emissions of criteria pollutants generated from operation of the proposed project would not exceed the corresponding SCAQMD daily emission thresholds. Therefore, operational air quality emissions are considered less than significant and no mitigation is required.

Table 4.3.B: Operational Emissions with Regional Effects

Source	Pollutant Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	0.02	<0.01	<0.01	0	<0.01	<0.01
Energy Sources	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile Sources	1.16	5.54	14.71	0.05	4.28	1.17
Total Project Emissions	**3.14**	**18.63**	**27.44**	**0.11**	**7.85**	**2.16**
SCAQMD Thresholds	**55.0**	**55.0**	**550.0**	**150.00**	**150.00**	**55.00**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (Appendix B).
Note: Numbers may appear to not sum correctly due to rounding.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = fine inhalable particulate matter less than 2.5 microns in size
PM_{10} = coarse inhalable particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

The proposed project is required to comply with SCAQMD Rule 403, which includes implementation of standard control measures for fugitive dust. Table 4.3.A and Table 4.3.B demonstrate that, with compliance with applicable regulatory policy designed to reduce emissions, the proposed project would not exceed any SCAQMD threshold during construction or operation. Therefore, the proposed project would not contribute significantly to cumulative impacts on any pollutants for which the region is in nonattainment. Specifically, the proposed project construction and operational emissions would not exceed the SCAQMD's mass daily thresholds for VOC and NO_X that serve as project and cumulative impact thresholds of significance for gauging regional O_3 impacts. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable.

Compliance with SCAQMD Rules 402 Nuisance and 403 Fugitive Dust, which include implementation of standard control measures for diesel equipment emissions, fugitive dust, and construction methods is a regulatory requirement for all projects in the Basin. Other regulatory measures such as Title 13 Section 2449 of the California Code of Regulations; and CalRecycle/ Green Building Program regulations will also be implemented for the proposed project. Through compliance with these regulations designed to reduce emissions, as described in RCM-AQ-1 through RCM-AQ-3, the proposed project would not exceed any SCAQMD threshold or contribute to a substantial increase in regional air emissions. Therefore, the proposed project would not result in a cumulatively considerable contribution to significant air quality impacts. Cumulative air quality impacts would be less than significant, and no mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measures are standard conditions based on State and local regulations that serve to reduce impacts related to air emissions. These compliance measures are applicable to the proposed

project and shall be incorporated to ensure that the project impacts to air quality emissions would remain less than significant.

Regulatory Compliance Measures:

RCM-AQ-1 **SCAQMD Rules.** The project shall comply with South Coast Air Quality Management District (SCAQMD) Rules 402 and 403 as required for diesel equipment emissions, fugitive dust, and construction methods. Under SCAQMD Rule 402, Nuisance, a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 restricts visible fugitive dust to a project property line, restricts the net particulate matter less than 10 microns in diameter (PM_{10}) emissions to less than 50 micrograms per cubic meter air ($\mu g/m^{3)}$ and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers, and/or ceasing all activities. Finally, Rule 403 requires that a contingency plan be prepared if so determined by the United States Environmental Protection Agency (EPA).

RCM-AQ-2 **Title 13, Section 2449 of the California Code of Regulations: In-Use Off-Road Diesel-Fueled Fleets.** The project would be required to comply with this regulation to reduce oxides of nitrogen (NO_X), diesel particulate matter (PM), and other criteria pollutant emissions from in-use off-road diesel-fueled construction equipment and vehicles.

RCM-AQ-3 **CalRecycle/Green Building Program.** The project would be required to comply with this regulation to ensure that energy, water, and materials are used efficiently. Compliance with the City's Green Building Policy for Municipal Buildings, which addresses recreational facilities such as parks, would ensure that green building techniques, methods and materials are incorporated into the proposed project as much as practicable.

(c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact.

Localized Significance Thresholds (LSTs) are developed based upon the size or total area of the emissions source from the construction equipment activities, the ambient air quality levels in each source receptor area (SRA) in which the emission source is located, and the distance to the sensitive receptor. The nearest residential homes (i.e., trailer mobile homes and single-family residences) are located approximately 35 ft from the project site. LSTs represent the maximum

emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each SRA. For the proposed project, the appropriate SRA for the LST is SRA 4 (South Coast Los Angeles County).

LSTs only apply to CO, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5}$ emissions during construction and operation at the discretion of the lead agency. The project site expansion is approximately 6 acres. Based on the SCAQMD recommended methodology[10] and the construction equipment planned for graded site disturbance, no more than 1.5 acre[11] would be disturbed on any one day. On-site operational emissions would occur from area and mobile sources. On-site vehicle emissions are the largest source of emissions, and it is assumed that the park patrons park their vehicles in the parking lot. The patrons would then play on up to 5 acres of the surface area of the park expansion project. Screening-level analysis of LSTs is only recommended for construction activities at project sites that are approximately 5 acres or less. The project site expansion would disturb no more than 1.5 acres in one day; therefore, screening-level analysis of LSTs for 5 acres was used for construction and operational activities.

Localized significance is determined by comparing the on-site-only portion of the construction and operational emissions with emissions thresholds derived by the SCAQMD to ensure pollutant concentrations at nearby sensitive receptors would be below the LST threshold established by the SCAQMD. Tables 4.3.C and 4.3.D indicate the construction and operational LST analyses of the CalEEMod results.

Table 4.3.C: Summary of Construction Emissions, Localized Significance

Source	Pollutant Emissions			
	NOx (lbs/day)	**CO (lbs/day)**	**PM_{10} (lbs/day)**	**$PM_{2.5}$ (lbs/day)**
On-Site Emissions	42	22	9.2	5.9
LST Thresholds	123	1,530	14.0	8.0
Significant?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (Appendix B).

CO = carbon monoxide
ppm =parts per million
$\mu g/m^3$ =microgram per cubic meter air
LST = localized significance threshold
NO_2 = nitrogen dioxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

10 SCAQMD. *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed April 2018).

11 A maximum disturbance of 1.5 acre would occur during the grading phase from the use of one rubber-tired dozer, and one grader for 8 hours per day.

Table 4.3.D: Summary of Operational Emissions, Localized Significance

Source	Pollutant Emissions			
	NOx (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-Site Emissions	0.28	0.74	0.2	0.1
LST Thresholds	123	1,530	4.0	2.0
Significant?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (Appendix B).

CO = carbon monoxide
ppm =parts per million
$\mu g/m^3$ = microgram per cubic meter air
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

As detailed in Table 4.3.C and Table 4.3.D, emissions would not exceed LST thresholds. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations. Impacts related to substantial pollutant concentrations for construction and operation would be less than significant. No mitigation is required.

Although project-level NO_X emissions would generate ozone precursor emissions, as identified in Tables 4.3.B through 4.3.D, these levels do not exceed any established SCAQMD daily emission thresholds. The project's peak operation NO_X emissions amount to approximately 42 pounds per day. Due to the incremental size of the proposed project, the level of emissions is not sufficiently high to use a regional modeling program to correlate health effects on a basin-wide level. On a regional scale, the quantity of emissions from the project is incrementally minor. Because the SCAQMD has not identified an accurate method to quantify health impacts from small projects, and due to the size of the project, it is speculative to assign any specific health effects to small project-related emissions.

Emissions Treatment Systems. As described in Chapter 2.0, Project Description, a methane gas collection/treatment system is required to treat the landfill gasses at the project site and to protect public health. The City has submitted a Workplan to the LEA that includes a conceptual plan of the proposed treatment system, which would include a carbon treatment unit with venting. The system would connect to the below grade portion of the vents on Phase I of the park, and to the subgrade collection piping system installed in 2017 under the project site. The system will be installed and inspected in compliance with the PCLUP and all post-closure regulations.

According to the SCAQMD permit application,[12] the landfill methane gas concentration is approximately 3.3 parts per million by volume (ppmV), which is below the regulatory limit of 200 ppmV for methane. A health risk assessment (HRA) was completed as part of the SCAQMD permit application; the results presented a cancer risk of 3.7 x 10-9 which is 3 orders of magnitude below the SCAQMD's HRA threshold of 10 in a million criterion, and a Health Hazard

[12] SWT Civil and Environmental Engineering. 2018. *Landfill Gas Collection and Treatment System Facility Permit Application Package Davenport Park 55th Way Landfill.* February 2018.

Index (H.I.) of 1.4 x 10-3, which is 3 orders of magnitude below the SCAQMD H.I. of 1.0 criterion. Therefore, the potential for health risk from the proposed landfill gas collection and treatment system would be less than significant. No mitigation is required.

(d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact.

Other emissions, including nuisance odors, may occur during the operation of diesel-fueled equipment during construction and operation of the project. However, these emissions would be short term in duration and are expected to be isolated to the immediate vicinity of the construction site or transport route. SCAQMD Rules 402 and 403, as well as Title 13, Section 2449(d)(d) of the California Code of Regulations (CCR), as outlined in RCM-AQ-1 and RCM-AQ-2 above, require the project applicant to include implementation of standard control measures for fugitive dust and diesel equipment emissions. Additionally, operators of off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) are required to limit vehicle idling to five minutes or less; register and label vehicles in accordance with the California Air Resources Board (CARB) Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). Additionally, SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property." Adherence to these rules is standard regulatory policy for all development and would reduce impacts from other emissions such as nuisance odors to less than significant levels. No mitigation is required.

4.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?	☐	☐	☒	☐
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	☐	☐	☐	☒
(c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
(f) Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Impact Analysis:

(a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?

Less Than Significant Impact. The project site is currently vacant and within an urbanized portion of the City. There are no known sensitive species or habitats on site as identified on local/regional plans, policies, or regulations or by the California Department of Fish and Wildlife

(CDFW) or the United States Fish and Wildlife Service (USFWS). There is no critical habitat for threatened and endangered species in the vicinity of the project site. Conversion of the project site from a vacant property to a park use would result in the addition of on-site landscaped open areas and ornamental trees and shrubbery that could potentially support limited levels of wildlife. Therefore, impacts to such species are considered less than significant, and no mitigation would be required.

(b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

No Impact. The project site is currently vacant and located in an urbanized area. The existing project site does not contain any vegetation except for a few ornamental trees along East 55th Way. According to the National Wetlands Inventory managed by the United States Fish and Wildlife Service (USFWS), the project site does not contain riparian habitat.[13] There is no riparian habitat or other sensitive natural communities as identified in local or regional plans, policies, or regulations, or by the CDFW or the USFWS. Therefore, development of the proposed project is not anticipated to have an impact on any riparian habitat or other sensitive natural community, and no mitigation is required.

(c) Would the project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As stated previously, the project site is located within a highly urbanized area of the City. As such, the project site does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. Furthermore, because the project site has been significantly altered due to its prior use as both a municipal landfill and an industrial facility, the property is devoid of natural habitat and sensitive species. Therefore, development of the project site would have no impact on State or federally protected wetlands, and no mitigation is required.

(d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. As stated previously, the project site is located in an urbanized area of the City that is developed with commercial, industrial, and residential uses. Within the vicinity of the project site, there are no large areas of natural habitat that would facilitate wildlife movement or serve as a wildlife corridor. However, the project site contains existing trees along the northern perimeter of the property that may provide suitable habitat for nesting migratory birds. Nesting migratory birds are protected under the Migratory Bird Treaty Act (MBTA) (Title 33, United States Code [USC], Section 703 et seq., see also Title 50, CFR, Part 10) and Section 3503 of the California Fish and Game Code. While the likelihood of nesting birds

[13] United States Fish and Wildlife Service (USFWS). National Wetlands Inventory. Website: https://www.fws.gov/wetlands/data/mapper.html (accessed October 31, 2019).

occurring on site is very low considering the poor quality of the existing habitat, removal of existing trees could result in "take" which is prohibited under the MBTA. As such, the Project is required to comply with the MBTA, which prohibits disturbing or destroying active nests during the nesting season (February 1–August 31 of each year). As documented in Regulatory Compliance Measure (RCM) BIO-1, avoiding impacts can be accomplished through a variety of means, including restricting brush and tree removal to periods outside the avian nesting season, or through performance of nesting bird surveys prior to clearing when clearing occurs during the nesting season. With implementation of RCM-BIO-1, potentially significant impacts to nesting birds and migratory wildlife would be reduced to a less than significant level. No mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measure is a standard condition based on local regulations that serve to reduce impacts related to biological resources. This compliance measure is applicable to the proposed project and shall be incorporated to ensure that the project impacts to biological resources remain less than significant.

Regulatory Compliance Measure:

RCM-BIO-1 **Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (February 1 through August 31) for those bird species present or potentially occurring within the project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. If construction is proposed between February 1 and August 31, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director, or designee, within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.

(e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. The City's Municipal Code (Ordinance C-7642) regulates the care and removal of trees on public property and is intended to preserve and protect the community's urban forest and to promote the health and safety of City trees. The City's Municipal Code requires that a municipal permit from the City of Long Beach Director of Public Works be obtained prior to the removal of trees on City-owned property. The City's Tree Maintenance Policy also requires a 1:1 replacement ratio and a payment of a fee that is equivalent to a City-approved 15-gallon tree.

The proposed project would include the provision of ornamental trees throughout the project site, and may include the removal of a few existing trees along East 55th Way as part of the project. Should the removal of any on-site trees be required to accommodate project implementation, a tree removal permit, in compliance with the tree removal and replacement requirements in the City's Municipal Code, would be required as outlined in RCM-BIO-2. Therefore, compliance with the City's tree removal requirements would ensure that the proposed project would not conflict with any local policies or ordinances protecting biological resources, and no mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measure is a standard condition based on local regulations that serve to reduce impacts related to biological resources. This compliance measure is applicable to the proposed project and shall be incorporated to ensure that the project impacts to biological resources remain less than significant.

Regulatory Compliance Measure:

RCM-BIO-2 **Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach (City) Parks, Recreation and Marine Director, or designee, shall obtain a tree removal permit from the City's Director of Public Works in the event any trees are required to be removed as part of the project. A City-approved Construction Plan shall be submitted with the permit to remove any tree(s). The City-approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.

(f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan?

No Impact. The project site is currently vacant and undeveloped. There are no adopted Habitat Conservation Plans (HCP), Natural Communities Conservation Plans (NCCP), or other similar plans within the City. Therefore, the project would not conflict with any plan related to the protection of biological resources, and no mitigation is required.

4.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. Potential historic resources in the City are evaluated under one or more of three established sets of criteria of significance, corresponding to federal, State, and local designation programs. To be eligible for inclusion in the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register) or for listing as a landmark or landmark district of the City, a property must satisfy one or more of the appropriate registration criteria. In addition, the property must retain sufficient integrity to convey the reasons for its significance. According to City maps of locally-designated Historic Landmarks[14] and Historic Districts,[15] there are no historic resources on or within the vicinity of the project site.

In its existing setting, the project site is vacant and undeveloped. According to the Los Angeles County Department of Regional Planning[16] and the City's General Plan Historic Preservation Element (2010), there are no historic landmarks and/or properties on the project site. As a result, the project will not cause a substantial change in the significance of a historical resource as defined in Section 15064.5. No mitigation is required.

(b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact. The soils on the project site are non-native and have been extensively disturbed during the site's prior use as a municipal landfill and from the site's previous development with industrial uses. Ground-disturbing activities associated with grading

[14] City of Long Beach. Historic Landmarks. Website: http://www.longbeach.gov/lbds/planning/preservation/historic-landmarks2/ (accessed October 31, 2019).

[15] City of Long Beach. Historic Districts. Website: http://www.longbeach.gov/lbds/planning/preservation/districts/ (accessed October 31, 2019).

[16] Los Angeles County. Department of Regional Planning, Historic Resources of Los Angeles County. Website: http://hlrc.lacounty.gov/HLRC/pdf/Registry.pdf?ver=2018-02-02-105207-870 (accessed October 31, 2019).

or excavation would not be extensive and would not extend into native soils as the landfill cap cannot be disturbed and must remain intact. Therefore, construction activities are not anticipated to unearth any previously unknown archaeological resources. Potential impacts to archaeological resources would remain less than significant, and no mitigation is required.

(c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. There are no known human remains interred on the project site. Given the project site's historic use as a municipal landfill and industrial facility, it is unlikely that any future development of the site would result in a disturbance to human remains. Ground-disturbing activities associated with grading or excavation would not be extensive as the landfill cap cannot be disturbed and must remain intact. While the potential to encounter human remains on the project site is low, buried and undiscovered human remains may be present below the ground surface. In the unlikely event that unknown human remains are discovered, the project must comply with State Health and Safety Code Section 7050.5 and Public Resources Code (PRC) Section 5097.98, which require that no further disturbance occur in the event of a discovery or recognition of any human remains on site, and that the County Coroner be notified immediately. If the remains are determined to be of Native American descent, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD) and potentially inspect the site of the discovery. Upon completion of the assessment, consulting archaeologists would prepare a report documenting the methods and results regarding the treatment of the remains. Therefore, compliance with these regulations, as outlined in RCM-CUL-1 would ensure that potential impacts related to unknown human remains would be less than significant. No mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measure is a standard condition based on state and local regulations that serves to reduce impacts related to human remains. This compliance measure is applicable to the proposed project and shall be incorporated to ensure that the project impacts to unknown human remains would remain less than significant.

Regulatory Compliance Measure:

RCM-CUL-1 **Treatment of Human Remains.** In accordance with California Health and Safety Code Section 7050.5, if human remains are found, the Los Angeles County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains (100 feet or as determined by the project archaeologist) shall occur until the procedures set forth in this measure have been implemented. If the County Coroner determines that the remains are, or are believed to be, Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California Public Resources Code (PRC) Section 5097.98, the NAHC must immediately notify those persons it believes to be the Most Likely Descendants (MLD) of the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

4.6 ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact.

The project's consumption of energy during construction and operation is calculated via CalEEMod, as detailed in the Air Quality/Greenhouse Gas modeling and analysis conducted by LSA (November 2019) (Appendix B).

The anticipated construction schedule assumes that the proposed project would be built in approximately 18 months. The proposed project would require grading, trenching, park construction, paving, and architectural coating activities during construction.

Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for grading and building activities, and construction of the building. All or most of this energy would be derived from non-renewable resources. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy (i.e. fuel) usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Construction of the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources and construction-related would be less than significant. No mitigation is required.

The project includes the expansion of park facilities to include a soccer field, future skate park, walking paths, shaded gathering/picnic area, future exercise pads, and parking. In total, the project would expand the park by 6 additional acres.

During project operation, electricity would be the main form of energy consumed on the site. Electricity would be used for security lighting. Table 4.6.A presents the energy use of the proposed project.

Table 4.6.A: Estimated Annual Energy Use of Existing and Proposed Project

Land Use	Electricity Use (kWh/year)	Patrons Vehicles Gasoline (gallons/year)
Park Expansion	4,340	90,643

Source: California Emissions Estimator Model (CalEEMod). Compiled by LSA (November 2019).
kWh = kilowatt hours
Btu = British thermal units
sf = square feet

As shown in Table 4.6.A, proposed uses on the site would generate a total of 4,340 kWh of electricity per year based on CalEEMod model output for energy source (LSA 2019). In addition, the project would result in energy usage associated with motor vehicle gasoline to fuel project-related trips. The proposed project would result in an increase of 693 net new daily trips and would have an estimate annual vehicle miles travelled (VMT) of 1,994,135, based on CalEEMod model output for mobile source (LSA 2019). Using the 2015 fuel economy estimate of 22 miles per gallon (mpg), the proposed project would result in the consumption of approximately 90,643 gallons of gasoline per year[17].

Electricity is provided in the State through a complex grid of power plants and transmission lines. In 2017, California's in-state electric generation totaled 206,336 gigawatt-hours (GWh); the State's total system electric generation, which includes imported electricity, totaled 290,039 GWh.[18] Population growth is the primary source of increased energy consumption in the State; due to population projections, annual electricity use is anticipated to increase by approximately 1 percent per year through 2027.[19] The project's net electricity usage would total less than 0.01 percent[20] of electricity generated in the State in 2017, which would not represent a substantial demand on available electricity resources.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.0 mpg in 2015.[21] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act

17 1,994,135 VMT per year/22 mpg = 90,643 gallons of gasoline per year.

18 California Energy Commission. Total System Electric Generation. Website: https://www.energy.ca.gov/almanac/electricitydata/total_system_power.html (accessed November 2019).

19 California Energy Commission. California Energy Demand 2018-2030 Revised Forecast. Website: https://efiling.energy.ca.gov/URLRedirectPage.aspx?TN=TN222287_20180120T141708_The_California_Energy_Demand_20182030_Revised_Forecast.pdf (accessed November 2019).

20 Calculation: 0.29 GWh (proposed project) / 206,336 GWh (generated in State in 2017) = < 0.01 percent.

21 U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed March 27, 2019).

was passed in 2007, which originally mandated a national fuel economy standard of 35 mpg by the year 2020, and would be applicable to cars and light trucks of Model Years 2011 through 2020.[22]

As stated previously, implementation of the proposed project would increase the project-related annual gasoline demand by 90,643 gallons. However, new automobiles purchased by patrons driving to and from the project site would be subject to fuel economy and efficiency standards applied throughout the State. As such, the fuel efficiency of vehicles associated with the project site would increase throughout the life of the project. Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses.

In summary, construction and operation of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Consumption of energy resources as a result of implementation of the proposed project would be comparable to other park developments in the City. Impacts would be less than significant, and no mitigation would be required.

(b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact.

The project would be required to comply with the California Building Code (CBC) and California Green Building Standards Code (CalGreen Code) pertaining to energy and water conservation standards in effect at the time of construction. Therefore, the proposed project would be consistent with applicable plans related to renewable energy and energy efficiency. Impacts would be less than significant and no mitigation is required.

[22] U.S. Department of Energy. "Energy Independence & Security Act of 2007." Website: https://www.afdc.energy.gov/laws/eisa (accessed March 27, 2019).

4.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☒	☐
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
(e) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Impact Analysis:

(a) (i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact. The City, like the rest of Southern California, is located in a seismically active area. According to the City's General Plan Seismic Safety Element (1988), the

most prominent fault zone in the City is the Newport-Inglewood Fault Zone, which transverses the City from the northwest to the southeast. The nearest significant active fault to the project site is the Newport-Inglewood Fault, located approximately 3.5 miles from the site. However, the project site is not located within the boundaries of an active "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act, and there are no known active faults crossing the site.[23] Therefore, impacts related to the rupture of a known earthquake fault as depicted on the most recent Alquist-Priolo Earthquake Fault Zoning Map are anticipated to be less than significant. No mitigation is required.

(a) (ii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking?

Less Than Significant Impact. Although the project site is not located within a designated Alquist-Priolo Earthquake Fault Zone, the region has previously experienced seismic activity associated with the Newport-Inglewood Fault system, which traverses the southern portion of City at a northwest to southeast angle. In the event a major earthquake was to occur, the result could range from moderate to severe ground shaking. As with most areas in the Southern California region, damage to development and infrastructure associated with the surrounding areas could be expected as a result of ground shaking. However, because the proposed project includes park improvements and does not propose to develop the site with any buildings or habitable structures, impacts to the proposed park facilities from strong ground shaking are expected to be less than significant. No mitigation is required.

(a) (iii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction most commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesionless (sandy) soil; and (3) earthquake-generated seismic waves. The presence of these conditions has the potential to result in a loss of shear strength and ground settlement, causing the soil to behave as a fluid for a short period of time.

According to the City's General Plan Seismic Safety Element (1988), the project site is located within an area with a low liquefaction potential. The proposed project site is located on a closed landfill; recent studies on the project site and surrounding properties indicated that groundwater occurs on the project site at approximately 20 ft bgs.[24] Further, the site does not consist of sandy soils that would be subject to liquefaction. Because the proposed project includes park improvements and does not propose to develop the site with any buildings or habitable structures, impacts to the proposed park facilities from seismically induced liquefaction are expected to be less than significant. No mitigation is required.

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[23] California Department of Conservation (DOC). CGS Information Warehouse: Regulatory Maps. Website: http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/LONG_BEACH_EZRIM.pdf (accessed October 31, 2019).

[24] California Department of Resources, Recycling, and Recovery (CalRecycle). 2010. *Site Investigation Report, Friendly Village Mobile Home Park, Portion of the Former Paramount Dump*. November 9, 2010.

(a) (iv) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides?

Less Than Significant Impact. Landslides are most common where slopes are steep, soils are weak, and groundwater is present. The project site is not located within a potential landslide hazard area as indicated on the California Department of Conservation's (DOC) Landslide Zone Map.[25] According to the City's General Plan Seismic Safety Element (1988), the project site does not lie within an area with a high potential for landslides. In its existing condition the project site is generally flat, and soils would be imported to create an even grade for development of the park improvements. The proposed project does not require any significant grading activities, and no new slopes would be created. Therefore, impacts related to landslides would be less than significant. No mitigation is required.

(b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. In its existing condition, the project site is vacant and is characterized by a pervious surface and a publicly accessible walking trail that travels in a loop directly inside of the project site's boundary. During construction activities involving the import and export of soil, there would be an increased potential for soil erosion. During storm events, erosion and siltation could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts as discussed in Section 4.10, Hydrology and Water Quality. However, since the project site is relatively flat, soil erosion can be controlled via implementation of standard erosion control practices. Furthermore, RCM-WQ-1 specifies project compliance with the Construction General Permit, SWPPP and/or Erosion and Sediment Control Plan (ESCP), which would implement erosion-control best management practices (BMPs) during construction. Additionally, although the project site would result in an increase of approximately 0.25 acre of impervious surface, these impervious surfaces are not prone to erosion and siltation. Erosion and siltation would be minimal in the proposed landscaped areas. In the undeveloped areas, erosion and siltation would be similar to the existing condition. Therefore, potential impacts due to soil erosion and loss of topsoil are anticipated to be less than significant with implementation of RCM-WQ-1.

Mitigation Measures: No mitigation is required. However, a regulatory compliance measure is a standard condition based on local, State, and federal regulations or laws that serve to reduce impacts related to hydrology and water quality. RCM-WQ-1 (refer to Section 4.10, Hydrology and Water Quality) is applicable to the proposed project and shall be incorporated to ensure that the project has minimal impacts to receiving waters as a result of erosion.

(c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. According to the City's General Plan Seismic Safety Element (1988), the project site does not lie within an area with a high potential for liquefaction or

[25] DOC. CGS Information Warehouse: Landslides. Website: https://maps.conservation.ca.gov/cgs/informationwarehouse/ (accessed October 31, 2019).

landslides. In addition, the project site is relatively flat in its current condition, thereby further decreasing its susceptibility to impacts associated with landsides. However, due to the site's former use as a municipal landfill, the property has previously experienced differential settlement resulting from refuse decomposition and/or static and dynamic loading.[26] Although potential impacts related to lateral spreading and subsidence could occur, the proposed project does not include any buildings or habitable structures. Further, the proposed project would require the net import of 18,212 cubic yards of fill which will be compacted as recommended by the project engineer and in accordance with City Building Codes. Therefore, impacts associated with geological units or soils that are unstable are considered less than significant. No mitigation is required.

(d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Expansive soils are characterized by their ability to undergo substantial volume changes (shrink or swell) due to variations in moisture content as a result of precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors. The City's General Plan Seismic Safety Element (1988) identifies four predominant soil profiles within the City, referred to as Profiles A through D. The project site is located in Profile D, which is comprised of granular non-marine terrace deposits overlying Pleistocene granular marine sediments at shallow depths. Soils within Profile D also consist primarily of cohesionless sand and silt sands, but some cohesive soils such as clayey silt are also present within this profile. However, due to the site's former use as a municipal landfill, on-site soils largely consist of non-native soils that may have the potential for expansion. However, it is anticipated that project implementation would require the net import of 18,212 cubic yards of fill which will be compacted as recommended by the project engineer and in accordance with City Building Codes. Therefore, the potential for expansive soils on the project site is considered less than significant. No mitigation is required.

(e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project will not use septic tanks or alternative methods for disposal of wastewater into subsurface soils. Further, the entire City is currently served by an existing sewer system, and therefore, has no need for septic tanks or other alternative wastewater systems. The proposed project would connect to existing public wastewater infrastructure. Therefore, the project would not result in any impacts related to septic tanks or alternative wastewater disposal methods. No mitigation is required.

(f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

[26] City of Long Beach. 2003. Volume 1-Draft Environmental Impact Report (SCH: 2003041142), Proposed Neighborhood Park, September.

Less Than Significant Impact. The project site has previously been altered by past use of the site as a municipal landfill site and an industrial facility, which likely would have unearthed existing paleontological resources on the project site. Therefore, because the project site has been previously disturbed and because on-site soils are non-native, the proposed project would not result in the destruction of paleontological resources or unique geologic features. Therefore, potential impacts to paleontological resources would be less than significant based on the lack of paleontological sensitivity of the non-native on-site soils. No mitigation would be required.

4.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion:

The following section is based on the greenhouse gas (GHG) modeling and analysis conducted by LSA (November 2019) (Appendix B).

The California Air Resources Board (CARB) adopted the State's strategy for achieving AB 32 targets in its Climate Change Scoping Plan (Scoping Plan) in 2008, with updates in 2017 - California Climate Change Scoping Plan. The City of Long Beach is developing the Climate Action and Adaptation Plan (CAAP). The CAAP is part of the City's General Plan and contains further guidance on the City's Greenhouse Gas (GHG) Inventory reduction goals, policies, guidelines, and implementation programs. In particular, the CAAP aims to reduce communitywide GHG emissions, and help the city adapt to future climate change impacts. As part of the CAAP, the City conducted a communitywide GHG inventory to identify its baseline emissions footprint, and is developing business-as-usual forecasts of emissions based on anticipated growth in population, employment, housing, and other factors in the community. In the next stages of the project, the City will establish GHG reduction targets and define local actions to achieve those targets.

The CAAP will provide a framework for creating or updating policies, programs, practices, and incentives for Long Beach residents and businesses to reduce the City's GHG footprint, and ensure the community and physical assets are better protected from the impacts of climate change. The policies, programs, practices, and incentives included in the CAAP will relate to the following:

a. Public Health
b. Water Supply
c. Housing & Neighborhoods
d. Coastal Resources
e. Parks and Open Space
f. Transportation
g. Energy
h. Wastewater/Stormwater

Impact Analysis:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact.

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting." Climate change is a global issue and is described in the context of the cumulative environment. Therefore, the project is considered in the context of multiple sectors and the combined efforts of many industries, including development.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD, under Option 1, is proposing a "bright-line" screening-level threshold of 3,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year for all land use types or, under Option 2, the following land-use-specific thresholds: 1,400 MT of CO_2e for commercial projects, 3,500 MT of CO_2e for residential projects, or 3,000 MT of CO_2e for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Projects that do not exceed the bright-line threshold would have a nominal and therefore less than cumulatively considerable impact on GHG emissions. For this park project, the appropriate threshold would be 1,400 MT of CO_2e per year. If the project exceeds the 1,400 MT of CO_2e per year threshold, then project GHG emissions would need to identify target options to reduce the GHG emissions.

This section evaluates potential significant impacts to GHG that could result from implementation of the proposed project. Construction and operation of project development would generate GHG emissions. Overall, the following activities associated with the proposed project could contribute directly or indirectly to the generation of GHG emissions:

- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g., carbon dioxide [CO_2], methane [CH_4], and nitrous oxide [N_2O]). Furthermore, CH_4 is emitted during the fueling of heavy equipment.

- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

- **Electricity and Water Use:** Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. CalEEMod defaults were used to estimate these emissions from the project. . The

proposed project would install efficient irrigation systems in compliance with the modern water efficient landscape ordinance – City Municipal Code, Title 21 Zoning, Chapter 21.42 Landscaping Standards (City of Long Beach 2019).

- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully and the carbon that remains is sequestered in the landfill and not released into the atmosphere. The proposed project would implement the statewide goal of meeting the 75 percent recycling program on-site by providing recycling bins throughout park.

GHG emissions associated with project construction would occur over the short term from construction activities and would consist primarily of emissions from equipment exhaust. Long-term regional emissions would also be associated with project-related new vehicular trips and stationary-source emissions (e.g., electricity usage for lighting). The calculations presented below includes construction emissions in terms of CO_2 and annual CO_2e GHG emissions from increased energy consumption, water usage, solid waste disposal, and estimated GHG emissions from vehicular traffic that would result from implementation of the proposed project. The following project activities were analyzed for their contribution to global CO_2e emissions.

Construction Emissions. Construction activities produce combustion emissions from various sources, such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. The construction GHG emission estimates were calculated using CalEEMod Version 2016.3.2, which indicates the project's GHG emissions during the construction period (early 2020 through late 2021) would equal 234 metric tons (MT) of carbon dioxide equivalent (CO_2e). Table 4.8.A details the emissions estimates for the construction of the project.

As indicated in Table 4.8.A, project construction would result in total emissions of 803 MT of CO_2e, which would be amortized to 27 MT of CO_2e over 30 years.

Table 4.8.A: Construction Greenhouse Gas Emissions

Construction Phase	Greenhouse Gas Emissions, CO_2e (MT/yr)
Site Preparation 2020	17.77
Grading 2020	238.61
Trenching 2020	7.91
Park Construction 2020	244.12
Park Construction 2021	268.38
Paving 2021	21.67
Architectural Coating 2021	4.73
Total Project Emissions	**803.19**
Total Construction Emissions Amortized over 30 years	**26.77**

Source: Compiled by LSA (Appendix B).
Note: Numbers may appear to not sum correctly due to rounding.
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year

Operational Emissions. The operational GHG emissions estimates were also calculated using CalEEMod. Activities such as electricity, water use, solid waste disposal, and motor vehicle use are expected to contribute directly and/or indirectly to the generation of GHG emissions from operation of the proposed project. Table 4.8.B details the emissions estimates for the operation of the project.

Table 4.8.B: Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Construction Emissions Amortized over 30 Years	0	26.63	26.63	<0.01	0	26.74
Operational Emissions						
Area	0	<0.01	<0.01	0	0	<0.01
Energy	0	1.04	1.04	<0.01	<0.01	1.05
Mobile	0	854.16	854.16	0.04	0	855.28
Waste	0.10	0	0.10	<0.01	0	0.24
Water	0	16.69	16.69	<0.01	<0.01	16.77
Total Project Emissions	**0.10**	**898.53**	**898.63**	**0.04**	**0**	**900.09**

Source: Compiled by LSA (Appendix B).
Note: Numbers may appear to not sum correctly due to rounding.

Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = non-biologically generated CO_2

As indicated in Table 4.8.B, project operations would result average annual emissions of 900 MT of CO_2e per year. The GHG threshold of 1,400 MT of CO_2e per year is used for the proposed project. The CO_2e emissions from construction and operation of the project would not exceed this threshold. Therefore, impacts related to the generation of GHG emissions, either directly, indirectly or cumulatively, that may have a significant impact on the environment would be less than significant. No mitigation is required.

(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact.

The CARB, a part of the California Environmental Protection Agency (Cal/EPA) is responsible for the coordination and administration of both federal and State air pollution control and climate change programs within California. In this capacity, the CARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment.

The proposed project is required to comply with Title 13-Section 2449 of the CCR and the CalRecycle Sustainable (Green) Building Program regulations, which include implementation of standard control measures for equipment emissions. Adherence to these regulations, including the implementation of Best Available Control Measures (BACMs) is a standard requirement for any construction or ground disturbance activity occurring within the South Coast Air Basin.

BACMs include, but are not limited to, requirements that the project proponent utilize only low-sulfur fuel (i.e., having a sulfur content of 15 parts per million by weight or less); ensure off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) limit vehicle idling to five minutes or less; register and label vehicles in accordance with the CARB Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). Additionally, the construction contractor will recycle/reuse at least 50 percent of the construction material (including, but not limited to, proposed aggregate base, soil, mulch, vegetation, concrete, lumber, metal, and cardboard) and use “Green Building Materials,” such as those materials that are rapidly renewable or resource efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, in accordance with CalRecycle regulations.

Long-term (operational) project emissions typically include emissions from use of consumer products, energy and water usage, and emissions from vehicle use and the generation/disposal of solid waste. The project site is not proposed for continuous occupation.

As stated previously, the proposed project is required to comply with SCAQMD Rules 402 and 403; and Title 13, Section 2449, of the CCR; and CalRecycle/Green Building Program regulations, as specified in RCM-AQ-1 and RCM-AQ-2 in Section 4.3, Air Quality. Through compliance with

BACMs as part of applicable regulatory policies designed to reduce emissions, the proposed project's estimated GHG emissions (900 MT of CO_2e per year would be less than the SCAQMD Tier 3 threshold of 1,400 MT of CO_2e per year, as detailed in Table 4.8.B) would support a more sustainable community in accordance with the State's strategy for achieving AB 32 targets in its Climate Change Scoping Plan. Therefore, the proposed project will not generate greenhouse gas emissions that will have a significant impact on the environment, nor will the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Associated impacts will be less than significant, and no mitigation is required.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☒	☐
(b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
(d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Impact Analysis:

(a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact. Hazardous materials are chemicals that could potentially cause harm during an accidental release or mishap, and are defined as being toxic, corrosive,

flammable, reactive, and an irritant or strong sensitizer.[27] Hazardous substances include all chemicals regulated under the United States Department of Transportation "hazardous materials" regulations and the United States Environmental Protection Agency (EPA) "hazardous waste" regulations. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. The probable frequency and severity of consequences from the routine transport, use, or disposal of hazardous materials is affected by the type of substance, the quantity used or managed, and the nature of the activities and operations.

Construction of the proposed project would involve the use of limited amounts of potentially hazardous materials, including but not limited to, solvents, paints, fuels, oils, and transmission fluids. However, as discussed in RCM-HAZ-1, below, all materials used during construction would be contained, stored, and handled in compliance with applicable standards and regulations established by the Department of Toxic Substances Control (DTSC), the United States EPA, and the Occupational Safety and Health Administration (OSHA). Any associated risk would be adequately reduced to a less than significant level through compliance with these standards and regulations. Further, during construction the landfill liner would not be punctured, and therefore, would not result in the release of hazardous substances or gases.

Project operation would involve the use of common hazardous maintenance and landscape materials typically associated with park uses (i.e., fertilizers, pesticides, and herbicides, cleaning solutions, etc.) that could be potentially hazardous if handled improperly or ingested. However, these products are not considered acutely hazardous and are not generally considered unsafe. All storage, handling, and disposal of hazardous materials during project construction and operation would comply with applicable standards and regulations. In addition, the proposed park use would not generate significant amounts of any hazardous materials. Due to the site's prior use as a landfill, and as required in the closure documents, the proposed project would include a methane venting system to monitor the potential for off-site migration of landfill gases and to provide safe venting of low-level methane emissions. A similar system is currently being employed at the adjacent existing Davenport Park property. However, methane venting would not result in the release of hazardous materials. Therefore, the proposed project would have a less than significant impact associated with the routine transport, use, or disposal of hazardous materials.

The Long Beach Certified Unified Program Agency (Unified Program) is the administering agency for the chemical inventory and business emergency plan regulations for the City. The Unified Program combines both the Long Beach Fire Department (LBFD) and the Health Department into one primary agency responsible for hazardous materials management in the City. The Long Beach Unified Program makes information regarding the appropriate handling, storage, and disposal of all hazardous chemical waste generated in the City publicly available to all residents

[27] A "sensitizer" is a chemical that can cause a substantial proportion of people or animals to develop an allergic reaction in normal tissue after repeated exposure to a chemical (U.S. Department of Labor 2017. Occupational Safety and Health Administration (OSHA), Appendix A to Sections 1910.1200—Health Hazard Criteria, Section A.4, Respiratory or Skin Sensitization. Website: https://www.osha.gov/dsg/ hazcom/ hazcom-appendix-a.html [accessed August 17, 2018]).

of the City. Because these resources are available to anyone in the City, it is reasonable to conclude that workers on the site would use such programs to properly dispose of hazardous waste.

For the reasons stated above, impacts associated with the disposal of hazardous materials and/or the potential release of hazardous materials that could occur with the implementation of the proposed project are considered less than significant. Incorporation of RCM-HAZ-1 would further reduce impacts to a less than significant level. No mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measure is a standard condition based on State and federal regulations or laws that serve to reduce impacts related to hazards and hazardous materials. This regulatory compliance measure is applicable to the proposed project and shall be incorporated to ensure that the project has minimal impacts related to hazardous materials.

Regulatory Compliance Measure:

RCM-HAZ-1 **Handling of Hazardous Materials.** All materials used during construction would be contained, stored, and handled in compliance with applicable standards and regulations established by the Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (EPA), and the Occupational Safety and Health Administration (OSHA).

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. The proposed project would include the construction and operation of a park use. As previously discussed in Response 4.9(a), above, construction of the proposed project would involve the use of potentially hazardous materials, including but not limited to, solvents, paints, fuels, oils, and transmission fluids. During project construction, the landfill liner would not be punctured, and therefore, would not result in the release of hazardous substances or gases. Project operation is anticipated to involve limited use of hazardous materials typical of park uses, such as pesticides and other landscaping materials. All storage, handling, and disposal of hazardous materials during project construction and operation would be in compliance with applicable standards and regulations established by the DTSC, the United States EPA, and OSHA (refer to RCM-HAZ-1). Any associated risk would be adequately reduced to a less than significant level through compliance with these standards and regulations. As stated previously, the proposed project would include a methane venting system to monitor the potential for off-site migration of landfill gases and to provide safe venting of low-level methane emissions. However, methane venting would not result in the release of hazardous materials. Therefore, the proposed project would not result in a significant hazard to the public or the environment through a reasonably foreseeable upset or accident condition related to the release of hazardous materials. No mitigation is required.

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The proposed project would result in the development of a new community park. Saint Pancratius School is the closest school to the project site, located approximately 0.4 mile northeast of the project site at 3601 Saint Pancratius Place in the City of Lakewood. As discussed in Response 4.9(a), above, the proposed project would not result in a significant hazard affecting the public during project construction and operation. During project construction, the landfill liner would not be punctured, and therefore, would not result in the release of hazardous substances or gases. As stated previously, the proposed project would include a methane venting system to monitor the potential for off-site migration of landfill gases and to provide safe venting of low-level methane emissions. However, methane venting would not result in the release of hazardous materials. Furthermore, the proposed project would not result in significant impacts associated with hazardous materials because all materials would be handled, stored, and disposed of in accordance with applicable standards and regulations established by the DTSC, the United States EPA, and OSHA (refer to RCM-HAZ-1). Any associated risk would be adequately reduced to a less than significant level through compliance with these standards and regulations. Further, the proposed project would comply with recommendations outlined in the PCLUP (SWT Engineering) (Appendix A). Overall, there would be no project-related impacts because there are no schools within 0.25 mile of the project site. Therefore, the proposed project does not involve activities that would result in the emission of hazardous materials or acutely hazardous substances within 0.25 mile of an existing or proposed school. No mitigation is required.

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 67962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. According to the DTSC EnviroStor database, the project site is not located on a federal superfund site, State response site, voluntary cleanup site, school cleanup site, corrective action site, or tiered permit site.[28] Although the project site was previously operated as a landfill, the Paramount Dump did not accept hazardous wastes. The Paramount Dump was closed and a PCLUP for the site was approved by the County of Los Angeles Department of Health Services (DHS), the LARWQCB, the (AQMD, and the CIWMB. The proposed park project would be implemented in full compliance with the PCLUP. Therefore, implementation of the proposed project would not result in an impact related to a known hazardous materials site pursuant to Government Code Section 65965.5 and would not create a significant hazard to the public or the environment. No mitigation would be required.

(e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

[28] California Department of Toxic Substances Control (DTSC). EnviroStor Database. Website: https://www.envirostor.dtsc.ca.gov/public/map/?global_id=19970011 (accessed October 31, 2019).

No Impact. The project site is approximately 2 miles north of Long Beach Municipal Airport (LGB), which is the nearest airport to the project site. As previously stated, the proposed project would include the construction and operation of a park use. No buildings or habitable structures are proposed as part of the project. As such, project implementation would not result in potential safety hazards associated with airport traffic for people visiting the project site. Further, the project site does not fall within the Long Beach Airport Influence Area.[29] Therefore, no hazardous impacts related to the site's proximity to the airport facility or any airport land use plan would occur. No mitigation is required.

(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The City's Emergency Operations Plan (August 2015) outlines the City's emergency response organization and policies. This plan also identifies ways in which the City and its residents can minimize risk and prevent loss from natural hazard events. Emergency events addressed in this plan include those associated with earthquakes, flooding, windstorm, tsunamis, public health events, technological and human-caused events, and drought.

The proposed project does not include any characteristics (e.g., permanent road closures or long-term blocking of road access) that would physically impair or otherwise conflict with an emergency response plan or emergency evacuation plan. During short-term construction activities, the proposed project is not anticipated to result in any substantial traffic queuing on nearby streets, and all construction equipment would be staged within or directly adjacent to the project site on the adjacent Davenport Park. Therefore, impacts related to emergency response and evacuation plans associated with construction of the proposed project would be less than significant. No mitigation is required.

The proposed project does not include any changes to any public or private roadways that would interfere with the City's Emergency Operations Plan or another adopted emergency response plan or emergency evacuation plan. Further, the proposed project would not obstruct or alter any transportation routes that could be used as evacuation routes during emergency events. Access to and from the project site for emergency vehicles would be reviewed and approved by the Long Beach Fire Department (LBFD) as part of the project approval process to ensure the proposed project is compliant with all applicable codes and ordinances for emergency vehicle access. Impacts related to interference with an emergency response plan are considered less than significant. No mitigation is required.

[29] Los Angeles County Airport Land Use Commission. Airport Influence Area, Long Beach Airport. Website: http://planning.lacounty.gov/assets/upl/project/aluc_airport-long-beach.pdf (accessed October 31, 2019).

(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury of death involving wildland fires?

No Impact. Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed camp fires, cigarettes, sparks from automobiles, and other ignition sources. The project site is located in an urbanized area where wildfire is not considered a likely risk to people or structures. In addition, the project site and the surrounding areas do not include brush- and grass-covered areas typically found in areas susceptible to wildfires. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death from wildland fires. No mitigation is required. For further discussion related to wildfires, refer to Section 4.20, Wildfire, of this IS/MND.

4.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in a substantial erosion or siltation on- or off-site.	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☒	☐	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant Impact. Pollutants of concern during project construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and transport of sediment downstream compared to existing conditions. During a storm event, soil erosion could occur at an accelerated rate. In addition, construction-related pollutants such as chemicals, liquid and petroleum products (e.g.,

paints, solvents, and fuels), and concrete-related waste could be spilled, leaked, or transported via stormwater runoff into adjacent drainages and into downstream receiving waters. Any of these pollutants has the potential to be transported via stormwater runoff into receiving waters (i.e., the Pacific Ocean).

Construction activities associated with the proposed project would disturb approximately 6 acres of soil. Projects that disturb greater than 1 acre of soil are required to comply with the State Water Resources Control Board's (SWRCB) NPDES permit *Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit). The Construction General Permit requires preparation of a SWPPP and implementation of construction BMPs during construction activities. As specified in RCM-WQ-1, the proposed project would obtain coverage under the Construction General Permit. In compliance with the Construction General Permit, a SWPPP would be prepared for the project and construction BMPs implemented to target pollutants of concern. Additionally, the project would be required to prepare an Erosion and Sediment Control Plan (ESCP) which includes elements of a SWPPP in compliance with the Los Angeles Regional Water Quality Control Board (LARWQCB) *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges from the City of Long Beach* (Order No. R4-2014-0024, NPDES No. CAS004003, as amended by Order No. R4-2014-0024-A01) (City of Long Beach MS4 Permit). According to the City of Long Beach MS4 Permit, SWPPPs prepared in accordance with the requirements of the Construction General Permit can be accepted as ESCPs. Therefore, in compliance with the Construction General Permit and the City of Long Beach MS4 Permit, a SWPPP would be prepared and construction BMPs implemented during construction activities, as specified in RCM-WQ-1. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Implementation of RCM-WQ-1 would ensure construction impacts related to WDRs, water quality standards, and surface water quality would be less than significant.

Although the City's Seismic Element indicates that groundwater occurs at approximately 40 ft below ground surface (bgs), recent studies on the project site and surrounding properties indicated that groundwater occurs on the project site at approximately 20 ft bgs.[30] As stated previously, the proposed project would include grading activities on the project site; however, these grading activities would not extend to the depth at which groundwater would occur due to the presence of subterranean debris material associated with the site's former use as a municipal landfill, and because the landfill liner cannot be disturbed. As the proposed project will not involve major excavation of any substantial depth, excavation activities would not have the potential to encounter groundwater and groundwater dewatering would not be required during construction. Therefore, construction activities do not have the potential to directly impact groundwater quality.

[30] California Department of Resources, Recycling, and Recovery (CalRecycle). 2010. *Site Investigation Report, Friendly Village Mobile Home Park, Portion of the Former Paramount Dump*. November 9, 2010.

The project includes construction of a sports field, bleachers on each side of the sports field, future fitness equipment pads, a future skate park, a shaded gathering area, walking paths, and 31 parking spaces. Pollutants of concern during operation of the proposed project could include suspended solids/sediment, nutrients, pesticides, trash and debris, oil and grease, and metals. The proposed project would result in an increase in impervious surface acreage of approximately 10,671 sf (0.25 acre) on the project site following project implementation. An increase in impervious surface area would expand the volume of runoff during a storm, which would increase the amount of pollutants discharged into downstream receiving waters. In addition, there is a potential for increased erosion due to increased runoff that could increase solids/sediment in stormwater runoff. Visitors to the site would be a potential source of trash and debris. Landscaping included as part of the project would capture and aid with treatment of stormwater runoff from the increased impervious surface areas, but could also be a potential source of nutrients and pesticides. Any additional vehicles utilizing the parking area could be a source of oil, grease, and metals.

The City is subject to the requirements of the *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (City of Long Beach MS4 Permit), Order No. R4-2014-0024, NPDES No. CAS004003. Pursuant to the requirements of City of Long Beach MS4 Permit, the proposed project qualifies as a "New Development Project or Redevelopment Project." New Development Projects that disturb greater than 1 acre and increase impervious surface area by more than 10,000 sf (approximately 0.23 acre) and Redevelopment Projects that create, add, or replace 5,000 sf (approximately 0.115 acre) are required to implement post-construction controls to mitigate stormwater pollution and prepare a Low Impact Development Plan or equivalent, in compliance with the *City of Long Beach Low Impact Development (LID) Best Management Practices (BMP) Design Manual* (February 2013; revised December 2013), as outlined in the City of Long Beach Municipal Code Chapter 18.74, Low Impact Development Standards. The proposed BMPs would capture, infiltrate, and treat stormwater runoff to remove pollutants of concern. As specified in RCM-WQ-2, a Final LID Plan will be prepared prior to the issuance of grading permits. With implementation of RCM-WQ-2, operational surface water quality impacts would be less than significant.

The LARWQCB has issued Waste Discharge Requirements Order R4-2004-0157 and General Monitoring and Reporting Program CI-8372 to the City for the Paramount Landfill property, which includes the project site. As part of the City's compliance with these orders, the City has conducted period groundwater monitoring on the project site. Following project implementation, the City would continue to comply with these orders, would implement BMPs related to water quality and runoff, and would comply with applicable provisions of the City's Municipal Code Chapter 18.95 (NPDES Permit and Standard Urban Storm Water Mitigation Plan [SUSMP] requirements). Furthermore, with implementation of RCM-WQ-1 and RCM-WQ-2, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant, and no mitigation is required.

Mitigation Measures: No mitigation is required. However, the following regulatory compliance measures are standard conditions based on local, State, and federal regulations or laws that

serve to reduce impacts related to hydrology and water quality. These regulatory compliance measures are applicable to the proposed project and shall be incorporated to ensure that the project has minimal impacts to receiving waters.

Regulatory Compliance Measures:

RCM-WQ-1 **Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) Development Services Director, or designee, shall obtain coverage under the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System [NPDES] No. CAS000002) (Construction General Permit) if the disturbed soil area during construction exceeds 1 acre. This shall include submission of Permit Registration Documents, including a Notice of Intent for coverage under the permit to the State Water Resources Control Board (SWRCB). The Construction Contractor shall ensure that a Storm Water Pollution Prevention Plan (SWPPP) is prepared and implemented for the project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction Best Management Practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities. The SWPPP shall serve as the project Erosion and Sediment Control Plan (ESCP), in compliance with the City of Long Beach MS4 Permit (Order No. R4-2014-0024, NPDES No. CAS004003, as amended by Order No. R4-2014-0024-A01). If it is determined during final design that the disturbed soil area would be less than 1 acre, the project would be exempt from coverage under the Construction General Permit and the project would be exempt from coverage under the Construction General Permit and the above requirements would not be applicable.

RCM-WQ-2 **Final Low Impact Development Plan.** In compliance with the City of Long Beach MS4 Permit and as specified in Chapter 18.74, Low Impact Development Standards, of the City of Long Beach Municipal Code, the City Development Services Director, or designee, shall ensure that a Final Low Impact Development (LID) Plan, or equivalent, is prepared for the project prior to issuance of a grading permit. The LID Plan shall be prepared consistent with the requirements of the *City of Long Beach Low Impact Development (LID) Best Management Practices (BMP) Design Manual* (February 2013; revised December 2013) and shall include BMPs to be incorporated into the project to target pollutants of concern in runoff from the project site.

(b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The City is highly urbanized with infrastructure in place to accommodate future development projects. Approximately 60 percent of the City's existing water supply consists of groundwater extracted from the local Central Basin of the Los Angeles groundwater basin, with the remaining 40 percent consisting of imported water purchased from the Metropolitan Water District of Southern California.

Although the City's Seismic Element indicates that groundwater occurs at approximately 40 ft bgs, recent studies on the project site and surrounding properties indicated that groundwater occurs on the project site at approximately 20 ft bgs.[31] As stated previously, the proposed project would include grading activities on the project site; however, these grading activities would not extend to the depth at which groundwater would occur due to the presence of subterranean debris material associated with the site's former use as a municipal landfill, and because the landfill liner cannot be disturbed. As such, grading activities would not result in impacts to groundwater supplies or interfere with groundwater recharge.

Although the proposed project would result in an increase in impervious area on the project site following project implementation (0.25 acre), infiltration would not be significantly impacted as the previous landfill is covered with a liner as part of the landfill closure requirements in order to contain the subterranean debris and gasses. In addition, operation of the project would not require groundwater extraction. Although development of the proposed project would result in increased water demand for landscaping activities, the project site would not significantly lower the groundwater table due to the fact that the proposed project would rely on the Long Beach Water District (LBWD) for water supply. Although the LBWD does rely partially on groundwater, the project site has been previously served during its prior use as an industrial use. The local water agencies are responsible for managing the groundwater resources and have developed the LARWQCB Basin Plan to prevent overdraft from use of groundwater for water supply. Therefore, the proposed project would result in a less than significant impact related to depletion of groundwater supplies or interference with groundwater recharge, and no mitigation would be required.

(c) (i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on-or off-site?

Less Than Significant Impact.

Construction. Although there are no streams or rivers on the project site, excavated soil would be exposed and disturbed and drainage patterns would be temporarily altered during grading

[31] CalRecycle. 2010. *Site Investigation Report, Friendly Village Mobile Home Park, Portion of the Former Paramount Dump.* November 9, 2010.

and other construction activities. However, any soil excavation and modifications to the project site during construction would be minimal. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Therefore, there would be an increased potential for soil erosion and the transport of sediment downstream compared with existing conditions. As discussed in Response 4.10(a) above and specified in RCM-WQ-1, the Construction General Permit and City of Long Beach MS4 Permit require preparation of a SWPPP and/or ESCP and implementation of construction BMPs to reduce impacts to water quality during construction, including those impacts associated with soil erosion, and siltation. With implementation of the construction BMPs as indicated in RCM-WQ-1, construction impacts related to on- or off-site erosion or siltation would be less than significant. No mitigation is required.

Operation. Currently, the project site is undeveloped and consists of primarily pervious surfaces. Development of the project would increase impervious surface area on the project site to a total of approximately 0.25 acre, which would increase stormwater runoff. However, impervious surface areas associated with the development of the project site (such as walkways, future fitness station pads, and a future skate park) are not prone to erosion or siltation. Erosion and siltation would be minimal in the proposed landscaped areas. In the undeveloped areas, erosion and siltation would be similar to the existing condition. Therefore, impacts related to on-site erosion or siltation would be less than significant, and no mitigation is required.

Similarly to the existing portion of Davenport Park to the east, run-off from the proposed project would sheet flow to an existing off-site storm drain system along Paramount Boulevard. Although stormwater runoff would eventually be discharged to receiving waters via the existing storm drain system, there is minimal potential for downstream erosion or siltation to occur because the receiving waters are not subject to hydromodification.[32] Therefore, with implementation of RCM-WQ-1, a less than significant impact related to off-site erosion or siltation would occur, and no mitigation is required.

(c) (ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant with Mitigation Incorporated. Currently, the project site is undeveloped and consists of primarily pervious surfaces. As stated in Response 4.10(c)(i) above, development of the proposed project would increase impervious surface area by approximately 0.25 acre, which would increase stormwater runoff and could potentially result in flooding. However, the project would drain to existing catch basins on the southwestern corner of the project site, which would capture stormwater runoff. Additionally, LID BMPs would be specified in the Final LID Plan, as stated in RCM-WQ-2.

[32] Hydromodification is defined as hydrologic changes resulting from increased runoff from increases in impervious surfaces. Hydromodification impacts can included changes in downstream erosion and sedimentation.

In addition, as specified in MM-WQ-1, a Final Hydrology Study would be prepared based on final project plans and would be approved by the City. The Hydrology Study would confirm that sufficient capacity in the downstream drain systems is available to accommodate any increase in storm runoff from the project site.

The proposed drainage facilities and LID BMPs needed to accommodate stormwater runoff would also be appropriately sized so that on-site flooding would not occur. Finally, the proposed project would not alter the course of a stream or river. With implementation of RCM-WQ-2 and MM-WQ-1, impacts related to on- or off-site flooding from an increase in surface runoff would be less than significant.

Mitigation Measure: The following mitigation measure is applicable to the proposed project and shall be incorporated to ensure that the project impacts to hydrology and flooding remain less than significant.

MM-WQ-1 **Final Hydrology and Hydraulic Analysis.** The City of Long Beach shall submit a Final Hydrology Study to the City of Long Beach Public Works Department, or designee, for review and approval prior to issuance of grading and building permits. The Final Hydrology Study shall demonstrate that the on-site drainage facilities are designed and adequately sized to convey and reduce runoff, such that on-site and off-site drainage facility capacity would not be exceeded during a design storm.

(c) (iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant with Mitigation Incorporated. As discussed in Response 4.10(a), pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. Drainage patterns would be temporarily altered during grading and other construction activities, and construction-related pollutants could be spilled, leaked, or transported via storm runoff into adjacent drainages and downstream receiving waters. However, as specified in RCM-WQ-1, the proposed project would be required to comply with the requirements set forth by the Construction General Permit and SWPPP, which would specify BMPs to be implemented to control the discharge of pollutants in stormwater runoff as a result of construction activities.

Operation of the proposed project has the potential to introduce pollutants to the storm drain system from the proposed on-site uses. As discussed in Response 4.10(a), expected pollutants of concern from long-term operations include could include suspended solids/sediment, nutrients, pesticides, trash and debris, oil and grease, and metals. As required by RCM-WQ-2, the Final LID Plan would require implementation of operational BMPs to reduce pollutants of concern in

stormwater runoff. With implementation of operational BMPs, no substantial additional sources of polluted runoff would be discharged to the storm drain system.

Development of the proposed project would increase impervious surface area on the project site to a total of approximately 0.25 acre, which would increase stormwater runoff generated during project operation. As stated previously, stormwater runoff on the project site would sheet flow to the existing catch basins on-site, which connect to the existing storm drain system on Paramount Boulevard. As specified in MM-WQ-1 the Final Hydrology Study shall demonstrate that the on-site drainage facilities are designed and adequately sized to convey and reduce runoff, such that on-site and off-site drainage facility capacity would not be exceeded during a design storm. With implementation of MM-WQ-1, the proposed project would not result in an exceedance of planned or existing stormwater drainage systems.

For the reasons discussed above, with adherence to RCM-WQ-1, RCM-WQ-2, and MM-WQ-1, project impacts associated with the introduction of substantial sources of polluted runoff or additional runoff would be less than significant and would not result in an exceedance in capacity of existing or planned stormwater drainage systems.

(c) (iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Less Than Significant Impact. According to the Federal Emergency Management Act (FEMA) Flood Insurance Rate Map Act (FIRM) No. 06037C1960F (September 26, 2008) and the City of Long Beach Federal Emergency Management Agency (FEMA) Flood Zones map, the project site is located within the shaded Zone X. A shaded Flood Zone X designation encompasses areas with a moderate chance of flood as it includes areas with a 0.2 percent annual chance of flood (500-year), areas with a 1 percent annual chance of flood (100-year) with average depths of less than 1 ft or with drainage areas less than 1 square mile, and areas protected from levees from 1 percent annual chance of flood. Although the project site is located within an area with a moderate chance of flooding, the project proposes to develop the project site with new park uses and does not include the development of any buildings or habitable structures which would impede or redirect flood flows. Therefore, a less than significant impact would occur related to impeding or redirecting flood flows, and no mitigation would be required.

(d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact.

Flood Hazard. As previously stated, the project site is located in an area that is designated by FEMA as having a moderate potential for flooding. However, according to the City's General Plan Public Safety Element,[33] the project site is not located within an area subject to potential flooding. Therefore, impacts related to release of pollutants in the event of inundation from

[33] Long Beach Planning Department. 1975. Long Beach General Plan Public Safety Element. May.

flooding as a result of the failure of a levee or dam would be less than significant. No mitigation is required.

Tsunami. Tsunamis are ocean waves generated by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and exploding volcanic islands. Tsunamis can have wavelengths of up to 120 miles and travel as fast as 500 miles per hour across hundreds of miles of deep ocean. Upon reaching shallow coastal waters, the waves can reach up to 50 ft in height, causing great devastation to near-shore structures. The project site is located approximately 6.5 miles from the Pacific Ocean shoreline. In addition, according to the Tsunami Inundation Map for Emergency Planning for the Long Beach Quadrangle,[34] the project site is not located within in area subject to potential risks associated with a tsunami. Therefore, the project site is not subject to inundation from tsunamis, and there is no risk of release of pollutants due to inundation from tsunami. No mitigation is required.

Seiche Zones. Seiching occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. Because there are no large lakes, reservoirs, or other water retention facilities in the vicinity of the project site, the project site is not at risk of inundation from seiche. Therefore, the project site is not subject to inundation from seiche waves, and there is no risk of release of pollutants due to inundation from seiche. No mitigation is required.

(e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The project is within the jurisdiction of the LARWQCB. The LARWQCB adopted a Water Quality Control Plan (i.e., Basin Plan) (1994, with amendments on or effective before 2019), which designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. As summarized below, the project would comply with the applicable NPDES permits and would implement construction and operational BMPs to reduce pollutants of concern in stormwater runoff.

As discussed in Response 4.10(a), during construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters. As specified in RCM-WQ-1, the proposed project would be required to comply with the requirements set forth by the Construction General Permit, which requires preparation of a SWPPP and implementation of construction BMPs to control stormwater runoff and discharge of pollutants.

[34] California Emergency Management Agency (CalEMA) et al. 2009. Tsunami Inundation Map for Emergency Planning Long Beach Quadrangle. March.

As discussed in Response 4.10(a), the primary pollutants of concern during project operations are suspended solids/sediment, nutrients, pesticides, trash and debris, oil and grease, and metals. As discussed in RCM-WQ-2, a Final LID Plan would be prepared for the project in compliance with the City of Long Beach MS4 Permit and the City Municipal Code. The Final LID Plan will detail the Site Design/LID, Source Control, and/or Treatment Control BMPs that would be implemented to treat stormwater runoff and reduce impacts to water quality during operation. The proposed BMPs would capture and treat stormwater runoff and reduce pollutants of concern in stormwater runoff.

The proposed project would comply with the applicable NPDES permit, which requires preparation of a SWPPP, preparation of a Final LID Plan, and implementation of construction and operational BMPs to reduce pollutants of concern in stormwater runoff. As such, the project would not result in water quality impacts that would conflict with LARWQCB's Basin Plan. Impacts related to conflict with a water quality control plan would be less than significant and no mitigation is required.

The Sustainable Groundwater Management Act (SGMA) was enacted in September 2014. SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft of groundwater basins. SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs), which are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins. The project site is located within the Central Subbasin of the Coastal Plain of the Los Angeles Groundwater Basin. The Central Subbasin is identified by the Department of Water Resources (DWR) as a very low-priority basin;[35] therefore, development of a Groundwater Sustainability Plan is not required. Because there is not an adopted Groundwater Sustainability Plan applicable to the groundwater basin within the project area, the project would not conflict with or obstruct the implementation of a sustainable groundwater management plan. As discussed in Responses 4.10(a) and 4.10(b), the proposed project would result in a less than significant impact to groundwater quality, the interference with groundwater recharge, or decrease in groundwater supplies with implementation of RCM-WQ-1 and RCM-WQ-2. Therefore, with implementation of RCM-WQ-1 and RCM-WQ-2, a less than significant impact would occur related to conflict with or obstruction of water quality control plans or sustainable groundwater management plans, and no mitigation is required.

[35] California Department of Water Resources (DWR). SGMA Basin Prioritization Dashboard, Groundwater Basins 2019. Website: https://gis.water.ca.gov/app/bp-dashboard/p2/ (accessed October 30, 2019).

4.11 LAND USE PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Physically divide an established community?	☐	☐	☐	☒
(b) Cause a significant environmental impact due to a conflict conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project physically divide an established community?

No Impact. The project site is located within an urbanized area of the City. The proposed project site is currently vacant and was formerly utilized as a municipal landfill and an industrial facility. Surrounding uses in the immediate project area primarily include residential uses, with some nearby industrial and commercial uses. The project site is bordered on the north by a single-family residential neighborhood and industrial storage tanks, on the east by the existing Davenport Park, on the south by the Friendly Village Mobile Home Park, and on the west by mixed-density residential uses across North Paramount Boulevard.

The proposed project would develop the currently vacant project site with a new park use that would be compatible with the existing Davenport Park east of the project site and residential land uses in the project vicinity. Although there are residential uses located within the vicinity of the project site, none of these homes or neighborhoods would be divided by project development. In addition, implementation of the proposed project would not disturb or alter access to any existing adjacent uses. Therefore, the proposed project would not physically divide an established community, and no mitigation is required.

(b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The proposed project is not located within a historic district, the City's Coastal Zone, or within a specific plan area. As such, the main documents regulating land use for the project site and immediate vicinity are the City General Plan and the City Zoning Code. The proposed project's relationship to these planning documents is described below.

***General Plan*.** The City's General Plan is the principal land use document guiding development within the City. The City's General Plan is a comprehensive plan that establishes goals, objectives, and policies intended to guide growth and development in the City. The City's General Plan also serves as a blueprint for development throughout the community and is the

vehicle through which the community needs, desires, and aspirations are balanced. The City's General Plan is the fundamental tool for influencing the quality of life in the City.

At the heart of the General Plan is the Land Use Element (LUE) (adopted in 1989, revised in 1997 and 2019). The LUE establishes land use districts and develops a long-term land use vision for these land use districts throughout the City. The LUE also includes goals and policies for each land use district and implements them through implementation strategies. Although there is a LUE update in progress (described further below), the following discussion is applicable to the project until any changes to the LUE are formally adopted by the City.

The project site is designated LUD No. 1, Single-Family District, on the City's General Plan Land Use Map. The LUD No. 1, Single-Family District, allows for single-family residential uses (including mobile homes) at a maximum density of one dwelling unit per lot (or seven units per acre) and neighborhood-serving retail uses. The proposed project is a recreational/park use that includes a sports field, skate park, shaded picnic/gathering area, walking paths, passive open space, and parking, which would be consistent with residential land uses. Consequently, the proposed project would be consistent with the General Plan, and impacts would be considered less than significant. No mitigation is required.

***Proposed General Plan Update*.** The City is currently in the process of updating and replacing the existing Land Use Element with an entirely new LUE that would guide future development in the City through the year 2040. The proposed LUE would introduce the concept of "PlaceTypes," which would replace the traditional land uses designations and zoning classifications in the existing LUE. The updated LUE would establish 14 primary PlaceTypes that would divide the City into distinct neighborhoods, thus allowing for greater flexibility and a mix of compatible land uses within these areas. Each PlaceType would be defined by unique land use, form, and character-defining goals, policies, and implementation strategies tailored specifically to the particular application of that PlaceType within the City. The proposed 14 PlaceTypes are as follows: (1) Open Space, (2) Founding and Contemporary Neighborhood, (3) Multi-Family Residential—Low, (4) Multi-Family Residential—Moderate, (5) Neighborhood-Serving Centers and Corridors—Low, (6) Neighborhood-Serving Centers and Corridors—Moderate, (7) Transit-Oriented Development-Low, (8) Transit-Oriented Development- Moderate, (9) Community Commercial, (10) Industrial, (11) Neo-Industrial, (12) Regional-Serving Facility, (13) Downtown, and (14) Waterfront. The establishment of PlaceTypes in place of standard parcel-by-parcel land use designations would allow for greater flexibility in development types to create distinct residential neighborhoods, employment centers, and open space areas.

The proposed LUE designates the project site as within the North Long Beach Community Plan Area. This Community Plan Area primarily allows for the development of low- to moderate-density housing, open space, community commercial, industrial, and neo-industrial uses. The project site is within the proposed Open Space PlaceType, which encourages various forms of open space and limited commercial recreation uses that complement existing recreation facilities. The proposed project would be consistent with the proposed Open Space PlaceType and applicable goals, policies, and implementation strategies regulating land use on the project site under the proposed 2040 General Plan LUE. Therefore, no land use conflict would occur with the proposed General Plan LUE.

***Zoning Code*.** The City's Zoning Code is the primary implementation tool for the LUE and goals and policies contained therein. The City's Zoning Map indicates the general location and extent of future development in the City. The City's Zoning Ordinance, which includes the Zoning Map, describes and elaborates on the Zoning Map and contains more specific information related to permitted land uses, building intensities, and development standards. Therefore, the Zoning Map must be consistent with the General Plan Land Use Map.

The project site is zoned as Park (P) district on the City's Zoning Map. The P zoning district allows for the preservation of publicly owned natural and open space area for active and passive public use for recreational, cultural, and community service activities. The proposed project is a recreational/park use that includes a sports field, skate park, shaded picnic/gathering area, walking paths, passive open space, and parking spaces, which would be consistent with the P zoning district on the project site.

Parking Requirements. The project site currently has a parking supply of 53 spaces. The proposed project would expand the existing Davenport Park to a total of 11.5 acres, including a sports field, skate park, shaded picnic/gathering area, walking paths, passive open space, and parking. Based on parking standards from the City's Municipal Code, 11.5 acres of park space would require 23 parking spaces (2 parking spaces per acre of passive park use). Although the sports field may be used for soccer games and other spectator sports, no organized league play, such as AYSO, is anticipated. Construction of the proposed project would add an additional 31 parking spaces along the south side of East 55th Way. Although 11 spaces in the existing parking lot adjacent to the site will be reconfigured as a school bus drop-off area, the remaining total of 73 spaces would still exceed the parking requirements for the proposed project. As such, the proposed project would provide sufficient parking according to standards set forth in the City's Municipal Code, and impacts would be less than significant. No mitigation is required.

Summary. As the proposed project is consistent with the use of the existing General Plan land use designation, would be consistent with the proposed LUE, and is consistent with the existing zoning code, impacts to a conflict with a land use plan, policy, or regulation would be less than significant. No mitigation is required.

4.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
(b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Impact Analysis:

(a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No Impact. In 1975, the California Legislature enacted the Surface Mining and Reclamation Act (SMARA) which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated.
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the State of California Mining and Geology Board as being "regionally significant." Such designations require that a Lead Agency's land use decisions involving designated areas are to be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency's jurisdiction.

The project site has been classified by the California Department of Mines and Geology (CDMG) as MRZ-1, indicating that the project site is in an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little

likelihood exists for their presence.[36] While the project site is located in MRZ-1, there are no known mineral resources on the project site, nor is the project site designated or zoned for the extraction of mineral deposits.

According to the City's General Plan Conservation Element (1973),[37] the primary mineral resources within the City have historically been oil and natural gas. However, over the last century, oil and natural gas extractions have been diminished as the resources have become increasingly depleted. Although extraction operations continue, they are on a reduced scale compared to past levels.

The proposed project site does not contain oil extraction operations and has no other known mineral resources. Therefore, because no known mineral resources are present on the project site, the project would not result in the loss of a known commercially valuable mineral resource that would be of value to the region and the residents of the State. Therefore, the proposed project would not result in impacts related to the loss of availability of a known mineral resource that would be of value to the region and residents of the State. No mitigation is required.

(b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. As discussed in Response 4.11(a), no known valuable mineral resources exist on or near the project site, and no mineral resource extraction activities occur on the site. In addition, the project site is not located within an area known to contain locally important mineral resources. Further, the proposed project would not involve mining operations that could impact the landfill liner. Therefore, no impacts related to the loss of availability of a locally important mineral resource recovery site as delineated on a local general plan, specific plan, or other land use plan would occur as a result of project implementation. No mitigation is required.

36 California Division of Mines and Geology. Mineral Land Classification Map. Long Beach Quadrangle, Special Report 143, Plate 4.21. Website: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_143/PartIV/Plate_4-21.pdf (accessed August 14, 2018).

37 City of Long Beach Engineering Department. 1973. City of Long Beach General Plan Conservation Element. April 30.

4.13 NOISE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
(b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

The following section is based on noise modeling and analysis conducted by LSA (November 2019) for the proposed project. The discussion and analysis provided in this section describes the potential short-term construction noise and vibration impacts associated with the proposed project, as well as long-term operational noise impacts.

The following provides an overview of the characteristics of sound and the regulatory framework that applies to noise and vibration impacts to sensitive receptors in the vicinity of the project site.

Characteristics of Sound. Sound is increasing to such disagreeable levels in the environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units (e.g., inches or pounds), decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations), the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source (noise in a relatively flat environment with absorptive vegetation) decreases 4.5 dB for each doubling of distance.

There are many metrics used to rate potential noise impacts. First, the determination of the source type is made, stationary or non-stationary. For the purposes of noise analyses, non-stationary sources include roadway traffic as well as train and aircraft operations which are often governed by criteria presented in the jurisdiction's Noise Element of the General Plan. For all stationary sources, which also includes mobile noise sources located within specific property boundaries, the appropriate noise criteria are often contained in the local jurisdiction's Municipal Code.

The base metric for assessing noise level impacts is the equivalent continuous sound level (L_{eq}) which calculates the total sound energy of time-varying noise over a sample period. For stationary sources that operate intermittently within an hour, percentile noise levels are used for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same. Should a source operate for a period of less than one minute or creates impact noise the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period, is utilized. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise as well as the appropriate percentile noise level criteria.

To assess non-stationary noise sources, the predominant rating scales for human communities in the State of California are the Community Noise Equivalent Level (CNEL) and the day-night average noise level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term traffic noise impact assessment.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes (3 dB or greater) in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear (the threshold of pain). A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed area.

Applicable Noise and Vibration Standards. The applicable noise standards governing the project site are the criteria in the City's Noise Ordinance. Typically, compliance with the City's Municipal Code is used to determine when a project results in a significant impact.

The City of Long Beach regulates construction noise based on the criteria presented in the Municipal Code Noise Ordinance. Section 8.80.202 of the City Municipal Code provides the following applicable regulations related to construction noise:

A. Weekdays and Federal Holidays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition or any other related building activity which produce loud or unusual noise which annoys or disturbs a reasonable person of normal sensitivity between the hours of seven p.m. and seven a.m. the following day on weekdays, except for emergency work authorized by the Building Official. For purposes of this section, a federal holiday shall be considered a weekday.

B. Saturdays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition or any other related building activity which produce loud or unusual noise which annoys or disturbs a reasonable person of normal sensitivity between the hours of seven p.m. on Friday and nine a.m. on Saturday and after six p.m. on Saturday, except for emergency work authorized by the Building Official.

C. Sundays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition, or any other related building activity at any time on Sunday, except for emergency work authorized by the Building Official or except for work authorized by permit issued by the Noise Control Officer.

D. Owner's/Employer's Responsibility. It is unlawful for the landowner, construction company owner, contractor, subcontractor, or employer of persons working, laboring, building, or assisting in construction to permit construction activities in violation of provisions in this section.

E. Sunday Work Permits. Any person who wants to do construction work on a Sunday must apply for a work permit from the Noise Control Officer. The Noise Control Officer may issue a Sunday work permit if there is good cause shown; and in issuing such a permit, consideration will be given to the nature of the work and its proximity to residential areas. The permit may allow work on Sundays, only between nine a.m. and six p.m., and it shall designate the specific dates when it is allowed.

Additionally, Section 8.80.200G of the City's Municipal Code provides the following direction regarding vibration impacts:

> "Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (150') (forty-six (46) meters) from the source if on a public space or public right-of-way. For the purposes of this subsection, "vibration perception threshold" means the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such directed means as, but not limited to, sensation by touch or visual observation of moving objects."

Sections 8.80.150 through 8.80.170 of the City's Municipal Code provide exterior and interior noise standards which are presented in Tables 4.13.A, Exterior Noise Limits, L_n (dBA), and 4.13.B, Interior Sound Levels L_n (dBA), respectively, for various land uses. For exterior noise limits, the L_{50} criterion, which represents all sources operating for a period of 30 minutes to an hour as well as the L_{25}, L_8, L_2, and L_{max} criteria are presented. For interior noise impact assessment, the L_8, L_2, and L_{max} criteria are utilized. In the event that alleged offensive noise contains a steady audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting or contains music or speech conveying informational content, the standard limits set forth in the tables below shall be reduced by 5 decibels.

Table 4.13.A: Exterior Noise Limits, L_N (dBA)

Receiving Land Use	Time Period	L_{50}	L_{25}	L_8	L_2	L_{max}
Residential (District One)	Night: 10:00 PM–7:00 AM	45	50	55	60	65
	Day: 7:00 AM–10:00 PM	50	55	60	65	70
Commercial (District Two)	Night: 10:00 PM–7:00 AM	55	60	65	70	75
	Day: 7:00 AM–10:00 PM	60	65	70	75	80
Industrial (District Three)	Anytime[1]	65	70	75	80	85
Industrial (District Four)	Anytime[1]	70	75	80	85	90

Source: City of Long Beach Municipal Code.
[1] For use at boundaries rather than for noise control within industrial districts.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_{50} = noise level representing the median noise level; half the time, the noise level exceeds this level, and half the time, it is less than this level
L_{25} = the noise level exceeded 25 percent of the time during a stated period
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

Table 4.13.B: Interior Sound Levels, L_N (dBA)

Receiving Land Use	Time Interval	L_8	L_2	L_{max}
Residential	10:00 PM–7:00 AM	35	40	45
	7:00 AM–10:00 PM	45	50	55
School	7:00 AM–10:00 PM (while school is in session)	45	50	55
Hospital and other noise-sensitive zones	Anytime	40	45	50

Source: City of Long Beach Municipal Code.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

Sensitive Land Uses in the Project Vicinity. Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The proposed project site is located in an urban area with a mix of residential, commercial, and industrial uses. Specifically, the project site is surrounded by a single-family residential neighborhood and above-ground industrial storage tanks to the north, approximately 75 ft from the project boundary, the existing Davenport Park to the east bordering the proposed project, the Friendly Village Mobile Home Park 35 ft south of the proposed project boundary, and mixed-density residential uses to the west across North Paramount Boulevard, approximately 125 ft away.

Overview of the Existing Noise Environment

Existing Traffic Noise. The primary existing noise sources contributing to ambient noise in the project area are transportation facilities associated with traffic on North Paramount Boulevard.

Other surrounding noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system.

Based on the data in the traffic analysis, the existing average daily traffic (ADT) volumes on the adjacent roadway is projected at 20,400 vehicles per day. Based on the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) the 70 dBA CNEL contour is confined within the roadway right-of-way while the 65 dBA CNEL contour is located 100 ft from the roadway centerline.

Existing Aircraft Noise. Based on the Long Beach Airport Noise Contours map included in the Long Beach Airport Terminal Area Improvement Project EIR, the project site is located approximately 2 miles north of the 65 dBA CNEL contour.

Existing Railroad Noise. Based on aerial photography from Google Earth, the proposed project site is located approximately 1,300 ft east of the nearest railroad.

Impact Analysis:

(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant with Mitigation Incorporated.

Construction Noise Impacts. Short-term noise impacts would occur during construction of the proposed project. Construction-related, short-term noise levels would be higher than existing ambient noise levels in the study area, but would cease once project construction is completed.

Two types of short-term noise impacts could occur during project construction. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on roads accessing the project site. Paramount Boulevard and East 55th Way would be used to access the project site. Although there would be a relatively high single-event noise exposure potential from truck pass-bys, 84 dBA L_{max} at 50 ft as shown in Table 4.13.C, Typical Maximum Construction Equipment Noise Levels (L_{max}), the effect on longer-term (hourly or daily) ambient noise levels would be small when compared to existing hourly and daily traffic volumes on Paramount Boulevard and East 55th Way. Since construction-related vehicle trips would not approach hourly and daily traffic volumes mentioned above, traffic noise would not increase by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would be less than significant.

Table 4.13.C: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Air Compressor	40	80
Backhoe	40	80
Cement Mixer	50	80
Concrete/Industrial Saw	20	90
Crane	16	85
Dozer	40	85
Excavator	40	85
Forklift	40	85
Generator	50	82
Grader	40	85
Front-End Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: Federal Highway Administration. *Roadway Construction Noise Model* (2006).
dBA = A-weighted decibel
ft = foot/feet
L_{max} = maximum noise level

The second type of short-term noise impact is related to noise generated during project construction. Construction is conducted in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics and the character of the noise generated on site. Therefore, the noise levels will vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.13.C lists the maximum noise levels for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor.

Typical maximum noise levels range up to 85 dBA L_{max} at 50 ft during the noisiest construction phases. Site preparation, which includes excavation and grading, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes graders, excavators, bulldozers, backhoes and front loaders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require on-site use of front-end loaders, bulldozers, and graders. Noise associated with the use of construction equipment is estimated

to be between 80 and 85 dBA L_{max} at a distance of 50 ft from the active construction area during grading. As shown in Table 4.13.C, the maximum noise level generated by each bulldozer (dozer) is assumed to be approximately 85 dBA L_{max} at 50 ft from the bulldozer. Each front-end loader would generate approximately 80 dBA L_{max} at 50 ft. The maximum noise level generated by each grader is approximately 85 dBA L_{max} at 50 ft from the grader. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. For example, two of the same pieces of construction equipment operating at the same location and generating a noise level of 85 dBA L_{max} at a distance of 50 ft would result in a noise level of 88 dBA L_{max} (85 dBA + 85 dBA = 88 dBA). Therefore, the worst-case composite noise level at a distance of 50 ft from the active construction area would be 89 dBA L_{max} (85 dBA +80 dBA + 85 dBA = 89 dBA).

In general, doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA. The residential uses located approximately 35 ft from the project site may be subject to short-term construction exterior noise levels that may reach up to 92 dBA L_{max}. However, due to the nature of the project site and the limited amount of subsurface disturbance that can occur due to the landfill liner, it is unlikely that three pieces of heavy construction equipment would operate simultaneously. Therefore, this is a very conservative worst-case scenario.

Compliance with the City's Noise Ordinance would ensure that construction noise would limit the disturbance to the residential users during the times they are most likely to be home or during hours when ambient noise levels are likely to be lower (i.e., at night). Although construction noise would be higher than the ambient noise in the project vicinity, construction noise would cease to occur once project construction is complete. Mitigation Measure MM-NOI-1 would limit construction hours and require the implementation of noise-reducing measures during construction. Therefore, compliance with this MM-NOI-1 would ensure that construction activity noise impacts would remain less than significant.

Operational Impacts.

Traffic Noise Impact. Using data from the traffic analysis prepared for the project (LSA 2019), average daily traffic volumes (ADT) were developed to use in this analysis. The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours.

Tables 4.13.D and 4.13.E list the traffic noise levels within the project area under the existing, existing plus project, cumulative, and cumulative plus project conditions. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix C. As previously stated, traffic noise increases less than 3 dBA are considered to be less than significant.

Table 4.13.D: Existing Traffic Noise Levels Without and With Project

	Existing Without Project (Baseline)					Existing With Project						
Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
N Paramount Blvd North of E South St	21,700	< 50	104	221	67.9	21,800	100	< 50	104	222	67.9	0.0
N Paramount Blvd E South St to E 55th Way	22,300	< 50	106	225	68.0	22,900	600	< 50	108	229	68.1	0.1
N Paramount Blvd E 55th Way to Candlewood St	20,400	< 50	100	212	67.6	21,000	600	< 50	102	216	67.8	0.2
N Paramount Blvd South of Candlewood St	18,500	< 50	94	199	67.2	18,600	100	< 50	94	200	67.2	0.0
E South St West of N Paramount Blvd	25,000	< 50	92	196	67.1	25,300	300	< 50	93	197	67.2	0.1
E South St East of N Paramount Blvd	25,300	< 50	93	197	67.2	25,300	0	< 50	93	197	67.2	0.0
E 55th Way West of N Paramount Blvd	400	< 50	< 50	< 50	47.5	400	0	< 50	< 50	< 50	47.5	0.0
Candlewood St West of N Paramount Blvd	16,200	< 50	86	182	66.6	16,400	200	< 50	87	184	66.7	0.1
Candlewood St East of N Paramount Blvd	16,600	< 50	87	185	66.7	16,700	100	< 50	88	186	66.8	0.1

Source: LSA Associates, Inc. (November 2019).
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = foot/feet

Table 4.13.E: Cumulative Year Traffic Noise Levels Without and With Project

	Buildout Year Without Project					Buildout Year With Project						
Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
N Paramount Blvd North of E South St	22,100	< 50	105	224	68.0	22,100	0	< 50	105	224	68.0	0.0
N Paramount Blvd E South St to E 55th Way	22,700	< 50	107	228	68.1	23,300	600	< 50	109	232	68.2	0.1
N Paramount Blvd E 55th Way to Candlewood St	20,700	< 50	101	214	67.7	21,300	600	< 50	103	219	67.8	0.1
N Paramount Blvd South of Candlewood St	18,900	< 50	95	202	67.3	19,000	100	< 50	95	203	67.3	0.0
E South St West of N Paramount Blvd	25,400	< 50	93	198	67.2	25,700	300	< 50	94	199	67.2	0.0
E South St East of N Paramount Blvd	25,700	< 50	94	199	67.2	25,700	0	< 50	94	199	67.2	0.0
E 55th Way West of N Paramount Blvd	410	< 50	< 50	< 50	47.6	410	0	< 50	< 50	< 50	47.6	0.0
Candlewood St West of N Paramount Blvd	16,500	< 50	87	185	66.7	16,600	100	< 50	87	185	66.7	0.0
Candlewood St East of N Paramount Blvd	16,900	< 50	89	188	66.8	17,000	100	< 50	89	188	66.8	0.0

Source: LSA Associates, Inc. (November 2019).
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = foot/feet

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Because project-related traffic noise levels in study area would increase by 0.0 to 0.2 dBA CNEL, all of the traffic noise level increases within the project area are considered to be less than significant.

Park Operations. The proposed project would include operation of a parking area and one soccer field The project would not include a Public Address system or other amplified noise sources. Therefore, because the proposed project would not include noise sources specified in the Municipal Noise Ordinance (Section 8.80-20), any excessive noise generated by park users would be considered a disturbance of the peace, enforceable by the Long Beach Police Department. The primary noise-generating activities on-site would be associated with the proposed soccer fields and a parking area, cheering fans, referee whistles, and other soccer-related noise.

Soccer Field Noise. The proposed project contains a soccer field with associated bleachers. To determine predicted noise levels associated with operations of the proposed project, LSA assumed a total of 40 spectators at the soccer field during a typical hour over an 8-hour time period. This is considered a worst-case analysis as there are no organized sports leagues (such as AYSO) anticipated to use the soccer field. Calculations for the proposed project include 10 men and 10 women located at the bleachers on the north and south side of the proposed soccer field (refer to the Source Location Map with Receptor Locations in Appendix C).

Based on the average A-weighted sound level of speech for different vocal efforts under quiet conditions at a distance of 3 ft in a free field, male shouting would result in 88 dBA while female shouting is 82 dBA at a distance of 3 ft.[1] These are maximum sound pressure levels (L_{max}) measured at 3 ft from the person. In acoustics, every doubling of an equal sound energy would result in a 3 dBA increase in combined noise level. Therefore, ten males shouting at the same time (the worst-case scenario is to have them reaching the peak level at the same time) would result in 98 dBA L_{max} at 3 ft, and ten females shouting would result in 92 dBA L_{max}. The combined level from both males and females shouting would be 99 dBA L_{max} at 3 ft. Similarly, ten males with loud voices at the same would result in 97 dBA L_{max} at 3 ft, and ten females shouting would result in 91 dBA L_{max}. The combined level from both males and females shouting would be 98 dBA L_{max} at 3 ft. Lastly, ten males and ten females with raised voices at the same time would result in a combined level from both males and females of 90 dBA L_{max} at 3 ft.

Utilizing this reference information, an average hourly noise levels including five minutes of shouting, ten minutes of loud voices, and forty-five minutes of raised voices would equate to 93.9 dBA L_{eq} at a distance of 3 ft from each bleacher set. Because there would be no lighting at the soccer field, it is assumed that these activities would only occur during daytime hours. On a typical busy day, assumed to be a weekend day, the daily noise level generated by each bleacher set would be 89.1 dBA CNEL at a distance of 3 ft. Table 4.13.F presented a summary of the overall impacts to the surrounding receptors.

[1] Levitt, Harry and John C. Webster, 1991. *Handbook of Acoustical Measurements and Noise Control.* Third Edition, edited by Cyril M Harris.

Table 4.13.F: Summary of Noise Impacts from Bleachers (dBA CNEL)

Receptor	Reference Noise Level at 3 ft (dBA CNEL)	North Bleachers (S1)		South Bleachers (S2)		Combined Daily Noise Level (dBA CNEL)
		Distance (ft)	Noise Level (dBA CNEL)	Distance (ft)	Noise Level (dBA CNEL)	
R-1	89.1	135	56.1	375	47.2	56.6
R-2		330	48.3	90	59.6	59.9
R-3		415	46.3	435	45.9	49.1

Source: LSA Associates, Inc. (November 2019).
dBA = A-weighted decibel
CNEL = Community Noise Equivalent Level
ft = foot/feet

Based on these assumptions, community noise levels for the proposed project would be 49.1 dBA CNEL to 59.9 dBA CNEL. These projected noise levels would be comparable to the traffic noise levels generated by North Paramount Boulevard at R-1 and R-2, while traffic would be significantly higher at R-3. Noise levels would also be within the normally acceptable noise environment for residential uses. Therefore, the project is not expected to result in a substantial increase in average ambient noise levels in the project vicinity above levels without the project. Calculation details are shown in Appendix C.

Parking Area Activity. Representative parking activities, such as people conversing or doors slamming, would generate approximately 60 dBA L_{max} at 50 ft. This level of noise is lower than that of soccer field activities and would be lower than traffic noise adjacent to the parking lot. Although not anticipated, any excessive noise associated with the parking area would be regulated as a disturbance of the peace and enforced by the City of Long Beach Police Department. Therefore, no mitigation measures are required.

Mitigation Measures: The following mitigation measure is applicable to the proposed project and shall be incorporated to ensure that the project-related construction noise would remain less than significant.

MM-NOI-1 **Construction Noise.** Prior to issuance of building permits, the City of Long Beach (City), or its designee, (or its contractor), shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City Municipal Code, which states that construction activities shall occur only between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and federal holidays, and from 9:00 a.m. to 6:00 p.m. on Saturdays. No outdoor noise-generating construction activity is allowed on Sundays.

- During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project area.
- Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction.

Land Use Compatibility

The project site is surrounded by residential uses to the north and south, the existing Davenport Park to the east and North Paramount Boulevard to the west. Traffic noise levels on the project site are primarily from North Paramount Boulevard and would range from 68 dBA CNEL to 46 dBA CNEL, calculated at 50 ft and 650 ft from the boulevard's centerline. These traffic noise levels would be considered *normally acceptable* for the proposed land uses as established by the California Office of Planning and Research.[1] Therefore, the project would not result in the exposure of persons to noise levels in excess of established standards. No mitigation is required.

(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Temporary Impacts. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings near an active construction area may experience these vibrations, which range from imperceptible, low rumbling sounds to perceptible vibrations to, in extreme cases, noticeable vibration levels. Typically, construction-related vibration does not reach vibration levels that would result in damage to nearby structures.

The Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013) shows that the vibration damage threshold for continuous/frequent intermittent sources is 0.10 peak-particle velocity (PPV) (inches per second [in/sec]) for fragile buildings, 0.25 PPV (in/sec) for historic and some old buildings, 0.3 PPV (in/sec) for older residential structures, and 0.5 PPV for new residential structures. The manual shows the vibration annoyance potential criteria to be barely perceptible at 0.01 PPV (in/sec), distinctly perceptible at 0.04 PPV (in/sec), and strongly perceptible at 0.10 PPV (in/sec) for continuous/frequent intermittent sources. These thresholds were used to evaluate the potential for short-term, construction-related, ground-borne vibration impacts during construction of the proposed project.

Bulldozers and trucks used for construction of the proposed project would generate the highest ground-borne vibration levels. Based on the Caltrans *Transportation and Construction Vibration*

[1] State of California Governor's Office of Planning and Research, 2003. *General Plan Guidelines*. October.

Guidance Manual, a large bulldozer and loaded trucks would generate vibration levels of 0.089 PPV (in/sec) and 0.076 PPV (in/sec), respectively, when measured at 25 ft. Other construction equipment and activities would generate vibration levels much lower than those of bulldozers and loaded trucks and would, therefore, result in lower vibration levels. Based on the worst-case condition, the closest structures from the project boundary (the mobile homes located approximately 35 ft to the south of the project site), would experience vibration levels of up to 0.054 PPV (in/sec). This vibration level would be distinctly perceptible when construction occurs within 10 ft of the project boundary and would well below the damage threshold for new and older residential buildings. Impacts are therefore considered less than significant.

Short-term construction impacts related to ground-borne vibration or ground-borne noise would be temporary in nature and would cease upon construction. No mitigation is required.

Operational Impacts. Due to the proposed nature of the park expansion project, operation of the proposed project would not generate ground-borne noise or vibration. Therefore, no operational ground-borne noise and ground-borne vibration impacts would occur, and no mitigation is required.

(c) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not within an airport land use plan. The closest airport to the project site is the Long Beach Municipal Airport, which is located approximately 2.04 miles south from the project site. Furthermore, the proposed project would be located outside of the 65 dBA impact zone associated with the Long Beach Municipal Airport. Therefore, people visiting the park would not be exposed to excessive noise levels generated by the airport, and no impacts would occur.

4.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis:

(a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed project would redevelop the vacant project site with a new park use. The proposed project does not include the construction of any new residences or businesses and is intended for use by the existing population. Therefore, the proposed project would not affect the location, distribution, density, or growth rate of populations within the project vicinity. Further, the proposed project would not create employment opportunities that could induce population growth. Therefore, no impacts related to substantial unplanned population growth would occur, and no mitigation is required.

(b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would redevelop the vacant project site with a new park use. There is no housing currently present on the project site. Consequently, housing displacement would not occur as a result of project implementation. Therefore, the proposed project would not result in an impact to the displacement existing people or housing necessitating the construction of replacement housing elsewhere, and no mitigation is required.

4.15 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
(i) Fire Protection?	☐	☐	☒	☐
(ii) Police Protection?	☐	☐	☒	☐
(iii) Schools?	☐	☐	☐	☒
(iv) Parks?	☐	☐	☒	☐
(v) Other public facilities?	☐	☐	☒	☐

Impact Analysis:

(a) (i) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Less Than Significant Impact. Fire protection services would be provided to the proposed project by the Long Beach Fire Department (LBFD). The LBFD provides fire protection, emergency medical and rescue services, hazardous inspection and response, and public education activities to the City's residents and visitors. Currently, the LBFD has a total of 25 stations in the City.[1] The closest fire stations to the project site are Fire Station No. 12, located at 1199 East Artesia Boulevard (approximately 1.6 miles northwest of the site), and Fire Station No. 11, located at 160 East Market Street (approximately 1.9 miles east of the site). Currently, LBFD has 527 full-time equivalent uniformed and civilian personnel budgeted.[2]

The LBFD is divided into four primary bureaus: Operations, Fire Prevention, Support Services, and Administration. The Fire Prevention Bureau is responsible for preventing fires, fire code enforcement, plan check, investigations and arson prosecution, records management, and community services and education.[3] The Support Service Bureau consists of the Emergency Medical Services Division and Training Division, and also oversees information technology,

1 Long Beach Fire Department (LBFD). Station Locations. Website: http://www.longbeach.gov/fire/station-locations/ (accessed October 31, 2019).
2 LBFD. Welcome. Website: http://www.longbeach.gov/fire/ (accessed October 31, 2019).
3 LBFD. Fire Prevention Bureau. Website: http://www.longbeach.gov/fire/fire-prevention/ (accessed October 31, 2019).

communications, fire fleet, and apparatus management.[1] The Operations Bureau is responsible for managing the following: daily field operations in Districts 1, 2, and 3, including fire suppression, personnel management, and fire/non-fire response activities; Special Operations, which consists of Airport, Port, Fireboats, Urban Search and Rescue, Hazardous Materials, Strike Team/Mutual Aid, and Terrorism/Weapons of Mass Destruction Operations; and the Marine Safety and Lifeguard Division, which is responsible for ensuring the safe and lawful use of beaches, oceanfront property, waterways, and marinas in the City.[2] Lastly, the Administration Bureau is responsible for the fiscal management of the LBFD.[3]

According to the City's 2020 Adopted Budget, in Fiscal Year 2019, the LBFD responded to over 72,000 calls related to fire, marine safety, and other emergency incidents. Typically, approximately 85 percent are related to medical emergencies, which equaled an estimated 50,581 emergency responses. The LBFD's current response time goal is no more than 6 minutes, 20 seconds, or less, 90 percent of the time for firefighting and emergency services. However, the actual response rate within the response time goal was projected to be 86 percent. As such, the LBFD is not currently meeting its current response time goals. As discussed in Section 4.17, Transportation/Traffic, the proposed project would not result in a substantial increase in traffic congestion or significant impacts at local intersections that would delay emergency vehicles.

Although the project site is located within a Critical Fire Zone[4] according to the Fire Hazards Area Map in the City's General Plan Public Safety Element (1975), the site is not located within a Special Fire Protection Area or Fire Hazard Severity Zone on the Statewide CALFire Map for the Los Angeles Region.[5]

Emergency access to the project site would be provided by East 55th Way via North Paramount Boulevard. In addition, the proposed project would comply with all Fire Code requirements and the proposed site plan would require approval by the LBFD prior to project implementation. The proposed project would not impair emergency response vehicles, increase times response times, and would not substantially increase calls for service. As such, the response profile for the area would not be significantly impacted in terms of service delivery, staffing requirements, facilities, and equipment following project implementation.

Although the proposed project would expand the existing Davenport Park, the project is intended to serve the existing population in the project vicinity and would not significantly increase visitors to the site. Consequently, LBFD would be able to maintain current levels of

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1 LBFD Support Services Bureau. Website: http://www.longbeach.gov/fire/support-services/support-services/ (accessed October 31, 2019).

2 LBFD Operation Bureau. Website: http://www.longbeach.gov/fire/operations/ (accessed October 31, 2019).

3 LBFD Administration Bureau. Website: http://www.longbeach.gov/fire/about-us/administration/ (accessed October 31, 2019).

4 Critical Fire Zones are defined in the Public Safety Element of the City's General Plan as areas with high-rise development, shopping centers, hospitals, dense hazard concentrations (tenements), public assembly uses, hazardous industrial activities, storage warehouses, and inaccessible properties.

5 California Department of Forestry and Fire Protection (CALFire). Website: https://osfm.fire.ca.gov/media/5830/los_angeles.pdf (accessed October 31, 2019).

service provided to the project site and project vicinity following project implementation. Therefore, the proposed project would result in less than significant impacts to fire protection services and would not necessitate new fire protection facilities. No mitigation would be required.

(a) (ii) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Less Than Significant Impact. Police protection and law enforcement services are provided to the City by the Long Beach Police Department (LBPD). The LBPD Patrol Bureau is currently divided into three primary geographical areas — the East, West, and North Divisions.[1] Although the East Division's substation serves as the headquarters for the LBPD, the project site is serviced by the North Division located at 4891 Atlantic Avenue, approximately 1.7 miles southwest of the site.

According to the City's 2020 Adopted Budget, in Fiscal Year 2019, officer responses to calls for service were projected to be approximately 608,163, which is slightly lower than in previous years. In addition, the LBPD responded to Priority 1 calls (related to life-threatening emergencies) with an average response time of 4.3 minutes. The LBFD's current response time goal is no more than 5.0 minutes. As such, the LBPD is currently meeting its current response time goals.

Although the proposed project would expand the existing Davenport Park, the project is intended to serve the existing population in the project vicinity and would not significantly increase visitors to the site. Consequently, LBFD would be able to maintain current levels of service provided to the project site following project implementation. Therefore, the proposed project would result in less than significant impacts to policing demand and would not necessitate the need for new police facilities. No mitigation is required.

(a) (iii) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

No Impact. The City is served by the Long Beach Unified School District (LBUSD). Approximately 71,800 students from preschool to high school are currently enrolled in one of LBUSD's 85 public schools. The LBUSD currently operates schools located within the City of Long Beach, as well as schools located in the Cities of Lakewood, Signal Hill, and Avalon (on Catalina Island). More than

[1] Long Beach Police Department (LBPD). Patrol Bureau. Website: http://www.longbeach.gov/police/about-the-lbpd/bureaus/patrol-bureau/ (accessed October 31, 2019).

12,000 full-time and part-time employees work at the school district, making it the largest employer in Long Beach.[1]

The proposed project does not include any residential uses or business uses that would increase population growth, generate an increased demand for school facilities, or require the construction of school facilities. Therefore, there would be no impact on school services and facilities as a result of project implementation. No mitigation is required.

(a) (iv) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

Less Than Significant Impact. The Long Beach Parks, Recreation and Marine Department (LBPRM) oversees the operation and maintenance of public recreational facilities within the City, including parks, community centers, marinas, golf courses, and swimming pools. LBPRM is comprised of five bureaus: Animal Care Services, Business Operations, Community Recreation Services, Marine, and Maintenance Operations.[2]

According to the Open Space and Recreation Element (2002), the City has established a recreation open space standard of 8 acres per 1,000 residents. In addition, the City's Draft General Plan Land Use Element (2019) states that the City has over 100 parks and more than 2,750 acres of recreational space provided for a population of 466,255. Thus, the City's parkland-to-resident ratio is approximately 5.9 acres per 1,000 residents, and therefore, does not meet the City's established standards. The proposed project includes the development of a new neighborhood park with a sports field, skate park, fitness stations, shaded picnic/gathering area, walking paths, passive open space, and parking. Consequently, project implementation would have a positive impact on the City's existing park acreage and would help the City in meeting established standards. Therefore, the proposed project would not result in less than significant impacts associated with park facilities in the City. No mitigation is required.

(a) (v) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?

Less Than Significant Impact. The Long Beach Public Library (LBPL) system is comprised of the Main Library and 11 branches, which collectively house hundreds of thousands of titles comprised of digital content, collections of books, movies, music, audiobooks, and magazines.[3] The Michelle Obama Neighborhood Library was constructed in 2016 and is located at 5870

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1 Long Beach Unified School District (LBUSD). About. Website: http://www.lbusd.k12.ca.us/District/ (accessed October 31, 2019).

2 Long Beach Parks, Recreation, and Marine Department (LBPRM). About the Department. Website: http://www.longbeach.gov/park/business-operations/about/about/ (accessed October 31, 2019).

3 Long Beach Public Library (LBPL). About LBPL. Website: http://www.longbeach.gov/library/visit/about-us/ (accessed October 31, 2019).

Atlantic Avenue, approximately 1.5 miles west of the project site. Amenities include a Family Learning Center, public community meeting spaces, quiet study rooms, public-use computers, free Wi-Fi, printing services, and a community garden.[1] Due to its proximity, the Michelle Obama Neighborhood Library would be the primary facility that would service the project site.

The proposed project would not develop the site with any residential uses and as such, would not result in population growth that would generate an increased demand for public facilities such as libraries. While it is possible that visitors to the project site may be drawn to local library facilities when in the area, the users are anticipated to be existing residents, and the impact would not significantly affect LBPL system performance and would not require the expansion of libraries within the City. Therefore, the proposed project would have a less than significant impact on other public facilities (e.g., libraries, City staff). No mitigation is required.

[1] LBPL. Michelle Obama Neighborhood Library. Website: http://www.longbeach.gov/library/locations/mobama/ (accessed October 31, 2019).

4.16 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. The proposed project involves the expansion of the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. Davenport Park is located directly east of and adjacent to the project site. According to the City's Draft General Plan Urban Design Element (2019), the City has over 100 parks and more than 2,750 acres of recreational space. The City's existing General Plan Land Use Element (LUE) (adopted 1989; revised in 1997 and 2019) states that the neighborhood surrounding the project site (identified as Cherry Manor) lacks convenient recreation spaces.

The proposed project includes an approximately 6-acre park expansion consisting of a sports field, bleachers, fitness equipment pads, a skate park, shaded picnic/gathering area, and 31 diagonal parking spaces along the northern boundary of the site. The purpose of the proposed project is to redevelop an existing vacant site with a new park use that would provide additional recreational amenities to the City's community members. Although the development of the proposed park may result in increased use of the existing Davenport Park, the addition of park amenities, landscaping, and street improvements included as part of the project would improve the overall character of the project site and the surrounding area. As such, project implementation is not anticipated to result in the physical deterioration of the existing Davenport Park or the project site as a result of an increase in visitors. Further, as described in Section 4.14, Population and Housing, the proposed project would not develop the site with residential or business uses that would increase population or employment growth that could result in the accelerated use of existing recreational facilities within the project vicinity. Therefore, the proposed project would result in less than significant impacts related to the increased use and subsequent deterioration of recreational facilities, and no mitigation is required.

(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact. There is no identifiable physical impact to the environment that is unique to recreational resources. As presented in this IS/MND, potential project-related impacts are either less than significant or less than significant with mitigation incorporated. Mitigation has been proposed for impacts related to stormwater runoff (refer to MM-WQ-1 in Section 4.10, Hydrology and Water Quality). Additionally, mitigation has been proposed for impacts related to construction noise (refer to MM-NOI-1 in Section 4.13, Noise). With implementation of Mitigation Measures MM-WQ-1 and MM-NOI-1, all potentially significant impacts would be reduced to a less than significant level.

The proposed project is itself a recreational facility and would not require the construction or expansion of other recreational facilities that may have adverse physical effects, and no mitigation is required.

4.17 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Conflict with a plan, ordnance, or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?	☐	☐	☒	☐
(b) For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?	☐	☐	☐	☒
(c) For a transportation project, would the project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(2)?	☐	☐	☐	☒
(d) Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
(e) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion:

This section analyzes the transportation impacts that may result due to development of the proposed project. The analysis contained in this section is based on the *Traffic Impact Analysis* (TIA) prepared for the project (LSA 2019) (Appendix D).

Impact Analysis:

(a) Would the project conflict with a plan, ordnance, or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?

Less Than Significant Impact. The project proposes to expand the existing 5.5-acre Davenport Park facilities by approximately 6 additional acres directly west of the existing park. The park expansion includes the construction of a soccer field, skate park, and the addition of 31 diagonal surface parking spaces along the south side of East 55th Way. The proposed project would also provide a school bus drop-off area in an existing roundabout within the surface parking lot, which would eliminate 11 existing parking spaces. Vehicular access to the existing park and future expansion is provided via the right-in/right-out intersection of Paramount Boulevard/East 55th Way (North). Pedestrian access and circulation are provided around the perimeter of the park.

As discussed in the TIA, project a.m. and p.m. peak-hour trips were generated using trip rates referenced in the San Diego Association of Governments (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (2002), the Long Beach Sports Park Environmental Impact Report (EIR) (LSA 2004), and the Center Avenue Skate Park Study (Austin-Foust Associates 2011). The SANDAG trip generation rates for the park use were utilized as they

provide trip-generating characteristics more customized to Southern California and the project area.

Since use of the entire park would likely occur concurrently with the soccer field and the skate park, the project trip generation includes the entire park (both the existing and expansion portions), the soccer field, and the skate park in an effort to provide a conservative, worst-case assessment. According to the TIA, the project is forecast to generate a total of 14 trips in the a.m. peak hour (11 inbound and 3 outbound) and 79 trips in the p.m. peak hour (37 inbound and 42 outbound), and 418 average daily trips (ADT). The existing park generates a total of 11 trips in the a.m. peak hour (9 inbound and 2 outbound), 22 trips in the p.m. peak hour (9 inbound and 13 outbound), and 275 ADT. With the proposed expansion, Davenport Park is anticipated to generate a total of 25 trips in the a.m. peak hour (20 inbound and 5 outbound), 101 trips in the p.m. peak hour (46 inbound and 55 outbound), and 693 ADT. Table 4.17.A shows the trips generated by the proposed project.

Table 4.17.A: Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates									
City Park	-	acre	50.00	1.60	0.40	2.00	1.60	2.40	4.00
Soccer Field	-	field	72.00	-	-	-	24.00	24.00	48.00
Skate Park	-	TSF	9.10	0.16	0.14	0.30	0.63	0.73	1.36
Existing Trip Generation									
City Park	5.5	acre	275	9	2	11	9	13	22
Project Trip Generation									
City Park	6.0	acre	300	10	2	12	10	14	24
Soccer Field	1	field	72	-	-	-	24	24	48
Skate Park	5.0	TSF	46	1	1	2	3	4	7
Total Project Trip Generation			418	11	3	14	37	42	79
Existing Plus Project Trip Generation									
City Park	11.5	acre	575	19	4	23	19	27	46
Soccer Field	1	field	72	-	-	-	24	24	48
Skate Park	5.0	TSF	46	1	1	2	3	4	7
Total Trip Generation			**693**	**20**	**5**	**25**	**46**	**55**	**101**

Source: *Traffic Impact Analysis* (LSA 2019)
ADT = average daily trips
TSF = thousand square feet

The TIA analyzed the a.m. and p.m. peak-hour LOS at four intersections for existing conditions with and without the project. In addition, construction activities associated with the project were evaluated. The study area assessed in the TIA includes the following intersections:

1. Paramount Boulevard/South Street
2. Paramount Boulevard/East 55th Way (North)
3. Paramount Boulevard/East 55th Way (South)
4. Paramount Boulevard/Candlewood Street

The City considers Level of Service (LOS) D as the upper limit of satisfactory operations for total intersection operation. Mitigation is required for any signalized intersection where a project's traffic causes an increase in volume-to-capacity ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition. Table 4.17.B shows the LOS summary for the existing baseline and plus project conditions.

Table 4.17.B: Existing Baseline and Plus Project Level of Service Summary

Intersection		Existing			
		AM Peak Hour		PM Peak Hour	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1	**Paramount Boulevard/South Street (Signal)**				
	Baseline ICU	0.689	B	0.933	E
	Plus Project ICU	0.689	B	0.952	E
	Δ	0.000		0.019	
2	**Paramount Boulevard/East 55th Way (North—Stop Control)**				
	Baseline Delay (HCM)	11.3	B	13.2	B
	Plus Project Delay (HCM)	11.4	B	14.1	B
	Δ	0.1		0.9	
3	**Paramount Boulevard/East 55th Way (South—Signal)**				
	Baseline ICU	0.388	A	0.484	A
	Plus Project ICU	0.401	A	0.568	A
	Δ	0.013		0.084	
4	**Paramount Boulevard/Candlewood Street (Signal)**				
	Baseline ICU	0.662	B	0.815	D
	Plus Project ICU	0.666	B	0.844	D
	Δ	0.004		0.029	

Δ = change in V/C Ratio or Delay (reported in seconds)
HCM = *Highway Capacity Manual*
ICU = Intersection Capacity Utilization
LOS = level of service
V/C = volume to capacity

As shown in Table 4.17.B, in the existing baseline conditions, all intersections operate at satisfactory LOS (LOS D or better), with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour. In the existing plus project conditions, all study area intersections would operate at satisfactory LOS (LOS D or better) with the proposed project, with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour. However, the addition of project traffic would not increase in volume-to-capacity ratio of 0.02 or greater at the Paramount Boulevard/South Street (LOS E) intersection,

which would not exceed the City's level-of-significance threshold. During project construction, all study area intersections would operate at satisfactory LOS (LOS D or better) with the project, with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour, but construction-related traffic would not exceed the City's level-of-significance threshold.

The maximum impact possible from the proposed project is lower than the City's level-of-significance threshold. Therefore, the proposed project would result in a less than significant impact related to conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. No mitigation is required.

(b) For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

No Impact. Section 15064.3 of the *State CEQA Guidelines* codifies that project-related transportation impacts are typically best measured by evaluating the project's vehicle miles travelled (VMT). Specifically, subdivision (b) focuses on specific criteria related to transportation analysis and is divided into four subdivisions: (1) land use projects, (2) transportation projects, (3), qualitative analysis, and (4) methodology. Subdivision (b)(1) provides guidance on determining the significance of transportation impacts of land use projects using VMT; projects located within 0.5 mile of high-quality transit area (HQTA) should be considered to have a less than significant impact. Subdivision (b)(2) addresses VMT associated with transportation projects and states that projects that reduce VMT, such as pedestrian, bicycle, and transit projects, should be presumed to have a less than significant impact. Subdivision (b)(3) acknowledges that Lead Agencies may not be able to quantitatively estimate VMT for every project type; in these cases, a qualitative analysis may be used. Subdivision (b)(4) stipulates that Lead Agencies have the discretion to formulate a methodology that would appropriately analyze a project's VMT. Subdivision (c) provides that a lead agency may decide to be governed by the above provisions immediately; otherwise, Section 15064.3 would apply as of July 1, 2020. The City has not adopted VMT thresholds. Therefore, because this project is proceeding prior to the July 1, 2020 date, the City is not yet required to analyze projects under *State CEQA Guidelines* Section 15064.3. Accordingly, LOS, not VMT analysis, was applied to this project to determine whether the proposed project would have a significant transportation impact. Therefore, there would be no impacts under Threshold 4.17(b). No mitigation is required.

(c) For a transportation project, would the project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(2)?

No Impact. The proposed project involves the expansion of the existing Davenport Park and is not considered a transportation project. Therefore, Threshold 4.17(c) is not applicable to the proposed project, and there would be no impacts. No mitigation is required.

(d) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The proposed project involves the expansion of the existing Davenport Park. Vehicular access to the existing park and future expansion is provided via the existing right-in/right-out intersection of Paramount Boulevard/East 55th Way (North). Pedestrian access and circulation are provided around the perimeter of the park. The proposed project would not result in hazards due to a design feature (e.g., sharp curves or dangerous intersections) because no changes to the circulation system are proposed as part of the project. Additionally, since the project is an expansion of an existing park, it is representative of a park use that is currently operating in the vicinity of the site and is compatible with surrounding land uses. As such, the proposed project would not result in hazards due to incompatible uses (e.g., farm equipment). Therefore, the proposed project would result in a less than significant impact related to hazards associated with a design feature or incompatible uses, and no mitigation is required.

(e) Would the project result in inadequate emergency access?

Less Than Significant Impact. Emergency access to the project site would be provided by East 55th Way via North Paramount Boulevard. The proposed project would comply with all Fire Code requirements, and the proposed site plan would require approval by the LBFD prior to project implementation. As discussed in Section 4.15, Public Services, the proposed project would not impair emergency response vehicles, increase times response times, and would not substantially increase calls for service. Therefore, approval of the project plans would ensure that the proposed project's impact related to emergency access would be less than significant, and no mitigation is required.

4.18 TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Impact Analysis:

(a) (i) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less Than Significant Impact. The project would be required to comply with AB 52 regarding tribal consultation**.** Chapter 532, Statutes of 2014 (i.e., AB 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register or included in a local register of historical resources (PRC Section 21074). AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource falling outside the definition stated above nonetheless qualifies as a "tribal cultural resource."

Also, per AB 52 (specifically, PRC Section 21080.3.1), as Lead Agency, the City must consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project and have previously requested that the Lead Agency provide them with notice of such projects.

As discussed in Section 4.5, Cultural Resources, Response 4.5(a), the project site does not contain any buildings or structures that meet any of the California Register criteria or qualify as "historical resources" as defined by CEQA. Further, the project site is not designated as a historical/archaeological landmark by the City or the County. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the *State CEQA Guidelines* or PRC Section 5020.1(k).

The City sent letters for the purposes of AB 52 consultation to the following representatives on October 28, 2019:

- Andrew Salas – Gabrieleno Band of Mission Indians – Kizh Nation
- Joseph Ontiveros – Soboba Band of Luiseno Indians
- Anthony Morales-Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Michael Mirelez – Torres Martinez Desert Cahuilla Indians
- Sandonne Goad – Gabrieleno/Tonga Nation
- Robert Dorame – Gabrieleno Tongva Indians of California Tribal Council
- Linda Candelaria – Gabrielino-Tongva Tribe
- Charles Alvarez – Gabrielino-Tongva Tribe

The letters (provided in Appendix E of this IS/MND) provide each tribe with the opportunity to request consultation with the City regarding the project. In compliance with AB 52, tribes have 30 days from the date of receipt of notification to request consultation on the project. Information provided through tribal consultation will inform the assessment as to whether the tribes believe any tribal cultural resources are present on the project site.

Due to the prior use of the project site as a landfill, it is highly unlikely that tribal cultural resources are present. In addition, project construction would not extend further than approximately 2 ft and would not disturb native soils. Therefore, no impacts to tribal cultural resources are expected. However, as stated above, tribal consultation is ongoing as part of the CEQA process in compliance with AB 52. In the event that tribal cultural resources are identified during the tribal consultation process, the City will work with the tribes to address their concerns. Impacts related to tribal cultural resources would be less than significant, and no mitigation is required.

(a) (ii) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact. See Response 4.18(a), above. In compliance with AB 52, tribal consultation has been initiated as part of the CEQA process. Information provided through tribal

consultation will inform the assessment as to whether the tribes believe any tribal cultural resources are present and the significance of any potential impacts to such resources. Therefore, in the event that tribal cultural resources are identified during the tribal consultation process, the City will work with the tribes to address their concerns. Impacts related to tribal cultural resources would be less than significant, and no mitigation is required.

4.19 UTILITIES/SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
(b) Have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry and multiple dry years?	☐	☐	☒	☐
(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
(e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis:

(a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant with Mitigation Incorporated.

Water. Delivery of domestic water service in the City is provided by the Long Beach Water Department (LBWD). The City's two primary sources of water supply are groundwater and imported water. Nearly half of the City's water supply is met due to groundwater wells located throughout and owned by the City. The LBWD pumps groundwater through 29 active wells throughout the service area; the extracted groundwater water is then exported through to the Long Beach Groundwater Treatment Plant, the largest groundwater treatment plant in the

United States.[1] The other half of the City's water is comprised of treated surface water purchased from the Metropolitan Water District of Southern California (MWD). This surface water originates from the Colorado River, via the 242-mile Colorado River Aqueduct and Northern California's Bay-Delta region, via the 441-mile California Aqueduct.[2] Additionally, reclaimed water is treated at the Long Beach Water Reclamation Plant (WRP) and is used for the irrigation of schools, golf courses, parks, and greenbelts. The Long Beach WRP has a treatment capacity of up to 25 million gallons per day (mgd) of wastewater.[3]

The City's water supply system provides reliable service to a population of nearly half a million people within the service area. According to the City's 2015 Urban Water Management Plan (UWMP), the total projected water demand for the retail customers served by the City is approximately 55,206 acre-feet (af) annually. The City consumed approximately 59,542 af in 2015, and the projected water demand for 2020 is 59,106 af per year. According to the 2015 UWMP, the City's water supplies are projected to meet full service demands due to projected increases in efficiency and water conservation.

The proposed project includes the development of a park use and does not include any on-site buildings or habitable structures that would result in a demand for potable water or water facilities. There are no restrooms or other building facilities included in the expansion area that would require water. However, the project site would be covered by large grassy and landscaped areas that would require a new irrigation system on the project site, even with the proposed drought tolerate plants that are proposed surrounding the sports field. Because the proposed park uses are consistent with the General Plan, any demand for water has been accounted for in the City's UWMP, which relies on existing and projected land uses to determine future water demands. In addition, the project site was previously developed with industrial uses that included a demand for water. As such, the increased water demand associated with the proposed park is anticipated to be minimal compared to the overall water demand in the City. Further, the City's water supplies are projected to meet future demands due to projected increases in efficiency and water conservation. Therefore, implementation of the proposed project would not require or result in the construction of new or expanded water treatment facilities. Increased water demand is therefore considered less than significant and no mitigation is required.

Wastewater. The LBWD operates and maintains approximately 765 miles of sanitary sewer lines in the City. Sanitation Districts of Los Angeles County (LACSD) is the primary agency responsible for treatment operations once the wastewater passes through the City's system. The LBWD delivers over 40 million gpd of wastewater to LACSD facilities for treatment.[4]

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1 Long Beach Water Department (LBWD). *2015 Urban Water Management Plan* (UWMP). Website: https://lbwater.org/wp-content/uploads/2019/09/LBWD-2015-UWMP-FINAL-Board-Adopted-3.pdf (accessed October 31, 2019).

2 LBWD. Sources of Water. Website: http://www.lbwater.org/sources-water (accessed October 31, 2019).

3 LBWD. *2015 Urban Water Management Plan* (UWMP). Website: https://lbwater.org/wp-content/uploads/2019/09/LBWD-2015-UWMP-FINAL-Board-Adopted-3.pdf (accessed October 31, 2019).

4 LBWD. Sewer. Website: https://lbwater.org/customer-services/sewer/ (accessed October 31, 2019).

LACSD is responsible for the collection, treatment, and disposal of domestic, commercial, and industrial wastewater generated by over 5.6 million people living and working in Los Angeles County. The majority of wastewater generated in the City is treated at LACSD's Joint Water Pollution Control Plant (JWPCP) in Carson; treated wastewater is discharged into the Pacific Ocean. The remaining portion of the City's wastewater is delivered to the WRP, located at 7400 E. Willow Street in Long Beach. Treated wastewater from the WRP is used to irrigate various forms of landscape and recharge the groundwater basin. LACSD facilities would receive wastewater generated from the proposed project.

The proposed project includes the development of a park use and does not include any on-site buildings or facilities (such as restrooms) that would result in a demand for wastewater or related facilities. Therefore, the proposed project is not anticipated to generate wastewater during either construction or operation. Furthermore, implementation of the proposed project would not require or result in the construction of new or expanded wastewater treatment facilities. Increased wastewater demand is therefore considered less than significant, and no mitigation is required.

Stormwater Drainage Facilities. The Stormwater/Environmental Compliance Division of the City's Public Works Department is responsible for overall management of stormwater quality issues within Long Beach. The City is subject to the requirements of the *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (City of Long Beach MS4 Permit), Order No. R4-2014-0024, NPDES No. CAS004003. Pursuant to the requirements of City of Long Beach MS4 Permit, the proposed project qualifies as a "New Development Project or Redevelopment Project." New Development Projects that disturb greater than 1 acre and increase impervious surface area by more than 10,000 sf (approximately 0.23 acre) and Redevelopment Projects that create, add, or replace 5,000 sf (approximately 0.115 acre) are required to implement post-construction controls to mitigate stormwater pollution and prepare a Low Impact Development Plan or equivalent, in compliance with the *City of Long Beach Low Impact Development (LID) Best Management Practices (BMP) Design Manual* (February 2013; revised December 2013), as outlined in the City of Long Beach Municipal Code Chapter 18.74, Low Impact Development Standards. The proposed BMPs would capture, infiltrate, and treat stormwater runoff to remove pollutants of concern. As discussed in Section 4.10, Hydrology and Water Quality, RCM-WQ-2 requires preparation of a Final LID Plan prior to the issuance of grading permits. In addition, as specified in MM-WQ-1 a Final Hydrology Study would be prepared based on final project plans and would be approved by the City. The Hydrology Study would confirm that sufficient capacity in the downstream drain systems is available to accommodate any increase in storm runoff from the project site. Further, the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities beyond the on-site improvements included as part of the proposed project. Therefore, impacts to stormwater drainage facilities would be less than significant with the incorporation of RCM-WQ-2 and MM-WQ-1

Electric Power. Refer to Section 4.6, Energy, for further discussion related to the project's impacts with respect to existing and projected supplies of electricity. As discussed further in Section 4.6, the project would not require or result in the relocation or construction of new or

expanded electric power facilities, the construction of which could cause significant environmental effects. No mitigation is required.

Natural Gas. The project does not include any utility improvements related to natural gas. Therefore, the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction of which could cause significant environmental effects. No mitigation is required.

Telecommunications. The project does not include any utility improvements related to telecommunications. Therefore, the project would not require or result in the relocation or construction of new or expanded telecommunications facilities, the construction of which could cause significant environmental effects. No mitigation is required.

Summary. The proposed project would not require or result in the relocation or construction of new of new or expanded facilities for water, wastewater treatment, storm drainage, electric power, natural gas, or telecommunications. Existing facilities have the capacity to serve the anticipated uses, and the project would not substantially increase demand upon these facilities as compared to historic and existing conditions at the project site. Further, RCM-WQ-2 and MM-WQ-1 (refer to Section 4.10, Hydrology and Water Quality) would be implemented to reduce impacts to stormwater drainage facilities. Therefore, impacts to these utility facilities would be less than significant.

(b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. As previously stated in Response 4.19(a), above, project implementation would result in a negligible increase in water usage overall as prior industrial uses on the site were served by water facilities, and the proposed project is consistent with planned land uses for the project site and the City's UWMP. According to the 2015 UWMP, LBWD's projected water supply is able to meet projected potable and recycled water demands in the years 2020, 2025, 2030, 2035, and 2040 during normal years, single dry years, and multiple dry years. In 2015, the actual water supply was 59,542 af, and the projected water demand for 2020 is 59,106 af. Therefore, water demand from the proposed project would be within LBWD's current and projected water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts related to water supplies would be less than significant, and no mitigation is required.

(c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. As previously stated in Response 4.18(a), above, the City is subject to the requirements of the *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (City of Long Beach MS4 Permit), Order No. R4-2014-0024, NPDES No. CAS004003. The proposed project includes the development of a park use and does not include any on-site buildings or habitable structures that would result in a demand for

wastewater facilities. As such, there is no anticipated demand for wastewater. The proposed project would not result in impacts to wastewater treatment facilities. No mitigation is required.

(d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact. The Long Beach Public Works Department provides a wide range of services to the City including waste collection, which is administered through the Environmental Services Bureau Refuse Division. The Refuse Division collects solid waste, green waste (e.g., grass clippings and tree and shrub clippings), and items for recycling. The City provides two different carts for automated collection of trash, recyclables, and green waste.[1]

Solid waste, excluding recyclables, is collected from residential, commercial, and industrial properties and delivered to the Southeast Resource Recovery Facility (SERRF), located at 120 Pier S Avenue in Long Beach. Solid waste is sent to the facility where it is processed through one of three boilers and incinerated in order to produce electricity. The electricity is used to operate the facility and the remainder is sold to Southern California Edison. A monthly average of 825 tons of metal are recycled and diverted from a landfill.[2]

As described further in Section 4.14, Population and Housing, the proposed project includes implementation of a park use that would not result in any increase in population or employment. Although the proposed project would result in an increase in visitors to the site, any increase in solid waste associated with on-site users of the park, such as trash and rubbish from park users, is anticipated to be nominal and within the existing service capacity of the SERRF, which currently serves the project area. Therefore, it is anticipated that project impacts related to solid waste generation would be less than significant. No mitigation is required.

(e) Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The California Integrated Waste Management Act (AB 939) changed the focus of solid waste management from landfill to diversion strategies (e.g., source reduction, recycling, and composting). The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000. The City provides curbside recycling for residential, commercial, and industrial uses, which counts toward the City's solid waste diversion rate. In addition, the City collects curbside residential green waste, which also counts toward the City's diversion rate. These efforts, combined with SERRF, have resulted in one of the highest waste diversion rates in the nation. In 2006, the City reported a 69 percent waste

1 City of Long Beach. Environmental Services Bureau. Refuse Collection. Website: http://www.longbeach.gov/lbrecycles/refuse/curbside-collection/refuse-collection-101/ (accessed November 1, 2019).

2 City of Long Beach. Energy Resources. Southeast Resource Recovery Facility (SERRF). Website: http://www.longbeach.gov/energyresources/about-us/serff/ (accessed November 1, 2019).

diversion rate to the California Integrated Waste Management Board, surpassing the required rate by nearly 20 percent.[1]

The proposed project would be required to meet the City's construction waste diversion requirement (Section 18.67.020 of the Municipal Code). In addition, the proposed project would be required to comply with all federal, State, and local regulations related to solid waste. Furthermore, the proposed project would comply with all standards related to solid waste diversion, reduction, and recycling during project construction and operation of the project. Finally, the proposed project does not include and buildings or habitable structures that would generate solid waste. Therefore, the proposed project is anticipated to result in less than significant impacts related to potential conflicts with federal, State, and local statutes and regulations related to solid waste, and no mitigation is required.

[1] City of Long Beach. Long Beach Sustainability. Waste Reduction. Website: http://www.longbeach.gov/sustainability/green-urban-services/waste-reduction (accessed November 1, 2019).

4.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
(b) Due to slope, prevailing winds, and other factors to exacerbate wildfire ricks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire rick or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Impact Analysis:

(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. According to the 2007 CALFire Draft Fire Hazard Severity Zone Map for the State of California, the project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ), but rather is located within an unzoned Local Responsibility Area (LRA).[1,2]

Furthermore, as discussed in Section 4.9, Hazards and Hazardous Materials, the proposed project does not include any characteristics (e.g., temporary or permanent road closures or the long-term blocking of road access) that would physically impair or otherwise conflict with an adopted emergency response plan or emergency evacuation plan. The proposed project would be required to comply with all applicable codes and ordinances for emergency vehicle access,

1 An LRA is defined as land on which neither the State nor the federal government has the legal responsibility for providing fire protection. Unzoned LRAs are not currently mapped for fire hazard severity.

2 CalFire. 2007. State of California Draft Fire Hazard Severity Zones in Local Responsibility Area. Website: https://osfm.fire.ca.gov/media/6827/fhszl06_1_map.pdf (accessed on October 30, 2019).

which would ensure adequate access to, from, and on site for emergency vehicles. Adherence to these codes and ordinances would ensure that construction and operation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Furthermore, the project site is not located in or near a State Responsibility Area (SRA) or within lands identified as a VHFHSZ, and thus would not impair an adopted emergency response plan or emergency evacuation plan in or near SRAs or lands classified as VHFHSZ. Therefore, implementation of the proposed project would result in no impact associated with an adopted emergency response plan or emergency evacuation plan. No mitigation is required.

(b) Due to slope, prevailing winds, and other factors to exacerbate wildfire ricks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. As stated previously, the project site is not located in or near a VHFHSZ nor is it located in or near an SRA. Therefore, the proposed project would not exacerbate wildfire risks due to slope and prevailing winds, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, project occupants would not be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and no impact would occur. No mitigation is required.

(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The proposed project does not include, and will not require, the installation or maintenance of associated infrastructure, including roads, fuel breaks, emergency water sources, power lines, or other utilities that would exacerbate fire risks. Therefore, the project will not exacerbate fire risks that would result in temporary or ongoing impacts to the environment. No mitigation is required.

(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact.

Landslides. Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking but can also occur as a result of erosion and downslope runoff caused by rain following a fire. As previously discussed in Section 4.7, Geology and Soils, landslides or other forms of natural slope instability do not represent a significant hazard to the project because the site is located in a relatively flat area, and there is no evidence of landslides in the project vicinity. Therefore, the proposed project would not expose people or structures to significant risks, such as landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts to project occupants related to post-wildfire landslide risks would be less than significant. No mitigation is required.

Flooding. According to the Federal Emergency Management Act (FEMA) Flood Insurance Rate Map Act (FIRM) No. 06037C1960F (September 26, 2008) and the *City of Long Beach Federal Emergency Management Agency (FEMA) Flood Zones* map, the project site is located within the shaded Zone X. A shaded Flood Zone X designation encompasses areas with a moderate chance of flood as it includes areas with a 0.2 percent annual chance of flood (500-year), areas with a 1 percent annual chance of flood (100-year) with average depths of less than 1 ft or with drainage areas less than 1 square mile, and areas protected from levees from 1 percent annual chance of flood. Although the project site is located within an area with a moderate chance of flooding, the project site is not located within a direct inundation area. Therefore, downslope or downstream flooding as a result of runoff, post-fire slope instability, or drainage changes are unlikely to occur. Impacts to project occupants related to post-wildfire flooding risks would be less than significant, and no mitigation is required.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☒	☐	☐
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis:

(a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. Based on the discussion in Section 4.4, Biological Resources, the proposed project is anticipated to result in less than significant impacts related to habitat, wildlife species, and/or plant and animal communities and would not eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section 4.5, Cultural Resources, Response 4.5(a), the project site does not contain any buildings or structures that meet any of the California Register of Historical Resources (California Register) criteria or qualify as "historical resources" as defined by CEQA. Additionally, the project site is not designated as a historical/archaeological landmark by the City or the County. The soils on the project site are non-native and have been highly disturbed during the site's previous uses as a municipal landfill and from the site's previous development with industrial uses. As such, ground-disturbing activities associated with project construction

activities, which will be at shallow depths so that the landfill liner is not disturbed, are not anticipated to unearth any previously unknown archaeological resources. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical and/or cultural resource. Impacts are considered less than significant, and no mitigation is required.

As discussed in Section 4.18, Tribal Cultural Resources, the City sent letters for the purposes of AB 52 consultation to tribal representatives on October 28, 2019. Consequently, tribal consultation is ongoing as part of the CEQA process in compliance with AB 52. Information provided through tribal consultation will inform the assessment as to whether the tribes believe any tribal cultural resources are present and the significance of any potential impacts to such resources. In the event that tribal cultural resources are identified during the tribal consultation process, the City of Long Beach will work with the tribes to address their concerns. However, for the reasons stated above, the discovery of tribal cultural resources is considered unlikely. Therefore, the proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource, and no mitigation is required.

For the reasons stated above, the project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, impacts would be less than significant. No mitigation is required.

(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)

Less Than Significant with Mitigation Incorporated. The existing site was formerly occupied by a municipal waste landfill and later by an industrial use. The site is now vacant and is surrounded by a variety of residential uses and some nearby commercial and industrial uses. The project site is bordered by a single-family residential neighborhood and aboveground industrial storage tanks on the north, the existing Davenport Park on the east, the Friendly Village Mobile Home Park to the south, and by mixed density residential uses on the west, across North Paramount Boulevard.

As presented in this IS/MND, potential project-related impacts are either less than significant or less than significant with mitigation incorporated. Based on the analysis contained in this IS/MND, project-related impacts would be reduced to less than significant levels with the incorporation of mitigation. As specified in MM-WQ-1 in Section 4.10, Hydrology and Water Quality, a Final Hydrology Study would be prepared based on final project plans and would be approved by the City. The Hydrology Study would confirm that sufficient capacity in the downstream drain systems is available to accommodate any increase in storm runoff from the project site. MM-WQ-1 would reduce impacts to hydrology and water quality and utilities and

service systems to a less than significant level. Additionally, mitigation has been proposed for impacts related to construction noise (refer to MM-NOI-1 in Section 4.13, Noise). Given that the potential project-related impacts would be mitigated to a less than significant level, implementation of the proposed project would not result in impacts that are cumulatively considerable when evaluated with the impacts of other current projects, or the effects of probable future projects. Therefore, the proposed project's contribution to any significant cumulative impacts would be less than cumulatively considerable. As discussed in Sections 4.1 through 4.20 of this IS/MND, compliance with regulatory compliance or mitigation measures would be required and incorporated as necessary.

(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant with Mitigation Incorporated. Based on the Project Description and the preceding responses in Sections 4.1 through 4.20 of this IS/MND, implementation of the proposed project would not cause substantial adverse effects to human beings because all potentially significant impacts of the proposed project would be mitigated to a less than significant level. As discussed in Response 4.21(b), above, incorporation of MM-WQ-1 would reduce impacts to hydrology and water quality and utilities and service systems to a less than significant level. Further, incorporation of MM-NOI-1 would reduce impacts as a result of construction noise to a less than significant level. Therefore, since all potentially significant impacts of the proposed project are expected to be mitigated to a less than significant level, implementation of the proposed project would not cause substantial adverse effects on human beings.

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SECTION 3

MITIGATION MONITORING AND REPORTING PROGRAM

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MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.

- The Lead Agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

- A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

- Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or Mitigated Negative Declaration (MND), a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources that are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a project, or the authority of the Lead Agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. The program describes the requirements and procedures to be followed by the City of Long Beach to ensure that all mitigation measures adopted as part of the proposed project would be carried out as described in the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the project. Table A lists each of the mitigation measures specified in the IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure.

Table A: Mitigation and Monitoring Reporting Program

Mitigation Measures and Compliance Measures		Responsible Party	Timing for PDF or Mitigation Measure
4.1 Aesthetics			
The proposed project would not result in significant adverse impacts related to aesthetics. No mitigation is required.			
4.2 Agricultural Resources			
The proposed project would not result in significant adverse impacts related to agricultural resources. No mitigation would be required.			
4.3 Air Quality			
The proposed project would not result in significant adverse impacts related to air quality. No mitigation would be required.			
4.4 Biological Resources			
The proposed project would not result in significant adverse impacts related to biological resources. No mitigation would be required.			
4.5 Cultural Resources			
The proposed project would not result in significant adverse impacts related to cultural resources. No mitigation would be required.			
4.6 Energy			
The proposed project would not result in significant adverse impacts related to energy. No mitigation would be required.			
4.7 Geology and Soils			
The proposed project would not result in significant adverse impacts related to geology and soils. No mitigation would be required.			
4.8 Greenhouse Gas Emissions			
The proposed project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation would be required.			
4.9 Hazards and Hazardous Materials			
The proposed project would not result in significant adverse impacts related to hazards and hazardous materials. No mitigation would be required.			
4.10 Hydrology and Water Quality			
Mitigation Measure MM-WQ-1 is required to reduce potential project-related impacts related to hydrology and water quality to a less than significant level.			
MM-WQ-1	**Final Hydrology and Hydraulic Analysis.** The City of Long Beach shall submit a Final Hydrology Study to the City of Long Beach Public Works Department, or designee, for review and approval prior to issuance of grading and building permits. The Final Hydrology Study shall demonstrate that the on-site drainage facilities are designed and adequately sized to convey and reduce runoff, such that on-site and off-site drainage facility capacity would not be exceeded during a design storm.	The City of Long Beach Public Work Department	Prior to issuance of grading and building permits
4.11 Land Use and Planning			
The proposed project would not result in significant adverse impacts related to land use and planning. No mitigation would be required.			
4.12 Mineral Resources			
The proposed project would not result in significant adverse impacts related to mineral resources. No mitigation would be required.			

Table A: Mitigation and Monitoring Reporting Program

Mitigation Measures and Compliance Measures		Responsible Party	Timing for PDF or Mitigation Measure
4.13 Noise			
Mitigation Measure MM-NOI-1 is required to reduce potential project-related impacts related to noise to a less than significant level.			
MM-NOI-1	**Construction Noise.** Prior to issuance of building permits, the City of Long Beach (City), or its designee, (or its contractor), shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved: • Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City Municipal Code, which states that construction activities shall occur only between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and federal holidays, and from 9:00 a.m. to 6:00 p.m. on Saturdays. No outdoor noise-generating construction activity is allowed on Sundays. • During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. • The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project area. • Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction.	The City of Long Beach, its designee, or its contractor	Prior to issuance of building permits
4.14 Population and Housing			
The proposed project would not result in significant adverse impacts related to population and housing. No mitigation would be required.			
4.15 Public Services			
The proposed project would not result in significant adverse impacts related to public services. No mitigation would be required.			
4.16 Recreation			
The proposed project would not result in significant adverse impacts related to recreation. No mitigation would be required.			
4.17 Transportation/Traffic			
The proposed project would not result in significant adverse impacts related to transportation/traffic. No mitigation would be required.			
4.18 Tribal Cultural Resources			
The proposed project would not result in significant adverse impacts related to tribal cultural resources. No mitigation would be required.			
4.19 Utilities/Service Systems			
Mitigation Measure MM-WQ-1, presented in Section 4.10, Hydrology and Water Quality, above, would be implemented to reduce potential project-related impacts			

Table A: Mitigation and Monitoring Reporting Program

Mitigation Measures and Compliance Measures	Responsible Party	Timing for PDF or Mitigation Measure
related to utilities/service systems to a less than significant level.		
4.20 Wildfire		
The proposed project would not result in significant adverse impacts related to wildfire. No mitigation would be required.		

APPENDIX A

PHASE II POST-CLOSURE LAND USE PROPOSAL

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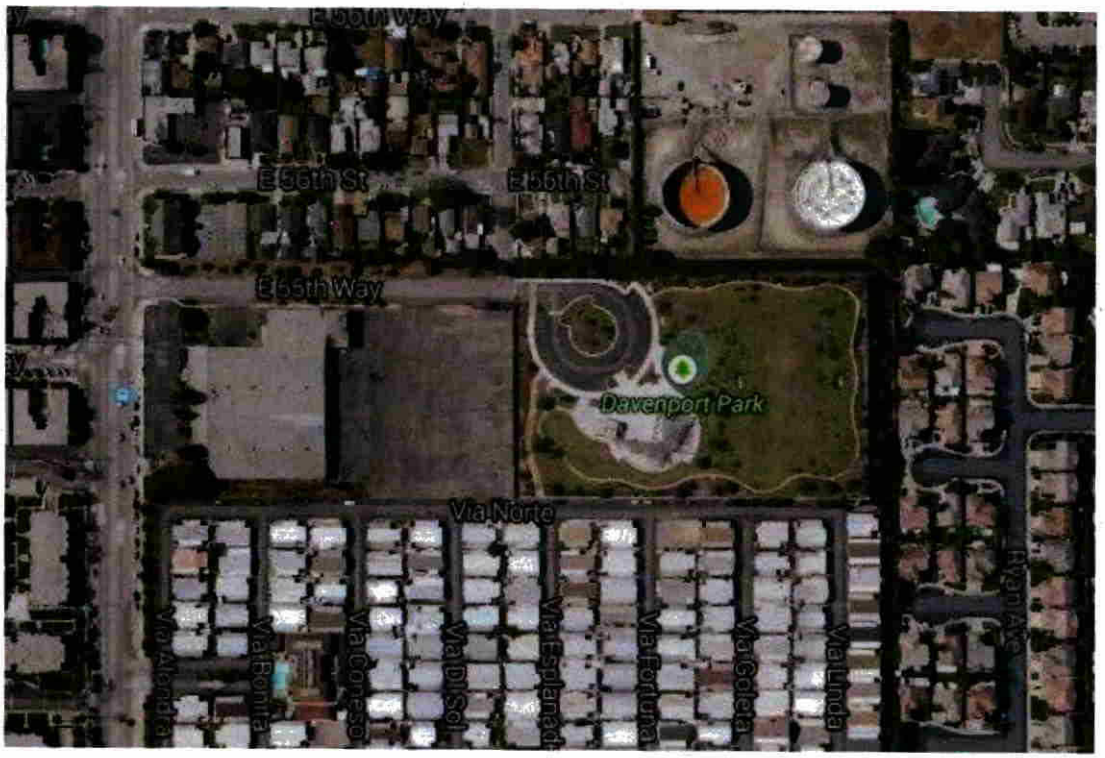

POST-CLOSURE LAND USE PROPOSAL
DAVENPORT PARK PHASE II (SWIS NO.: 19-AK-0084E)
(FORMER 55TH WAY LANDFILL)
SEPTEMBER 2014

Prepared for:
City of Long Beach
Department of Public Works, Engineering Bureau
333 W. Ocean Boulevard, 9th Floor
Long Beach, California 90802

Presented by:
SWT Engineering
800-C South Rochester Avenue
Ontario, CA 91761

19-AK-0084 F 508

DRAFT POST-CLOSURE LAND USE PROPOSAL
DAVENPORT PARK PHASE II (SWIS NO.: 19-AK-0084E)
(FORMER 55TH WAY LANDFILL)
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DRAFT POST-CLOSURE LAND USE PROPOSAL
DAVENPORT PARK PHASE II

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ACRONYM LIST

LIST OF ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
AQMD	Air Quality Management District
ASTM	American Society for Testing and Materials
B(a)P	Benzo(a)pyrene
bgs	below ground surface
BMP	Best Management Practices
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAA	Clean Air Act
CalRecycle	California Department Of Resources Recycling And Recovery
CAM	California Assessment Method
CAP	Corrective Action Plan
CCR	California Code of Regulations
CDWR	California Department of Water Resources
CFR	Code of Federal Regulations
CEQA	California Environmental Quality Act
cfs	cubic foot per second
City	City of Long Beach
CIWMB	California Integrated Waste Management Board
COC	Constituent of Concern
County	County of Los Angeles, Department of Health Services, Solid Waste Bureau
DCA	dichloroethane
DMP	Detection Monitoring Program
EE	Ecology and Environmental, Inc.
EIR	Environmental Impact Report
EMP	Evaluation Monitoring Program
EPA	Environmental Protection Agency, United States
GAC	Granular Activated Carbon
g/cm^3	gram per cubic centimeter
gpm	gallon per minute

GCL	Geosynthetic Clay Liner
HASP	health and safety plan
Hg	mercury
HHRA	Human Health Risk Assessment
ICS	Incident Command System
LARWQCB	Los Angeles Regional Water Quality Control Board
LandGEM	Landfill Gas Emissions Model
LBHHS/EH	Long Beach Department of Health and Human Services/Environmental Health
LBMC	Long Beach Municipal Code
LEA	Local Enforcement Agency
LEL	lower explosive limit
LFG	landfill gas
MSWLF	Municipal Soil Waste Landfill
m^3/Mg	cubic meter per mega-gram
NMOC	Non-methane Organic Compound
NOI	Notice of Intent
NOP	Notice of Preparation
NOT	Notice of Termination
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Association
PAH	polycyclic aromatic hydrocarbon
pcf	pound per cubic foot
PCB	Polychlorinated biphenyl
PCLUP	Post-Closure Land Use Proposal
PCMMP	Post-Closure Monitoring and Maintenance Plan
ppm	part per million
ppmv	part per million-by volume
PRG	preliminary remediation goal
PVC	polyvinyl chloride
ROWD	Report of Waste Discharge
SCAQMD	South Coast Air Quality Management District
SCS	SCS Engineers, Inc.

SM	silty sand
SUSMP	Standard Urban Storm Water Mitigation Plan
SVOC	semivolatile organic compound
SWAT	Solid Waste Assessment Test
SWIS	Solid Waste Information System
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
TPH	total petroleum hydrocarbons
UNSATH	Unsaturated Soil Water and Heat Flow Model
USDA	United States Department of Agriculture
UST	underground storage tank
$\mu g/m^3$	micrograms per cubic meter
VOC	volatile organic compound

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

This Post-Closure Land Use Proposal (PCLUP) describes Phase II activities to be conducted to convert property overlying the former 55th Way Landfill, Solid Waste Information System (SWIS) Number 19-AK-0084, into a public park and recreational space (Davenport Park). The Phase I PCLUP is dated March 17, 2004 (Earth Tech March 17, 2004) and was approved by the County of Los Angeles Solid Waste Management Program/Local Enforcement Agency (LEA) on May 11, 2004. Phase I (5.92 acres) was completed on August 26, 2006.

The Phase II PCLUP addresses expansion of Davenport Park to a 4.52 acre parcel purchased by the City of Long Beach (City) from Cal Coast Packing and Crating Company Inc. in April 2006. The 4.52 acre parcel was formerly used for commercial and industrial land uses. Phase II will complete the full development of Davenport Park, a substantial accomplishment toward meeting the City's General Plan goal to provide parkland conveniently accessible to all residents, and in particular to the surrounding economically disadvantaged and open space deficient neighborhood. A site vicinity and location map is presented as Figure II-1.

The Phase II PCLUP was prepared in accordance with Title 27, California Code of Regulations (27 CCR), Division 2, Chapter 3, Subchapters 3, 4 and 5. Applicability of the Phase II PCLUP is pursuant to 27 CCR Sections 21100(b)(2) and 21190 which apply to new postclosure activities that may jeopardize the integrity of previously closed disposal sites or pose a potential threat to public health and safety or the environment.

Specifically, 27 CCR 21190 (a) requires that proposed postclosure land uses shall be designed and maintained to:

(1) Protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;

(2) Prevent public contact with waste, landfill gas and leachate; and

(3) Prevent landfill gas explosions.

Furthermore, 27 CCR 21190(c) requires that all proposed postclosure land uses, other than non-irrigated open space, on sites implementing closure or on closed sites shall be submitted to the LEA, RWQCB, local air district and local land use agency (City of Long Beach). The LEA shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.

This PCLUP was prepared for LEA approval in accordance with 27 CCR 21190 and provides a detailed project description, an implementation schedule, and updated Postclosure Maintenance and Monitoring Plan (PCMMP). In addition to being submitted to the LEA, the Phase II PCLUP will be submitted to the Los Angeles Regional Water Quality Control Board (LARWQCB) and the South Coast Air Quality Management District (SCAQMD) for review and comment. The City is currently implementing a park community involvement and California

Environmental Quality Act (CEQA) process to finalize the Phase II plans and local approvals. Upon completion of these processes, this document will be amended and updated accordingly.

The Phase II PCLUP is consistent with the Phase I PCLUP and focuses on updates and changes applicable to Phase II. Phase I PCLUP (Earth Tech March 17, 2004) is incorporated by reference to the extent appropriate to minimize redundancy. Electronic file copies of the Phase I PCLUP and this Phase II PCLUP are also included with the Phase II PCLUP hard copies to facilitate review.

1.1 Background

Background for the site and postclosure land use with respect to the City's Open Space and Recreation Element (the "Open Space Element") of the City's General Plan is described in Section 1.1 of the approved Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

1.2 Project Goals

Goals of this PCLUP is to expand on the Phase I project and complete the design of the full park for benefit to the local community, in particular the surrounding economically disadvantaged and open space deficient neighborhood, and to significantly enhance protection of public health and safety and the environment from that of the former industrial and commercial land uses.

SECTION 2.0

ENVIRONMENTAL SETTING

2.0 ENVIRONMENTAL SETTING

The Environmental Setting of the site is described in Section 2.0 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

2.1 Physiographic Location

The physiographic location of the site is described in Section 2.1 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

2.2 Regional Geology and Hydrogeology

The regional geology and hydrology of the site is described in Section 2.2 and Figures 4A and 4B of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

2.3 Groundwater Production Wells

Groundwater production wells within 1-mile of the site are described in Section 2.3 and Appendix A of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

SECTION 3.0

PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

The proposed Phase II expansion comprises the approximately 4.52-acre North Paramount Boulevard frontage parcel (Figure II-1). The total Phase I and II property to be converted to Davenport Park will comprise approximately 11.6 acres of the former 17.4-acre 55th Way Solid Waste Landfill. Phase II will complete buildout of the full park and improve vehicle access and safety by realigning 55th Way through the Phase II property. The realignment will be to the current traffic light intersection of Langport Avenue and North Paramount Boulevard.

The Phase II property will be converted from a former commercial and industrial facility to recreation and open space uses. No permanent structures are planned to be on top of the Phase II property. Existing recreation and open space uses of Phase I include a lighted grass multi-purpose field, two lighted basketball half-courts, a skateboard plaza, a toddler play lot (tot-lot), passive and active open space, minimal hardscape including a gazebo, benches and tables, sun shelters, a restroom (partially enclosed) and surface parking with a drop-off area. Existing Phase I structures (restrooms and storage buildings) include vented roofs and walls and methane alarm systems. Phase II will include, but not be limited to, soccer fields, picnic areas, and parking areas. Site access will be secured by fencing. Hours of operation are anticipated to be from 6:00 AM to 10:00 PM.

To the extent appropriate, approved Phase I environmental monitoring and control system design components will be applied to Phase II. The Phase I final cover design was initially proposed as an irrigated evapotranspirative system and was changed to incorporate a GCL based system. The Phase II PCLUP proposes a final cover foundation layer of compacted onsite material and a GCL or geomembrane (LLDPE) barrier layer. A geocomposite blanket and/or horizontal trench based gas collection system is also proposed under the barrier layer. Approximately 15,000 cubic yards of clean soil will be imported to the site to provide a minimum 2-foot thick layer of vegetative soil. In areas with trees, the cover thickness is a minimum of 4-ft. Limited passive open space areas will include some drought tolerant vegetation and other non-invasive plantings to protect the landfill cover. Grading activities will be conducted pursuant to an approved grading plan. The City is currently evaluating options for a geosynthetic based turf system to avoid the need for irrigation other than a minimal amount for heat control. A geocomposite lateral drainage layer is proposed to overly the barrier layer to minimize water infiltration into the refuse layer.

The proposed Phase II design will provide additional landfill gas monitoring and collection components and provide flexibility for a passive venting system which can accommodate a low flow blower and Granular Active Carbon (GAC) treatment system. Phase I passive landfill gas vents/extraction wells (three), as approved under the Phase I PCLUP, were capped in response to a Notice to Comply (NTC) issued by the SCAQMD on November 11, 2011. There are concerns that landfill gas may be accumulating under the Phase I cap since the vents were capped. Additional discussions with SCAQMD are being undertaken for measures to allow for the vents to be reopened. A temporary portable extraction and carbon treatment system may be utilized to evaluate and establish equilibrium landfill gas conditions for the vents/extraction wells. Additional measures will include a GAC canister system for continued passive venting which can be modified to add in a low flow blower if required by SCAQMD

pursuant to Rule 1150.1. More detailed discussion of landfill gas monitoring and control is provided in Section 4.0.

3.1 Site Location and Description

The Phase II expansion of Davenport Park is located at 5550 North Paramount Boulevard (Figure II-1). The Phase II property comprises approximately 4.52 acres in the northeast corner of the former 55th Way Landfill and is located in a mixed commercial, residential and industrial area of the City (Figure II-1). The property is currently a vacant lot. Phase I and II properties are bounded on the north by a former easterly extension of the northerly line of 55th Way, on the east by the boundary line of the City of Lakewood (and former southerly extension of the easterly line of Obispo Avenue), on the south by an existing mobile home park, and on the west by a former southerly extension of the easterly line of Paramount Boulevard. The site is relatively flat, with the topography gently sloping to the west.

The Phase II site is bordered on the east by the Phase I Davenport Park, on the west, north, and northwest by single-family dwellings, on the south by the Friendly Village Mobile Home Park (residential), and on the northeast by the Paramount Petroleum Lakewood Tank Farm. The site is located in Range 12W and Township 4S, in the northeast corner of Section 5.

The 17.4-acre 55th Way Landfill (SWIS Number 19-AK-0084) is located at the northeast corner of Paramount Boulevard and Candlewood Street in Long Beach, California (Figure II-1). The landfill is subdivided into five separate parcels (Figure II-3), designated 19-AA-0084A (55th Way Frontage Road), 19-AA-0084B (Phase I Davenport Park), 19-AK-0084C (Grassy Knolls south of Friendly Village Mobile Home Park), 19-AK-0084D (Friendly Village Mobile Home Park), and 19-AK-0084E (Phase II Davenport Park). A county assessor's parcel map is included in Appendix B of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference. The Phase II property is located in Tract 22516, Block 34, Lot 1 (Assessor's Parcel Number 7157-006-005). Copies of county assessor's parcel maps and property deed amendments are also included in Appendix B of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

3.2 Site History

The detailed site history is described in Section 3.2 and Appendices C and D of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference. Description of subsequent site history is as follows.

The Phase I PCLUP for Davenport Park was submitted on September 26, 2002. The City Planning Commission approved the PCLUP on February 5, 2004. Approvals by the City Planning Commission occurred on February 5, 2004 and City Council on March 6, 2004. The LEA approved the Phase I PCLUP on May 11, 2004. The Phase II parcel acquisition by the City was completed on April 24, 2006 and Phase I construction was completed on August 26, 2006. The Phase I Davenport Park is currently utilized by the Public. The Phase II property is currently a fenced vacant lot with no structures and minimal surface vegetation. Structures have recently been demolished and removed from the Phase II property and additional debris and foundation slabs remain to be removed or incorporated as final cover foundation material.

3.2.1 Waste Disposal History

Description of the waste disposal history of the site is provided in Section 3.2.1 and Appendix C of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

3.2.2 Summary of Environmental Assessments

A detailed summary of site environmental assessment is described in Section 3.2.2 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference. Related environmental assessments performed subsequent to the Phase I PCLUP are summarized as follows.

Phase I PCLUP Installation and Monitoring of Landfill Gas Monitoring Probes (2004)

The locations of existing Phase I PCLUP and proposed new Phase II landfill gas monitoring probes are shown in Figure II-4 (see also Section 5.1). Appendix II-C includes information on landfill gas monitoring probes installed and monitored in 2003. The City installed five landfill gas monitoring probes (GW-7 through GW-11) in accordance with the Phase I PCLUP (Earth Tech October 21, 2004). These monitoring probes supplement six additional dual cluster probes (GW-1 through GW-6) installed in May and June 2003. Landfill gas was analyzed by field instruments and laboratory samples taken and analyzed for VOCs, TVPH, and fixed gases. Methane concentrations for GW-1 through GW-6 from sampling in 2002-2003 were previously reported in Table 1 of the Phase I PCLUP (Earth Tech October 21, 2004). Results were less than the 5% LEL except for GW-1 (probe within refuse boundary; 12-20%) and GW-4 (probe 5-10 feet at 5.0%).

Solid Waste Assessment Test (SWAT) Groundwater Monitoring Program (2004- present)

The City implements an ongoing Solid Waste Assessment Test (SWAT) groundwater monitoring program for the 55th Way Landfill pursuant to LARWQCB Waste Discharge Requirements Order R4-2004-0157 issued October 12, 2004 and General Monitoring and Reporting Program Order No. CI-8372. The current Phase I ongoing monitoring program will address both the Phase I and II areas. The locations of current SWAT groundwater monitoring wells and piezometers is shown on Figure II-5. SWAT monitoring reports consistently conclude that the upgradient monitoring point (PZ-1) has the highest mean concentrations of monitoring constituents to assess potential release and that one of the two downgradient points (MW-1, MW-2) has the lowest mean concentrations. Based on these observations the monitoring reports conclude that it does not appear that an unregulated release is occurring from the landfill. Furthermore, based on review of analytical results and information for the upgradient Paramount Petroleum Lakewood Tank Farm (property adjoins the northeast part of the Phase I parcel) the types of constituents detected are similar to those detected in samples from the Tank Farm property, which include BTEX and other gasoline related constituents (Earth Tech October 21, 2004).

Additional groundwater investigations are being requested by the LARWQCB as part of the Tank Farm investigation. The Tank Farm owner is seeking access to the City property for the investigation. Additional groundwater investigations and remediation, if required by the LARWQCB, will continue to be conducted for the Tank Farm and City properties separate from the Phase II PCLUP project.

Phase I Environmental Assessment (2006)

A Phase I Environmental Assessment was completed in February 2006 (SCS Engineers) for the Phase II 4.52 acre parcel purchased by the City from Cal Coast Packing and Crating Company Inc. in April 2006 (APN-7157-006-005). This assessment noted the presence of the Paramount Landfill beneath and adjacent to the property. No further investigations were recommended, although constraints to development with regards to settlement and landfill gas control were recognized.

CalRecycle Site Investigation of the Adjacent Friendly Village Mobile Home Park Property (2009-2011)

In November 2010, the State Department of Resources, Recycling and Recovery (CalRecycle) completed a landfill gas site investigation of the Friendly Village Mobile Home Park located on a separate parcel adjacent and south of the separate Phase I and II parcels (CalRecycle 2010. CalRecycle conducted follow-up landfill gas monitoring in January 2011 of 28 monitoring probes at the mobile home park and 8 probes at Davenport Park (CalRecycle March 23, 2011).

3.2.3 Regulatory Agency Inspections, Permitting and Enforcement

Regulatory agency inspections, permitting, and enforcement activities since approval of the PCLUP Phase I in 2004 are summarized as follows.

Los Angeles Solid Waste Management Program/Local Enforcement Agency (LEA)

The LEA has conducted regular inspections of properties constituting the 55th Way Landfill, Solid Waste Information System (SWIS) Number 19-AK-0084. Currently the property is in compliance with state minimum standards and no enforcement orders have been issued. However, periodically there are violations of site security and dumping of trash and debris on the former Cal Coast property vacant lot. The LEA routinely conducts methane monitoring using field instruments. Methane exceeding the 5% methane by volume standard is not found at the surface, in utilities, or in cracks. Methane exceeding 5% is commonly found in subsurface probes within waste underlying the Phase I and Phase II properties. Recent LEA inspection reports and probe monitoring results are included in Appendix II-C. Based on an inspection conducted June 18, 2014, perimeter boundary probes GW-4, GW-5, and GW-6 are in compliance with the 5% methane by volume standard (highest level was 60% of the LEL (3% methane by volume) in shallow probe GW-4).

South Coast Air Quality Management District (SCAQMD)

The SCAQMD periodically inspects the 55th Way Landfill properties for compliance with SCAQMD Rule 1150.1. Exceedances of the 200 part per million by volume (ppmv) have periodically been determined by SCAQMD inspectors and Notices to Comply issued. Where located in surface cracks in soil or in pavement or pavement edges, mitigation has been completed with additional cover material and compaction. However, on November 30, 2011 exceedances were determined at the three passive vents and the vents/extraction wells were subsequently and remain capped to address compliance with the NTC (see additional discussion of landfill gas in Section 4.0 and Appendix II-D).

The SCAQMD also requires and has issued Rule 1150.1 Excavation Permits for Phase I construction and Phase II demolition activities. The most recent Excavation Permit issued in 2010 expired and a new Permit application will be submitted for the remaining Phase II construction activities.

Los Angeles Regional Water Quality Control Board (LARWQCB)

The LARWQCB has issued Waste Discharge Requirements Order No. R4-2004-0157 and General Monitoring and Reporting Program Order No. CI-8372 which apply to the City for the 55th Way Landfill. The City conducts routine periodic groundwater monitoring to comply with these orders.

Additionally, the Paramount Petroleum Lakewood Tank Farm is subject to Cleanup and Abatement Order No 94-040 for cleanup of soil and groundwater contamination which also impacts the City property. The Tank Farm owner has conducted various soil and groundwater investigations and is implementing a free product and vapor recovery remediation system.

3.3 CEQA and Risk Assessment

The City certified an Environmental Impact Report (SCH 2003041141) for the Phase I PCLUP. Description of the Phase I CEQA initial process is described in Section 3.4 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference. The human health risk assessment is included in Exhibit I of the Phase I PCLUP which is also incorporated herein by reference.

The City is currently implementing community involvement and CEQA processes for the Phase II PCLUP (see Section 7.0 for implementation schedule). Upon completion of the processes, the Phase II PCLUP will be amended accordingly.

SECTION 4.0

PROJECT LAYOUT AND DESIGN

4.0 PROJECT LAYOUT AND DESIGN

The City is implementing a community involvement process to finalize the Phase II park project layout and design (see Section 2.3). The draft conceptual layout is included in Figure II-2. The final layout will be updated and incorporated in Appendix II-E. The process includes a subcommittee meeting involving various departments within the City (Property Services; Redevelopment Agency; Planning & Development; Parks, Recreation and Marine; Environmental Health; Public Works; Hazardous Materials; and Engineering). Draft layouts are selected for presentation to the community. Based on the feedback received from the community, a final design option is selected and updated to incorporate comments from the community.

The following drawings were included in the Phase I PCLUP to address the Phase I layout and design:

- G-1 Title Sheet, Location Map and Vicinity Map
- C-1 Existing Grades/Site Plan
- C-2 Final Grading Plan
- C-3 Utility Plan
- C-4 Horizontal Control Plan
- C-5 Cross Section
- C-6 Catch Basin and Miscellaneous Details
- C-7 Miscellaneous Details
- C-8 Drainage Details
- L-1 Planting Plan and Planting List
- L-2 Irrigation Plan

Preliminary design drawings for the Phase II PCLUP are included in Figures II-4 (existing and proposed subsurface boundary monitoring probe locations), II-6 (preliminary design for gas collection system), and II-7 (preliminary design details). Additional drawings and specifications for construction based on the Phase I PCLUP will be prepared as appropriate for Phase II and the Phase II PCLUP amended upon completion of the public review and design process.

4.1 Final Cover System

The Phase I PCLUP provided substantial analyses, pilot tests, and UNSAT-H Version 3.01 (Fayer 2000) modeling to demonstrate a proposed monolithic soil evapotranspiration alternative final cover system. The proposed final cover slope was 1.12 percent on top of the former landfill, and up to a 5:1 (horizontal:vertical) slope along the eastern boundary. Conceptually, the landfill cover was proposed to be constructed of a 4-foot-thick monolithic final compacted soil cap on top of the existing cover/soil layer, which is 4 to 8 feet thick.

The Phase I PCLUP final cover was revised to a Geosynthetic Clay Liner (GCL) cover system. A Technical Memorandum for the design of the GCL system was prepared by AES and dated July 21, 2005. The GCL cover system is documented in the Record Drawings and Specifications and consists of the following components:

- Vegetative Soil: Minimum 2-foot thick layer of vegetative cover soil placed to a relative compaction of 85 percent (as per ASTM D1557). In areas with trees, the cover thickness is 4 feet.
- Lateral Drainage Layer: Geocomposite drainage layer
- Barrier Layer: Geosynthetic Clay Liner (GCL)
- Foundation: Minimum 2-foot thick foundation layer.

The GCL and geocomposite layer were designed and constructed with a minimum slope of 1.9 percent. The finished surface was graded with slopes ranging from 1.9 percent to 10 percent. The City is currently evaluating options for a geosynthetic turf based system to avoid the need for irrigation other than a minimal amount needed for heat control (see Section 4.5).

The Phase II PCLUP proposes to replace the GCL barrier layer with a more cost effective and higher protection geomembrane based system consisting of the following components (see Figures II-6 and II-7):

- Geosynthetic turf (for soccer fields if irrigated turf system not included).
- Vegetative Soil: Minimum 2-foot thick layer of vegetative cover soil placed to a relative compaction of 85 percent (as per ASTM D1557). In areas with trees, the cover thickness is 4 feet.
- Lateral Drainage Layer: Geosynthetic drainage/liner protection layer (final design will depend on irrigated or non-irrigated turf).
- Barrier Layer: Linear low density polyethylene (LLDPE).
- Foundation: Minimum 2-foot thick foundation layer which may include onsite inert waste material processed as necessary and placed in accordance with 27 CCR 21090(a)(1).
- Gas Collection System: Horizontal trench gas collection system (constructed in foundation layer and not in waste) and grid geocomposite strip drains.

4.1.1 Soil Import, Placement, and Compaction

Approximately 15,000 cubic yards of material will be transported to the site to create a 2-foot-thick vegetative layer for the Phase II area. Clean on-site soil may also be used for the vegetative layer. An estimated 50 truckloads per day, each consisting of approximately 18 to 20 cubic yards, will be delivered to the site during construction activities. An estimated 20 to 25 days will be necessary to deliver the soil required to construct the vegetative layer. Equipment used to construct the final cover will be selected by the qualified contractor, including, but not limited to:

- Caterpillar 950G front-end loader or equivalent (1 to 2);
- Caterpillar 825 sheep's-foot compactor or equivalent (2 to 3);
- Grader (1 to 2);
- Water truck (1 to 2).

Soil cover material will be compacted to 85 percent maximum dry density as determined by ASTM Methods D2992 and D3017. A minimum of one pass (two coverages per pass) will be made over each lift by the compactor. Construction personnel will perform the testing following the first pass of each lift. A water truck will be on site to facilitate moisture conditioning of soil materials and control dust during construction. The field engineer will determine appropriate moisture levels to achieve specified compaction levels. Following compaction, the surface of the cover will be graded with a motor grader, allowing for a fine finish for placement of vegetation and construction of the proposed park.

4.1.2 Grading and Drainage

Currently, the site is relatively flat with a 3-foot elevation drop from east to west, and very little elevation difference (estimated 1 foot) from north to south. Minimal rough grading is proposed for the subject site prior to placement of the final cover and importation of vegetative soil. Existing structures have been removed and remaining foundation slabs, pavement, and surface debris will be removed from the site or processed and compacted in place for the foundation layer. The surface will be graded relatively level (rough grade) and compacted prior to placement of the final cover. Care will be taken to preserve existing landfill gas monitoring probes and groundwater monitoring wells.

Surface water (runoff) will be transported around the perimeter of the landfill via a constructed drainage swale (v-ditch) and subgrade storm water line (reinforce concrete pipe) to the northwest corner of the facility. Surface water will be collected in a storm water interceptor positioned off the northwest corner of the site adjacent to 55th Way. From the storm water interceptor, collected surface water will be transported to the municipal storm water sewer system along Paramount Boulevard via a subsurface 15-inch (estimated) reinforced concrete pipe.

4.1.2.1 Drainage System

A drainage system consisting of concrete v-ditches and underground storm drainpipes is proposed for installation to collect and control runoff from the landfill cover. The site landfill will be graded to direct runoff from the landfill cover to existing drainage structures (Drawing C-2 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference). Storm water drainage v-ditches and storm drains are proposed to be built around the perimeter of the site to transport water to the northwest corner of the facility. The existing storm water conveyance system has a high velocity interceptor equipped with a gravity separation system to control the discharge of pollutants to waters complies with National Pollution Discharge Elimination System (NPDES) and City Standard Urban Storm Water Mitigation Plan (SUSMP) regulation (Ordinance No. C-7703), and associated Best Management Practice (BMP) for removal of oil and grease, sediment, and debris and other pollutants from water flows entering the drainage system. Drainage, storm water interceptor,

and catch basin details are shown in Drawings C-6, C-7, and C-8 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

The storm water interceptor was sized to handle a maximum storm event accordance with 27 CCR 20365 State requirements and City and County regulations. Following City and Los Angeles County regulations, the peak mitigated runoff rate was calculated. Approximately 130,000 square feet (77,000 Phase I and 53,000 Phase II) of the full Phase I and II site has an impenetrable surface (asphalt, concrete, or other pavement), which represents approximately 25 percent of the total surface area for the site. The City provides a calculation for determining peak runoff for a 0.75 inch rainfall. Assuming duration (Tc) is 5 minutes (worst case) for 0.75 inch of rainfall, a Soil Type 3 (Los Angeles County Department of Public Works–Long Beach Hydrologic Map), and a 4 percent impervious surface, the peak mitigated flow rate (Q_{PM}) factor is 0.189 (Long Beach City, Ordinance No. C-7703, NPDES & SUSMP, Appendix A, Table 4.1).

Thus:

- Q_{PM} = 11.6 (acres) × 0.189 cubic foot per second (cfs) / acre = 2.1924 cfs

Which equals to:

- Q_{PM} = 2.1924 cfs × 7.48 Gallons / cf * 60 sec / min
- Q_{PM} = 1.0395 × 7.48 × 60 gallons per minute (gpm)
- Q_{PM} = 984 gpm

In order to have a minimum retention time of 5 minutes, the size of the storm water interceptor is:

- Interceptor Capacity = 984 gpm × 5 minutes = 4,920 gallons

Based on the considerations described below, the calculated size is doubled:

- Interceptor Capacity = 4,920 gallons × 2 = 9,839 Gallons

Finally, the closest standard interceptor size is:

- 10,000 Gallons

Based on these flow rates, the storm water interceptor should have a conservative capacity of 10,000 gallons. As this was a conservative calculation procedure, the existing interceptor should have remaining capacity to handle additional surface flow from vegetation areas where rainfall rates exceed infiltration rates creating storm water runoff during a large storm event. Also, this interceptor could be used if the impervious surface area of the park is expanded. The existing interceptor capacity will be verified during the construction document development phase of the project. If additional elements or modifications to the existing system are necessary, they will be included in the Phase II Project final design.

Periodic visual inspections of the overall (Phase I & II) drainage system will be conducted, including catch basins and v-ditches, for debris, obstructions and damages to the system, and identification of areas where vegetation is overgrown or other conditions are impairing the

function of the drainage system. Maintenance activities may include removal of wind-blown soil, debris, and overgrowth; repair of damaged structures; and removal of settlement, floating debris, or residual oil that has collected in the storm water separator.

4.1.2.2 Stormwater Pollution Prevention Plan (SWPPP)

Due to the size of the construction site (disturbance of soil greater than 1 acre), the contractor will be required to prepare a construction-related Storm Water Pollution Prevention Plan (SWPPP) for the Phase II project before starting construction activities. In addition, once construction has been completed, a facility SWPPP will be prepared and implemented at the site for post-construction treatment controls, until a Notice of Termination (NOT) is approved by the RWQCB. Detailed description of the SWPPP is included in Section 3.1.2.2 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

4.2 Utilities

Minimal utilities will be required at the site. Utilities will be run from the northwest corner of the site, or from the north through an existing right-of-way, and will include electrical, water, and sewer to the restroom building in Phase I. The electrical panel and meter will be placed on the north side of the storage shed and connected via overhead lines to the electrical supply line near the existing right-of-way. Additional electrical lines will also be run subsurface to the light poles and irrigation control valves. Subsurface utilities, including water and sewer lines, will be placed in pipes with flexible joint fittings and will not penetrate the existing landfill cover.

4.3 Park Construction

Preliminary park layout and features to be constructed are presented in Figure II-2. After reviewing various park layout options with the City and the community, the layout and features for Phase II will be finalized and final drawings prepared accordingly. Park construction will commence after rough grading, soil importation, compaction, final grading, drainage system construction, and utility installation. In general, construction will consist of preparing the subgrade, placing the asphalt parking lot, and pouring the concrete walking paths, building of any partially enclosed park features (i.e., gazebo, canopy, shade structures, skate plaza, basketball courts, and/or picnic areas), and landscaping. Park construction will be coordinated with realignment of 55th Way. No smoking signs will also be installed. The following subsections provide details on park features/structures, parking, and security.

4.3.1 Park Features and Structures

Any construction of structures on top of the landfill will comply with 27 CCR 21190(c–g). Restroom and storage shed buildings were constructed in accordance with 27 CCR 21190 for Phase I. No additional structures are currently planned for Phase II but if added they will likewise be constructed in accordance with the standard. Additionally, methane sensors are placed inside restroom and storage shed buildings, and periodic methane gas monitoring is performed inside the partially enclosed structures as part of post-closure maintenance and monitoring.

The restroom for Phase I is placed on a concrete slab (6 inches thick) with a sub-slab geomembrane layer with low permeability to landfill gas in accordance with 22 CCR

21190(g)(1). The restroom building has roof ventilation, an open upper-wall with a canopy type roof to maximize ventilation, and an open lower-wall gap between the wall and concrete slab (6 inches minimum) for ventilating the building surface (see photos of Pathway Series 3, 4, and 6 in Appendix I of the Phase I PCLUP). A permeable layer below the concrete slab with perforated piping for passive and/or active venting is not necessary due to the highly ventilated open-air design of the partially enclosed restroom/storage building and the low-permeability layer below the concrete slab. No pilings will be required or installed as part of park construction; therefore, implementation measures concerning installation of pilings outlined in 27 CCR 21190(e)(6-7) do not apply.

The restroom is an "off-the-shelf" design, multi-person restroom. The storage shed is constructed to match the restroom design and is positioned along the east wall of the restroom (Drawing C-4 of the Phase I PCLUP). The conceptual restroom design, layout, and a photograph of the proposed building are provided in Appendix I of the Phase I PCLUP. The structure Pathway Series 3 is fabricated by Super Secure Manufacturing Co.; this structure, is used at various park sites throughout City. Other minor structures that penetrate the landfill cover (12 inches maximum) include a gazebo (no walls), benches on concrete pads, fencing with footings, light footings, picnic benches on concrete pads, and basketball court posts. Each of the minor structures is either be placed directly on the surface or on spread footings to prevent penetrating the new landfill cover greater than 12 inches. Any new footings, concrete slabs, and retaining walls will be designed by a licensed structural engineer after approval of the PCLUP and prior to construction.

4.3.2 Parking Facilities

The parking lot for the Phase II property will be constructed similar to the parking lot for Phase 1 using in general 6- to 10-inches aggregate base covered by a bituminous prime coat and 4 inches of asphalt concrete pavement. Final specifications will be developed for the parking lot before start of construction. Based on the size of the site and access constraints, 95 parking spaces are proposed for the Phase II PCLUP (93 standard spaces and 4 handicap spaces). However, Table 41-1C of Chapter 21.41 of the City Municipal Code (LBMC) will be consulted to verify that the correct number of spaces is provided based on park usage.

Vehicle parking space size will be constructed as per the LBMC. Standard parking space dimensions will meet or exceed the LBMC, with a standard space equaling 9 feet by 20 feet and a handicapped space dimension of 10 feet by 20 feet with an 8-foot access strip between the two handicap parking spaces (therefore, a total of 14 feet in width per handicap space). Each parking space located adjacent to a fence, wall, or landscaped area will be constructed with wheel stops.

4.3.3 Realignment of East 55th Way

Realignment of East 55th Way will be conducted under standard City roadway construction standards and reflected in applicable Drawings and final plans and specifications.

4.3.4 Site Security

Fencing and site access gates for Friendly Village residents will be constructed along the boundaries of the site in accordance with the final project layout. The fence will be periodically

inspected to maintain site security. The fence will be inspected for breaks, integrity, holes, corrosion, rust, and damage. The single and double gates at the site entrance and the south gate into the mobile home park will be inspected to ensure that adequate movement is provided and that locks are intact. Any necessary repairs including replacement of illegible signs will be documented in monitoring reports.

4.4 Revegetation Plan

The conceptual Planting Plan and Planting List for Phase II will be similar to Phase I and will be provided in final drawings as appropriate. Additional description of the revegetation plan is provided in Section 4.4 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

4.5 Irrigation System

The City is currently evaluating options for a geosynthetic based turf system to avoid the need for irrigation other than a minimal amount needed for heat control. If an irrigated turf system equivalent to Phase I is incorporated, the design of the irrigation system will be based on the water balance model for Phase I to regulate the timing and duration of all watering cycles, including natural rainfall. The controlled irrigation system, if incorporated will be equivalent to Phase I PCLUP and is presented as Drawing L-2 and C-3 of the Phase I PCLUP. Additional description of the irrigation plan is provided in Section 4.4 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

4.5.1 Irrigation System Design Elements

The proposed components of the CalSense irrigation control system for Phase II (if applicable) are equivalent to Phase I and described in Section 4.4 of the Phase I PCLUP (Earth Tech March 17, 2004) incorporated herein by reference. Specifications are included in PCLUP Appendix J.

SECTION 5.0

LANDFILL GAS

5.0 LANDFILL GAS

Figure 5A of the Phase I PCLUP (Earth Tech March 17, 2004) incorporated herein by reference, illustrates methane isoconcentrations in soil gas at 10 feet bgs from a soil gas survey in January 2002. Based on the soil gas survey, three passive landfill gas vents/extraction wells were installed for the Phase I PCLUP (Figures II-4 and II-6). The extraction wells were screened beneath the final cover through waste. Two vents/extraction wells are located in the eastern portion of the property, and one near the western boundary with Phase II located where the highest known levels of landfill gases have been found. Landfill gases (including methane) will migrate to the surface, vent, and be released at the top of a 15-foot-high post. The design of the Phase I passive vent is included in Figure II-7. Based on the existing landfill gas concentrations, age of the landfill, the air dispersion model results, and HHRA, an active landfill gas collection and treatment system was determined not necessary for Phase I.

The proposed Phase II design will provide additional landfill gas monitoring and collection components which can accommodate a low flow blower and Granular Active Carbon (GAC) treatment system. Phase I passive landfill gas vents were capped in response to a Notice to Comply (NTC) issued by the SCAQMD on November 11, 2011. There are concerns that landfill gas may be accumulating under the Phase I cap since the vents were capped. Additional discussions with SCAQMD are being undertaken for measures to allow for the vents to be reopened. A temporary portable extraction and carbon treatment system may be utilized to evaluate and establish equilibrium landfill gas conditions for the vents. Additional measures may include a GAC canister system for continued passive venting which can be modified to add in a low flow blower if required by SCAQMD based on 1150.1 monitoring. Additional discussion of landfill gas monitoring and control is provided in Section 4.0.

5.1 Subsurface Monitoring Probes

Figure II-4 provides the locations of existing and proposed new Phase II landfill gas monitoring probes. Appendix II-C includes additional information on landfill gas monitoring probes. The Phase II PCLUP proposes to install three dual completion landfill gas monitoring probes (GW-12, GW-13, and GW-14) along the north and west boundary of Phase II. These probes will supplement perimeter boundary compliance dual completion probes GW-4, GW-5, and GW-6 (note: all other probes are within waste and monitored not as compliance probes but to assess landfill gas control conditions). An additional dual completion well may be constructed (and abandonment of the existing probe) to replace GW-3 (northwest corner Phase I) if verified to be no longer functional. Existing probes constructed by CalRecycle on the Friendly Village Mobile Home Park (from southwest corner of Phase II- LFG-3, LFG-2 and LFG-18) provide monitoring points along the property boundary. Landfill gas monitoring probes will be constructed in accordance with 27 CCR 20925. Well permits will be obtained from the City prior to installation.

Existing probes are summarized as follows and sample results are summarized on Tables 1 and 2 of the Phase I PCLUP (Earth Tech March 17, 2004) incorporated herein by reference. The City installed five landfill gas monitoring probes (GW-7 through GW-11) in accordance with the Phase I PCLUP (Earth Tech October 21, 2004). These monitoring probes supplement six additional dual cluster probes (GW-1 through GW-6) installed in May and June 2003. Landfill

gas was analyzed by field instruments and samples taken were analyzed for VOCs, TVPH, and fixed gases. Methane concentrations for GW-1 through GW-6 from sampling in 2002-2003 were previously reported in Table 1 of the Phase I PCLUP (Earth Tech October 21, 2004). Results were less than the 5% LEL except for GW-1 (probe within refuse boundary; 12-20%) and GW-4 (probe 5-10 feet at 5.0%). The highest concentrations of VOCs were detected in the sample collected from landfill gas monitoring probe GW-2 located at the northern boundary of the site. BTEX concentrations were detected at each of the five landfill gas boundary monitoring probes except GW-3.

5.2 SCAQMD Requirements

Under SCAQMD Rule 1150.1 *"Control of Gaseous Emissions from Municipal Solid Waste Landfills,"* each active and inactive landfill is required to install, operate, and maintain emission control systems in order to reduce methane and non-methane non-ethane organic compounds (NMEOCs) to prevent public nuisance and possible detriment to public health caused by exposure to these emissions.

Methane is controlled primarily as a surrogate (for NMEOC and VOC emissions which may be ozone precursors or toxic air contaminants). Older inactive landfills commonly do not require emission control systems because the age and amount of waste are such that landfill gas is not significantly generated. However, these landfills are subject to control of surface emissions based on methane concentration (as Total Organic Carbon (TOC) based on Rule 1150.1 detection equipment). Mitigation is typically addressed by adding and compacting soil to close cracks and interfaces.

Recently Rule 1150.1 emission standard was reduced from 500 ppmbv to 200 ppmbv. The reduction was based on ARB's Landfill Methane Rule (LMR) to control greenhouse gas emissions. However, note that while Rule 1150.1 now applies the 200 ppmbv standard, ARB's LMR would not apply to the 55th Way Landfill because the site ceased accepting waste prior to the effective date, has less than 450,000 tons waste in place, and has a heat capacity index lower than ARB's threshold. Furthermore, based on data from investigations conducted at the site and the results of the HHRA, exemption from Rule 1150.1 control requirements is also appropriate based on NMEOCs, VOCs, and toxic air contaminants.

However, recent discussions with SCAQMD indicate that the 200 ppmbv compliance standard applies to vents from landfills without emissions control systems. With an emission control system such as GAC, regardless if used in a passive or active system, will require an authority to construct permit from SCAQMD. Therefore, as part of the Phase II PCLUP, a permit application will be submitted if after a temporary extraction and GAC treatment investigation is conducted and the 200 ppmbv standard cannot be achieved. The permit application if required by SCAQMD pursuant to Rule 1150.1, will include flexibility for addition of a low flow blower (see Figure II-6 and II-7).

5.3 Landfill Gas Dispersion Model from Passive Vent

The Phase I PCLUP included landfill emissions and dispersion models and human health risk assessment (HHRA) to demonstrate passive venting of landfill gas would not exceed thresholds for protection of human health and the environment. Detailed documentation for

the models and risk assessment are provided in Exhibit I and Appendices L and N of the Phase I PCLUP (Earth Tech March 17, 2004) incorporated herein by reference.

Annual NMOC and methane generation were estimated using the EPA Landfill Gas Emissions Model (LandGEM), Version 2.01. The Clean Air Act (CAA) default values for methane generation rate (k) and potential methane generation capacity (L_o) were adopted. The default value for k equals 0.05 per year, and the default value for L_o equals 170 cubic meters per mega-gram (m^3/Mg). A 40 percent methane concentration in the landfill gas was used as a conservative estimate for modeling purposes, which is substantially greater than actual soil gas sampling results.

Following a conservative methodology, ambient air methane concentrations were modeled using Dispersion Factors included in Air Quality Management District (AQMD) risk assessment procedures for Rules 1401 and 212. The model assumes that concentration of a gas decreases as it travels away from the point of release (the passive vent) and spreads out or "disperses". Dispersion factors (X/Q) are numerical estimates of the amount of dispersion that occurs under specific conditions. The amount of dispersion depends on the distance traveled, the height of release and meteorological conditions such as wind speed and atmospheric stability. The dispersion factors give the estimated annual average ground level concentration (micrograms per cubic meter [$\mu g/m^3$]) resulting from a source emitting one ton per year of a compound.

Based on the results of the model using conservative assumptions, a vent stack that releases landfill gas at 15 feet above ground surface will vent concentrations of NMOCs and other VOCs below risk-based levels at the surface based on the HHRA.

SECTION 6.0

POST-CLOSURE MONITORING AND MAINTENANCE PLAN (PCMMP)

6.0 POST-CLOSURE MONITORING AND MAINTENANCE PLAN (PCMMP)

This PCMMP describes activities to be conducted to ensure post-closure performance for both the Phase I and II properties of Davenport Park. This section includes a description of existing environmental monitoring and control systems, and presents proposed maintenance, monitoring and operational procedures to be implemented at the site following construction of the proposed park.

6.1 Purpose and Objectives

The purpose of post closure maintenance and monitoring at the site is to ensure the integrity of the landfill cover, vegetative cover, drainage systems, and site access restriction structures; provide a means for settlement detection; and provide a means of detecting contaminants should they reach groundwater or the atmosphere. This PCMMP is intended to define maintenance and monitoring activities required for the site.

The objective of the final cover inspection and maintenance program is to ensure the integrity of landfill cover vegetation, the final cover, and the drainage system. The objective of the landfill settlement monitoring program is to determine whether settlement that may impact the integrity of landfill control structures is occurring. The objective of the groundwater monitoring and sampling program is to determine groundwater quality parameters and evaluate the performance of systems installed to protect groundwater quality. The objective of the landfill gas monitoring and sampling program is to determine whether landfill gases are accumulating beneath the landfill cover and in the immediate vicinity of the landfill.

6.2 Inspection and Maintenance Program

Five elements of the final cover and storm water management system require periodic inspection and maintenance. These elements are the final cover system, landfill settlement, vegetative cover, the drainage system, and site access restriction structures. Inspection and maintenance frequencies for the different elements are summarized in Table 2 below:

Table 2: Postclosure Inspection and Maintenance Schedule

Element	Quarterly	Annually	Additional Notes
Final Cover System	√		And following significant events*
Settlement		√	And following significant events
Vegetative Cover	√		And following significant events
Drainage System	√		And following significant events
Site Access Restriction Structures	√		And following significant events

Note:
*A significant event is defined as more than 2 inches of rainfall in 24 hours, an earthquake with significant ground shaking, or other events that may affect the site.

In addition to the inspection and maintenance frequencies in Table 2, most elements of the final cover and storm water management system will be inspected following significant events. Significant events include storm events with more than 2 inches of rainfall in 24 hours,

earthquakes with significant ground shaking (typically magnitude 3.0 or greater), and other events that may affect the site.

Competent personnel will perform the monitoring and minor maintenance activities. Major maintenance activities will be performed by a qualified contractor.

The following subsections describe the inspection and maintenance program in more detail.

6.2.1 Inspection and Maintenance of Landfill Cover

A GCL based final cover system was constructed for the Phase I property. A geomembrane based cover system is proposed for the Phase II property final cover system. A monitoring and maintenance plan for the GCL final cover system is included in Appendix II-E which will be updated for the Phase II geomembrane based system upon final design plans and specifications.

Inspection and maintenance of the final landfill cover and Phase I retaining wall includes periodic visual inspection of the cover system for cracks, eroded areas, localized depressions, and damage from burrowing animals. If erosion rills have a potential for exposing the underlying waste (more than 6 inches deep) or ponding is observed on the landfill cover surface, then maintenance activities will be performed, including filling cracks and eroded areas with soil and compacting the soil according to the specifications of the vegetative cover layer. The repaired areas of the landfill will then be revegetated in accordance with the planting plan to match its former condition.

The landfill cover will be inspected and maintained as follows:

- The landfill cover will be inspected quarterly as well as following significant events including storm events with more than 2 inches of rainfall in 24 hours, earthquakes with significant ground shaking (typically magnitude 3.0 or greater), and other events that may affect the integrity or performance of the final cover.
- Evidence of significant erosion, settlement, or other deterioration will be recorded.
- Gullies, depressions, or crevices will be filled to grade with replacement material and vegetated in accordance with project specifications.
- The presence of linear crevices and their reappearance in subsequent months will be noted. If significant crevices appear during three consecutive inspections, an investigative and remedial course of action will be taken. Engineers experienced with landfills and slope stability will investigate the cause of slope instability and recommend an appropriate corrective action.
- Detection of landfill gas exceeding SCAQMD requirements may indicate a penetration through the final cover barrier system. If a penetration is identified a case-specific repair plan will be prepared and implemented.
- The presence of minor cracks in soil, pavement, or hard scape interfaces resulting in exceedance of the SCAQMD Rule 1150.1 surface emissions standard (200 ppmbv) will be repaired by addition of compacted soil or filling cracks by elastomeric filler.

6.2.2 Landfill Settlement Inspection and Maintenance

Settlement or subsidence of the refuse and the fill materials, resulting from refuse decomposition and/or static and dynamic loading, can damage the components of the final cover. Settlement can cause cracks, differential displacement, or zones of depression visible on the soil cover. The landfill cover will be periodically inspected for signs of settlement. However, due to the age of the landfill (more than 50 years since closure) and limited structures and infrastructure proposed for the site, future landfill settlement should be relatively insignificant (less than 3 percent).

Groundwater monitoring wells, active piezometers, and landfill gas monitoring probes located near the landfill (Figures II- 4 and II-5) will be used as survey monuments to provide control and tracking of potential differential settlement at the site. Each groundwater well, piezometer, and landfill gas monitoring probe has been surveyed by a licensed land surveyor to document northing, easting, and elevations above mean sea level and tied into the bench-mark located at the centerline of Paramount Boulevard. Survey monuments (wells and monitoring probes) will be inspected routinely during monitoring to verify their condition.

The procedure for inspection and tracking potential differential settlement include:

- Inspect each settlement monument for damage;
  - Report any change in the position or elevation of a settlement monument. Accuracy for horizontal and vertical measurements should be ±0.01 foot;
  - Repair damage immediately and resurvey the monument;
  - Fill in settlement cracks and depressions with soil compacted in accordance with project specifications;

6.2.3 Inspection and Maintenance of Vegetative Cover

The City Department of Parks, Recreation and Marine will perform maintenance of the vegetation at the landfill. A botanist, agronomist, or other qualified professional will recommend the frequency and schedule for watering the vegetative growth based on limitations outlined by the UNSAT-H results (approximately 42 inches per year of irrigation). Slopes and eroded areas will be monitored and areas of dead or dying vegetation will be visually identified. The cause of the die-off will be determined and mitigated, and the areas of dead vegetation will be reseeded or replanted in accordance with the planting plan. If the planting plan is modified, the modifications must conform to evapotranspiration landfill cover construction specifications and requirements and be noted in the monitoring report.

The vegetative cover on the landfill is designed to reduce erosion caused by wind or water. When fully established, the vegetative cover will require little maintenance. Maintenance of the vegetative cover will be performed in accordance with project specifications.

The vegetative cover will be inspected and maintained as follows:

- The vegetative cover will be inspected for overall health and coverage. Signs of stressed vegetation, dead vegetation, and bare spots will be visually identified.

- The cause of vegetation die-off will be determined and mitigated to the greatest extent possible.
- Areas of dead vegetation will be reseeded in accordance with project specifications. Maintenance of reseeded areas will include periodic watering, spot weeding, application of fertilizer (if needed), and protection of the affected area from traffic/use until vegetation is established.
- Noxious weeds and trees and shrubs with deep roots that may damage the final cover will not be planted and if growing naturally will be removed.

A geosynthetic turf system may be incorporated in Phase II. Inspection and maintenance of the turf system, if constructed, will be in accordance with manufacturer specifications and incorporated as appropriate in an amendment to the Phase II PCLUP.

6.2.4 Inspection and Maintenance of Drainage System

The drainage system will consist of concrete v-ditches, underground storm drain structures, and surface grading features to collect runoff from the landfill cover. The site will be graded to direct runoff from the landfill cover to the drainage structures. Drainage structures include catch basins, underground pipe, and a storm water interceptor equipped with a gravity separation system for removal of oil and grease, sediment, debris, and other pollutants.

The drainage system will be inspected and maintained as follows:

- Periodic visual inspection will be conducted of the drainage system, including catch basins, v-ditches, underground pipes, and surface grading features. The system will be inspected for cracks, root intrusion, overtopping, erosion, debris, sediment collection, other obstructions and breaks, and where vegetation is overgrown or other conditions are impairing the function of the drainage features.
- The drainage system will be inspected following significant events, including storms with more than 2 inches of precipitation in 24 hours, earthquakes with significant ground shaking (typically magnitude 3.0 or greater), or other events that may affect the integrity of the drainage features.
- Maintenance activities may include the repair of cracks, breaks, and eroded areas, and the removal of debris, sediments, or other obstructions.

6.2.5 Inspection and Maintenance of Site Access Restriction Structures

A minimum 6-foot-high concrete block and decorative metal fence is installed along the boundaries of the Phase I property (see Drawing C-8 Phase I PCLUP). Additional fencing will be installed for Phase II. Fences will be periodically inspected to maintain site security. The fence will be inspected for breaks, integrity, holes, corrosion, rust, and damage. The single and double gates at the site entrances and the south gate into the mobile home park will be inspected to ensure that adequate movement is provided and that locks are intact. Any necessary repairs including replacement of illegible signs will be documented in monitoring reports.

6.3 Landfill Gas Monitoring and Control

Detailed description of the landfill gas monitoring and control requirements under 27 CCR Sections 20917-20945 are provided in Sections 6.33 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference. Additionally, Section 5.2 above provides additional description of current SCAQMD Rule 1150.1 requirements, which include a recent change of the methane surface emission standard from 500 ppmbv to 200 ppmbv.

If methane or trace gases exceed threshold levels, short term measures will be implemented to protect public health and safety and the environment. These measures include, but are not limited to, additional soil cover and compaction (exceedances at surface cracks or interfaces) and investigation and repair of final cover if penetrations are the cause. Additionally, interim measures may include extraction of landfill gases using a blower and off-gas treatment system (i.e., GAC, thermal oxidation or other appropriate means that meet SCAQMD requirements). Furthermore, in the unlikely event of imminent threats from landfill gas, the park may close and not be reopened until concentrations are below regulatory levels.

The gas collection system for Phase I includes three passive vents/extraction wells (Figure 6) of the Phase I PCLUP Earth Tech 2004 herein incorporated by reference). Additional gas collection system components for Phase II are provided in Figures II-6 and II-7.

6.3.1 Landfill Gas Monitoring Procedures

Landfill gas monitoring for methane, oxygen, and hydrogen sulfide is routinely conducted using field instruments during quarterly inspections by the LEA. Landfill gas monitoring including field and laboratory analyses and trace gases will be conducted by the City on a case-by-case basis as required by the LEA or SCAQMD.

Detailed description of the landfill gas monitoring procedures and sample collection for laboratory analysis are provided in Sections 6.34 and 6.35 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

6.4 Groundwater Monitoring

The City implements an ongoing Solid Waste Assessment Test (SWAT) groundwater monitoring program for the 55th Way Landfill pursuant to LARWQCB Waste Discharge Requirements Order R4-2004-0157 issued October 12, 2004 and General Monitoring and Reporting Program Order No. CI-8372.

More detailed description of the groundwater monitoring program is provided in Sections 5.4.1 through 5.45 and of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

SECTION 7.0

HEALTH AND SAFETY

7.0 HEALTH AND SAFETY

A Health and Safety Plan (HASP) will be prepared by the City contractor(s) prior to starting construction and post-closure monitoring and maintenance activities. Contractors responsible for performing construction and monitoring/maintenance tasks are responsible for preparing their own site-specific HASP and implementing appropriate health and safety programs and procedures.

7.1 Applicability

The HASP should address all applicable elements as presented in Title 8 of the CCR §5192 (b)(4). Applicable elements include those items that are identified as part of the scope of work as potential workplace hazards that may be encountered during the performance of planned work activities.

7.2 References

The Health and Safety Plan is subject to requirements specified in applicable U.S. Department of Labor OSHA and USEPA regulations. The HASP should follow the guidelines established by the regulatory agencies in the following documents:

- *Safety and Health Requirements Manual*, EM-385-1-1, U.S. Army Corps of Engineers
- *Title 8 of the California Code of Regulations,* Chapter 4, Subchapter 4, Construction Safety Orders
- *Title 8 of the California Code of Regulations,* Chapter 4, Subchapter 7, General Industry Safety Orders
- *Standard Operating Safety Guides*, USEPA, June 1992

The following document provides technical information to aid in the protection from chemical substances:

- *Threshold Limits Values and Biological Exposure Indices for 2002,* American Conference of Governmental Industrial Hygienists (ACGIH).

SECTION 8.0

IMPLEMENTATION SCHEDULE

8.0 IMPLEMENTATION SCHEDULE

A preliminary project schedule for the Phase II PCLUP is included in Table 1. The schedule incorporates the City's community involvement and CEQA processes and will be updated as the processes move forward.

SECTION 9.0

EMERGENCY RESPONSE PLAN

9.0 EMERGENCY RESPONSE PLAN

The Emergency Response Plan addresses occurrences at the site that may exceed the design of the site and endanger public health or the environment. The Emergency Response Plan is described in Section 8.0 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

9.1 Response Actions – Medical Emergencies

Emergency Response actions for medical emergencies are described in Section 8.1 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

The local fire department, hospitals, ambulance/paramedic service, and other emergency services may be contacted by calling 911. A public telephone with "emergency – call 911" signs should be included at the site.

9.2 Response Actions – Spill or Release

Emergency Response actions for hazardous materials release to water, soil, or air are described in Section 8.2 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

In case of a hazardous materials release at the site, the City Fire Department or Hazardous Materials Team will be notified. Emergency services may be contacted by calling 911 or (562) 436-8211 for the City Fire Department Dispatch, and notification should be made to the Hazardous Waste Operations Office at (562) 570-4128.

9.3 Response Actions – Catastrophic Events

Emergency Response actions for catastrophic events such as flood, fire, explosion, or earthquake are described in Section 8.3 of the Phase I PCLUP (Earth Tech March 17, 2004) and incorporated herein by reference.

SECTION 10.0

CLOSURE AND POST-CLOSURE COST ESTIMATES

10.0 CLOSURE AND POST-CLOSURE COST ESTIMATES

Cost estimates and financial assurances for closure, postclosure and corrective action of the Phase I and II 55th Way Landfill are not required under 27 CCR because the landfill ceased receiving waste in 1948, well prior to the effective date of January 1, 1988 (27 CCR 22205(b), 22210(b), and 22220(b)).

SECTION 11.0

REFERENCES

11.0 REFERENCES

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TABLES

TABLE II-1

PRELIMINARY PROJECT SCHEDULE

PRELIMINARY PROJECT SCHEDULE
PHASE II DAVENPORT PARK EXPANSION (55TH WAY FRONTAGE PROPERTY)

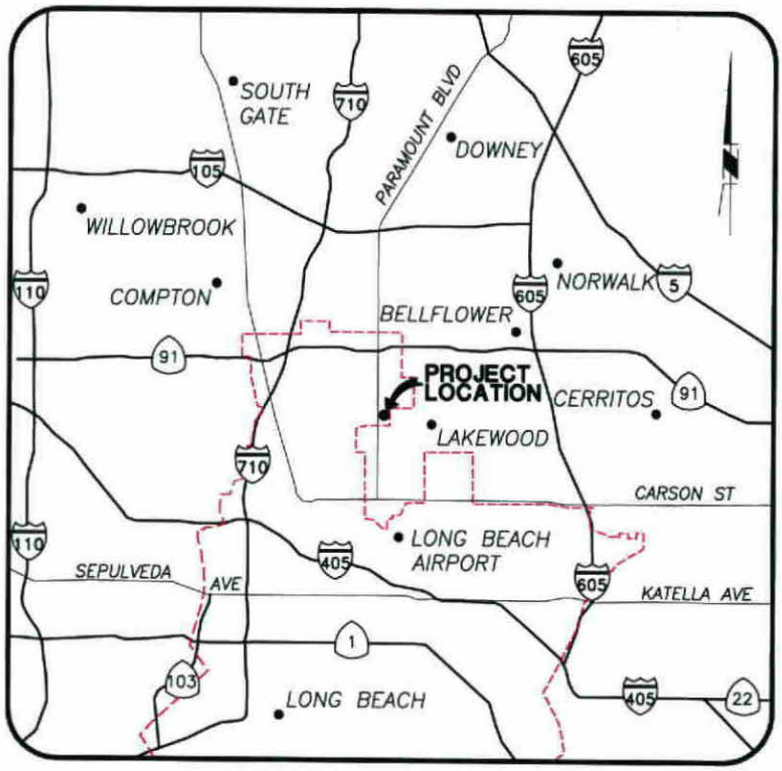
Task Name	Duration	Start	Finish
Notice to Proceed 12/1/13	1 day	12/1/13	12/1/13
Task 1.0 - Data Compilation and Review/Site Review	**188 days**	**10/14/13**	**7/1/14**
Received First Batch of Data 10/14/13 through 11/7/13	19 days	10/14/13	11/7/13
Began Review of Data	130 days	11/1/13	4/30/14
Internal meeting on Approach and Available Background Information	1 day	5/1/14	5/1/14
Second Batch of Data 5/7/14 through 6/3/14	20 days	5/7/14	6/3/14
Review of Data	19 days	6/4/14	6/30/14
Second Internal Meeting on Approach and Available Background Information	1 day	7/1/14	7/1/14
Review/Research of Agency Databases (CalRecycle and LARWQCB)	135 days	12/2/13	6/6/14
Task 2.0 - Prepare PCLU Plan Amendment	**140 days**	**5/19/14**	**11/28/14**
Begin Preparation of PCLU Plan 5/19/14	1 day	5/19/14	5/19/14
Change to Updated Format 5/26/14 - Draft PCLU Plan	**135 days**	**5/26/14**	**11/28/14**
- SWT Draft PCLU Plan	49 days	5/26/14	7/31/14
- City of Long Beach Review PCLU Plan	21 days	8/1/14	8/29/14
- Agency/Public Review of PCLU Plan	45 days	9/1/14	10/31/14
- SWT Finalize PCLU Plan	20 days	11/3/14	11/28/14
Kick-off Meeting with City of Long Beach 6/12/14	1 day	6/12/14	6/12/14
Task 3.0 - Analysis and Recommendations Report for SCAQMD	**78 days**	**6/13/14**	**9/30/14**
Review of Landfill Characterization Data	78 days	6/13/14	9/30/14
Agency Meeting/Discussion (as determined by Agency)	1 day	8/15/14	8/15/14
Task 4.0 - Prepare Permit Application Submittal	**174 days**	**10/1/14**	**6/1/15**
SWT Prepare Permit Application Submittal	23 days	10/1/14	10/31/14
City of Long Beach Review Permit Application Submittal	20 days	11/3/14	11/28/14
SWT Make Necessary Changes to Permit Application Submittal	23 days	12/1/14	12/31/14
Agency/Public Review of Permit Application Submittal	15 days	1/5/15	1/23/15
SWT Make Necessary Changes to Permit Application Submittal	5 days	1/26/15	1/30/15
City of Long Beach Review Final Permit Application Submittal	80 days	2/9/15	5/29/15
Approval of PCLU Plan	1 day	6/1/15	6/1/15
Task 5.0 - Project Coordination/Meetings/Administration	**144 days**	**6/13/14**	**12/31/14**
Communications with Regulatory Agencies	78 days	6/13/14	9/30/14
Regulatory Agency(ies) Meeting(s) (as needed)	1 day	8/15/14	8/15/14
Review Agency Correspondence on LFG and Groundwater	98 days	8/18/14	12/31/14
City (Parks, Recreation and Marine Dept.) Community Meeting-Suggestions for Park Features	1 day	10/15/14	10/15/14
Landfill Closure Preparation (and Demolition)	**156 days**	**4/13/15**	**11/16/15**
Demolition and Debris Removal Plans (SWT or Selected Contractor)	26 days	4/13/15	5/18/15
Prepare Construction Specifications/Details	46 days	4/13/15	6/15/15
Prepare Bid Package for City of Long Beach	46 days	4/13/15	6/15/15
Procurement	110 days	6/16/15	11/16/15
Earthwork, Grading, and Utilities	163 days	11/17/15	6/30/16
Construction and Redevelopment	139 days	12/21/15	6/30/16

Project: City of Long Beach/Paramount/2014 Sched/Project Sched.mpp
Date: 7/17/14
Black Bar = SWT **Blue Bar** = City of Long Beach Grey Bar = Agency/Public Review

Task Progress Milestone Summary

FIGURES

FIGURES



VICINITY MAP

SCALE: 1"=4 MI

LOCATION MAP

SCALE: 1"=0.5 MI

SITE ADDRESS:
2910 E. 55TH WAY
LONG BEACH, CA 90805
ASSESSOR'S PARCEL NO.
7157-006-005

------ CITY LIMITS

PREPARED BY:

SWT Civil & Environmental **Engineering**

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

FIGURE II-1

SITE VICINITY AND LOCATION MAP

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG01 - SITE VICINITY AND LOCATION MAP

LEGEND:

PROPERTY BOUNDARY

50 25 0 50 100 150

SCALE: 1"=100'

PREPARED BY:

SWT Civil & Environmental Engineering

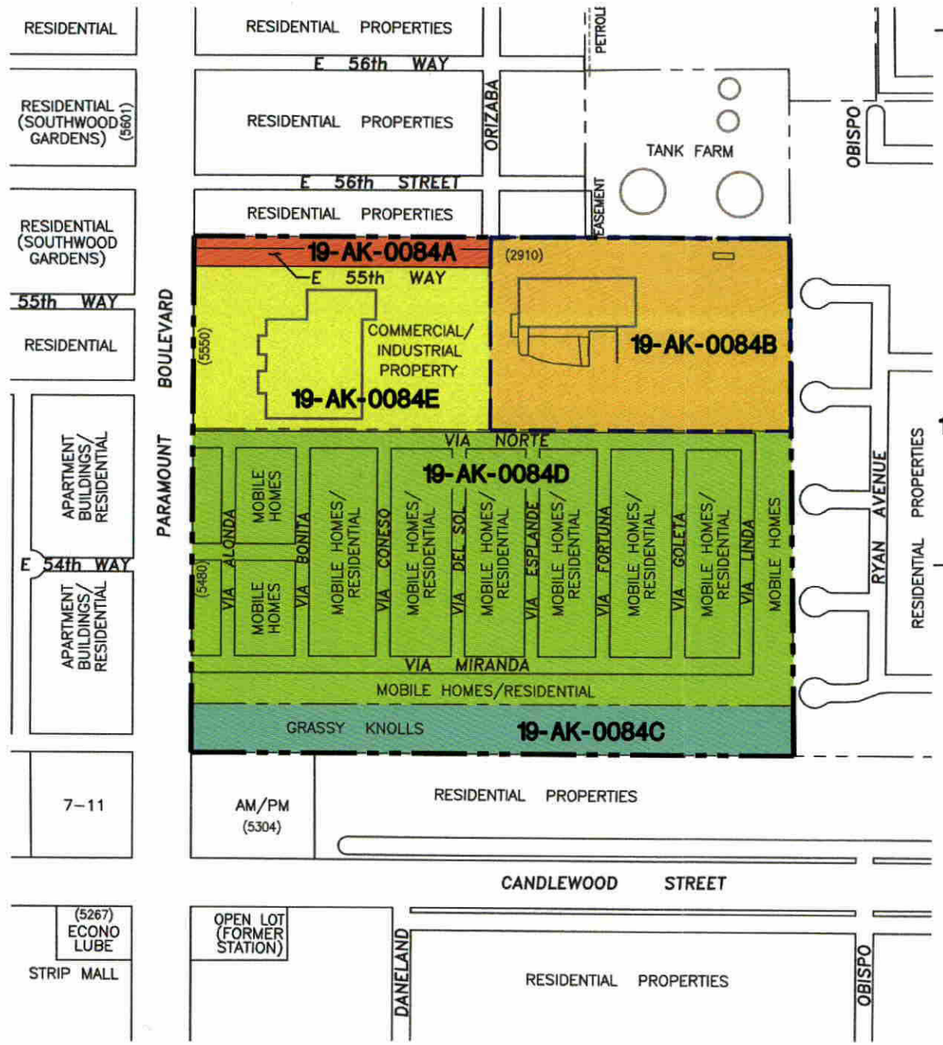
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

FIGURE II-2

PRELIMINARY PHASE II PARK LAYOUT

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG02 – PRELIMINARY PHASE II PARK LAYOUT



EXPLANATION

- APPROXIMATE SITE/PROPERTY BOUNDARY
- APPROXIMATE LANDFILL BOUNDARY
- APPROXIMATE PARCEL/PROPERTY LINE
- (2910) EAST 55th WAY PROPERTY ADDRESS
- 19-AK-0084A EAST 55th WAY (ACCESS ROAD)
- 19-AK-0084B WAREHOUSE PROPERTY (SITE)
- 19-AK-0084C VACANT STRIP (GRASSY KNOLLS)
- 19-AK-0084D FRIENDLY VILLAGE MOBILE HOME PROPERTY
- 19-AK-0084E CAL COAST PACKING AND CRATING PROPERTY
- 19-AK-0084A SWIS NUMBER SPECIFIC TO PARCEL

SOURCE

1. U.S.G.S. AERIAL PHOTOGRAPH, DATED 1994.
2. COUNTY OF LOS ANGELES, DEPARTMENT OF HEALTH SERVICES (PERSONAL COMMUNICATION).

150 75 0 150 300 450

SCALE: 1"=300'

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

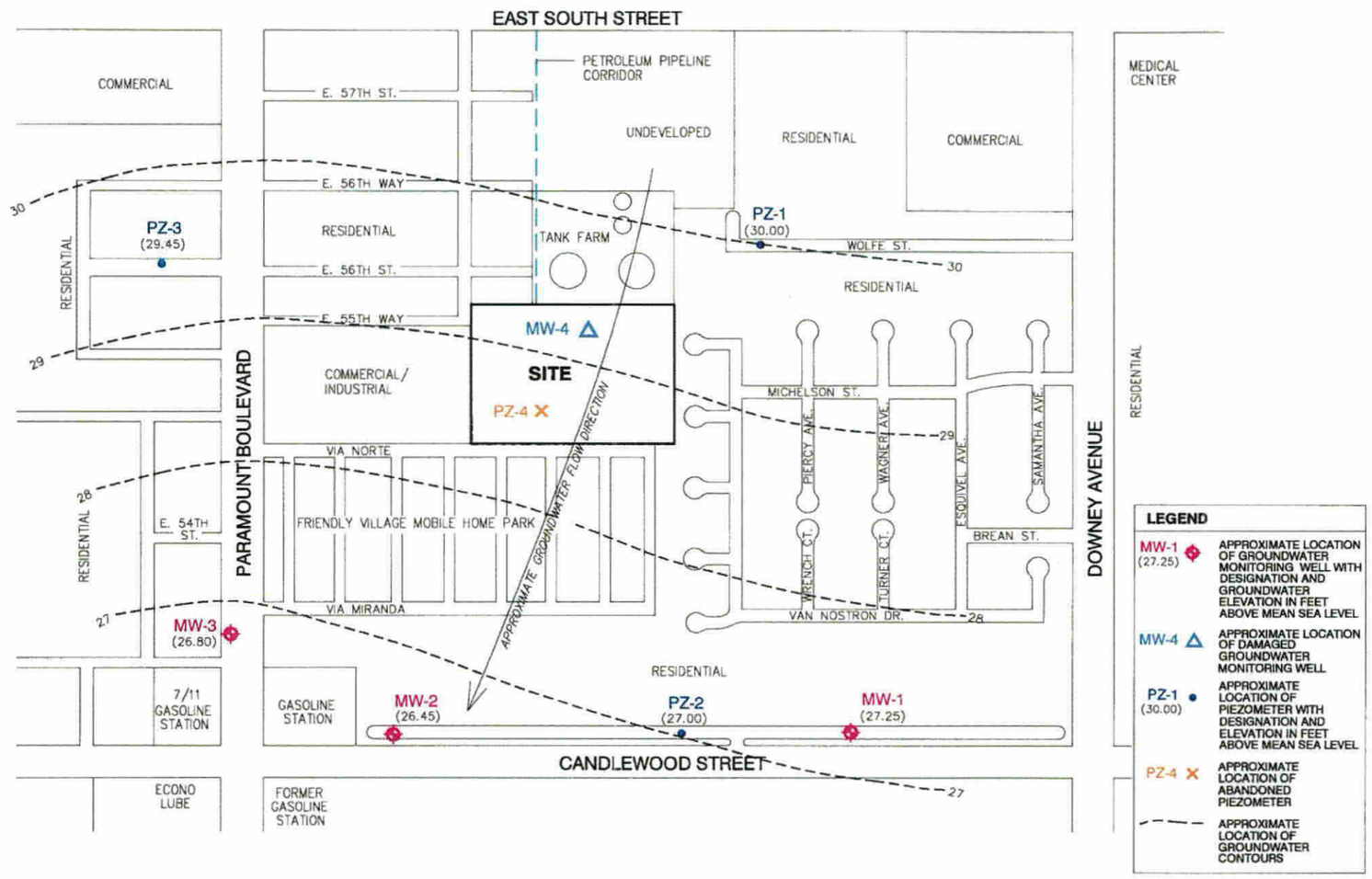
SOURCE: EARTH TECHNOLOGIES

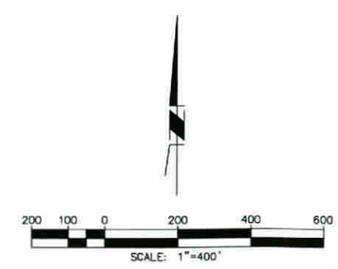
DAVENPORT PARK PHASE II

FIGURE II-3

SWIS PARCEL MAP

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG03 - SWIS PARCEL MAP





PREPARED BY:

SWT Civil & Environmental Engineering

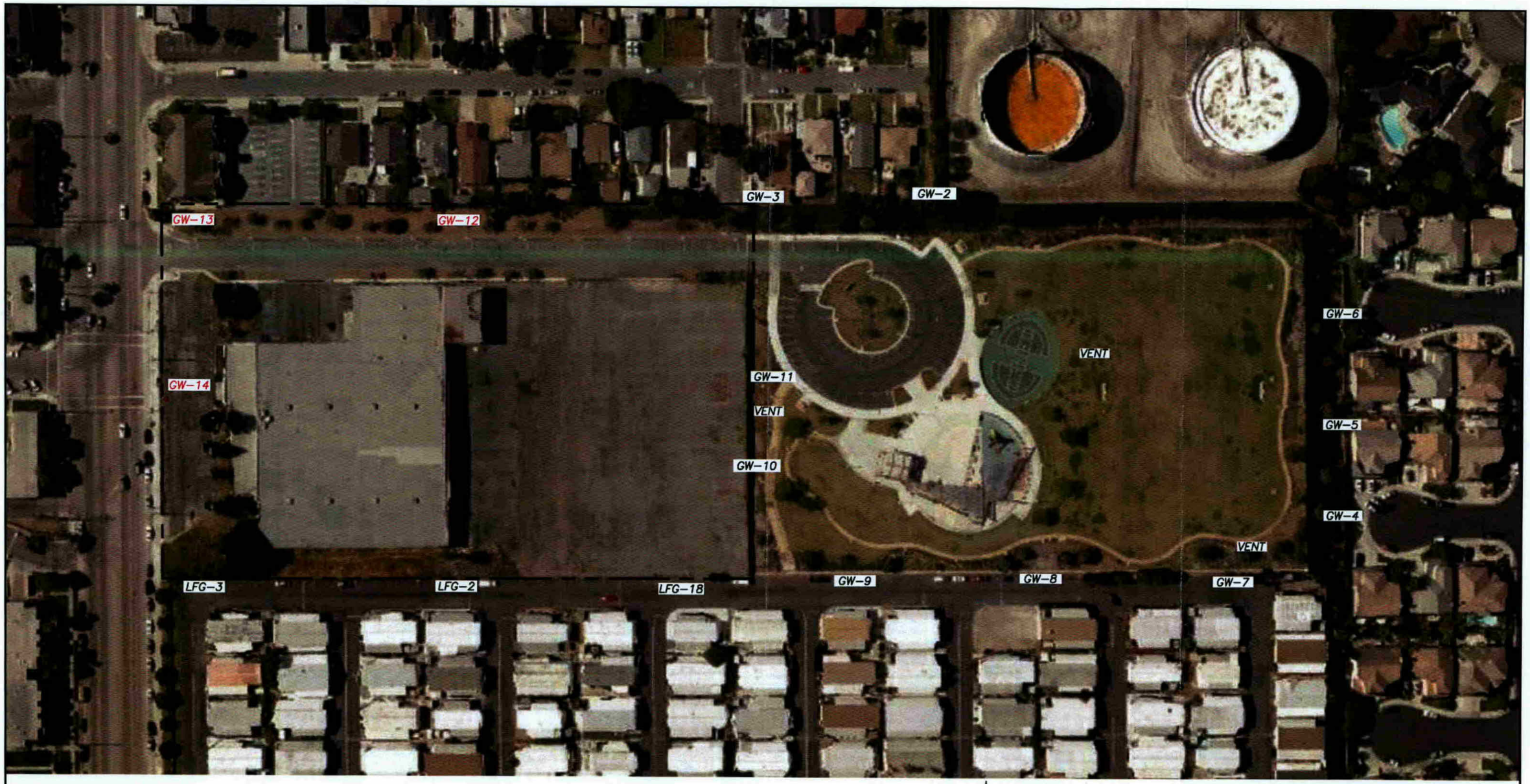
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

SOURCE: NINYO & MOORE

DAVENPORT PARK PHASE II

FIGURE II-5
GROUNDWATER MONITORING WELL LOCATIONS AND ELEVATION CONTOUR MAP

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG05 – GROUNDWATER MONITORING WELL LOCATIONS AND ELEVATION CONTOUR MAP



LEGEND:

— — — —	PROPERTY BOUNDARY
GW-12 ●	PROPOSED LFG MONITORING PROBE
LFG-2/GW-4 ●	EXISTING LFG MONITORING PROBE
VENT ✦	EXISTING LFG VENT/WELL

50 25 0 50 100 150

SCALE: 1"=100'

PREPARED BY:

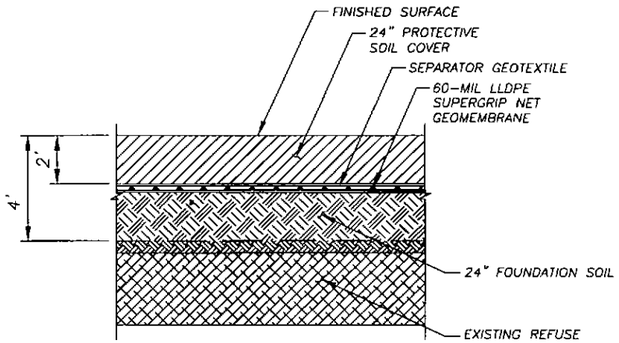
SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

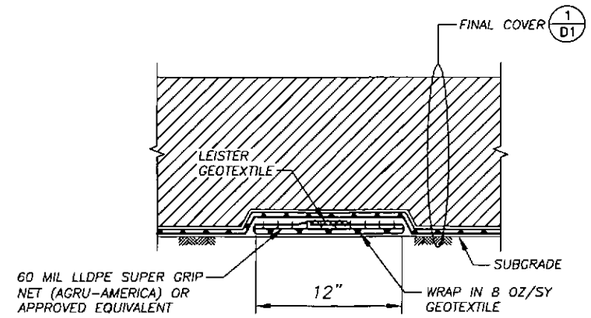
FIGURE II-4
EXISTING AND PROPOSED SUBSURFACE BOUNDARY MONITORING PROBE LOCATIONS

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG04 - EXISTING AND PROPOSED SUBSURFACE BOUNDARY MONITORING PROBE LOCATIONS



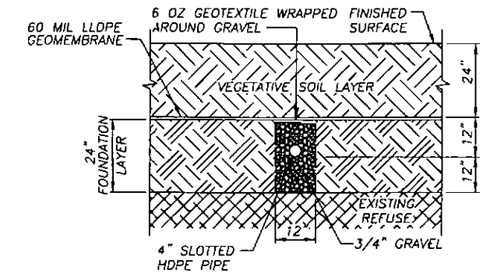
FINAL COVER SECTION (1 / D1)

NTS



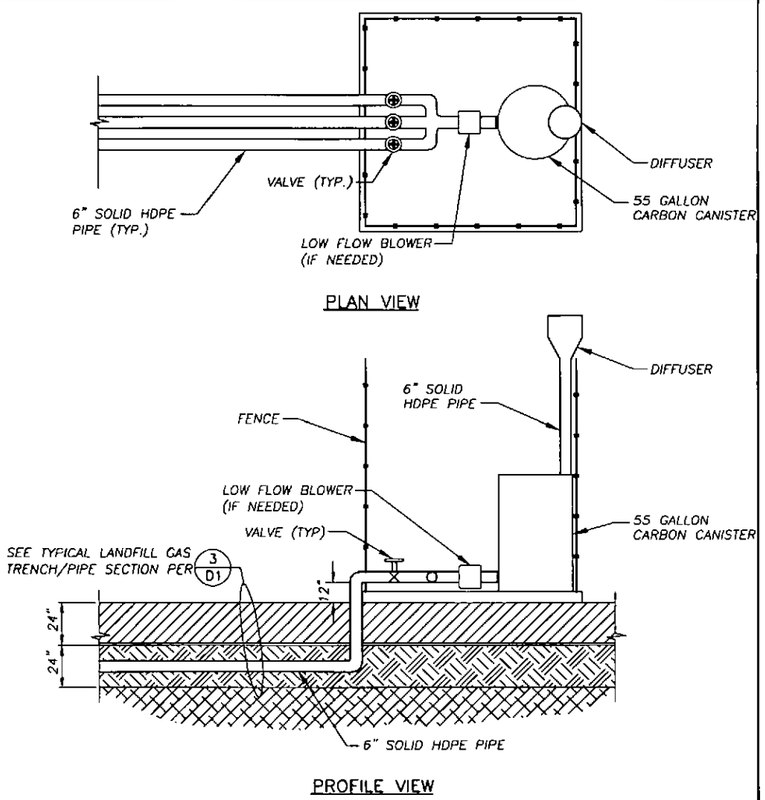
LFG HORIZONTAL COLLECTOR PIPE CROSS SECTION (2 / D1)

NTS



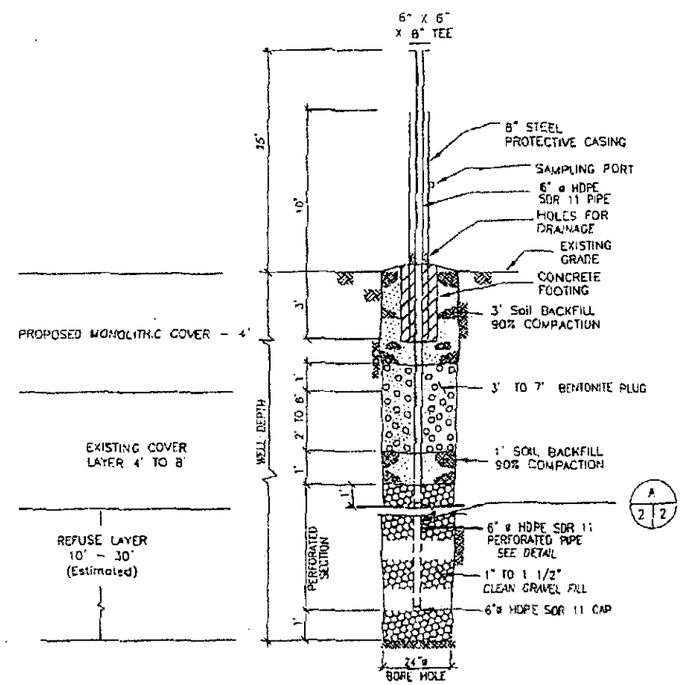
TYPICAL LANDFILL GAS PASSIVE TRENCH/PIPE SECTION (3 / D1)

NTS



LFG COLLECTOR PIPE CROSS SECTION (4 / D1)

NTS



EXISTING LFG EXTRACTION WELL (5 / D1)

NTS

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

FIGURE II-7

PRELIMINARY DESIGN DETAILS

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\F1007 - PRELIMINARY DESIGN DETAILS

LEGEND:

- PROPERTY BOUNDARY
- SOLID HDPE PIPE
- LFG HORIZONTAL COLLECTOR
- LFG COLLECTOR TRENCH/PIPE
- PROPOSED LFG MONITORING PROBE
- EXISTING LFG MONITORING PROBE
- EXISTING LFG VENT/WELL

25 12.5 0 25 50 75

SCALE: 1"=50'

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

FIGURE II-6

PRELIMINARY DESIGN FOR GAS COLLECTION SYSTEM

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\FIG06 - PRELIMINARY DESIGN FOR GAS COLLECTION SYSTEM

APPENDICES

APPENDICES

A

APPENDIX A
GROUNDWATER MONITORING PROGRAM INFORMATION

GROUNDWATER MONITORING SYSTEM PLAN INCLUDING
CROSS SECTION INDEX AND GRADIENT

GROUNDWATER SYSTEM GEOLOGIC CROSS-SECTION

GROUNDWATER ANNUAL SWAT MONITORING REPORT EXCERPT MARCH 14, 2013

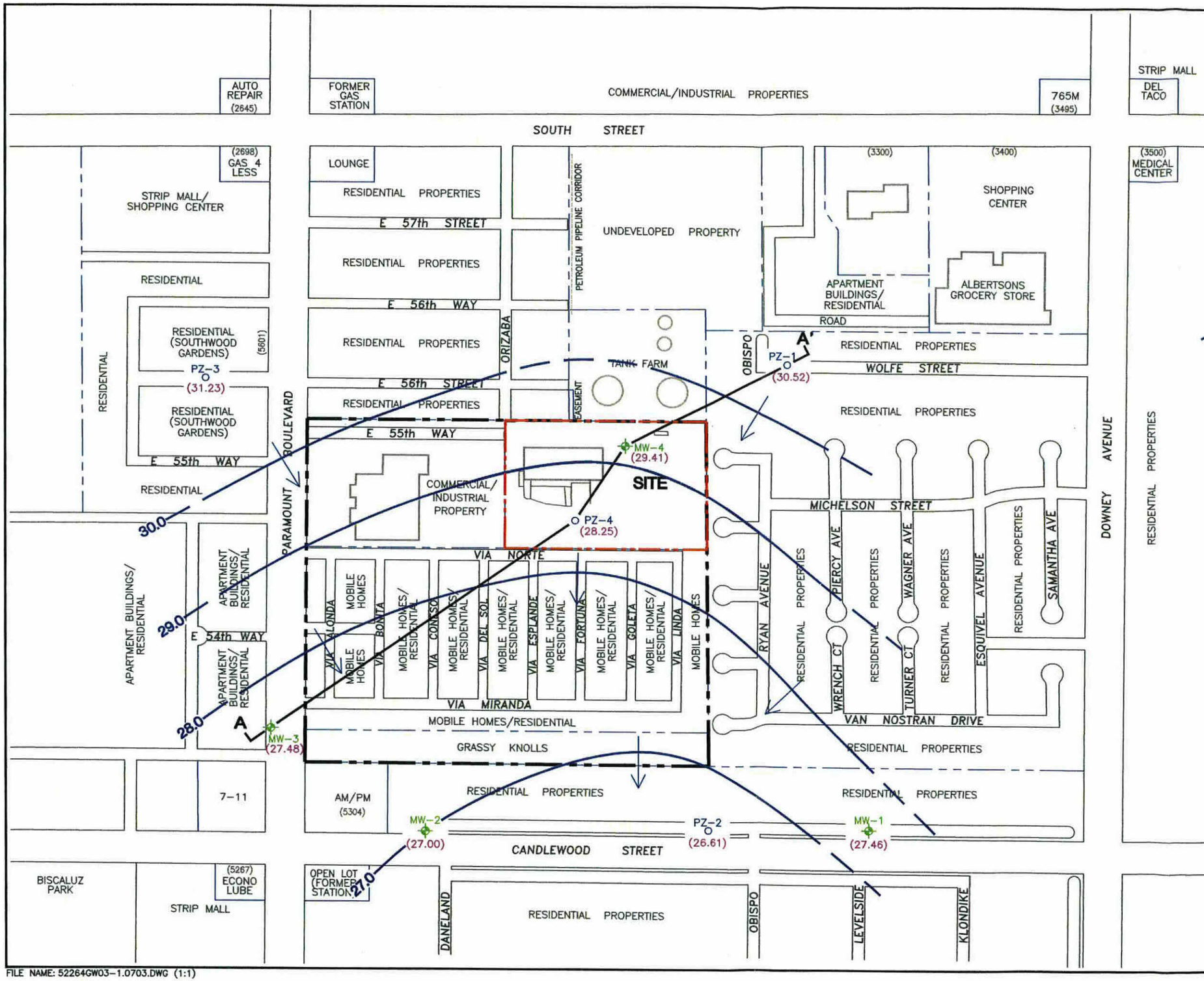
GROUNDWATER SWAT MONITORING REPORT JANUARY 2008

WASTE DISCHARGE REQUIREMENTS (WDRS) PARAMOUNT (55TH WAY) LANDFILL
ORDER R4-2004-0157

MONITORING AND REPORTING PROGRAM (MRP) PARAMOUNT (55TH WAY) LANDFILL
ORDER CI-8372A

STAFF REPORT WDRS AND MRP

GROUNDWATER MONITORING SYSTEM PLAN INCLUDING CROSS SECTION INDEX AND GRADIENT



EXPLANATION

- APPROXIMATE SITE/PROPERTY BOUNDARY
- APPROXIMATE LANDFILL BOUNDARY
- APPROXIMATE PARCEL/PROPERTY LINE
- (5601) PROPERTY ADDRESS
- PZ-4 PIEZOMETER LOCATION (4 EA. TOTAL)
- MW-4 MONITORING WELL LOCATION (4 EA. TOTAL)
- A——A' CROSS-SECTION INDEX LINE

GROUNDWATER MONITORING LEGEND

- (31.23) GROUNDWATER ELEVATION IN FEET ABOVE SEA LEVEL. DATA COLLECTED ON MARCH 30, 2003.
- GROUNDWATER CONTOUR ARROWS INDICATE DIRECTION OF GROUNDWATER FLOW GROUNDWATER CONTOUR INTERVAL = 1.00'

SOURCE

1. U.S.G.S. AERIAL PHOTOGRAPH, DATED 1994.
2. OFF-SITE PIEZOMETER/WELL LOCATIONS SURVEYED BY DULIN-BOYNTON, JANUARY 16, 2003. MONITORING WELL LOCATIONS SURVEYED MARCH 31, 2003.

NORTH

0 300 600

APPROXIMATE SCALE IN FEET (SCALE: 1" = 300')

CITY OF LONG BEACH
PARAMOUNT DUMP/55th WAY LANDFILL

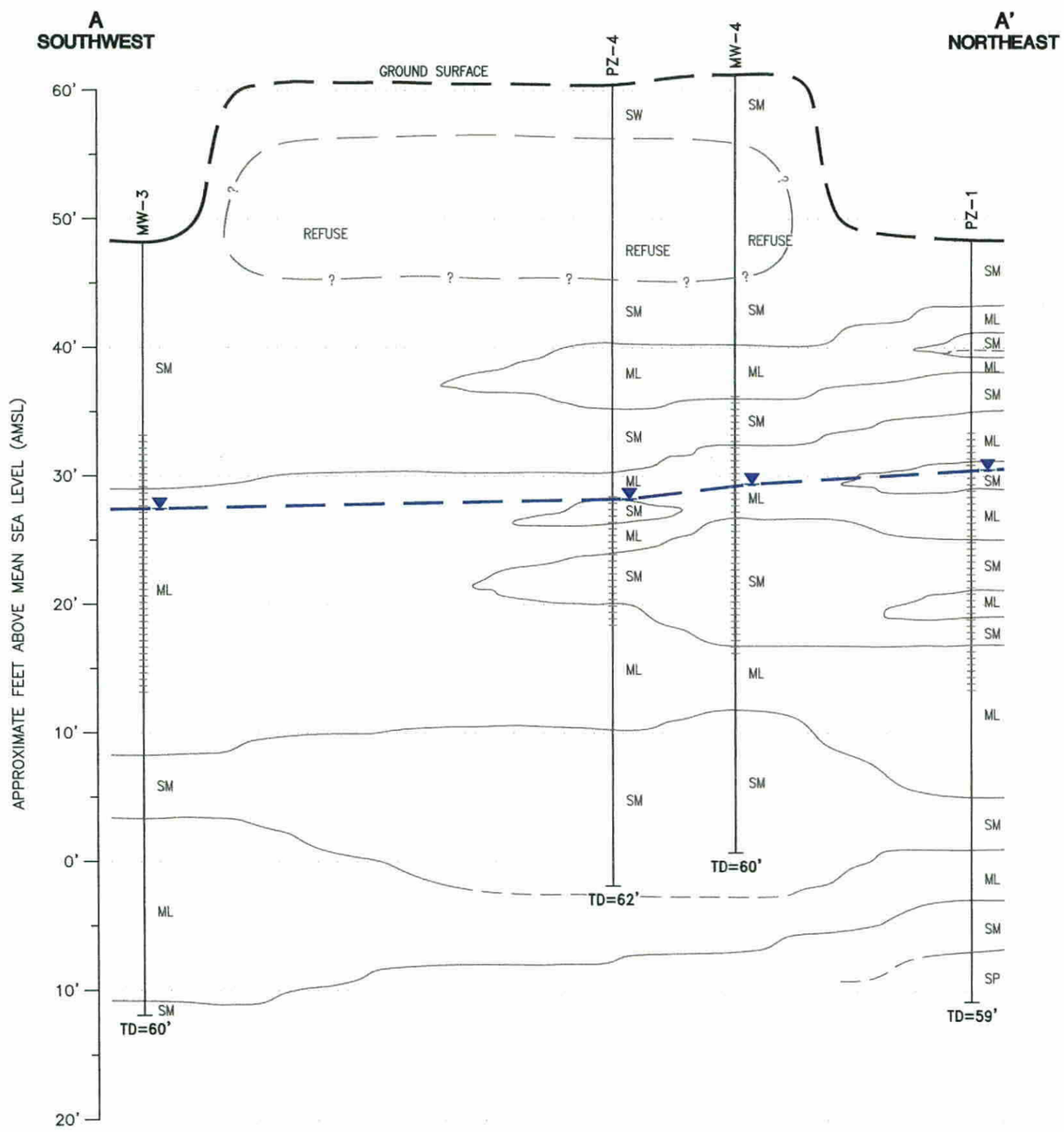
CROSS-SECTION INDEX WITH GROUNDWATER GRADIENT - MARCH 2003

2910 EAST 55th WAY
LONG BEACH, CALIFORNIA

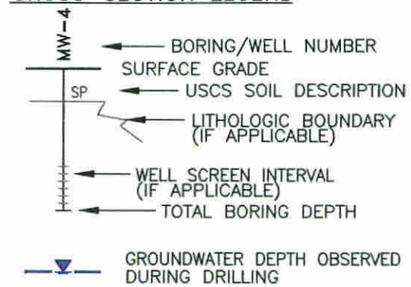
DATE: 07-03	EARTH TECH	FIGURE
PROJECT NO. 52264		2

FILE NAME: 52264GW03-1.0703.DWG (1:1)

GROUNDWATER SYSTEM GEOLOGIC CROSS-SECTION

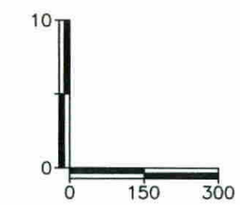


CROSS-SECTION LEGEND



USCS LITHOLOGY SYMBOLS

SP	POORLY GRADED SAND
SW	WELL GRADED SAND
SM	SILTY SAND
ML	SILT



APPROXIMATE HORIZONTAL SCALE IN FEET: 1" = 300'
APPROXIMATE VERTICAL SCALE IN FEET: 1" = 10'

CITY OF LONG BEACH
PARAMOUNT DUMP/55th WAY LANDFILL

GEOLOGIC CROSS-SECTION A - A' (VICINITY)

2910 EAST 55th WAY
LONG BEACH, CALIFORNIA

DATE: 07-03	EARTH TECH	FIGURE
PROJECT NO. 52264		4

FILE NAME: 52764CSA.0703.DWG (1:1)

GROUNDWATER ANNUAL SWAT MONITORING REPORT EXCERPT MARCH 14, 2013

CSC TARGHEE, INC.

ENVIRONMENTAL CONSULTING

March 14, 2013

Ms. Sandra J. Gonzales, Manager
City of Long Beach
Planning and Development Bureau
Department of Parks, Recreation and Marine
2760 Studebaker Road
Long Beach, California 90815-1697

Re: Annual Groundwater Solid Waste Assessment Test Report
Former 55th Way Landfill/Paramount Dump
Ed "Pops" Davenport Park
2910 East 55th Way, Long Beach, CA 90805
SWIS No. 19-AK-0084
Compliance File No. CI-8372A
CRWQCB-LA Order No. R4-2004-0157
Reporting Period: April 2012 – March 2013

Dear Ms. Gonzales:

CSC Targhee, Inc. is pleased to provide you with the enclosed report documenting the groundwater monitoring and sampling results from April 2012 through March 2013 for the above-referenced site. Please review the report and have the Department Director sign the Certification. The report can then be forwarded to Mr. Enrique Casas at the California Regional Water Quality Control Board, Los Angeles Region.

If you have any questions or comments, please contact the undersigned at (562) 435-8080.

Sincerely,

Neil McConnell
PG No. 8417

Enclosure

cc: Mr. Enrique Casas
CRWQCB-LA

110 Pine Avenue, Suite 925 • Long Beach, CA 90802-4455 • (562) 435-8080 FAX (562) 590-8795
www.targheeinc.com

CSC TARGHEE, INC.

ENVIRONMENTAL CONSULTING

March 14, 2013

Mr. Enrique Casas
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Annual Groundwater Solid Waste Assessment Test Report
Former 55th Way Landfill/Paramount Dump
Ed "Pops" Davenport Park
2910 East 55th Way, Long Beach, CA 90805
SWIS No. 19-AK-0084
Compliance File No. CI-8372A
CRWQCB-LA Order No. R4-2004-0157
Reporting Period: April 2012 – March 2013

Dear Mr. Casas:

CSC Targhee, Inc. is pleased to provide you with this annual summary report documenting the Solid Waste Assessment Test ("SWAT") groundwater monitoring at the Former 55th Way Landfill/Paramount Dump located at 2910 East 55th Way, Long Beach, California 90805. The groundwater sampling, laboratory analysis and statistical analysis were conducted in accordance with the Waste Discharge Requirements issued October 12, 2004, to the City of Long Beach by the California Regional Water Quality Control Board, Los Angeles Region ("CRWQCB-LA").

This report summarizes the activities from April 2012 through March 2013 and includes historical data. The results of the laboratory analysis and statistical analysis of the data were reviewed to assess a potential release from the landfill. Sulfates, nitrogen/nitrates, chloride and total dissolved solids ("TDS") show statistically significant differences at the 95 percent confidence level between the upgradient and downgradient groundwater quality and with consideration of the size and limitations of the data set. Analysis of the data for nitrogen/nitrate, sulfate, TDS and TOX reveals that the upgradient monitoring point, PZ-1, has either the highest mean concentration or that one of the two downgradient points (MW-1, MW-2) has the lowest mean concentration. Additionally, the small number of observations (*i.e.*, number of recorded monitoring events) limits the power of the statistical test. Based on these observations, it does not appear that an unregulated release is occurring from the landfill.

110 Pine Avenue, Suite 925 • Long Beach, CA 90802-4455 • (562) 435-8080 FAX (562) 590-8795
www.targheeinc.com

If you have any questions or comments, please contact Mr. Neil McConnell at (562) 435-8080.

Sincerely,

Neil McConnell
PG No. 8417

Enclosures

Solid Waste Water Quality Assessment Results:

Attachment A – Summary Data
Attachment B – Figures
- Figure 1 Site Location Map
- Figure 2 Site Plot Plan
- Figure 3 Groundwater Elevation Contour Map

Attachment C – Tables and Charts
- Table 1 Summary of Well Construction Information
- Table 2 Sample Matrix
- Table 3 Volatile Organic Compounds in Groundwater
- Table 4 TPH and Oil and Grease in Groundwater
- Table 5 SVOCs in Groundwater
- Table 6 Polychlorinated Biphenyls in Groundwater
- Table 7 Inorganics in Groundwater
- Table 8 Data Used in Parametric ANOVA Test
- Table 9 Groundwater Monitoring Data
- Table 10 Summary of Parametric ANOVA Test Results
- Chart 1 Historical Groundwater Levels
- Chart 2 Detected Concentrations of Chloride
- Chart 3 Detected Concentrations of Nitrogen/Nitrate
- Chart 4 Detected Concentrations of Sulfate
- Chart 5 Detected Concentrations of TDS
- Chart 6 Detected Concentrations of TOC
- Chart 7 Detected Concentrations of TOX
- Chart 8 Detected Concentrations of COD

Attachment D – General Field Procedures
Attachment E – Field Data Sheets
Attachment F – ANOVA Statistical Analysis Data
Attachment G – Laboratory Report with Chain-of-Custody Documentation
Attachment H – Waste Manifest

CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals directly responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

George Chapjian
Director
Department of Parks, Recreation and Marine

GROUNDWATER SWAT MONITORING REPORT JANUARY 2008

January 29, 2008
Project No. 207069004

Ms. Anna Mendiola
City of Long Beach
Department of Parks, Recreation, and Marine
2760 Studebaker Road
Long Beach, California 90815-1697

Subject: Groundwater Solid Waste Assessment Test Report
Former 55th Way Landfill/Paramount Dump
Ed "Pops" Davenport Park
2910 East 55th Way
Long Beach, California
SWIS No. 19-AK-0084
Compliance File No. CI-8372A
LARWQCB Order No. R4-2004-0157

Dear Ms. Mediola:

Ninyo & Moore is pleased to submit this report documenting the groundwater monitoring and sampling results for the former 55th Way/Paramount Dump, Long Beach, California. Please review the report and have the Department Director sign the Certification. The report can then be forwarded to Mr. Enrique Casas at the Los Angeles Regional Water Quality Control Board.

We appreciate the opportunity to provide service on this project.

Sincerely,
NINYO & MOORE

Denise Alvarez
Project Geologist

PDS/DLA/WRC/emp

Distribution: (4) Addressee

207069004 L Groundwater

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

January 29, 2008
Project No. 207069004

Mr. Enrique Casas
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Groundwater Solid Waste Assessment Test Report
Former 55th Way Landfill/Paramount Dump
Ed "Pops" Davenport Park
2910 East 55th Way
Long Beach, California
SWIS No. 19-AK-0084
Compliance File No. CI-8372A
LARWQCB Order No. R4-2004-0157

Dear Mr. Casas:

Ninyo & Moore is pleased to submit this report documenting the Groundwater Solid Waste Assessment Test (SWAT) at the former Paramount Landfill located at 2910 East 55th Way in Long Beach, California. The groundwater sampling, laboratory analysis, and statistical analysis was conducted in accordance with the Waste Discharge Requirements issued October 12, 2004, to the City of Long Beach by the Los Angeles Regional Water Quality Control Board (LARWQCB).

Results of laboratory analysis and statistical analysis of the data were reviewed to determine whether a release from the landfill has occurred. Sulfates, nitrogen/nitrates, chloride, and total dissolved solids (TDS) show statistically significant differences at he 95 percent confidence level between the upgradient and downgradient groundwater quality parameters measured. However, these results must be reviewed in totality with historical data and with consideration of the size and limitations of the data set. Inspection of the data reveals that the upgradient monitoring point (PZ-1) has either the highest mean concentration or that one of the two downgradient points (MW-1, MW-2) has the lowest mean concentration. Additionally, the small number of observations (i.e., number of recorded monitoring periods) and the inability to collect sufficient groundwater from PZ-1 this period limit the power of the statistical test. Based on these, it does not appear that an unregulated release is occurring from the landfill.

The contents of this report include:

Solid Waste Water Quality Assessment Results:

Attachment A – Summary Data
Attachment B – Figures
Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Groundwater Elevation Contour Map – 11/21/2007
Attachment C – Tables and Charts
Table 1 – Summary of Well Construction Information
Table 2 – Sample Matrix
Table 3 – Volatile Organic Compounds in Groundwater
Table 4 – TPH and Oil and Grease in Groundwater
Table 5 – SVOCs in Groundwater
Table 6 – Polychlorinated Biphenyls in Groundwater
Table 7 – Inorganics in Groundwater
Table 8 – Data used in Parametric ANOVA Test
Table 9 – Summary of Parametric ANOVA Test Results
Table 10 – Quarterly Groundwater Monitoring Data
Chart 1 – Historical Groundwater Levels
Chart 2 – Detected Concentrations of Chloride
Chart 3 – Detected Concentrations of Nitrogen/Nitrate
Chart 4 – Detected Concentrations of Sulfate
Chart 5 – Detected Concentrations of TDS
Chart 6 – Detected Concentrations of TOC
Chart 7 – Detected Concentrations of TOX
Chart 8 – Detected Concentrations of COD
Attachment D – General Field Procedures
Attachment E – Field Data Sheets
Attachment F – ANOVA Statistical Analysis Data
Attachment G – Laboratory Report and Chain-of-Custody Documentation
Attachment H – Waste Manifest
Attachment I – Groundwater Solid Waste Assessment Test Summary Report, Semi Annual Monitoring Event, April 2006-September 2006, Earth Tech excerpts 1, 2, and 3

We appreciate the opportunity to provide service on this project.

Sincerely,
NINYO & MOORE

Peter Sims
Staff Environmental Geologist

Denise Alvarez
Project Geologist

Walter R. Crone, P.G. 4350, R.E.A.
Principal Environmental Geologist

PROFESSIONAL GEOLOGIST
WALTER R. CRONE
NO. 4350
EXP 09/09
STATE OF CALIFORNIA

PDS/DLA/WRC/jad/emp

Distribution: (4) Addressee

CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties of submitting false information, including the possibility of fine and imprisonment.

Walter R. Crone, P.G. 4350, R.E.A.
Principal Environmental Geologist

PROFESSIONAL GEOLOGIST
WALTER R. CRONE
NO. 4350
EXP 09/09
STATE OF CALIFORNIA

Phil T. Hester
Director
Department of Parks, Recreation, and Marine
City of Long Beach

ATTACHMENT A

SUMMARY DATA

SUMMARY DATA

SITE INFORMATION	
Former 55th Way Landfill/Paramount Dump **Ed "Pops" Davenport Park** **2910 East 55th Way** **Long Beach, California**	Lead Agency: LARWQCB Agency Order Number: R4-2004-0157 Project Number: 207069004
OVERVIEW	
Reporting Period: October-March 2007-2008 Sampling Consultant: Ninyo & Moore	Groundwater wells on site: 1 Groundwater wells off site: 3 Piezometers on site: 1 Piezometers off site: 3
GEOLOGIC INFORMATION	
Source: GeoTracker Surface to ~30 ft bgs – Silty SAND	
FIELD ACTIVITIES	
Groundwater fluid level measurement date (s):	November 21, 2007
Groundwater sampling date (s):	November 21, 2007
Groundwater wells measured:	3 - MW-1, MW-2, MW-3
Groundwater wells sampled:	2 - MW-1, MW-2; Purge method: Peristaltic Pump
Piezometers Measured:	3 - PZ-1, PZ-2, PZ-3
Piezometers Sampled:	1- PZ-1; Purge method: Peristaltic pump
Total gallons disposed:	Approximately 14.5 gallons
Treatment/disposal method:	Crosby & Overton disposal facility

LABORATORY ANALYSIS

Groundwater samples were submitted to a state-certified laboratory for the following analyses:
- Chemical Oxygen Demand, using EPA Method 410.4
- Total Organic Halides, using EPA Method 9020
- Total Organic Carbon, using EPA Method 415.1
- Total Dissolved Solids, using EPA Method 160.1
- Chloride, Sulfate, Nitrate, and Nitrite, using EPA Method 300
- Boron, using EPA Method 6010
- VOCs, using EPA Method 8260B
- Semi-volatiles, using EPA Method 8270C
- Sulfides, using EPA Method 376.2
- PCBs, using EPA Method 8082
- Biological Oxygen Demand, using EPA Method 405.1
- Oil and Grease, using EPA Method 413.2

ADDITIONAL INFORMATION

- Groundwater monitoring and sampling were conducted in accordance with Monitoring and Reporting Program No. CI-8372A.
- See Attachment I for background and setting information.
- Field Activities were performed under the direction of a registered professional.
- Due to lack of recharge in PZ-1, sufficient water was not present to complete all analysis listed above (see Table 7).
- Monitoring well lid was missing on MW-3. Replaced missing lid on November 21, 2007.

SUMMARY DATA

SITE INFORMATION

Former 55th Way Landfill/Paramount Dump **Ed "Pops" Davenport Park** **2910 East 55th Way** **Long Beach, California**	Lead Agency: Agency Order Number: Project Number:	LARWQCB R4-2004-0157 207069004

CONCLUSIONS

- The former landfill does not appear to have adversely impacted groundwater below or in the vicinity of the site.

RECOMMENDATIONS

- Continue semi-annual monitoring and sampling.

NOTES

- Elevations are in feet above mean sea level (datum set by previous sampling contractor).

ABBREVIATIONS

LARWQCB	= Los Angeles Regional Water Quality Control Board	ft	= feet
EPA	= Environmental Protection Agency	bgs	= below ground surface
µg/l	= micrograms per liter	msl	= mean sea level
		gw	= groundwater

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

ATTACHMENT B

FIGURES

REFERENCE: 2005 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY

APPROXIMATE SCALE IN FEET

0 2400 4800

N

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE

Map © Rand McNally, R.L.07-S-129

207069-A1.DWG

Ninyo & Moore

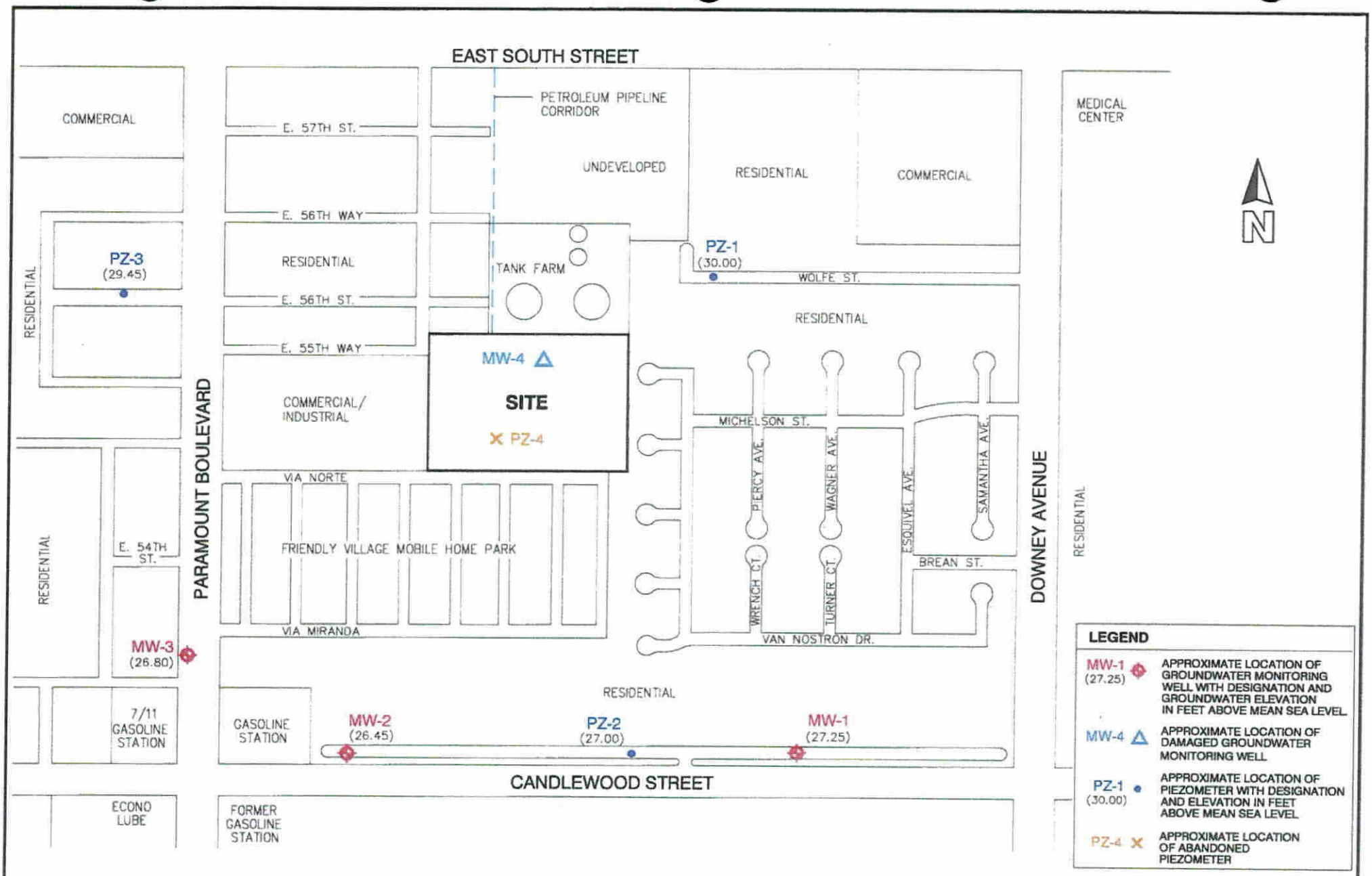
PROJECT NO.	DATE
207069004	1/08

SITE LOCATION MAP

2910 EAST 55TH WAY
LONG BEACH, CALIFORNIA

FIGURE

1



APPROXIMATE SCALE IN FEET

0 400 800

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

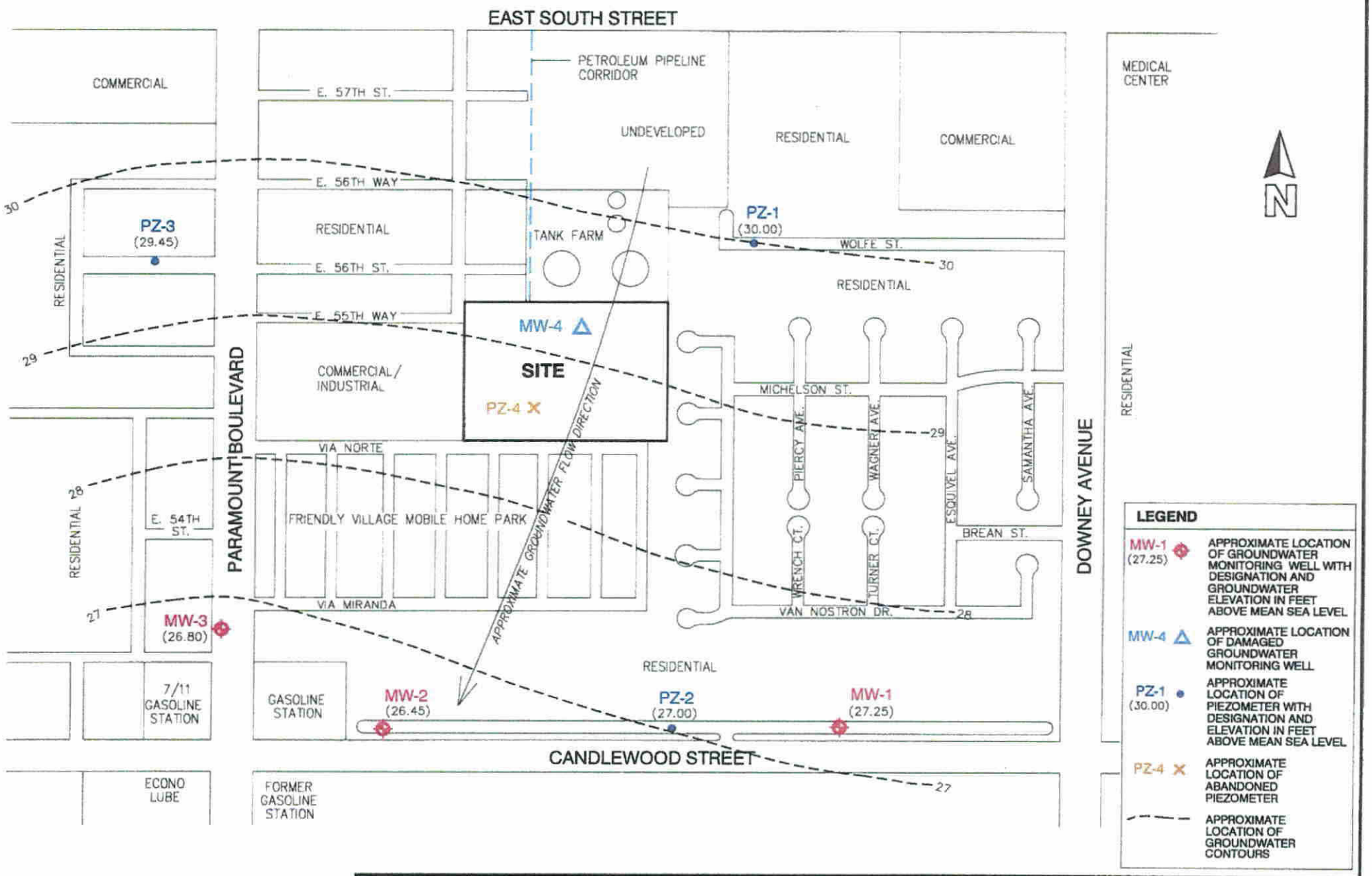
PROJECT NO.	DATE
207069004	1/08

SITE PLAN

2910 EAST 55TH WAY
LONG BEACH, CALIFORNIA

FIGURE

2



APPROXIMATE SCALE IN FEET

0 400 800

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore	GROUNDWATER ELEVATION CONTOUR MAP	FIGURE
PROJECT NO. 207069004 / DATE 1/08	2910 EAST 55TH WAY LONG BEACH, CALIFORNIA	3

ATTACHMENT C

TABLES AND CHARTS

TABLE 1 – SUMMARY OF WELL CONSTRUCTION INFORMATION

Well No.	Date	Well Diameter (inches)	PVC Thickness (Schedule)	Total Boring Depth (feet bgs)	Total Well Depth (feet bgs)	Well Screen Interval (feet bgs)	Well Screen Slot Size (inches)	Comment
PZ-1	1/13/2003	3/4	80	59	35	15-35	0.01	Refusal during drilling at 59 feet bgs.
PZ-2	1/14/2003	3/4	80	62	35	15-35	0.01	
PZ-3	1/14/2003	3/4	80	50	35	15-35	0.01	Refusal during drilling at 50 feet bgs.
PZ-4	1/15/2003	3/4	80	62	42	32-42	0.01	Abandoned during site construction - May/June 2005.
MW-1	12/9/2002	2	40	60	35	15-35	0.01	
MW-2	12/9/2002	2	40	60	35	15-35	0.01	
MW-3	12/9/2002	2	40	60	35	15-35	0.01	
MW-4	12/9/2002	2	40	60	45	25-45	0.01	Damaged during site construction - May/June 2005.

Note:
bgs – below ground surface

TABLE 2 – SAMPLE MATRIX

Well No.	Groundwater Monitoring Event	VOCs	TPHg	TPHd	TPHo	TPH-jet fuel	Oil and Grease	PAHs	Metals	SVOCs	TOC	PCBs	BOD	Nitrite	Boron	Sulfides	COD	TOX	Chloride	Nitrogen/ Nitrate	Sulfate	TDS
EPA Method		8260B	8015M				1664/413 2	8310	CAM 17	8270C/625	9060/415 1/160 1	8082	405 1B	300	6010B	376 2	410 4	9020	300 0			160 1
PZ-1	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	1st Qtr - 2005	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2005	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	1st Qtr- 2006	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2006	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	4th Qtr - 2007	x								x	x	x										
PZ-2	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
PZ-3	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
PZ-4	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	2nd Qtr - 2003																					
	3rd Qtr - 2003	x	x	x	x	x																
	4th Qtr - 2003	x	x	x	x	x			x													
MW-1	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	2nd Qtr - 2003	x	x	x	x																	
	3rd Qtr - 2003	x	x	x	x	x			x													
	4th Qtr - 2003	x	x	x	x																	
	1st Qtr - 2005	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2005	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	1st Qtr - 2006	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2006	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	4th Qtr - 2007	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
MW-2	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	2nd Qtr - 2003	x	x	x	x																	
	3rd Qtr - 2003	x	x	x	x	x			x													
	4th Qtr - 2003	x	x	x	x																	
	1st Qtr - 2005	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2005	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	1st Qtr - 2006	x								x	x				x	x	x	x	x	x	x	x
	3rd Qtr - 2006	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
	4th Qtr - 2007	x					x			x	x	x	x	x	x	x	x	x	x	x	x	x
MW-3	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	2nd Qtr - 2003	x	x	x	x																	
	3rd Qtr - 2003	x	x	x	x	x			x													
	4th Qtr - 2003	x	x	x	x																	
MW-4	1st Qtr - 2003	x	x	x	x			x	x	x	x						x	x	x	x	x	x
	2nd Qtr - 2003	x	x	x	x																	
	3rd Qtr - 2003	x	x	x	x	x		x	x	x	x						x	x	x	x	x	x
	4th Qtr - 2003	x	x	x	x	x			x													

Notes:
EPA – United States Evironmental Protection Agency
No. – Number
VOCs – Volatile Organic Compounds
TPHg – Total Petroleum Hydrocarbons as gasoline
TPHd – Total Petroleum Hydrocarbons as diesel
TPHo – Total Petroleum Hydrocarbons as oil
TPH – Total Petroleum Hydrocarbons
PAHs – Polycyclic Aromatic Hydrocarbons
SVOCs – Semivolatile Organic Compounds
TOC – Total Organic Compounds
PCBs – Polychlorinated Biphenyls
BOD – Biological Oxygen Demand
COD – Chemical Oxygen Demand
TOX – Total Organic Halides
TDS – Total Dissolved Solids

TABLE 3 – VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Well No.	Date	EPA Method 8260B (µg/L)														
		Benzene	Ethyl-benzene	Isopropylbenzene	m,p-Xylenes	o-Xylene	n-Butyl benzene	n-propyl benzene	sec-Butyl benzene	tert-Butyl benzene	Toluene	1,3,5-Trimethyl benzene	1,2,4-Trimethyl benzene	1,2 Dibromo 3-Chloropropane	4-Isopropyl toluene	Naphthalene
PZ-1	1/21/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/12/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	7/26/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/21/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	7/26/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	11/21/2007	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PZ-2	1/22/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PZ-3	1/21/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PZ-4	1/21/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7	<5.0	8	9
	1/21/2003-dup	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8	<5.0	9	10
	9/29/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6	<5.0
	12/2/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-1	3/30/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	6/16/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	9/28/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	12/1/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/12/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	<5.0	<5.0	<5.0
	7/26/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/21/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	7/26/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	11/21/2007	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-2	3/30/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	6/16/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	9/28/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	12/1/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/12/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	7/26/2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	1/21/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	7/26/2006	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	11/21/2007	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

TABLE 3 – VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Well No.	Date	EPA Method 8260B (µg/L)														
		Benzene	Ethyl-benzene	Isopropylbenzene	m,p-Xylenes	o-Xylene	n-Butyl benzene	n-propyl benzene	sec-Butyl benzene	tert-Butyl benzene	Toluene	1,3,5-Trimethyl benzene	1,2,4-Trimethyl benzene	1,2 Dibromo 3-Chloropropane	4-Isopropyl toluene	Naphthalene
MW-3	3/31/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	6/16/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	9/28/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	12/2/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW4	3/30/2003	140	190	29	630	260	21	46	11	7	39	87	280	<5.0	17	480
	6/16/2003	49	180	35	120	39	19	50	14	10	<5.0	26	210	<5.0	16	310
	9/29/2003[1]	39	280	84	210	75	130	150	71	35	<25	92	680	<25	77	730
	12/2/2003	31	160	40	180	74	52	67	27	14	<5.0	66	360	7	33	430
Groundwater MCLs (µg/l)		1.0	300	NA	1,750	1,750	NA	NA	NA	NA	150	NA	NA	0.2	NA	NA
Groundwater Als (µg/l)		NA	NA	NA	NA	NA	260	260	260	260	NA	330	330	NA	NA	170

Notes:
EPA – United States Environmental Protection Agency
µg/l – micrograms per liter
MCL – California Department of Health Services Maximum Contaminant Level
AL – California State Department of Health Services Action Level for Drinking Water
[1] – This sample had a dilution factor of 5
NA Not Applicable

TABLE 4 – TPH AND OIL AND GREASE IN GROUNDWATER

Well No.	Date	EPA Method 8015/M				EPA Method 1664
		TPH (Gasoline and Light Hydrocarbons)	TPH (Diesel)	TPH (Motor Oil)	TPH (Jet Fuel)	Oil and Grease
		(mg/l)				
PZ-1	1/21/2003	<0.20	<0.20	<0.20	--	--
	7/26/2005	--	--	--	--	<4.3
	7/26/2006	--	--	--	--	<4.3
	11/21/2007	--	--	--	--	--
PZ-2	1/22/2003	<0.20	<0.20	<0.20	--	--
PZ-3	1/21/2003	<0.20	<0.20	<0.20	--	--
PZ-4	1/21/2003	<0.20	**3.9**	**2.4**	--	--
	9/29/2003	<0.20	**1.6**	**0.66**	**0.44**	--
	12/2/2003	<0.20	**2.2**	**0.95**	**0.78**	--
MW-1	3/30/2003	<0.20	<0.24	<0.24	--	--
	6/16/2003	<0.20	--	--	--	--
	9/29/2003	<0.20	<0.20	<0.20	<0.20	--
	12/1/2003	<0.20	<0.20	<0.20	--	--
	7/26/2005	--	--	--	--	<4.4
	7/26/2006	--	--	--	--	<4.2
	11/21/2007	--	--	--	--	<4.7
MW-2	3/30/2003	<0.20	<0.22	<0.22	--	--
	6/16/2003	<0.20	<0.20	<0.20	--	--
	9/29/2003	<0.20	<0.20	<0.20	<0.20	--
	12/1/2003	<0.20	<0.20	<0.20	--	--
	7/26/2005	--	--	--	--	<4.3
	7/26/2006	--	--	--	--	<4.2
	11/21/2007	--	--	--	--	<4.6
MW-3	3/31/2003	<0.20	<0.22	<0.22	--	--
	6/16/2003	<0.20	<0.20	<0.20	--	--
	9/29/2003	<0.20	<0.20	<0.20	<0.20	--
	12/2/2003	<0.20	**0.48**	<0.20	--	--
MW-4	3/30/2003	**5**	**130**	**0.94**	--	--
	6/16/2003	**3.6**	**96**	**1.7**	--	--
	9/29/2003[1]	**190**	**840**	<80	**730**	--
	12/2/2003[2]	**5.7**	**670**	<100	**610**	--

Notes:
TPH – Total Petroleum Hydrocarbons
mg/l – milligrams per Liter
-- – Not Analyzed
MW – 1 sample collected on 6/16/2003 – one sample bottle damaged during transit.
[1]This sample had a dilution factor of 200
[2]This sample had a dilution factor of 500

TABLE 5 – SVOCS IN GROUNDWATER

Well No.	Date	EPA Method 8270C				
		2-Methyl napthalene	Benzoic Acid	Bis (2-ethylhexyl) phthalate	Naphthalene	Phenol
		(µg/l)				
PZ-1	1/21/2003	<10	<50	<10	<10	<10
	1/12/2005	<10	<50	<10	<10	<10
	7/26/2005	<10	<50	<10	<10	<10
	1/21/2006	<10	<50	<10	<10	<10
	7/26/2006	<10	<50	<10	<10	<10
	11/21/2007	<10	<50	<10	<10	<10
PZ-2	1/22/2003	<10	<50	<10	<10	<10
PZ-3	1/21/2003	<10	<50	<10	<10	<10
PZ-4	1/21/2003[1]	<10	170	<10	<10	30
MW-1	3/30/2003	<12	<59	<12	<12	<12
	1/12/2005	<11	<54	<11	<11	<11
	7/26/2005	<10	<50	<10	<10	<10
	1/21/2006	<10	<50	<10	<10	<10
	11/21/2007	<10	<50	<10	<10	<10
MW-2	3/30/2003	<12	<59	<12	<12	<12
	1/12/2005	<11	<53	<11	<11	<11
	7/26/2005	<10	<50	<10	<10	<10
	1/21/2005	<10	<50	<10	<10	<10
	7/26/2006	<10	<50	<10	<10	<10
	11/21/2007	<10	<50	<10	<10	<10
MW-3	3/31/2003	<11	<56	<11	<11	<11
MW-4	3/30/2003[2]	**1200**	<590	**180**	**440**	<120
	9/29/2003[3]	**5100**	<5000	<1000	**1600**	<1000
Groundwater AL (µg/l)		**NA**	**NA**	**NA**	**170**	**4200**

Notes:
TPH – Total Petroleum Hydrocarbons
µg/l – micrograms per Liter
<10 – not detected at Minimum Detection Limit (MDL)
-- – Not Analyzed
MW – 1 sample collected on 6/16/2003 - one sample bottle damaged during transit.
[1]This sample had a dilution factor of 5
[2]This sample had a dilution factor of 10
[3]This sample had a dilution factor of 20
AL – California State Department of Health Services Action Level for Drinking Water

TABLE 6 – POLYCHLORINATED BIPHENYLS IN GROUNDWATER

Well No.	Date	EPA Method 3510C/8082 (µg/l)							
		Aroclor 1016	Aroclor 1221	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268
PZ-1	7/26/2006	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1	7/26/2006	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	7/26/2006	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Groundwater MCLs (µg/L)		**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**

Notes:
µg/l – micrograms per liter
<0.5 – not detected at Method Detection Limit (MDL)
EPA – United States Environmental Protection Agency
MCL – California Department of Health Services Maximum Contaminant Level

TABLE 7 – INORGANICS IN GROUNDWATER

	EPA Method:	6010B	300				376	160.1	9060	9020	410	405.1B
Well No.	Date	Boron (mg/l)	Chloride (mg/l)	Nitrite (mg/l)	Nitrogen/ Nitrate (mg/l)	Sulfate (mg/l)	Sulfide, Total (mg/l)	TDS (mg/l)	TOC (mg/l)	TOX (µg/l)	COD (mg/l)	BOD (mg/l)
PZ-1*	1/21/2003	--	540	--	0	1,100	--	3,300	20	25	<5	--
	1/12/2005	7	650	--	23	1,400	<0.05	3,600	5	37	<25	--
	7/26/2005	2	440	<0.10	9	950	<0.05	2,700	16	29	65	<5.0
	1/21/2006	0	500	<1.0	25	1,200	<0.05	3,300	7	130	20	--
	7/26/2006	0	530	<0.10	30	1,200	<0.05	3,600	6.8	23	8.2	<5.0
	11/21/2007	--	--	--	--	--	--	--	<3.0	--	--	--
PZ-2	1/22/2003	--	140	--	0	38	--	1,000	55	<20	<5	--
PZ-3	1/21/2003	--	520	--	0	1,900	--	4,700	52	52	13	--
PZ-4	1/21/2003	--	270	--	0	23	--	2,100	190	49	400	--
MW-1	3/30/2003	--	400	--	1	140	--	1,400	<3.0	<20	590	--
	1/12/2005	31	570	--	0	89	<0.05	2,000	6	<20	880	--
	7/26/2005	<1.0	990	<0.10	2	390	<0.75	3,100	34	26	140	<5.0
	1/21/2006	<0.25	930	<1.0	2	430	<0.05	3,000	12	<20	67	--
	7/26/2006	0	910	<0.10	1.5	410	<0.25	3,800	6.1	<20	89	<5.0
	11/21/2007	0.12	630	<1.0	<1.0	160	<0.05	1,900	<3.0	<20	22	<1.0
MW-2	3/30/2003	--	520	--	1	78	--	1,500	<3.0	32	110	--
	1/21/2005	58	520	--	1	33	<0.05	2,500	6	120	480	--
	7/26/2005	<1.0	510	<0.10	20	120	<0.38	2,000	16	120	110	<5.0
	1/21/2006	<0.12	470	<0.10	7	180	<0.05	1,800	15	92	44	--
	7/26/2006	0	410	<0.10	7.3	190	<0.25	2,000	8.2	24	140	<5.0
	11/21/2007	0.15	470	<0.2	<0.2	33	<0.05	1,400	<3.0	25	22	<1.0
MW-3	3/31/2003	--	260	--	1	260	--	1,300	<3.0	<20	170	--
MW-4	3/30/2003	--	280	--	1	150	--	1,500	21	<20	440	--
	9/29/2003	--	180	--	0	5	--	490	<6.0	28	300	--
Groundwater AL (µg/l)		1.0	250-500	1.0	45	250-500	NA	500-1,000	NA	NA	NA	NA
LARWQCB Benficial Use		1.0	150	1.0	10	250	NA	700	NA	NA	NA	NA

Notes:
mg/l – miligrams per Liter
µg/l – micrograms per Liter
TDS – Total Dissolved Solids
TOC – Total Organic Compounds
TOX – Total Organic Halides
COD – Chemical Oxygen Demand
BOD – Biological Oxygen Demand
<5 – not detected at Method Detection Limit (MDL)
NA – Not Applicable
EPA – United States Environmental Protection Agency
-- – Not Analyzed
AL – California State Department of Health Services Action Level for Drinking Water
*Some analysis not completed in PZ-1 due to low grounwater recovery and slow recharge rate.

TABLE 8 – DATA USED IN PARAMETRIC ANOVA TEST

	EPA Method:	300			160.1	9060	9020	410
Well No.	Date	Chloride (mg/l)	Nitrogen/ Nitrate (mg/l)	Sulfate (mg/l)	TDS (mg/l)	TOC (mg/l)	TOX (µg/l)	COD (mg/l)
PZ-1	1/21/2003	540	0	1,100	3,300	20	25	<5
	1/12/2005	650	23	1,400	3,600	5	37	<25
	7/26/2005	440	9	950	2,700	16	29	65
	1/21/2006	500	25	1,200	3,300	7	130	20
	7/26/2006	530	30	1,200	3,600	7	23	8
	Arithmetic Mean	532	17	1,170	3,300	11	49	25
MW-1	3/30/2003	400	1	140	1,400	<3.0	<20	590
	1/12/2005	570	0	89	2,000	6	<20	880
	7/26/2005	990	2	390	3,100	34	26	140
	1/21/2006	930	2	430	3,000	12	<20	67
	7/26/2006	910	2	410	3,800	6	<20	89
	11/21/2007	630	<1.0	160	1,900	<3.0	<20	22
	Arithmetic Mean	738	1.3	270	2,533	11	21	298
MW-2	3/30/2003	520	1	78	1,500	<3.0	32	110
	1/21/2005	520	1	33	2,500	6	120	480
	7/26/2005	510	20	120	2,000	16	120	110
	1/21/2006	470	7	180	1,800	15	92	44
	7/26/2006	410	7	190	2,000	8	24	140
	11/21/2007	470	<0.2	33	1,400	<3.0	25	22
	Arithmetic Mean	483	6.0	106	1,867	8.5	69	151

Notes:
EPA – United States Environmental Protection Agency
mg/l – milligrams per Liter
µg/l – micrograms per Liter
ANOVA – Analysis of Variance between groups

TABLE 9 – SUMMARY OF PARAMETRIC ANOVA TEST RESULTS

Analyte	F	F-crit	Is F>F-crit	Significant Difference Between Data Populations
Chloride	4.8	3.70	Yes	Yes
Nitrate, Nitrogen	5.6	3.70	Yes	Yes
Sulfate	96.2	3.70	Yes	Yes
TDS	7.2	3.70	Yes	Yes
TOC	0.1	3.70	No	No
TOX	2.5	3.70	No	No
COD	1.9	3.70	No	No

Notes:
F – The calculated value based on the variance derived from MS between groups and the MS within groups
F-crit – The F test statistic based on the Critical Values of the F distribution (a=0.05).
MS – Mean Square
This table is a statistical tool available in the following reference: "Elementary Statistics, Second Edition, by Robert R. Johnson, Duxbury Press, North Scituate, Massachusetts a division of Wadsworth Publishing Company, Inc. Belmont, California, 1976 - Appendix G, Table 8a Critical Values of the F Distribution."
ANOVA – Analysis of Variance between groups

TABLE 10 – GROUNDWATER MONITORING DATA

Well No.	Date	TOC Elevation (feet MSL)	Total Well Depth (feet bgs)	Depth to Liquid (feet bgs)	Depth to Water (feet bgs)	Product Thickness (feet)	Corrected Groundwater Elevation (feet MSL)	Change in Groundwater Elevation (feet)		Comments
PZ-1	1/16/2003	49	35.00	18.95	18.95	0.00	29.80			
	1/21/2003	49	35.00	18.81	18.81	0.00	29.94	Rise	0.14	
	3/30/2003	49	35.00	18.23	18.23	0.00	30.52	Rise	0.58	
	6/16/2003	49	35.00	18.25	18.25	0.00	30.50	Decrease	-0.02	
	9/29/2003	49	35.00	18.72	18.72	0.00	30.03	Decrease	-0.47	
	12/2/2003	49	35.00	19.22	19.22	0.00	29.53	Decrease	-0.50	
	1/12/2005	49	35.00	19.47	19.47	0.00	29.28	Decrease	-0.25	
	7/26/2005	49	35.00	14.80	14.80	0.00	33.95	Rise	4.67	
	1/21/2006	49	35.00	16.59	16.59	0.00	32.16	Decrease	-1.79	
	7/26/2006	49	35.00	16.20	16.20	0.00	32.55	Rise	0.39	
	11/21/2007	49	33.70	19.00	19.00	0.00	30.00	Decrease	-2.55	
PZ-2	1/16/2003	48	35.00	21.10	21.10	0.00	26.74			
	1/21/2003	48	35.00	21.06	21.06	0.00	26.78	Rise	0.04	
	3/30/2003	48	35.00	21.23	21.23	0.00	26.61	Decrease	-0.17	
	6/16/2003	48	35.00	21.19	21.19	0.00	26.65	Rise	0.04	
	9/29/2003	48	35.00	21.30	21.30	0.00	26.54	Decrease	-0.11	
	12/2/2003	48	35.00	21.70	21.70	0.00	26.14	Decrease	-0.40	
	1/12/2005	48	35.00	19.33	19.33	0.00	28.51	Rise	2.37	
	7/26/2005	48	35.00	18.98	18.98	0.00	28.86	Rise	0.35	
	1/21/2006	48	35.00	19.60	19.60	0.00	28.24	Decrease	-0.62	
	7/26/2006	48	35.00	18.81	18.81	0.00	29.03	Rise	0.79	
	11/21/2007	48	34.95	21.00	21.00	0.00	27.00	Decrease	-2.03	

TABLE 10 – GROUNDWATER MONITORING DATA

Well No.	Date	TOC Elevation (feet MSL)	Total Well Depth (feet bgs)	Depth to Liquid (feet bgs)	Depth to Water (feet bgs)	Product Thickness (feet)	Corrected Groundwater Elevation (feet MSL)	Change in Groundwater Elevation (feet)		Comments
PZ-3	1/16/2003	49	35.00	18.48	18.48	0.00	30.73			
	1/21/2003	49	35.00	19.32	19.32	0.00	29.89	Decrease	-0.84	
	3/30/2003	49	35.00	17.98	17.98	0.00	31.23	Rise	1.34	
	6/16/2003	49	35.00	16.90	16.90	0.00	32.31	Rise	1.08	
	9/29/2003	49	35.00	18.56	18.56	0.00	30.65	Decrease	-1.66	
	12/2/2003	49	35.00	19.47	19.47	0.00	29.74	Decrease	-0.91	
	1/12/2005	49	35.00	18.68	18.68	0.00	30.53	Rise	0.79	
	7/26/2005	49	35.00	16.96	16.96	0.00	32.25	Rise	1.72	
	1/21/2006	49	35.00	--	--	--	--	--	--	Not measured due to a vehicle blocking the well.
	7/26/2006	49	35.00	17.16	17.16	0.00	32.05	Decrease	-0.20	
	11/21/2007	49	33.85	19.55	19.55	0.00	29.45	Decrease	-2.60	
PZ-4	1/16/2003	63	42.00	34.82	34.82	0.00	27.78			
	1/21/2003	63	42.00	34.85	34.85	0.00	27.75	Decrease	-0.03	
	3/30/2003	63	42.00	34.35	34.35	0.00	28.25	Rise	0.50	
	6/16/2003	63	42.00	34.19	34.19	0.00	28.41	Rise	0.16	
	9/29/2003	63	42.00	35.08	35.08	0.00	27.52	Decrease	-0.89	
	12/2/2003	63	42.00	35.41	35.41	0.00	27.19	Decrease	-0.33	
	1/12/2005	63	42.00	30.17	30.17	0.00	32.43	Rise	5.24	
	7/26/2005	63	42.00	--	--	--	--	--	--	Abandoned during site construction

TABLE 10 – GROUNDWATER MONITORING DATA

Well No.	Date	TOC Elevation (feet MSL)	Total Well Depth (feet bgs)	Depth to Liquid (feet bgs)	Depth to Water (feet bgs)	Product Thickness (feet)	Corrected Groundwater Elevation (feet MSL)	Change in Groundwater Elevation (feet)		Comments
MW-1	3/30/2003	47	35.00	19.30	19.30	0.00	27.46			
	6/16/2003	47	35.00	19.22	19.22	0.00	27.54	Rise	0.08	
	9/28/2003	47	35.00	20.30	20.30	0.00	26.46	Decrease	-1.08	
	12/1/2003	47	35.00	21.64	21.64	0.00	25.12	Decrease	-1.34	
	1/12/2005	47	35.00	18.77	18.77	0.00	27.99	Rise	2.87	
	7/26/2005	47	35.00	18.02	18.02	0.00	28.74	Rise	0.75	
	1/21/2006	47	35.00	18.55	18.55	0.00	28.21	Decrease	-0.53	
	7/26/2006	47	35.00	17.75	17.75	0.00	29.01	Rise	0.80	
	11/21/2007	47	32.60	19.75	19.75	0.00	27.25	Decrease	-1.76	
MW-2	3/30/2003	49	35.00	21.72	21.72	0.00	27.00			
	6/16/2003	49	35.00	21.58	21.58	0.00	27.14	Rise	0.14	
	9/28/2003	49	35.00	22.70	22.70	0.00	26.02	Decrease	-1.12	
	12/1/2003	49	35.00	23.11	23.11	0.00	25.61	Decrease	-0.41	
	1/12/2005	49	35.00	19.95	19.95	0.00	28.77	Rise	3.16	
	7/26/2005	49	35.00	19.69	19.69	0.00	29.03	Rise	0.26	
	1/21/2006	49	35.00	20.66	20.66	0.00	28.06	Decrease	-0.97	
	7/26/2006	49	35.00	19.72	19.72	0.00	29.00	Rise	0.94	
	11/21/2007	49	35.60	22.55	22.55	0.00	26.45	Decrease	-2.55	
MW-3	3/30/2003	48	35.00	20.23	20.23	0.00	27.48			
	6/16/2003	48	35.00	20.18	20.18	0.00	27.53	Rise	0.05	
	9/28/2003	48	35.00	20.93	20.93	0.00	26.78	Decrease	-0.75	
	12/2/2003	48	35.00	21.62	21.62	0.00	26.09	Decrease	-0.69	
	1/12/2005	48	35.00	19.47	19.47	0.00	28.24	Rise	2.15	
	7/26/2005	48	35.00	16.79	16.79	0.00	30.92	Rise	2.68	
	1/21/2006	48	35.00	19.60	19.60	0.00	28.11	Decrease	-2.81	
	7/26/2006	48	35.00	18.68	18.68	0.00	29.03	Rise	0.92	
	11/21/2007	48	34.10	21.20	21.20	0.00	26.80	Decrease	-2.23	

TABLE 10 – GROUNDWATER MONITORING DATA

Well No.	Date	TOC Elevation (feet MSL)	Total Well Depth (feet bgs)	Depth to Liquid (feet bgs)	Depth to Water (feet bgs)	Product Thickness (feet)	Corrected Groundwater Elevation (feet MSL)	Change in Groundwater Elevation (feet)		Comments
MW-4	3/30/2003	64	45.00	34.35	34.35	0.00	29.41			
	6/16/2003	64	45.00	*	35.28	*	28.48	Decrease	-0.93	
	9/29/2003	64	45.00	35.10	36.56	1.46	28.37	Decrease	-0.11	
	12/2/2003	64	45.00	36.00	36.50	0.50	28.01	Decrease	-0.36	
	1/12/2005	64	45.00	34.00	34.92	0.92	29.66	Rise	1.65	
	7/26/2005	64	45.00	--	--	--	--	--	--	Damaged during site construction.

Gradient

	Groundwater Gradient	Groundwater Flow Direction		Average Groundwater Elevation	Average Change in Groundwater Elevation	
	11/21/2007	0.002	SW	27.83	-2.29	

Notes:
MSL – relative to mean sea level. Positive values indicate feet above MSL.
TOC – top of casing
bgs – below ground surface
Product, assumed to have a density of 0.80.
Data prior to 11/21/2007 from 55th Way Landfill SWAT - Semiannual Groundwater Monitoring Event, April 2006 to September 2006, 2910 East 55th Way, Long Beach, California; by EarthTech; dated September 26, 2006.
*Product observed in well during purging (thickness was not measured).

CHART 1 – HISTORICAL GROUNDWATER LEVELS
55th Way Landfill SWAT – Groundwater Monitoring Event

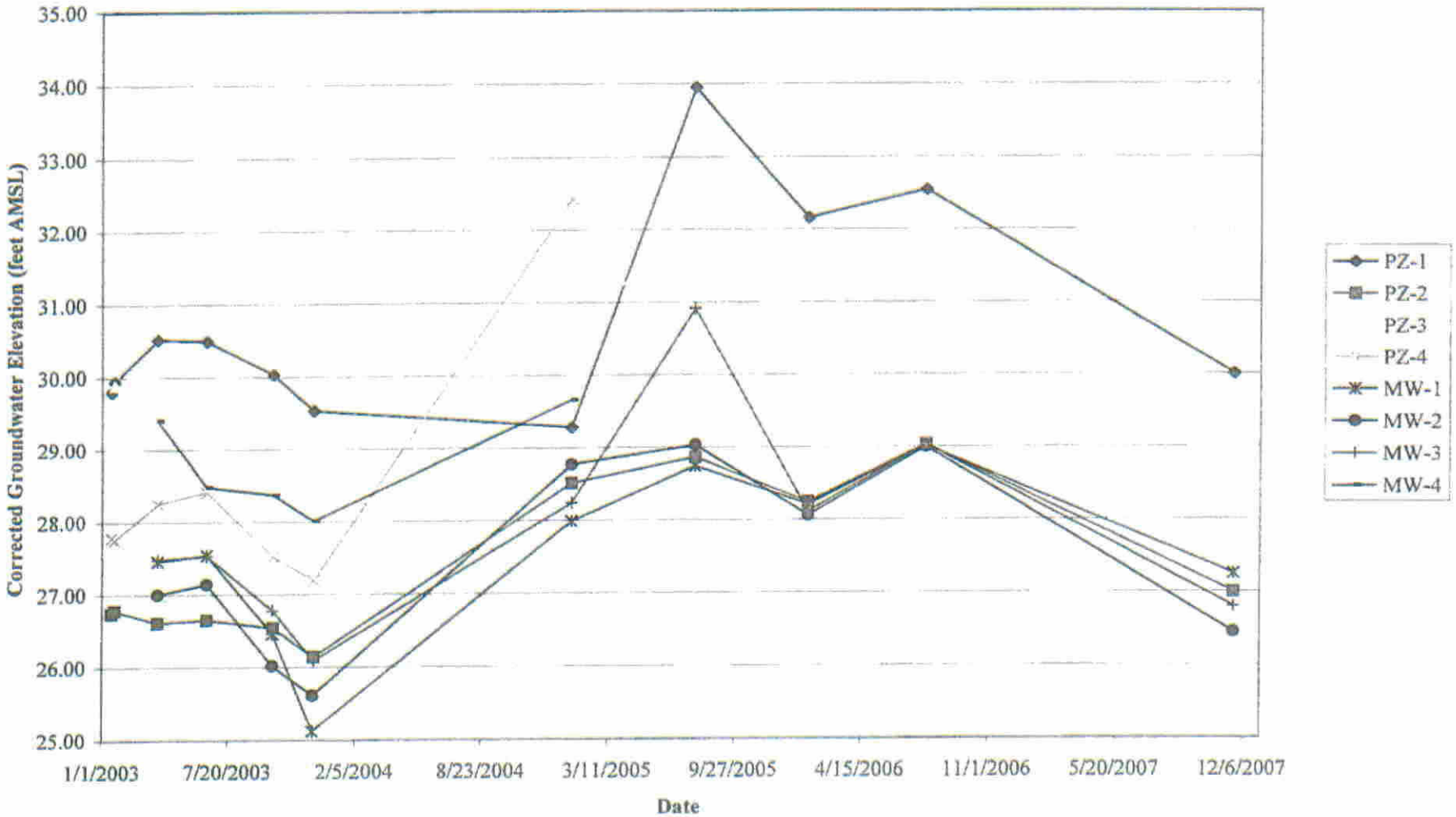


CHART 2 – DETECTED CONCENTRATIONS OF CHLORIDE
55th Way Landfill SWAT – Groundwater Monitoring Event

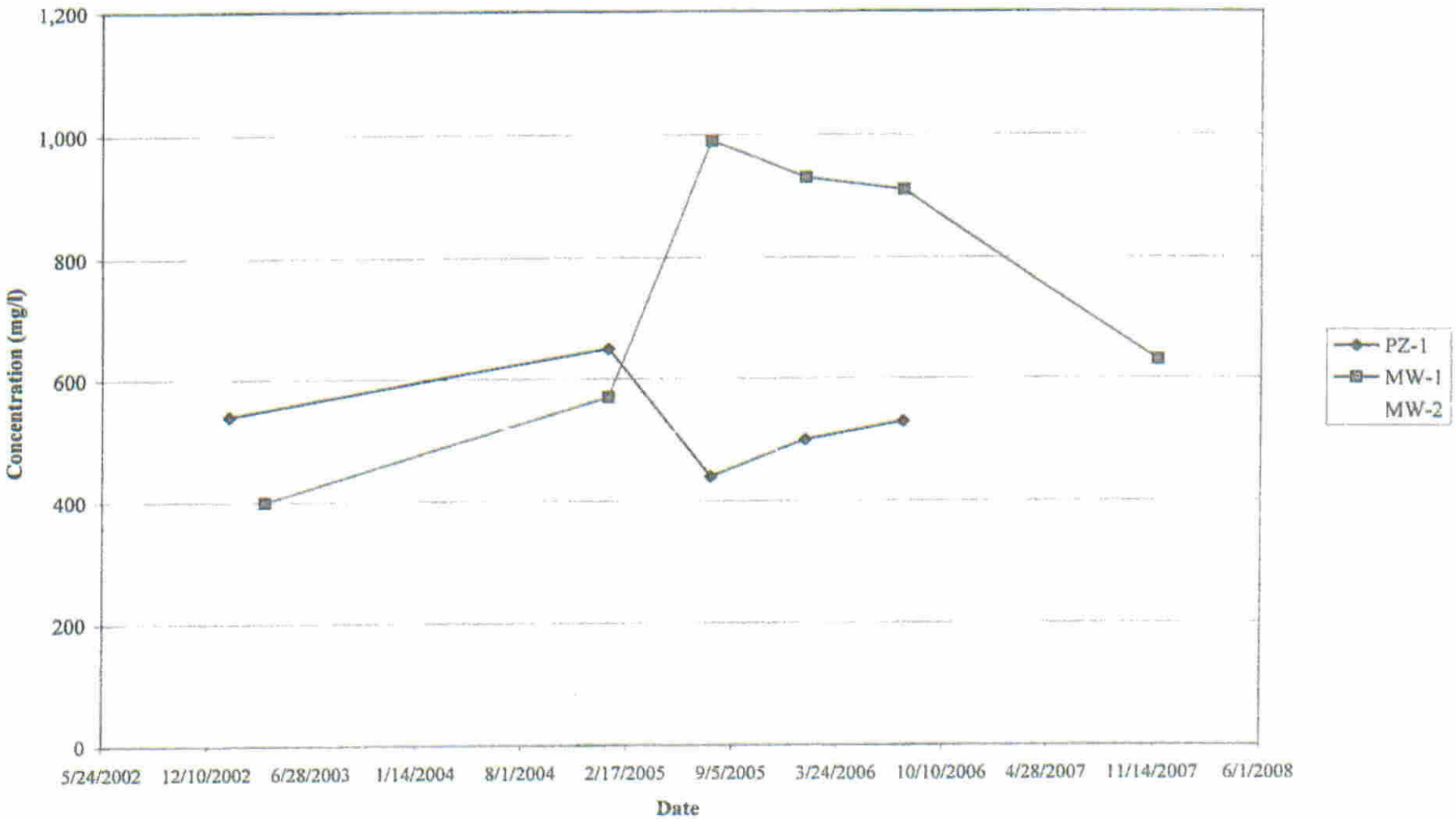


CHART 3 – DETECTED CONCENTRATIONS OF NITROGEN/NITRATE
55th Way Landfill SWAT – Groundwater Monitoring Event

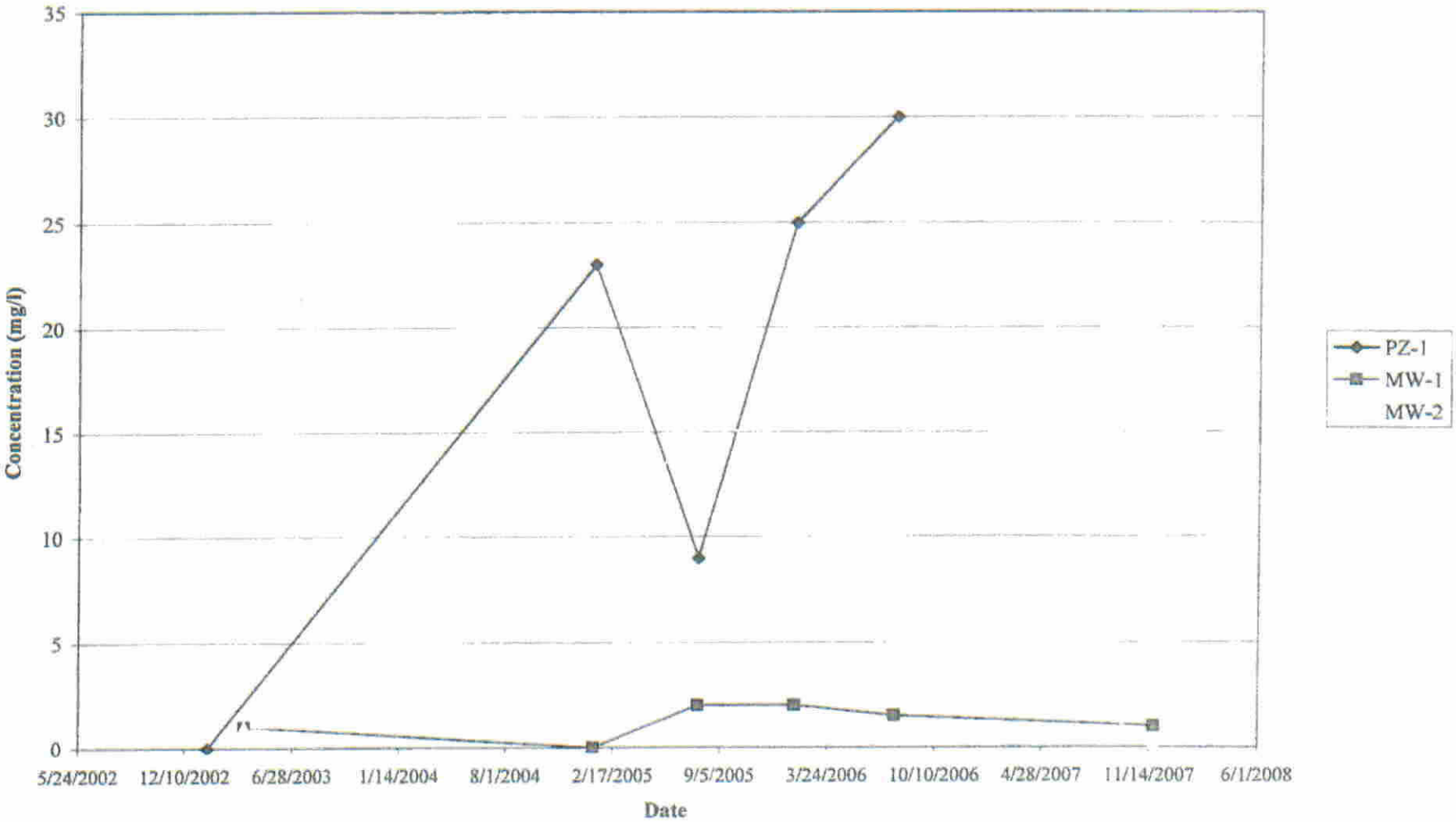


CHART 4 – DETECTED CONCENTRATIONS OF SULFATE
55th Way Landfill SWAT – Groundwater Monitoring Event

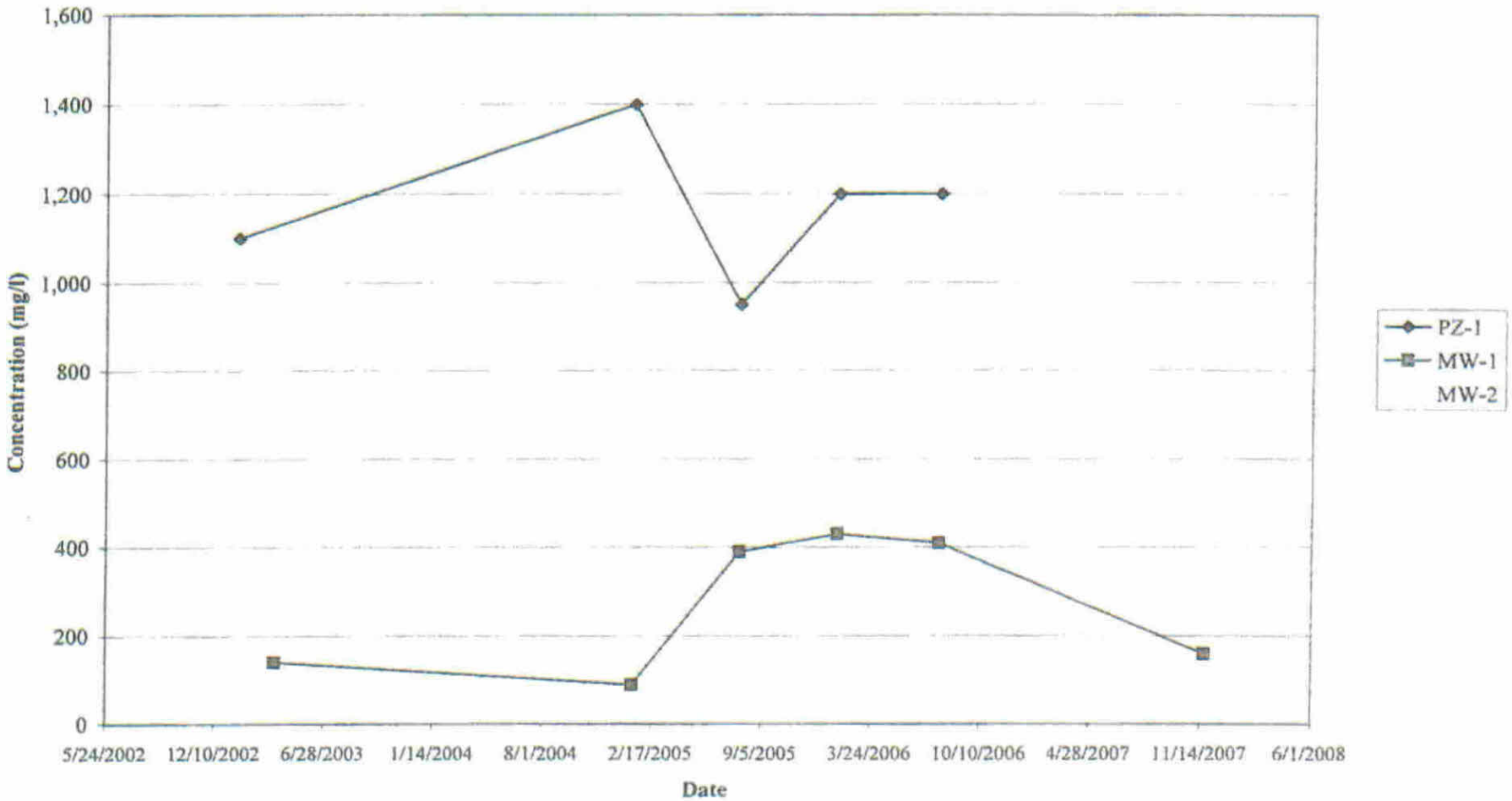


CHART 5 – DETECTED CONCENTRATIONS OF TDS
55th Way Landfill SWAT – Groundwater Monitoring Event

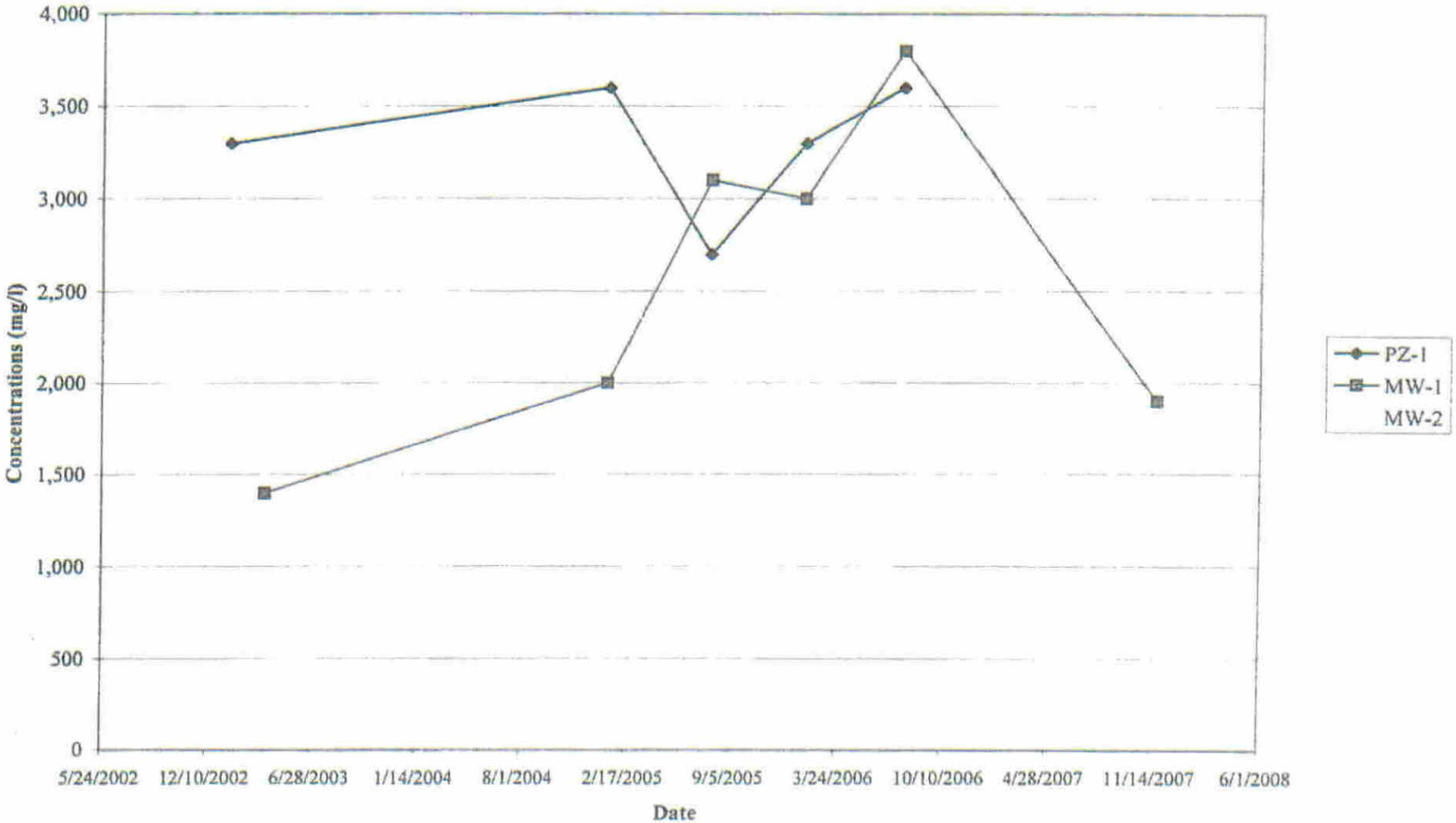


CHART 6 – DETECTED CONCENTRATIONS OF TOC

55th Way Landfill SWAT – Groundwater Monitoring Event

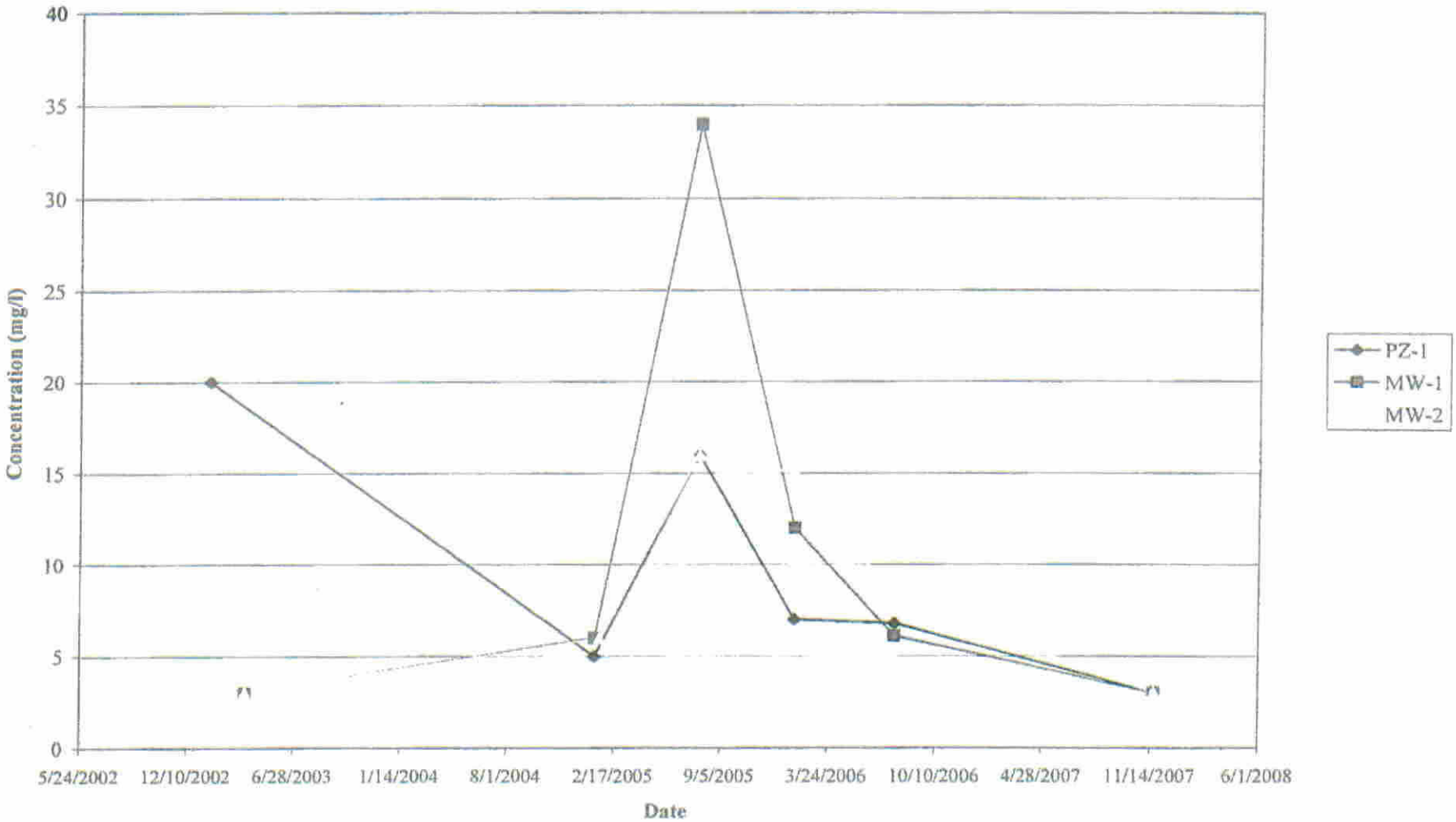


CHART 7 – DETECTED CONCENTRATIONS OF TOX
55th Way Landfill SWAT – Groundwater Monitoring Event

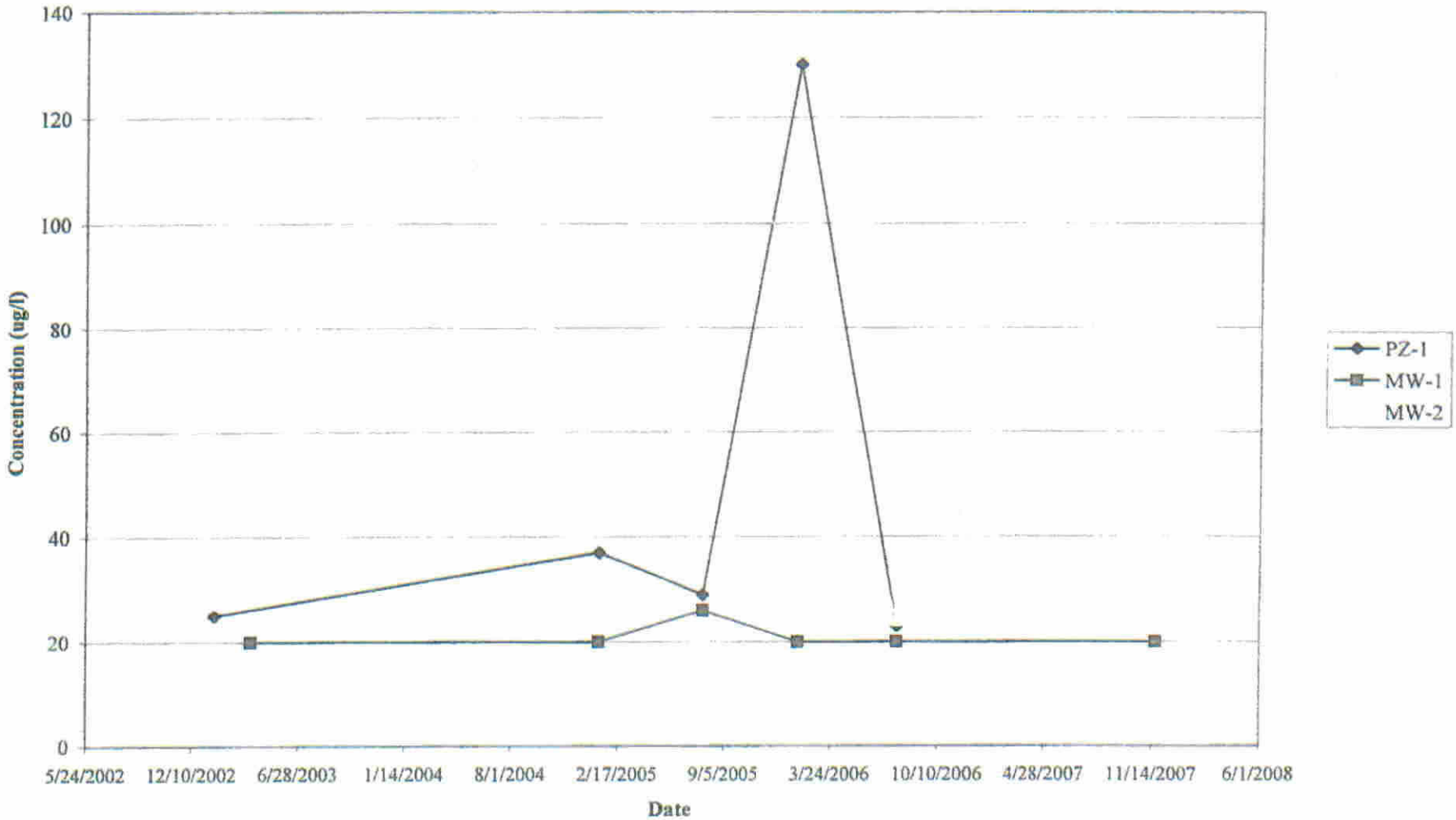
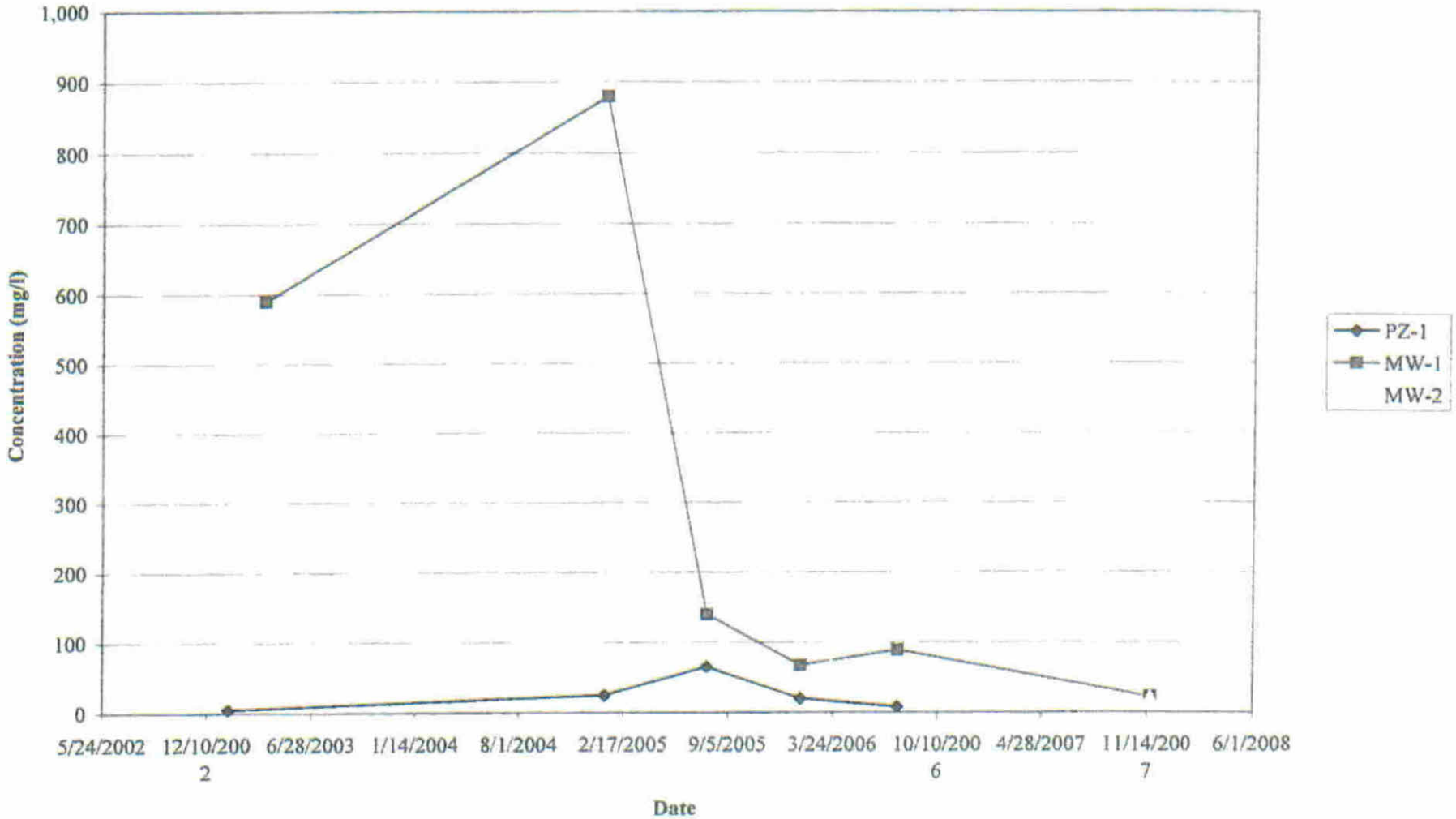


CHART 8 – DETECTED CONCENTRATIONS OF COD
55th Way Landfill SWAT – Groundwater Monitoring Event



ATTACHMENT D

GENERAL FIELD PROCEDURES

GROUNDWATER PURGING AND SAMPLING PROCEDURES FOR WELLS

Prior to measurement and purging, each well was monitored for a floating immiscible layer. Each well was then measured for total depth of well and depth to water. Groundwater depths were measured using an electronic interface probe washed in non-phosphate soap and double-rinsed in distilled water between wells.

Water was purged from the wells using a peristaltic pump. The pump's flow rate was adjusted for a low flow rate of 40 milliliters per minute (ml/minute). The wells were purged of at least three casing volumes of water. Water parameters, including temperature, conductivity, pH, and turbidity, were measured after each casing volume using a Horiba U-10 meter and a flow cell. Upon completion of purging procedures, the wells were allowed to recover for a minimum of two hours or until water levels recovered to 80 percent of the original level.

Water samples from the purged wells were obtained using disposable polyethylene bailers equipped with a bottom-emptying device. The samples were placed unpreserved in 40-milliliter (ml) volatile organic analysis (VOA) vials with Teflon septa for VOC analysis. A 1-liter amber glass jar was used for semi-volatile organic compounds (SVOCs), a 1-liter plastic or glass jar was used for inorganic analysis, and a 500-ml glass jar was used for TOX analysis. Samples were labeled, recorded on a chain-of-custody document, and placed in cold storage pending delivery to the laboratory. Water samples were transported to a certified analytical laboratory under chain-of-custody protocol.

The peristaltic pumps are designed to eliminate cross-contamination by using disposable polyethylene tubing. The pump is placed up hole, and tubing is placed externally around the impellar. Groundwater does not contact any portion of the pump directly.

ATTACHMENT E

FIELD DATA SHEETS

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Date: 11/21/07
Sampler: Peter Sims
Project No.: 2070690004
Weather:
Monitoring Well ID: PZ-1
Site Location: 2910 E. 55th Way, Long Beach, CA

Casing Diameter: ☐ 2" ☐ 4" ☐ 6" ☑ Other
Casing Material: ☒ SCH80-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): 33.7
LNAPL Observed?: No
DNAPL Observed?: No
Depth to Water (ft-TOC): 19.0
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): 14.7 x (1/2" = 0.1; 2" = 0.16; 4" = 0.65) gal/ft = 1.47 x 3.0 = 4.41 Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst water level meter
Cleaned: Y
Purging Method/Equipment: Peristaltic Pump
Cleaned: Y
Pump Lines/Bailer Ropes-New or Cleaned?: New

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):
13:24	0	23.3	5.20	6.81	cloudy
13:35	1	23.1	5.03	6.82	slightly cloudy
13:50	2	23.5	4.97	6.79	slightly cloudy

Total Volume Purged (gallon): 2.5
Time Finished Purging: 14:05
Depth to Water After Purging (ft): 32.0
Percent Recovery:

Sampling Method/Equipment: Peristaltic Pump
Bailer Rope-New or Cleaned?: —
Sample Time: 16:15
Sample ID: PZ-1
Replicate ID (if appl.)

Laboratory: ATL

Comments: Well went dry at 14:04

PARAMETER	USEPA METHOD	CONTAINERS/VOL/ TYPE (VOA/Glass/Plastic)	PRESERVATIVE
PCB	8082	Glass 1L	4°
VOCs	8260B	VOA	HCL/4°
SVOCs	8270C	Glass, 1L	4°
TOC	415.1	Plastic 40ml	H_2SO_4/4°

22.7

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Date: 11/21/07
Sampler: Peter Sims
Project No.: 207069004
Weather: overcast
Monitoring Well ID: PZ-2
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☐ 2" ☐ 4" ☐ 6" ☑ Other
Casing Material: ☒ SCH80-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): ~~21.0~~ 34.95
LNAPL Observed?: no
DNAPL Observed?: no
Depth to Water (ft-TOC): ~~34.95~~ 21.0
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): _____ x 1/2" = 0.1, 2" = 0.16, 4" = 0.65 gal/ft = _____ x 3.0 = _____ Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst Water Level Meter
Cleaned: Y
Purging Method/Equipment: —
Cleaned: —
Pump Lines/Bailer Ropes-New or Cleaned?: —

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):

Total Volume Purged (gallon):
Time Finished Purging:
Depth to Water After Purging (ft):
Percent Recovery:

Sampling Method/Equipment:

Bailer Rope-New or Cleaned?:
Sample Time:
Sample ID:
Replicate ID (if appl.)

Laboratory:

Comments:

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESER-VATIVE

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Date: 11/21/07
Sampler: PDS
Project No.: 207069004
Weather: overcast
Monitoring Well ID: PZ-3
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☐ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH80-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): 33.85
LNAPL Observed?: no
DNAPL Observed?: no
Depth to Water (ft-TOC): 19.55
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): _____ x 1/2" = 0.1, 2" = 0.16, 4" = 0.65 gal/ft = _____ x 3.0 = _____ Min. Purge Volume (gallons)

Water Level Measurement Equip.: solinst water level meter
Cleaned: y
Purging Method/Equipment: —
Cleaned: —
Pump Lines/Bailer Ropes-New or Cleaned?: —

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):

Total Volume Purged (gallon): _____
Time Finished Purging: _____
Depth to Water After Purging (ft): _____
Percent Recovery: _____

Sampling Method/Equipment: _____

Bailer Rope-New or Cleaned?: _____
Sample Time: _____
Sample ID: _____
Replicate ID (if appl.) _____

Laboratory: _____

Comments: _____

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESER-VATIVE

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Date: 11/21/07
Sampler: Peter Sims
Project No.: 207069004
Weather:
Monitoring Well ID: PZ-4
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☐ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH 80-PVC ☐ Other: S. Steel
Total Depth (ft-TOC):
LNAPL Observed?:
DNAPL Observed?:
Depth to Water (ft-TOC):
LNAPL Thickness (ft):
DNAPL Thickness (ft):

Water Column Height (feet): _____ x (1/2" = 0.1, 2" = 0.16, 4" = 0.65) gal/ft = _____ x 3.0 = _____ Min. Purge Volume (gallons)

Water Level Measurement Equip.: — Cleaned: —
Purging Method/Equipment: — Cleaned: —
Pump Lines/Bailer Ropes-New or Cleaned?: —

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):

Total Volume Purged (gallon):
Time Finished Purging:
Depth to Water After Purging (ft):
Percent Recovery:

Sampling Method/Equipment:

Bailer Rope-New or Cleaned?:
Sample Time:
Sample ID:
Replicate ID (if appl.)

Laboratory:

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESER-VATIVE

Comments: PZ-4 no longer exists as noted in EarthTech figure 2, July 2006

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach, SWAT
Project No.: 207069004
Monitoring Well ID: MW-1

Date: 11/21/07
Sampler: Peter Sims
Weather:
Site Location: 2910 E. 55th Way, Long Beach, CA

Casing Diameter: ☒ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH 40-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): 32.6
Depth to Water (ft-TOC): 19.75
LNAPL Observed?: no
DNAPL Observed?: no
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): 12.85 x (1/2" = 0.1, 2" = 0.16, 4" = 0.65) gal/ft = 2.056 x 3.0 = 6.168 Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst water level meter Cleaned: Y
Purging Method/Equipment: peristaltic pump Cleaned: Y
Pump Lines/Bailer Ropes-New or Cleaned?: new

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):
9:56	0	22.3	4.35	6.71	cloudy
10:03	1	21.5	3.61	6.54	slightly cloudy
10:10	2	21.4	3.07	6.58	"
10:16	3	22.0	2.92	6.52	"
10:18	4	22.0	2.94	6.51	"
10:21	5	21.9	2.92	6.53	"
10:24	6	21.8	2.87	6.56	"

Total Volume Purged (gallon): 6
Time Finished Purging: 10:24
Depth to Water After Purging (ft): 19.8
Percent Recovery:

Sampling Method/Equipment: Peristaltic Pump
Bailer Rope-New or Cleaned?: —
Sample Time: 11:01
Sample ID: MW-1
Replicate ID (if appl.)
Laboratory: ATL
Comments:

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESERVATIVE
COD	410.4	100ml Plastic	H_2SO_4 / 4°
PCB	8082	Glass, 1L	4°
VOCs	8260B	VOA	HCL/4°
SVOCs	8270C	Glass, 1L	4°
Boron	6010B	500mL ~~Plastic~~ Glass	HNO_3 / 4°
TOX	9020	500mL Glass	H_2SO_4 / 4°
TOC	415.1	Plastic, 40 ml	H_2SO_4 / 4°
TDS	160.1	200 ml, Plastic	4°
chloride, sulfate, nitrate	300	50ml, Plastic	4°
Oil & Grease	413.2	1L glass	H_2SO_4 / 4°
Sulfides	376.2	500ml, Glass	Zinc acetate/4°
BOD	405.1	1L Glass	4°

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Date: 11/21/07
Sampler: Peter Sims
Project No.: 207069004
Weather:
Monitoring Well ID: MW-2
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☒ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH 40-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): 35.6
LNAPL Observed?: No
DNAPL Observed?: NO
Depth to Water (ft-TOC): 22.55
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): 13.05 x (1/2" = 0.1, 2" = 0.16, 4" = 0.65) gal/ft = 2.08 x 3.0 = 6.26 Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst water level meter Cleaned: Y
Purging Method/Equipment: Peristaltic pump Cleaned: Y
Pump Lines/Bailer Ropes-New or Cleaned?: new

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):
11:30	0	22.1	2.32	6.68	slightly cloudy
11:35	1	22.4	2.26	6.53	"
11:41	2	22.4	2.29	6.48	clear
11:47	3	22.6	2.25	6.43	"
11:55	4	22.8	2.24	6.43	"
11:59	5	22.7	2.23	6.44	"
12:06	6	22.7	2.23	6.46	"

Total Volume Purged (gallon): 6
Time Finished Purging: 12:06
Depth to Water After Purging (ft): 22.5
Percent Recovery:

Sampling Method/Equipment: Peristaltic Pump
Bailer Rope-New or Cleaned?: —
Sample Time: 12:28
Sample ID: MW-2
Replicate ID (if appl.)
Laboratory: ATL
Comments:

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESERVATIVE
COD	410.4	100 ml Plastic	H_2SO_4/4°
PCB	8082	Glass, 1L	4°
VOCs	8260B	VOA	HCl/4°
SVOCs	8270C	Glass 1L	4°
Boron	6010B	500ml Glass	HNO_3/4°
Tox	9020	500ml Glass	H_2SO_4/4°
TOC	415.1	Plastic 40ml	H_2SO_4/4°
BOD	405.1	1L Glass	4°
TDS	160.1	200ml plastic	4°
Chloride Sulfate Nitrate Nitrite	300	50ml Plastic	40°
Oil & grease	413.2	1L glass	H_2SO_4/4°
Sulfides	376.2	500ml Glass	ZincAcetate/4°

Ninyo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Project No.: 207069004
Monitoring Well ID: MW-3

Date: 11/21/07
Sampler: Peter Sims
Weather:
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☒ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH 40-PVC ☐ Other: S. Steel
Total Depth (ft-TOC): 34.1
Depth to Water (ft-TOC): 21.2
LNAPL Observed?: no
DNAPL Observed?: no
LNAPL Thickness (ft): —
DNAPL Thickness (ft): —

Water Column Height (feet): _____ x (1/2" = 0.1, 2" = 0.16, 4" = 0.65) gal/ft = _____ x 3.0 = _____ Min. Purge Volume (gallons)

Water Level Measurement Equip.: solinst water level meter — Cleaned: Y
Purging Method/Equipment: Peristaltic Pump — Cleaned: Y
Pump Lines/Bailer Ropes-New or Cleaned?: new

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):

Total Volume Purged (gallon): _____
Time Finished Purging: _____
Depth to Water After Purging (ft): _____
Percent Recovery: _____

Sampling Method/Equipment: _____

Bailer Rope-New or Cleaned?: _____
Sample Time: _____
Sample ID: _____
Replicate ID (if appl.) _____

Laboratory: _____

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESER-VATIVE

Comments:
replaced 1/21

Mingo & Moore

GROUNDWATER SAMPLING FIELD DATA SHEET

Project Name: Long Beach SWAT
Project No.: 207069004
Monitoring Well ID: MW-4

Date: 11/21/07
Sampler: Peter Sims
Weather:
Site Location: 2910 E. 55TH Way, Long Beach, CA

Casing Diameter: ☒ 2" ☐ 4" ☐ 6" ☐ Other
Casing Material: ☒ SCH 40-PVC ☐ Other: S. Steel
Total Depth (ft-TOC):
Depth to Water (ft-TOC):
LNAPL Observed?:
DNAPL Observed?:
LNAPL Thickness (ft):
DNAPL Thickness (ft):

Water Column Height (feet): _____ x (1/2" = 0.1; 2" = 0.16; 4" = 0.65) gal/ft = _____ x 3.0 = _____ Min. Purge Volume (gallons)

Water Level Measurement Equip.: — Cleaned: —
Purging Method/Equipment: — Cleaned: —
Pump Lines/Bailer Ropes-New or Cleaned?: —

TIME	PURGE VOL. (gallons)	TEMP. (°C)	COND. (µS/cm)	pH Value	COMMENTS (color, turbidity, odor, sheen, etc.):

Total Volume Purged (gallon):
Time Finished Purging:
Depth to Water After Purging (ft):
Percent Recovery:

Sampling Method/Equipment:

Bailer Rope-New or Cleaned?:
Sample Time:
Sample ID:
Replicate ID (if appl.)

Laboratory:

Comments: MW-4 no longer exists as noted in EarthTech Figure 2, July 2006

PARAMETER	USEPA METHOD	CONTAINERS/VOL./ TYPE (VOA/Glass/Plastic)	PRESER-VATIVE

ATTACHMENT F

ANOVA STATISTICAL ANALYSIS DATA

Normality Test (Kolmogorov-Smirnov) Wednesday, January 23, 2008, 1:36:51 PM

Data source: PZ-1 in 207069004 Stats.SNB

Chloride:	K-S Dist. = 0.287	P = 0.128	Passed
Nitrogen/Nitrate:	K-S Dist. = 0.192	P > 0.200	Passed
Sulfate:	K-S Dist. = 0.252	P > 0.200	Passed
TDS:	K-S Dist. = 0.333	P = 0.036	Failed
TOC:	K-S Dist. = 0.251	P > 0.200	Passed
TOX:	K-S Dist. = 0.333	P = 0.036	Failed
COD:	K-S Dist. = 0.289	P = 0.122	Passed

A test that fails indicates that the data varies significantly from the pattern expected if the data was drawn from a population with a normal distribution.
A test that passes indicates that the data matches the pattern expected if the data was drawn from a population with a normal distribution.

Chloride	Nitrogen/Nitrate	Sulfate	TDS	TOC	TOX	COD
540.0000	0.0000	1100.0000	3300.0000	20.0000	25.0000	2.5000
650.0000	23.0000	1400.0000	3600.0000	5.0000	37.0000	12.5000
440.0000	9.0000	950.0000	2700.0000	16.0000	29.0000	65.0000
500.0000	25.0000	1200.0000	3300.0000	7.0000	130.0000	20.0000
530.0000	30.0000	1200.0000	3600.0000	7.0000	23.0000	8.0000
532.0000	17.4000	1170.0000	3300.0000	11.0000	48.8000	24.6000

Normality Test (Kolmogorov-Smirnov) Wednesday, January 23, 2008, 1:38:04 PM

Data source: MW-1 in 207069004 Stats.SNB

Chloride:	K-S Dist. = 0.213	P > 0.200	Passed
Nitrogen/Nitrate:	K-S Dist. = 0.249	P > 0.200	Passed
Sulfate:	K-S Dist. = 0.229	P > 0.200	Passed
TDS:	K-S Dist. = 0.169	P > 0.200	Passed
TOC:	K-S Dist. = 0.295	P = 0.066	Passed
TOX:	K-S Dist. = 0.431	P < 0.001	Failed
COD:	K-S Dist. = 0.260	P = 0.164	Passed

A test that fails indicates that the data varies significantly from the pattern expected if the data was drawn from a population with a normal distribution.
A test that passes indicates that the data matches the pattern expected if the data was drawn from a population with a normal distribution.

Chloride	Nitrogen/Nitrate	Sulfate	TDS	TOC	TOX	COD
400.0000	1.0000	140.0000	1400.0000	1.5000	10.0000	590.0000
570.0000	0.0000	89.0000	2000.0000	6.0000	10.0000	880.0000
990.0000	2.0000	390.0000	3100.0000	34.0000	26.0000	140.0000
930.0000	2.0000	430.0000	3000.0000	12.0000	10.0000	67.0000
910.0000	2.0000	410.0000	3800.0000	6.0000	10.0000	89.0000
630.0000	0.5000	160.0000	1900.0000	1.5000	10.0000	22.0000
738.3333	1.3333	269.8333	2533.3333	10.6667	21.0000	298.0000

Normality Test (Kolmogorov-Smirnov) Wednesday, January 23, 2008, 1:39:49 PM

Data source: MW-2 in 207069004 Stats.SNB

Chloride:	K-S Dist. = 0.223	P > 0.200	Passed
Nitrogen/Nitrate:	K-S Dist. = 0.300	P = 0.056	Passed
Sulfate:	K-S Dist. = 0.165	P > 0.200	Passed
TDS:	K-S Dist. = 0.214	P > 0.200	Passed
TOC:	K-S Dist. = 0.185	P > 0.200	Passed
TOX:	K-S Dist. = 0.233	P > 0.200	Passed
COD:	K-S Dist. = 0.357	P = 0.007	Failed

A test that fails indicates that the data varies significantly from the pattern expected if the data was drawn from a population with a normal distribution.
A test that passes indicates that the data matches the pattern expected if the data was drawn from a population with a normal distribution.

Chloride	Nitrogen/Nitrate	Sulfate	TDS	TOC	TOX	COD
520.0000	1.0000	78.0000	1500.0000	1.5000	32.0000	110.0000
520.0000	1.0000	33.0000	2500.0000	6.0000	120.0000	480.0000
510.0000	20.0000	120.0000	2000.0000	16.0000	120.0000	110.0000
470.0000	7.0000	180.0000	1800.0000	15.0000	92.0000	44.0000
410.0000	7.0000	190.0000	2000.0000	8.0000	24.0000	140.0000
470.0000	0.1000	33.0000	1400.0000	1.5000	25.0000	22.0000
483.3333	6.0333	105.6667	1866.6667	8.5000	68.8333	151.0000

Chloride

PZ-1	MW-1	MW-2
540	400	520
650	570	520
440	990	510
500	930	470
530	910	410
	630	470

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
PZ-1	5	2660	532	5870
MW-1	6	4430	738.333333	56816.6667
MW-2	6	2900	483.333333	1826.66667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	217009.216	2	108504.608	4.79659141	0.02590541	3.73889009
Within Groups	316696.667	14	22621.1905			
Total	533705.882	16				

Nitrogen/Nitrate

0	1	1
23	0	1
9	2	20
25	2	7
30	2	7
	1	0.2

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Nitrogen/Nitrate	5	87	17.4	155.3
	6	8	1.33333333	0.66666667
	6	36.2	6.03333333	56.3266667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	730.318039	2	365.15902	5.64159604	0.01596147	3.73889009
Within Groups	906.166667	14	64.7261905			
Total	1636.48471	16				

Sulfate

1100	140	78
1400	89	33
950	390	120
1200	430	180
1200	410	190
	160	33

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Sulfate	5	5850	1170	27000
	6	1619	269.833333	24272.1667
	6	634	105.666667	4833.86667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3486081.72	2	1743040.86	96.2511575	6.583E-09	3.73889009
Within Groups	253530.167	14	18109.2976			
Total	3739611.88	16				

TDS

3300	1400	1500
3600	2000	2500
2700	3100	2000
3300	3000	1800
3600	3800	2000
	1900	1400

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
TDS	5	16500	3300	135000
	6	15200	2533.33333	822666.667
	6	11200	1866.66667	158666.667

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5603921.57	2	2801960.78	7.20210238	0.00706672	3.73889009
Within Groups	5446666.67	14	389047.619			
Total	11050588.2	16				

TOC

20	3	3
5	6	6
16	34	16
7	12	15
7	6	8
3	3	3

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
TOC	6	58	9.66666667	45.4666667
	6	64	10.6666667	141.466667
	6	51	8.5	33.1

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	14.1111111	2	7.05555556	0.09619755	0.90884034	3.68231667
Within Groups	1100.16667	15	73.3444444			
Total	1114.27778	17				

TOX

25	20	32
37	20	120
29	26	120
130	20	92
23	20	24
	20	25

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
TOX	5	244	48.8	2089.2
	6	126	21	6
	6	413	68.8333333	2212.16667

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	6917.30784	2	3458.65392	2.48982249	0.11881729	3.73889009
Within Groups	19447.6333	14	1389.11667			
Total	26364.9412	16				

COD

5	590	110
25	880	480
65	140	110
20	67	44
8	89	140
	22	22

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
COD	5	123	24.6	578.3
	6	1788	298	124434
	6	906	151	27962.8

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	205862.329	2	102931.165	1.88543973	0.1883362	3.73889009
Within Groups	764297.2	14	54592.6571			
Total	970159.529	16				

ATTACHMENT G

LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

December 03, 2007

Denise Alvarez
Ninyo & Moore
475 Goddard Suite 200
Irvine, CA 92618
TEL: (949) 753-7070
FAX: (949) 753-7071

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 095431

RE: Paramount Dump, 207069004

Attention: Denise Alvarez

Enclosed are the results for sample(s) received on November 21, 2007 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

CASE NARRATIVE

The samples for SM5210B (BOD) analysis were subcontracted to Calscience Environmental Laboratories, Inc. with ELAP Cert. 1230.

Advanced Technology Laboratories *3275 Walnut Avenue, Signal Hill, CA 90755* *Tel: 562. 989.4045* *Fax: 562.989.4040*

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-001

Client Sample ID: MW-1
Collection Date: 11/21/2007 11:01:00 AM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
EPA 3010A				**EPA 6010B**		
RunID: ICP8_071127C	QC Batch: 41565			PrepDate: 11/26/2007		Analyst: HF
Boron	0.12	0.10		mg/L	1	11/27/2007 03:17 PM
OIL & GREASE						
				EPA 1664 _HEM		
RunID: WETCHEM2_071127B	QC Batch: 41609			PrepDate: 11/26/2007		Analyst: SER
Oil & Grease	ND	4.7		mg/L	1	11/27/2007
SULFIDE, TOTAL						
				SM4500-S= D		
RunID: WETCHEM3_071123B	QC Batch: R87640			PrepDate:		Analyst: RSJ
Sulfide	ND	0.050		mg/L	1	11/23/2007
PCBS BY GC/ECD						
EPA 3510C				**EPA 8082**		
RunID: GC4_071127B	QC Batch: 41612			PrepDate: 11/27/2007		Analyst: VLT
Aroclor 1016	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1221	ND	1.0		µg/L	1	11/27/2007 07:38 PM
Aroclor 1232	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1242	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1248	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1254	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1260	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1262	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Aroclor 1268	ND	0.50		µg/L	1	11/27/2007 07:38 PM
Surr: Decachlorobiphenyl	78.9	29-112		%REC	1	11/27/2007 07:38 PM
Surr: Tetrachloro-m-xylene	87.4	48-120		%REC	1	11/27/2007 07:38 PM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121F	QC Batch: R87567			PrepDate:		Analyst: CBB
Chloride	630	25		mg/L	50	11/22/2007 12:40 PM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121G	QC Batch: R87568			PrepDate:		Analyst: CBB
Nitrogen, Nitrite	ND	1.0		mg/L	10	11/22/2007 11:00 AM

Qualifiers:
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- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

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Advanced Technology Laboratories

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Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121H	QC Batch: R87569			PrepDate:		Analyst: CBB
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	11/22/2007 11:00 AM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121I	QC Batch: R87571			PrepDate:		Analyst: CBB
Sulfate	160	10		mg/L	10	11/22/2007 11:00 AM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
	EPA 3510C			EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2,4-Dichlorophenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2,4-Dimethylphenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2,4-Dinitrophenol	ND	50		µg/L	1	11/27/2007 06:16 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 06:16 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 06:16 PM
2-Chloronaphthalene	ND	10		µg/L	1	11/27/2007 06:16 PM
2-Chlorophenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2-Methylnaphthalene	ND	10		µg/L	1	11/27/2007 06:16 PM
2-Methylphenol	ND	10		µg/L	1	11/27/2007 06:16 PM
2-Nitroaniline	ND	50		µg/L	1	11/27/2007 06:16 PM
2-Nitrophenol	ND	10		µg/L	1	11/27/2007 06:16 PM
3,3'-Dichlorobenzidine	ND	20		µg/L	1	11/27/2007 06:16 PM
3-Nitroaniline	ND	50		µg/L	1	11/27/2007 06:16 PM
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/27/2007 06:16 PM
4-Bromophenyl-phenylether	ND	10		µg/L	1	11/27/2007 06:16 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	11/27/2007 06:16 PM
4-Chloroaniline	ND	20		µg/L	1	11/27/2007 06:16 PM
4-Chlorophenyl-phenylether	ND	10		µg/L	1	11/27/2007 06:16 PM
4-Methylphenol	ND	10		µg/L	1	11/27/2007 06:16 PM
4-Nitroaniline	ND	20		µg/L	1	11/27/2007 06:16 PM
4-Nitrophenol	ND	50		µg/L	1	11/27/2007 06:16 PM

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Print Date: *03-Dec-07*

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Lab ID: 095431-001

Client Sample ID: MW-1
Collection Date: 11/21/2007 11:01:00 AM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				**EPA 8270C**		
RunID: MS7_071127A	QC Batch: 41608				PrepDate: 11/27/2007	Analyst: MFR
Acenaphthene	ND	10		µg/L	1	11/27/2007 06:16 PM
Acenaphthylene	ND	10		µg/L	1	11/27/2007 06:16 PM
Anthracene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzidine (M)	ND	50		µg/L	1	11/27/2007 06:16 PM
Benzo(a)anthracene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzo(a)pyrene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	11/27/2007 06:16 PM
Benzoic acid	ND	50		µg/L	1	11/27/2007 06:16 PM
Benzyl alcohol	ND	20		µg/L	1	11/27/2007 06:16 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/27/2007 06:16 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/27/2007 06:16 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/27/2007 06:16 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Butylbenzylphthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Chrysene	ND	10		µg/L	1	11/27/2007 06:16 PM
Di-n-butylphthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Di-n-octylphthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/27/2007 06:16 PM
Dibenzofuran	ND	10		µg/L	1	11/27/2007 06:16 PM
Diethylphthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Dimethylphthalate	ND	10		µg/L	1	11/27/2007 06:16 PM
Fluoranthene	ND	10		µg/L	1	11/27/2007 06:16 PM
Fluorene	ND	10		µg/L	1	11/27/2007 06:16 PM
Hexachlorobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
Hexachlorobutadiene	ND	20		µg/L	1	11/27/2007 06:16 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/27/2007 06:16 PM
Hexachloroethane	ND	10		µg/L	1	11/27/2007 06:16 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/27/2007 06:16 PM
Isophorone	ND	10		µg/L	1	11/27/2007 06:16 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/27/2007 06:16 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/27/2007 06:16 PM
Naphthalene	ND	10		µg/L	1	11/27/2007 06:16 PM
Nitrobenzene	ND	10		µg/L	1	11/27/2007 06:16 PM
Pentachlorophenol	ND	50		µg/L	1	11/27/2007 06:16 PM

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SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
Phenanthrene	ND	10		µg/L	1	11/27/2007 06:16 PM
Phenol	ND	10		µg/L	1	11/27/2007 06:16 PM
Pyrene	ND	10		µg/L	1	11/27/2007 06:16 PM
Surr: 1,2-Dichlorobenzene-d4	69.0	47-101		%REC	1	11/27/2007 06:16 PM
Surr: 2,4,6-Tribromophenol	84.4	64-144		%REC	1	11/27/2007 06:16 PM
Surr: 2-Chlorophenol-d4	65.0	46-98		%REC	1	11/27/2007 06:16 PM
Surr: 2-Fluorobiphenyl	80.4	55-104		%REC	1	11/27/2007 06:16 PM
Surr: 2-Fluorophenol	40.7	27-64		%REC	1	11/27/2007 06:16 PM
Surr: 4-Terphenyl-d14	105	59-119		%REC	1	11/27/2007 06:16 PM
Surr: Nitrobenzene-d5	78.4	48-115		%REC	1	11/27/2007 06:16 PM
Surr: Phenol-d5	26.2	13-50		%REC	1	11/27/2007 06:16 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
No compounds detected	ND	4.0		µg/L	1	11/27/2007 06:16 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
no compounds detected	ND	2.5		µg/L	1	11/26/2007 03:37 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,1-Dichloropropene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2,3-Trichloropropane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	11/26/2007 03:37 PM

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Matrix: GROUND WATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS11_071126A QC Batch: A07VW319 PrepDate: Analyst: ML

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromoethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,3-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
2,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
2-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
4-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
4-Isopropyltoluene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Benzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Bromobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Bromodichloromethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Bromoform	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Bromomethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Carbon tetrachloride	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Chlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Chloroethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Chloroform	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Chloromethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
cis-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Dibromochloromethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Dibromomethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Dichlorodifluoromethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Ethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Hexachlorobutadiene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Isopropylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
m,p-Xylene	ND	10		µg/L	1	11/26/2007 03:37 PM
Methylene chloride	ND	5.0		µg/L	1	11/26/2007 03:37 PM
n-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
n-Propylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Naphthalene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
o-Xylene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
sec-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM

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VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
Styrene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
tert-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Tetrachloroethene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Toluene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
trans-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Trichloroethene	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Trichlorofluoromethane	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Vinyl chloride	ND	5.0		µg/L	1	11/26/2007 03:37 PM
Surr: 1,2-Dichloroethane-d4	87.9	70-130		%REC	1	11/26/2007 03:37 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%REC	1	11/26/2007 03:37 PM
Surr: Dibromofluoromethane	95.6	70-130		%REC	1	11/26/2007 03:37 PM
Surr: Toluene-d8	98.7	70-130		%REC	1	11/26/2007 03:37 PM
TOTAL ORGANIC CARBON						
				SM5310B		
RunID: TOC2_071127A	QC Batch: R87693			PrepDate:		Analyst: RSJ
Organic Carbon, Total	ND	3.0		mg/L	1	11/27/2007 03:31 PM
TOTAL ORGANIC HALIDES						
				EPA 9020B		
RunID: TOX1_071127A	QC Batch: R87690			PrepDate:		Analyst: RSJ
Total Organic Halides	ND	20		µg/L	1	11/27/2007
TOTAL FILTERABLE RESIDUE						
				SM2540C		
RunID: WETCHEM_071126C	QC Batch: 41573			PrepDate:	11/26/2007	Analyst: CC
Total Dissolved Solids (Residue, Filterable)	1900	10		mg/L	1	11/26/2007 03:23 PM
CHEMICAL OXYGEN DEMAND						
				EPA 410.4		
RunID: WETCHEM_071126B	QC Batch: 41555			PrepDate:	11/26/2007	Analyst: CC
Chemical Oxygen Demand	22	5.0		mg/L	1	11/26/2007

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ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3010A			**EPA 6010B**		
RunID: ICP8_071127C	QC Batch: 41565			PrepDate: 11/26/2007		Analyst: HF
Boron	0.15	0.10		mg/L	1	11/27/2007 03:22 PM
OIL & GREASE						
				EPA 1664 _HEM		
RunID: WETCHEM2_071127B	QC Batch: 41609			PrepDate: 11/26/2007		Analyst: SER
Oil & Grease	ND	4.6		mg/L	1	11/27/2007
SULFIDE, TOTAL						
				SM4500-S= D		
RunID: WETCHEM3_071123B	QC Batch: R87640			PrepDate:		Analyst: RSJ
Sulfide	ND	0.050		mg/L	1	11/23/2007
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_071127B	QC Batch: 41612			PrepDate: 11/27/2007		Analyst: VLT
Aroclor 1016	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1221	ND	1.0		µg/L	1	11/27/2007 08:07 PM
Aroclor 1232	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1242	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1248	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1254	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1260	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1262	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Aroclor 1268	ND	0.50		µg/L	1	11/27/2007 08:07 PM
Surr: Decachlorobiphenyl	81.5	29-112		%REC	1	11/27/2007 08:07 PM
Surr: Tetrachloro-m-xylene	83.1	48-120		%REC	1	11/27/2007 08:07 PM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121F	QC Batch: R87567			PrepDate:		Analyst: CBB
Chloride	470	25		mg/L	50	11/22/2007 02:45 PM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121G	QC Batch: R87568			PrepDate:		Analyst: CBB
Nitrogen, Nitrite	ND	0.20		mg/L	2	11/22/2007 02:20 PM

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- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121H	QC Batch: R87569			PrepDate:		Analyst: **CBB**
Nitrogen, Nitrate (As N)	ND	0.20		mg/L	2	11/22/2007 02:20 PM
ANIONS BY ION CHROMATOGRAPHY						
				EPA 300.0		
RunID: IC4_071121I	QC Batch: R87571			PrepDate:		Analyst: **CBB**
Sulfate	33	2.0		mg/L	2	11/22/2007 02:20 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
	EPA 3510C			**EPA 8270C**		
RunID: MS7_071127A	QC Batch: 41608			PrepDate:	11/27/2007	Analyst: **MFR**
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2,4-Dichlorophenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2,4-Dimethylphenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2,4-Dinitrophenol	ND	50		µg/L	1	11/27/2007 06:50 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 06:50 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 06:50 PM
2-Chloronaphthalene	ND	10		µg/L	1	11/27/2007 06:50 PM
2-Chlorophenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2-Methylnaphthalene	ND	10		µg/L	1	11/27/2007 06:50 PM
2-Methylphenol	ND	10		µg/L	1	11/27/2007 06:50 PM
2-Nitroaniline	ND	50		µg/L	1	11/27/2007 06:50 PM
2-Nitrophenol	ND	10		µg/L	1	11/27/2007 06:50 PM
3,3'-Dichlorobenzidine	ND	20		µg/L	1	11/27/2007 06:50 PM
3-Nitroaniline	ND	50		µg/L	1	11/27/2007 06:50 PM
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/27/2007 06:50 PM
4-Bromophenyl-phenylether	ND	10		µg/L	1	11/27/2007 06:50 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	11/27/2007 06:50 PM
4-Chloroaniline	ND	20		µg/L	1	11/27/2007 06:50 PM
4-Chlorophenyl-phenylether	ND	10		µg/L	1	11/27/2007 06:50 PM
4-Methylphenol	ND	10		µg/L	1	11/27/2007 06:50 PM
4-Nitroaniline	ND	20		µg/L	1	11/27/2007 06:50 PM
4-Nitrophenol	ND	50		µg/L	1	11/27/2007 06:50 PM

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ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608				PrepDate: 11/27/2007	Analyst: MFR
Acenaphthene	ND	10		µg/L	1	11/27/2007 06:50 PM
Acenaphthylene	ND	10		µg/L	1	11/27/2007 06:50 PM
Anthracene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzidine (M)	ND	50		µg/L	1	11/27/2007 06:50 PM
Benzo(a)anthracene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzo(a)pyrene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	11/27/2007 06:50 PM
Benzoic acid	ND	50		µg/L	1	11/27/2007 06:50 PM
Benzyl alcohol	ND	20		µg/L	1	11/27/2007 06:50 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/27/2007 06:50 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/27/2007 06:50 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/27/2007 06:50 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Butylbenzylphthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Chrysene	ND	10		µg/L	1	11/27/2007 06:50 PM
Di-n-butylphthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Di-n-octylphthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/27/2007 06:50 PM
Dibenzofuran	ND	10		µg/L	1	11/27/2007 06:50 PM
Diethylphthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Dimethylphthalate	ND	10		µg/L	1	11/27/2007 06:50 PM
Fluoranthene	ND	10		µg/L	1	11/27/2007 06:50 PM
Fluorene	ND	10		µg/L	1	11/27/2007 06:50 PM
Hexachlorobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
Hexachlorobutadiene	ND	20		µg/L	1	11/27/2007 06:50 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/27/2007 06:50 PM
Hexachloroethane	ND	10		µg/L	1	11/27/2007 06:50 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/27/2007 06:50 PM
Isophorone	ND	10		µg/L	1	11/27/2007 06:50 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/27/2007 06:50 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/27/2007 06:50 PM
Naphthalene	ND	10		µg/L	1	11/27/2007 06:50 PM
Nitrobenzene	ND	10		µg/L	1	11/27/2007 06:50 PM
Pentachlorophenol	ND	50		µg/L	1	11/27/2007 06:50 PM

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ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608			PrepDate:	11/27/2007	Analyst: MFR
Phenanthrene	ND	10		µg/L	1	11/27/2007 06:50 PM
Phenol	ND	10		µg/L	1	11/27/2007 06:50 PM
Pyrene	ND	10		µg/L	1	11/27/2007 06:50 PM
Surr: 1,2-Dichlorobenzene-d4	69.0	47-101		%REC	1	11/27/2007 06:50 PM
Surr: 2,4,6-Tribromophenol	98.1	64-144		%REC	1	11/27/2007 06:50 PM
Surr: 2-Chlorophenol-d4	67.5	46-98		%REC	1	11/27/2007 06:50 PM
Surr: 2-Fluorobiphenyl	82.6	55-104		%REC	1	11/27/2007 06:50 PM
Surr: 2-Fluorophenol	41.6	27-64		%REC	1	11/27/2007 06:50 PM
Surr: 4-Terphenyl-d14	94.2	59-119		%REC	1	11/27/2007 06:50 PM
Surr: Nitrobenzene-d5	79.5	48-115		%REC	1	11/27/2007 06:50 PM
Surr: Phenol-d5	27.8	13-50		%REC	1	11/27/2007 06:50 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608			PrepDate:	11/27/2007	Analyst: MFR
No compounds detected	ND	4.0		µg/L	1	11/27/2007 06:50 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
no compounds detected	ND	2.5		µg/L	1	11/26/2007 03:17 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,1-Dichloropropene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2,3-Trichloropropane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	11/26/2007 03:17 PM

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS11_071126A QC Batch: A07VW319 PrepDate: Analyst: ML

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromoethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,3-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
2,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
2-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
4-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
4-Isopropyltoluene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Benzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Bromobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Bromodichloromethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Bromoform	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Bromomethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Carbon tetrachloride	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Chlorobenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Chloroethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Chloroform	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Chloromethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
cis-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Dibromochloromethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Dibromomethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Dichlorodifluoromethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Ethylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Hexachlorobutadiene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Isopropylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
m,p-Xylene	ND	10		µg/L	1	11/26/2007 03:17 PM
Methylene chloride	ND	5.0		µg/L	1	11/26/2007 03:17 PM
n-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
n-Propylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Naphthalene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
o-Xylene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
sec-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM

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Lab ID: 095431-002

Client Sample ID: MW-2
Collection Date: 11/21/2007 12:28:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
Styrene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
tert-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Tetrachloroethene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Toluene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
trans-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Trichloroethene	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Trichlorofluoromethane	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Vinyl chloride	ND	5.0		µg/L	1	11/26/2007 03:17 PM
Surr: 1,2-Dichloroethane-d4	84.0	70-130		%REC	1	11/26/2007 03:17 PM
Surr: 4-Bromofluorobenzene	97.2	70-130		%REC	1	11/26/2007 03:17 PM
Surr: Dibromofluoromethane	92.5	70-130		%REC	1	11/26/2007 03:17 PM
Surr: Toluene-d8	98.4	70-130		%REC	1	11/26/2007 03:17 PM
TOTAL ORGANIC CARBON						
				SM5310B		
RunID: TOC2_071127A	QC Batch: R87693			PrepDate:		Analyst: RSJ
Organic Carbon, Total	ND	3.0		mg/L	1	11/27/2007 03:47 PM
TOTAL ORGANIC HALIDES						
				EPA 9020B		
RunID: TOX1_071127A	QC Batch: R87690			PrepDate:		Analyst: RSJ
Total Organic Halides	25	20		µg/L	1	11/27/2007
TOTAL FILTERABLE RESIDUE						
				SM2540C		
RunID: WETCHEM_071126C	QC Batch: 41573			PrepDate:	11/26/2007	Analyst: CC
Total Dissolved Solids (Residue, Filterable)	1400	10		mg/L	1	11/26/2007 03:23 PM
CHEMICAL OXYGEN DEMAND						
				EPA 410.4		
RunID: WETCHEM_071126B	QC Batch: 41555			PrepDate:	11/26/2007	Analyst: CC
Chemical Oxygen Demand	22	5.0		mg/L	1	11/26/2007

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-003

Client Sample ID: PZ-1
Collection Date: 11/21/2007 4:15:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_071127B	QC Batch: 41612			PrepDate: 11/27/2007		Analyst: VLT
Aroclor 1016	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1221	ND	1.0		µg/L	1	11/27/2007 08:37 PM
Aroclor 1232	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1242	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1248	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1254	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1260	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1262	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Aroclor 1268	ND	0.50		µg/L	1	11/27/2007 08:37 PM
Surr: Decachlorobiphenyl	83.6	29-112		%REC	1	11/27/2007 08:37 PM
Surr: Tetrachloro-m-xylene	94.6	48-120		%REC	1	11/27/2007 08:37 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
	EPA 3510C			**EPA 8270C**		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2,4-Dichlorophenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2,4-Dimethylphenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2,4-Dinitrophenol	ND	50		µg/L	1	11/27/2007 07:24 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 07:24 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	11/27/2007 07:24 PM
2-Chloronaphthalene	ND	10		µg/L	1	11/27/2007 07:24 PM
2-Chlorophenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2-Methylnaphthalene	ND	10		µg/L	1	11/27/2007 07:24 PM
2-Methylphenol	ND	10		µg/L	1	11/27/2007 07:24 PM
2-Nitroaniline	ND	50		µg/L	1	11/27/2007 07:24 PM
2-Nitrophenol	ND	10		µg/L	1	11/27/2007 07:24 PM
3,3'-Dichlorobenzidine	ND	20		µg/L	1	11/27/2007 07:24 PM
3-Nitroaniline	ND	50		µg/L	1	11/27/2007 07:24 PM
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/27/2007 07:24 PM
4-Bromophenyl-phenylether	ND	10		µg/L	1	11/27/2007 07:24 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	11/27/2007 07:24 PM

Qualifiers:
- B Analyte detected in the associated Method Blank
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- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-003

Client Sample ID: PZ-1
Collection Date: 11/21/2007 4:15:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				EPA 8270C		
RunID: MS7_071127A	QC Batch: 41608				PrepDate: 11/27/2007	Analyst: MFR
4-Chloroaniline	ND	20		µg/L	1	11/27/2007 07:24 PM
4-Chlorophenyl-phenylether	ND	10		µg/L	1	11/27/2007 07:24 PM
4-Methylphenol	ND	10		µg/L	1	11/27/2007 07:24 PM
4-Nitroaniline	ND	20		µg/L	1	11/27/2007 07:24 PM
4-Nitrophenol	ND	50		µg/L	1	11/27/2007 07:24 PM
Acenaphthene	ND	10		µg/L	1	11/27/2007 07:24 PM
Acenaphthylene	ND	10		µg/L	1	11/27/2007 07:24 PM
Anthracene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzidine (M)	ND	50		µg/L	1	11/27/2007 07:24 PM
Benzo(a)anthracene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzo(a)pyrene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	11/27/2007 07:24 PM
Benzoic acid	ND	50		µg/L	1	11/27/2007 07:24 PM
Benzyl alcohol	ND	20		µg/L	1	11/27/2007 07:24 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/27/2007 07:24 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/27/2007 07:24 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/27/2007 07:24 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Butylbenzylphthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Chrysene	ND	10		µg/L	1	11/27/2007 07:24 PM
Di-n-butylphthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Di-n-octylphthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/27/2007 07:24 PM
Dibenzofuran	ND	10		µg/L	1	11/27/2007 07:24 PM
Diethylphthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Dimethylphthalate	ND	10		µg/L	1	11/27/2007 07:24 PM
Fluoranthene	ND	10		µg/L	1	11/27/2007 07:24 PM
Fluorene	ND	10		µg/L	1	11/27/2007 07:24 PM
Hexachlorobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
Hexachlorobutadiene	ND	20		µg/L	1	11/27/2007 07:24 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/27/2007 07:24 PM
Hexachloroethane	ND	10		µg/L	1	11/27/2007 07:24 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/27/2007 07:24 PM
Isophorone	ND	10		µg/L	1	11/27/2007 07:24 PM

Qualifiers:

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-003

Client Sample ID: PZ-1
Collection Date: 11/21/2007 4:15:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3510C				**EPA 8270C**		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/27/2007 07:24 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/27/2007 07:24 PM
Naphthalene	ND	10		µg/L	1	11/27/2007 07:24 PM
Nitrobenzene	ND	10		µg/L	1	11/27/2007 07:24 PM
Pentachlorophenol	ND	50		µg/L	1	11/27/2007 07:24 PM
Phenanthrene	ND	10		µg/L	1	11/27/2007 07:24 PM
Phenol	ND	10		µg/L	1	11/27/2007 07:24 PM
Pyrene	ND	10		µg/L	1	11/27/2007 07:24 PM
Surr: 1,2-Dichlorobenzene-d4	81.3	47-101		%REC	1	11/27/2007 07:24 PM
Surr: 2,4,6-Tribromophenol	97.2	64-144		%REC	1	11/27/2007 07:24 PM
Surr: 2-Chlorophenol-d4	77.4	46-98		%REC	1	11/27/2007 07:24 PM
Surr: 2-Fluorobiphenyl	92.2	55-104		%REC	1	11/27/2007 07:24 PM
Surr: 2-Fluorophenol	48.9	27-64		%REC	1	11/27/2007 07:24 PM
Surr: 4-Terphenyl-d14	101	59-119		%REC	1	11/27/2007 07:24 PM
Surr: Nitrobenzene-d5	92.0	48-115		%REC	1	11/27/2007 07:24 PM
Surr: Phenol-d5	33.0	13-50		%REC	1	11/27/2007 07:24 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
EPA 3510C				**EPA 8270C**		
RunID: MS7_071127A	QC Batch: 41608			PrepDate: 11/27/2007		Analyst: MFR
No compounds detected	ND	4.0		µg/L	1	11/27/2007 07:24 PM
TENTATIVELY IDENTIFIED COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
no compounds detected	ND	2.5		µg/L	1	11/26/2007 01:59 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,1-Dichloropropene	ND	5.0		µg/L	1	11/26/2007 01:59 PM

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-003

Client Sample ID: PZ-1
Collection Date: 11/21/2007 4:15:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
1,2,3-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2,3-Trichloropropane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2-Dibromoethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2-Dichloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,3-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
2,2-Dichloropropane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
2-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
4-Chlorotoluene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
4-Isopropyltoluene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Benzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Bromobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Bromodichloromethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Bromoform	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Bromomethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Carbon tetrachloride	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Chlorobenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Chloroethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Chloroform	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Chloromethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
cis-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Dibromochloromethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Dibromomethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Dichlorodifluoromethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Ethylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Hexachlorobutadiene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Isopropylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
m,p-Xylene	ND	10		µg/L	1	11/26/2007 01:59 PM
Methylene chloride	ND	5.0		µg/L	1	11/26/2007 01:59 PM

Qualifiers:
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- E Value above quantitation range
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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *03-Dec-07*

CLIENT: Ninyo & Moore
Lab Order: 095431
Project: Paramount Dump, 207069004
Lab ID: 095431-003

Client Sample ID: PZ-1
Collection Date: 11/21/2007 4:15:00 PM
Matrix: GROUND WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS11_071126A	QC Batch: A07VW319			PrepDate:		Analyst: ML
n-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
n-Propylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Naphthalene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
o-Xylene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
sec-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Styrene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
tert-Butylbenzene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Tetrachloroethene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Toluene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
trans-1,2-Dichloroethene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Trichloroethene	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Trichlorofluoromethane	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Vinyl chloride	ND	5.0		µg/L	1	11/26/2007 01:59 PM
Surr: 1,2-Dichloroethane-d4	85.3	70-130		%REC	1	11/26/2007 01:59 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%REC	1	11/26/2007 01:59 PM
Surr: Dibromofluoromethane	86.7	70-130		%REC	1	11/26/2007 01:59 PM
Surr: Toluene-d8	97.6	70-130		%REC	1	11/26/2007 01:59 PM
TOTAL ORGANIC CARBON						
			SM5310B			
RunID: TOC2_071127A	QC Batch: R87693			PrepDate:		Analyst: RSJ
Organic Carbon, Total	ND	3.0		mg/L	1	11/27/2007 04:06 PM

Qualifiers:

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- ND Not Detected at the Reporting Limit

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: 095431-002H-DUP | SampType: DUP | TestCode: 160.1_2540C | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87673
Client ID: MW-2 | Batch ID: 41573 | TestNo: SM2540C | Analysis Date: 11/26/2007 | SeqNo: 1336009

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1447.000	10						1449	0.138	10	

Sample ID: MB-41573 | SampType: MBLK | TestCode: 160.1_2540C | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87673
Client ID: PBW | Batch ID: 41573 | TestNo: SM2540C | Analysis Date: 11/26/2007 | SeqNo: 1336010

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 1664_HEM_W

Sample ID: MB-41609 | SampType: MBLK | TestCode: 1664_HEM_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87677
Client ID: PBW | Batch ID: 41609 | TestNo: EPA 1664 _H | Analysis Date: 11/27/2007 | SeqNo: 1336045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	ND	4.0									

Sample ID: LCS-41609 | SampType: LCS | TestCode: 1664_HEM_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87677
Client ID: LCSW | Batch ID: 41609 | TestNo: EPA 1664 _H | Analysis Date: 11/27/2007 | SeqNo: 1336046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	35.600	4.0	40.00	0	89.0	80	120				

Sample ID: MB-41609-MS | SampType: MS | TestCode: 1664_HEM_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87677
Client ID: ZZZZZZ | Batch ID: 41609 | TestNo: EPA 1664 _H | Analysis Date: 11/27/2007 | SeqNo: 1336055

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	37.200	4.0	40.00	0	93.0	80	120				

Sample ID: MB-41609-MSD | SampType: MSD | TestCode: 1664_HEM_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87677
Client ID: ZZZZZZ | Batch ID: 41609 | TestNo: EPA 1664 _H | Analysis Date: 11/27/2007 | SeqNo: 1336056

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	36.100	4.0	40.00	0	90.3	80	120	37.20	3.00	20	

Qualifiers:

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- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CL

Sample ID: MB-R87567 | SampType: MBLK | TestCode: 300_W_CL | Units: mg/L | Prep Date: | RunNo: 87567
Client ID: PBW | Batch ID: R87567 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334576

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: LCS-R87567 | SampType: LCS | TestCode: 300_W_CL | Units: mg/L | Prep Date: | RunNo: 87567
Client ID: LCSW | Batch ID: R87567 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.469	0.50	2.500	0	98.7	90	110				

Sample ID: 095431-001I-DUP | SampType: DUP | TestCode: 300_W_CL | Units: mg/L | Prep Date: | RunNo: 87567
Client ID: MW-1 | Batch ID: R87567 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	627.210	25						628.2	0.153	30	

Sample ID: 095431-001I-MS | SampType: MS | TestCode: 300_W_CL | Units: mg/L | Prep Date: | RunNo: 87567
Client ID: MW-1 | Batch ID: R87567 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	731.090	25	125.0	628.2	82.3	80	120				

Sample ID: 095431-001I-MSD | SampType: MSD | TestCode: 300_W_CL | Units: mg/L | Prep Date: | RunNo: 87567
Client ID: MW-1 | Batch ID: R87567 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	746.455	25	125.0	628.2	94.6	80	120	731.1	2.08	30	

Qualifiers:

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- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2

Sample ID: MB-R87568 | SampType: MBLK | TestCode: 300_W_NO2 | Units: mg/L | Prep Date: | RunNo: 87568
Client ID: PBW | Batch ID: R87568 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.10									

Sample ID: LCS-R87568 | SampType: LCS | TestCode: 300_W_NO2 | Units: mg/L | Prep Date: | RunNo: 87568
Client ID: LCSW | Batch ID: R87568 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.730	0.10	2.500	0	109	90	110				

Sample ID: 095431-001I-DUP | SampType: DUP | TestCode: 300_W_NO2 | Units: mg/L | Prep Date: | RunNo: 87568
Client ID: MW-1 | Batch ID: R87568 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334586

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	1.0						0	0	30	

Sample ID: 095431-001I-MS | SampType: MS | TestCode: 300_W_NO2 | Units: mg/L | Prep Date: | RunNo: 87568
Client ID: MW-1 | Batch ID: R87568 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334587

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	25.192	1.0	25.00	0	101	80	120				

Sample ID: 095431-001I-MSD | SampType: MSD | TestCode: 300_W_NO2 | Units: mg/L | Prep Date: | RunNo: 87568
Client ID: MW-1 | Batch ID: R87568 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334588

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	25.388	1.0	25.00	0	102	80	120	25.19	0.775	30	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO3

Sample ID: MB-R87569 | SampType: MBLK | TestCode: 300_W_NO3 | Units: mg/L | Prep Date: | RunNo: 87569
Client ID: PBW | Batch ID: R87569 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									

Sample ID: LCS-R87569 | SampType: LCS | TestCode: 300_W_NO3 | Units: mg/L | Prep Date: | RunNo: 87569
Client ID: LCSW | Batch ID: R87569 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334591

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.471	0.10	2.500	0	98.8	90	110				

Sample ID: 095431-001I-DUP | SampType: DUP | TestCode: 300_W_NO3 | Units: mg/L | Prep Date: | RunNo: 87569
Client ID: MW-1 | Batch ID: R87569 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334593

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	1.0						0	0	30	

Sample ID: 095431-001I-MS | SampType: MS | TestCode: 300_W_NO3 | Units: mg/L | Prep Date: | RunNo: 87569
Client ID: MW-1 | Batch ID: R87569 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334594

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	24.832	1.0	25.00	0	99.3	80	120				

Sample ID: 095431-001I-MSD | SampType: MSD | TestCode: 300_W_NO3 | Units: mg/L | Prep Date: | RunNo: 87569
Client ID: MW-1 | Batch ID: R87569 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	24.964	1.0	25.00	0	99.9	80	120	24.83	0.530	30	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4

Sample ID: MB-R87571 | SampType: MBLK | TestCode: 300_W_SO4 | Units: mg/L | Prep Date: | RunNo: 87571
Client ID: PBW | Batch ID: R87571 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334597

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: LCS-R87571 | SampType: LCS | TestCode: 300_W_SO4 | Units: mg/L | Prep Date: | RunNo: 87571
Client ID: LCSW | Batch ID: R87571 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334598

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.988	1.0	5.000	0	99.8	90	110				

Sample ID: 095431-001I-DUP | SampType: DUP | TestCode: 300_W_SO4 | Units: mg/L | Prep Date: | RunNo: 87571
Client ID: MW-1 | Batch ID: R87571 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	161.129	10						158.3	1.76	30	

Sample ID: 095431-001I-MS | SampType: MS | TestCode: 300_W_SO4 | Units: mg/L | Prep Date: | RunNo: 87571
Client ID: MW-1 | Batch ID: R87571 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334601

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	213.246	10	50.00	158.3	110	80	120				

Sample ID: 095431-001I-MSD | SampType: MSD | TestCode: 300_W_SO4 | Units: mg/L | Prep Date: | RunNo: 87571
Client ID: MW-1 | Batch ID: R87571 | TestNo: EPA 300.0 | Analysis Date: 11/22/2007 | SeqNo: 1334602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	213.766	10	50.00	158.3	111	80	120	213.2	0.244	30	

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Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 376.2_4500S2_WT

Sample ID: 095431-002KMS SampType: MS TestCode: 376.2_4500S2 Units: mg/L Prep Date: RunNo: 87640
Client ID: MW-2 Batch ID: R87640 TestNo: SM4500-S= D Analysis Date: 11/23/2007 SeqNo: 1335530

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.988	0.050	1.000	0	98.8	70	120				

Sample ID: 095431-002KMSD SampType: MSD TestCode: 376.2_4500S2 Units: mg/L Prep Date: RunNo: 87640
Client ID: MW-2 Batch ID: R87640 TestNo: SM4500-S= D Analysis Date: 11/23/2007 SeqNo: 1335531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.994	0.050	1.000	0	99.4	70	120	0.9880	0.605	20	

Sample ID: LCS-R87640 SampType: LCS TestCode: 376.2_4500S2 Units: mg/L Prep Date: RunNo: 87640
Client ID: LCSW Batch ID: R87640 TestNo: SM4500-S= D Analysis Date: 11/23/2007 SeqNo: 1335532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.992	0.050	1.000	0	99.2	80	120				

Sample ID: MB-R87640 SampType: MBLK TestCode: 376.2_4500S2 Units: mg/L Prep Date: RunNo: 87640
Client ID: PBW Batch ID: R87640 TestNo: SM4500-S= D Analysis Date: 11/23/2007 SeqNo: 1335533

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	0.050									

Qualifiers:

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 410.4_W

Sample ID: MB-41555 | SampType: MBLK | TestCode: 410.4_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87611
Client ID: PBW | Batch ID: 41555 | TestNo: EPA 410.4 | Analysis Date: 11/26/2007 | SeqNo: 1335191

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	ND	5.0									

Sample ID: LCS-41555 | SampType: LCS | TestCode: 410.4_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87611
Client ID: LCSW | Batch ID: 41555 | TestNo: EPA 410.4 | Analysis Date: 11/26/2007 | SeqNo: 1335192

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	493.600	5.0	500.0	0	98.7	80	120				

Sample ID: 095434-001B-MS | SampType: MS | TestCode: 410.4_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87611
Client ID: ZZZZZZ | Batch ID: 41555 | TestNo: EPA 410.4 | Analysis Date: 11/26/2007 | SeqNo: 1335204

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	721.200	5.0	500.0	280.8	88.1	80	120				

Sample ID: 095434-001B-MSD | SampType: MSD | TestCode: 410.4_W | Units: mg/L | Prep Date: 11/26/2007 | RunNo: 87611
Client ID: ZZZZZZ | Batch ID: 41555 | TestNo: EPA 410.4 | Analysis Date: 11/26/2007 | SeqNo: 1335205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	710.700	5.0	500.0	280.8	86.0	80	120	721.2	1.47	20	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 415.1_5310B_W

Sample ID: MB-R87693 SampType: MBLK TestCode: 415.1_5310B Units: mg/L Prep Date: RunNo: 87693
Client ID: PBW Batch ID: R87693 TestNo: SM5310B Analysis Date: 11/27/2007 SeqNo: 1336218

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	0.126	3.0									

Sample ID: LCS-R87693 SampType: LCS TestCode: 415.1_5310B Units: mg/L Prep Date: RunNo: 87693
Client ID: LCSW Batch ID: R87693 TestNo: SM5310B Analysis Date: 11/27/2007 SeqNo: 1336219

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	19.040	3.0	20.00	0.1258	94.6	80	120				

Sample ID: MBR87693-MS SampType: MS TestCode: 415.1_5310B Units: mg/L Prep Date: RunNo: 87693
Client ID: ZZZZZZ Batch ID: R87693 TestNo: SM5310B Analysis Date: 11/27/2007 SeqNo: 1336223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	16.690	3.0	20.00	0.1258	82.8	51	141				

Sample ID: MBR87693-MSD SampType: MSD TestCode: 415.1_5310B Units: mg/L Prep Date: RunNo: 87693
Client ID: ZZZZZZ Batch ID: R87693 TestNo: SM5310B Analysis Date: 11/27/2007 SeqNo: 1336224

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	16.190	3.0	20.00	0.1258	80.3	51	141	16.69	3.04	20	

Qualifiers:

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: MB-41565	SampType: MBLK	TestCode: 6010_W	Units: mg/L	Prep Date: 11/26/2007	RunNo: 87686
Client ID: PBW	Batch ID: 41565	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 11/27/2007	SeqNo: 1336132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.10									

Sample ID: LCS-41565	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 11/26/2007	RunNo: 87686
Client ID: LCSW	Batch ID: 41565	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 11/27/2007	SeqNo: 1336133

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.471	0.10	10.00	0	105	85	115				

Sample ID: 095435-003AMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 11/26/2007	RunNo: 87686
Client ID: ZZZZZZ	Batch ID: 41565	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 11/27/2007	SeqNo: 1336147

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.632	0.10	10.00	0	106	62	136				

Sample ID: 095435-003AMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 11/26/2007	RunNo: 87686
Client ID: ZZZZZZ	Batch ID: 41565	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 11/27/2007	SeqNo: 1336148

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.156	0.10	10.00	0	112	62	136	10.63	4.81	20	

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_W

Sample ID: MB-41612 | SampType: MBLK | TestCode: 8082_W | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87704
Client ID: PBW | Batch ID: 41612 | TestNo: EPA 8082 | EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336393

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.50									
Aroclor 1221	ND	1.0									
Aroclor 1232	ND	0.50									
Aroclor 1242	ND	0.50									
Aroclor 1248	ND	0.50									
Aroclor 1254	ND	0.50									
Aroclor 1260	ND	0.50									
Aroclor 1262	ND	0.50									
Aroclor 1268	ND	0.50									
Surr: Decachlorobiphenyl	0.462		0.5000		92.3	29	112				
Surr: Tetrachloro-m-xylene	0.492		0.5000		98.5	48	120				

Sample ID: LCS-41612 | SampType: LCS | TestCode: 8082_W | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87704
Client ID: LCSW | Batch ID: 41612 | TestNo: EPA 8082 | EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336394

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	4.334	0.50	5.000	0	86.7	62	102				
Aroclor 1260	4.310	0.50	5.000	0	86.2	56	109				
Surr: Decachlorobiphenyl	0.444		0.5000		88.9	29	112				
Surr: Tetrachloro-m-xylene	0.468		0.5000		93.5	48	120				

Sample ID: MB-41612MS | SampType: MS | TestCode: 8082_W | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87704
Client ID: ZZZZZZ | Batch ID: 41612 | TestNo: EPA 8082 | EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336395

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	4.203	0.50	5.000	0	84.1	62	102				
Aroclor 1260	4.337	0.50	5.000	0	86.7	56	109				
Surr: Decachlorobiphenyl	0.456		0.5000		91.2	29	112				
Surr: Tetrachloro-m-xylene	0.476		0.5000		95.1	48	120				

Qualifiers:

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Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_W

Sample ID: MB-41612MSD	SampType: MSD	TestCode: 8082_W	Units: µg/L	Prep Date: 11/27/2007	RunNo: 87704
Client ID: ZZZZZZ	Batch ID: 41612	TestNo: EPA 8082	EPA 3510C	Analysis Date: 11/27/2007	SeqNo: 1336396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	4.236	0.50	5.000	0	84.7	62	102	4.203	0.765	20	
Aroclor 1260	4.219	0.50	5.000	0	84.4	56	109	4.337	2.76	20	
Surr: Decachlorobiphenyl	0.434		0.5000		86.8	29	112		0	0	
Surr: Tetrachloro-m-xylene	0.459		0.5000		91.7	48	120		0	0	

Qualifiers:

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Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP

Sample ID: A11260707LC1 SampType: LCS TestCode: 8260_WP Units: µg/L Prep Date: RunNo: 87656
Client ID: LCSW Batch ID: A07VW319 TestNo: EPA 8260B Analysis Date: 11/26/2007 SeqNo: 1335765

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20.230	5.0	20.00	0	101	70	130				
Benzene	20.130	5.0	20.00	0	101	70	130				
Chlorobenzene	20.710	5.0	20.00	0	104	70	130				
MTBE	20.460	5.0	20.00	0	102	70	130				
Toluene	20.420	5.0	20.00	0	102	70	130				
Trichloroethene	21.070	5.0	20.00	0	105	70	130				
Surr: 1,2-Dichloroethane-d4	20.610		25.00		82.4	70	130				
Surr: 4-Bromofluorobenzene	24.970		25.00		99.9	70	130				
Surr: Dibromofluoromethane	23.120		25.00		92.5	70	130				
Surr: Toluene-d8	24.350		25.00		97.4	70	130				

Sample ID: A11260707MB2MS SampType: MS TestCode: 8260_WP Units: µg/L Prep Date: RunNo: 87656
Client ID: ZZZZZZ Batch ID: A07VW319 TestNo: EPA 8260B Analysis Date: 11/26/2007 SeqNo: 1335766

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20.170	5.0	20.00	0	101	70	130				
Benzene	20.420	5.0	20.00	0	102	70	130				
Chlorobenzene	20.690	5.0	20.00	0	103	70	130				
Toluene	20.500	5.0	20.00	0	103	70	130				
Trichloroethene	21.410	5.0	20.00	0	107	70	130				
Surr: 1,2-Dichloroethane-d4	21.240		25.00		85.0	70	130				
Surr: 4-Bromofluorobenzene	25.010		25.00		100	70	130				
Surr: Dibromofluoromethane	23.620		25.00		94.5	70	130				
Surr: Toluene-d8	24.550		25.00		98.2	70	130				

Sample ID: A11260707MB2MSD SampType: MSD TestCode: 8260_WP Units: µg/L Prep Date: RunNo: 87656
Client ID: ZZZZZZ Batch ID: A07VW319 TestNo: EPA 8260B Analysis Date: 11/26/2007 SeqNo: 1335767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19.550	5.0	20.00	0	97.8	70	130	20.17	3.12	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP

Sample ID: A11260707MB2MSD SampType: MSD TestCode: 8260_WP Units: µg/L Prep Date: RunNo: 87656
Client ID: ZZZZZZ Batch ID: A07VW319 TestNo: EPA 8260B Analysis Date: 11/26/2007 SeqNo: 1335767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.300	5.0	20.00	0	102	70	130	20.42	0.589	20	
Chlorobenzene	20.780	5.0	20.00	0	104	70	130	20.69	0.434	20	
Toluene	20.230	5.0	20.00	0	101	70	130	20.50	1.33	20	
Trichloroethene	21.010	5.0	20.00	0	105	70	130	21.41	1.89	20	
Surr: 1,2-Dichloroethane-d4	20.360		25.00		81.4	70	130		0	20	
Surr: 4-Bromofluorobenzene	24.780		25.00		99.1	70	130		0	20	
Surr: Dibromofluoromethane	22.140		25.00		88.6	70	130		0	20	
Surr: Toluene-d8	24.530		25.00		98.1	70	130		0	20	

Sample ID: A112607MB2 SampType: MBLK TestCode: 8260_WP Units: µg/L Prep Date: RunNo: 87656
Client ID: PBW Batch ID: A07VW319 TestNo: EPA 8260B Analysis Date: 11/26/2007 SeqNo: 1335768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP

Sample ID: A112607MB2	SampType: MBLK	TestCode: 8260_WP	Units: µg/L	Prep Date:	RunNo: 87656
Client ID: PBW	Batch ID: A07VW319	TestNo: EPA 8260B		Analysis Date: 11/26/2007	SeqNo: 1335768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Chlorotoluene	ND	5.0									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0									
cis-1,2-Dichloroethene	ND	5.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethylbenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	10									
Methylene chloride	ND	5.0									
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP

Sample ID: A112607MB2	SampType: MBLK	TestCode: 8260_WP	Units: µg/L	Prep Date:	RunNo: 87656
Client ID: PBW	Batch ID: A07VW319	TestNo: EPA 8260B		Analysis Date: 11/26/2007	SeqNo: 1335768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Surr: 1,2-Dichloroethane-d4	21.610		25.00		86.4	70	130				
Surr: 4-Bromofluorobenzene	24.650		25.00		98.6	70	130				
Surr: Dibromofluoromethane	23.150		25.00		92.6	70	130				
Surr: Toluene-d8	24.410		25.00		97.6	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_W_FULL

Sample ID: LCS-41608 | SampType: LCS | TestCode: 8270_W_FUL | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87712
Client ID: LCSW | Batch ID: 41608 | TestNo: EPA 8270C EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336623

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	86.240	10	100.0	0	86.2	60	102				
1,4-Dichlorobenzene	79.170	10	100.0	0	79.2	53	98				
2,4-Dinitrotoluene	101.390	10	100.0	0	101	63	130				
2-Chlorophenol	82.270	10	100.0	0	82.3	53	95				
4-Chloro-3-methylphenol	111.730	50	100.0	0	112	63	125				
4-Nitrophenol	41.580	50	100.0	0	41.6	16	71				
Acenaphthene	94.510	10	100.0	0	94.5	68	105				
N-Nitrosodi-n-propylamine	105.460	10	100.0	0	105	51	129				
Pentachlorophenol	105.750	50	100.0	0	106	78	123				
Phenol	38.120	10	100.0	0	38.1	20	54				
Pyrene	114.540	10	100.0	0	115	59	122				
Surr: 1,2-Dichlorobenzene-d4	80.290		100.0		80.3	47	101				
Surr: 2,4,6-Tribromophenol	103.100		100.0		103	64	144				
Surr: 2-Chlorophenol-d4	82.190		100.0		82.2	46	98				
Surr: 2-Fluorobiphenyl	92.330		100.0		92.3	55	104				
Surr: 2-Fluorophenol	49.690		100.0		49.7	27	64				
Surr: 4-Terphenyl-d14	90.550		100.0		90.6	59	119				
Surr: Nitrobenzene-d5	96.270		100.0		96.3	48	115				
Surr: Phenol-d5	34.520		100.0		34.5	13	50				

Sample ID: MB-41608MS | SampType: MS | TestCode: 8270_W_FUL | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87712
Client ID: ZZZZZZ | Batch ID: 41608 | TestNo: EPA 8270C EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336624

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	92.700	10	100.0	0	92.7	60	102				
1,4-Dichlorobenzene	86.260	10	100.0	0	86.3	53	98				
2,4-Dinitrotoluene	99.430	10	100.0	0	99.4	63	130				
2-Chlorophenol	89.080	10	100.0	0	89.1	53	95				
4-Chloro-3-methylphenol	115.220	50	100.0	0	115	63	125				
4-Nitrophenol	42.970	50	100.0	0	43.0	16	71				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_W_FULL

Sample ID: MB-41608MS | SampType: MS | TestCode: 8270_W_FUL | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87712
Client ID: ZZZZZZ | Batch ID: 41608 | TestNo: EPA 8270C EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336624

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	98.800	10	100.0	0	98.8	68	105				
N-Nitrosodi-n-propylamine	109.590	10	100.0	0	110	51	129				
Pentachlorophenol	109.210	50	100.0	0	109	78	123				
Phenol	42.520	10	100.0	0	42.5	20	54				
Pyrene	109.970	10	100.0	0	110	59	122				
Surr: 1,2-Dichlorobenzene-d4	83.270		100.0		83.3	47	101				
Surr: 2,4,6-Tribromophenol	100.140		100.0		100	64	144				
Surr: 2-Chlorophenol-d4	87.670		100.0		87.7	46	98				
Surr: 2-Fluorobiphenyl	95.780		100.0		95.8	55	104				
Surr: 2-Fluorophenol	54.190		100.0		54.2	27	64				
Surr: 4-Terphenyl-d14	94.640		100.0		94.6	59	119				
Surr: Nitrobenzene-d5	100.320		100.0		100	48	115				
Surr: Phenol-d5	37.360		100.0		37.4	13	50				

Sample ID: MB-41608MSD | SampType: MSD | TestCode: 8270_W_FUL | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87712
Client ID: ZZZZZZ | Batch ID: 41608 | TestNo: EPA 8270C EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	96.500	10	100.0	0	96.5	60	102	92.70	4.02	20	
1,4-Dichlorobenzene	89.270	10	100.0	0	89.3	53	98	86.26	3.43	20	
2,4-Dinitrotoluene	109.660	10	100.0	0	110	63	130	99.43	9.79	20	
2-Chlorophenol	93.290	10	100.0	0	93.3	53	95	89.08	4.62	20	
4-Chloro-3-methylphenol	123.810	50	100.0	0	124	63	125	115.2	7.19	20	
4-Nitrophenol	48.240	50	100.0	0	48.2	16	71	42.97	0	20	
Acenaphthene	104.990	10	100.0	0	105	68	105	98.80	6.07	20	
N-Nitrosodi-n-propylamine	115.270	10	100.0	0	115	51	129	109.6	5.05	20	
Pentachlorophenol	116.600	50	100.0	0	117	78	123	109.2	6.55	20	
Phenol	45.370	10	100.0	0	45.4	20	54	42.52	6.49	20	
Pyrene	118.830	10	100.0	0	119	59	122	110.0	7.74	20	
Surr: 1,2-Dichlorobenzene-d4	85.630		100.0		85.6	47	101		0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_W_FULL

Sample ID: **MB-41608MSD** SampType: **MSD** TestCode: **8270_W_FUL** Units: **µg/L** Prep Date: **11/27/2007** RunNo: **87712**
Client ID: **ZZZZZZ** Batch ID: **41608** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **11/27/2007** SeqNo: **1336625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2,4,6-Tribromophenol	107.610		100.0		108	64	144		0	20	
Surr: 2-Chlorophenol-d4	90.870		100.0		90.9	46	98		0	20	
Surr: 2-Fluorobiphenyl	98.960		100.0		99.0	55	104		0	20	
Surr: 2-Fluorophenol	56.590		100.0		56.6	27	64		0	20	
Surr: 4-Terphenyl-d14	101.480		100.0		101	59	119		0	20	
Surr: Nitrobenzene-d5	105.350		100.0		105	48	115		0	20	
Surr: Phenol-d5	40.220		100.0		40.2	13	50		0	20	

Sample ID: **MB-41608** SampType: **MBLK** TestCode: **8270_W_FUL** Units: **µg/L** Prep Date: **11/27/2007** RunNo: **87712**
Client ID: **PBW** Batch ID: **41608** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **11/27/2007** SeqNo: **1336626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	10									
1,2-Dichlorobenzene	ND	10									
1,3-Dichlorobenzene	ND	10									
1,4-Dichlorobenzene	ND	10									
2,4,5-Trichlorophenol	ND	10									
2,4,6-Trichlorophenol	ND	10									
2,4-Dichlorophenol	ND	10									
2,4-Dimethylphenol	ND	10									
2,4-Dinitrophenol	ND	50									
2,4-Dinitrotoluene	ND	10									
2,6-Dinitrotoluene	ND	10									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
2-Methylnaphthalene	ND	10									
2-Methylphenol	ND	10									
2-Nitroaniline	ND	50									
2-Nitrophenol	ND	10									
3,3'-Dichlorobenzidine	ND	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_W_FULL

Sample ID: MB-41608	SampType: MBLK	TestCode: 8270_W_FUL	Units: µg/L	Prep Date: 11/27/2007	RunNo: 87712
Client ID: PBW	Batch ID: 41608	TestNo: EPA 8270C	EPA 3510C	Analysis Date: 11/27/2007	SeqNo: 1336626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3-Nitroaniline	ND	50									
4,6-Dinitro-2-methylphenol	ND	50									
4-Bromophenyl-phenylether	ND	10									
4-Chloro-3-methylphenol	ND	50									
4-Chloroaniline	ND	20									
4-Chlorophenyl-phenylether	ND	10									
4-Methylphenol	ND	10									
4-Nitroaniline	ND	20									
4-Nitrophenol	ND	50									
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Anthracene	ND	10									
Benzidine (M)	ND	50									
Benzo(a)anthracene	ND	10									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	10									
Bis(2-chloroisopropyl)ether	ND	10									
Bis(2-ethylhexyl)phthalate	ND	10									
Butylbenzylphthalate	ND	10									
Chrysene	ND	10									
Di-n-butylphthalate	ND	10									
Di-n-octylphthalate	ND	10									
Dibenz(a,h)anthracene	ND	10									
Dibenzofuran	ND	10									

Qualifiers:

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- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_W_FULL

Sample ID: MB-41608 | SampType: MBLK | TestCode: 8270_W_FUL | Units: µg/L | Prep Date: 11/27/2007 | RunNo: 87712
Client ID: PBW | Batch ID: 41608 | TestNo: EPA 8270C EPA 3510C | Analysis Date: 11/27/2007 | SeqNo: 1336626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diethylphthalate	ND	10									
Dimethylphthalate	ND	10									
Fluoranthene	ND	10									
Fluorene	ND	10									
Hexachlorobenzene	ND	10									
Hexachlorobutadiene	ND	20									
Hexachlorocyclopentadiene	ND	10									
Hexachloroethane	ND	10									
Indeno(1,2,3-cd)pyrene	ND	10									
Isophorone	ND	10									
N-Nitrosodi-n-propylamine	ND	10									
N-Nitrosodiphenylamine	ND	10									
Naphthalene	ND	10									
Nitrobenzene	ND	10									
Pentachlorophenol	ND	50									
Phenanthrene	ND	10									
Phenol	ND	10									
Pyrene	ND	10									
Surr: 1,2-Dichlorobenzene-d4	75.470		100.0		75.5	47	101				
Surr: 2,4,6-Tribromophenol	94.220		100.0		94.2	64	144				
Surr: 2-Chlorophenol-d4	71.960		100.0		72.0	46	98				
Surr: 2-Fluorobiphenyl	84.700		100.0		84.7	55	104				
Surr: 2-Fluorophenol	44.190		100.0		44.2	27	64				
Surr: 4-Terphenyl-d14	99.420		100.0		99.4	59	119				
Surr: Nitrobenzene-d5	83.220		100.0		83.2	48	115				
Surr: Phenol-d5	28.750		100.0		28.8	13	50				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: Ninyo & Moore
Work Order: 095431
Project: Paramount Dump, 207069004

ANALYTICAL QC SUMMARY REPORT

TestCode: 9020_W

Sample ID: MB-R87690 | SampType: MBLK | TestCode: 9020_W | Units: µg/L | Prep Date: | RunNo: 87690
Client ID: PBW | Batch ID: R87690 | TestNo: EPA 9020B | Analysis Date: 11/27/2007 | SeqNo: 1336195

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	ND	20									

Sample ID: LCS-R87690 | SampType: LCS | TestCode: 9020_W | Units: µg/L | Prep Date: | RunNo: 87690
Client ID: LCSW | Batch ID: R87690 | TestNo: EPA 9020B | Analysis Date: 11/27/2007 | SeqNo: 1336196

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	95.209	20	100.0	0	95.2	80	120				

Sample ID: 095431-002GMS | SampType: MS | TestCode: 9020_W | Units: µg/L | Prep Date: | RunNo: 87690
Client ID: MW-2 | Batch ID: R87690 | TestNo: EPA 9020B | Analysis Date: 11/27/2007 | SeqNo: 1336199

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	127.658	20	100.0	25.05	103	74	122				

Sample ID: 095431-002GMSD | SampType: MSD | TestCode: 9020_W | Units: µg/L | Prep Date: | RunNo: 87690
Client ID: MW-2 | Batch ID: R87690 | TestNo: EPA 9020B | Analysis Date: 11/27/2007 | SeqNo: 1336200

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	127.857	20	100.0	25.05	103	74	122	127.7	0.156	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Calscience Environmental Laboratories, Inc.

December 03, 2007

Rachelle Arada
Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755-5225

Subject: **Calscience Work Order No.: 07-11-1750**
Client Reference: 095431

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/21/2007 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Amanda Porter

Calscience Environmental
Laboratories, Inc.
Amanda Porter
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755-5225

Date Received: 11/21/07
Work Order No: 07-11-1750

Project: 095431

Client Sample Number	Lab Sample Number	Date Collected	Matrix
095431-001A / MW-1	**07-11-1750-1**	**11/21/07**	**Aqueous**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Biochemical Oxygen Demand	ND	1.0	1		mg/L	11/21/07	11/26/07	SM 5210 B

095431-002A / MW-2	**07-11-1750-2**	**11/21/07**	**Aqueous**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Biochemical Oxygen Demand	ND	1.0	1		mg/L	11/21/07	11/26/07	SM 5210 B

Method Blank		**N/A**	**Aqueous**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Biochemical Oxygen Demand	ND	1.0	1		mg/L	11/21/07	11/26/07	SM 5210 B

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755-5225

Date Received: N/A
Work Order No: 07-11-1750

Project: 095431

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Biochemical Oxygen Demand	SM 5210 B	095431-002A / MW-2	11/26/07	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 07-11-1750

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225
TEL: *5629894045* FAX: *5629894040*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

1750

Subcontractor:
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 928411432
TEL: (714) 895-5494
FAX: (714) 894-7501
Acct #:

21-Nov-07

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests SM5210B		
095431-001A / MW-1	Ground Water	11/21/2007 11:01:00 AM	BOZP	1		
095431-002A / MW-2	Ground Water	11/21/2007 12:28:00 PM	BOZP	1		

AMENDED COC w/ time of collection

General Comments: Please use PO#: SC02808 Please fax results by: NORMAL TAT

SEND REPORT TO RACHELLE ARADA

	Date/Time		Date/Time
Relinquished by:	11/21/07	Received by:	
Relinquished by:		Received by:	

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225
TEL: *5629894045* FAX: *5629894040*

CHAIN-OF-CUSTODY RECORD

1750

QC Level: RTNE

Subcontractor:

Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 928411432

TEL: (714) 895-5494
FAX: (714) 894-7501
Acct #:

21-Nov-07

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM5210B		
095431-001A / MW-1	Ground Water	11/21/2007	8OZP	1		
095431-002A / MW-2	Ground Water	11/21/2007 12:28:00 PM	8OZP	1		

General Comments: Please use PO#: SC02808 Please fax results by: NORMAL TAT

SEND REPORT TO RACHELLE ARADA

		Date/Time			Date/Time
Relinquished by:	[signature]	11/21/07	Received by:	[signature]	11/21/07
Relinquished by:	[signature]	11/21/07 17:45	Received by:	[signature]	11/21/07 17:45

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 07 - 1 1 - 1 7 5 0

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: ATL

DATE: 11.21.07

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- ____ Chilled, cooler with temperature blank provided.
- ____ Chilled, cooler without temperature blank.
- ____ Chilled and placed in cooler with wet ice.
- ____ Ambient and placed in cooler with wet ice.
- ____ Ambient temperature.
- ____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- ____ °C Temperature blank.
- 2.1 °C IR thermometer.
- ____ Ambient temperature.

Initial: [illegible]

CUSTODY SEAL INTACT:

Sample(s): ____ Cooler: ____ No (Not Intact) : ____ Not Present: ✓

Initial: [illegible]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC		✓	
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: [illegible]

COMMENTS:

CHAIN OF CUSTODY RECORD

Pg ___ of ___

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: ___

Logged By: [signature] Date: 11/21/07

Method of Transport: Client ☑ ATL ☐ CA OverN ☐ FEDEX ☐ Other: ___

Sample Condition Upon Receipt: 1. CHILLED Y☑ N☐ 4. SEALED Y☐ N☑ 2. HEADSPACE (VOA) Y☐ N☑ 5. # OF SPLS MATCH COC Y☑ N☐ 3. CONTAINER INTACT Y☑ N☐ 6. PRESERVED Y☑ N☐

Client: Ninyo & Moore
Attn: Denise Alvarez
Address: 475 Goddard Suite 200
City: Irvine State: CA Zip Code: 92618
TEL: (949) 753-7070
FAX: (949) 753-7071

Project Name: Paramount Dump Project #: 207069004 Sampler: (Printed Name) Peter Sims (Signature) [signature]

Relinquished by: (Signature and Printed Name) [signature] Peter Sims Date: 11.21.07 Time: 16:55 Received by: (Signature and Printed Name) [signature] Date: 11/21/07 Time: 5:00

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Peter Sims 11.21.07 (Print Name / Date)
Signature: [signature]

Send Report To: Attn: Denise Alvarez Co: Ninyo + Moore Address: 475 Goddard City: Irvine State: CA Zip: 92618

Bill To: Attn: Denise Alvarez Co: Ninyo + Moore Address: 475 Goddard City: Irvine State: CA Zip: 92618

Special Instructions/Comments: + All peaks greater than 10% of the internal standard shall be id'd and quantified for gas chromatography analyses. TOC for PZ-1 was sampled

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (SVOA)	6010B (Total Metals)	8015B (GRO/DRO)	8015B (GRO/DRO)	8021 (BTEX)	TPH-E-8021-8015M-12-(GRO/DRO/MO)	Chloride	Oil and Grease	Sulfides	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	095431-01	MW-1	11.21.07	11:01	X	X	X	X	X	X	X	X	X	X	X	X			X		E	13	VL P 6/P	C	
	-02	MW-2	11.21.07	12:28	X	X	X	X	X	X	X	X	X	X	X	X			X		E	13	VL P 6/P	C	
	-03	PZ-1	11.21.07	16:15	~~X~~	X	X	X	~~X~~	~~X~~	X	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			X		E	~~13~~ 5	VL P 6/P	C	* = not sample

Q A / Q C: RTNE ☐ CT ☐ SWRCB ☐ Logcode ___ OTHER ___

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.

ATTACHMENT H

WASTE MANIFEST

18260709

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: Not Required
2. Page 1 of 1
3. Emergency Response Phone: (562) 786-6200
4. Waste Tracking Number: 40234

5. Generator's Name and Mailing Address
City of Long Beach / Dept. of Parks & Rec.
2760 Studebaker Road Long Beach Ca. 90815
Generator's Phone:

Generator's Site Address (if different than mailing address)
City of Long Beach / Dept. of Parks & Rec.
2760 Studebaker Road Long Beach Ca. 90815

6. Transporter 1 Company Name: KM Industrial, Inc.
U.S. EPA ID Number: CAL000274783

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Crosby & Overton
1630 W. 16th St. Long Beach CA 90813
Facility's Phone: 562-432-5445
U.S. EPA ID Number: CAD028409019

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non Hazardous Waste Liquids	1	DM	50	G
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
Wear protective equipment while handling.
Weights or volumes are approximate
24 hour emergency telephone number (562) 786-6200

9b(1) Profile #: 60044 - Groundwater
Appointment #: 122607 Time: 1330 Hours

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Peter Sims On Behalf of City of Long Beach
Signature: [signature]
Month 12 Day 26 Year 07

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Robert A. Mendez
Signature: [signature]
Month 12 Day 26 Year 07
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

ATTACHMENT I

GROUNDWATER SOLID WASTE ASSESSMENT TEST SUMMARY REPORT, SEMI ANNUAL MONITORING EVENT, APRIL 2006-SEPTEMBER 2006, EARTH TECH EXCERPTS 1, 2, AND 3

A tyco International Ltd. Company

Earth Tech

GROUNDWATER SOLID WASTE ASSESSMENT TEST (SWAT) SUMMARY REPORT

SEMI ANNUAL MONITORING EVENT
APRIL 2006 – SEPTEMBER 2006

Former 55th Way Landfill/Paramount Dump
Ed "Pops" Davenport Park
2910 East 55th Way, Long Beach, California
SWIS No.: 19-AK-0084
Compliance File No: CI-8372A
LARWQCB Order No.: R4-2004-0157

Prepared for:

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200
Los Angeles, California 90013

Prepared by:

EARTH TECH INC.
300 Oceangate, Suite 700
Long Beach, California 90802

Date: September 26, 2006
Project No.: 82146.01

SIGNATURE PAGE

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment

Patrick H. West
Executive Officer of Redevelopment Agency
City of Long Beach

PROFESSIONAL GEOLOGIST
EWA M. BURCHARD
No. 8149
Exp. 3/31/08
STATE OF CALIFORNIA

Travis Taylor, REA II 07571, REM 11111
Senior Project Director

Ewa Burchard, PG # 8149
Professional Geologist

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EXECUTIVE SUMMARY

Earth Tech Inc. (Earth Tech) has conducted a Groundwater Solid Waste Assessment Test (SWAT) on behalf of the City of Long Beach at the inactive 55th Way Landfill (Paramount Dump, now called Ed "Pops" Davenport Park) located at 2910 East 55th Way in Long Beach, California (site). The objectives of the investigation were to determine whether landfill refuse had impacted the groundwater beneath, and in the vicinity of, the site and to provide recommendations for post-closure monitoring. The groundwater SWAT was conducted in accordance with the approved *Work Plan for Implementation of Groundwater Solid Waste Assessment Test* (SWAT Work Plan) dated November 6, 2002.

Following the Regional Water Quality Control Board, Los Angeles Region (LARWQCB) approved SWAT Workplan, and the site specific Waste Discharge Requirements (WDR), Order R4-2004-0157 dated October 7, 2004, Earth Tech purged and sampled two groundwater monitoring wells and one piezometer on July 26, 2006, to complete the April 2006 to September 2006 semi-annual groundwater monitoring event.

Groundwater sampling results from previous and current monitoring events indicate that landfill-related contaminants are not present in wells located down gradient of the site. Parametric ANOVA tests indicate that sulfate, nitrogen, chloride and TDS are the analytes with potentially "measurably significant" evidence of a release. However, the data from past five monitoring events are not significant to draw a conclusion on the potential landfill impacts to groundwater downgradient of the site.

1.0 INTRODUCTION

This summary report details the objectives, procedures, and results of the Groundwater Solid Waste Assessment Test (SWAT) April 2006 to September 2006 groundwater monitoring event for the inactive 55th Way Landfill (Paramount Dump) located at 2910 East 55th Way in Long Beach, California (site) (**Figure 1**). This SWAT has been conducted for the entire landfill, including the subject parcel at 2910 East 55th Way, which is currently being redeveloped into a park/recreational facility by the City of Long Beach called Ed "Pops" Davenport Park. The investigation data have been used to indicate whether the landfill refuse has impacted the surrounding groundwater and to provide recommendations for post-closure monitoring. This report includes the relevant elements and procedures of the sampling and analysis conducted for the April 2006 to September 2006 groundwater monitoring event

The Los Angeles Regional Water Quality Control Board (LARWQCB) is the lead agency for this groundwater SWAT project. The groundwater SWAT was conducted in accordance with the *Work Plan for Implementation of Groundwater Solid Waste Assessment Test* dated November 6, 2002, which was approved by the LARWQCB in a letter dated January 8, 2003. Earth Tech submitted the *Groundwater Solid Waste Assessment Test Summary Report, Well Installation and First Quarter Monitoring* dated July 23, 2003, which detailed well and piezometer installation activities and first quarter monitoring results. Site specific Waste Discharge Requirements (WDR) Order No. R4-2004-0157 was approved by the LARWQCB on October 7, 2004. The WDR was implemented upon approval; the April 2006 to September 2006 event is the fourth semi-annual report under the new site specific WDR. Agency correspondence regarding approval of the WDR is attached as **Appendix A**.

1.1 OBJECTIVES

The overall objective of the project is to determine if there are any adverse effects on groundwater quality due to the presence of landfill debris by sampling groundwater piezometers and wells. This investigation has been conducted to achieve the following specific objectives:

- Determine the magnitude and direction of the hydraulic gradient beneath and around the landfill
- Compare groundwater chemical analytical results from upgradient and downgradient wells to evaluate potential landfill impacts on groundwater
- Determine possible future impacts on downgradient receptors (i.e. municipal pumping wells)

For this investigation, data collection has focused on evaluating the groundwater and analyzing for potential contaminants in the vicinity of the site. The investigation data have been used to complete this

Groundwater SWAT April 2006 to September 2006 Monitoring Report for submittal to the LARWQCB.

1.2 SCOPE OF WORK

The investigation scope of work (SOW) for this semi-annual monitoring event at the site included:

- Gauging the depth to groundwater of four piezometers and four groundwater monitoring wells
- Purging a minimum of three well casing volumes from two groundwater monitoring wells and one piezometer before collection of groundwater samples
- Collecting discrete groundwater samples from two groundwater monitoring wells and from one piezometer
- Analyzing groundwater samples following parameters and test methods prescribed in the WDR
- Preparing and submitting this Groundwater SWAT April 2006 to September 2006 Monitoring Report to the LARWQCB

2.0 SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION AND DESCRIPTION

The site comprises approximately 5.5 acres in the northeast corner of the Paramount Dump and is located in a mixed commercial, residential, and industrial area of Long Beach (**Figure 1** and **Figure 2**). The site is bordered on the east and northwest by single-family dwellings, on the south by the Friendly Village Mobile Home Park (residential), on the north by the Paramount Petroleum Lakewood Tank Farm, and on the west by an industrial/commercial property, Cal Coast Packing & Crating Co. Inc. The southern and western property boundaries of the site border the remainder of the former Paramount Dump. The site is located in Range 12W and Township 4S, in the northeastern quadrant of Section 5.

The 17.4-acre Paramount Dump, which is listed by the California Integrated Waste Management Board (CIWMB) as Solid Waste Information System (SWIS) Number 19-AK-0084, is located at the northeast corner of Paramount Boulevard and Candlewood Street in Long Beach, California (**Figure 1** and **Figure 2**).

2.2 SITE HISTORY

The site was part of the 17.4-acre landfill that was owned and operated by the City of Long Beach from 1945 to 1948 as Long Beach Dump #26. Based on review of available historic aerial photographs, the area appeared to be undisturbed until May 1945. The extent of landfill operations is evident in the 1947 aerial photograph. In 1952, a building existed in the northwest corner of the landfill and vegetation covered the site. In January 1958, a baseball field existed on the western edge of the landfill and adjacent to the site. Disturbed earth and vegetation were present over the remainder of the landfill at that time. A manufacturing and warehouse building had been constructed on the site by 1961.

Through the 1970s, building permit applications filed with the City of Long Beach document a number of owners/tenants of the property, including manufacturing facilities, a diesel repair facility, and a company identified as Artesia Milling. One owner/tenant, Dolphin Trucking, filed an application in 1974 to install two underground storage tanks (USTs) (9,940 gallons and 5,000 gallons), pumps and dispensers at the site. According to the City of Long Beach Fire Department Underground Storage Tank log, Kraus Trucking Company removed two USTs in 1986 without permits. However, documentation concerning the exact location of the USTs and UST removal activities is limited. In 1987, Paul Lai, George Y. Chow, Young Lung Chien, and Long Beach Warehouse Limited Partnership purchased the property from Josef and Helen Kraus and then formed a limited partnership called Fu Mai Limited

Corporation, Long Beach Warehouse Limited Partnership.

In late 1993, the remaining building on the site was declared substandard and a public nuisance. The owners were ordered to demolish or rehabilitate the existing structure by January 15, 1994, which was later extended to July 31, 1994.

Since 1993, the County of Los Angeles, Department of Health Services (County) and the CIWMB have conducted several inspections to measure the generation of landfill gas (LFG). Recent site assessments conducted by the County in 2001 and 2002 indicated very low or undetectable levels of methane gas recorded during the site inspections.

In 1999, the Redevelopment Agency's North Long Beach Project Area Committee (North PAC) identified the site as a priority site for remediation and redevelopment. On July 31, 2001, the Redevelopment Agency unanimously approved the acquisition of the site for redevelopment and conversion to a local park.

In October 2002, a 24,000-square-foot building and loading dock formerly in the northwest corner of the site was demolished and the resulting debris was removed from the site. Previous subsidence of the landfill had caused severe structural damage to the building, rendering the building substandard and a public nuisance. In addition, miscellaneous storage containers, a loading ramp, debris piles and abandoned vehicles were also removed. The site is relatively flat with the topography gently sloping to the west.

During 2004, design activities were performed for redevelopment of the site to a local park. The final design and specification package for the park was submitted to the Department of Public Works in January 2005. Park construction began in Spring 2005 and it was completed in August 2006. Ed "Pops" Davenport Park opened to the general public on August 26, 2006.

2.2.1 Waste Disposal History

During disposal operations, the landfill accepted municipal waste from which food wastes were separated to be sold as agricultural feed supplements; only "inedible" waste was received by the landfill. Reportedly, no liquid wastes were disposed at the Paramount Dump. Assuming an average landfill refuse thickness of 22.5 feet, an estimated 660,000 cubic yards of refuse remains in place at the Paramount Dump, of which approximately 160,000 cubic yards is within the boundaries of the site. Currently, a 4- to 8-foot thick heterogeneous soil cover consisting of assorted silts, sands, rocks, and gravels exists over the estimated 15- to 30-foot thick refuse layer. Historic aerial photographs show the approximate area of the landfill that actually contains municipal wastes. Landfill operations reportedly ceased by 1948

and the site were sold in 1953. Limited information exists concerning actual landfill operation and management practices including method of refuse placement, interim cover techniques (if any), waste treatment, landfill construction (e.g., liner, drainage), operation permits, and inspections and repairs completed at the Paramount Dump.

Estimated refuse thickness, volumes, and depths were based on review of past reports and site documentation. Recent investigations at the site have discovered that the refuse layer underneath the current cover may only be 10 to 15 feet thick. However, evidence to confirm this thickness is limited. Therefore, the more conservative refuse layer estimate (22.5 feet thick) was used to calculate refuse volumes and mass.

2.3 PREVIOUS SITE INVESTIGATIONS

SCS Engineers (SCS) of Long Beach, California, conducted multiple investigations of the landfill from 1985 through 1987, including an Environmental Impact Report (EIR), in connection with proposed development on a section of the site. Borings from the investigations indicated that refuse materials consist of moderately to highly decomposed organic material (wood, paper, etc.), glass, metal, and traces of silty and sandy soils. SCS reported a high degree of degradation of landfill materials and stated that although the LFG generation was past the maximum stage, LFG generation could continue for 10 to 20 more years (SCS, 1987). In 1993 and 1994, the CIWMB conducted various investigations at the site. The CIWMB recommended that a full-scale LFG monitoring program be initiated.

The United States Environmental Protection Agency (USEPA) contracted Ecology and Environmental, Inc. (EE) to perform a Brownfield investigation at the site. EE collected surface soil and soil gas samples between December 4 and December 8, 2000. Field activities and results are summarized in the *55th Way Landfill, Long Beach, California, Targeted Brownfields Assessment Final Report* (EE, 2001). The report concluded that all analytes detected on the site were consistent with known uses of the site:

- Former landfill – methane and other volatile organic compounds (VOCs) typical to LFG, possibly introduced through landfill materials, and naturally occurring levels of metals in cover materials
- Use of the warehouse building by Artesia Milling, Dolphin Trucking, and a diesel repair facility - surficial petroleum contamination, and associated semi-volatile, and volatile constituents

In January and February 2002, Earth Tech conducted a pre-design investigation to support post-closure land use and redevelopment activities at a portion of the 55th Way Landfill (Earth Tech, 2002). Air sampling was completed from January 14 through February 5, 2002. Air sampling included instantaneous surface air measurements, integrated surface air sampling, and 24-hour ambient air

sampling at the site perimeter. A total of 35 soil borings were completed between January 22 and January 28, 2002, during which both soil and LFG samples were collected and analyzed. Twenty soil borings were completed as soil vapor probes set at 8 feet below ground surface (bgs) and ten soil borings were completed as LFG probes set between 20 and 35 feet bgs. Four borings were completed as two dual-cluster soil gas monitoring wells, one cluster outside the northern boundary of the landfill and one cluster inside the eastern boundary of the landfill. Investigation activities, results, and findings are included the *Pre-Design Investigation Summary Report* dated March 2002.

In May and June 2003, Earth Tech installed four additional dual cluster subsurface boundary landfill gas monitoring probes (GW-3 through GW-6). GW-3 is screened from 5 to 10 feet bgs and from 20 to 25 feet bgs. GW-4, GW-5, and GW-6 are screened from 5 to 10 feet bgs and from 15 to 20 feet bgs. During drilling at locations GW-4, GW-5, and GW-6, groundwater was encountered at approximately 20 feet bgs. To avoid screening the landfill gas probes beneath groundwater, the deep monitoring points were screened from 15 to 20 feet bgs, rather than from 20 to 25 feet bgs as outlined in South Coast Air Quality Management District Rule 1150.1.

Earth Tech collected landfill gas samples from each of the newly installed probes on June 12, 2003. The highest concentrations of VOCs were detected in the sample collected from landfill gas monitoring probe GW-2 located at the northern boundary of the site. BTEX concentrations were detected at each of the five landfill gas boundary monitoring probes except GW-3. VOC concentrations detected in landfill gas samples collected at the landfill boundary do not appear to be a distinct and separate on-site source (or sources) for those detected contaminants that can be identified and isolated. Monitoring probe installation and sampling details are included the *Final Post-Closure Land Use Proposal* (PCLUP) dated September 2003.

In response to the submittal of the Final PCLUP prepared by Earth Tech on September 26, 2003, the lead enforcement agency (LEA) commented on the need to monitor potential migration of landfill gases to the south and west of the site during and after park construction. Additional subsurface landfill gas monitoring probes were installed as per the requirements of the County and the County of Los Angeles, Department of Public Works (DPW), in correspondences relating to approval of the PCLUP. On August 19, 2004, Earth Tech installed five additional subsurface landfill gas monitoring probes (GW-7 through GW-11). Methane concentrations were detected at each of the landfill gas probe locations, each with detected concentrations greater than 5 percent. The highest concentration of methane, 50 percent, was detected at GW-7 (10 feet bgs). In general, the highest concentrations of TPH, VOCs, and semi-volatile organic compounds (SVOCs) in soil were detected at the northern property line (32 feet bgs) outside of the landfill boundary and adjacent to the tank farm north of the site. The tank

farm is currently undergoing remediation of petroleum hydrocarbons and related constituents in the groundwater.

2.3.1 Paramount Petroleum Lakewood Tank Farm

Earth Tech conducted a file review at the LARWQCB in December 2002. Based on the review of various documents, the tank farm is an approximately 4.2 acre site located in an industrial and residential zoned area near the corner of South Street and Paramount Boulevard in the City of Lakewood (**Figure 2**). The tank farm site has been in operation since before 1928, and two, 55,000-barrel storage tanks (Tank Nos. 55001 and 55002) and two-5,000-barrel aboveground storage tanks (Tank Nos. 5001 and 5002) currently exist on-site. A pump house distributes product via underground piping to the Paramount Refinery approximately 7 miles away in the City of Paramount (SECOR, 2002).

According to the *Remedial Action Plan for Hydrocarbon Product Removal* prepared by CET Environmental Services Inc. in 1996:

> "There is no evidence that landfill-impacted groundwater is currently being sampled by monitoring wells MW-1 and MW-2 [tank farm wells adjacent to the northern boundary of the landfill] or the four pilot study test wells (i.e., R-5, MW-5, MW-16, and MW-101). In addition, based on the vapor analytical results from the wells tested during the two-phase pilot study, no evidence of landfill gases in the vapor phase was found. Benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations detected in the vapor samples are believed to be associated with the hydrocarbon-impacted soils at the tank farm site and not the landfill."

Three vapor sampling probes (VPS-1 to VPS-3) are positioned on the tank farm property approximately 20 feet north of the landfill and are sampled and analyzed for fixed gases quarterly. Based on data included in the Fourth Quarter 2001 report dated February 19, 2002, methane concentrations have not been detected above five percent in any of the three soil vapor probes since November 2000 (VPS-1 at 6.5 percent methane and VPS-3 at 9.4 percent methane). However, it has not been determined if the detected methane is a result of the landfill or generated in the subsurface due to the degrading free product plume below the tank farm property.

The Spills, Leaks, Investigation and Cleanup (SLIC) group at the LARWQCB (SLIC Case No. 240) is actively managing the site. Below is a brief summary of the site history and remedial action activities performed at the site as of December 2002. Information regarding activities conducted at the site since December 2002 have not been reviewed and are not included in this report:

- The tank farm has been used as a petroleum transfer station since before 1928, and actively transports product to the Paramount Refinery (located 7 miles north of the tank farm).
- Paramount Petroleum Corporation (PPC) has operated the site since 1984.
- The site is conducting remedial action under RWQCB Cleanup and Abatement Order (CAO) No. 94-040.
- Crude oil was stored in both 55,000-barrel tanks prior to the 1970's.
- One of the 55,000-barrel tanks (Tank No. 55001, the southwestern-most tank) was used for storage of naphtha-based jet fuel (JP-4) in the early 1970's, which was replaced with kerosene-based jet fuel (JP-5) from 1977 to 1978.
- The other 55,000-barrel tank (Tank No. 55002, the southeastern-most tank) was converted to kerosene-based (JP-5) aviation turbine fuel in 1994.
- Heavy vacuum gas-oil has been stored in both of the larger tanks since 1978.
- The smaller tanks (Tank Nos. 5001 and 5002) are used for water storage.
- Free product was observed in most of the tank farm monitoring wells with a maximum thickness of 25 feet in the center of site (early/mid-1990s). Water levels have risen above the screened intervals of selected monitoring wells and an accurate distribution of the free hydrocarbon product has not been recently determined.
    - Data from the Third Quarter 2001 indicates approximately 12 feet of free product was present in well R-1 which is located an estimated 60 feet north of the landfill boundary (approximately 125 feet north of well MW-4).
    - Based on the Fourth Quarter 2001 report prepared by SECOR, the majority of the hydrocarbons were quantified as diesel range hydrocarbons with some gasoline range hydrocarbons and BTEX detected in samples collected from on-site monitoring wells near the landfill (i.e. tank farm well MW-6).
- In 1996, cone penetrometer testing (CPT) determined that hydrocarbons in soil were confined to a coarse-grained layer approx 5 to 7 feet below the current water table.
- In 2000, dual-phase extraction was implemented at the tank farm site. Product removed from the subsurface is transferred to Paramount Refinery for processing.
    - By the end of 2001, approximately 3,982 gallons of liquid phase hydrocarbons and 10,100 pounds of vapor phase hydrocarbons were removed from the subsurface at the tank farm site.
- Soils consist of sand to sandy and silty clay, with coarse-grained soils occurring as thin lenses beneath the site. West of the tank farm, soils are predominantly coarse-grained.

- Depth to groundwater was estimated at 15 to 17 feet bgs, and groundwater elevation is 25 to 31 feet above mean sea level (msl).
- The hydraulic gradient was calculated at 0.001 foot per foot (ft/ft) with flow direction to the south, or southwest, with occasional groundwater mounding beneath the site during rain events.

2.4 SITE SPECIFIC WDR

In a letter dated February 5, 2004, the City of Long Beach petitioned to change the WDR fee rating category from a 1-B to a 3-C under the existing General WDRs, thereby reducing the amount of the annual fee due. However, since WDR category 3-C sites are specific to landfills that do not contain decomposable wastes (such as burn dump sites), the LARWQCB determined that it would not be appropriate to convert the site to a category 3-C site due to the constraints of the General WDR. As was discussed with LARWQCB representatives at a meeting on February 3, 2004 (Mr. Enrique Casas and Mr. Rod Nelson), and in email correspondence from Mr. Casas dated February 17, 2004, the site could be converted from General WDR to Site-Specific WDR. Additionally, a more appropriate WDR category could be assigned that would be commensurate with the complexity (CPLX) of the site and the potential threat to water quality (TTWQ) resulting from the site.

The Site-Specific WDRs were available for public comment at a meeting on October 7, 2004. After completion of both the LARWQCB and public review, Order number R4-2004-0157 was adopted on October 7, 2004, as communicated to the City of Long Beach in a letter dated October 12, 2004 (provided in **Appendix A**). Under the site-specific WDR, a fee rating category of 3-B was assigned to the landfill.

3.0 ENVIRONMENTAL SETTING

The former 55th Way Landfill site is situated at approximately 61 feet above msl. Site-specific surface drainage is generally from east to west across the landfill platform, based on current survey data. However, ponding within the site boundaries has been observed after rain events. The Los Angeles River channel is approximately 2.5 miles west and the San Gabriel River channel is approximately 3 miles east of the site. At these locations, the Los Angeles and San Gabriel Rivers are completely contained within concrete canals.

3.1 PHYSIOGRAPHIC LOCATION

The site is located in the Central Structural Basin of the Los Angeles Basin. The main features in the site vicinity are the Downey Plain (on which the site is located), the Bouton Plain and Signal Hill to the south, the Los Angeles River to the west, and the San Gabriel River to the east (California Department of Water Resources [CDWR] 1961). The Downey Plain is a depositional feature formed by coalesced alluvial fans of the Los Angeles, Rio Hondo and San Gabriel River systems. Signal Hill consists of sediments that have been folded and uplifted by faulting. The Bouton Plain slopes down gradually to the north from Signal Hill to the Downey Plain. The site is situated between the Los Angeles and San Gabriel Rivers, which are the main drainage channels in the area. Topography in the vicinity of the site slopes gently to the south.

3.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

Regional surface sediments consist of interbedded alluvial deposits from the Los Angeles and San Gabriel Rivers (CDWR, 1961). These sediments consist of unconsolidated sand and gravel that are poorly sorted and stratified. Previous subsurface investigations at the site for the City of Long Beach have shown that the sediments beneath the site consist primarily of interbedded lenses of clayey silts, silty clays, and sandy silts (Ecology and Environment, Inc. [EE] 2001).

The northern Long Beach area is situated in the Central Pressure Basin of the Downey Plain of Los Angeles County. Aquifers of interest in the area, in vertically descending order include the semi-perched, Gaspur (where present), Exposition, Gage (also known as the 200-foot sand), Hollydale, Lynwood (also known as the 400-foot gravel), and Silverado (CDWR, 1961). Beds of fine-grained sediments (aquitards) generally separate each aquifer, but may not be present at all locations.

In this area the aquifers are confined by many aquicludes, only one of which has been named. This is the near surface Bellflower aquiclude, which restricts vertical percolation into the Gaspur and other

underlying aquifers. The Recent alluvium consists of sands and gravels 20 to 60 feet thick overlying the Bellflower aquiclude. The Bellflower aquiclude is found throughout the pressure area and is composed mainly of clay and silt; however, there are numerous areas where its effectiveness as an aquiclude is limited. It ranges from a few feet to 160 feet in thickness. The Gaspur aquifer consists of coarse sand and gravel and ranges in thickness from 40 to 100 feet (CDWR, 1961).

The Lakewood formation contains part of the Bellflower aquiclude and the Exposition and Gage aquifers, which are in hydraulic continuity. The Exposition aquifer located approximately 160 feet bgs consists of sands and gravels with local areas of interbedded clay and is approximately 40 feet thick in the area beneath the site. The Gage aquifer (200 feet bgs) consists of fine grained sand and silty sand and is approximately 30 feet thick beneath the area of the site (CDWR 1961).

The Hollydale, Lynwood, Silverado, and Sunnyside aquifers represent the San Pedro Formation in the area beneath the site. The Hollydale aquifer is composed of mostly sand and silty sand with interbedded clays, though some gravel is found locally. It is found 400 feet bgs and is approximately 20 feet in thickness in the area beneath the site. The Lynwood aquifer (700 feet bgs) is composed mainly of coarse-grained sands and gravels, and is approximately 100 feet in thickness in the area of the site. The Silverado aquifer (1,100 feet bgs) is composed largely of sands and gravels, and is approximately 200 feet thick in the area beneath the site. The Sunnyside aquifer is approximately 1,400 feet bgs, but is not fully defined in the area beneath the site (CDWR, 1961).

The major structural features in the vicinity of the site are the Paramount syncline and Los Alamitos fault. These structures appear to be developed only in the San Pedro formation, and they do not affect the overlying younger sediments. The Paramount syncline underlies the City of Paramount and extends northwesterly to the Inglewood fault north of the Baldwin Hills. The Los Alamitos fault appears as an extension of the axis of the Paramount syncline southeast of the City of Paramount (CDWR 1961).

Regional soil survey data is not available for the area immediately surrounding the site. The nearest available published soil survey data is from Orange County (United States Department of Agriculture [USDA], 1977). Coastal plain soils are classified within two soil categories: Hueneme-Bolsa association – nearly level poorly drained, calcareous sand, silt and silty clay loams; Metz-San Emigdio association - nearly level, somewhat excessively drained, calcareous loamy sands and sandy loams. Both soil types are found on alluvial fans and flood plains, with Metz-San Emigdio being generally found on upper flood plains.

WASTE DISCHARGE REQUIREMENTS (WDRS) PARAMOUNT (55TH WAY) LANDFILL
ORDER R4-2004-0157

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. R4-2004-0157

WASTE DISCHARGE REQUIREMENTS FOR POST-CLOSURE MAINTENANCE

PARAMOUNT LANDFILL (55TH WAY LANDFILL) FILE NO. 93-079

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), finds that:

BACKGROUND

1. The City of Long Beach (Discharger) owned and operated the Paramount Landfill (Landfill) at 2910 East 55th Way (northeast corner of Paramount Boulevard and Candlewood Street) in the City of Long Beach, California (see Figures 1 and 2, attached). The 17.4 acre Landfill was also known as the 55th Way Landfill or the Long Beach Dump #26.

2. The Discharger operated the Landfill from 1945 to 1948. Design records are not available but the Landfill was covered with soil after closure.

3. An estimated quantity of 660,000 cubic yards of municipal waste was disposed of at the Landfill.

4. The Landfill was constructed before the advent of modern landfill containment features such as subdrain systems, compacted clay liners, leachate collection and removal systems, or subsurface barriers.

5. After closure, the Landfill was divided into five parcels. Four of the parcels were sold to different parties, and one parcel was converted into an extension of East 55th Way.

6. The four sold Landfill parcels (see Figure 3, attached) consist of the Friendly Village Mobile Park (central portion), the Cal Coast Packing & Crating Co., Inc. (western portion), the vacant 5400 Paramount Boulevard parcel (southern portion), and a vacant 5.5-acre parcel (northeast portion). The Discharger owns the northeast vacant parcel, herein referred to as "Facility", and proposes to develop it as an active recreation park.

7. The Facility (northeast parcel) is generally bounded on the east and northeast by single-family dwellings, on the south by the Friendly Village Mobile Home Park (residential),

on the north by the Paramount Petroleum Lakewood Tank Farm, and on the west by an industrial/commercial property (Cal Coast Packing & Crating Company). Figure 2 (see attached) shows land uses in the vicinity of the Landfill property.

8. Nonhazardous solid waste landfills have been regulated by the State Water Resources Control Board (State Board) and the Regional Boards since the 1960's through the issuance of waste discharge requirements (WDRs). Applicable regulations governing landfills in California are contained in Division 2 (commencing with § 20005) of title 27 of the California Code of Regulations (27 CCR).

9. Pursuant to 27 CCR § 20080(g), persons responsible for discharges at landfills that are closed, abandoned, or inactive (CAI) may be required to develop and implement a monitoring program. If water quality impairment is found, such persons may be required to develop and implement a corrective action program based on the provisions of chapter 3, subchapter 3, article 1 (Water Quality Monitoring and Response Programs for Solid Waste Management Units) of 27 CCR § 20380 et seq.

10. The following are relevant sections of 27 CCR that define applicable regulatory requirements for closed, abandoned, or inactive landfills.

    a. Pursuant to 27 CCR § 20005(c), CAI landfills, on the effective date of the regulations (November 27, 1984), are not specifically required to be closed in accordance with division 2, subdivision 1, chapter 3, subchapter 5 (Closure and Post-Closure Maintenance) requirements of 27 CCR. However, Pursuant to 27 CCR § 20950(a)(1), the Regional Board may require modification of an existing landfill cover even if the landfill "was completely closed in accordance with an approved closure plan by November 27, 1984", if monitoring data indicate impairment of beneficial uses of ground water.

    b. Pursuant to 27 CCR § 20080(g), persons responsible for discharges at landfills that were closed, abandoned, or inactive on or before November 27, 1984 may be required to develop and implement a monitoring program. If water quality impairment is found, such persons may be required to develop and implement a corrective action program based on the provisions of 27 CCR § 20380 et seq.

    c. Pursuant to 27 CCR § 20005(c), the standards promulgated by the California Integrated Waste Management Board (CIWMB) in chapters 1, 2, 3, and applicable portions of chapter 4 shall apply to all disposal sites meaning active, inactive closed or abandoned, as defined in Public Resources Code (PRC) § 40122 including facilities or equipment used at the disposal sites. Although § 20005(c) is in a portion of 27 CCR standards promulgated by the CIWMB, pursuant to 27 CCR § 20012(a), where necessary to protect water quality, the Regional Board can implement, in coordination with the local enforcement agency (LEA) or, as

appropriate, the CIWMB, appropriate standards promulgated by the CIWMB, provided that the action does not duplicate or conflict with any action taken by the LEA (in the case of the Landfill, the Los Angeles County Department of Health Services, Solid Waste Program).

11. In accordance with California Water Code (CWC) § 13263(d) the Regional Board may prescribe requirements although no Report of Waste Discharge (ROWD) has been filed.

12. On October 31, 2002, the Facility was enrolled under Regional Board Order R4-2002-022 (General Waste Discharge Requirements for Post-Closure Maintenance of Inactive Nonhazardous Waste Landfills within the Los Angeles Region).

13. CWC § 13273 requires the State Board to develop a ranked list of all known landfills throughout the state on the basis of the threat to water quality. CWC § 13273 requires the operator of each solid waste disposal site on the ranked list to conduct and submit to the appropriate Regional Board the results of a groundwater Solid Waste Assessment Test (SWAT) report to determine if the site is leaking hazardous waste.

14. A SWAT analysis was completed for the Landfill in 2003 following the initial year of groundwater monitoring after enrollment in Regional Board Order No. R4-2002-022. Results from the SWAT investigation indicated no impact from the Landfill to local groundwater. The monitoring results confirmed a release from the tank farm to the north of the Landfill, which is actively being managed by the Spills, Leaks and Investigations group of the Regional Board.

15. The State Board has developed a fee rating system (title 23 § 2200) for WDRs that considers a discharge's threat to water quality and complexity. The two-dimensional rating system requires the Regional Board to assign each discharge a category of threat to water quality between "1" (most threatening) and "3" (least threatening) based on certain factors. Similarly, the Regional Board must assign each discharge a complexity rating between "A" (most complex) and "C" (least complex).

16. Regional Board Order R4-2002-022 provides that because of the potential impact to groundwater quality, from leaking inactive landfills, landfills with decomposable waste are considered a category "1" threat to water quality and are assigned a complexity ranking of category "B".

17. Specification A.3 of Regional Board Order R4-2002-022 allows for a discharger to apply for and obtain individual waste WDRs with more specific requirements. Based on the SWAT monitoring results for the Landfill, on March 3, 2004 the Discharger requested site-specific WDRs for the vacant parcel, to pursue development as an active recreation park, under revised threat to water quality and complexity ratings. Based on the age of

refuse at the Landfill and recent groundwater monitoring results, a threat to water quality and complexity rating of 3-B is appropriate.

18. CWC § 13263 provides that all WDRs shall be reviewed periodically and, upon such review, may be revised by the Regional Board to comply with changing state or federal laws, regulations, policies, or guidelines. The Discharger's WDRs for the Facility are being revised to include updated findings as well as to update water quality monitoring and post-closure maintenance programs.

ENVIRONMENTAL SETTING

19. The Landfill is located in the Central Basin of the Los Angeles Basin. The main physiographic features of the Landfill area are the Downey Plain (on which the Landfill is located), the Bouton Plain and Signal Hill to the south, the Los Angeles River to the west (approximately 2.5 miles), and the San Gabriel River to the east (approximately three miles). The Downey Plain is a depositional feature formed by coalesced alluvial fans of the Los Angeles, Rio Hondo, and San Gabriel River systems.

20. Regional surface sediments in the area of the Landfill consist of interbedded alluvial deposits from the Los Angeles and San Gabriel Rivers. These sediments consist of unconsolidated sand and gravel that are poorly sorted and stratified. Sediments underlying the Landfill area consist primarily of interbedded lenses of clayey silts, silty clays, and sandy silts.

21. Aquifers of interest in the north Long Beach area include, in vertically descending order, the semi-perched, Gaspur (where present), Exposition, Gage (also known as the 200-foot sand), Hollydale, Lynwood (also known as the 400-foot gravel), and the Silverado. Beds of fine-grained sediment (aquitards) generally separate each aquifer but are not present at all locations.

22. In the area of the Landfill, Recent-aged alluvium consists of sands and gravels 20 to 60 feet thick overlying the Bellflower aquiclude, which restricts vertical percolation into the Gaspur aquifer. The Bellflower aquiclude is found throughout the Central Pressure Basin and is composed mainly of clay and silt, however, there are numerous areas where its effectiveness as an aquiclude is limited.

23. The Regional Board adopted the revised Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 13, 1994. The Basin Plan contains beneficial uses and water quality objectives for groundwater in the Central Basin. The requirements of this Order, as they are met, are in conformance with the goals of the Basin Plan.

24. The Basin Plan identifies the location of the Landfill as being within in the Central Hydrologic Subarea of the Coastal Plain Hydrologic Area of the Los Angeles – San Gabriel Hydrologic Unit. Existing beneficial uses of Los Angeles River surface water are groundwater recharge, water contact recreation, non-contact water recreation, and warm freshwater habitat. Potential beneficial uses include municipal and domestic supply, industrial service supply, and wildlife habitat.

25. The Basin Plan identifies existing beneficial uses for groundwater in the Central Basin of the Los Angeles Coastal Plain as municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

26. There are no known active faults within 200 feet of the Landfill. Active faults are defined as Holocene Epoch faults that have exhibited surface movement in the last 11,000 years. The Newport-Inglewood Fault Zone dominates the geologic structure of the Long Beach Quadrangle.

27. The Long Beach 7.5 minute quadrangle Seismic Hazard Zone Map (released March 25, 1999) produced by the California Division of Mines and Geology Seismic Hazards Mapping Program (incorporated herein by reference) indicates that the Landfill is located within an identified potential liquefaction zone. The hazard zone map also identifies the Landfill as being outside of an area where the previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions, indicate a potential for permanent ground displacements such that mitigation is required.

28. The Landfill is located within the South Coast Air Basin, which is comprised of a coastal plain with broad valleys, and low hills whose climate is dominated by the semi-permanent, high-pressure climatic conditions of the eastern Pacific zone. The area is characterized by warm, dry summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes and moderate humidity.

29. According to the National Flood Insurance Program, administered by the Federal Emergency Management Agency, the Landfill is outside of a 500-year flood hazard area.

ENVIRONMENTAL MONITORING SYSTEMS

30. The Landfill groundwater monitoring program incorporates semiannual monitoring of one upgradient well and two wells downgradient of the Landfill (see Figure 4, attached). Groundwater monitoring at the Landfill has been conducted since 2002.

31. Landfill gas migration monitoring probes are located along the boundary of the Facility. These probes are monitored on a quarterly basis as described in the Post-Closure

Maintenance and Monitoring Plan (PCMMP) section of the Post-Closure Land Use Plan (PCLUP) approved on October 21, 2003.

ADMINISTRATIVE

32. Revision of the Discharger's WDRs for the Facility constitutes an existing project as defined in § 15301, chapter 3, title 14 of the CCR and is therefore exempt from the provisions of the California Environmental Quality Act (Public Resources Code § 21000 et seq.).

The Regional Board has notified interested agencies and all known interested parties of its intent to issue requirements for post-closure maintenance for the Facility.

The Regional Board in a public meeting heard and considered all comments pertaining to post-closure maintenance for the Facility.

Pursuant to section 13320 of the CWC, any aggrieved party may seek review of this Order by filing a petition with the State Board. The petition must be received by the at the following address within 30 days of the date of this Order is adopted:

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812

IT IS HEREBY ORDERED, that the City of Long Beach (Discharger), shall comply with the following at the Paramount Landfill:

A. PROHIBITIONS

1. Discharges of waste to land that have not been specifically described to the Regional Board and for which valid WDRs are not in force, are prohibited.

2. Discharge of waste shall not:

    a. Cause the Regional Board's objectives for the ground or surface waters as established in the Basin Plan, to be exceeded;

    b. Cause pollution, contamination, or nuisance, or adversely affect beneficial uses of ground or surface waters as established in the Basin Plan;

c. Cause the occurrence of coliform or pathogenic organisms in waters pumped from a groundwater basin;

d. Cause the occurrence of objectionable tastes and odors in waters pumped from a groundwater basin;

e. Cause waters pumped from a groundwater basin to foam;

f. Cause the presence of toxic materials in waters pumped from a groundwater basin; or

g. Cause the pH of waters pumped from a groundwater basin to fall below 6.0, or rise above 9.0.

3. Odors, vectors, and other nuisances of waste origin beyond the limits of the Landfill created by the Landfill site are prohibited.

4. The discharge of waste to surface drainage courses is prohibited.

5. Basin Plan prohibitions shall not be violated.

6. The use of pressurized water lines overlying waste is prohibited unless the water lines are designed in accordance with Provisions for Post-Closure Maintenance Specification C.5 (Irrigation Systems Control) discussed below.

B. PROVISIONS FOR GROUNDWATER MONITORING

1. The Discharger shall implement the attached Monitoring and Reporting Program (M&RP) No. CI-8372A and revisions thereto in order to detect, at the earliest opportunity, any discharge of waste constituents from the Facility or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the Facility.

2. At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to M&RP No. CI-8372A. The Discharger shall implement any changes to the revised M&RP approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.

3. The Discharger shall furnish, under penalty of perjury, technical or monitoring program reports in accordance with CWC § 13267. Failure or refusal to furnish these reports or falsifying any information provided therein renders the Discharger

guilty of a misdemeanor and subject to the penalties stated in CWC § 13268. Monitoring reports shall be submitted in accordance with the provisions contained in the attached M&RP No. CI-8372A, as directed by the Executive Officer.

4. The effectiveness of monitoring wells and monitoring devices shall be maintained throughout the Facility's post-closure maintenance period in accordance with acceptable industry standards. The Discharger shall maintain a groundwater monitoring well preventative maintenance program (MWPMP) as described in the approved PCMMP. Elements of the program should include a minimum of periodic visual inspections of well integrity, pump removal and inspection, and appropriate inspection frequencies. If a well or piezometer is found to be inoperative, the Regional Board and other interested agencies shall be so informed in writing within seven days after such discovery, and this notification shall contain a time schedule for returning the well or piezometer to operating order. Changes to the existing program shall be submitted for Executive Officer approval at least 30 days prior to implementing the change(s).

5. If a well or piezometer is proposed to replace an inoperative well or piezometer identified in the M&RP No. CI-8372A, the Discharger shall not delay replacement while waiting for Executive Officer approval. However, a technical report describing the location and construction details shall be submitted to the Executive Officer within 30 days.

6. The Discharger shall provide for proper handling and disposal/recycling of water purged from designated monitoring wells and piezometer at the Landfill during sampling. Water purged from a monitoring well shall not be returned to that well (or any other Landfill monitoring well as part of this program).

7. Any abandoned wells or bore holes under the control of the Discharger, and situated within the Facility boundaries, must be located and properly modified or sealed to prevent mixing of any waters between adjacent water-bearing zones. A notice of intent to decommission a well must be filed with the appropriate regulatory agencies prior to decommissioning. Procedures used to decommission these wells, or to modify wells still in use, must conform to the specifications of the local health department or other appropriate agencies.

8. For any piezometers or monitoring wells installed at the Landfill in the future, the discharger shall submit technical reports for approval by the Executive Officer prior to installation. These technical reports shall be submitted at least 30 days prior to the anticipated date of installation of the wells. These reports shall be accompanied by:

a. Maps and cross sections showing the locations of the monitoring points; and

b. Drawings and data showing construction details of the monitoring points. These data shall include:

i. casing and test hole diameter;
ii. casing materials;
iii. depth of each hole;
iv. the means by which the size and position of perforations shall be determined, or verified, if in the field;
v. method of joining sections of casing;
vi. nature of filter materials;
vii. depth and composition of soils; and
viii. method and length of time of well development.

9. The Discharger shall follow the Water Quality Protection Standards (WQPS) for detection monitoring established by the Regional Board in this Order pursuant to 27 CCR § 20390. WQPS may be modified by the Regional Board based on more recent or complete groundwater monitoring data such as from the monitoring network required by this Order, changes in background water quality, or for any other valid reason. The following are WQPS for the Landfill as established by this Regional Board:

a. Groundwater quality limits for the Landfill are established based on region-wide limits in the Basin Plan or based on site-specific data as allowed in the Basin Plan.

b. The compliance monitoring wells at the Landfill shall consist of those wells listed in Item No. B.1 of M&RP No. CI-8372A. All compliance monitoring wells shall be monitored pursuant to this Order and as directed by the Executive Officer through future revisions of M&RP No. CI-8372A.

c. The Discharger shall use the constituents listed in M&RP No. CI-8372A and revisions thereto, as "monitoring parameters". These monitoring parameters are a short list of constituents and parameters that shall be used for the majority of monitoring activity and are subject to the most appropriate statistical or non-statistical tests under the attached M&RP No. CI-8372A and any revised M&RP approved by the Regional Board's Executive Officer.

d. The concentration limit for each monitoring parameter for each monitoring point shall be that derived from background monitoring points.

e. The compliance period for which WQPSs are applicable shall be the entire post-closure maintenance period.

10. If necessary, the Discharger shall install additional groundwater monitoring devices necessary to comply with M&RP Nos. CI-8372A, as adopted or as revised by the Executive Officer.

C. PROVISIONS FOR POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall update (as necessary) the post-closure maintenance plan for the Facility within 90 days of the adoption date of this Order, which contains, but is not limited to, the following:

   a. The persons, companies, or agencies responsible for each aspect of Facility maintenance, along with their addresses and phone numbers;

   b. Location map(s) indicating property boundaries and the existing limits of waste, internal roads, and structures within the property boundary.

   c. Location map(s) of current monitoring and control systems including drainage and erosion control systems and Facility gas monitoring and control systems.

   d. A description of the methods, procedures, schedules, and processes that will be used to maintain, monitor and inspect the Facility.

2. The Facility maintenance period shall continue until the Regional Board's Executive Officer determines that remaining wastes in all waste management units (WMUs) at the site will not threaten water quality.

3. Landfilled areas shall be adequately protected from any washout, erosion of wastes or cover materials. The surface drainage system shall be designed to adequately handle the rainfall from a 100-year, 24-hour storm event.

4. The structural integrity and effectiveness of all containment structures and the existing cover shall be maintained as necessary to correct the effects of settlement or other adverse factors.

5. For water lines overlying waste, the design shall consider, but not be limited to,

the following:

a. Flexible connectors;
b. Secondary containment;
c. Moisture sensors;
d. Rain sensors;
e. Annual leak testing;
f. Automatic shutoff valves; and
g. A maintenance plan describing the inspection and maintenance schedule for all mitigation devices (i.e. PCMMP).

Erosion Control

6. Any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion, ponding, flooding, or to prevent surface drainage from contacting or percolating through wastes at the facility on an annual basis. The annual erosion control measures shall be completed prior to the anticipated rainy season but not later than September 31. In addition, maintenance and repairs necessitated by changing site conditions shall be made at any time of year.

7. Silt fences, hay bales, and other erosion control measures shall be used to manage surface water runoff from Facility areas where landfill cover has recently been constructed, and from areas where Facility containment system construction is occurring.

8. All areas, including surface drainage courses, shall be maintained to minimize erosion. Landfill cover shall be maintained to minimize percolation of liquids through wastes.

Surface Drainage

9. Surface drainage from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through waste and shall either be contained onsite or be discharged in accordance with applicable storm water regulations.

10. Where flow concentrations result in erosive flow velocities, surface protection such as asphalt, concrete, riprap, silt fences, block walls, lawn/turf, or other erosion control materials shall be used for protection of drainage conveyance structures. Interim bench ditches shall be provided with erosion control material

and riprap to control erosion where necessary.

11. Where high velocities occur at terminal ends of downchutes, or where downchutes cross landfill cover access roads, erosion control material shall be applied to exposed soil surfaces. Energy dissipaters shall be installed to control erosion at locations where relatively high erosive flow velocities are anticipated.

D. PROVISIONS FOR STORMWATER MONITORING

1. Because of the existence of landfill gas at the Facility and its potential for migration, no surface water shall leave the Facility except as permitted by an NPDES permit for release of stormwater from industrial activities issued in accordance with the federal Clean Water Act (CWA) and the California Code of Regulations. Monitoring associated with the permit shall include sampling for volatile organic compounds in the federal monitoring parameter list, Appendix I of title 40 of the Code of Federal Regulations § 258. The Discharger shall maintain and modify, as necessary, a construction related Storm Water Pollution Prevention Plan developed for the Facility during its development into an active recreation park.

E. REPORTING REQUIREMENT

1. The Discharger shall file the following reports in accordance with the following schedule:

   a. Report of Waste Discharge

      The Discharger shall file a new ROWD at least 120 days prior to the following:

      i. Significant change in post-closure maintenance activities not described in the approved PCLUP which would significantly alter existing drainage patterns and slope configurations, or pose a potential threat to the integrity of the site;

      ii. Change in land use other than as described in the findings of this Order and the approved PCLUP;

      iii. Significant change in disposal area, e.g. excavation and relocation of waste on site; or

iv. Any planned change in the regulated facility or activity that may result in noncompliance with this Order.

b. Workplan

The Discharger shall submit a workplan at least 30 days prior to any maintenance activities, for approval by the Executive Officer, which could alter existing surface drainage patterns or change existing slope configurations not described in the approved PCLUP. These activities may include, but not be limited to, significant grading activities, the importation of fill material, the design and installation of soil borings, groundwater monitoring wells and other devices for site investigation purposes.

2. The Discharger shall furnish to the Executive Officer, within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish to the Executive Officer, upon request, copies of records required by this Order.

3. The Discharger shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage between the current owner and new owner for post-closure maintenance of the Facility. This agreement shall include an acknowledgement that the existing owner is liable for violations up to the transfer date and that the new owner is liable from the transfer date on. The agreement shall include an acknowledgement that the new owners shall accept responsibility for compliance with this Order that includes the post-closure maintenance of the Facility.

4. Where the Discharger becomes aware that it failed to submit any relevant facts in a ROWD or submitted incorrect information in a ROWD or in any report to the Regional Board, it shall promptly submit such facts or information.

5. The Discharger shall report any noncompliance that may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the owner becomes aware of the circumstances. A written submission shall also be provided within seven days of the time the owner becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The

Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. The Discharger shall notify the Executive Officer immediately of any slope failure occurring in a waste management unit. Any failure which threatens the integrity of the containment features or the waste management unit shall be promptly corrected after approval of the method and schedule by the Executive Officer.

7. The Discharger shall comply with the attached M&RP CI-8372A. Monitoring results shall be reported at the intervals specified in M&RP CI-8372A.

8. All applications, reports, or information submitted to the Executive Officer shall be signed and certified as follows:

   a. ROWDs shall be signed as follows:

      i. For a corporation - by a principal executive officer of at least the level of vice-president.

      ii. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.

      iii. For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.

      iv. For a military installation - by the base commander or the person with overall responsibility for environmental matters in that branch of the military.

   b. All other reports required by this Order and other information required by the Executive Officer shall be signed by a person designated in paragraph 8.a of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

      i. The authorization is made in writing by a person described in paragraph 8.a of this provision;

      ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and

      iii. The written authorization is submitted to the Executive Officer.

c. Any person signing a document under this section shall make the following certification:

> "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

9. The Discharger shall submit reports required under this Order and other information requested by the Executive Officer, to:

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013
ATTN: Information Technology Unit

10. The Discharger shall perform quarterly inspections of the Facility site and report the results semi-annually. The report shall contain information on the site condition and a discussion of any significant findings with regard to:

a. General site conditions;
b. Surface cover and slope;
c. Drainage facilities;
d. Groundwater monitoring network;
e. Methane gas control systems;
f. Observation of seepage from the site; and
g. Maintenance activities at the site.

F. GENERAL PROVISIONS

1. This Order includes the *"Standard Provisions Applicable to Waste Discharge Requirements"*, adopted November 7, 1990 (Attachment 1). If there is any conflict between provisions stated herein and the Standard Provisions, these provisions stated herein will prevail.

2. The Discharger shall comply with all conditions of this Order and any additional conditions prescribed by the Regional Board in addenda thereto. Noncompliance with this Order constitutes a violation of the CWC and is grounds for:

   a. enforcement action;

   b. termination, revocation and reissuance, or modification of this Order; or

   c. other actions allowed by law.

3. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

4. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate laboratory and process controls including appropriate quality assurance procedures.

5. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

   a. Violation of any terms or conditions of this Order;

   b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant and material facts; or

   c. A change in any condition that requires either a temporary, permanent reduction, or elimination of the authorized discharge.

6. The filing of a request by the Discharger for the modification, revocation and reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

7. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWC. The Discharger

shall submit notice of any proposed transfer of this Order's responsibility and coverage as described under Reporting Requirement E.3 of this Order.

8. In accordance with CWC § 13263(g), these requirements shall not create a vested right to continue to discharge. All discharges of waste into the waters of the State are privileges, not rights, and are subject to rescission or modification.

9. The Discharger shall allow the Regional Board, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWC, any substances or parameters at any location.

10. A copy of this Order shall be maintained at the local offices of the Discharger and shall be available to operating personnel at all times.

11. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

12. This Order becomes effective on the date of adoption by this Regional Board.

G. RESCISSIONS

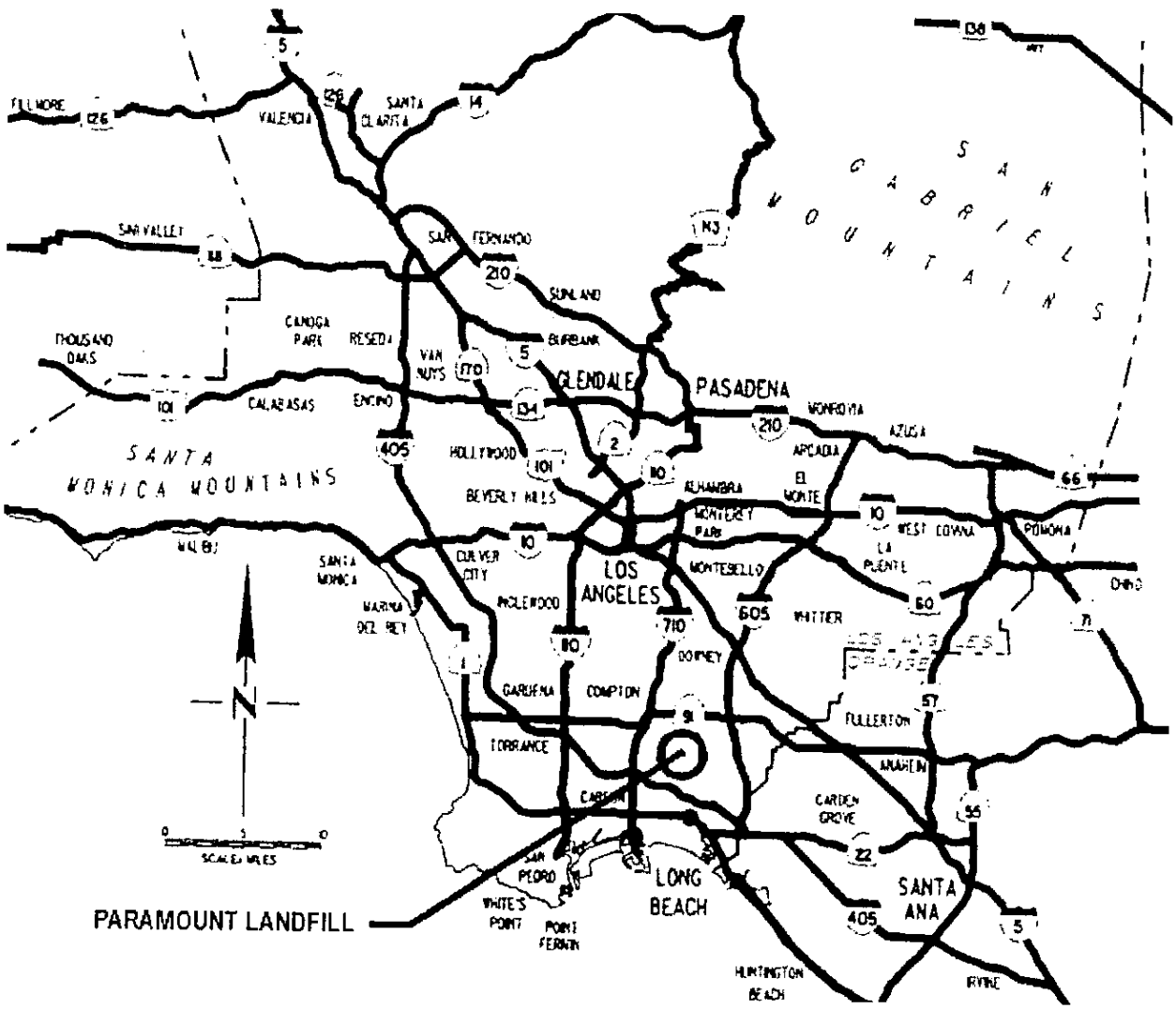
1. Except for enforcement purposes, the discharger's enrollment under general Regional Board Order No. R4-2002-022 is hereby terminated.

I, Jonathan Bishop, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on October 7, 2004.

_____

Jonathan Bishop
Executive Officer

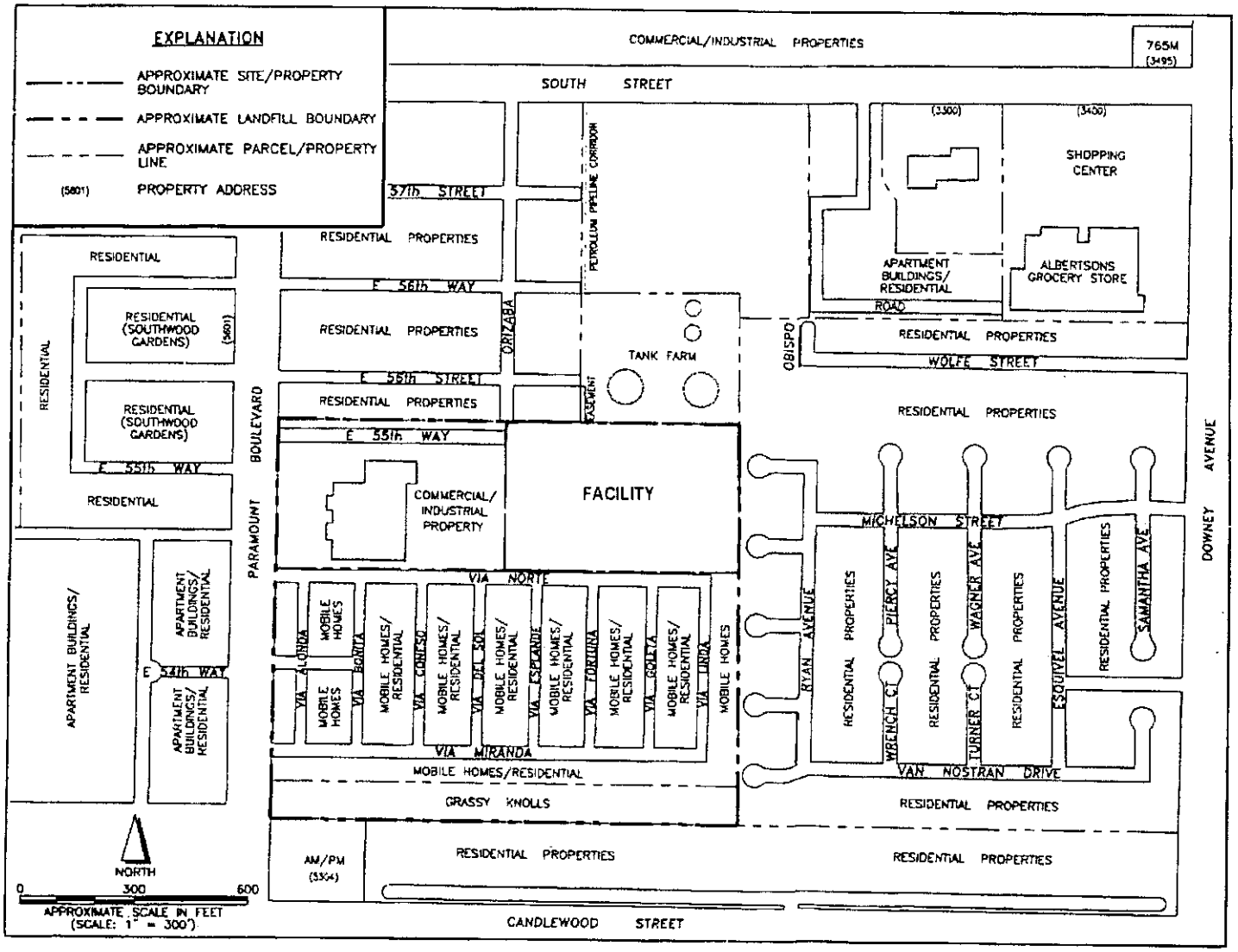
FIGURE 1:
PARAMOUNT LANDFILL - LOCATION MAP



WASTE DISCHARGE REQUIREMENTS FOR
POST-CLOSURE MAINTENANCE
PARAMOUNT LANDFILL
ORDER NO. R4-2004-0157

FILE NO. 93-079

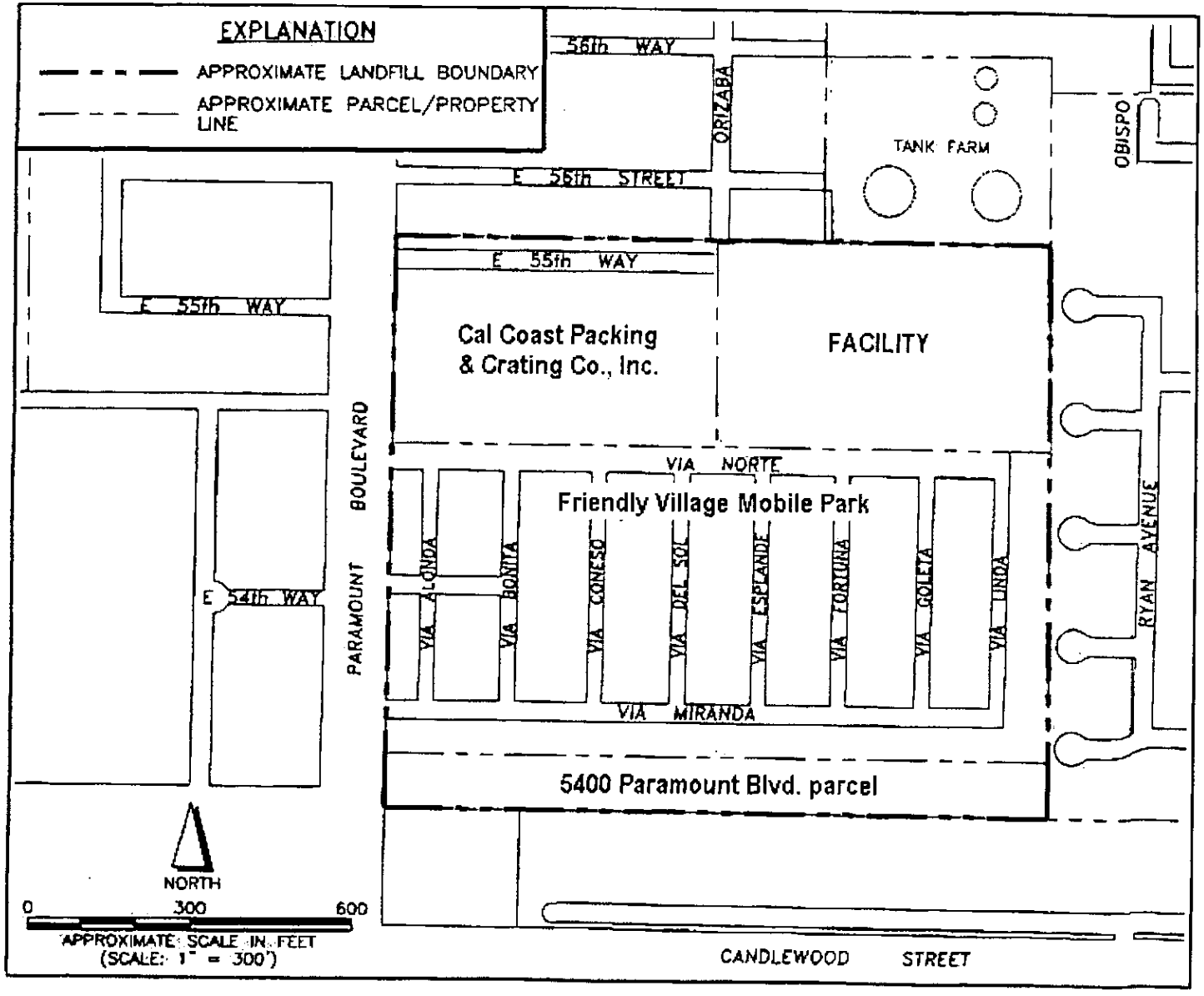
FIGURE 2:
PARAMOUNT LANDFILL - AREA LANDUSE MAP



WASTE DISCHARGE REQUIREMENTS FOR
POST-CLOSURE MAINTENANCE
PARAMOUNT LANDFILL
ORDER NO. R4-2004-0157

FILE NO. 93-079

FIGURE 3:
PARAMOUNT LANDFILL - PARCEL MAP



WASTE DISCHARGE REQUIREMENTS FOR
POST-CLOSURE MAINTENANCE
PARAMOUNT LANDFILL
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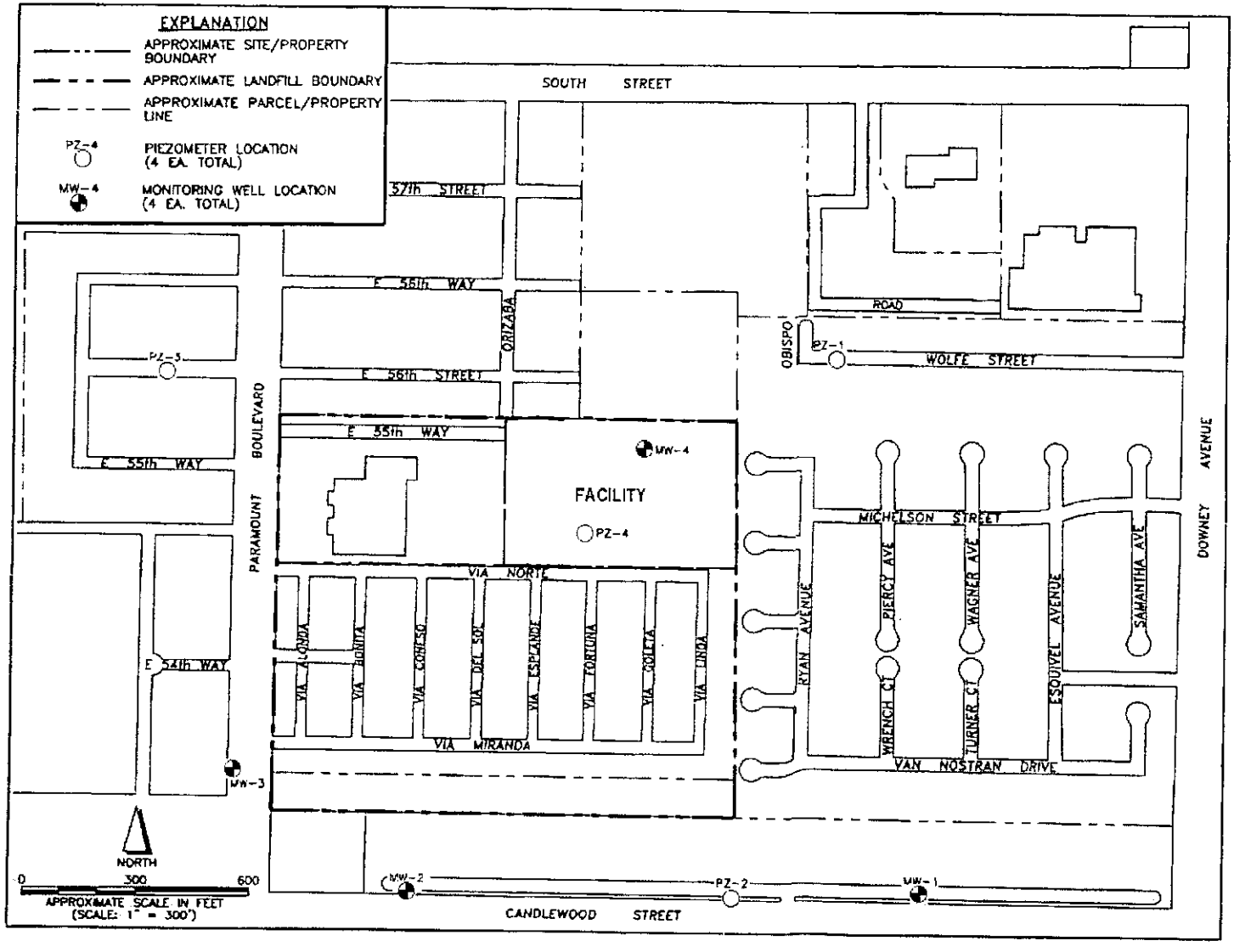
FILE NO. 93-079

FIGURE 4:
PARAMOUNT LANDFILL - GROUNDWATER MONITORING NETWORK



MONITORING AND REPORTING PROGRAM (MRP) PARAMOUNT (55TH WAY) LANDFILL
ORDER CI-8372A

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-8372A

FOR
POST-CLOSURE MAINTENANCE
PARAMOUNT DUMP (55TH WAY LANDFILL)
FILE NO. 93-079

A. GENERAL

1. Monitoring responsibilities of the City of Long Beach (Discharger) for the Paramount Landfill (Landfill) are specified in California Water Code (CWC) § 13225(a), § 13267(b) and § 13387(b). This self-monitoring program is issued pursuant to California Regional Water Quality Control Board, Los Angeles Region (Regional Board) Order No. R4-2004-0157. The principal purposes of a self-monitoring program by a discharger are:

   a. To document compliance with discharge requirements and prohibitions established by the Regional Board;

   b. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge; and

   c. To prepare water quality analyses.

2. The Discharger shall implement this monitoring and reporting program (M&RP), as described in Section B (Provisions for Groundwater Monitoring) of Regional Board Order No. R4-2004-0157. The Discharger shall implement this M&RP during the first monitoring period immediately following adoption of this Order. The first monitoring report under this program is due by October 30, 2004.

3. The Discharger shall comply with the requirements of 27 CCR § 20415 (General Water Quality Monitoring and System Requirements) for any water quality monitoring program developed to satisfy 27 CCR § 20420 (Detection Monitoring Program), § 20425 (Evaluation Monitoring Program), or § 20430 (Corrective Action Program) and the requirements of this Order.

B. GROUNDWATER MONITORING PROGRAM

1. The compliance groundwater monitoring system at the Landfill includes three monitoring wells (PZ-1, MW-1, and MW-2) (see Figure 1, attached).

2. Monitoring wells existing at the Landfill that are not part of the compliance groundwater monitoring system include PZ-2, PZ-3, PZ-4, MW-3, and MW-4. All existing piezometers and monitoring wells at the Landfill are shown on Figure 1.

3. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer. Specific methods of analysis must be identified. If methods other than the U. S. Environmental Protection Agency (USEPA) approved methods or standard methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

4. The monitoring parameter list for the Landfill, to be monitored on a semi-annual basis, shall include all constituents listed below:

	Monitoring Parameters	Test Method
1.	Chemical Oxygen Demand (COD)	USEPA 410.4
2.	Total Organic Halides (TOX)	USEPA 9020
3.	Total Organic Carbon (TOC)	USEPA 415.1
4.	Total Dissolved Solids (TDS)	USEPA 160.1
5.	Chloride	USEPA 300.0
6.	Sulfate	USEPA 300.0
7.	Boron	USEPA 6010
8.	Volatile Organics	USEPA 8260*
9.	Semi-volatiles*	USEPA 3510/8270
10.	Sulfides	USEPA 376.2
11.	Nitrate (as N)	USEPA 300.0

*All peaks greater than 10% of the internal standard shall be identified and quantified for gas chromatography analyses.

Once each year, during the April-September monitoring period, all wells shall be sampled and also analyzed for the following expanded list of constituents of concern (COCs). COCs are those constituents which are likely to be in the waste in the landfill or which are likely to be derived from waste constituents, in the event of a release.

Monitoring Parameters	Test Method
PCBs*	USEPA 3510/8080

Biological Oxygen Demand	USEPA 405.1
Nitrite	USEPA 300.0
Oil and Grease	USEPA 413.2

*All peaks greater than 10% of the internal standard shall be identified and quantified for gas chromatography analyses.

5. The Discharger shall implement data analysis methods compliant with the requirements of 27 CCR § 20415 (General Water Quality Monitoring and System Requirements) to evaluate any statistically significant indications of a release from the Landfill.

6. Proper chain of custody procedures shall be used.

7. If the Discharger monitors any pollutants more frequently than required by Order No. R4-2004-0157, using the most recent version of Standard USEPA Methods, or as specified in Order No. R4-2004-0157, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's monitoring report. The increased frequency of monitoring shall also be reported.

8. The Discharger shall report all instances of noncompliance not reported under Reporting Requirement F.5 of Order No. R4-2004-0157 at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement F.5.

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

10. All monitoring instruments and equipment which are used by the Discharger to fulfill the prescribed monitoring program shall be properly calibrated and maintained as necessary to ensure their continued accuracy.

11. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required Order No. R4-2004-0157. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

12. Records of monitoring information shall include:

a. The date, identity of sample, monitoring point from which it was taken, and time of sampling or measurement;

b. The individual(s) who performed the sampling or measurements;

c. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

d. The analytical techniques or method used, including method of preserving the sample and the identity and volumes of reagents used;

e. Calculation of results;

f. Results of analyses, and the maximum detection limit (MDL) for each parameter, and

g. Laboratory quality assurance results (e.g. percent recovery, response factor).

8. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement F.8 of Order No. R4-2004-0157.

9. No filtering of samples taken for organics analyses shall be permitted. Samples for organic analyses shall be taken with a sampling method that minimizes volatilization and degradation of potential constituents.

10. The Discharger may submit additional data to the Regional Board not required by this program in order to simplify reporting to other regulatory agencies.

11. Thirty-Day Sample Procurement Limitation:
For any given monitored medium, the samples taken from all monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken within a span of 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible [27 CCR § 20415(c)(12)(B)]. Groundwater sampling shall also include an accurate determination of the groundwater surface elevation and field parameters (temperature, pH, electrical conductivity, turbidity) for that monitoring point [27 CCR § 20415(e)(13)]; groundwater elevations taken prior to purging the well and sampling for monitoring parameters shall be used to fulfill groundwater flow rate/direction analyses required under Item No. B.14 of this M&RP. Statistical analysis shall be carried out as soon as the data is available, in accordance with statistical and non-statistical analyses requirements described in this M&RP.

12. If a measurably significant evidence of a release from the waste management unit is determined, the Discharger shall conduct required monitoring and response programs in accordance with Title 27 section 20385.

13. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling event. This shall be done prior to any other activity which may disturb the surface of the water in a monitoring well (e.g. water level measurements). If an immiscible layer is found, this Regional Board shall be notified within 24 hours.

14. For each monitored groundwater body, the Discharger shall measure the water level in each well and determine groundwater flow rate and direction at least semi-annually, including the times of expected highest and lowest elevations of the water level for the respective groundwater body. Groundwater elevations for all background and downgradient wells for a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

C. REPORTS TO BE FILED WITH THE BOARD

1. Required monitoring reports shall be submitted to the Regional Board in accordance with the following schedule:

Report Frequency	Report Period	Report Due
Semiannually	April – September	October 30
	October – March	April 30
Annually	January – December	April 30

In the event monitoring is not performed as above because of unforeseen circumstances, substitute monitoring shall be performed as soon as possible after these times, and the reason for the delay shall be given.

2. Semi-annual groundwater monitoring reports shall be submitted no later than one month following the end of their respective reporting period. The reports shall be comprised of at least the following in addition to the specific contents listed for each respective report type:

   a. Transmittal Letter

A letter summarizing the essential monitoring points shall be submitted with each report. The transmittal letter shall include:

i. A discussion of any requirement violations found since the last such report was submitted and shall describe actions taken or planned for correcting the violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter; and

ii. A statement certifying that, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. This statement shall be signed by an individual that meets the requirements contained in Provision No. E.8 of Order No. R4-2004-0157.

b. Semi-Annual Report

The semi-annual report shall contain, but not be limited to the following:

i. Site maintenance outlined in section B of this monitoring and reporting program.

ii. Groundwater analysis and flow rate outlined in section B of this monitoring and reporting program.

iii. A map (or copy of an aerial photograph) showing the locations of observation stations, monitoring points, and background monitoring points.

iv. Pre-Sampling Purge for Samples Obtained from Wells:

For each monitoring point addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, electrical conductivity and turbidity during purging, the calibration of the field equipment, results of the pH, temperature, electrical conductivity, and turbidity testing, and the well recovery time).

The method of disposal or reuse purpose, if reused of the purge water shall be reported. If no fluid was pumped during the period from any monitoring well, a statement to that effect shall be submitted.

v. Sampling:

For each monitoring point addressed by the report, a description of the type of pump, or other device, used and its placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person taking the samples, and any other observations).

vi. Laboratory Results

Laboratory results for groundwater required under this M&RP shall be summarized in the report. For each report, include laboratory statements of results of all analyses demonstrating compliance with Item No. A.2 of this M&RP; Unless otherwise approved by the Executive Officer, monitoring reports shall be submitted in PDF or JPEG format (tabular laboratory analytical data may be submitted in MS Excel or Access format) that are recorded in CD-ROMs. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with Order No. R4-2004-0157. Hard copies of the cover letter, the main report text, and any tables and/or figures that are directly quoted in the main report, shall be submitted with the CD-ROM. The hard copies shall be signed by a responsible officer(s) of the Discharger. All original laboratory reports, quality assurance and quality control (QA/QC) data, and filed records that are used to prepare the reports must be kept in the Landfill's operating record. These data must be available for Regional Board staff review, if required. The Regional Board regards the submittal of data in hard copy and on CD-ROMs as "...the form necessary for..." statistical analysis [27 CCR § 20420(h)].

c. Annual Summary Report

The Discharger shall submit an annual report to the Regional Board covering the previous monitoring year.

i. For each monitoring point, submit in graphical format the laboratory analytical data for all monitoring parameters taken within at least the previous five calendar years. Each graph shall plot the concentration of the constituent over time for a given monitoring point, at a scale appropriate to show trends or variations in water quality.

ii. A comprehensive discussion of the compliance record, results of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

iii. A written summary of the monitoring results and monitoring system(s), indicating any changes made or observed since the previous annual report.

iv. A topographic map at appropriate scale, showing the direction of groundwater flow at the landfill site.

Monitoring reports shall be submitted to:

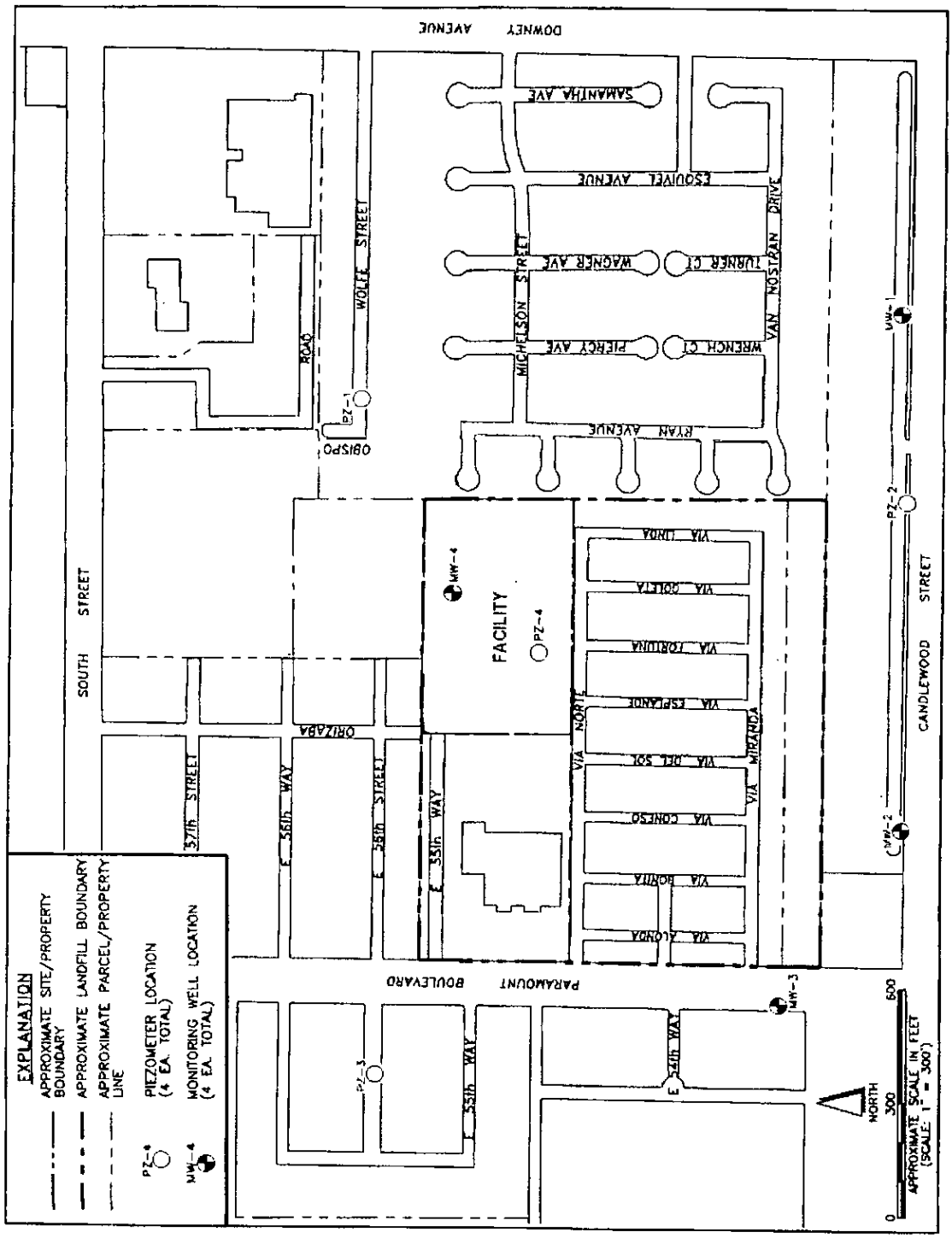
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013
ATTN: Information Technology Unit

Ordered by _____

Jonathan Bishop
Executive Officer

Date: October 7, 2004

FIGURE 1:
PARAMOUNT LANDFILL - GROUNDWATER MONITORING NETWORK



STAFF REPORT WDRS AND MRP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Metropolitan Water District of Southern California
700 North Alameda Street, Los Angeles, California

October 7, 2004
478th Regular Meeting

ITEM: 12

SUBJECT: WASTE DISCHARGE REQUIREMENTS (NON-NPDES REQUIREMENTS) - For Post-Closure Maintenance of Inactive Paramount Landfill, Long Beach, CA.

BACKGROUND/ ISSUES

There are a large number (in excess of 700) solid waste disposal sites in the Los Angeles Region of which the vast majority are classified in title 27 of the California Code of Regulations (27 CCR) closed, abandoned or inactive ("CAI" units) because they ceased accepting waste prior to November 27, 1984 when there was a major revision to the state's landfill regulations. In heavily developed Southern California, as open land has become more scarce and expensive, there has been an increasing interest in developing CAI sites. Historically, CAI sites have tended to be relatively remote and not have postclosure land uses that posed an immediate environmental threat. As these sites are proposed to be redeveloped, changes in site conditions must to assessed to assure that no environmental threat is exacerbated by the change in land use. With increased redevelopment in the Los Angeles Region, Regional Board staff is increasingly being requested to evaluate groundwater monitoring and post-closure maintenance requirements for these CAI landfills. These circumstances created the need for an expedited system for processing the numerous requests for implementing groundwater monitoring and post-closure maintenance requirements for these CAI landfills so that on January 24, 2002, the Regional Board adopted general Order No. R4-2002-022 (Waste Discharge Requirements for Post-Closure Maintenance of Inactive Nonhazardous Waste Landfills within the Los Angeles Region). The general order established postclosure maintenance activities to be conducted at enrolled CAI landfills to maintain the integrity of containment features, such as, final covers, drainage systems, final grades, and landfill gas systems to name a few, as well as to monitor compliance through a groundwater monitoring and reporting program. On October 31, 2002, the Paramount Landfill (Landfill) was enrolled into general Order No. R4-2002-022 in order to facilitate the

development of a vacant parcel of the Landfill into active recreation park.

ISSUE(S):

General Order No. R4-2002-022 makes a distinction for CAI landfills between burn dumps and non-burn dumps because of difference in the amount of decomposable wastes, and thus the potential for being an environmental threat. Because old "cut and cover" landfills, such as the Paramount Landfill, contain biodegradable organic material and pose a greater environmental threat, general Order No. R4-2002-022 requires completion of a Solid Waste Assessment Test (SWAT) to assess whether these sites have impacted groundwater quality. If groundwater contamination is determined, a semi-annual groundwater monitoring program is required for the site with monitoring requirements that are consistent with those adopted for other landfills within the Region. Similarly, regular postclosure maintenance monitoring and reporting are required of site owners. Because of the potential impact to groundwater quality, from leaking inactive landfills, for the purposes of general Order No. R4-2002-022, the Regional Board considers such landfills as a category "1" threat to water quality, in accordance with Title 23, section 2200. As former Class II or Class III waste management facilities, the inactive landfills subject to this Order are assigned a complexity ranking of category "B".

The City of Long Beach (Discharger) has completed a SWAT analysis for the Landfill (see Compliance History) that indicated no impact from the Landfill to local groundwater. Nonetheless, because of the on-going development of the landfill parcel into an active recreation park, groundwater monitoring is continuing. Based on the SWAT monitoring results for the Landfill, on March 3, 2004 the Discharger requested site-specific WDRs for the vacant parcel, to pursue development as an active recreation park, under revised threat to water quality and complexity ratings. Specification A.3 of Regional Board Order R4-2002-022 allows for a discharger to apply for and obtain individual waste discharge requirements (WDRs) with more specific requirements. Based on the age of refuse at the Landfill and recent groundwater monitoring results, a threat to water quality and complexity rating of 3-B is appropriate.

DISCUSSION:

Nonhazardous solid waste landfills have been regulated by the State Water Resources Control Board and the Regional Boards since the 1960' s through the issuance of WDRs. The applicable regulations

governing landfills in California, Division 3, Chapter 15 (Discharges of Waste to Land) of Title 23, California Code of Regulations (23 CCR), are now contained in California Code of Regulations Title 27 (27 CCR). Pursuant to 27 CCR Section 20080(g), landfills that are closed, abandoned, or inactive on the effective date of these regulations (November 1984) are not specifically required to be closed in accordance with Article 8 requirements of 27 CCR Section 20950. However, these landfills are subject to post-closure maintenance requirements in accordance with 27 CCR Section 20080(g).

The postclosure maintenance and groundwater monitoring requirements adopted in general Order No. R4-2002-022 and incorporated into the proposed WDRs are comparable to others adopted previously for solid waste dischargers. The WDRs, as they are met, are in conformance with the goals of this Board's Water Quality Control Plan.

COMPLIANCE: See attached.

DISCHARGE REQUIREMENTS/ MONITORING COSTS: Discharge requirements are consistent with those adopted for other landfills within the Region.

COMMENTS RECEIVED: No comments received.

RECOMMENDATION: The tentative Order be adopted.

ATTACHMENTS:
Compliance History
Discharge Requirements / Monitoring Program Cost Summary
Tentative Waste Discharge Requirements
Standard Provisions Applicable to Waste Discharge Requirements
Tentative Monitoring and Reporting Program
Comments Received
Response to Comments
Regional Board General Order No. R4-2002-022

B

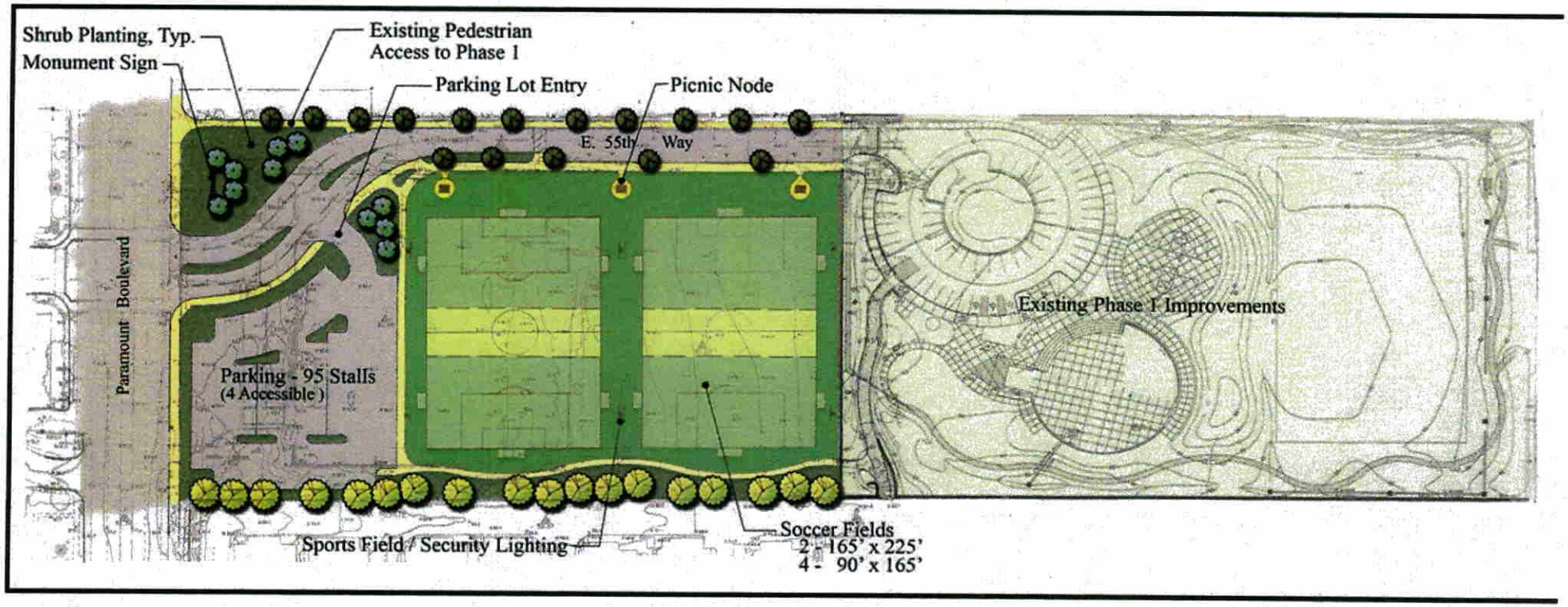
APPENDIX II-B
DRAFT CONCEPTUAL DAVENPORT PARK LAYOUT

PRELIMINARY MASTER PLAN POPS DAVENPORT PARK PHASE 2

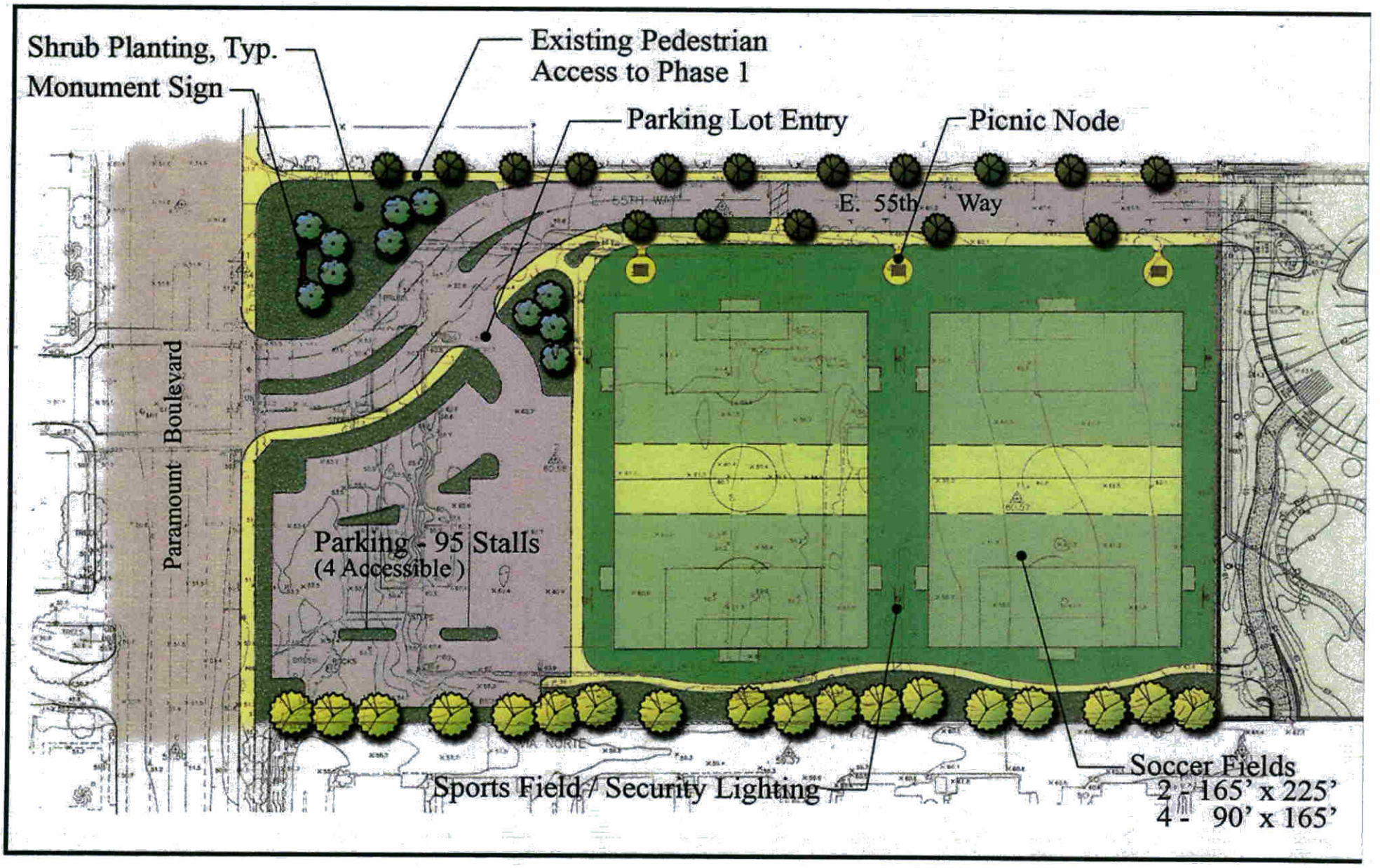
JULY 2010 CONCEPTUAL DESIGN POPS DAVENPORT PARK PHASE 2

NOVEMBER 2003 REVISED PHASE I DESIGN

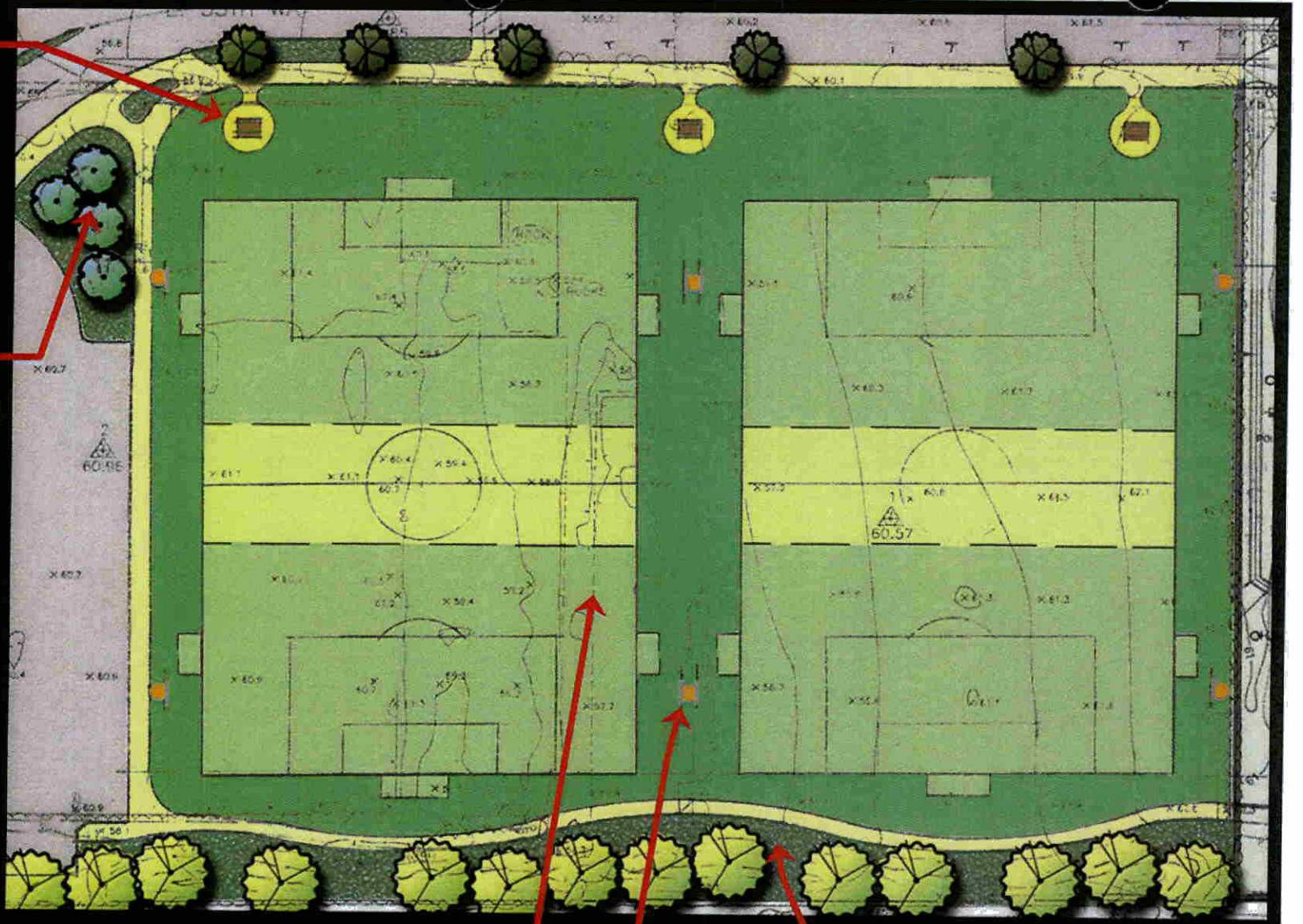
PRELIMINARY MASTER PLAN POPS DAVENPORT PARK PHASE 2

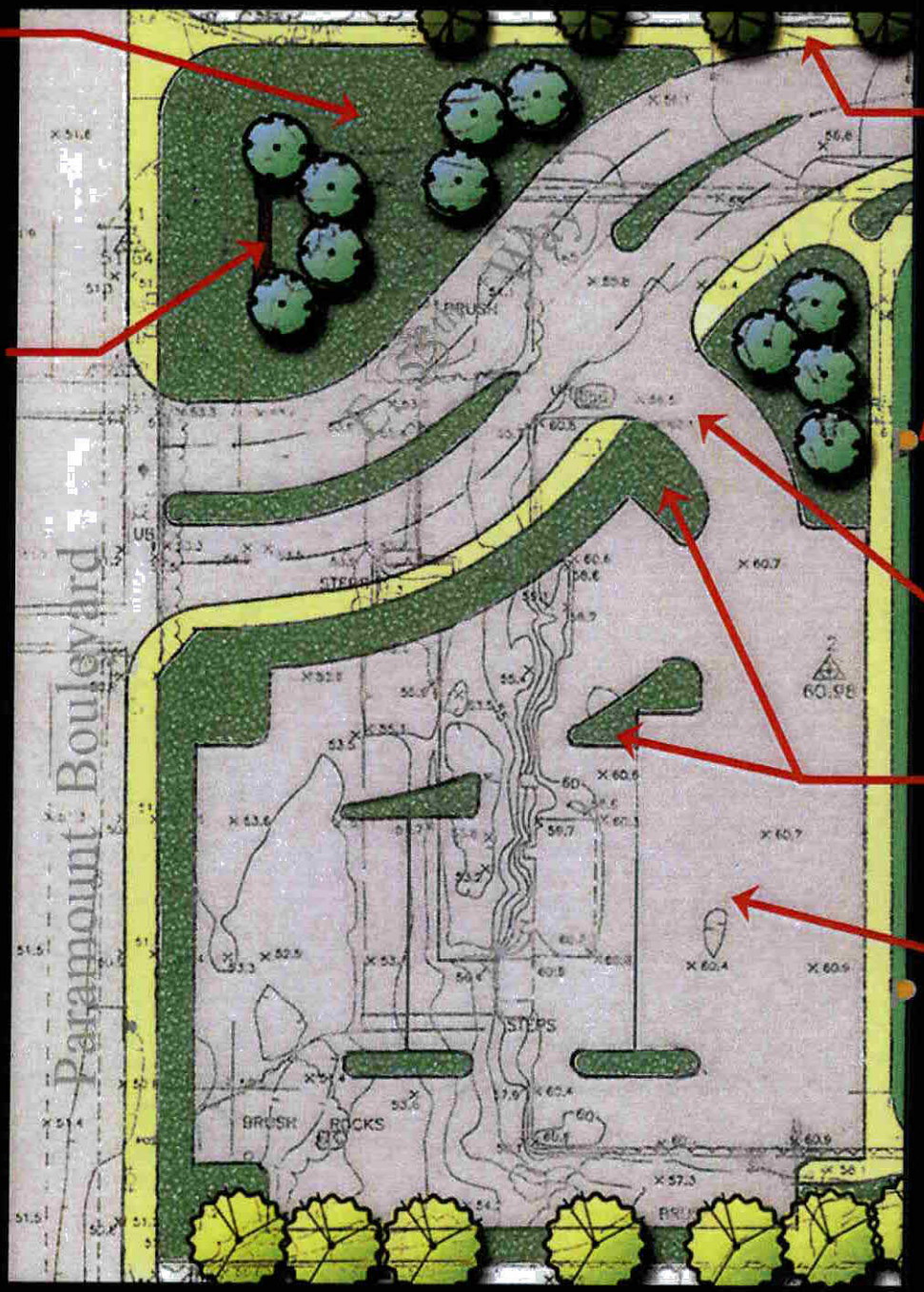


Preliminary Master Plan



Pops Davenport Park – Phase 2


Picnic Node, Typ.
Mounded Landscape Soil for Planting
Soccer Fields - 2 -165' x 225'
4 - 90' x 165'
Sports Field/Security Lighting
Mounded Landscape Soil for Planting



Mounded Landscape Soil for Planting

Monument Sign

Existing Pedestrian Access to Picnic

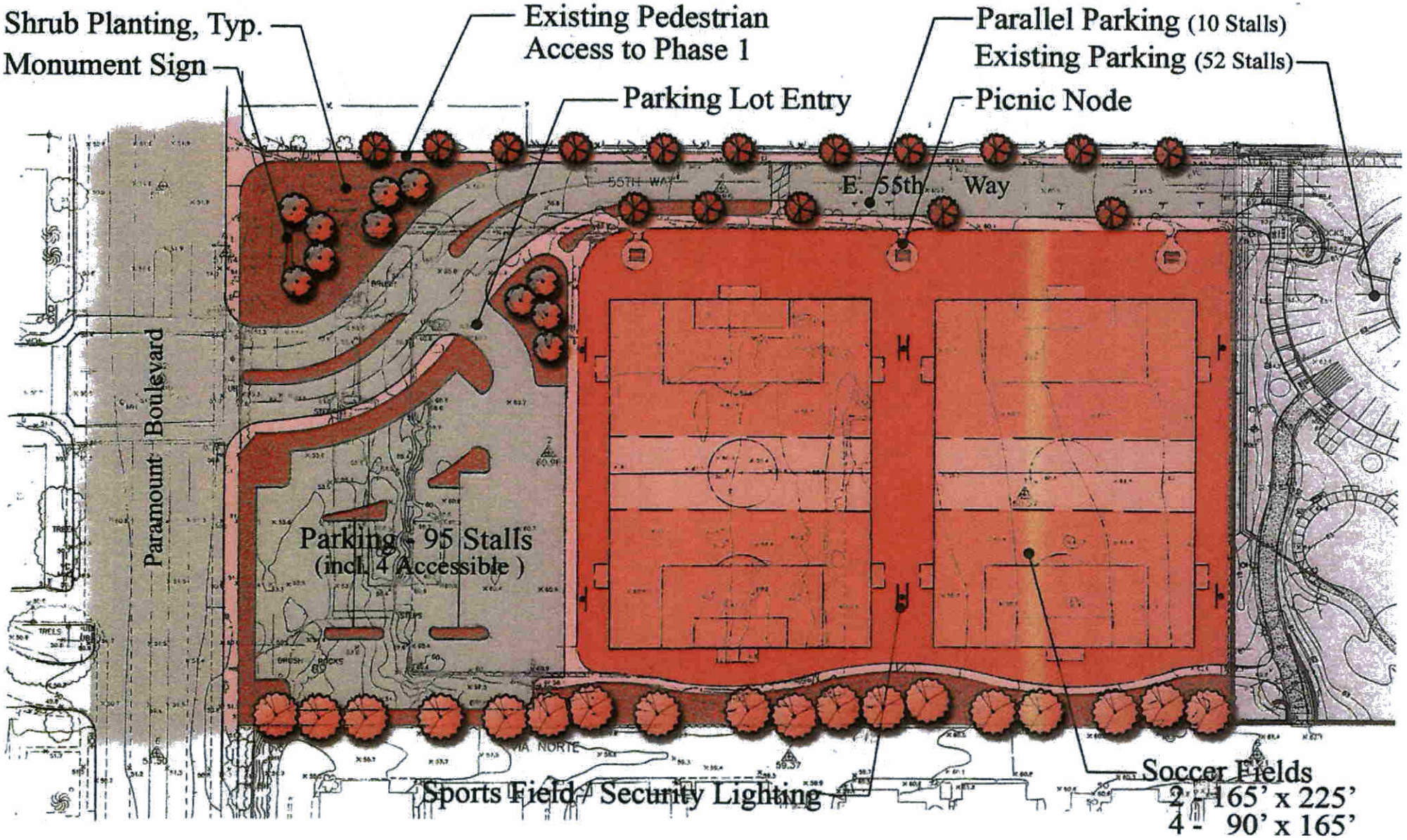
Sports Field/ Security Lighting

Parking Lot Entry

Shrub Planting, Typ.

Parking – 95 Stalls (4 Accessible)

JULY 2010 CONCEPTUAL DESIGN POPS DAVENPORT PARK PHASE 2



07-19-2010

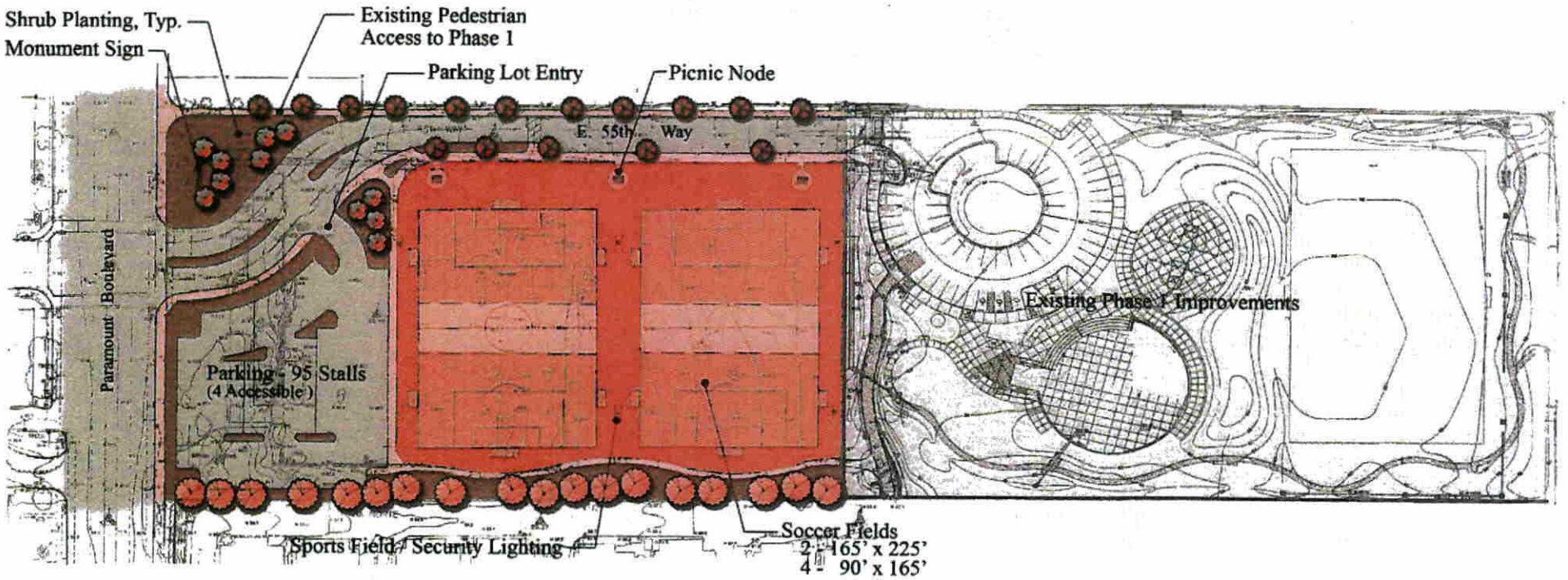
PRELIMINARY LANDSCAPE PLAN

RJM DESIGN GROUP, INC.
PLANNING AND LANDSCAPE ARCHITECTURE

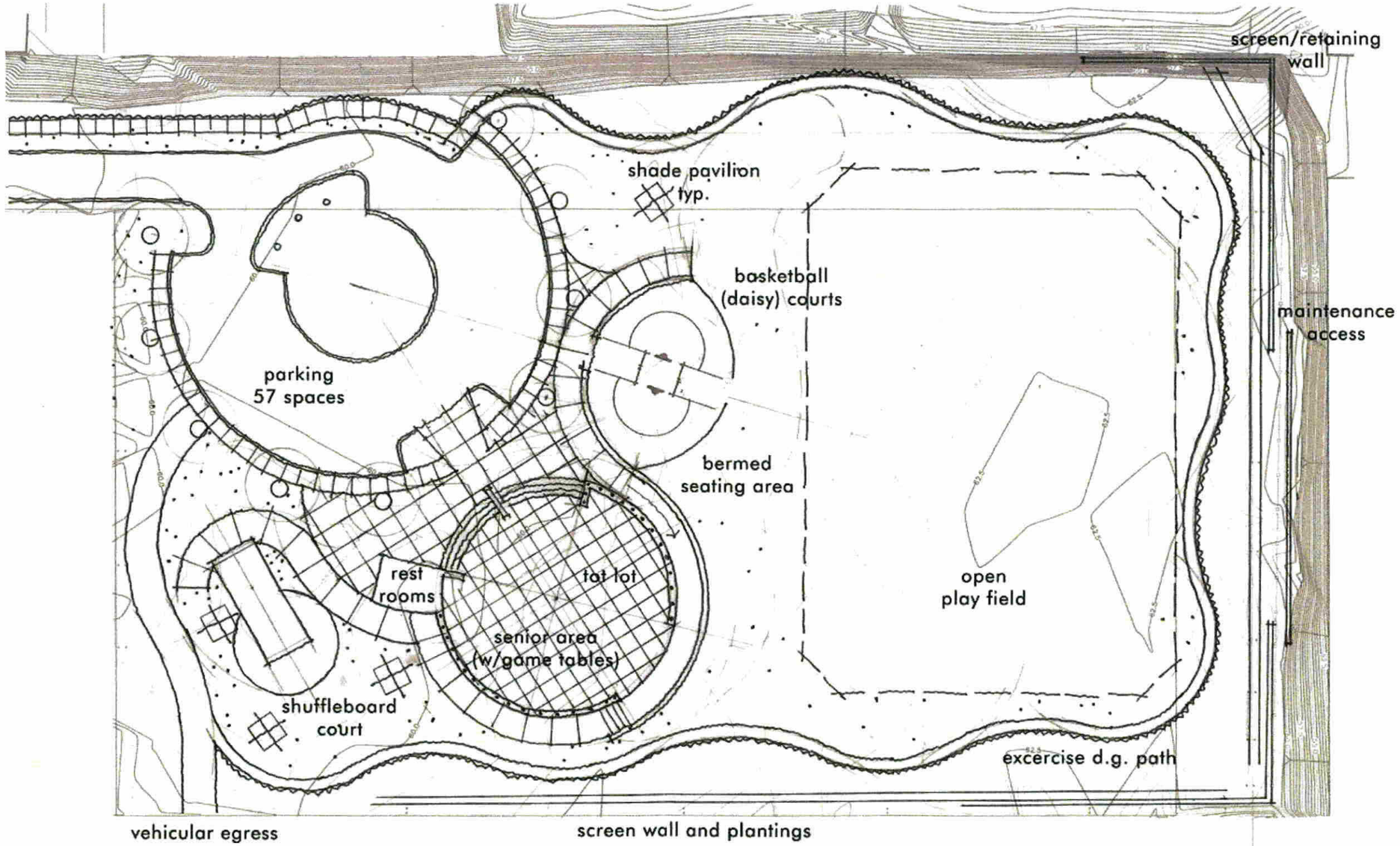
0 15' 30' 60'

POPS DAVENPORT PARK - PHASE 2 IMPROVEMENTS

CITY OF LONG BEACH, CALIFORNIA


Shrub Planting, Typ.
Monument Sign
Existing Pedestrian Access to Phase 1
Parking Lot Entry
Picnic Node
E. 55th Way
Paramount Boulevard
Parking - 95 Stalls
(4 Accessible)
Existing Phase 1 Improvements
Sports Field / Security Lighting
Soccer Fields
2 - 165' x 225'
4 - 90' x 165'

NOVEMBER 2003 REVISED PHASE I DESIGN



55th Way - Revised Siteplan

11.07.03

EDSA

North

0 20 40 80

Scale 1"=40'-0"

C

APPENDIX II-C
LANDFILL BOUNDARY PROBE AND INVESTIGATIONS INFORMATION

CONCEPTUAL DESIGN OF NEW/REPLACEMENT LANDFILL GAS PROBES

INSTALLATION OF LANDFILL GAS MONITORING PROBES SUMMARY REPORT
OCTOBER 21, 2004

APPENDIX K FROM PHASE I PCLUP:
LANDFILL BOUNDARY PROBE INSTALLATION INFORMATION

FIGURE 5A FROM PHASE I PCLUP:
METHANE ISOCONCENTRATIONS IN SOIL GAS JANUARY 2002

LEA INSPECTION REPORT WITH PROBE MONITORING RESULTS JUNE 18, 2014

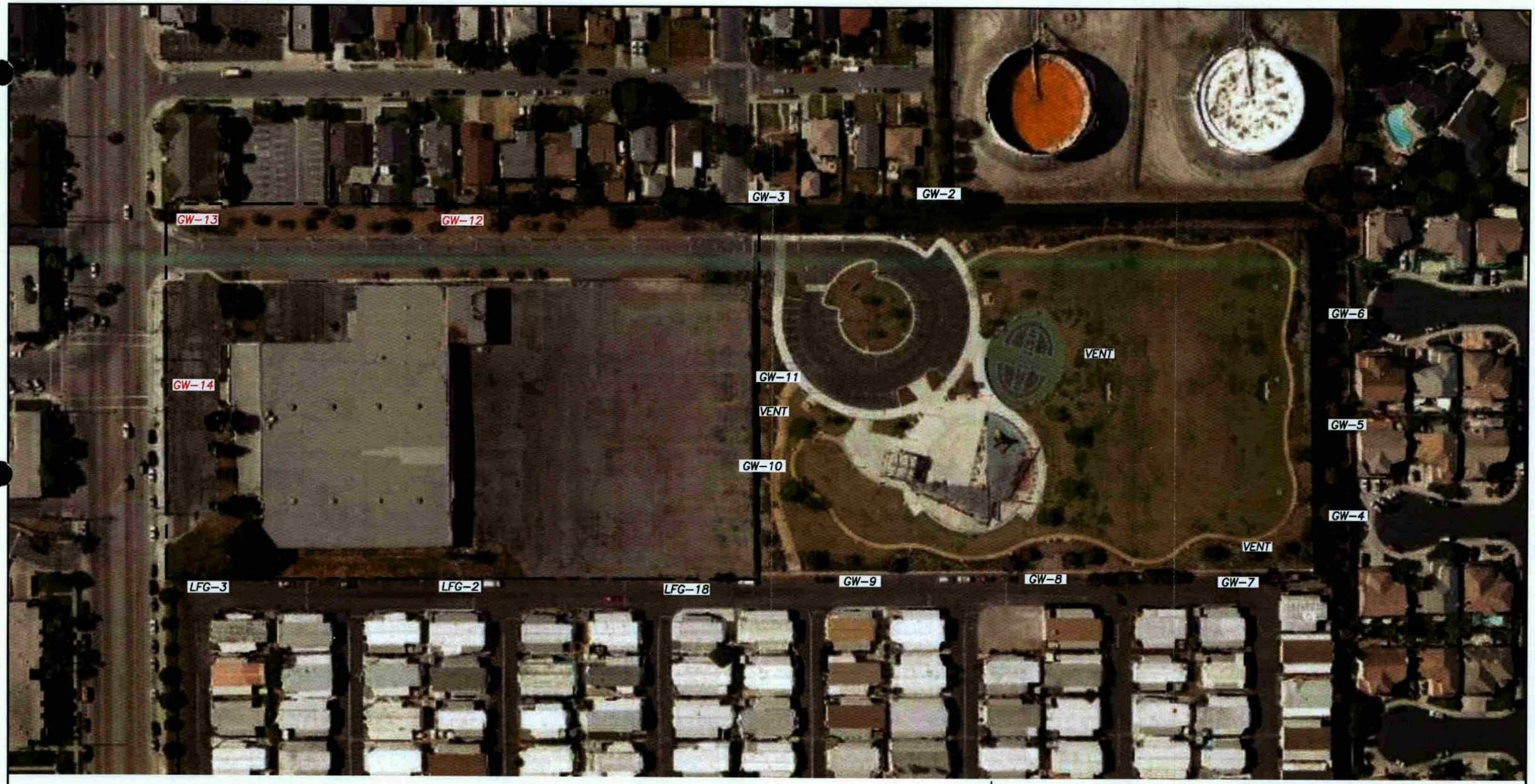
CALRECYCLE PROBE SAMPLING REPORT MARCH 23, 2011

TRENCHING LOCATION MAP AND LOGS 2005

CALRECYCLE SITE INVESTIGATION REPORT
FRIENDLY VILLAGE MOBILE HOME PARK, PORTION OF THE FORMER PARAMOUNT DUMP,
LONG BEACH, CALIFORNIA, SWIS 19-AK-0084

* This Report can be downloaded from:
http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AK-0084/Document/ Friendly Villiage Mobile Home Pard Site investigation, Paramount Dump (pdf, 25513 KB)

CONCEPTUAL DESIGN OF NEW/REPLACEMENT LANDFILL GAS PROBES



LEGEND:

— — — —	PROPERTY BOUNDARY
GW-12 ●	PROPOSED LFG MONITORING PROBE
LFG-2/GW-4 ●	EXISTING LFG MONITORING PROBE
VENT ✦	EXISTING LFG VENT/WELL

50 25 0 50 100 150

SCALE: 1"=100'

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

DAVENPORT PARK PHASE II

EXISTING AND PROPOSED SUBSURFACE BOUNDARY MONITORING PROBE LOCATIONS

Z:\PROJECTS\LONG BEACH, CITY\DAVENPORT\ACAD\SHEET SET\EXISTING AND PROPOSED SUBSURFACE BOUNDARY MONITORING PROBE LOCATIONS

INSTALLATION OF LANDFILL GAS MONITORING PROBES SUMMARY REPORT
OCTOBER 21, 2004

300 Oceangate, Suite 700, Long Beach, California 90802-4443

INSTALLATION OF LANDFILL GAS MONITORING PROBES
SUMMARY REPORT

Former 55th Way Landfill/Paramount Dump
2910 East 55th Way, Long Beach, California
SWIS No.: 19-AK-0084

Telephone
562.951.2000
Facsimile
562.951.2100

Prepared for:

CITY OF LONG BEACH
333 W. Ocean Boulevard
Long Beach, California 90802

Prepared by:

EARTH TECH INC.
300 Oceangate, Suite 700
Long Beach, California 90802

Eva Rasdal
Geologist

Travis Taylor, REA II 20249, REM 11111
Project Director

Date: October 21, 2004
Project No.: 79355.01

EARTH TECH

A TYCO INTERNATIONAL LTD. COMPANY

1.0 INTRODUCTION

This summary report has been presented by Earth Tech to document the installation of five subsurface landfill gas monitoring probes at the Former 55th Way Landfill located in Long Beach, California (site). A total of six subsurface boundary monitoring probes have previously been installed onsite to monitor the potential migration of methane and other landfill gases in the subsurface to adjacent properties located north and east of the site. In response to the submittal of the Final Post Closure Land Use Proposal (PCLUP) prepared by Earth Tech on September 26, 2003, the lead enforcement agency (LEA) commented on the need to monitor potential migration of landfill gases to the south and west of the site during and after park construction. Additional subsurface landfill gas monitoring probes were installed as per the requirements of the County of Los Angles, Department of Health Services (County) and the County of Los Angeles, Department of Public Works (DPW), in correspondences rlating to approval of the PCLUP. Copies of these correspondences are attached as **Appendix A.**

On August 19, 2004, Earth Tech installed five additional subsurface landfill gas monitoring probes (GW-7 through GW-11). Well construction permits were obtained from the City of Long Beach, Department of Health Services (permit number 1024), prior to installation of the five monitoring probes. Prior to initiation of drilling activities, Dig Alert, the underground services alert of Southern California, was notified and issued ticket number A2250777. Well installation permits are attached as **Appendix B.**

1.1 SCOPE OF WORK

The investigation scope of work (SOW) at the site included:

- Installing five subsurface landfill gas monitoring probes screened at two depths in accordance with Rule 1150.1;
- Conducting a purge volume study to determine the optimum purge volume for sample collection;
- Collecting landfill gas samples from each of the five newly installed monitoring probes (each screened at two discrete depths for a total of 10 samples);
- Analyzing landfill gas samples for volatile organic compounds (VOCs), total volatile petroleum hydrocarbons (TVPH), and fixed gases;
- Preparing and submitting an Installation of Landfill Gas Monitoring Probes Summary Report to the County for review and comment.

2.0 SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION AND DESCRIPTION

The site comprises approximately 5.5 acres in the northeast corner of the Paramount Dump and is located in a mixed commercial, residential, and industrial area of Long Beach (**Figures 1** and **2**). The site is bordered on the east and northwest by single-family dwellings, on the south by the Friendly Village Mobile Home Park (residential), on the north by the Paramount Petroleum Lakewood Tank Farm, and on the west by an industrial/commercial property, Cal Coast Packing & Crating Co. Inc. The southern and western property boundaries of the site border the remainder of the former Paramount Dump.

The 17.4-acre Paramount Dump, which is listed by the California Integrated Waste Management Board (CIWMB) as Solid Waste Information System (SWIS) Number 19-AK-0084, is located at the northeast corner of Paramount Boulevard and Candlewood Street in Long Beach, California (**Figures 1 and 2**).

2.2 SITE HISTORY

The site was part of the 17.4-acre landfill that was owned and operated by the City of Long Beach from 1945 to 1948 as Long Beach Dump #26. Based on review of available historic aerial photographs, the area appeared to be undisturbed until May 1945. The extent of landfill operations is evident in the 1947 aerial photograph. In 1952, a building existed in the northwest corner of the landfill and vegetation covered the site. In January 1958, a baseball field existed on the western edge of the landfill and adjacent to the site. Disturbed earth and vegetation were present over the remainder of the landfill at that time. A manufacturing and warehouse building had been constructed on the site by 1961.

Through the 1970s, building permit applications filed with the City of Long Beach document a number of owners/tenants of the property, including manufacturing facilities, a diesel repair facility, and a company identified as Artesia Milling. One owner/tenant, Dolphin Trucking, filed an application in 1974 to install two underground storage tanks (USTs) (9,940 gallons and 5,000 gallons), pumps and dispensers at the site. According to the Long Beach Fire Department Underground Storage Tank log, Kraus Trucking Company removed two USTs in 1986 without permits. However, documentation concerning the exact location of the USTs and UST removal activities is limited. In 1987, Paul Lai, George Y. Chow, Young Lung Chien, and Long Beach Warehouse Limited Partnership purchased the property from Josef and Helen Kraus and then formed a limited partnership called Fu Mai Limited Corporation, Long Beach Warehouse Limited Partnership.

In late 1993, the remaining building on the site was declared substandard and a public nuisance. The owners were ordered to demolish or rehabilitate the existing structure by January 15, 1994, which was later extended to July 31, 1994.

Since 1993, the County and the CIWMB have conducted several inspections to measure the generation of landfill gas. Recent site assessments conducted by the County in 2001 and 2002 indicated very low or undetectable levels of methane gas at the site.

In 1999, the Redevelopment Agency's North Long Beach Project Area Committee (North PAC) identified the site as a priority site for remediation and redevelopment. On July 31, 2001, the Redevelopment Agency unanimously approved the acquisition of the site for redevelopment and conversion to a local park.

The site is currently an open, vacant lot with no structures and minimal surface vegetation. In October 2002, a 24,000-square-foot building and loading dock formerly in the northwest corner of the site was demolished and the resulting debris was removed from the site. Previous subsidence of the landfill had caused severe structural damage to the building, rendering the building substandard and a public nuisance. In addition, miscellaneous storage containers, a loading ramp, debris piles and abandoned vehicles were also removed. The site is relatively flat with the topography gently sloping to the west.

2.2.1 Waste Disposal History

During disposal operations, the landfill accepted municipal waste from which food wastes were separated to be sold as agricultural feed supplements; only "inedible" waste was received by the landfill. Reportedly, no liquid wastes were disposed of at the Paramount Dump. Assuming an average landfill refuse thickness of 22.5 feet, an estimated 660,000 cubic yards of refuse remains in place at the Paramount Dump, of which approximately 160,000 cubic yards is within the boundaries of the site. Currently, a 4- to 8-foot thick heterogeneous soil cover consisting of assorted silts, sands, rocks, and gravels exists over the estimated 15- to 30-foot thick refuse layer. Historic aerial photographs show the approximate area of the landfill that actually contains municipal wastes. Landfill operations reportedly ceased by 1948 and the site was sold in 1953. Limited information exists concerning actual landfill operation and management practices including method of refuse placement, interim cover techniques (if any), waste treatment, landfill construction (e.g., liner, drainage), operation permits, and inspections and repairs completed at the Paramount Dump.

Estimated refuse thickness, volumes, and depths were based on review of past reports and site documentation. Recent investigations at the site have discovered that the refuse layer underneath the current cover may only be 10 to 15 feet thick. However, evidence to confirm this thickness is limited.

Therefore, the more conservative refuse layer estimate (22.5 feet thick) was used to calculate refuse volumes and mass.

2.3 PREVIOUS SITE INVESTIGATIONS

SCS Engineers (SCS) of Long Beach, California, conducted multiple investigations of the landfill from 1985 through 1987, including an Environmental Impact Report (EIR), in connection with proposed development on a section of the site. Borings from the investigations indicated that refuse materials consist of moderately to highly decomposed organic material (wood, paper, etc.), glass, metal, and traces of silty and sandy soils. SCS reported a high degree of degradation of landfill materials and stated that although the landfill gas (LFG) generation was past the maximum stage, LFG generation could continue for 10 to 20 more years (SCS, 1987). In 1993 and 1994, the CIWMB conducted various investigations at the site. The CIWMB recommended that a full-scale LFG monitoring program be initiated.

The United States Environmental Protection Agency (USEPA) contracted Ecology and Environmental, Inc. (EE) to perform a Brownfield investigation at the site. EE collected surface soil and soil gas samples between December 4 and December 8, 2000. Field activities and results are summarized in the *55th Way Landfill, Long Beach, California, Targeted Brownfields Assessment Final Report* (EE, 2001). The report concluded that all analytes detected on the site were consistent with known uses of the site:

- Former landfill – methane and other VOCs typical to LFG, possibly introduced through landfill materials, and naturally occurring levels of metals in cover materials,
- Use of the warehouse building by Artesia Milling, Dolphin Trucking, and a diesel repair facility – surficial petroleum contamination, and associated semi-volatile, and volatile constituents.

In January and February 2002, Earth Tech conducted a pre-design investigation to support post-closure land use and redevelopment activities at a portion of the 55th Way Landfill (Earth Tech, 2002). Air sampling was completed from January 14 through February 5, 2002. Air sampling included instantaneous surface air measurements, integrated surface air sampling, and 24-hour ambient air sampling at the site perimeter. A total of 35 soil borings were completed between January 22 and January 28, 2002, during which both soil and LFG samples were collected and analyzed. Twenty soil borings were completed as soil vapor probes set at 8 feet below ground surface (bgs) and ten soil borings were completed as LFG probes set between 20 and 35 feet bgs. Four borings were completed as two dual-cluster soil gas monitoring wells, one cluster outside the northern boundary of the landfill and one cluster inside the eastern boundary of the landfill. Investigation activities, results, and findings are included the *Pre-Design Investigation Summary Report* dated March 2002.

In May and June 2003, Earth Tech installed four additional dual cluster subsurface boundary landfill gas monitoring probes (GW-3 through GW-6). GW-3 is screened from 5 to 10 feet bgs, and from 20 to 25 feet bgs. GW-4, GW-5, and GW-6 are screened from 5 to 10 feet bgs, and from 15 to 20 feet bgs. During drilling at locations GW-4, GW-5, and GW-6, groundwater was encountered at approximately 20 feet bgs. To avoid screening the landfill gas probes beneath groundwater, the deep monitoring points were screened from 15 to 20 feet bgs, rather than from 20 to 25 feet bgs as outlined in South Coast Air Quality Management District Rule 1150.1.

Earth Tech collected landfill gas samples from each of the newly installed probes on June 12, 2003. The highest concentrations of VOCs were detected in the sample collected from landfill gas monitoring probe GW-2 located at the northern boundary of the site. BTEX concentrations were detected at each of the five landfill gas boundary monitoring probes except GW-3. VOC concentrations detected in landfill gas samples collected at the landfill boundary do not appear to be a distinct and separate on-site source (or sources) for those detected contaminants that can be identified and isolated. Monitoring probe installation and sampling are included the *Final Post-Closure Land Use Proposal* dated September 2003.

In general, the highest concentrations of TPH, VOCs, and SVOCs in soil were detected at the northern property line (32 feet bgs) outside of the landfill boundary and adjacent to the tank farm north of the site. The tank farm is currently undergoing remediation of petroleum hydrocarbons and related constituents in the groundwater.

Earth Tech conducted a Groundwater Solid Waste Assessment Test (SWAT) on behalf of the City of Long Beach at the site. The objectives of the investigation were to determine whether landfill refuse had impacted the groundwater beneath, and in the vicinity of, the site and to provide recommendations for post-closure monitoring (if necessary). Groundwater sampling results indicate that landfill-related contaminants are not present in wells located downgradient of the site (MW-1, MW-2 and MW-3). Results from an onsite (upgradient) well MW-4 and onsite piezometer (PZ-4) indicate the presence of hydrocarbon-related constituents and volatile organic compounds (VOCs) that may be linked to the Paramount Petroleum Lakewood Tank Farm (tank farm) located north (upgradient) of the site. Based on a review of analytical results and information presented in reports from the tank farm, it appears that the types of constituents detected in the samples collected from MW-4 and PZ-4 are similar to the constituents detected in samples collected from the upgradient tank farm property, which include BTEX and other gasoline related constituents. Currently, the tank farm property is undergoing remedial action including free product recovery.

3.0 FIELD ACTIVITIES

This section describes the field activities conducted during subsurface boundary monitoring probe installation and sampling.

3.1 HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) was prepared that identified potential hazards associated with the performance of the subsurface investigation. The HASP is consistent with current Federal Occupational Safety and Health Administration (OSHA) requirements for hazardous waste operations [29 Code of Federal Regulations (CFR) 1910.120 (e) and (f) and CCR Title 8, Section 5192]. The HASP was updated in August 2004 to include field activities related to installation of the subsurface landfill gas monitoring probes. All field personnel were required to read and sign the HASP prior to performing work at the site. A copy of the HASP was kept on site throughout the landfill gas monitoring probe installation and sampling program.

3.2 SUBSURFACE BOUNDARY MONITORING PROBE INSTALLATION

Each newly installed monitoring probe consisted of two dual-cluster well casings set inside two separate boreholes. Monitoring probes were constructed of ¾-inch diameter Schedule 80 PVC with 5 linear feet of 0.010-inch machine-slotted screened casing. Each of the monitoring probes is screened from 5 to 10 feet bgs and from 20 to 25 feet bgs. A filter pack (#2/12 Monterey sand) was installed from the base of the boring to the top of the screened interval, and each boring was sealed with hydrated bentonite chips to ground surface. Cascade Drilling of Norwalk, California, provided drilling services for monitoring probe installation on August 19, 2004. Soil samples were not collected as part of this investigation. Monitoring probe construction logs for each monitoring probe are included in **Appendix C**.

Dulin and Boynton, a licensed land survey company, surveyed monitoring probe locations after the drilling was completed. The surveying was performed on August 25, 2004, using a combination of conventional land survey transit instrumentation and Global Positioning System (GPS) equipment, which located each monitoring probe location within the California State Plane Coordinate system. Additionally, vertical coordinates of each boring location were surveyed to mean sea level (MSL). All new probes were surveyed and located relative to the existing wells and other surveyed features at the site.

3.3 SAMPLE COLLECTION AND ANALYSIS

The following describes the sample collection and analysis methodology used for this investigation.

3.3.1 PURGE VOLUME STUDY

A purge volume study was conducted prior to initiation of landfill gas sampling to evaluate the optimum purge volume to use at each depth. Seven different purge volumes (0.5, 1.0. 1.5, 2.0, 3.0, 5.0, and 7.0 well volumes) were extracted at each depth and field readings were recorded after each purge volume. The purge volume with the highest field meter readings was selected as the optimal volume of landfill gas to purge prior to sample collection. During the purge volume test, high field meter readings were observed for methane after each purge volume. Since the recorded methane readings were elevated to 100% lower explosive limit (LEL) after each purge volume, an optimum purge volume cannot be determined and a default of three well volumes was used across the site. Purge test data, including field meter readings, are summarized in **Table 1**.

3.3.2 SAMPLE COLLECTION

Summa canisters (6 liters) were connected to the probe and a regulator was placed on the canister to ensure that the flow rate was no more than 200 milliliters (ml) per minute into the Summa canister. To identify and manage the Summa canisters collected in the field, a sample label was affixed to each canister. Each sample label included the following information: project number, site name, sample identification number, sampler's initials, date, and time of collection. Pressure readings were recorded from each Summa canister before and after sample collection. A summary of field measurement data is attached as **Table 2**.

3.3.3 ANALYTICAL METHODS

Landfill gas samples collected from each monitoring probe were analyzed for the following constituents:

- VOCs using EPA Method TO-15,
- TVPH using EPA Method TO-3, and
- Fixed gases using ASTM D1947.

Air Technology Laboratories, a California state certified laboratory, performed the analyses on all landfill gas samples. Proper Chain of Custody (COC) procedures were followed to document sample collection and shipment to the laboratory for analysis.

3.4 SAMPLE RESULTS

Landfill gas samples were collected at five locations at two depths: 10 and 25 feet bgs. Each of the landfill gas samples was analyzed for VOCs, TVPH, and fixed gases. VOC concentrations ranged from

levels below the laboratory reporting limit to 95,000 parts per billion by volume (ppbV) of 2-Butanone at GW-8 (25 feet bgs). Concentrations of acetone and 2-butanone were detected at every location and at every depth. Toluene, ethylbenzene and xylenes were each detected in samples collected from probes GW-9, GW-10 and GW-11. Trichloroethene (TCE) and 1,2,4-trimethylbenzene were detected at each subsurface landfill gas sample location but not at every depth. The highest concentration of TCE was detected at GW-9 (10 feet bgs), and the highest concentrations of tetrachloroethene (PCE) and 1,4 dichlorobenzene were detected at GW-10 (10 feet bgs). However, other samples had elevated laboratory detection limits for these and other compounds and an accurate distribution of VOCs in the subsurface cannot be determined due to the high concentrations of acetone and 2-butanone present. TVPH concentrations ranged from 66 ppmV at GW-10 (25 feet bgs), to 270 ppmV at GW-9 (10 feet bgs). Detected VOC and hydrocarbon concentrations are summarized in **Tables 3** and **4**. Detected VOC concentrations are presented in **Figure 3**.

As expected from an inactive landfill, methane concentrations were detected at each of the landfill gas probe locations, each with detected concentrations greater than 5 percent. The highest concentration of methane, 50 percent, was detected at GW-7 (10 feet bgs). The highest carbon dioxide concentrations, included results of 31 and 34 percent, which were detected at GW-7. Laboratory reported methane concentrations are represented in **Figure 4**. **Table 4** summarizes the fixed gas results for analyzed landfill gas samples.

4.0 RESULTS AND CONCLUSIONS

4.1 LANDFILL GAS ANALYTICAL RESULTS

The highest concentrations of VOCs were detected in the samples collected from GW-8 (25 feet bgs), and GW-9 (10 feet bgs). Gasoline related constituents were detected at each of the five landfill gas monitoring probes, but not at every depth. VOCs detected in landfill gas samples collected from the landfill probes do not appear to be a distinct and separate on-site source (or sources) for those detected contaminants that can be identified and isolated. Sample results are summarized on **Tables 3 and 4**.

4.2 CONCLUSIONS

Based on the field observations and laboratory results, Earth Tech concludes the following:

- Five subsurface landfill gas monitoring probes were installed and screened at two depths in accordance with Rule 1150.1;
- A purge volume study was conducted to determine the optimum purge volume for sample collection;
- Landfill gas samples were collected from each of the five newly installed monitoring probes (each screened at two discreet depths for a total of 10 samples) and analyzed for VOCs, TVPH, and fixed gases.
- This data will serve as a baseline and will be used to evaluate future potential landfill gas migration between properties to the south and west of the site.

6.0 REFERENCES

California Integrated Waste Management Board, Timothy W. Christ, *Site Investigation of 55th Way Landfill 22 Apr 93, Fiole No. 19-AK-0084*, August 1993.

California Integrated Waste Management Board, Peter M. Janicki, *Investigation Report 55th Way Landfill*, August 1994.

Earth Tech, *Final Post-Closure Land Use Proposal*, 55th Way Park (former Paramount Dump), 2910 East 55th Way, Long Beach, California, September 26, 2003.

Earth Tech, *Groundwater Solid Waste Assessment Test Summary Report, Well Installation and First Quarter Monitoring*, Former 55th Way Landfill/Paramount Dump, 2910 East 55th Way, Long Beach, California, July 15, 2003.

Earth Tech, *Groundwater Solid Waste Assessment Test Summary Report, Fourth Quarter Monitoring*, Former 55th Way Landfill/Paramount Dump, 2910 East 55th Way, Long Beach, California, January 23, 2004.

Earth Tech, *Health and Safety Plan*, Former 55th Way Landfill/Paramount Dump, 2910 East 55th Way, Long Beach, California, December 2001. Updated August 2004.

Earth Tech, *Pre-Design Investigation Summary Report*, Former 55th Way Landfill/Paramount Dump, 2910 East 55th Way, Long Beach, California, March 2002.

Earth Tech, *Response to Comments-Final Post-Closure Land use Proposal*, 55th Way Park (former Paramount Dump), 2910 East 55th Way, Long Beach, California, March 17, 2004.

Ecology and Environment, Inc., *55th Way Landfill, Long Beach, California, Targeted Brownfields Assessment Final Report*. May 2001.

SCS Engineers, *Environmental Impact Report Data Base*: Proposed Mini-Warehouses. Prepared for Spongberg, Kirkland and Associates, Lakewood, California, December 1987.

APPENDIX K FROM PHASE I PCLUP:
LANDFILL BOUNDARY PROBE INSTALLATION INFORMATION

APPENDIX K

LANDFILL BOUNDARY PROBE INSTALLATION INFORMATION

Appendix K

Included in Appendix K:

- Well installation permits issued by the City of Long Beach;
- Well construction logs;
- Sample collection field data sheets;
- Laboratory reports.

CITY OF LONG BEACH

DEPARTMENT OF HEALTH & HUMAN SERVICES

2525 Grand Avenue Long Beach, CA 90815-1765 (562) 570-4134 FAX (562) 570-4038

WELL PERMIT

Permit # 0896	Date: May 21, 2003

All work must be completed in accordance with Water Well Bulletin 74-81 and 74-90

Site Address: 2910 E. 55th Way

Owner: City of Long Beach (Mike) (562) 570-6710

Owner Address: 333 W. Ocean Blvd. (3rd floor), Long Beach, CA 90802

Consulting Firm: Earth Tech, Inc. (562) 951-2275

Consulting Firm Address: 100 W. Broadway #240, Long Beach, CA 90802

Drilling Company: Gregg Drilling (562) 427-6899

Drilling Company Address: 2726 Walnut Avenue, Signal Hill, CA

Method of Construction/Destruction: see attached

Number of Wells/Borings:

Steven M. Nakasuki /for

Don Cillay, Manager, Bureau of Environmental Health

CITY OF LONG BEACH

DEPARTMENT OF HEALTH & HUMAN SERVICES

2525 Grand Avenue Long Beach, CA 90815-1765 (562) 570-4134 FAX (562) 570-4038

0896

APPLICATION FOR WELL PERMIT

Date: 5-19-03

Type of Permit: (check)

- [x] New Well Construction
- [ ] Destruction

Type of Well: (check)

- [x] Monitoring (SOIL GAS)
- [ ] Cathodic
- [ ] Private Domestic
- [ ] Public Domestic
- [ ] Irrigation
- [ ] Soil Boring
- [ ] Vapor Extraction
- [ ] Other

Well Owner Name: City of Long Beach
Address: 333 W. Ocean Blvd. 3rd Floor
City: Long Beach CA 90802
Phone: Mike Conway 562-570-6710

Consulting Firm: EARTH TECH Inc.
Address: 100 W. Broadway #240
City: Long Beach CA 90802
Phone: TRAVIS TAYLOR 562-951-2275

Site Address 2910 E. 55th Way
Site Map [x] Site plan attached

Installing 4 Soil Vapor monitoring points - We will not go to groundwater depth during drilling or vapor well installation

Drilling Company: Gregg Drilling
Address: 2726 Walnut Ave
City: Signal Hill CA
Phone: 1(562) 427-6899

Construction/Destruction Method
Type of casing, method of sealing, etc.
(Use additional sheet or attachments)
3/4" Diameter PVC
Sealed w/ hydrated bentonite
— SEE ATTACHED DIAGRAMS.

Proposed Start Date:
5-27-03

To be done in accordance with Water Well Bulletin 74-81 & 74-90

I hereby agree to comply in every respect with all regulations of the Long Beach Department of Health and Human Services and with all ordinances and laws of the City of Long Beach and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the Long Beach Department of Health and Human Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by other City agencies.

Applicants Signature: [signature]
Print Name: TRAVIS TAYLOR

Disposition of Application: (For Office Use Only)

- [x] Approved with Conditions
- [ ] Denied

Date: 5-20-03

If denied or approved with conditions, report reason or conditions here:

By: [signature] for
Don Cillay, Manager, Bureau of Environmental Health

EARTH TECH

Borehole Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Borehole Number: B-1	
Borehole Location: 40' N or GW-1	*Northing:*	*Easting:*	Sheet 1 of 2
Drilling Agency: Gregg Drilling	Driller: Juan Carlos		
Drilling Equipment: Geo-Probe	Date Started: 5/27/2003	Total Depth (feet): 32.0	
Drilling Method: Direct Push	Number of Samples: 8	Date Finished: 5/27/2003	Depth to Bedrock (feet):
Drilling Fluid: N/A	Borehole Diameter (in): 2.5	Depth to Water (feet): *Drilling:*	*Static: NA*
Completion Information: Backfilled w/ Bentonite		Elevation (feet MSL): 61.00	
		Logged By: Eva Rasdal	Checked By:

Depth (feet)	Samples: Number	Type	Blow Count	Percent Recovery	Time	Field Analyses: FID (ppm) Sample/Background	PID (ppm) Sample/Background	Additional Tests	Log: Graphic	USCS or Rock Type	Lithologic Description	Remarks
	B-1 -0			80						SW	GRAVELLY SAND; w/ degraded asphalt. Medium Brown.	
										SM	SILTY SAND; 70% fine sand, 30% silt. Moist micaceous, brown.	
											5' - wood and glass debris	
5	B-1 -5			85								
	B-1 -7			60						SM	SILTY SAND; 70% sand, 25% silt, 5% clay. Moist, micaceous, dark brown.	
										SM	SILTY SAND; 85% sand, 15% silt. Moist micaceous, brown. Decomposed paper.	
10												Sample barrel becoming clogged with refuse debr resulting in low sample recovery.
	B-1 -9			30						SM	SILTY SAND; 65% sand, 30% silt, 5% clay. Moist, micaceous, dark gray. Decomposed paper.	
											14' - Paper and Wood	No Recovery from 14 to 15 feet bgs
15	B-1 -11			35							SILTY SAND; 70% sand, 30% silt. Moist, micaceous, brown. Glass and wood debris.	
												No Recovery from 18 to 20 feet bgs
20	B-1 -13			25								
										SM	SILTY SAND; 65% sand, 30% silt, 5% clay. Moist, micaceous, dark gray. Wood debris.	No Recovery from 22 to 24 feet bgs
	B-1 -15			50								
25										SM	SILTY SAND; 65% sand, 30% silt, 5% clay. Moist, micaceous, gray.	
										SM	SILTY SAND; 70% fine sand, 30% silt. Moist micaceous, gray.	
	B-1 -17			100								
30												

Geotech_Jobs\B1\40' N or GW-1\55th Way Landfill\52264.11.01

EARTH TECH

Borehole Log
(Continuation Sheet)

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Borehole Number: B-1
Borehole Location: 40' N or GW-1		Sheet 2 of 2

Depth (feet)	Samples: Number	Samples: Type	Samples: Blow Count	Samples: Percent Recovery	Samples: Time	Field Analysis: FID (ppm) Sample/Background	Field Analysis: PID (ppm) Sample/Background	Field Analysis: Additional Tests	Log: Graphic	Log: USCS or Rock Type	Lithologic Description	Remarks
		X								SM	SILTY SAND; 60% sand, 30% silt, 10% clay. Moist, micaceous, gray.	

Overall: bore1SB5.GF N or GW-1 55th Way Landfill 52264.11.01

EARTH TECH

Monitoring Well Construction Log

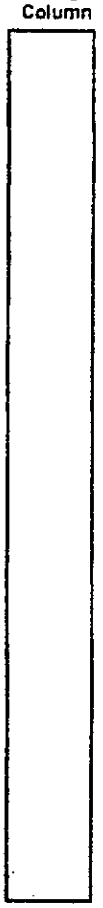
Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: North Western Corner of Site Northing: 1770541.3 Easting: 6513820.7	Well Number: GW-3A	Well Depth (ft): 10.0
Driller: Juan Carlos	Borehole Diameter (in): 2.5	Depth to Water (ft): Static: Drilling:
Drilling Agency: Gregg Drilling	Date Started: 5/27/2003	
Drilling Equipment: Geo-Probe	Date Finished: 5/27/2003	Elevation: 52.67 ft MSL
Drilling Method: Direct Push	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 55.20 ft MSL

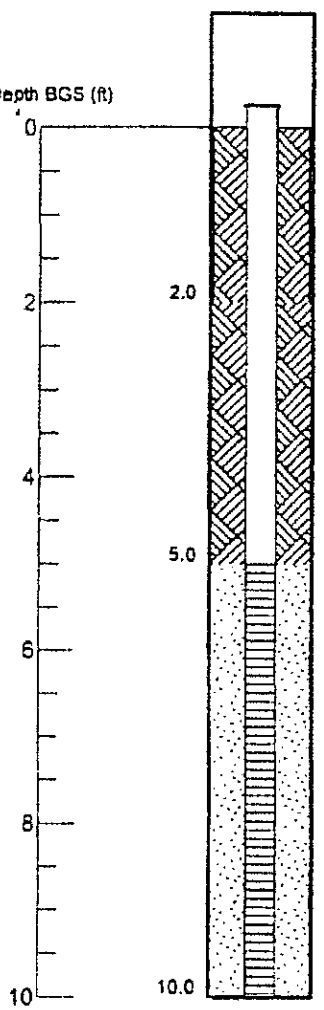
Stick-up Height: 2' ft

Ground Surface Elevation: 52.67 ft MSL

Geologic Column



Depth BGS (ft)



Comments:

PROTECTIVE CASING
Material/Type:
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size:

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-5'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 5-10'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 5-10'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

EARTH TECH

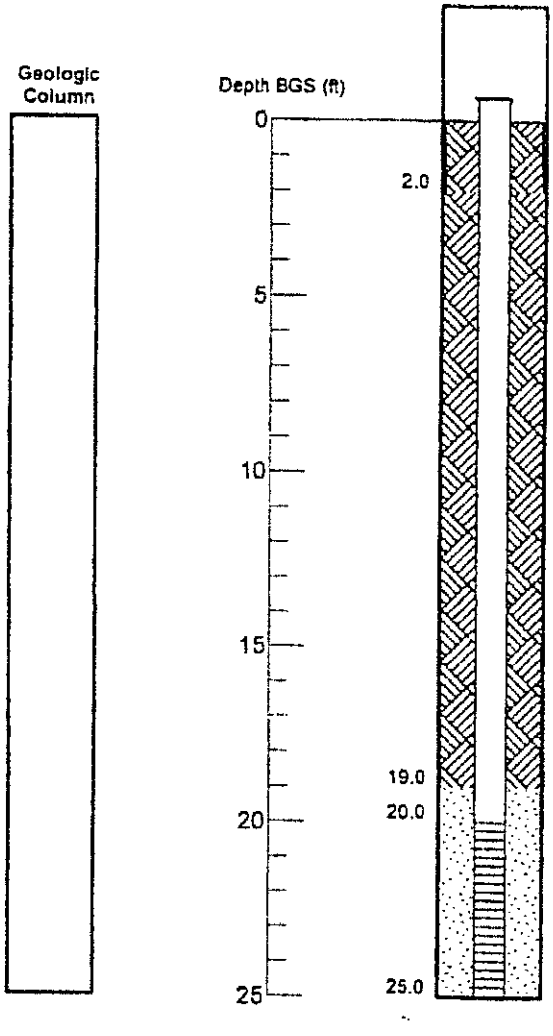
Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: North Western Corner of Site Northing: 1770541.3 Easting: 6513820.7	Well Number: GW-3B	Well Depth (ft): 25.0
Driller: Steve Gomez	Borehole Diameter (in): 2.5	Depth to Water (ft): Static: Drilling:
Drilling Agency: Gregg Drilling	Date Started: 5/27/2003	
Drilling Equipment: Geo-Probe	Date Finished: 5/27/2003	Elevation: 52.67 ft MSL
Drilling Method: Direct Push	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 55.19 ft MSL

Stick-up Height: 2' ft

Ground Surface Elevation: 52.67 ft MSL



PROTECTIVE CASING
Material/Type:
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size:

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-19'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 24-30'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 20-25

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Comments:

EARTH TECH

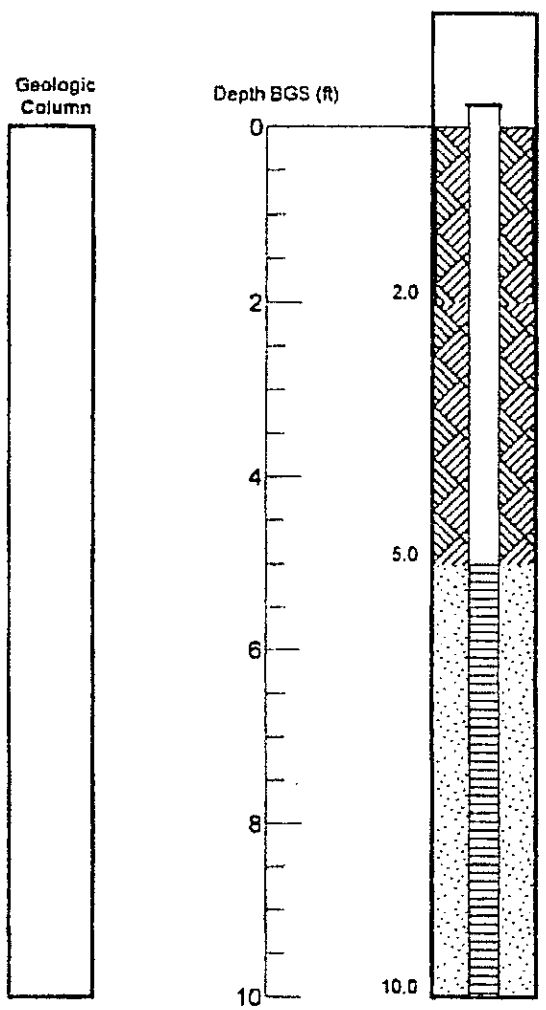
Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: South Eastern Corner Northing: 1770209.3 Easting: 6514444.4	Well Number: GW-4A	Well Depth (ft): 10.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 5/27/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 5/28/2003	Elevation: 51.50 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 54.82 ft MSL

Stick-up Height: 2' ft

Ground Surface Elevation: 51.50 ft MSL



Comments:

PROTECTIVE CASING
Material/Type:
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size:

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-5'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 5-10'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 5-10'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

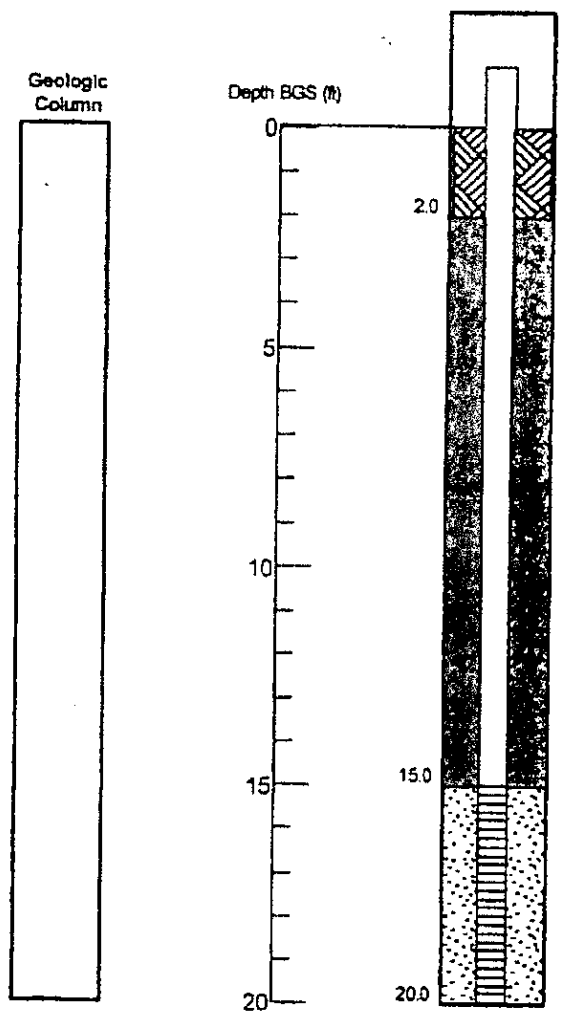
Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: South Eastern Corner Northing: 1770209.2 Easting: 6514445.3	Well Number: GW-4B	Well Depth (ft): 20.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 6/10/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 6/10/2003	Elevation: 51.40 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 54.63 ft MSL

Stick-up Height: 2 ft

Ground Surface Elevation: 51.40 ft MSL



PROTECTIVE CASING
Material/Type: Above-Ground Steel Monument with Locking Cap
Diameter (in): 8"
Depth (ft BGS): 2

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size: Concrete

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-15'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 15-20'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 15-20'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Comments:

EARTH TECH

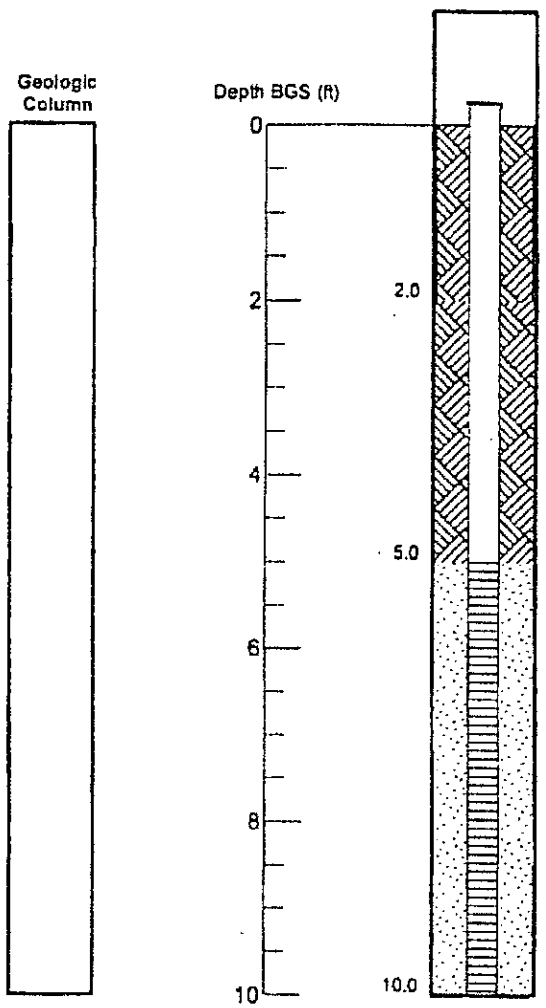
Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: Eastern Boundary Northing: 1770306.2 Easting: 6514443.2	Well Number: GW-5A	Well Depth (ft): 10.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 5/27/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 5/28/2003	Elevation: 51.50 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 55.43 ft MSL

Stick-up Height: 2' ft

Ground Surface Elevation: 51.50 ft MSL



Comments:

PROTECTIVE CASING
Material/Type:
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size:

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-5'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 5-10'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 5-10'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: Eastern Boundary Northing: 1770306 Easting: 6514444.3	Well Number: GW-5B	Well Depth (ft): 20.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 6/10/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 6/10/2003	Elevation: 51.00 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

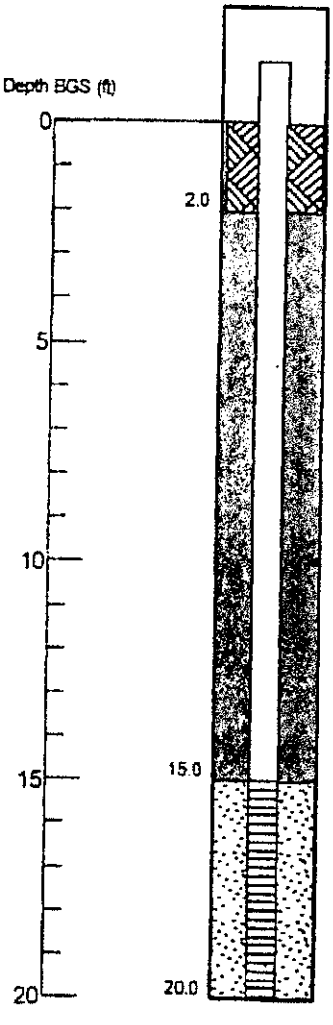
Elevation (TOC): 55.21 ft MSL

Stick-up Height: 2' ft

Ground Surface Elevation: 51.00 ft MSL

Geologic Column

Depth BGS (ft)



PROTECTIVE CASING
Material/Type: Above-Ground Steel Monument with Locking Cap
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size: Concrete

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-15'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 15-20'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 15-20'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Comments:

EARTH TECH

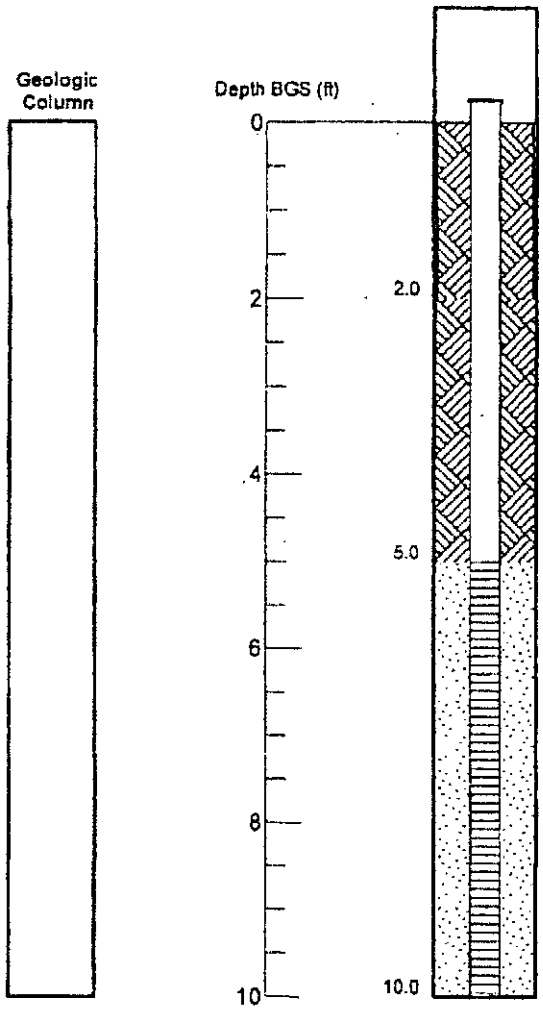
Monitoring Well Construction Log

Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: North Eastern Corner Northing: 1770424.1 Easting: 6514444.3	Well Number: GW-6A	Well Depth (ft): 10.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 5/27/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 5/28/2003	Elevation: 52.70 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 56.20 ft MSL

Stick-up Height: 2' ft

Ground Surface Elevation: 52.70 ft MSL



Comments:

PROTECTIVE CASING
Material/Type:
Diameter (in): 8"
Depth (ft BGS): 2'

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size:

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-5'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 5-10'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 5-10'

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Monitoring Well Construction Log

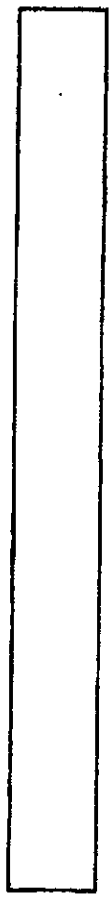
Project Name: 55th Way Landfill	Project Number: 52264.11.01	Sheet 1 of 1
Well Location: North Eastern Corner Northing: 1770424 Easting: 6514445.3	Well Number: GW-6B	Well Depth (ft): 20.0
Driller: Steve Gomez	Borehole Diameter (in): 4	Depth to Water (ft): Static: Drilling:
Drilling Agency: Pacific Drilling	Date Started: 6/10/2003	
Drilling Equipment: Tri-pod Mounted Rig	Date Finished: 6/10/2003	Elevation: 52.50 ft MSL
Drilling Method: Hollow Stem Auger	Logged by: Eva Rasdal	Checked by:
Drilling Fluid: N/A	Number of Soil Samples: 0	Date Checked:

Elevation (TOC): 56.36 ft MSL

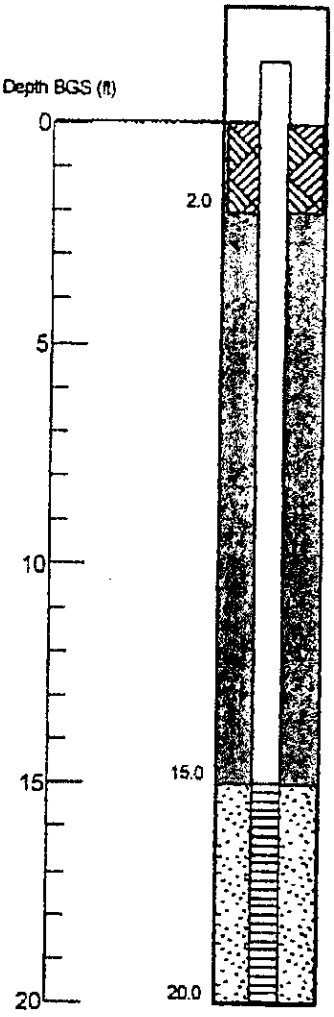
Stick-up Height: 2' ft

Ground Surface Elevation: 52.50 ft MSL

Geologic Column



Depth BGS (ft)



PROTECTIVE CASING
Material/Type: Above-Ground Steel Monument with Locking Cap
Diameter (in): 8"
Depth (ft BGS): 2

GUARD POSTS
No: Type:

SURFACE PAD
Composition and Size: Concrete

RISER PIPE
Type and Thickness:
Diameter (in):
Total Length (ft TOC to TOS):
Ventilated Cap:

GROUT
Composition and Proportions:
Tremied:
Interval (ft BGS):

CENTRALIZERS
Depths (ft):

SEAL
Type: Bentonite
Source: Bentonite Chips
Hydration Time: Vol. of Fluid Added:
Tremied: Interval (ft BGS): 0-15'

FILTER PACK
Type: #2/12 Sand
Amount Used:
Tremied:
Source:
Grain Size Dist.: Interval (ft BGS): 15-20'

SCREEN
Type and Thickness: SCH 40 PVC
Diameter (in): 3/4" Slot Size (in): 0.010
Interval (ft BGS): 15-20

WELL FOOT
Interval (ft BGS):

BACKFILL/PLUG
Interval (ft BGS): Material:
Hydration Time:

Comments:

APPENDIX K - TABLE 1
Purge Test Data
City of Long Beach -55th Way Landfill
2910 East 55th Way, Long Beach, California

July 25, 2003

Boundary Probe No.	Purge Depth (feet bgs)	Purge Date	Duration of Purge (seconds)	Rate (ml/min)	Well Volumes	Volume Purged (ml)	PID	MULTIGAS METER			
							VOC (ppm)	METHANE (% LEL)	CO (ppm)	H2S (ppm)	Oxygen (%)
GW-4	10	6/12/2003	26	2000	1	869	5.7	60	0	0	1.7
			78	2000	3	2,606	2.5	65	0	0	1.4
			182	2000	7	6,081	1.5	76	0	0	2.5
			After Sample Collection				5.1	80	0	0	2.7

Notes:
ppm = parts per million
ml/min = milliliters per minute
% Methane = Lower explosive limit (LEL) calibrated to methane.
bgs=below ground surface

LEL measured as peak values
Prior to sample collection constant 50% LEL.

See Page 2

APENDIX K - TABLE 2
Sample Collection Data
City of Long Beach -55th Way Landfill
2910 East 55th Way, Long Beach, California

July 25, 2003

SAMPLE ID	DATE	SUMMA ID #	INITIAL PRESSURE (in Hg)	FINAL PRESSURE (in Hg)	VOLUME PURGED (ml)	Peak Reading Prior to Purge: PID VOC (ppm)	Peak Reading Prior to Purge: MULTI-GAS METHANE (% LEL)	Constant for 30 Continuous Seconds Prior to Sample Collection: PID VOC (ppm)	MULTI-GAS METER: METHANE (% LEL)	MULTI-GAS METER: CO (ppm)	MULTI-GAS METER: H2S (ppm)	MULTI-GAS METER: OXYGEN (%)	Peak Reading After Sample Collection: PID VOC (ppm)	Peak Reading After Sample Collection: MULTI-GAS METHANE (% LEL)
GW3-10	6/12/2003	5945	-30	-6	6,000	2.2	1	0.2	1	0	0	12.6	0.2	1
GW3-20	6/12/2003	2415	-30	-2	12,000	5.5	0	0.9	22	3	0	6.9	2	22
GW4-10	6/12/2003	7122	-30	-2	6,000	1.5	76	NR	60	0	0	2.5	5.1	80
GW4-20	6/12/2003	1367	-30	-2	12,000	20.5	39	7.7	44	5	0	10.5	9.2	45
GW5-10	6/12/2003	1423	-30	0	6,000	14.7	1	2.0	1	0	0	11.1	11.1	1
GW5-20	6/12/2003	5973	-30	-2.5	12,000	25.0	1	30.0	1	0	0	13.4	39.7	1
GW6-10	6/12/2003	3476	-30	-2.5	6,000	9.0	8	2.0	53	3	0	7.4	2.4	63
GW6-20	6/12/2003	7128	-30	-3.5	12,000	8.4	4	3.0	53	3	0	4.3	13.1	50

Notes:
Methane = % LEL calibrated to methane.
in Hg = Pressure in inches of mercury.
ml = milliliters
NR=Not Recorded

ppm = parts per million
Samples were collected by opening the Summa cannister slowly to pull for 10 continuous minutes.

06/25/2003

Earth Tech
ATTN: Eva Rasdal
100 W. Broadway, Suite 5000
Long Beach, CA 90802

Project Reference: 55th Way Landfill
Lab Number: A3061302-01/08

Enclosed are results for sample(s) received 6/13/03 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

Sample analyses were performed within method performance criteria. All results are reported without qualifications.

Results were faxed to Eva Rasdal on 6/24/03.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
mark@atlglobal.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: EarthTech
Attn: Eva Rasdal

Client's Project: 55th Way Landfill
Date Received: 06/13/03
Matrix: Air
Units: ppbv

EPA Method TO14

Lab No:		A3061302-01		A3061302-02		A3061302-03		A3061302-04		A3061302-05	
Client Sample I.D.:		GW-4s-061203		GW-4d-061203		GW-5s-061203		GW-5d-061203		GW-6d-061203	
Date Sampled:		06/12/03		06/12/03		06/12/03		06/12/03		06/12/03	
Date Analyzed:		06/16/03		06/16/03		06/16/03		06/16/03		06/16/03	
QC Batch No:		030616MS2A1		030616MS2A1		030616MS2A1		030616MS2A1		030616MS2A1	
Analyst Initials:		SC		SC		SC		SC		SC	
Dilution Factor:		1.7		1.7		1.7		1.7		1.8	
ANALYTE	PQL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Dichlorodifluoromethane (12)	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Chloromethane	2.0	ND	3.4	ND	3.4	ND	3.4	ND	3.4	ND	3.5
1,2-Cl-1,1,2,2-F ethane (114)	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Vinyl Chloride	1.0	2.8	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Bromomethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Chloroethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Trichlorofluoromethane (11)	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,1-Dichloroethene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,1,2-Cl 1,2,2-F ethane (113)	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Methylene Chloride	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,1-Dichloroethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
c-1,2-Dichloroethene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Chloroform	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,1,1-Trichloroethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Carbon Tetrachloride	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Benzene	1.0	12	1.7	7.6	1.7	ND	1.7	2.1	1.7	3.4	1.8
1,2-Dichloroethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Trichloroethene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,2-Dichloropropane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
c-1,3-Dichloropropene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Toluene	1.0	23	1.7	47	1.7	ND	1.7	11	1.7	11	1.8
t-1,3-Dichloropropene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,1,2-Trichloroethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Tetrachloroethene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,2-Dibromoethane	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Chlorobenzene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
Ethylbenzene	1.0	7.3	1.7	11	1.7	1.8	1.7	7.6	1.7	2.7	1.8
p,&m-Xylene	1.0	28	1.7	46	1.7	3.5	1.7	30	1.7	11	1.8
o-Xylene	1.0	7.5	1.7	12	1.7	ND	1.7	13	1.7	3.4	1.8
Styrene	1.0	ND	1.7	ND	1.7	18	1.7	1.7	1.7	ND	1.8
1,1,2,2-Tetrachloroethane	2.0	ND	3.4	ND	3.4	ND	3.4	ND	3.4	ND	3.5
Benzyl Chloride	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,3,5-Trimethylbenzene	2.0	10	3.4	17	3.4	ND	3.4	13	3.4	3.8	3.5
1,2,4-Trimethylbenzene	2.0	20	3.4	31	3.4	4.6	3.4	36	3.4	9.9	3.5
1,3-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,4-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,2-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8
1,2,4-Trichlorobenzene	2.0	ND	3.4	ND	3.4	ND	3.4	ND	3.4	ND	3.5
Hexachlorobutadiene	1.0	ND	1.7	ND	1.7	ND	1.7	ND	1.7	ND	1.8

PQL = Practical Quantitation Limit
ND= Not Detected (below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark Johnson
Mark Johnson
Air Toxics Operations Manager

Date 6-24-03

The cover letter is an integral part of this analytical report

Air Technology Laboratories
18501 E. Gale Avenue Suite 130 City of Industry, CA 91748 Tel: 626 964-4032 Fax: 626 964-5832

Client: EarthTech
Attn: Eva Rasdal

Client's Project: 55th Way Landfill
Date Received: 06/13/03
Matrix: Air
Units: ppbv

EPA Method TO14

Lab No:		A3061302-06		A3061302-07		A3061302-08					
Client Sample I.D.:		GW-6s-061203		GW-3d-061203		GW-3s-061203					
Date Sampled:		06/12/03		06/12/03		06/12/03					
Date Analyzed:		06/16/03		06/16/03		06/16/03					
QC Batch No:		030616MS2A1		030616MS2A1		030616MS2A1					
Analyst Initials:		SC		SC		SC					
Dilution Factor:		1.7		1.7		2.1					
ANALYTE	PQL	Result	RL	Result	RL	Result	RL				
Dichlorodifluoromethane (12)	1.0	ND	1.7	ND	1.7	ND	2.1				
Chloromethane	2.0	ND	3.4	ND	3.4	ND	4.1				
1,2-Cl-1,1,2,2-F ethane (114)	1.0	ND	1.7	ND	1.7	ND	2.1				
Vinyl Chloride	1.0	ND	1.7	ND	1.7	ND	2.1				
Bromomethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Chloroethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Trichlorofluoromethane (11)	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1-Dichloroethene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1,2-Cl 1,2,2-F ethane (113)	1.0	ND	1.7	ND	1.7	ND	2.1				
Methylene Chloride	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1-Dichloroethane	1.0	ND	1.7	ND	1.7	ND	2.1				
c-1,2-Dichloroethene	1.0	ND	1.7	5.5	1.7	ND	2.1				
Chloroform	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1,1-Trichloroethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Carbon Tetrachloride	1.0	ND	1.7	ND	1.7	ND	2.1				
Benzene	1.0	5.3	1.7	ND	1.7	ND	2.1				
1,2-Dichloroethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Trichloroethene	1.0	ND	1.7	2.3	1.7	ND	2.1				
1,2-Dichloropropane	1.0	ND	1.7	ND	1.7	ND	2.1				
c-1,3-Dichloropropene	1.0	ND	1.7	ND	1.7	ND	2.1				
Toluene	1.0	1.7	1.7	ND	1.7	ND	2.1				
t-1,3-Dichloropropene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1,2-Trichloroethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Tetrachloroethene	1.0	ND	1.7	8.4	1.7	3.5	2.1				
1,2-Dibromoethane	1.0	ND	1.7	ND	1.7	ND	2.1				
Chlorobenzene	1.0	ND	1.7	ND	1.7	ND	2.1				
Ethylbenzene	1.0	ND	1.7	ND	1.7	ND	2.1				
p,&m-Xylene	1.0	3.8	1.7	ND	1.7	ND	2.1				
o-Xylene	1.0	ND	1.7	ND	1.7	ND	2.1				
Styrene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,1,2,2-Tetrachloroethane	2.0	ND	3.4	ND	3.4	ND	4.1				
Benzyl Chloride	1.0	ND	1.7	ND	1.7	ND	2.1				
1,3,5-Trimethylbenzene	2.0	ND	3.4	ND	3.4	ND	4.1				
1,2,4-Trimethylbenzene	2.0	5.7	3.4	ND	3.4	ND	4.1				
1,3-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,4-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,2-Dichlorobenzene	1.0	ND	1.7	ND	1.7	ND	2.1				
1,2,4-Trichlorobenzene	2.0	ND	3.4	ND	3.4	ND	4.1				
Hexachlorobutadiene	1.0	ND	1.7	ND	1.7	ND	2.1				

PQL = Practical Quantitation Limit
ND= Not Detected (below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark Johnson
Mark Johnson
Air Toxics Operations Manager

Date 6-24-03

The cover letter is an integral part of this analytical report

Air Technology 18501 E. Gale Avenue Suite 130 City of Industry, CA 91748 Tel: 626 964-4032 Fax: 626 964-5832

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 030616MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	06/16/03		06/16/03		06/16/03						
Data File ID:	16JUN006.D		16JUN004.D		16JUN005.D						
Analyst Initials:	SC		SC		SC						
Dilution Factor:	1.0		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	8.5	85	9.0	90	5.4	70	130	25	Pass
Methylene Chloride	0.0	10.0	8.9	89	9.2	92	2.6	70	130	25	Pass
Trichloroethene	0.0	10.0	8.7	87	8.7	87	0.3	70	130	25	Pass
Toluene	0.0	10.0	8.6	86	8.7	87	0.8	70	130	25	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	9.5	95	10.7	107	12.5	70	130	25	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson

Mark Johnson
Air Toxics Operations Manager

Date: 6-24-03

The cover letter is an integral part of this analytical report

Air Technology Laboratories
18501 E. Gale Avenue Suite 130 City of Industry, CA 91748 Tel: 626 964-4032 Fax: 626 964-5832

Client: Earth Tech
Attn: Eva Rasdal

Client's Project: 55th Way Landfill
Date Received: 06/13/2003
Matrix: Air
Units: % v/v

ASTM D1946 Fixed Gases

Lab No.:		A3061302-01		A3061302-02		A3061302-03		A3061302-04		A3061302-05	
Client Sample I.D.:		GW-4s-061203		GW-4d-061203		GW-5s-061203		GW-5d-061203		GW-6d-061203	
Date Sampled:		06/12/2003		06/12/2003		06/12/2003		06/12/2003		06/12/2003	
Date Analyzed:		06/17/2003		06/17/2003		06/17/2003		06/17/2003		06/17/2003	
Analyst Initials:		DT		DT		DT		DT		DT	
Data File:		16jun047		16jun049		16jun052		16jun053		16jun055	
QC Batch:		030616GC11A2		030616GC11A2		030616GC11A2		030616GC11A2		030616GC11A2	
Dilution Factor:		1.7		1.7		1.7		1.7		1.8	
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results
Oxygen/Argon	0.50	0.84	4.4	0.86	12	0.84	12	0.86	14	0.89	6.0
Nitrogen	1.0	1.7	73	1.7	74	1.7	76	1.7	79	1.8	77
Methane	0.0010	0.0017	5.0	0.0017	2.0	0.0017	ND	0.0017	0.0047	0.0018	2.0
Carbon Dioxide	0.010	0.017	17	0.017	8.7	0.017	7.9	0.017	3.7	0.018	11

PQL = Pratical Quantitation Limit
ND = Not Detected (Below RL).
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark J. Johnson
Air Toxics Operations Manager

Date: 6-24-03

The cover letter is an integral part of this analytical report.

Air Technology
18501 E. Gale Avenue Suite 130 City of Industry, CA 91748 Tel: 626 964-4032 Fax: 626 964-5832

Client: Earth Tech
Attn: Eva Rasdal

Client's Project: 55th Way Landfill
Date Received: 06/13/2003
Matrix: Air
Units: % v/v

ASTM D1946 Fixed Gases

Lab No.:		A3061302-06		A3061302-07		A3061302-08					
Client Sample I.D.:		GW-6s-061203		GW-3d-061203		GW-3s-061203					
Date Sampled:		06/12/2003		06/12/2003		06/12/2003					
Date Analyzed:		06/17/2003		06/17/2003		06/17/2003					
Analyst Initials:		DT		DT		DT					
Data File:		16jun057		16jun059		16jun061					
QC Batch:		030616GC11A2		030616GC11A2		030616GC11A2					
Dilution Factor:		1.7		1.7		2.1					
ANALYTE	PQL	RL	Results	RL	Results	RL	Results				
Oxygen/Argon	0.50	0.86	7.6	0.86	7.9	1.0	14				
Nitrogen	1.0	1.7	76	1.7	76	2.1	72				
Methane	0.0010	0.0017	2.4	0.0017	0.93	0.0021	0.0040				
Carbon Dioxide	0.010	0.017	11	0.017	11	0.021	8.6				

PQL = Pratical Quantitation Limit
ND = Not Detected (Below RL).
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark J. Johnson
Air Toxics Operations Manager

Date: 6-24-03

The cover letter is an integral part of this analytical report.

Air Technology Laboratories
18501 E. Gale Avenue Suite 130 City of Industry, CA 91748 Tel: 626 964-4032 Fax: 626 964-5832

QC Batch No.: 030616GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946 Fixed Gases

Lab No.:		Method Blank		LCS		LCSD			
Date Analyzed:		06/16/03		06/16/03		06/16/03			
Analyst Initials:		DT		DT		DT			
Datafile:		16jun034		16jun032		16jun033			
Dilution Factor:		1.0		1.0		1.0			
ANALYTE	PQL	RL	Results	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Oxygen/Argon	0.50	0.50	ND	105	70-130%	106	70-130%	0.7	<30
Nitrogen	1.0	1.0	ND	98	70-130%	98	70-130%	0.1	<30
Methane	0.0010	0.0010	ND	85	70-130%	81	70-130%	4.6	<30
Carbon Dioxide	0.010	0.010	ND	83	70-130%	82	70-130%	2.1	<30

PQL = Pratical Quantitation Limit
ND = Not Detected (Below PQL).
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark J. Johnson
Air Toxics Operations Manager

Date: 6-24-03

The cover letter is an integral part of this analytical report.

CHAIN OF CUSTODY RECORD

Pg ____ of ____

Air Technology Laboratories
18501 E. Gale Avenue, Suite 130
City of Industry, CA 91748
626-964-4032 • Fax: 626-964-5832

Project Name: 55th Way Landfill
Project #:
P.O. #: 52264.07

FOR LABORATORY USE ONLY

Method of Transport: Walk-In ☒ Courier ☐ UPS ☐ FedEx ☐ ATL ☐

Sample Condition Upon Receipt:
1. CHILLED Y☐ N☐ 4. SEALED Y☐ N☐
2. HEADSPACE (VOA) Y☐ N☐ 5. # OF SPLS MATCH COC Y☐ N☐
3. CONTAINER INTACT Y☐ N☐ 6. PRESERVED Y☐ N☐

Company: EARTH TECH
Contact: EVA RASDRA
Address: 100 W. BROADWAY #240
City: Long Beach State: CA Zip Code: 90802
TEL: (562) 951-2356
FAX: (562) 951-2086

Relinquished by: (Signature and Printed Name) [signature] Date: 6/12/03 Time: 1650
Received by: (Signature and Printed Name) [signature] Date: 6/12/03 Time: 1652

Relinquished by: (Signature and Printed Name) Cal Overnight Date: 6/13/03 Time: 0810
Received by: (Signature and Printed Name) [signature] Date: 6/13/03 Time: 0810

Relinquished by: (Signature and Printed Name) Date: Time:
Received by: (Signature and Printed Name) Date: Time:

I hereby authorize ATL to perform the work indicated below:
[signature] 6/12/03
Project Mgr./Submitter (Print Name) Date
Signature

Send Report To:
Attn:
Co: SDA
Address
City State Zip

Bill To:
Attn:
Co: SDA
Address
City State

Special Instructions/Comments:

Unless otherwise requested, all samples will be disposed 14 days after reporting or at Lab's discretion.

Sample Archive/Disposal:
☒ Laboratory Standard
☐ Other
☐ Return To:
* $10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested: T03 Gas / BTEX / MTBE; T03 Hexane; T03 Carbon Chain; TO14A Volatiles + Benzyl Chloride; TO15 Volatiles Std/Low Level; 15/16 Sulfur Comp Std/Low Level; 15/16 H2S Std/Low Level; 3C/D1946 Fixed Gas; 25C/3C TNMOC; 25.1 TGNMHC; D1945 Natural Gas; RSK 175 Dissolved Gas

CIRCLE APPROPRIATE MATRIX: AIR • VAPOR; INDOOR AIR; LANDFILL GAS; WATER; SOLID • SOIL; OIL • SOLVENT • LIQUID; OTHER

QA/QC: RTNE ☐ RWQCB ☐ SPECIAL ☐

LAB USE ONLY Lab No.	Sample Description Sample I.D.	Date	Time	T03 Gas / BTEX / MTBE	T03 Hexane	T03 Carbon Chain	TO14A Volatiles + Benzyl Chloride	TO15 Volatiles Std/Low Level	15/16 Sulfur Comp Std/Low Level	15/16 H2S Std/Low Level	3C/D1946 Fixed Gas	25C/3C TNMOC	25.1 TGNMHC	D1945 Natural Gas	RSK 175 Dissolved Gas	AIR • VAPOR	INDOOR AIR	LANDFILL GAS	WATER	SOLID • SOIL	OIL • SOLVENT • LIQUID	OTHER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
1A3061302-01	GW-4s-061203	6/12/03	1215			X			X								X						E	1	C		
02	GW-4d-061203		1248			X			X								X							1	C		
03	GW-5s-061203		1372			X			X								X							1	C		
04	GW-5d-061203		1408			X			X								X							1	C		
05	GW-6d-061203		1440			X			X								X							1	C		
06	GW-6s-061203		1458			X			X								X							1	C		
07	GW-3d-061203		1539			X			X								X							1	C		
08	GW-3s-061203		1553			X			X								X							1	C		

* TAT starts 8 a.m. following day if samples recei[illegible]er 5 p.m.

TAT: A= Overnight ≤ 24 hr; B= Emergency Next workday; C= Critical 2 Workdays; D= Urgent 3 Workdays; E= Routine 7 Workdays

Container Types: B=Tedlar Bag C=Canister V=V[illegible] [illegible]= Other

Preservatives: H=Hcl N[illegible]

APPENDIX K - TABLE 1
Purge Test Data
Paramount Dump - PCLUP
2910 E. 55th Way, Long Beach, California

Boundary Probe No.	Purge Depth (feet bgs)	Purge Date	Duration of Purge (seconds)	Rate (ml/min)	Well Volumes	Volume Purged (ml)	PID	MULTIGAS METER			
							VOC (ppm)	METHANE (% LEL)	CO (ppm)	H2S (ppm)	Oxygen (%)
GW-4	10	6/12/2003	26	2000	1	869	5.7	60	0	0	1.7
			78	2000	3	2,606	2.5	65	0	0	1.4
			182	2000	7	6,081	1.5	76	0	0	2.5
			After Sample Collection				5.1	80	0	0	2.7

Notes:
ppm = parts per million
ml/min = milliliters per minute
% LEL = Lower explosive limit (LEL) calibrated to methane.
bgs=below ground surface

LEL measured as peak values
Prior to sample collection constant 50% LEL.

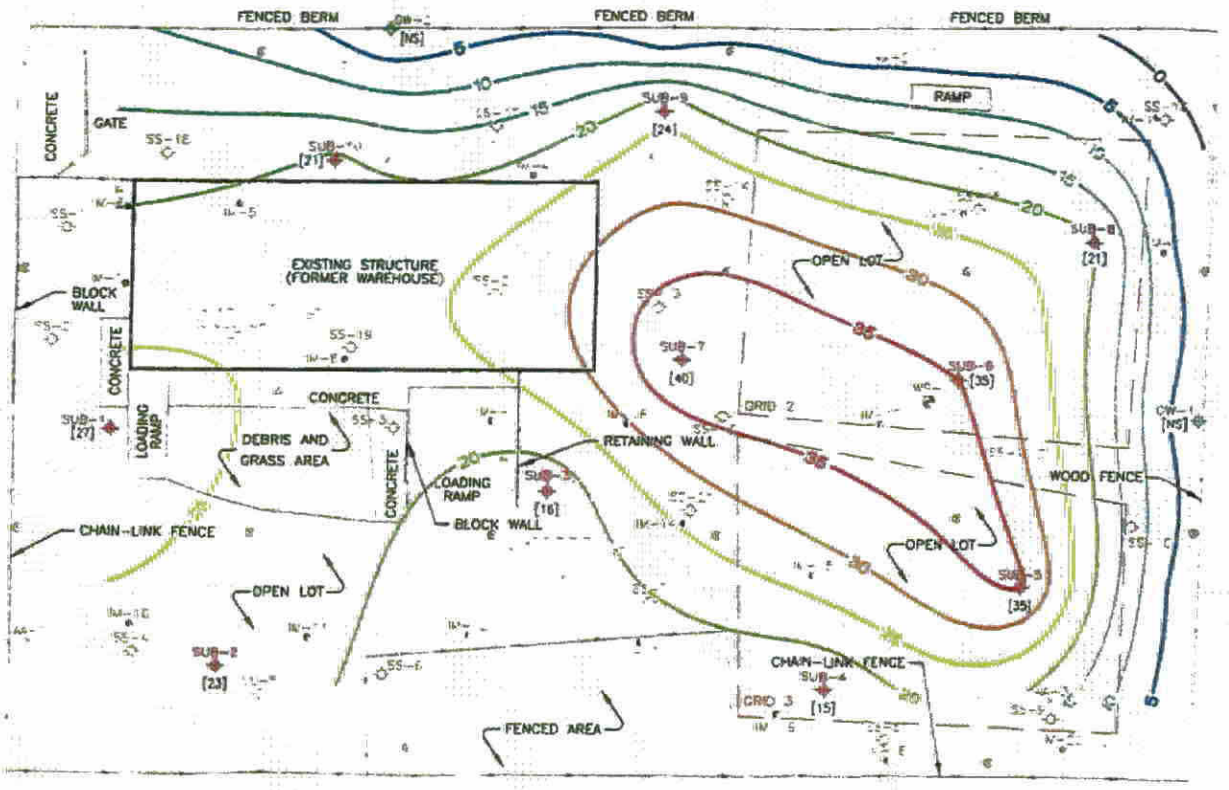
APENDIX K - TABLE 2
Sample Collection Data
Paramount Dump - PCLUP
2910 E. 55th Way, Long Beach, California

						Peak Reading Prior to Purge		Constant for 30 Continuous Seconds Prior to Sample Collection					Peak Reading After Sample Collection	
						PID	MULTI-GAS	PID	MULTI-GAS METER				PID	MULTI-GAS
SAMPLE ID	DATE	SUMMA ID #	INITIAL PRESSURE (in Hg)	FINAL PRESSURE (in Hg)	VOLUME PURGED (ml)	VOC (ppm)	METHANE (% LEL)	VOC (ppm)	METHANE (% LEL)	CO (ppm)	H2S (ppm)	OXYGEN (%)	VOC (ppm)	METHANE (% LEL)
GW3-10	6/12/2003	5945	-30	-6	6,000	2.2	1	0.2	1	0	0	12.6	0.2	1
GW3-20	6/12/2003	2415	-30	-2	12,000	5.5	0	0.9	22	3	0	6.9	2	22
GW4-10	6/12/2003	7122	-30	-2	6,000	1.5	76	NR	60	0	0	2.5	5.1	80
GW4-20	6/12/2003	1367	-30	-2	12,000	20.5	39	7.7	44	5	0	10.5	9.2	45
GW5-10	6/12/2003	1423	-30	0	6,000	14.7	1	2.0	1	0	0	11.1	11.1	1
GW5-20	6/12/2003	5973	-30	-2.5	12,000	25.0	1	30.0	1	0	0	13.4	39.7	1
GW6-10	6/12/2003	3476	-30	-2.5	6,000	9.0	8	2.0	53	3	0	7.4	2.4	63
GW6-20	6/12/2003	7128	-30	-3.5	12,000	8.4	4	3.0	53	3	0	4.3	13.1	50

Notes:
Methane = % LEL calibrated to methane.
in Hg = Pressure in inches of mercury.
ml = milliliters
NR=Not Recorded

ppm = parts per million
Samples were collected by opening the Summa cannister slowly to pull for 10 continuous minutes.

FIGURE 5A FROM PHASE I PCLUP:
METHANE ISOCONCENTRATIONS IN SOIL GAS JANUARY 2002



EXPLANATION

- FENCE LINE LOCATION
- BLOCK/RETAINING WALL
- OVERHEAD UTILITY LINE
- UTILITY/POWER POLE LOCATION
- PREVIOUS SYSTEMATIC SOIL GAS AND SOIL SAMPLING LOCATION
- PREVIOUS BIASED SOIL GAS AND SOIL SAMPLING LOCATION
- AMBIENT AIR SAMPLING LOCATION
- INSTANTANEOUS SAMPLING LOCATION (APPROXIMATE)
- SURFACE SOIL SAMPLING LOCATION
- WEATHER STATION LOCATION
- SUBSURFACE SOIL SAMPLING LOCATION
- GAS WELL SAMPLING LOCATION
- [40] METHANE CONCENTRATION IN SOIL GAS AT 10 FEET BGS (IN %)
- 10 METHANE ISOCONCENTRATION CONTOUR IN SOIL GAS AT 10 FEET BGS (IN %)
- [ND] NOT DETECTED AT METHOD DETECTION LIMIT (MDL) <5.0%
- [NS] NOT SAMPLED AT THIS DEPTH

NOTE: WELL HEAD AT GW-2 IS APPROXIMATELY 10' LOWER IN ELEVATION THAN OTHER SAMPLING POINTS AT THE SITE

NOTES:

1. SOURCE: SITE AND TOPOGRAPHY SURVEYED BY DULIN-BOYNTON LAND SURVEYORS, NOVEMBER 2001 AND FEBRUARY 2002.
2. FORMER FEATURES FROM ECOLOGY AND ENVIRONMENTAL, INC., MAP DATED AUGUST 2000.

NORTH

0 60 120

APPROXIMATE SCALE IN FEET (SCALE: 1" = 50'-0")

POST-CLOSURE LAND USE PROPOSAL
PARAMOUNT DUMP/55th WAY LANDFILL

METHANE ISOCONCENTRATIONS IN SOIL GAS AT 10 FEET BGS JANUARY 2002

CITY OF LONG BEACH
2910 EAST 55th WAY, LONG BEACH, CA

DATE 07-03		FIGURE
PROJECT NO. 52264	EARTH TECH	5A

FILE NAME: 52264METH10FT_N2 0703.DWG (1:1)

LEA INSPECTION REPORT WITH PROBE MONITORING RESULTS JUNE 18, 2014

Closed Disposal Site Inspection Report (188)

Enforcement Agency	County of Los Angeles
SWIS Facility File Number (99-xx-9999)	19-AK-0084
Inspection Date	6/18/2014
Program Code	LEA Periodic
Time In	
Time Out	
Inspection Time	
Facility Name	Paramount Dump
Received By	US MAIL
Facility Location	2910 East 55th Way/ 5450 Paramount Blv., Long Beach 90805
Owner Name	City of Long Beach
Inspector	MARK COMO
Also Present (Name)	

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF THE DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 14 AND TITLE 27 CALIFORNIA CODE OF REGULATIONS (CCR)

No Violations or Areas of Concern

V	A	Regulations
	X	20921 - Gas Monitoring and Control

Comments:

-LANDFILL GAS GENERATED AT THE DISPOSAL SITE SHALL BE CONTROLLED IN A MANNER TO PREVENT MIGRATION OF METHANE GAS AT A CONCENTRATION NOT TO EXCEED 5 PERCENT BY VOLUME IN AIR AT THE DISPOSAL SITE PERMITTED FACILITY BOUNDARY OR AN ALTERNATIVE BOUNDARY APPROVED IN ACCORDANCE WITH SECTION 20925.

-PERIMETER PROBE GW4/SHALLOW OBSERVED AT 60% LEL DURING MONITORING.

Inspection Report Comments:

2014 2ND QUARTER CLOSED SITE INSPECTION

-OVERALL MAINTENANCE OF THE SITE WAS SATISFACTORY.
-CONTINUE TO MAINTAIN VEGETATION AROUND GAS MONITORING WELLS/PROBES.
-GAS MONITORING CONDUCTED WITH RKI EAGLE GAS MONITORING DETECTOR, WITH THE FOLLOWING READINGS FOR METHANE GAS:

*PROBES GW2 AND GW7-GW11 ARE INSIDE THE WASTE/TRASH FOOTPRINT.
ALL READINGS ARE IN % VOLUME:
-GW2 SHALLOW:0 DEEP:0
-GW7 SHALLOW:56.5%. DEEP:0
-GW8 UNABLE TO OPEN COVER
-GW9 SHALLOW:65.5% DEEP:0
-GW10 SHALLOW:49%. DEEP:35.5%
-GW11 SHALLOW:48% DEEP:44.5%

*PERIMETER PROBES GW4-GW6 ARE LOCATED ON EAST BOUNDARY.
ALL READINGS ARE IN % LEL:
-GW4 SHALLOW:60% LEL DEEP:0
-GW5 SHALLOW:0. DEEP:0
-GW6 SHALLOW:0. DEEP:0

NOTE: HELP US SERVE YOU BETTER BY COMPLETING A SHORT SURVEY.
VISIT OUR WEBSITE AT: www.publichealth.lacounty.gov/eh.

CALRECYCLE PROBE SAMPLING REPORT MARCH 23, 2011

CalRecycle

DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

801 K STREET, MS 19-01, SACRAMENTO, CALIFORNIA 95814 • (916) 322-4027 • WWW.CALRECYCLE.CA.GOV

March 23, 2011

California Natural Resources Agency
Department of Resources and Recycling
Closed, Illegal & Abandoned Sites Investigation Unit
1001 "I" Street
Sacramento, California 95812

Subject: Paramount Dump Additional Landfill Gas Monitoring, January 2011
Friendly Village Mobile Home Park and Davenport Park
Portions of the Former Paramount Dump
Long Beach, California SWIS No.
SWIS No. 19-AK-0084

Reference: CalRecycle, 2010, Site Investigation Report, Friendly Village Mobile Home Park, Portion of the Former Paramount Dump, Long Beach, California, SWIS No.19-AK-0084: dated November 9.

Dear Property Owners, LEA, Individuals of Concern:

The inactive and closed Paramount Dump is located northeast of the intersection of N. Paramount Boulevard and Candlewood Street in Long Beach, California. The former 55th Way Landfill operated to the adjacent south of the Paramount Petroleum tank farm (currently Davenport Park) and comprised approximately 5.5 acres and reportedly was part of a larger former 17.4-acre former municipal waste landfill owned and operated by the City of Long Beach as the Long Beach City Dump #26. The two sites are collectively referred to as the Paramount Dump.

The California Natural Resources Agency Department of Resources and Recycling (CalRecycle) was previously requested by the Los Angeles County Local Enforcement Agency (LEA) to assist with an investigation of landfill gas (LFG) at a portion of the former Paramount Dump, currently the location of the Friendly Village Mobile Home Park. CalRecycle conducted a LFG investigation that involved construction of 28 LFG wells, followed by one year of monthly field monitoring and quarterly monitoring and analytical testing. The results of the investigation were provided in the above-referenced Site Investigation Report (CalRecycle, 2010).

Subsequent to this, in January 2011, CalRecycle staff conducted additional LFG field monitoring, LFG sampling, and analytical testing of the LFG wells and probes at the Friendly Village Mobile Home Park and at Davenport Park, to the adjacent north. The monitoring

ORIGINAL PRINTED ON 100% POST CONSUMER CONTENT, PROCESSED CHLORINE FREE PAPER

included the 28 LFG wells at the mobile home park referred to as LFG-1 through LFG-28 and the eight LFG monitoring probes at the park referred to as 1A, 1B, 2A, 2B, 5A, 5B, CMP-1 and CMP-4. The results of this subsequent assessment are summarized in the tables included with this letter.

The results of the January 2011 monitoring indicate that elevated levels of LFG, Hydrogen Sulfide in the field monitoring and volatile organic compounds (VOCs) continue to be present in the wells at the mobile home park and were detected in the probes at Davenport Park. It continues to be our recommendation that a plan be developed and implemented to control the LFG.

Should you have questions regarding this assessment, please contact Tom White Los Angeles County DHS @ 626-430-5540 or Dawn Plantz at 916-341-6723 email dawn.plantz@calrecycle.ca.gov.

Sincerely,

Dawn A. Plantz

Attachments: Table 1 - Summary of Landfill Gas Field Monitoring, January 2011
Table 2- Summary of Landfill Gas Analytical Results, January 2011
Laboratory Data

Table 1 - Summary of Landfill Gas Analytical Results					
Sample Name	Sample Date	Fixed Gases and Methane by EPA 3C (%v/v)		Detected VOCs by TO-15 (mg/m^3)	
BACKGROUND	4/28/2009	Oxygen/Argon	25.0	ND	
		Nitrogen	76.9		
		Methane	ND		
		Carbon dioxide, free	ND		
LFG-1	1/24/2011	Oxygen/Argon	1.8	Benzene	42
		Nitrogen	39.0	Ethylbenzene	32
		Carbon dioxide, free	23.0	Hexane*	180
		Methane	34.0	Propylene*	36
				Toluene	54
				Xylenes, total	40
LFG-2	1/24/2011	Oxygen/Argon	1.9	Benzene	58
		Nitrogen	52.0	Cyclohexane*	51
		Carbon dioxide, free	20.0	Ethylbenzene	46
		Methane	25.0	Heptane*	150
				Hexane*	44
				Naphthalene	100
				Toluene	62
				Xylenes, total	76
LFG-3	1/24/2011	Oxygen/Argon	4.2	Benzene	4.4
		Nitrogen	72.0	Xylenes, total	12
		Carbon dioxide, free	13.0	Ethylbenzene	5.4
		Methane	8.8	Heptane*	40
				Hexane*	18
				Naphthalene	49
				Propylene*	5.4
				Toluene	13
LFG-4	1/24/2011	Oxygen/Argon	1.4	Cyclohexane*	12
		Nitrogen	69.0	Heptane*	51
		Carbon dioxide, free	17.0	Hexane*	21
		Methane	11.0	Naphthalene	19
LFG-5	1/24/2011	Oxygen/Argon	4.6	Toluene	12
		Nitrogen	78.0	Xylenes, total	67
		Carbon dioxide, free	14.0		
		Methane	ND		
LFG-6	1/24/2011	Oxygen/Argon	2.6	Naphthalene	64
		Nitrogen	80.0		
		Carbon dioxide, free	15.0		
		Methane	ND		
LFG-7	1/24/2011	Oxygen/Argon	1.5	Heptane*	60
		Nitrogen	54.0	Hexane*	38
		Carbon dioxide, free	22.0		
		Methane	23.0		
LFG-8	1/24/2011	Oxygen/Argon	1.6	Heptane*	80
		Nitrogen	39.0	Hexane*	40
		Carbon dioxide, free	23.0		
		Methane	35.0		
LFG-9	1/24/2011	Oxygen/Argon	2.0	Benzene	28
		Nitrogen	32.0	Ethylbenzene	26
		Carbon dioxide, free	27.0	Heptane*	86
		Methane	39.0	Hexane*	48
				Naphthalene	84
				Xylenes, total	28

Table 1 - Summary of Landfill Gas Analytical Results

Sample Name	Sample Date	Fixed Gases and Methane by EPA 3C (%v/v)		Detected VOCs by TO-15 (mg/m^3)	
LFG-10	1/24/2011	Oxygen/Argon	1.8	Benzene	140
		Nitrogen	34.0	Heptane*	280
		Carbon dioxide, free	26.0	Hexane*	93
		Methane	37.0	Propylene*	120
				Toluene	28
LFG-11	1/24/2011	Oxygen/Argon	3.0	Benzene	94
		Nitrogen	52.0	Heptane*	150
		Carbon dioxide, free	21.0	Hexane*	99
		Methane	22.0	Propylene*	80
				Toluene	55
				Xylenes, total	150
				Ethylbenzene	68
LFG-12	1/24/2011	Oxygen/Argon	2.0	Benzene	50
		Nitrogen	66.0	Cyclohexane*	18
		Carbon dioxide, free	18.0	Ethylbenzene	16
		Methane	12.0	Heptane*	77
				Hexane*	61
				Naphthalene	200
				Propylene*	14
				Toluene	22
				Xylenes, total	40
LFG-13	1/24/2011	Oxygen/Argon	2.2	Benzene	61
		Nitrogen	64.0	Carbon disulfide	21
		Carbon dioxide, free	18.0	CycloHexane*	29
		Methane	13.0	cis-1,2-Dichloroethene	11
				Ethylbenzene	58
				Heptane*	100
				Hexane*	70
				Naphthalene	170
				Propylene*	63
				Toluene	27
				Xylenes, total	44
LFG-14	1/24/2011	Oxygen/Argon	2.6	Benzene	36
		Nitrogen	46.0	Cyclohexane*	30
		Carbon dioxide, free	22.0	Ethylbenzene	21
		Methane	28.0	Heptane*	92
				Hexane*	64
				Naphthalene	60
				Propylene*	40
				Toluene	29
				Xylenes, total	21
LFG-15	1/24/2011	Oxygen/Argon	2.7	Benzene	36
		Nitrogen	45.0	Cyclohexane*	290
		Carbon dioxide, free	21.0	Ethylbenzene	15
		Methane	28.0	Hexane*	160
				Naphthalene	98
				Toluene	52
				Xylenes, total	31
LFG-16	1/24/2011	Oxygen/Argon	1.9	Heptane*	18
		Nitrogen	56.0	Naphthalene	25
		Carbon dioxide, free	20.0		
		Methane	21.0		
LFG-17	1/24/2011	Oxygen/Argon	2.1	Benzene	15
		Nitrogen	71.0	Cyclohexane*	80
		Carbon dioxide, free	18.0	Heptane*	110
		Methane	6.3	Hexane*	180
				Toluene	12
				Xylenes, total	19

Friendly Village Mobile Home Park
Long Beach, California

Table 1 - Summary of Landfill Gas Analytical Results

Sample Name	Sample Date	Fixed Gases and Methane by EPA 3C (%v/v)		Detected VOCs by TO-15 (mg/m^3)	
LFG-18	1/24/2011	Oxygen/Argon	3.3	Benzene	66
		Nitrogen	60.0	Cyclohexane*	20
		Carbon dioxide, free	20.0	cis-1,2-Dichloroethene	350
		Methane	16.0	Ethylbenzene	53
				Heptane*	64
				Naphthalene	23
				Propylene*	95
				Toluene	47
				Vinyl chloride	200
				Xylenes, total	51
LFG-19	1/24/2011	Oxygen/Argon	3.4	Benzene	170
		Nitrogen	49.0	Cyclohexane*	30
		Carbon dioxide, free	21.0	cis-1,2-Dichloroethene	95
		Methane	25.0	Ethylbenzene	120
				Heptane*	140
				Hexane*	86
				Naphthalene	67
				Propylene*	110
				Toluene	40
				Vinyl chloride	79
				Xylenes, total	130
LFG-20	1/24/2011	Oxygen/Argon	4.5	Benzene	50
		Nitrogen	40.0	Cyclohexane*	67
		Carbon dioxide, free	21.0	Ethylbenzene	21
		Methane	32.0	Hexane*	66
				Propylene*	44
				Toluene	15
				Xylenes, total	19
LFG-21	1/24/2011	Oxygen/Argon	1.8	Benzene	160
		Nitrogen	30.0	Cyclohexane*	120
		Carbon dioxide, free	27.0	Ethylbenzene	82
		Methane	40.0	Hexane*	120
				Naphthalene	16
				Propylene*	57
				Toluene	33
				Xylenes, total	83
LFG-22	1/24/2011	Oxygen/Argon	2.7	Benzene	100
		Nitrogen	37.0	Cyclohexane*	110
		Carbon dioxide, free	24.0	Dichlorodifluoromethane	49
		Methane	35.0	Ethylbenzene	61
				Heptane*	150
				Hexane*	110
				Naphthalene	16
				Propylene*	28
				Toluene	18
				Xylenes, total	74
LFG-23	1/24/2011	Oxygen/Argon	2.4	Acetone	67
		Nitrogen	40.0	Benzene	120
		Carbon dioxide, free	26.0	Cyclohexane*	41
		Methane	30.0	cis-1,2-Dichloroethene	78
				Ethylbenzene	110
				4-Ethyltoluene*	150
				Heptane*	80
				Hexane*	62
				Propylene*	84
				Toluene	59
				1,2,4-Trimethylbenzene	120
				Vinyl chloride	11
				Xylenes, total	340

Table 1 - Summary of Landfill Gas Analytical Results

Sample Name	Sample Date	Fixed Gases and Methane by EPA 3C (%v/v)		Detected VOCs by TO-15 (mg/m^3)	
LFG-24	1/24/2011	Oxygen/Argon	3.1	Benzene	80
		Nitrogen	54.0	Cyclohexane*	16
		Carbon dioxide, free	21.0	Ethylbenzene	40
		Methane	20.0	Heptane*	66
				Hexane*	51
				Propylene*	70
				Toluene	25
				1,2,4-Trimethylbenzene	230
				Xylenes, total	76
LFG-25	1/24/2011	Oxygen/Argon	2.0	Benzene	260
		Nitrogen	42.0	Cyclohexane*	120
		Carbon dioxide, free	26.0	Ethylbenzene	140
		Methane	29.0	Heptane*	150
				Hexane*	130
				Propylene*	85
				Toluene	21
				1,2,4-Trimethylbenzene	180
				Xylenes, total	58
LFG-26	1/24/2011	Oxygen/Argon	2.0	Benzene	62
		Nitrogen	30.0	Cyclohexane*	120
		Carbon dioxide, free	27.0	Ethylbenzene	170
		Methane	40.0	Heptane*	160
				Hexane*	130
				Propylene*	110
				Toluene	94
				1,2,4-Trimethylbenzene	82
				Xylenes, total	180
LFG-27	1/24/2011	Oxygen/Argon	1.9	Benzene	110
		Nitrogen	29.0	Cyclohexane*	53
		Carbon dioxide, free	28.0	Dichlorodifluoromethane	41
		Methane	39.0	Ethylbenzene	110
				Heptane*	83
				Hexane*	55
				Propylene*	42
				Toluene	39
				1,2,4-Trimethylbenzene	190
				Xylenes, total	96
LFG-28	1/24/2011 analyzed by OEC	Oxygen/Argon	1.9	Benzene	83
		Nitrogen	29.0	Cyclohexane*	26
		Carbon dioxide, free	28.0	cis-1,2-Dichloroethene	330
		Methane	39.0	Ethylbenzene	59
				Heptane*	70
				Hexane*	65
				Naphthalene	30
				Propylene*	100
				Toluene	52
				1,2,4-Trimethylbenzene	160
				Vinyl chloride	200
				Xylenes, total	59

Friendly Village Mobile Home Park
Long Beach, California

Table 1 - Summary of Landfill Gas Analytical Results

Sample Name	Sample Date	Fixed Gases and Methane by EPA 3C (%v/v)		Detected VOCs by TO-15 (mg/m³)	
Probes are located in the Park					
Probe 1A	1/24/2011	Oxygen/Argon	1.4	Benzene	120
		Nitrogen	34	Chlorobenzene	180
		Carbon dioxide, free	24	Toluene	32
		Methane	41		
Probe 1B	1/24/2011	Oxygen/Argon	1.4	Methyl-t-butyl ether*	56
		Nitrogen	37	Chlorobenzene	180
		Carbon dioxide, free	25	Toluene	32
		Methane	36		
Probe 2A	1/24/2011	Oxygen/Argon	6.3	Hexane*	150
		Nitrogen	51		
		Carbon dioxide, free	11		
		Methane	29		
Probe 2B	1/24/2011	Oxygen/Argon	12	Hexane*	95
		Nitrogen	59	Xylenes (total)	68
		Carbon dioxide, free	12		
		Methane	13		
Probe 5A	1/24/2011	Oxygen/Argon	1.5	Benzene	150
		Nitrogen	26	Chlorobenzene	110
		Carbon dioxide, free	31	Hexane*	230
		Methane	42	Propylene*	190
				Toluene	26
				Vinyl Chloride	34
Probe 5B	1/24/2011	Oxygen/Argon	3.4	Benzene	46
		Nitrogen	30	Chlorobenzene	150
		Carbon dioxide, free	21	Dichlorodifluoromethane	130
		Methane	46	Hexane*	170
				Naphthalene	250
				Toluene	34
				Propylene*	150
CMP-4	1/24/2011	Oxygen/Argon	5.5	Ethylbenzene	21
		Nitrogen	78	Toluene	6.8
		Carbon dioxide, free	14		
		Methane	ND		
CMP-1	1/24/2011	Oxygen/Argon	21	Methylene chloride	4.4
		Nitrogen	75		
		Carbon dioxide, free	0.94		
		Methane	0.53		

Notes:

% v/v - percent volume by volume of air

mg/m3 - milligrams per cubic meter

EPA - Environmental Protection Agency

ND - not detected

VOCs - volatile organic compounds

*- *analyte not measured on previous inspections*

Table 2 - Summary of Landfill Gas Field Monitoring

		CH4	CO2	CO	H2S	O2	Balance
1/11/2011	Probe 1A	40.1	28.9	0	6	0.3	30.7
Park	Probe 1B	34.5	30.9	0	0	0.5	33.8
	Probe 2A	35.8	15.9	29.99	8	0.8	46.7
	Probe 2B	0.9	0.8	0	0	19.4	78.7
	Probe 4B	0.1	0	0	0	20.1	0
	Probe 4A	0	0	0	0	2.01	79.7
	Probe 5A	41.5	36.5	0	0	0.7	21.4
	Probe 5B	51.5	26.6	0	15	0	22.5
	CMP-4	0	0	0	0	0	ND
	CMP-1	0	0	0	0	0	ND
1/12/2011	LFG-1	35.1	26.4	0	5	0.6	37.9
Friendly	LFG-2	23.7	24.5	0	6	1.4	50.7
Villiage	LFG-3	8.5	15.2	0	5.5	2.2	74
	LFG-4	10.3	18.7	0	5	0.9	70.1
	LFG-5	0	15.5	0	0	2.5	81.8
	LFG-6	0	16.9	0	0	1.4	81.8
	LFG-7	21.3	24.2	0	3	0.5	54
	LFG-8	34.2	25.7	0	14	0.3	39.4
	LFG-9	38.9	31.5	0	4	0.4	29.2
	LFG-10	37.4	29.3	0	8	0.6	32.6
	LFG-11	24.3	25	0	6	0.6	49.8
	LFG-12	13.5	20.4	0	3.5	0.5	65.4
	LFG-13	13.3	20.1	0	13	0.7	65.9
	LFG-14	29.3	25.1	0	6	0.6	45
	LFG-15	29.8	25.6	0	5	0.8	43.9
	LFG-16	20.8	22.2	0	3.5	0.5	56.4
	LFG-17	6	20.2	0	3	0.5	72.9
	LFG-18	17.1	24.1	0	3.5	0.6	58
	LFG-19	29.8	24.7	0	4	0.5	44.8
	LFG-20	38.3	27.6	0	33	0.7	33.3
	LFG-21	39.1	29.6	0	4	0.7	30.1
	LFG-22	36.4	26.7	0	8	0.7	36.1
	LFG-23	31.5	30.4	0	7	0.7	37.3
	LFG-24	21.2	24.6	0	6	0.8	53.5
	LFG-25	30.2	29.6	0	9	0.6	40.1
	LFG-26	40.5	31.3	0	8.5	0.8	27.4
	LFG-27	39.7	32.3	0	8.5	0.7	27.1
	LFG-28	42.1	31.3	0	3.5	0.8	25.6

TRENCHING LOCATION MAP AND LOGS 2005

LEGEND:

- INTERPRETED EXTENT OF REFUSE
- INTERPRETED TOP OF REFUSE ELEVATION CONTOUR (FT MSL)
- T-2 TRENCH LOCATION AND DESIGNATION
- 61.97× GROUND SURFACE ELEVATION OF FURTHEST EXTENT OF TRENCH
- 54.64 ● GROUND SURFACE ELEVATION OF FURTHEST EXTENT OF REFUSE OBSERVED IN THE TRENCH
- PROPERTY BOUNDARY
- EXISTING FENCES
- EXISTING GRADE

NOTES:

1. TRENCH WIDTHS WERE 2 FEET (WIDTH OF BACKHOE BUCKET).
2. TOP OF REFUSE ELEVATIONS BASED ON FIELD MEASUREMENTS (FT MSL).
3. FIELD SURVEY BY DULIN & BOYNTON. SURVEY DATE WAS 1/20/05. VERTICAL DATUM IS NGVD29. CITY OF LONG BEACH BM #1170 NORTHEAST CORNER OF PARAMOUNT BLVD AT 56TH ST, 25.4' E OF CURB. HORIZONTAL DATUM IS NAD83 NGS DY9296, ZONE 5 NAD83. VERTICAL CONTROL DISK STAMPED "V1415 1988".
4. FURTHEST EXTENT OF REFUSE AT TRENCH T-2 IS BEYOND NORTHERN EXTENT OF TRENCH.
5. LIMITS OF REFUSE IS APPROXIMATE WHERE DASHED, AND INFERRED WHERE DOTTED, AND SHOULD BE CONFIRMED IN THE FIELD DURING THE EARLY PHASE OF CONSTRUCTION

NORTH

0 30 60 FEET

SCALE: 1"= 60'

Geotechnical Engineering Evaluation Report

INTERPRETED EXTENT OF REFUSE

55th Way Neighborhood Park

Date: 01-05	City of Long Beach	Figure
Project No. 81853	EarthTech A Tyco International Ltd. Company	3C

File: G:\us\LongBeachCA\work\Remediation\T Taylor\1 Projects\City of LB - 55th Way\EDSA\GeoTech\Geotech Inv\CADD\Figures\Figure-3C.dwg Time: Feb 01, 2005 - 7:23pm

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-1**	Project No: 81853-02	Figure: A-1
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[illegible] of Excavation: 01-05-05		Approximate Surface Elevation: 58.66 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

DESCRIPTION

1a CLAYEY SILT: dark brown 10YR3/3, slightly plastic, damp, soft, trace course to medium, angular sand, some roots material, no odor, and concrete debris.

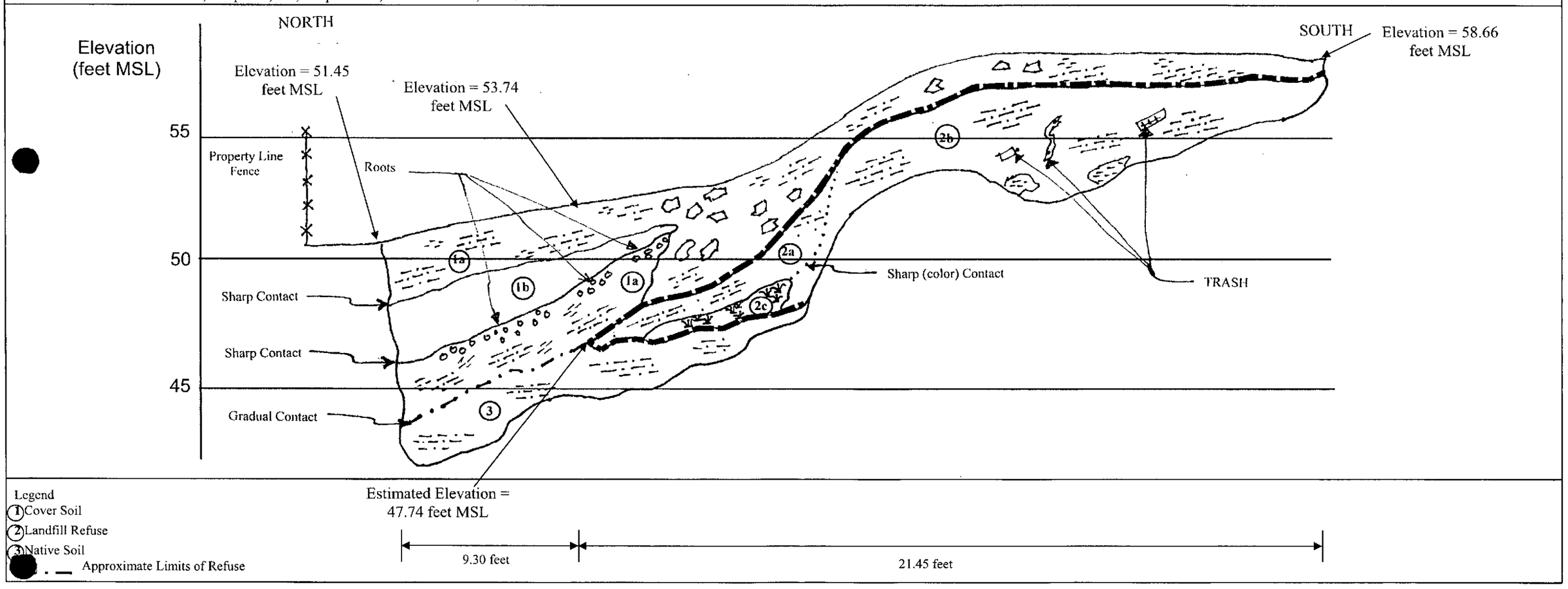
1b SILTY SAND: light yellow brown 10YR 6/4, well graded sand (mode = fine), crumbles into loose particles with medium thumb pressure, (pinche out and thins to the south), dry

2a SILT with SAND: dark grey 10YR 4/1; 85% non plastic silt; 15% poorly graded, fine sand; trace fine gravel and course sand; very soft, some TRASH (metal and brick), moist, strong odor.

2b SILT: very dark grey 10YR 3/1, very soft, moist, abundant TRASH (wood, tile, brick, asphalt, metal), strong odor.

2c VEGETATION: black 10 YR 2/1, wood, timber, other vegetation, decaying organic, "spongy", very strong odor.

3 SILT: brown 10YR 4/3, non-plastic, soft, damp to moist, faint laminations, no odor.



Note: Elevation scale is approximate.
Elevation values are based on survey data.

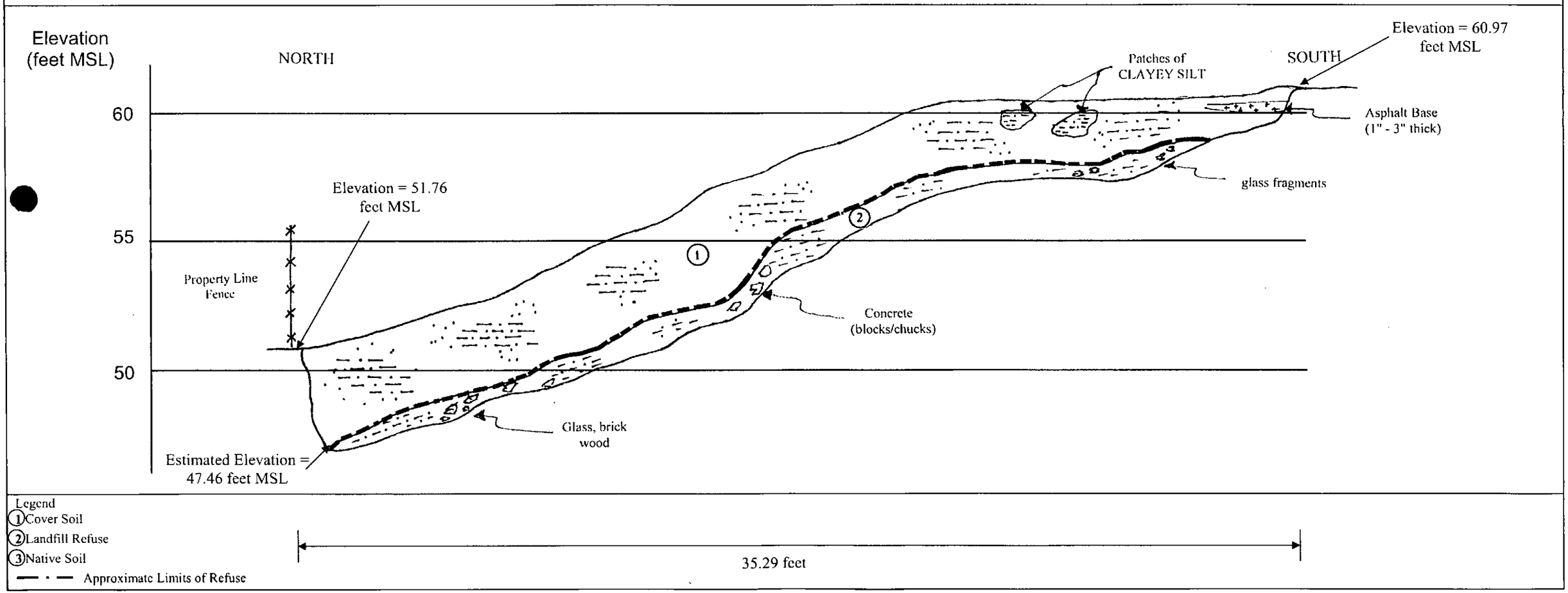
E

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-2**	Project No: 81853-02	Figure: A-2
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[redacted] of Excavation: 01-05-05		Approximate Surface Elevation: 60.97 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

DESCRIPTION

1 SILT with SAND: dark greyish brown 10YR 4/2, nonplastic silt; fine sand; trace mica and fine gravel (1/2-inch maximum diameter), soft, moist, no odor

2 SANDY SILT: varies in color reddish brown to brown to dark brownish grey 10%-40% fine sand, abundant TRASH (localized 50% to 80% - by volume): glass fragments/bottles, bricks, tile, wood, hair combs, sheet metal.



E

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-3**	Project No: 81853-02	Figure: A-3
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[illegible] of Excavation: 01-05-05		Approximate Surface Elevation: 61.77 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

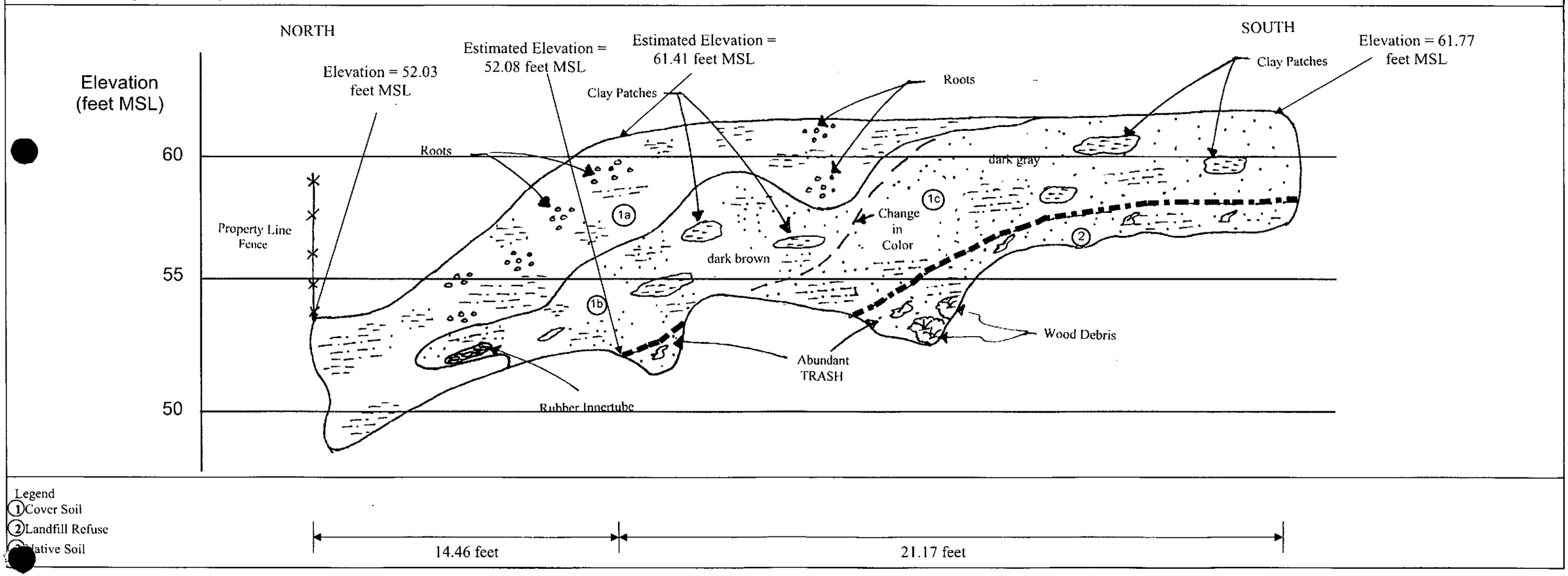
DESCRIPTION

1a CLAYEY SILT mixed with SANDY CLAY: dark brown 10YR 3/3; CLAYEY SILT, slightly plastic, trace well graded sand; mixed with SANDY CLAY, 70% slightly to moderately plastic clay; 30% well graded medium sand; abundant root material, moist to very moist, no odor

1b SILTY SAND (40%) mixed with CLAY (30%) and SANDY SILT (30%): dark brown 10 YR 3/3; SILTY SAND, variable silt content, 10-30% well graded sand, fine to course sand, loose, moist; mixed with CLAY, plastic soft, very moist; and SANDY SILT: nonplastic soft, very moist, no odor

1c SANDY SILT mixed with CLAY: dark brown 10YR 3/3 SANDY SILT, 85% silt; 15% fine sand, soft, very moist; mixed with CLAY, plastic, soft, very moist, trace fine sand.

2 TRASH mixed with SANDY SILT and CLAY: dark brown 10YR 3/3; TRASH, glass, wood, metal, newspaper, asphalt, concrete, plastic, tile, salt shaker, pens, metal wire and bricks; mixed with SANDY SILT, 85% silt; 15% fine sand, soft, very moist; CLAY, plastic, soft, very moist, trace fine sand.



E

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-4**	Project No: 81853-02	Figure: A-4
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[illegible] of Excavation: 01-06-05		Approximate Surface Elevation: 61.76 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

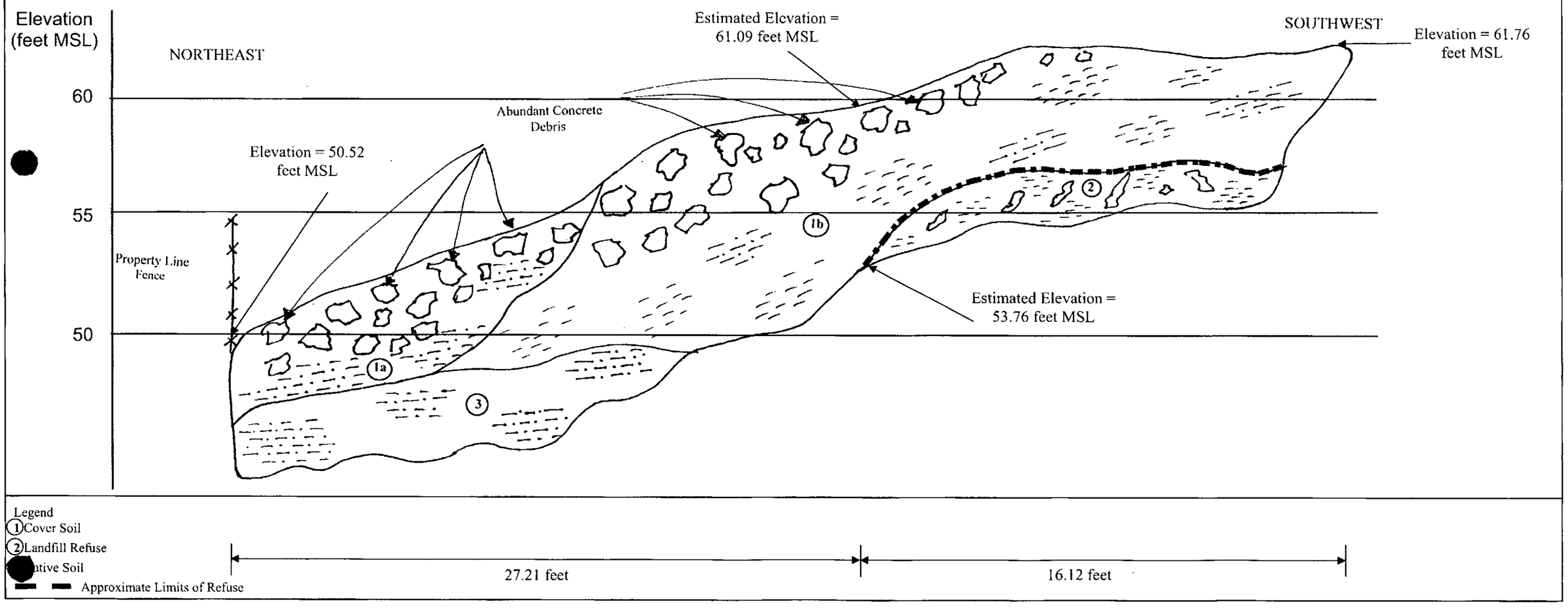
DESCRIPTION

1a SILT with SAND: very dark brown 10 YR 2/2 to brown 10 YR 3/x; non plastic, soft, unconsolidated, abundant concrete debris

1b CLAY mixed with CLAYEY SILT: mottled mostly very dark blown 10 YR 2/2; CLAY plastic, soft, some course sand, fine gravel and TRASH, poorly compacted, damp, no odor; mixed with CLAYEY SILT, non plastic, some fine gravel and TRASH.

2 CLAY with TRASH: mottled mostly very dark brown 10YR 2/2 with dark grey 10 YR 4/1; very soft abundant TRASH, some SANDY CLAY (dark grey).

3 SILT: 10YR 4/3 brown, 100% silt, very hard digging, firm, no dry strength, dry, no odor



Note: Elevation scale is approximate.
Elevation values are based on survey data.

E

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-5**	Project No: 81853-02	Figure: A-5
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[illegible] of Excavation: 01-06-05		Approximate Surface Elevation: 60.68 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

DESCRIPTION

Description:

1a CLAY: (60%) mixed with SILT (40%): mostly grayish brown 10 YR 5/2; CLAY, plastic, in pockets mixed with SILT, nonplastic; very moist (walls of trench collapsing), very soft, some roots, no odor.

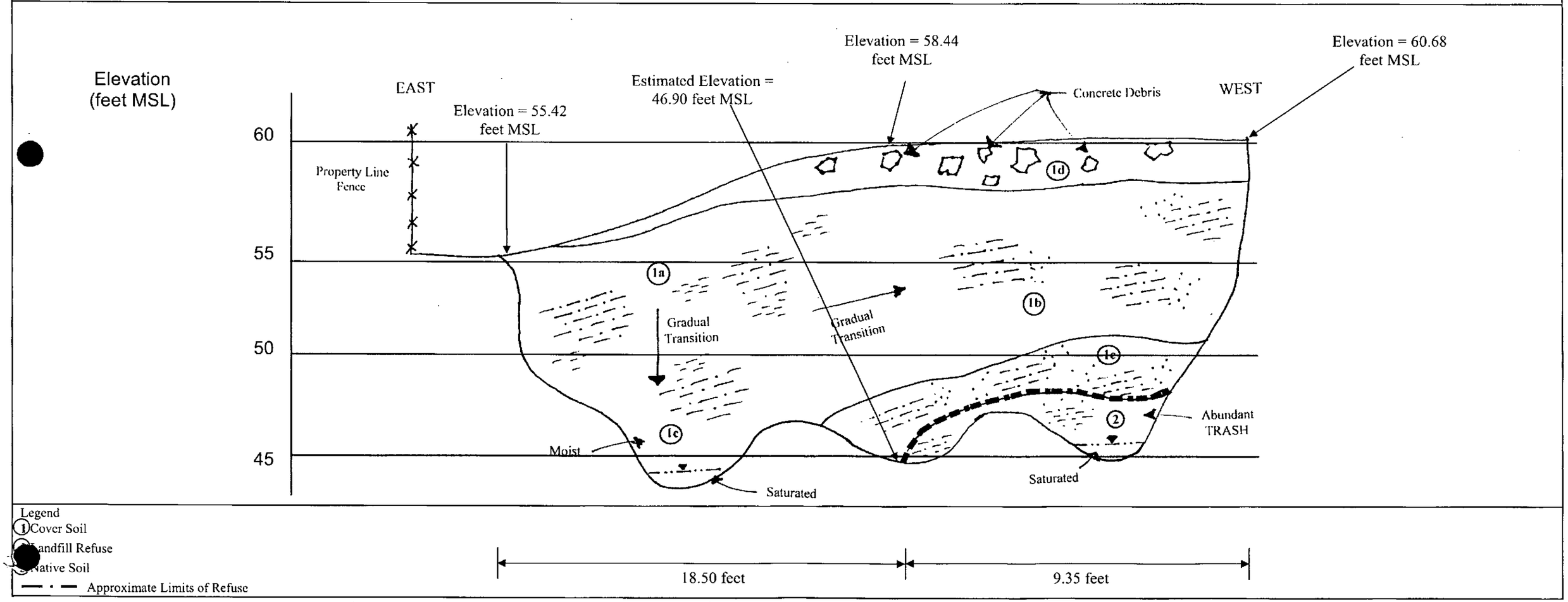
1b SILT with SAND mixed with CLAY: dark brown 10YR 3/3; SILT with SAND, nonplastic SILT; 15% well graded sand (mode = course) mixed with CLAY, very soft, very moist, contains localized trashed debris (glass & wood), no odor.

1c SILT: dark grayish brown 10YR 4/2, soft, some mica, saturated, no odor.

1d CONCRETE DEBRIS contained in SILT with SAND mixed with CLAY : dark brown 10YR 3/3; CONCRETE DEBRIS maximum diameter 24-inches, average diameter 5-inches; SILT with SAND, nonplastic SILT; 15% well graded sand (mode = course) mixed with CLAY, very soft, very moist, contains localized trashed debris (glass & wood), no odor.

1e SILT with SAND: dark grey 10YR 4/1; soft; 15% fine sand, poorly graded; trace trash debris (glass bottles), very moist.

2 TRASH mixed with SILT with SAND: TRASH, shoes, metal, metal cable and wire, bottles, glass, paper, wood, trace vegetation mixed with SILT with SAND: dark grey 10YR 4/1; soft; 15% fine sand, poorly graded, very moist.



E

Note: Elevation scale is approximate.
Elevation values are based on survey data.

LOCATION: Along northern perimeter (western side) of former landfill	**LOG OF TRENCH T-6**	Project No: 81853-02	Figure: A-6
Equipment: Backhoe 710 G		Project: Former 55th Way Landfill, Long Beach CA	
[illegible] of Excavation: 01-06-05		Approximate Surface Elevation: 61.90 feet MSL	
Logged By: Robert Lopez R.G. #7373		Pit Trend:	

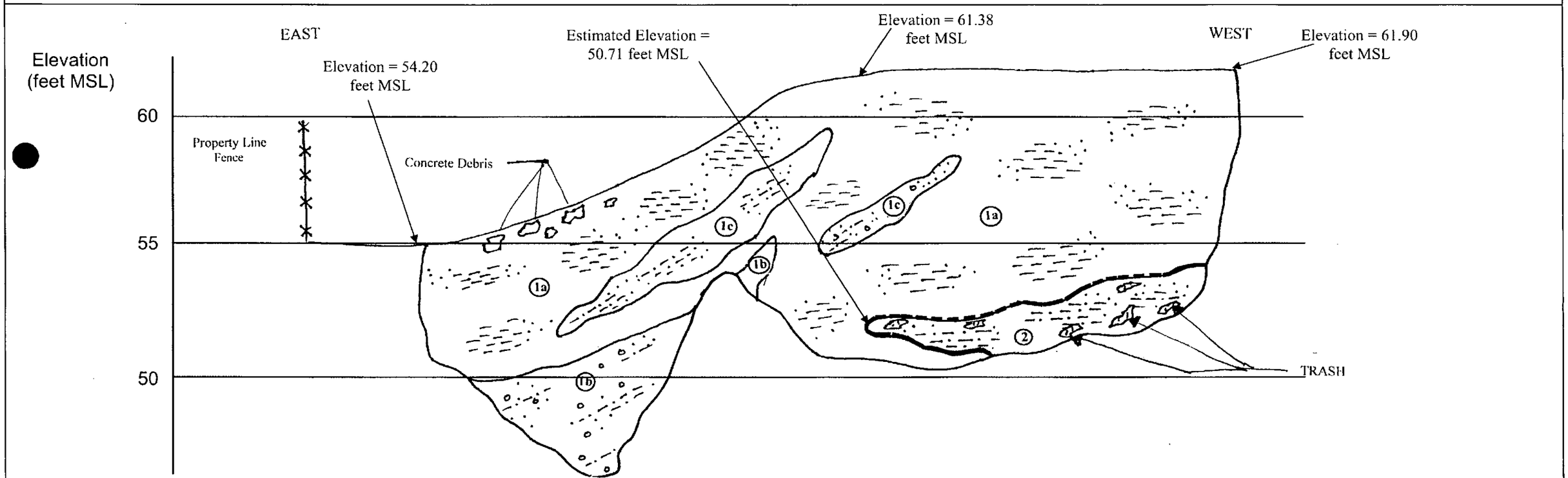
DESCRIPTION

1a SANDY CLAY: very dark brown 10YR 2/2; 60% clay, plastic, soft; 40% well graded sand, fine to course, angular sand with fine mode; some concrete debris near surface, damp to dry, no odor.

1b GRAVELLY SAND with SILT: yellowish brown 10YR 5/4; 55% well graded sand (mode = course), angular to subangular; 30% subrounded fine gravel, 3-inch maximum diameter, 1.5-inch average diameter, imbricated pebbles in orientation with slope; 15% silt; dry (very hard digging), no dry strength, no odor.

1c SANDY SILT: pale brown 10YR 6/3, 60% silt; 40% well graded sand, fine to course, angular sand (mode = fine); damp to dry, no odor.

2 SILT with SAND: dark grey 10YR 4/1, 80% silt, 20% poorly graded, fine sand; abundant TRASH, moist, strong odor.



Legend
1 Cover Soil
2 Landfill Refuse
3 Native Soil
Approximate Limits of Refuse

Note: Elevation scale is approximate.
Elevation values are based on survey data.

E

CALRECYCLE SITE INVESTIGATION REPORT
FRIENDLY VILLAGE MOBILE HOME PARK, PORTION OF THE FORMER PARAMOUNT DUMP, LONG BEACH, CALIFORNIA, SWIS 19-AK-0084

* This Report can be downloaded from:
http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AK-0084/Document/ Friendly Villiage Mobile Home Pard Site investigation, Paramount Dump (pdf, 25513 KB)

D

APPENDIX II-D
SCAQMD RELATED INFORMATION REGARDING SURFACE EMISSIONS

PHASE 1 HUMAN HEALTH RISK ASSESSMENT

ADDITIONAL DOCUMENTATION CONCERNING SCAQMD ISSUED NOTICES TO COMPLY

PHASE 1 HUMAN HEALTH RISK ASSESSMENT

100 West Broadway, Suite 240, Long Beach, California 90802-4443

FINAL HUMAN HEALTH RISK ASSESSMENT SUMMARY REPORT

55th Way Landfill/Paramount Dump
2910 East 55th Way, Long Beach, California
SWIS No.: 19-AK-0084B

Telephone

562 951.2000

Facsimile

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Prepared for:

CITY OF LONG BEACH
Property Services – 3rd Floor
333 West Ocean
Long Beach, California 90802

Prepared by:

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Project Director

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Project Engineer

Date: December 19, 2002

Project No.: 52264.09

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

LB1 25098

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FINAL

1 INTRODUCTION

The 55th Way Park site ("site") is bounded on the north by the easterly extension of 55th Way, on the east by the boundary line of the City of Lakewood, on the south by an existing trailer park and on the west by southerly extension of the easterly line of Orizaba Avenue (**Figure 1-1**). The property is currently owned by the Redevelopment Agency of the City of Long Beach.

1.1 Project Objectives

The site comprises approximately 5.5 acres of the 17.4 acre former Paramount Dump. The site is currently an open vacant open with no structures and minimal surface vegetation. In October 2002, a 24,000 square foot building formerly in the northwest corner of the site was demolished and the resulting debris was removed from the site. Previous subsidence of the landfill had caused severe structural damage to the building, rendering the building substandard and a public nuisance. In addition, miscellaneous storage containers, debris piles and abandoned vehicles were also removed. The site is relatively flat with the topography gently sloping to the west (**Figure 1-2**).

The site is part of a landfill that was owned and operated by the City of Long Beach between 1945 and 1948 as the Long Beach Dump #26. The site was sold in 1953. Through the 1970's a number of owners/tenants occupied the property, including manufacturing facilities and a diesel repair facility. In 1974, two underground storage tanks were installed and in 1986, these tanks were removed.

Since 1993, the County of Los Angeles and the California Integrated Waste Management Board (CIWMB) have conducted several inspections to measure the generation of landfill gas. A recent site assessment conducted by the Redevelopment Agency of the City of Long Beach indicated varying levels of methane gas at the site.

In 1999, the Redevelopment Agency's North Long Beach Project Area Committee (North PAC) identified the site as a priority site for remediation and redevelopment. On July 31, 2001, the Redevelopment Agency unanimously approved the acquisition of the site for redevelopment and conversion to a local park.

1.1 Project Description

The site is proposed to be redeveloped and converted from former commercial and industrial uses to recreation and open space uses. The recreation and open space uses will include a lighted grass multi-purpose field, two lighted basketball half-courts, a skateboard area, a tot-lot, passive and active open space, minimal hardscape including gazebos, benches and tables, sun shelters, restrooms and surface parking with a drop-off area. The site will be screened and secured by fencing, which may consist of block wall, stone and wood, or metal. Hours of operation will be from 6:00 AM to 10:00 PM.

As the site is a portion of a former 17-acre municipal solid waste landfill, the project will include a Final Partial Post-Closure Land Use Plan. Various investigations have been performed at the site including a brownfields assessment, a pre-design investigation, an assessment of the integrity and adequacy of the existing landfill cover, and an alternative vegetative cover pilot-scale test. Currently, the City of Long Beach is in the process of implementing a Groundwater Solid Waste Assessment Test and is preparing a post-closure landfill cover design including recreation

improvements, a post closure landfill cover maintenance plan and construction of recreation improvements.

The site has been cleared of existing structures, improvements, rubbish and debris. Temporary repairs to existing fencing has been made until new construction can begin. Upon approval of the Post-Closure Land Use Plan, approximately 40,000 cubic yards of clean soil will be imported to the site to stabilize and enhance the current landfill cover. The grading activities will be conducted pursuant to an approved grading plan. A controlled irrigation system which irrigates based on evapotranspiration rates will be designed and installed that will regulate the timing and duration of all watering cycles, including natural rainfall, to ensure that water does not infiltrate the landfill. A methane monitoring and venting system will also be installed to ensure no off-site migration of methane and to provide safe venting of low-level methane emissions. Passive open space areas will include some native vegetation and other non-invasive plantings to protect the landfill cover.

2 ENVIRONMENTAL SETTING

Paramount Dump is approximately 61 feet above mean sea level. Site-specific surface drainage is generally from east to west across the landfill platform, based on current survey data. However, ponding within the site boundaries does occur after rain events. The Los Angeles River channel is approximately 2.5 miles west and the San Gabriel River channel is approximately 3 miles east of the site. At this location, the Los Angeles and San Gabriel Rivers are completely contained within concrete canals.

2.1 Physiographic Location

Paramount Dump is located in the Central Structural Basin of the Los Angeles Basin. The main features in the vicinity of the site are the Downey Plain (on which the site is located), the Bouton Plain and Signal Hill to the south, the Los Angeles River to the west, and the San Gabriel River to the east (CDWR, 1961). The Downey Plain is a depositional feature formed by the coalesced alluvial fans of the Los Angeles, Rio Hondo and San Gabriel River systems. Signal Hill consists of sediments that have been folded and uplifted by faulting. The Bouton Plain slopes down gradually to the north from Signal Hill to the Downey Plain. The site is situated between the Los Angeles and San Gabriel Rivers, which are the main drainage channels in the area. Topography in the vicinity of the site slopes gently to the south.

3 HEALTH RISK ASSESSMENT SUMMARY

3.1 Purpose and Objectives

The objective of this human health risk assessment (HRA) is to evaluate the magnitude of the risks/hazards to human health caused by identified chemicals present in surface and the subsurface at the site. The assessment was focused on the projected future use of the site and is intended to assist in preparation of the post-closure landfill cover design specifications and maintenance/monitoring procedures at the site. The risk assessment incorporated available site-specific information and data in order to minimize the extent of uncertainties in the assessment. When site-specific parameters were not available, then standard, conservative default assumptions were applied. If the results indicate the site poses risks above conservative threshold levels (i.e., cancer risks above the range of 1 in 1,000,000 [1×10^{-6}] and non-cancer risks above a Hazard Index of 1.0), then the risk would be considered unacceptable and additional mitigation and/or remediation would be considered.

The HRA was primarily based on data presented in the *Targeted Brownfields Assessment Final Report* (Ecology and Environmental, 2001) and the *Pre-Design Investigation Summary Report* (Earth Tech, 2002). The list of chemicals of potential concern (COPCs) were reduced to 24 chemicals of concern (COCs) after evaluation of site concentrations and Tier 1 concentrations. Risks were evaluated quantitatively for the COCs identified in air, soil and subsurface soil vapor.

3.2 Organization

The following components are included in the HRA:

- Identification of COPCs and COCs
- Exposure Assessment
- Toxicity Assessment
- Risk Characterization

To assist with the HRA, Risk Integrated Software for Clean-ups (RISC), Version 4.0 software package (Spence and Walden, July 2001) was used to calculate the risk and hazard for each potential receptor. The RISC computer software package is a risk calculation program that incorporates algorithms and models from various agency approved risk assessment guidance documents including, but not limited to, the *Risk Assessment Guidance for Superfund* (EPA, 1989), and the *Standard Guide for Risk Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1995). Computer model features include:

- Risk-Based Corrective Action (RBCA) algorithms in a Tier 1 spreadsheet,
- Calculated additive risks due to multiple pathways, compounds, and receptors,
- Fate and transport models.

3.3 Identification of Chemicals of Potential Concern

COPCs were identified based on past land uses and current and past activities of neighboring properties. At the site, past land uses consisted of a municipal solid waste landfill, diesel repair facilities, manufacturing, and warehouse storage. Prior to the 1980s, a bulk storage tank farm was located north and east of the site, and currently an active tank farm remains north of the site.

A total of 149 chemicals (constituents) were initially considered and analyzed at the laboratory during the previously discussed investigations. A total of 56 constituents were detected in one or more samples and included in the Tier 1 Risk Assessment evaluation as COPCs. The Tier 1 Risk Assessment was performed in accordance with RBCA guidelines, E-1793 (ASTM, 1995). A total of 24 out of 56 constituents exceeded the Tier 1 Risk and Hazard Level goals and were considered for the Tier 2 Risk Assessment as COCs. A list of the 24 Tier 2 COCs is presented in **Table 3-1**. The properties of each chemical, including molecular weight, density, vapor pressure, solubility, Henry's Law Constant, and toxicity parameters are based on the RISC User's Manual, Version 4.0 and on the California Office of Environmental Health Hazard Assessment (OEHHA), Toxicity Criteria Database (**Table 3-2**).

3.4 Exposure Assessment

The exposure assessment consists of the identification of receptor populations, complete exposure pathways, and an estimation of the exposure dose for pathways that are, or may become, complete or significant. A complete exposure pathway consists of the following elements:

- A source of chemicals or point of chemical release both on-site and off-site;
- A transport mechanism and pathway from the chemical source to air, soil, groundwater, and/or surface water;
- A route of exposure, and;
- A potential receptor population at the site, or immediately adjacent to the site.

An exposure pathway is not considered complete if any one of these elements is missing. Any exposure pathway that is not either currently complete or not likely to be completed in the future is excluded from further evaluation in the HRA.

3.5 Conceptual Site Model

The sources of chemical release, mechanisms of release, transport mechanisms, exposure pathways, exposure routes, and potential receptor that were evaluated in the HRA are illustrated in the conceptual site model included as **Figure 3-1**. The first step in the development of the conceptual exposure model is to identify the primary and secondary sources of COCs and the various receiving media (soil, groundwater, air) associated with each source. The next step is to identify the transport mechanism, exposure pathways, and potential receptors associated with each receiving medium or source. Receiving media that contain chemicals to which receptors may be exposed are referred to as contact media. In order to identify receptors and potentially complete exposure pathways, it is necessary to understand current and future uses of the land and groundwater.

Since there will be no pumping or removal of groundwater at the subject site (except for monitoring by trained technicians), risk associated with chemicals in groundwater was not evaluated as part of this assessment since there is no complete exposure route for individuals at the proposed 55th Way park site. Potential risk associated with indoor air of neighboring residential properties was not calculated because significant horizontal transport of landfill soil gas is not expected to occur. The preferential pathway for soil and landfill gases is through the refuse and existing soil cover rather than horizontally through the dense, native subsurface soils. Risk from outdoor air was calculated for off-site residents.

In addition, dust prevention controls (best management practices [BMPs]) will be used during park construction and the site will be monitored for dust in accordance with the health and safety plan. Construction workers will utilize appropriate personal protection equipment (PPE) to mitigate the risk associated with this exposure pathway. The current surface of the site is hard (asphalt-like) with some vegetation which has prevented the generation of dust and mitigated off-site migration to the adjacent residential properties, thereby eliminating this transport mechanism (wind dispersion) and exposure pathway (dust).

Furthermore, stormwater does not appear to be a significant exposure pathway. Currently, no stormwater has been observed leaving the site and 40-hour OSHA trained construction workers will be wearing appropriate PPE during construction activities. After the former landfill is covered/capped, stormwater runoff will not contact impacted soil, which eliminates the surface water exposure pathway. After park construction, clean surface water will be transported to a stormwater interceptor (clarifier) before discharge to the municipal storm sewer system.

A total of six potential receptors were identified as part of the risk assessment, three are pre-park construction and three are post-park construction. As shown in the site conceptual model, unauthorized visitors are initially included as potential receptors. However, now that the storage containers and building that once housed transients have been removed and demolished, and security has increased measurably, unauthorized visitors have been eliminated as potential receptors and exposure risks were only calculated for five potential receptors (2 pre-construction and 3 post-construction).

3.6 Estimation of Exposure

The exposure dose is used to estimate risks due to the chemical intake for COCs. Exposure doses are estimated based on assumed exposure parameters and estimates of exposure point concentrations.

3.6.1 Exposure Parameters and Assumptions

Exposure parameters and assumptions used to estimate exposure concentrations for each scenario were chosen to be conservative. Exposure assumptions for construction workers, future park visitors, future park workers, and neighboring residential properties were obtained from the USEPA Exposure Factors Handbook (USEPA, 1998) and professional judgment. A summary of exposure assumptions (including exposure frequencies and duration) is included in **Tables 3-3** and **3-4**. Inhalation rates and dermal exposure assumptions are summarized in **Tables 3-5** and **3-6**. The assumed sources, exposure pathways, and potential receptors are shown in **Figure 3-1**. Details regarding exposure input parameters used in the RISC model are included in **Appendix A**.

3.6.2 Exposure Point Concentrations

During the Tier I assessment, the maximum concentrations were used for each COC and compared to individual constituent risk-based screening levels (RBSLs). The maximum concentrations and RBSLs for each constituent are shown in Table 3-7. RBSL were calculated using the algorithms provided in the RBCA guidance document (E-1739-95) (ASTM, 1995), and applying California Office of Environmental Health Hazard Assessment (OEHHA) toxicity parameters. For the Tier II HRA, the average concentration of each COC was used in the exposure calculations. If the COC was not detected during the investigation (below the detection limit), then a conservative value equal to the detection limit was used to estimate the exposure point concentration.

Exposure point concentrations in surface soil (0 to 6 feet below ground surface [bgs]) were obtained from available site data (Table 3-8). The soil concentrations listed in Table 3-8 are from the current, existing cover on top of which 3 to 5 additional feet of clean, compacted imported soil will be placed before park construction. The proposed 3 to 5 foot thick soil cap/cover provides a barrier that eliminates dust, surface soil, surface water, and sediment exposure pathways and reduces exposure point concentrations.

The Johnson and Ettinger (1991) model was used to estimate volatilization through the landfill cover. The source concentrations were based on soil gas data from the 10 foot bgs level (near the existing soil cover/refuse interface). For most COCs, the 10 foot bgs sample had the highest soil gas concentration. However, if higher soil gas concentrations were detected in the deeper samples (24 and 35 feet bgs), the soil gas concentrations were averaged over the depth to determine the source concentration used in the Tier 2 assessment (Table 3-9).

A "box" model (Appendix B) was used with the volatilization rate to calculate exposure point concentrations in outdoor air. The box model is used in the RBCA guidelines (ASTM, 1995). Average wind speed assumptions used in the box model calculations are shown in Table 3-10 which are base on the National Climatic Data Center (NCDC) on-line information source. The wind speed data was collected from the Long Beach weather station.

Indoor air concentrations of volatile organic compounds (VOCs) were not estimated since there are no enclosed structures proposed at the site. Exposure point concentrations in soil and air for each of the analyzed scenarios and other input parameters are presented in Appendix A.

3.6.3 Algorithms for Calculating Exposure Dose

The LADD (Life Average Daily Dose) and CADD (Chronic Average Daily Dose) were calculated for each scenario and for each exposure route, using the media concentration (soil or ambient air), the exposure frequency and duration, the receptor specific characteristics (body weight, total skin area, lifetime, soil ingestion and inhalation rates) and the specific contaminant route factors (chemical specific oral and dermal soil absorption factors, and inhalation absorption adjustment factors). Generally, the algorithmic calculations are based on the American Society for Testing and Materials (ASTM), RBCA guidelines (E-1739) (ASTM, 1995).

3.7 Toxicity Assessment

The toxicity assessment examines information concerning the potential human health effects of exposure to COCs. Its goal is to provide, for each listed COC, a basis for the characterization of risk using the exposure estimates and toxicity characteristics of each COC.

For carcinogens, it is assumed that no threshold concentration exists (i.e. any dose may result in carcinogenesis). The probability developing cancer is described by the slope of the dose response curve. The doses from the various known or suspected carcinogens are assumed to be additive over the receptor's lifetime.

For non-carcinogens, it is assumed that a dose exists below which no adverse health effects will occur (i.e., threshold dose). Compounds with short-term, acute effects are generally considered to have a threshold dose.

3.8 Toxicity Values

The cancer slope factor (SF) is the toxicity value used to quantitatively express the carcinogenic risk of cancer-causing constituents. The slope factor is expressed in units of $(mg/kg/day)^{-1}$. The SF is the upper 95-percentile confidence limit of the linear term of the dose response curve. The Incremental Excess Lifetime Cancer Risk (IELCR) is calculated from the product of the lifetime average daily dose and the SF. The USEPA uses an overall weight-of-evidence classification scheme to describe the degree of carcinogenicity in mammalian species. This information is used to draw conclusions about the potential to cause cancer in humans. The weight-of-evidence classification can be used in the interpretation of the significance of estimated risks. The slope factors used for each COC are provided in Table 3-2.

The reference dose (RfD) is the toxicity value used to quantitatively express the hazard of non-carcinogenic constituents. The RfD is expressed in units of mg/kg/day and represents a daily intake of chemical per kilogram of body weight below which no adverse health effects are assumed to occur. The ratio of exposure to the RfD is called the hazard quotient (HQ). RfDs for each COC are provided in Table 3-2.

The primary sources of slope factors and RfD values are the California Office of Environmental Health Hazard (OEHHA), the Integrated Risk Information System (IRIS) and the Agency for Toxic Substances and Disease Registry (ATSDR).

3.9 Risk Characterization

Human health risks are evaluated separately for carcinogenic and non-carcinogenic effects. For carcinogens, risk estimates represent an increased risk of cancer, which results from the total lifetime exposure to constituents from the site. The total exposure dose is normalized to a 70-year lifetime for the risk calculations. The summation of dose is in keeping with the concept that for genotoxic agents there exists no safe threshold dose and it implies that total, lifetime exposure is of greater importance than the actual dose during the exposure event(s). Current regulatory methodology assumes that excess lifetime cancer risks can be summed across routes of exposure and constituents to derive a "total site risk" (USEPA, 1989).

For non-carcinogens, a chronic average daily dose (CADD) is usually estimated to be an average dose occurring over a period of 2 to 7 years (USEPA, 1989). The comparison of the CADD to the RfD yields a ratio termed the HQ. Although an HQ of less than 1.0 suggests that non-

carcinogenic health effects should not occur, an HQ of greater than 1.0 is not necessarily an indication that adverse effects will occur. The sum of the HQs is termed the hazard index (HI). Current regulatory methodology assumes that this can be summed across exposure routes for all media at the site.

According to the revised National Contingency Plan (NCP) (55 Fed. Reg. 8665-8865), USEPA RAGS (1989), and Rule 1150.1, Control of Gaseous Emission from Municipal Solid Waste Landfills (AQMD, 2000), carcinogenic risks are in a potentially acceptable range if they are between 1 in 10,000 and 1 in 1,000,000, however the more conservative risk level (1×10^{-6}) was used to evaluate human health risk for this site. The results of the human health risk assessment conducted for the site are summarized in **Table 3-11** and detailed information on input and output parameters of the computer model are included in **Appendix A.**

3.10 Summary and Conclusions

The apparent sources of the identified contamination at the site are the former inactive landfill, past and current activities are neighboring properties, and past tenant surface uses at the site. A total of 56 COPCs were initially identified. This list was reduced to 24 COCs that were used in the risk assessment. Exposure pathways and transport mechanisms of contaminants include volatilization from soil to outdoor air, dust emissions through wind dispersion, groundwater through infiltration/percolation, and surface water through stormwater run-off. Since groundwater will not be extracted from the subsurface, there is no complete on-site exposure route to the potential receptors and risk associated with groundwater will be evaluated after completion of a Groundwater Solid Waste Assessment Test (SWAT) **(Figure 3-1)**.

Potential exposure routes include ingestion, dermal absorption, and inhalation. Prior to, and during, 55th Way Park construction, potential receptors include construction workers, unauthorized visitors, and off-site residential properties. Unauthorized visitors were removed from the risk assessment due to recent cleanup activities (removal of storage containers and the warehouse building) and security measures instituted at the site. After construction of the 55th Way Park, potential receptors will include park visitors, park workers, and off-site residential properties. Since the park will be covered by a 3 to 5 foot thick monolithic cover, ingestion and absorption were eliminated as potential exposure routes and inhalation remained the only feasible route of exposure for the three potential post-park construction receptors.

Exposure and toxicity data (input parameters) were input into the RISC computer model program to calculate site-specific daily doses and risk from ingestion, dermal absorption, and inhalation for each contaminant. Expected daily doses and risk for each COC were summed to determine the risk for each exposure route. The risk associated with each exposure route is also summed to calculate total carcinogenic and non-carcinogenic risks for each potential receptor **(Table 3-11)**.

Based on the results of the HRA, Earth Tech concludes the following:

- The target cancer risk level is less than 1×10^{-6} and target hazard index level (non-carcinogenic) is less than 1.0,
- Both the calculated cancer risk level (carcinogenic) and hazard index level (non-carcinogenic) for each pre-park construction potential receptor (construction workers and off-site residential properties) are below the target levels.

- Both the calculated cancer risk level (carcinogenic) and hazard index level (non-carcinogenic) for each post-park construction potential receptor (park visitors, park workers, off-site residential properties) are below the target levels.
- According to the risk model predictions, corrective action measures to be implemented during construction of the 55th Way Park (landfill cover and cap) would reduce the cancer risk from 4.5×10^{-7} to 3.7×10^{-9} and non-carcinogenic hazard from 1.6×10^{-1} to 1.4×10^{-3} for off-site residential receptors,
- As summarized in Table 3-11, exposure risks decrease up to two-fold (100 times) from before park-construction (pre-construction) to after implementation of the proposed landfill post-closure land use plan and construction of the park (post-construction). The decrease in risk in primarily due to the placement of a landfill cap/cover, which prevents access to the contaminated soil and eliminates ingestion and dermal absorption exposure routes.

References

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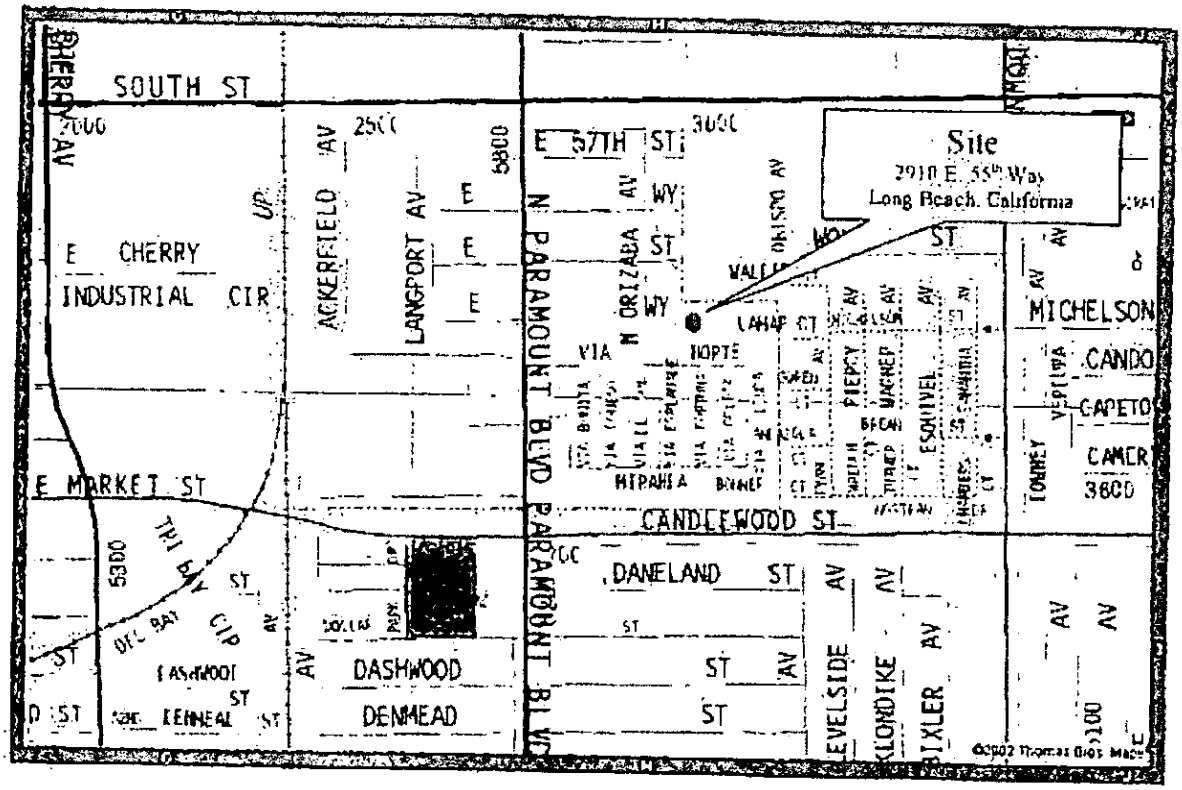
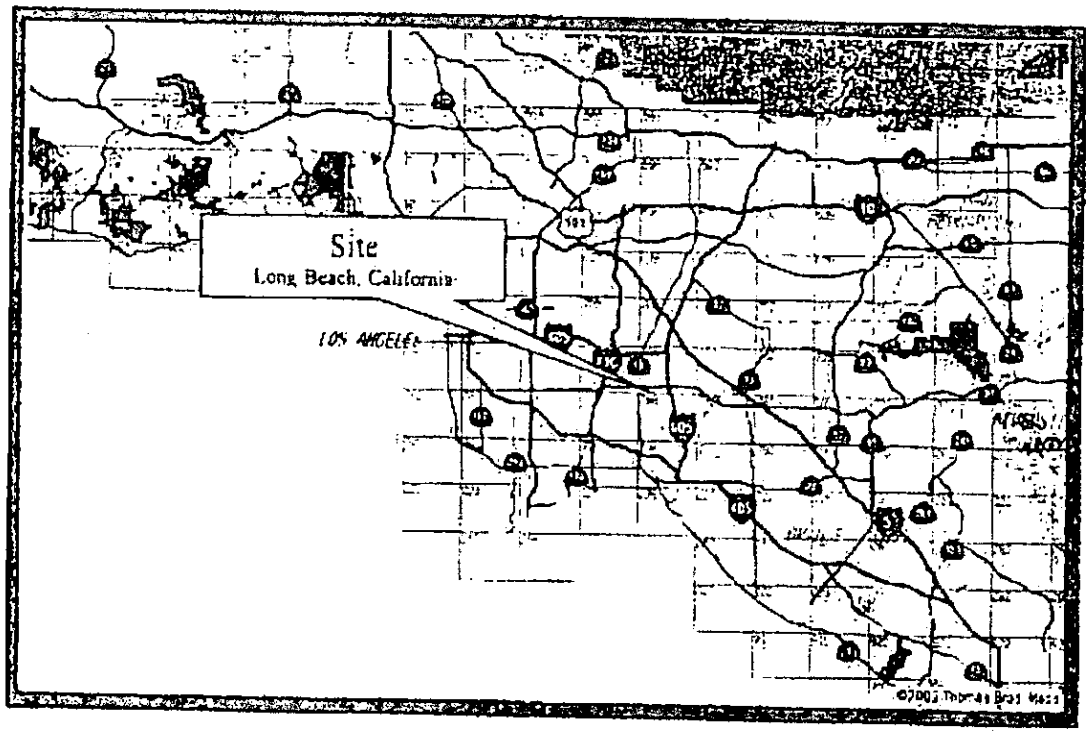
Figures





CITY OF LONG BEACH
PARAMOUNT DUMP/55TH WAY PARK

SITE LOCATION MAP

2910 E 55TH WAY
LONG BEACH CALIFORNIA

DATE 12-02	EARTH TECH	FIGURE 1-1
PROJECT NO 57264		

LB1 25113

ADDITIONAL DOCUMENTATION CONCERNING SCAQMD ISSUED NOTICES TO COMPLY

{In Archive} FW: Paramount Landfill in the City of Long Beach
Acosta, Greg
to:
Michael Conway, Meredith Elguira (meredith.elguira@longbeach.gov)
02/15/2012 08:47 AM
Cc:
"Leonard, Michael"
Hide Details
From: "Acosta, Greg" <gacosta@bas.com>

To: Michael Conway <Michael.Conway@longbeach.gov>, "Meredith Elguira (meredith.elguira@longbeach.gov)" <meredith.elguira@longbeach.gov>

Cc: "Leonard, Michael" <mleonard@bas.com>

2/15/2012

Bas Verbal Consult & Recommendation ??

Archive: This message is being viewed in an archive.

Mike/Meredith

We received this yesterday from SCAQMD. Charles has essentially taken a different view of the application of Rule 1150.1 to the passive vents. He has stopped short of requiring an active system, which is good, and he is implying that they may entertain re-opening the vents if fitted with Best Available Control Technologies.

We are taking a quick look at potential options for this and will give you our recommendation. But before any effort is made on a formal resubmittal of a request to re-open the vents, we recommend that Charles (and/or Atul, who reports to Charles) be consulted for verbal concurrence.

Greg Acosta, P.E. | Vice President, Environmental Services Division
Office. 909.860 7777 x258 | Fax: 909.396.1768 | Cell: 951.836 2709
greg.acosta@tetratech.com

From: Charles Tupac [mailto:ctupac@aqmd.gov]
Sent: Tuesday, February 14, 2012 8:36 AM
To: Acosta, Greg
Cc: Richard Tambara; Garrett Kakishita
Subject: Paramount Landfill in the City of Long Beach

Mr. Acosta,

e South Coast Air Quality Management District (AQMD), Refinery and Waste Management Permitting staff have received your transmittal letter dated January 24, 2012 regarding the passive vents at the Paramount Landfill, located

in the City of Long Beach. Your letter requests that the Notice to Comply be rescinded, requests the passive vents to be re-opened, and also contains results, estimates and calculations for the gas flow rates, health risk and air emissions.

Based on a review of the information contained in the letter and Rule 1150.1, the AQMD has concluded the following

1) The one-ton per year reference in the letter is incorrect. The passive vent system has a maximum potential to emit of greater than 1 pound per day of non-methane non-ethane organic compounds. If the passive vent system was subject the equipment to AQMD's New Source Review regulation, it would be required to comply with Best Available Control Technology (BACT). The passive vent system, in its current configuration is without the benefit of emission control, and would not meet BACT.

2) AQMD has long-considered any passive vent to be the same as a landfill surface. Since the Paramount landfill is an inactive landfill without a gas collection system, and has surface gas emissions greater than 200 ppmv of Total Organics, as methane, the Notice to Comply correctly cites Rule 1150.1(h)(2)(A).

3) While not yet required to be installed, a properly designed and operated gas collection and control system would be the most effective method of mitigating surface emissions and preventing migration.

Please contact me if you have any questions or require more information.

Regards,

Charles Tupac, P.E.
AQAC Supervisor
Refinery and Waste Management Permitting
Engineering and Compliance Division
Phone 909-396-2684
Fax 909-396-3342
ctupac@aqmd.gov

December 13, 2011 JN: 2009.0064

Mr. Garrett Kakishita
South Coast Air Quality Management District
21865 Copley Drive,
P.O. BOX 4941
Diamond Bar, CA 91765

RE: PARAMOUNT LANDFILL (FACILITY I.D. 164462)
RESPONSE TO NOTICE TO COMPLY - 11/30/11

Dear Mr. Kakishita:

On November 30, 2011 the representatives of the City of Long Beach, Tetra Tech BAS (the City's consultant for this site) and the South Coast Air Quality Management District (SCAQMD) met at the Pop's Davenport Park which is the current post closure land use for the northeast portion of the Paramount Landfill in Long Beach, California (Facility ID 164462). At that time, SCAQMD personnel monitored the emissions from the outlets of three passive vent stacks located within the park. Monitored concentrations of TOC measured as methane at that time were observed to be in excess of 200 arts per million by volume (ppmv). In response, the SCAQMD issues a Notice to Comply (attached) which directed the City to *"Apply mitigation measures to reduce TOC measured as methane to under 200 ppmv at the exits of three vents on the landfill surface"*. A compliance due date was established as December 13, 2011

In response to this Notice, the City capped the outlets of the three vents on December 12, 2011. Photos of the capped vents are attached.

As discussed during our site meeting, the vents in question were installed under a Post Closure Land Use Plan (PCLUP) approved by the Los Angeles County Department of Public Health, Solid Waste Management Program. The vents were designed to control landfill gas accumulation within the capped waste prism and prevent off-site subsurface gas migration from the landfill perimeter which abuts an adjacent single family residential development. Capping of the vents, may result in the unintended consequence of increasing subsurface methane concentrations around the perimeter of the landfill. As such, the City will initiate regular monitoring of these probes to confirm the absence of methane.

Concurrently with this, the City intends to perform a Tier 2 Health Risk Assessment in accordance with SCAQMD Rule 1401 & 212 Risk Assessment Procedures in order to assess the true impact of the vent stack emissions and potentially provide justification

for their re-opening, thereby mitigating concerns regarding subsurface gas migration. Analytical data for the Tier 2 Assessment will be taken from testing of vent stack emissions performed by the City and CalRecycle/SCAQMD. Results of the Tier 2 Assessment will be presented to SCAQMD upon completion.

We have contacted CalRecycle in order to obtain the analytical data from the CalRecycle/SCAQMD sampling event. Any assistant that the SCAQMD could provide in obtaining this data would be greatly appreciated.

The City is committed to maintaining the portion of the landfill under their control in compliance with SCAQMD rules. Should you have any questions or comments regarding this response and the proposed actions, please contact me directly at (909).860-7777, extension 258.

Sincerely,

Greg Acosta, P.E.
Vice President, Environmental Services Division

c: Meredith Elguira – City of Long Beach
Michael Conway – City of Long Beach
Richard Tambara - SCAQMD
Michael L. Leonard, BAS

Attachments

A TETRA TECH COMPANY
BRYAN A. STIRRAT & ASSOCIATES
Civil & Environmental Engineers

February 3, 2012 JN: 2009.0064

Mr. Garrett Kakishita
South Coast Air Quality Management District
21865 Copley Drive,
P.O. BOX 4941
Diamond Bar, CA 91765

RE: PARAMOUNT LANDFILL (FACILITY I.D. 164462)
RESPONSE TO NOTICE TO COMPLY – 1/19/12

Dear Mr. Kakishita:

On January 19, 2012, SCAQMD personnel monitored the emissions from several locations at the currently vacant portion of the Paramount Landfill, west of Davenport Park, in Long Beach, California (Facility ID 164462). Monitored concentrations of TOC measured as methane at that six of these locations on that date were observed to be in excess of 200 parts per million by volume (ppmv). In response, the SCAQMD issued a Notice to Comply (attached) which directed the City to *"Apply mitigation measures to reduce TOC measured as methane to less than 200 ppmv at the following locations (as shown & designated):*

1. *"E1" (cracks in foundation – 900 ppmv)*
2. *"E2" (" " 5% ~ 50,000 ppmv)*
3. *"S2" (south end of foundation – 2,000 ppmv)*
4. *"S2" (" " – 4.1% ~ 40,000 ppmv)*
5. *"S1" (south fence line near bollards – 7% peak)*
6. *S3 (south fence line where grass meets asphalt – 1,000 ppmv)*

A compliance due date was established as February 3, 2012.

In response to this Notice, on February 2, 2012, the City of Long Beach performed the following mitigation activities:

Locations S1, S2, and S3: Covered with soil compacted by a loader and hand shovels.

Locations E1 and E2: Cover with compacted asphalt.

Curb Penetrations North of Fence Line: Plugged with concrete (this location was not listed on the Notice, but was noted with SCAQMD during the 01/19/12 site inspection).

J:\Long Beach - City\2009-0064 Paramount Landfill Engineering\SCAQMD Response Letter 2-3-12.doc
1360 Valley Vista Drive • Diamond Bar, CA 91765 • (909) 860-7777 • FAX (909) 860-8017

Following implementation of the mitigation measure, Tetra Tech BAS monitored all locations using a TVA-100B FID to assess the effectiveness of the above-mentioned mitigation measures. None of the locations showed emissions above the 200ppmv action level. Photos of the mitigation activities are attached.

The City is committed to maintaining the portion of the landfill under their control in compliance with SCAQMD rules. Should you have any questions or comments regarding this response and the proposed actions, please contact me directly at (909) 860-7777, extension 258.

Sincerely,

Greg Acosta, P.E.
Vice President, Environmental Services Division

c: Meredith Elguira - City of Long Beach
Michael Conway - City of Long Beach
Richard Tambara - SCAQMD
Michael L. Leonard - BAS

Attachments

BRYAN A. STIRRAT & ASSOCIATES
Civil & Environmental Engineers
A TETRA TECH COMPANY

NOTICE TO COMPLY

South Coast Air Quality Management District
21865 Copley Drive, P.O. Box 4941, DIAMOND BAR, CA 91765-0941

NOTICE TO COMPLY

1/19/12
DATE OF INSPECTION

Facility Name:		Facility ID#:	Section:
Long Beach Redevelopment Agency		164462	LP
Location Address: 5550 N. Paramount Blvd	City: Long Beach		Zip: 90805
Mailing Address: 333 W. Ocean Blvd.	City: Long Beach		Zip: 90802

This Notice to Comply is being issued to:

- ☐ Request additional information needed to determine compliance with clean air requirements.
- ☒ Correct a minor violation found during an inspection.

Failure to respond or take corrective action, or providing false statements in response to this Notice to Comply can lead to issuance of a Notice of Violation pursuant to the California Health and Safety Code. The facility cited above is subject to re-inspection at any time to ensure compliance.

YOU ARE HEREBY DIRECTED TO COMPLY WITH:

#	Admin Code/Section	Requirement	Compliance Date	Compliance Verified
1	1150.1(h)(2)(A)	Apply mitigation measures to reduce TOC measured as methane to less than 2000 ppmv at the following locations (as shown on Basin map):	2-3-12	
2		(1) "E1" (Cracks in foundation - 9000 ppmv)		
		(2) "E2" (" 5% = 50000 ppmv)		
3		(3) "S2" (South side of building - 2000 ppmv)		
		(4) "S2" (" 4.1% = 40000 ppmv)		
		(5) "S1" (South Sensitive near bollards - 7% peak)		
4		(6) "S3" (South Sensitive near grass meets asphalt - 1000 ppmv)		
5				
6				

Served To:	Served By:		
Greg Acosta	Garrett Kakishita		
Title: V.P. Env. Services Tetra Tech BAS	Date Served: 1-19-12	Phone: 909 396 3267	Fax: 909 396-5742
Email Address: greg.acosta@tetratech.com	Phone: 951-836-2709	Email Address: GKakishita Gaqmd.gov	Forms & Applications Also available at: www.aqmd.gov

Instructions:

- For each minor violation cited above, compliance shall be achieved by the compliance deadline specified for that particular violation.
- Within 5 working days of achieving compliance for each respective violation, the owner/responsible officer of the cited facility must complete and return a signed copy of this Notice to Comply to the South Coast Air Quality Management District at the address listed above.
- Please copy and return this Notice to Comply as many times as necessary to provide the required information. On each copy, include the date on which compliance was achieved. Date, sign, and send all completed copies to the attention of the inspector named above.

I hereby certify that the facility cited in this Notice to Comply has achieved compliance with the requirements listed above.

NAME OF OWNER/RESPONSIBLE OFFICIAL	TITLE	SIGNATURE	DATE

NOTICE#: E 05311

FILE COPY (Blue) FACILITY COPY (Gold) INSPECTOR COPY (White)

A TETRA TECH COMPANY
BRYAN A. STIRRAT & ASSOCIATES
Civil & Environmental Engineers

December 13, 2011 JN: 2009.0064

Mr. Garrett Kakishita
South Coast Air Quality Management District
21865 Copley Drive,
P.O. BOX 4941
Diamond Bar, CA 91765

RE: PARAMOUNT LANDFILL (FACILITY I.D. 164462)
RESPONSE TO NOTICE TO COMPLY – 11/30/11

Dear Mr. Kakishita:

On November 30, 2011 representatives of the City of Long Beach, Tetra Tech BAS (the City's consultant for this site) and the South Coast Air Quality Management District (SCAQMD) met at the Pop's Davenport Park which is the current post closure land use for the northeast portion of the Paramount Landfill in Long Beach, California (Facility ID 164462). At that time, SCAQMD personnel monitored the emissions from the outlets of three passive vent stacks located within the park. Monitored concentrations of TOC measured as methane at that time were observed to be in excess of 200 parts per million by volume (ppmv). In response, the SCAQMD issued a Notice to Comply (attached) which directed the City to *"Apply mitigation measures to reduce TOC measured as methane to under 200 ppmv at the exits of three vents on the landfill surface"*. A compliance due date was established as December 13, 2011

In response to this Notice, the City capped the outlets of the three vents on December 12, 2011. Photos of the capped vents are attached.

As discussed during our site meeting, the vents in question were installed under a Post Closure Land Use Plan (PCLUP) approved by the Los Angeles County Department of Public Health, Solid Waste Management Program. The vents were designed to control landfill gas accumulation within the capped waste prism and prevent off-site subsurface gas migration from the landfill perimeter which abuts an adjacent single family residential development. Capping of the vents, may result in the unintended consequence of increasing subsurface methane concentrations around the perimeter of the landfill. As such, the City will initiate regular monitoring of the perimeter probes located along the eastern and northern boundaries of the landfill to confirm the absence of methane.

Concurrently, the City will to perform a Tier 2 Health Risk Assessment in accordance with SCAQMD Rule 1401 & 212 Risk Assessment Procedures in order to assess the true impact of the vent stack emissions and potentially provide justification for their re-opening,

thereby mitigating concerns regarding subsurface gas migration. Analytical data for the Tier 2 Assessment will be taken from testing of vent stack emissions performed by the City and CalRecycle/SCAQMD. Results of the Tier 2 Assessment will be presented to SCAQMD upon completion.

We have contacted CalRecycle in order to obtain the analytical data from the CalRecycle/SCAQMD sampling event. Any assistant that the SCAQMD could provide in obtaining this data would be greatly appreciated.

The City is committed to maintaining the portion of the landfill under their control in compliance with SCAQMD rules. Should you have any questions or comments regarding this response and the proposed actions, please contact me directly at (909) 860-7777, extension 258.

Sincerely,

Greg Acosta, P.E.
Vice President, Environmental Services Division

c: Meredith Elguira - City of Long Beach
Michael Conway - City of Long Beach
Richard Tambara - SCAQMD
Michael L. Leonard - BAS

Attachments

NOTICE TO COMPLY

South Coast Air Quality Management District
21865 Copley Drive, P.O. Box 4941, Diamond Bar, CA 91765-0941

NOTICE TO COMPLY

Date of Inspection: 11 / 30 / 11

Facility Name: Long Beach Redevelopment Agency		Facility ID#: 164462
Location Address: 5450 - 5550 Paramount Blvd	City: Long Beach	Zip: 90805
Telephone #: (909) 860 7777		Sector: LP
Mailing Address: 333 W Ocean Blvd	City: Long Beach	Zip: 90802

YOU ARE DIRECTED TO COMPLY WITH:

Item #	•AQMD Permit # or Equip Description •AQMD Rule # •California H&S Code §	A MEANS OF ACHIEVING COMPLIANCE IS:	DUE DATE (Date compliance is due)
1	1150.1(H)(2)(A)	Apply methods or measures to reduce the methane emissions and thus to reduce	12-3-
2		200 ppmv at the exits of these vents located on the landfill surface.	
3			

REPLY REPORT BY CITED FACILITY
(attach additional pages as necessary)

DATE COMPLIANCE ACHIEVED	DESCRIPTION OF HOW COMPLIANCE WAS ACHIEVED

SIGNATURE OF OWNER/RESPONSIBLE OFFICIAL:

TITLE:

DATE:

SERVED TO: Michael Conway
TITLE: Director
TELEPHONE: (562) 570-5282

BY INSPECTOR: Garrett Katishita
DATE ISSUED: 11-30-11

Instruction/Information:

- For each minor violation cited compliance shall be achieved by the due date specified above for that particular violation.
- Within 5 working days of achieving compliance for each respective violation, the owner/responsible officer of the cited facility must complete and return a signed copy of this Notice to the South Coast Air Quality Management District at the address listed above. Please copy this Notice as many times as necessary to provide the required information. On each copy, include a written statement describing when and how compliance was achieved. Send all completed copies to the attention of the inspector named above.
- Failure to respond or a false statement that compliance has been achieved is a violation subject to further legal action pursuant to the California Health and Safety Code.
- The facility cited in this Notice is subject to re-inspection at any time to ensure compliance.

NOTICE # D 26089

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FILE COPY (Blue) FACILITY COPY (Gold) INSPECTOR COPY (White)

Long Beach - City\20059-0004 Paramount Landfill Engineering\SCAQMD Response Letter 12-13-11R.doc: 12/13/2011

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

Long Beach Redevelopment Agency
333 W Ocean Blvd., 3rd Floor,
Long Beach, CA 90802

October 22, 2010
A/N 511769
ID 164462

Attention: Mr. Jeff Winklepleck,
Planner, Long Beach Redevelopment Agency

Rule 1150 Excavation Permit

Reference is made to your Application No. 511769 for a Rule 1150 Excavation Permit for the excavation at the Davenport Landfill, located at 5500 N Paramount Blvd., Long Beach, California. Please be advised that this Excavation Permit is granted under Rule 1150 of the Rules and Regulations of the South Coast Air Quality Management District (AQMD) and is subject to the following conditions:

1. THIS EXCAVATION SHALL BE CONDUCTED IN COMPLIANCE WITH ALL PLANS AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EXCAVATION PERMIT SHALL BE VALID UNTIL OCTOBER 21, 2011. AN EXTENSION MAY BE GRANTED UPON WRITTEN REQUEST. SUCH A REQUEST SHALL INCLUDE THE REASONS THE EXTENSION IS REQUIRED, THE LENGTH OF THE EXTENSION AND THE STATUS OF THE EXCAVATION TO DATE.

3. THE AQMD SHALL BE NOTIFIED IN WRITING AT LEAST TWO (2) DAYS PRIOR TO THE START OF THE EXCAVATION AND WITHIN FIVE (5) DAYS AFTER IT IS COMPLETED.

4. THIS EXCAVATION PERMIT IS VALID ONLY FOR THE REMOVAL OF APPROXIMATELY 5,000 CUBIC YARDS OF EXCAVATED MATERIAL AND REFUSE.

5. EXCAVATION SHALL NOT BE CONDUCTED BETWEEN THE HOURS OF 5:00 P.M. AND 7:00 A.M. OR ON SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS UNLESS OTHERWISE APPROVED IN WRITING BY THE AQMD.

6. EXCAVATION SHALL NOT BE CONDUCTED ON DAYS WHEN THE AQMD FORECASTS FIRST, SECOND OR THIRD STAGE EPISODES FOR AREA NUMBER 4 OR WHEN THE AQMD REQUIRES COMPANIES IN AREA NUMBER 4 TO IMPLEMENT THEIR FIRST, SECOND OR THIRD STAGE EPISODE PLANS. EPISODE FORECASTS FOR THE FOLLOWING DAY CAN BE OBTAINED BY CALLING (800) 288-7664.

7. EXCAVATION SHALL NOT BE CONDUCTED WHEN THE WIND SPEED IS GREAT THAN 15 M.P.H. (AVERAGED OVER 15 MINUTES) OR THE WIND SPEED INSTANTANEOUSLY EXCEEDS 25 M.P.H.

8. DURING EXCAVATION, ALL WORKING AREAS, EXCAVATED MATERIAL AND UNPAVED ROADWAYS SHALL BE WATERED DOWN UNTIL THE SURFACE IS MOIST AND THEN MAINTAINED IN A MOIST CONDITION TO MINIMIZE DUST AND EMISSIONS WITHOUT CREATING A SAFETY HAZARD CONDITION.

9. EXCAVATED REFUSE SHALL NOT BE STOCKPILED ON-SITE. ALL EXCAVATED REFUSE SHALL BE DEPOSITED DIRECTLY INTO THE TRUCKS OR TRAILERS WHICH WILL HAUL IT. THE TRUCK BEDS OR TRAILERS SHALL BE COMPLETELY COVERED WITH AN IMPERMEABLE COVER, WITH SUCH COVERS TIED DOWN. ALL SEAMS SHALL BE SEALED TO PREVENT ANY MATERIALS FROM ESCAPING DURING TRANSPORT.

10. WHEN LOADING IS COMPLETED AND DURING TRANSPORT, NO MATERIAL SHALL EXTEND ABOVE THE SIDES OR REAR OF THE TRUCK OR TRAILER WHICH WILL HAUL THE EXCAVATED MATERIAL.

11. THE EXTERIOR OF TRUCKS OR CARS (INCLUDING THE TIRES) SHALL BE CLEANED OFF PRIOR TO LEAVING THE EXCAVATION SITE.

12. VOC CONTAMINATED SOIL (AS DEFINED BY RULE 1166) SHALL NOT BE SPREAD ONSITE OR OFFSITE IF IT RESULTS IN UNCONTROLLED EVAPORATION OF VOC TO THE ATMOSPHERE.

13. THE EXCAVATION WORKFACE AND ALL EXCAVATED REFUSE SHALL BE COVERED WITH EITHER A PROTECTIVE LINER OR PLASTIC SHEETING, OR A MINIMAL OF 6 INCHES OF SOIL WHENEVER WORK IS NOT ACTIVELY IN PROGRESS.

14. THE EXCAVATION WORK FACE WHICH EXPOSES REFUSE OR OTHER EMISSION GENERATING MATERIALS TO THE ATMOSPHERE SHALL NOT EXCEED 500 SQUARE FEET.

15. ALL EXCAVATED HAZARDOUS MATERIAL SHALL BE TRANSPORTED IN SUCH A MANNER AS TO PREVENT ANY EMISSIONS OF HAZARDOUS MATERIALS.

16. ALL HAZARDOUS MATERIALS SHALL BE TRANSPORTED IN CONTAINERS CLEARLY MARKED AS TO THE TYPE OF MATERIAL CONTAINED AND WHAT PROCEDURES SHOULD BE FOLLOWED IN CASE OF ACCIDENTAL SPILLS.

17. EXCAVATED LIQUID HAZARDOUS MATERIALS WITH THE POTENTIAL TO CAUSE AIR EMISSIONS SHALL BE ENCAPSULATED OR ENCLOSED IN CONTAINERS WITH SEALED LIDS BEFORE LOADING INTO THE TRANSPORT VEHICLES.

18. ALL MATERIALS THAT ARE LISTED AS HAZARDOUS BY A FEDERAL OR STATE AGENCY SHALL BE CONSIDERED "HAZARDOUS MATERIALS" FOR THE PURPOSE OF THIS PERMIT.

19. DURING EXCAVATION, MONITORING FOR ORGANICS AS METHANE USING AN ORGANIC VAPOR ANALYZER (OVA) OR OTHER MONITOR APPROVED BY THE AQMD SHALL BE CONDUCTED CONTINUOUSLY AT THE WORKING FACE AND AT THE PROPERTY LINE. THE MAXIMUM SUSTAINED READINGS SHALL BE RECORDED EVERY 15 MINUTES.

20. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 2,000 PPM OR GREATER AT THE WORKING FACE, THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

21. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 200 PPM OR GREATER DOWNWIND FROM THE SITE AT THE PROPERTY LINE (OR OTHER APPROVED LOCATIONS), THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

22. DURING EXCAVATION, CONTINUOUS MONITORING AND RECORDING OF THE WIND SPEED AND DIRECTIONS SHALL BE CONDUCTED AT A SITE APPROVED BY THE AQMD.

23. ALL OVA OR OTHER APPROVED ORGANIC MONITORING EQUIPMENT MONITORS SHALL BE CALIBRATED DAILY USING A METHOD APPROVED BY THE AQMD.

24. CONTINUOUS PM10 MONITORING EQUIPMENT AT UPWIND AND DOWNWIND LOCATIONS SHALL BE DONE WITH CALIBRATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

25. IF A DISTINCT ODOR (LEVEL III OR GREATER) RESULTING FROM THE EXCAVATION IS DETECTED AT OR BEYOND THE PROPERTY LINE, THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. ODOR LEVELS WILL BE DETERMINED BY AQMD PERSONNEL OR ON-SITE SAFETY COORDINATOR IN THE ABSENCE OF AQMD PERSONNEL.

26. DURING EXCAVATION, IF A CONSIDERABLE NUMBER OF COMPLAINTS ARE RECEIVED, ALL WORK SHALL CEASE AND THE APPROVED MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY.

27. MITIGATION MEASURES, OTHER THAN THOSE INDICATED IN THESE CONDITIONS, WHICH ARE DEEMED APPROPRIATE BY AQMD PERSONNEL AS NECESSARY TO PROTECT THE COMFORT, REPOSE, HEALTH OR SAFETY OF THE PUBLIC, SHALL BE IMPLEMENTED UPON REQUEST.

28. ALL RECORDS OF EXCAVATION WORKING HOURS, MONITORING RESULTS, DAILY AMOUNTS OF MATERIALS EXCAVATED AND RELOCATED, AND OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND MADE AVAILABLE TO THE AQMD UPON REQUEST.

29. DURING EXCAVATION, CONTINUOUS AIR MONITORING FOR SUSPENDED PARTICULATES SHALL BE CONDUCTED UPWIND AND DOWNWIND OF THE EXCAVATION SITES.

30. EXCAVATION AND FUGITIVE DUST MITIGATION SHALL BE CARRIED AS PER RULE 403.

31. IF ANY ANALYTICAL RESULTS SHOW THE UPWIND AND DOWNWIND DIFFERENTIAL CONCENTRATIONS OF CONTAMINANTS EXCEEDING THE FOLLOWING LIMITS, EXCAVATION ACTIVITIES SHALL CEASE UNTIL ADDITIONAL MITIGATION MEASURES ARE SUBMITTED TO AND APPROVED BY THE AQMD. THESE ADDITIONAL MITIGATION MEASURES SHALL BE IMPLEMENTED WHEN THE ACTIVITIES RESUME.

CONTAMINANT	CONDITION

PM10 50 ug/m^3

32. THIS PERMIT OR A COPY OF THIS PERMIT SHALL BE PRESENT AT THE EXCAVATION SITE.

Other governmental agencies may require approval before any excavation begins. It shall be the responsibility of the applicant to obtain that approval. The South Coast Air Quality Management District shall not be responsible or liable for any losses because of measures required or taken pursuant to the requirements of this approved Excavation Management Plan.

If you have any questions regarding this matter, please call Mr. Atul Kandhari at (909) 396-2477.

Very truly yours,

Charles Tupac

Charles Tupac
AQAC Supervisor

CDT:AK07:
cc: Rich Tambara

RULE 1150
EXCAVATION MANAGEMENT PLAN
Permit Application Package

Paramount Landfill

5550 N. Paramound Boulevard, Long Beach, California

June 1, 2010

Prepared For:

Long Beach Redevelopment Agency
333 W. Ocean Blvd, 3rd Floor
Long Beach, CA 90802

For Submittal To:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive
Diamond Bar, California 91765

Prepared By:

BRYAN A. STIRRAT & ASSOCIATES
1360 Valley Vista Drive
Diamond Bar, California 91765
(909) 860-7777

BAS JN: 2009.0064

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SCAQMD FORMS Application For Plans Form 400-P
Form 400-CEQA

TABLE 1

Summary of Laboratory Air and Landfill Gas Results for Fixed Gases

Paramount Dump - PCLUP

2910 E. 55th Way, Long Beach, California

September 25, 2003

Sample Location	Description	Depth (feet bgs)	Date Sampled	DF	Oxygen/ Argon (%)	Nitrogen (%)	Methane (%)	Carbon Dioxide (%)	Notes
AA-1-1	Ambient Air Samples	-6.0	2/4/2002 Day	1.6	23	82	<0.0016	0.041	
AA-1-2		-6.0		1.6	22	81	<0.0016	0.036	
AA-1-3		-6.0		1.6	23	82	<0.0016	0.041	
AA-2-1		-6.0	2/4/2002 Night	1.7	22	79	<0.0016	0.059	
AA-2-2		-6.0		1.7	23	81	<0.0016	0.058	
AA-2-3		-6.0		1.7	23	81	<0.0017	0.072	
GRID-1	Integrated Air Samples	-0.25	1/15/2002	1.7	21	86	<0.0028	0.038	Regulatory limit is 0.005%
GRID-2		-0.25	1/15/2002	1.7	22	82	<0.0016	0.040	
GRID-3		-0.25	1/15/2002	6.5	22	82	<0.0018	0.041	
SUB 1	Subsurface Landfill Gas Samples	10	1/23/2002	1.7	<0.84	51	27	21	
		20		1.7	20	77	3.6	2.8	
		35		6.5	21	81	1.1	0.94	
SUB 2		10	1/23/2002	1.7	<0.84	52	23	22	
		20		1.7	22	82	1.0	0.94	
		35		1.6	21	80	1.3	1.2	
SUB 3		10	1/24/2002	1.7	1.6	60	16	19	
		20		1.6	22	80	0.23	0.26	
		35		1.7	22	79	0.28	0.30	
SUB 4		10	1/25/2002	1.7	13	56	15	14	
		20		1.7	19	72	5.0	5.0	
		35		1.9	17	69	5.9	5.5	
SUB 5		10	1/23/2002	1.7	0.87	22	35	31	
		20		1.7	<0.84	22	34	34	
		35		1.7	10	50	19	18	
SUB 6		10	1/24/2002	1.7	1.8	24	35	31	
		20		1.7	2.4	24	33	31	
		35		1.7	20	73	4.1	3.8	
SUB 7		10	1/25/2002	1.7	<0.84	19	40	35	
		20		1.7	21	76	2.5	2.3	
		35		1.9	19	72	5.2	4.5	
SUB 8		10	1/24/2002	1.7	7.0	43	21	22	
		20		2.0	23	82	0.65	0.64	
		35		1.7	20	77	3.9	4.2	
SUB 9		10	1/25/2002	1.7	7.5	42	24	22	
		20		1.7	20	75	2.5	2.4	
		35		1.9	13	58	16	14	
SUB 10		10	1/25/2002	1.7	<0.84	48	21	25	
		20		1.7	22	79	0.14	0.23	
		35		1.7	20	79	0.30	0.37	
GW-1	Landfill Gas Sample	25-30	1/28/2002	1.6	3.1	62	12	22	Landfill gas well within refuse boundary along eastern edge of landfill
		30-35		1.6	<0.81	47	20	29	
GW-2	Perimeter Soil Gas Probe Samples	15-20	1/28/2002	1.6	12	82	0.24	11	Northern boundary probe
		30-35		2.1	17	77	2.5	4.2	
GW-3		5-10	6/12/2003	2.1	14	72	0.004	8.6	Northwest boundary probe
		20-25		1.7	7.9	76	0.93	11	
GW-4		5-10	6/12/2003	1.7	4.4	73	5.0	17	Southeast boundary probe
		15-20		1.7	12	74	2.0	8.7	
GW-5		5-10	6/12/2003	1.7	12	76	<0.0017	7.9	Eastern boundary probe
		15-20		1.7	14	79	0.0047	3.7	
GW-6		5-10	6/12/2003	1.7	7.6	76	2.4	11	Northeastern boundary probe
		15-20		1.8	6.0	77	2.0	11	

Notes:

bgs = below ground surface

DF = Dilution Factor

Fixed Gas = ASTM-D1946 - carbon dioxide, carbon monoxide, methane, nitrogen, and oxygen

Methane concentrations greater than 5% in Bold

ppmV = parts per million by Volume

AA-1 samples were collected during the daytime hours, AA-2 samples were collected during the following evening hours.

Ambient Air: Windspeeds were within acceptable limits with peak wind speeds recorded at 14 mph and an average wind speed of approximately 4 mph.

Integrated Air: Windspeeds were generally within acceptable limits with peak wind speeds ranging 7.6 to 11.8 miles/hour and an average wind speed ranging from 2.4 to 4.1 miles per hour.

TABLE 2
Summary of Laboratory Landfill Gas Results for Detected VOCs - Boundary Probes
Paramount Dump - PCLUP
2910 E. 55th Way, Long Beach, California
September 25, 2003

Sample Location	Description	Depth (feet bgs)	Date Sampled	DF	Benzene	Toluene	Ethyl-benzene	m, p-Xylenes	o-Xylene	Chloroform	Styrene	cis-1,2-Dichloro ethene	Trichloro ethene	Tetrachloro ethene	Vinyl Chloride	1,3,5,-Tri methyl benzene	1,2,4,-Tri methyl benzene	Notes
GW-2	Perimeter Landfill Gas Monitoring Probe Samples	15-20	1/28/2002	1.6	42	232	80	166	43	4.6	<1.6	<1.6	<1.6	–	<1.6	17	44	Northern boundary probe
		30-35		2.1	39	93	443	77	35	6.2	<2.1	<2.1	<2.1	–	<2.1	18	53	
GW-3		5-10	6/12/2003	2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	3.5	<2.1	<4.1	<4.1	Northwest boundary probe
		15-20		1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	5.5	2.3	8.4	<1.7	<3.4	<3.4	
GW-4		5-10	6/12/2003	1.7	12	23	7.3	28	7.5	<1.7	<1.7	<1.7	<1.7	<1.7	2.8	10	20	Southeast boundary probe
		15-20		1.7	7.6	47	11	46	12	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	17	31	
GW-5		5-10	6/12/2003	1.7	<1.7	<1.7	1.8	3.5	<1.7	<1.7	18	<1.7	<1.7	<1.7	<1.7	<3.4	4.6	Eastern boundary probe
		15-20		1.7	2.1	11	7.6	30	13	<1.7	1.7	<1.7	<1.7	<1.7	<1.7	13	36	
GW-6		5-10	6/12/2003	1.7	5.3	1.7	<1.7	3.8	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<3.4	5.7	Northeastern boundary probe
		15-20		1.8	3.4	11	2.7	11	3.4	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	3.8	9.9	

Notes:

– = Not Analyzed
bgs = below ground surface
DF = Dilution Factor
VOCs analyzed by EPA Method TO-14
All units in ppbV = parts per billion by Volume

E

APPENDIX II-E
POST-CLOSURE MONITORING AND MAINTENANCE PLAN FOR THE GCL COVER SYSTEM

POST-CLOSURE MONITORING AND MAINTENANCE PLAN FOR THE GCL COVER SYSTEM, 55TH WAY LANDFILL, AES, INC. OCTOBER 2005

Post-Closure Monitoring and Maintenance Plan
Alternate Final Cover Using Geosynthetic Clay Liner (GCL)
55th Way Landfill
2910 East 55th Way, Long Beach, California

Prepared for:

City of Long Beach
Department of Public Works
333 West Ocean Boulevard
Long Beach, California 90802

Prepared by:

Advanced Earth Sciences, Inc.
20 Fairbanks, Suite 178
Irvine, California 92618

in conjunction with

Simplus Management Corporation
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POST-CLOSURE MONITORING AND MAINTENACE PLAN FOR THE GCL COVER SYSTEM

1.0 INTRODUCTION

This Post-Closure Monitoring and Maintenance Plan (PCMMP) for the GCL cover system at the former 55th Way Landfill (Paramount Dump) located at 2910 East 55th Way, Long Beach, California, is an addendum to the PCMMP included in the Post Closure Land Use Proposal (PCLUP) prepared by Earth Tech, Inc., in 2003. This PCMMP was prepared by Advanced Earth Sciences, Inc. (AES) in conjunction with Simplus Management Corporation for the City of Long Beach, Department of Public Works.

The final cover for the landfill has been revised from the irrigated evapotranspirative cover originally proposed in the PCLUP, to a Geosynthetic Clay Liner (GCL) cover system. The Technical Memorandum for the design of the GCL cover system was prepared by AES and dated July 21, 2005.

This addendum to the PCMMP replaces Section 6.2.1 - Inspection and Maintenance of Landfill Cover (Evapotranspirative Cover) of the PCLUP.

2.0 GCL COVER SYSTEM

The GCL cover system underlies the vegetated portions of the relatively flat top deck of the landfill. The GCL cover system is documented in the Record Drawings and Specifications and consists of the following components:

- Vegetative Soil: Minimum 2-foot thick layer of vegetative cover soil placed to a relative compaction of 85 percent (as per ASTM D1557). In areas with trees, the cover thickness is 4 feet.
- Lateral Drainage Layer: Geocomposite drainage layer
- Barrier Layer: Geosynthetic clay liner (GCL)
- Foundation: Minimum 2-foot thick foundation layer

The GCL and geocomposite layer were designed and constructed with a minimum slope of 1.9 percent. The finished surface was graded with slopes ranging from 1.9 percent to 10 percent.

3.0 COVER INSPECTION

The cover system will be visually inspected on a quarterly basis. In addition to the regularly scheduled inspections, the cover will be inspected as soon as accessible following significant events listed below:

- Significant rainfall (more than 2 inches of rainfall in 24 hours)
- Major earthquakes
- Failure of surface water management or irrigation systems

The following are guidelines for conditions to be observed and recorded:

- Exposed GCL or geocomposite
- Cracks and fissures wider than 1 inch, deeper then 6 inches, and longer than 50 feet

- Areas of subsidence or surface depressions where ponding may occur
- Erosion gullies (deeper than 6 inches)
- Burrow holes
- Observed or interpreted damage to GCL or geocomposite
- Growth of deep rooting vegetation in grass areas
- Sparse or damaged vegetation

Inspection observations will be recorded on the Standard GCL Cover system Inspection form included in Appendix A.

4.0 COVER MAINTENANCE AND REPAIR

4.1 General

The Site Maintenance Manager will review the inspection observations to establish the need for and extent of maintenance and repair. Repairs will be done in accordance with Record Drawings and Specifications. The Operations Manager may consult with licensed/registered specialists to compile alternate repair plans or specifications. Repairs will be documented on the GCL Cover System Repair Record form (Appendix A).

The Record Drawings and Specifications document the constructed condition of the GCL cover. To the extent practical, maintenance and repair should be undertaken to maintain or restore the as-built conditions. Repair that involves construction should be undertaken in conformance with construction drawings and specifications.

Maintenance and repair procedures vary depending on existing conditions such as cracks, surface depressions, erosion gullies, and vegetation growth. Guidelines for maintenance and repair are provided below. Following repair of the GCL cover system, the repaired areas will be revegetated in accordance with the landscaping plan.

4.2 Guidelines for Maintenance and Repair

1. Cracking

   - Significant cracking, i.e., cracks wider then 1 inch, deeper than 6 inches, and longer than 50 feet, will be repaired.

   - To repair the cracks, moisture condition the cracked area and use tracked equipment or hand compactors to squeeze the vegetative cover materials and close the cracks. If the crack is not repaired using this method (i.e., if they reappear), excavate a minimum 2- to 3-foot wide zone straddling the crack to the full depth of crack and replace cover soils compacted as per GCL cover specifications. If the GCL is affected, replace or repair as appropriate.

2. Erosion

   - Sheet or Rill Erosion: Replace soil to bring to the average grade.

   - Gully Erosion: Remove loose material, and, if necessary, cut back to intact soil. Backfill with cover soil placed in accordance with the vegetative cover specifications.

3. Loss of Vegetation: Reestablish vegetation in accordance with the Specifications.

4. Undesirable Vegetation (vegetation that is not consistent with the landscaping plan or which has roots that may penetrate the soil layer and affect the GCL/geocomposite): Remove.

5. Minor Surface Depression (non-recurring surface depression generally involving less than about 2 feet of vertical downward movement at or near the central part of the depression, and/or depressions no more than about 15 feet in diameter): Place soil in the depression to bring the area to grade.

6. Monitoring Areas of Recurring Depression/Settlement: The following procedure will be implemented to monitor areas of recurring settlement when regrading the top deck in response to the formation of depressions:

   - Divide the affected area (or the entire GCL cover area) into practical sized grids. Grids may be uniform size across the top deck or may be defined to encompass an individual depression of any size.

   - Record the quantity of soil placed within individual grids for each year or other appropriate period.

   - When the cumulative quantity of soil placed in an individual grid exceeds that for average soil depth of 2 feet over the grid, evaluate the need to implement major surface depression repair as described below.

7. Major Surface Depression (recurring surface depression generally involving more than about 2 feet of vertical downward movement at or near the central part of the depression, and/or depressions with a diameter greater than about 15 feet, and/or a surface depression that, in the opinion of the Site Maintenance Manager, may affect the GCL or geocomposite, causing either parting of adjacent GCL panels at the seams or significant strain [in the long direction] of the GCL): Remove soil to within 2 feet of the proposed reconstructed grade, place a new GCL and geocomposite, and cover with 2 feet of vegetative cover soil. The extent of the soils removal and new GCL should be sufficient to cover the depression and to be in contact with and shingle over (minimum 2 feet of overlap) existing unaffected GCL. In the overlap zone, the existing geocomposite will be cut (with an approved cutting tool) and removed to allow GCL (new) to GCL (existing) contact. The new geocomposite will be overlapped geonet to geonet according to manufacturer's recommendations and a minimum of 4 inches. The overlapped geotextile will be pulled back and the geonet shall be joined by plastic fasteners. The geotextile will be sewn together.

8. Foundation Damage (significant, extended, recurrent, or chronic depression or holes that, in the opinion of the Operations Manager, may have resulted in unacceptable damage of the foundation layer): Remove the soil, the geocomposite and GCL, and affected foundation material. Replace in accordance with the Design Drawings and Specifications.

9. Burrowing Animals: Implement a burrowing animal control and removal program. A licensed pest control advisor may be consulted if excessive rodent populations exist.

10. Exposed or Damaged GCL/Geocomposite: Repair in accordance with the Design Drawings and Specifications.

- Areas of subsidence or surface depressions where ponding may occur
- Erosion gullies (deeper than 6 inches)
- Burrow holes
- Observed or interpreted damage to GCL or geocomposite
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The Record Drawings and Specifications document the constructed condition of the GCL cover. To the extent practical, maintenance and repair should be undertaken to maintain or restore the as-built conditions. Repair that involves construction should be undertaken in conformance with construction drawings and specifications.

Maintenance and repair procedures vary depending on existing conditions such as cracks, surface depressions, erosion gullies, and vegetation growth. Guidelines for maintenance and repair are provided below. Following repair of the GCL cover system, the repaired areas will be revegetated in accordance with the landscaping plan.

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   - Significant cracking, i.e., cracks wider then 1 inch, deeper than 6 inches, and longer than 50 feet, will be repaired.

   - To repair the cracks, moisture condition the cracked area and use tracked equipment or hand compactors to squeeze the vegetative cover materials and close the cracks. If the crack is not repaired using this method (i.e., if they reappear), excavate a minimum 2- to 3-foot wide zone straddling the crack to the full depth of crack and replace cover soils compacted as per GCL cover specifications. If the GCL is affected, replace or repair as appropriate.

2. Erosion

   - Sheet or Rill Erosion: Replace soil to bring to the average grade.

   - Gully Erosion: Remove loose material, and, if necessary, cut back to intact soil. Backfill with cover soil placed in accordance with the vegetative cover specifications.

11. Any major repairs that involve removal and replacement of GCL/geocomposite will be performed in accordance with repair details or drawings, and specifications prepared by a registered civil engineer. Any new GCL that is placed will be in contact with and shingle over (minimum 2 feet overlap) existing undamaged GCL. Each layer of the cover system (2 feet of vegetative soil cover, geocomposite, and GCL) will be tied into existing layers of the corresponding material and constructed to Project Specifications.

GCL COVER SYSTEM REPAIR RECORD

Maintenance Technician: _____ Date: _____ Time: _____

DEFICIENCY TYPE AND DETAILED DESCRIPTION:

☐ Cracks/Fissures ☐ Depression ☐ Erosion ☐ Burrow Holes ☐ Deep Rooting Vegetation ☐ Other:

LOCATION OF REPAIR ACTIVITY (Show on map): _____

REPAIR ACTION TAKEN (Refer to repair detail or design drawings, as appropriate): _____

ATTACHMENTS (As-built drawings, compaction reports, etc., as appropriate):

REMARKS:

Signatures

Site Maintenance Manager _____ Date: _____

APPENDIX B

AIR QUALITY AND GREENHOUSE GAS MODELING

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Existing Davenport Park

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.50	Acre	5.12	239,580.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Existing park site is approx. 5.5 acres.

Construction Phase - No construction.

Off-road Equipment - No construction equipment

Trips and VMT - No construction

On-road Fugitive Dust - No construction

Vehicle Trips - Existing Trip Generation rate of 275 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	12/12/2019	11/28/2019
tblLandUse	LotAcreage	5.50	5.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblVehicleTrips	ST_TR	22.75	50.00
tblVehicleTrips	SU_TR	16.74	50.00
tblVehicleTrips	WD_TR	1.89	50.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6300e-003	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4102	1.4102	8.0000e-005	2.0000e-005	1.4169
Mobile	0.1012	0.5014	1.3268	3.9600e-003	0.3004	4.6400e-003	0.3050	0.0805	4.3600e-003	0.0849	0.0000	364.4372	364.4372	0.0218	0.0000	364.9820
Waste						0.0000	0.0000		0.0000	0.0000	0.0954	0.0000	0.0954	5.6400e-003	0.0000	0.2364
Water						0.0000	0.0000		0.0000	0.0000	0.0000	17.4614	17.4614	9.6000e-004	2.0000e-004	17.5444
Total	**0.1048**	**0.5014**	**1.3274**	**3.9600e-003**	**0.3004**	**4.6400e-003**	**0.3050**	**0.0805**	**4.3600e-003**	**0.0849**	**0.0954**	**383.3101**	**383.4055**	**0.0285**	**2.2000e-004**	**384.1810**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6300e-003	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4102	1.4102	8.0000e-005	2.0000e-005	1.4169
Mobile	0.1012	0.5014	1.3268	3.9600e-003	0.3004	4.6400e-003	0.3050	0.0805	4.3600e-003	0.0849	0.0000	364.4372	364.4372	0.0218	0.0000	364.9820
Waste						0.0000	0.0000		0.0000	0.0000	0.0954	0.0000	0.0954	5.6400e-003	0.0000	0.2364
Water						0.0000	0.0000		0.0000	0.0000	0.0000	16.3963	16.3963	9.0000e-004	1.9000e-004	16.4742
Total	**0.1048**	**0.5014**	**1.3274**	**3.9600e-003**	**0.3004**	**4.6400e-003**	**0.3050**	**0.0805**	**4.3600e-003**	**0.0849**	**0.0954**	**382.2449**	**382.3403**	**0.0284**	**2.1000e-004**	**383.1108**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.28**	**0.28**	**0.21**	**4.55**	**0.28**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/29/2019	11/28/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1012	0.5014	1.3268	3.9600e-003	0.3004	4.6400e-003	0.3050	0.0805	4.3600e-003	0.0849	0.0000	364.4372	364.4372	0.0218	0.0000	364.9820
Unmitigated	0.1012	0.5014	1.3268	3.9600e-003	0.3004	4.6400e-003	0.3050	0.0805	4.3600e-003	0.0849	0.0000	364.4372	364.4372	0.0218	0.0000	364.9820

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	275.00	275.00	275.00	791,324	791,324
Parking Lot	0.00	0.00	0.00		
Total	275.00	275.00	275.00	791,324	791,324

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Parking Lot	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.4102	1.4102	8.0000e-005	2.0000e-005	1.4169
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.4102	1.4102	8.0000e-005	2.0000e-005	1.4169
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5880	1.4102	8.0000e-005	2.0000e-005	1.4169
Total		**1.4102**	**8.0000e-005**	**2.0000e-005**	**1.4169**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5880	1.4102	8.0000e-005	2.0000e-005	1.4169
Total		**1.4102**	**8.0000e-005**	**2.0000e-005**	**1.4169**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6300e-003	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003
Unmitigated	3.6300e-003	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003
Total	**3.6300e-003**	**1.0000e-005**	**6.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1800e-003**	**1.1800e-003**	**0.0000**	**0.0000**	**1.2600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003
Total	**3.6300e-003**	**1.0000e-005**	**6.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1800e-003**	**1.1800e-003**	**0.0000**	**0.0000**	**1.2600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.3963	9.0000e-004	1.9000e-004	16.4742
Unmitigated	17.4614	9.6000e-004	2.0000e-004	17.5444

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.55315	17.4614	9.6000e-004	2.0000e-004	17.5444
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**17.4614**	**9.6000e-004**	**2.0000e-004**	**17.5444**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.15341	16.3963	9.0000e-004	1.9000e-004	16.4742
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.3963**	**9.0000e-004**	**1.9000e-004**	**16.4742**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0954	5.6400e-003	0.0000	0.2364
Unmitigated	0.0954	5.6400e-003	0.0000	0.2364

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.47	0.0954	5.6400e-003	0.0000	0.2364
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0954**	**5.6400e-003**	**0.0000**	**0.2364**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.47	0.0954	5.6400e-003	0.0000	0.2364
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0954**	**5.6400e-003**	**0.0000**	**0.2364**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Existing Davenport Park

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.50	Acre	5.12	239,580.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Existing park site is approx. 5.5 acres.

Construction Phase - No construction.

Off-road Equipment - No construction equipment

Trips and VMT - No construction

On-road Fugitive Dust - No construction

Vehicle Trips - Existing Trip Generation rate of 275 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	12/12/2019	11/28/2019
tblLandUse	LotAcreage	5.50	5.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblVehicleTrips	ST_TR	22.75	50.00
tblVehicleTrips	SU_TR	16.74	50.00
tblVehicleTrips	WD_TR	1.89	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5854	2.6329	7.5184	0.0226	1.6829	0.0254	1.7083	0.4504	0.0239	0.4743		2,288.6611	2,288.6611	0.1329		2,291.9832
Total	**0.6054**	**2.6329**	**7.5233**	**0.0226**	**1.6829**	**0.0255**	**1.7083**	**0.4504**	**0.0239**	**0.4744**		**2,288.6715**	**2,288.6715**	**0.1329**	**0.0000**	**2,291.9943**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5854	2.6329	7.5184	0.0226	1.6829	0.0254	1.7083	0.4504	0.0239	0.4743		2,288.6611	2,288.6611	0.1329		2,291.9832
Total	**0.6054**	**2.6329**	**7.5233**	**0.0226**	**1.6829**	**0.0255**	**1.7083**	**0.4504**	**0.0239**	**0.4744**		**2,288.6715**	**2,288.6715**	**0.1329**	**0.0000**	**2,291.9943**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/29/2019	11/28/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5854	2.6329	7.5184	0.0226	1.6829	0.0254	1.7083	0.4504	0.0239	0.4743		2,288.6611	2,288.6611	0.1329		2,291.9832
Unmitigated	0.5854	2.6329	7.5184	0.0226	1.6829	0.0254	1.7083	0.4504	0.0239	0.4743		2,288.6611	2,288.6611	0.1329		2,291.9832

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	275.00	275.00	275.00	791,324	791,324
Parking Lot	0.00	0.00	0.00		
Total	275.00	275.00	275.00	791,324	791,324

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Parking Lot	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Unmitigated	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	**0.0200**	**5.0000e-005**	**4.9000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0104**	**0.0104**	**3.0000e-005**		**0.0111**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	**0.0200**	**5.0000e-005**	**4.9000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0104**	**0.0104**	**3.0000e-005**		**0.0111**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Existing Davenport Park

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.50	Acre	5.12	239,580.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Existing park site is approx. 5.5 acres.

Construction Phase - No construction.

Off-road Equipment - No construction equipment

Trips and VMT - No construction

On-road Fugitive Dust - No construction

Vehicle Trips - Existing Trip Generation rate of 275 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	12/12/2019	11/28/2019
tblLandUse	LotAcreage	5.50	5.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOnRoadDust	MeanVehicleSpeed	40.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblVehicleTrips	ST_TR	22.75	50.00
tblVehicleTrips	SU_TR	16.74	50.00
tblVehicleTrips	WD_TR	1.89	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5707	2.7039	7.2008	0.0214	1.6829	0.0256	1.7085	0.4504	0.0241	0.4745		2,176.0330	2,176.0330	0.1325		2,179.3455
Total	**0.5907**	**2.7039**	**7.2057**	**0.0214**	**1.6829**	**0.0256**	**1.7085**	**0.4504**	**0.0241**	**0.4745**		**2,176.0434**	**2,176.0434**	**0.1325**	**0.0000**	**2,179.3566**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5707	2.7039	7.2008	0.0214	1.6829	0.0256	1.7085	0.4504	0.0241	0.4745		2,176.0330	2,176.0330	0.1325		2,179.3455
Total	**0.5907**	**2.7039**	**7.2057**	**0.0214**	**1.6829**	**0.0256**	**1.7085**	**0.4504**	**0.0241**	**0.4745**		**2,176.0434**	**2,176.0434**	**0.1325**	**0.0000**	**2,179.3566**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/29/2019	11/28/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5707	2.7039	7.2008	0.0214	1.6829	0.0256	1.7085	0.4504	0.0241	0.4745		2,176.0330	2,176.0330	0.1325		2,179.3455
Unmitigated	0.5707	2.7039	7.2008	0.0214	1.6829	0.0256	1.7085	0.4504	0.0241	0.4745		2,176.0330	2,176.0330	0.1325		2,179.3455

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	275.00	275.00	275.00	791,324	791,324
Parking Lot	0.00	0.00	0.00		
Total	275.00	275.00	275.00	791,324	791,324

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Parking Lot	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Unmitigated	0.0200	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	**0.0200**	**5.0000e-005**	**4.9000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0104**	**0.0104**	**3.0000e-005**		**0.0111**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	**0.0200**	**5.0000e-005**	**4.9000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0104**	**0.0104**	**3.0000e-005**		**0.0111**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Phase 2 Davenport Park Expansion

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.60	Acre	5.32	243,936.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Phase 2 Davenport Park Expansion - Los Angeles-South Coast County, Annual

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project site is approx. 5.6 acres.

Construction Phase - Anticipated construction duration of approx. 17 months. Grading duration schedule was increase to 80 days to accomodate large number of truck trips.

Off-road Equipment - Assumed forklift, backhoe, and trencher equipment for the installations of the water irrigation systems, scrubber, vapor-phase granular activated carbon vessels, and oxidizer equipment.

Grading - Estimated soil cut and fill operation would include the export of 775 cy and import of 18,985 cy of soil material.

Trips and VMT - Assumed 65 trucks for export of 773cy and 1,585 trucks for import of 18,985 cy. Total round trips are estimated at approx. 3,300 trips.

Vehicle Trips - Existing plus Project Trip Generation rate of 693 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Sequestration - Approx. 130 trees will be planted on-site.

Construction Off-road Equipment Mitigation - Fugitive dust control with on-site watering at least three times daily.

Water Mitigation - Project will utilized water efficient irrigation systems.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	PhaseEndDate	4/23/2021	8/13/2021
tblConstructionPhase	PhaseEndDate	2/26/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	4/10/2020	7/3/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	7/16/2021
tblConstructionPhase	PhaseEndDate	3/13/2020	3/14/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	7/19/2021
tblConstructionPhase	PhaseStartDate	4/11/2020	8/3/2020
tblConstructionPhase	PhaseStartDate	3/14/2020	3/16/2020
tblConstructionPhase	PhaseStartDate	2/27/2021	6/21/2021
tblConstructionPhase	PhaseStartDate	2/29/2020	3/2/2020
tblGrading	AcresOfGrading	40.00	10.00
tblGrading	MaterialExported	0.00	773.00

tblGrading	MaterialImported	0.00	18,985.00
tblLandUse	LotAcreage	5.60	5.32
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	130.00
tblTripsAndVMT	HaulingTripNumber	2,470.00	3,300.00
tblVehicleTrips	ST_TR	22.75	123.75
tblVehicleTrips	SU_TR	16.74	123.75
tblVehicleTrips	WD_TR	1.89	123.75

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2944	3.1480	2.1780	5.5600e-003	0.4534	0.1312	0.5846	0.2141	0.1221	0.3362	0.0000	506.2389	506.2389	0.0868	0.0000	508.4090
2021	0.1694	1.4730	1.4966	3.2900e-003	0.0917	0.0669	0.1585	0.0247	0.0628	0.0875	0.0000	293.6269	293.6269	0.0463	0.0000	294.7847
Maximum	**0.2944**	**3.1480**	**2.1780**	**5.5600e-003**	**0.4534**	**0.1312**	**0.5846**	**0.2141**	**0.1221**	**0.3362**	**0.0000**	**506.2389**	**506.2389**	**0.0868**	**0.0000**	**508.4090**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2944	3.1480	2.1780	5.5600e-003	0.2474	0.1312	0.3786	0.1026	0.1221	0.2247	0.0000	506.2386	506.2386	0.0868	0.0000	508.4087
2021	0.1694	1.4730	1.4966	3.2900e-003	0.0917	0.0669	0.1585	0.0247	0.0628	0.0875	0.0000	293.6267	293.6267	0.0463	0.0000	294.7845
Maximum	**0.2944**	**3.1480**	**2.1780**	**5.5600e-003**	**0.2474**	**0.1312**	**0.3786**	**0.1026**	**0.1221**	**0.2247**	**0.0000**	**506.2386**	**506.2386**	**0.0868**	**0.0000**	**508.4087**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**37.79**	**0.00**	**27.72**	**46.69**	**0.00**	**26.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-3-2020	5-2-2020	0.9231	0.9231
2	5-3-2020	8-2-2020	0.9859	0.9859
3	8-3-2020	11-2-2020	0.8809	0.8809
4	11-3-2020	2-2-2021	0.8538	0.8538
5	2-3-2021	5-2-2021	0.7747	0.7747
6	5-3-2021	8-2-2021	0.5523	0.5523
7	8-3-2021	9-30-2021	0.0082	0.0082
		Highest	0.9859	0.9859

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3100e-003	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0409	1.0409	6.0000e-005	1.0000e-005	1.0458
Mobile	0.1997	1.0275	2.5862	9.2500e-003	0.7569	7.7700e-003	0.7646	0.2029	7.2500e-003	0.2101	0.0000	854.1636	854.1636	0.0447	0.0000	855.2818
Waste						0.0000	0.0000		0.0000	0.0000	0.0974	0.0000	0.0974	5.7600e-003	0.0000	0.2414
Water						0.0000	0.0000		0.0000	0.0000	0.0000	17.7789	17.7789	9.8000e-004	2.0000e-004	17.8634
Total	**0.2030**	**1.0275**	**2.5867**	**9.2500e-003**	**0.7569**	**7.7700e-003**	**0.7646**	**0.2029**	**7.2500e-003**	**0.2101**	**0.0974**	**872.9843**	**873.0818**	**0.0515**	**2.1000e-004**	**874.4334**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3100e-003	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0409	1.0409	6.0000e-005	1.0000e-005	1.0458
Mobile	0.1997	1.0275	2.5862	9.2500e-003	0.7569	7.7700e-003	0.7646	0.2029	7.2500e-003	0.2101	0.0000	854.1636	854.1636	0.0447	0.0000	855.2818
Waste						0.0000	0.0000		0.0000	0.0000	0.0974	0.0000	0.0974	5.7600e-003	0.0000	0.2414
Water						0.0000	0.0000		0.0000	0.0000	0.0000	16.6944	16.6944	9.2000e-004	1.9000e-004	16.7738
Total	**0.2030**	**1.0275**	**2.5867**	**9.2500e-003**	**0.7569**	**7.7700e-003**	**0.7646**	**0.2029**	**7.2500e-003**	**0.2101**	**0.0974**	**871.8998**	**871.9973**	**0.0515**	**2.0000e-004**	**873.3437**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.12**	**0.12**	**0.12**	**4.76**	**0.12**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	92.0400
Total	**92.0400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/2/2020	3/14/2020	5	10	
2	Grading	Grading	3/16/2020	7/3/2020	5	80	
3	Trenching	Trenching	7/6/2020	7/31/2020	5	20	
4	Building Construction	Building Construction	8/3/2020	6/18/2021	5	230	
5	Paving	Paving	6/21/2021	7/16/2021	5	20	
6	Architectural Coating	Architectural Coating	7/19/2021	8/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.28

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 744 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Trenching	Trenchers	1	8.00	78	0.50
Trenching	Forklifts	1	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,300.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**4.2000e-004**	**3.4000e-004**	**3.7000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9192**	**0.9192**	**3.0000e-005**	**0.0000**	**0.9199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0352**	**0.0110**	**0.0462**	**0.0194**	**0.0101**	**0.0295**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**4.2000e-004**	**3.4000e-004**	**3.7000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9192**	**0.9192**	**3.0000e-005**	**0.0000**	**0.9199**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2473	0.0000	0.2473	0.1332	0.0000	0.1332	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.0554	0.6421	1.1900e-003		0.0509	0.0509		0.0469	0.0469	0.0000	104.2350	104.2350	0.0337	0.0000	105.0778
Total	**0.0972**	**1.0554**	**0.6421**	**1.1900e-003**	**0.2473**	**0.0509**	**0.2982**	**0.1332**	**0.0469**	**0.1800**	**0.0000**	**104.2350**	**104.2350**	**0.0337**	**0.0000**	**105.0778**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0146	0.4900	0.1080	1.2900e-003	0.0284	1.5200e-003	0.0299	7.7900e-003	1.4600e-003	9.2500e-003	0.0000	127.1791	127.1791	8.8600e-003	0.0000	127.4005
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.2300e-003	0.0247	7.0000e-005	6.5700e-003	6.0000e-005	6.6300e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	6.1281	6.1281	1.9000e-004	0.0000	6.1329
Total	**0.0173**	**0.4922**	**0.1327**	**1.3600e-003**	**0.0349**	**1.5800e-003**	**0.0365**	**9.5400e-003**	**1.5100e-003**	**0.0111**	**0.0000**	**133.3072**	**133.3072**	**9.0500e-003**	**0.0000**	**133.5335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0965	0.0000	0.0965	0.0519	0.0000	0.0519	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.0554	0.6421	1.1900e-003		0.0509	0.0509		0.0469	0.0469	0.0000	104.2349	104.2349	0.0337	0.0000	105.0777
Total	**0.0972**	**1.0554**	**0.6421**	**1.1900e-003**	**0.0965**	**0.0509**	**0.1474**	**0.0519**	**0.0469**	**0.0988**	**0.0000**	**104.2349**	**104.2349**	**0.0337**	**0.0000**	**105.0777**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0146	0.4900	0.1080	1.2900e-003	0.0284	1.5200e-003	0.0299	7.7900e-003	1.4600e-003	9.2500e-003	0.0000	127.1791	127.1791	8.8600e-003	0.0000	127.4005
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.2300e-003	0.0247	7.0000e-005	6.5700e-003	6.0000e-005	6.6300e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	6.1281	6.1281	1.9000e-004	0.0000	6.1329
Total	**0.0173**	**0.4922**	**0.1327**	**1.3600e-003**	**0.0349**	**1.5800e-003**	**0.0365**	**9.5400e-003**	**1.5100e-003**	**0.0111**	**0.0000**	**133.3072**	**133.3072**	**9.0500e-003**	**0.0000**	**133.5335**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7300e-003	0.0720	0.0610	8.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	7.0362	7.0362	2.2800e-003	0.0000	7.0931
Total	**7.7300e-003**	**0.0720**	**0.0610**	**8.0000e-005**		**5.1400e-003**	**5.1400e-003**		**4.7300e-003**	**4.7300e-003**	**0.0000**	**7.0362**	**7.0362**	**2.2800e-003**	**0.0000**	**7.0931**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.2900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8171	0.8171	3.0000e-005	0.0000	0.8177
Total	**3.7000e-004**	**3.0000e-004**	**3.2900e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.8171**	**0.8171**	**3.0000e-005**	**0.0000**	**0.8177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7300e-003	0.0720	0.0610	8.0000e-005		5.1400e-003	5.1400e-003		4.7300e-003	4.7300e-003	0.0000	7.0362	7.0362	2.2800e-003	0.0000	7.0931
Total	**7.7300e-003**	**0.0720**	**0.0610**	**8.0000e-005**		**5.1400e-003**	**5.1400e-003**		**4.7300e-003**	**4.7300e-003**	**0.0000**	**7.0362**	**7.0362**	**2.2800e-003**	**0.0000**	**7.0931**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.2900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8171	0.8171	3.0000e-005	0.0000	0.8177
Total	**3.7000e-004**	**3.0000e-004**	**3.2900e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.8171**	**0.8171**	**3.0000e-005**	**0.0000**	**0.8177**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1155	1.0456	0.9182	1.4700e-003		0.0609	0.0609		0.0572	0.0572	0.0000	126.2274	126.2274	0.0308	0.0000	126.9973
Total	**0.1155**	**1.0456**	**0.9182**	**1.4700e-003**		**0.0609**	**0.0609**		**0.0572**	**0.0572**	**0.0000**	**126.2274**	**126.2274**	**0.0308**	**0.0000**	**126.9973**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3000e-003	0.2481	0.0672	5.9000e-004	0.0144	1.1500e-003	0.0156	4.1600e-003	1.1000e-003	5.2600e-003	0.0000	56.8648	56.8648	3.6100e-003	0.0000	56.9551
Worker	0.0272	0.0219	0.2423	6.7000e-004	0.0645	5.5000e-004	0.0651	0.0171	5.1000e-004	0.0176	0.0000	60.1167	60.1167	1.8900e-003	0.0000	60.1641
Total	**0.0355**	**0.2700**	**0.3094**	**1.2600e-003**	**0.0789**	**1.7000e-003**	**0.0806**	**0.0213**	**1.6100e-003**	**0.0229**	**0.0000**	**116.9815**	**116.9815**	**5.5000e-003**	**0.0000**	**117.1192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1155	1.0456	0.9182	1.4700e-003		0.0609	0.0609		0.0572	0.0572	0.0000	126.2273	126.2273	0.0308	0.0000	126.9972
Total	**0.1155**	**1.0456**	**0.9182**	**1.4700e-003**		**0.0609**	**0.0609**		**0.0572**	**0.0572**	**0.0000**	**126.2273**	**126.2273**	**0.0308**	**0.0000**	**126.9972**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3000e-003	0.2481	0.0672	5.9000e-004	0.0144	1.1500e-003	0.0156	4.1600e-003	1.1000e-003	5.2600e-003	0.0000	56.8648	56.8648	3.6100e-003	0.0000	56.9551
Worker	0.0272	0.0219	0.2423	6.7000e-004	0.0645	5.5000e-004	0.0651	0.0171	5.1000e-004	0.0176	0.0000	60.1167	60.1167	1.8900e-003	0.0000	60.1641
Total	**0.0355**	**0.2700**	**0.3094**	**1.2600e-003**	**0.0789**	**1.7000e-003**	**0.0806**	**0.0213**	**1.6100e-003**	**0.0229**	**0.0000**	**116.9815**	**116.9815**	**5.5000e-003**	**0.0000**	**117.1192**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1406	140.1406	0.0338	0.0000	140.9858
Total	**0.1150**	**1.0546**	**1.0028**	**1.6300e-003**		**0.0580**	**0.0580**		**0.0545**	**0.0545**	**0.0000**	**140.1406**	**140.1406**	**0.0338**	**0.0000**	**140.9858**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8900e-003	0.2508	0.0680	6.5000e-004	0.0160	5.1000e-004	0.0165	4.6200e-003	4.9000e-004	5.1100e-003	0.0000	62.6348	62.6348	3.8400e-003	0.0000	62.7308
Worker	0.0281	0.0219	0.2471	7.1000e-004	0.0716	5.9000e-004	0.0722	0.0190	5.4000e-004	0.0196	0.0000	64.6158	64.6158	1.9000e-003	0.0000	64.6634
Total	**0.0360**	**0.2727**	**0.3151**	**1.3600e-003**	**0.0876**	**1.1000e-003**	**0.0887**	**0.0236**	**1.0300e-003**	**0.0247**	**0.0000**	**127.2506**	**127.2506**	**5.7400e-003**	**0.0000**	**127.3942**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1404	140.1404	0.0338	0.0000	140.9856
Total	**0.1150**	**1.0546**	**1.0028**	**1.6300e-003**		**0.0580**	**0.0580**		**0.0545**	**0.0545**	**0.0000**	**140.1404**	**140.1404**	**0.0338**	**0.0000**	**140.9856**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8900e-003	0.2508	0.0680	6.5000e-004	0.0160	5.1000e-004	0.0165	4.6200e-003	4.9000e-004	5.1100e-003	0.0000	62.6348	62.6348	3.8400e-003	0.0000	62.7308
Worker	0.0281	0.0219	0.2471	7.1000e-004	0.0716	5.9000e-004	0.0722	0.0190	5.4000e-004	0.0196	0.0000	64.6158	64.6158	1.9000e-003	0.0000	64.6634
Total	**0.0360**	**0.2727**	**0.3151**	**1.3600e-003**	**0.0876**	**1.1000e-003**	**0.0887**	**0.0236**	**1.0300e-003**	**0.0247**	**0.0000**	**127.2506**	**127.2506**	**5.7400e-003**	**0.0000**	**127.3942**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	3.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0129**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	3.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0129**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**3.9100e-003**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	7.4000e-004	8.3200e-003	2.0000e-005	2.4100e-003	2.0000e-005	2.4300e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.1756	2.1756	6.0000e-005	0.0000	2.1772
Total	**9.5000e-004**	**7.4000e-004**	**8.3200e-003**	**2.0000e-005**	**2.4100e-003**	**2.0000e-005**	**2.4300e-003**	**6.4000e-004**	**2.0000e-005**	**6.6000e-004**	**0.0000**	**2.1756**	**2.1756**	**6.0000e-005**	**0.0000**	**2.1772**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**3.9100e-003**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	7.4000e-004	8.3200e-003	2.0000e-005	2.4100e-003	2.0000e-005	2.4300e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.1756	2.1756	6.0000e-005	0.0000	2.1772
Total	**9.5000e-004**	**7.4000e-004**	**8.3200e-003**	**2.0000e-005**	**2.4100e-003**	**2.0000e-005**	**2.4300e-003**	**6.4000e-004**	**2.0000e-005**	**6.6000e-004**	**0.0000**	**2.1756**	**2.1756**	**6.0000e-005**	**0.0000**	**2.1772**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1997	1.0275	2.5862	9.2500e-003	0.7569	7.7700e-003	0.7646	0.2029	7.2500e-003	0.2101	0.0000	854.1636	854.1636	0.0447	0.0000	855.2818
Unmitigated	0.1997	1.0275	2.5862	9.2500e-003	0.7569	7.7700e-003	0.7646	0.2029	7.2500e-003	0.2101	0.0000	854.1636	854.1636	0.0447	0.0000	855.2818

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	693.00	693.00	693.00	1,994,135	1,994,135
Parking Lot	0.00	0.00	0.00		
Total	693.00	693.00	693.00	1,994,135	1,994,135

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.0409	1.0409	6.0000e-005	1.0000e-005	1.0458
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.0409	1.0409	6.0000e-005	1.0000e-005	1.0458
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0409	6.0000e-005	1.0000e-005	1.0458
Total		**1.0409**	**6.0000e-005**	**1.0000e-005**	**1.0458**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0409	6.0000e-005	1.0000e-005	1.0458
Total		**1.0409**	**6.0000e-005**	**1.0000e-005**	**1.0458**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3100e-003	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Unmitigated	3.3100e-003	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Total	**3.3100e-003**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Total	**3.3100e-003**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.6944	9.2000e-004	1.9000e-004	16.7738
Unmitigated	17.7789	9.8000e-004	2.0000e-004	17.8634

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.6723	17.7789	9.8000e-004	2.0000e-004	17.8634
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**17.7789**	**9.8000e-004**	**2.0000e-004**	**17.8634**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.26529	16.6944	9.2000e-004	1.9000e-004	16.7738
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.6944**	**9.2000e-004**	**1.9000e-004**	**16.7738**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0974	5.7600e-003	0.0000	0.2414
Unmitigated	0.0974	5.7600e-003	0.0000	0.2414

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.48	0.0974	5.7600e-003	0.0000	0.2414
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0974**	**5.7600e-003**	**0.0000**	**0.2414**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.48	0.0974	5.7600e-003	0.0000	0.2414
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0974**	**5.7600e-003**	**0.0000**	**0.2414**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	92.0400	0.0000	0.0000	92.0400

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	130	92.0400	0.0000	0.0000	92.0400
Total		**92.0400**	**0.0000**	**0.0000**	**92.0400**

Phase 2 Davenport Park Expansion

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.60	Acre	5.32	243,936.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Phase 2 Davenport Park Expansion - Los Angeles-South Coast County, Summer

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project site is approx. 5.6 acres.

Construction Phase - Anticipated construction duration of approx. 17 months. Grading duration schedule was increase to 80 days to accomodate large number of truck trips.

Off-road Equipment - Assumed forklift, backhoe, and trencher equipment for the installations of the water irrigation systems, scrubber, vapor-phase granular activated carbon vessels, and oxidizer equipment.

Grading - Estimated soil cut and fill operation would include the export of 775 cy and import of 18,985 cy of soil material.

Trips and VMT - Assumed 65 trucks for export of 773cy and 1,585 trucks for import of 18,985 cy. Total round trips are estimated at approx. 3,300 trips.

Vehicle Trips - Existing plus Project Trip Generation rate of 693 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Sequestration - Approx. 130 trees will be planted on-site.

Construction Off-road Equipment Mitigation - Fugitive dust control with on-site watering at least three times daily.

Water Mitigation - Project will utilized water efficient irrigation systems.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	PhaseEndDate	4/23/2021	8/13/2021
tblConstructionPhase	PhaseEndDate	2/26/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	4/10/2020	7/3/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	7/16/2021
tblConstructionPhase	PhaseEndDate	3/13/2020	3/14/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	7/19/2021
tblConstructionPhase	PhaseStartDate	4/11/2020	8/3/2020
tblConstructionPhase	PhaseStartDate	3/14/2020	3/16/2020
tblConstructionPhase	PhaseStartDate	2/27/2021	6/21/2021
tblConstructionPhase	PhaseStartDate	2/29/2020	3/2/2020
tblGrading	AcresOfGrading	40.00	10.00
tblGrading	MaterialExported	0.00	773.00

tblGrading	MaterialImported	0.00	18,985.00
tblLandUse	LotAcreage	5.60	5.32
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	130.00
tblTripsAndVMT	HaulingTripNumber	2,470.00	3,300.00
tblVehicleTrips	ST_TR	22.75	123.75
tblVehicleTrips	SU_TR	16.74	123.75
tblVehicleTrips	WD_TR	1.89	123.75

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1593	42.4763	22.7478	0.0640	18.2675	2.1991	20.4666	9.9840	2.0232	12.0072	0.0000	6,579.2083	6,579.2083	1.1985	0.0000	6,608.5802
2021	2.4915	21.8281	21.9912	0.0501	1.4761	0.9767	2.4528	0.3976	0.9182	1.3158	0.0000	4,937.7340	4,937.7340	0.7203	0.0000	4,955.7407
Maximum	**4.1593**	**42.4763**	**22.7478**	**0.0640**	**18.2675**	**2.1991**	**20.4666**	**9.9840**	**2.0232**	**12.0072**	**0.0000**	**6,579.2083**	**6,579.2083**	**1.1985**	**0.0000**	**6,608.5802**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1593	42.4763	22.7478	0.0640	7.2470	2.1991	9.4461	3.9263	2.0232	5.9495	0.0000	6,579.2083	6,579.2083	1.1985	0.0000	6,608.5802
2021	2.4915	21.8281	21.9912	0.0501	1.4761	0.9767	2.4528	0.3976	0.9182	1.3158	0.0000	4,937.7340	4,937.7340	0.7203	0.0000	4,955.7407
Maximum	**4.1593**	**42.4763**	**22.7478**	**0.0640**	**7.2470**	**2.1991**	**9.4461**	**3.9263**	**2.0232**	**5.9495**	**0.0000**	**6,579.2083**	**6,579.2083**	**1.1985**	**0.0000**	**6,608.5802**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**55.82**	**0.00**	**48.08**	**58.35**	**0.00**	**45.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.1597	5.4289	14.7056	0.0527	4.2404	0.0427	4.2831	1.1348	0.0398	1.1746		5,360.0957	5,360.0957	0.2723		5,366.9042
Total	**1.1779**	**5.4289**	**14.7093**	**0.0527**	**4.2404**	**0.0427**	**4.2831**	**1.1348**	**0.0398**	**1.1746**		**5,360.1037**	**5,360.1037**	**0.2724**	**0.0000**	**5,366.9128**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.1597	5.4289	14.7056	0.0527	4.2404	0.0427	4.2831	1.1348	0.0398	1.1746		5,360.0957	5,360.0957	0.2723		5,366.9042
Total	**1.1779**	**5.4289**	**14.7093**	**0.0527**	**4.2404**	**0.0427**	**4.2831**	**1.1348**	**0.0398**	**1.1746**		**5,360.1037**	**5,360.1037**	**0.2724**	**0.0000**	**5,366.9128**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/2/2020	3/14/2020	5	10	
2	Grading	Grading	3/16/2020	7/3/2020	5	80	
3	Trenching	Trenching	7/6/2020	7/31/2020	5	20	
4	Building Construction	Building Construction	8/3/2020	6/18/2021	5	230	
5	Paving	Paving	6/21/2021	7/16/2021	5	20	
6	Architectural Coating	Architectural Coating	7/19/2021	8/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.28

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 744 (Architectural Coating – sqft)

OffRoad Equipment

Phase 2 Davenport Park Expansion - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Trenching	Trenchers	1	8.00	78	0.50
Trenching	Forklifts	1	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,300.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**7.0458**	**2.1974**	**9.2433**	**3.8730**	**2.0216**	**5.8946**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1826	0.0000	6.1826	3.3288	0.0000	3.3288			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1826**	**1.2734**	**7.4560**	**3.3288**	**1.1716**	**4.5003**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3603	11.8611	2.6283	0.0326	0.7212	0.0379	0.7591	0.1977	0.0362	0.2339		3,530.3062	3,530.3062	0.2403		3,536.3136
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4294**	**11.9102**	**3.2851**	**0.0344**	**0.8889**	**0.0393**	**0.9282**	**0.2422**	**0.0375**	**0.2797**		**3,706.7232**	**3,706.7232**	**0.2459**		**3,712.8696**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4112	0.0000	2.4112	1.2982	0.0000	1.2982			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**2.4112**	**1.2734**	**3.6846**	**1.2982**	**1.1716**	**2.4698**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3603	11.8611	2.6283	0.0326	0.7212	0.0379	0.7591	0.1977	0.0362	0.2339		3,530.3062	3,530.3062	0.2403		3,536.3136
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4294**	**11.9102**	**3.2851**	**0.0344**	**0.8889**	**0.0393**	**0.9282**	**0.2422**	**0.0375**	**0.2797**		**3,706.7232**	**3,706.7232**	**0.2459**		**3,712.8696**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7733	7.1992	6.0963	8.0000e-003		0.5140	0.5140		0.4729	0.4729		775.6114	775.6114	0.2509		781.8826
Total	**0.7733**	**7.1992**	**6.0963**	**8.0000e-003**		**0.5140**	**0.5140**		**0.4729**	**0.4729**		**775.6114**	**775.6114**	**0.2509**		**781.8826**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0368	0.0262	0.3503	9.4000e-004	0.0894	7.5000e-004	0.0902	0.0237	6.9000e-004	0.0244		94.0890	94.0890	2.9700e-003		94.1632
Total	**0.0368**	**0.0262**	**0.3503**	**9.4000e-004**	**0.0894**	**7.5000e-004**	**0.0902**	**0.0237**	**6.9000e-004**	**0.0244**		**94.0890**	**94.0890**	**2.9700e-003**		**94.1632**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7733	7.1992	6.0963	8.0000e-003		0.5140	0.5140		0.4729	0.4729	0.0000	775.6114	775.6114	0.2509		781.8826
Total	**0.7733**	**7.1992**	**6.0963**	**8.0000e-003**		**0.5140**	**0.5140**		**0.4729**	**0.4729**	**0.0000**	**775.6114**	**775.6114**	**0.2509**		**781.8826**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0368	0.0262	0.3503	9.4000e-004	0.0894	7.5000e-004	0.0902	0.0237	6.9000e-004	0.0244		94.0890	94.0890	2.9700e-003		94.1632
Total	**0.0368**	**0.0262**	**0.3503**	**9.4000e-004**	**0.0894**	**7.5000e-004**	**0.0902**	**0.0237**	**6.9000e-004**	**0.0244**		**94.0890**	**94.0890**	**2.9700e-003**		**94.1632**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1494	4.4676	1.1706	0.0109	0.2689	0.0210	0.2899	0.0774	0.0201	0.0975		1,163.5037	1,163.5037	0.0710		1,165.2787
Worker	0.4970	0.3536	4.7287	0.0128	1.2072	0.0101	1.2173	0.3202	9.3000e-003	0.3295		1,270.2019	1,270.2019	0.0401		1,271.2031
Total	**0.6464**	**4.8212**	**5.8993**	**0.0237**	**1.4761**	**0.0311**	**1.5072**	**0.3976**	**0.0294**	**0.4270**		**2,433.7056**	**2,433.7056**	**0.1111**		**2,436.4818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1494	4.4676	1.1706	0.0109	0.2689	0.0210	0.2899	0.0774	0.0201	0.0975		1,163.5037	1,163.5037	0.0710		1,165.2787
Worker	0.4970	0.3536	4.7287	0.0128	1.2072	0.0101	1.2173	0.3202	9.3000e-003	0.3295		1,270.2019	1,270.2019	0.0401		1,271.2031
Total	**0.6464**	**4.8212**	**5.8993**	**0.0237**	**1.4761**	**0.0311**	**1.5072**	**0.3976**	**0.0294**	**0.4270**		**2,433.7056**	**2,433.7056**	**0.1111**		**2,436.4818**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1277	4.0778	1.0660	0.0108	0.2689	8.3400e-003	0.2772	0.0774	7.9700e-003	0.0854		1,154.4987	1,154.4987	0.0680		1,156.1990
Worker	0.4630	0.3182	4.3500	0.0124	1.2072	9.7500e-003	1.2169	0.3202	8.9900e-003	0.3291		1,229.8714	1,229.8714	0.0362		1,230.7774
Total	**0.5906**	**4.3960**	**5.4160**	**0.0232**	**1.4761**	**0.0181**	**1.4942**	**0.3976**	**0.0170**	**0.4145**		**2,384.3701**	**2,384.3701**	**0.1043**		**2,386.9764**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1277	4.0778	1.0660	0.0108	0.2689	8.3400e-003	0.2772	0.0774	7.9700e-003	0.0854		1,154.4987	1,154.4987	0.0680		1,156.1990
Worker	0.4630	0.3182	4.3500	0.0124	1.2072	9.7500e-003	1.2169	0.3202	8.9900e-003	0.3291		1,229.8714	1,229.8714	0.0362		1,230.7774
Total	**0.5906**	**4.3960**	**5.4160**	**0.0232**	**1.4761**	**0.0181**	**1.4942**	**0.3976**	**0.0170**	**0.4145**		**2,384.3701**	**2,384.3701**	**0.1043**		**2,386.9764**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2922**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2922**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.1724					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**0.3913**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0648	0.8861	2.5200e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		250.5294	250.5294	7.3800e-003		250.7139
Total	**0.0943**	**0.0648**	**0.8861**	**2.5200e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**250.5294**	**250.5294**	**7.3800e-003**		**250.7139**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.1724					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**0.3913**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0648	0.8861	2.5200e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		250.5294	250.5294	7.3800e-003		250.7139
Total	**0.0943**	**0.0648**	**0.8861**	**2.5200e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**250.5294**	**250.5294**	**7.3800e-003**		**250.7139**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1597	5.4289	14.7056	0.0527	4.2404	0.0427	4.2831	1.1348	0.0398	1.1746		5,360.0957	5,360.0957	0.2723		5,366.9042
Unmitigated	1.1597	5.4289	14.7056	0.0527	4.2404	0.0427	4.2831	1.1348	0.0398	1.1746		5,360.0957	5,360.0957	0.2723		5,366.9042

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	693.00	693.00	693.00	1,994,135	1,994,135
Parking Lot	0.00	0.00	0.00		
Total	693.00	693.00	693.00	1,994,135	1,994,135

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Unmitigated	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0170					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Total	**0.0183**	**3.0000e-005**	**3.7400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.0100e-003**	**8.0100e-003**	**2.0000e-005**		**8.5400e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0170					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Total	**0.0183**	**3.0000e-005**	**3.7400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.0100e-003**	**8.0100e-003**	**2.0000e-005**		**8.5400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Phase 2 Davenport Park Expansion

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.60	Acre	5.32	243,936.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Phase 2 Davenport Park Expansion - Los Angeles-South Coast County, Winter

Project Characteristics - CO2 Intensity Factor is based on SCE 2020 forecast in City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project site is approx. 5.6 acres.

Construction Phase - Anticipated construction duration of approx. 17 months. Grading duration schedule was increase to 80 days to accomodate large number of truck trips.

Off-road Equipment - Assumed forklift, backhoe, and trencher equipment for the installations of the water irrigation systems, scrubber, vapor-phase granular activated carbon vessels, and oxidizer equipment.

Grading - Estimated soil cut and fill operation would include the export of 775 cy and import of 18,985 cy of soil material.

Trips and VMT - Assumed 65 trucks for export of 773cy and 1,585 trucks for import of 18,985 cy. Total round trips are estimated at approx. 3,300 trips.

Vehicle Trips - Existing plus Project Trip Generation rate of 693 ADT was obtained from the Traffic Impact Analysis (LSA 2019).

Energy Use -

Sequestration - Approx. 130 trees will be planted on-site.

Construction Off-road Equipment Mitigation - Fugitive dust control with on-site watering at least three times daily.

Water Mitigation - Project will utilized water efficient irrigation systems.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	PhaseEndDate	4/23/2021	8/13/2021
tblConstructionPhase	PhaseEndDate	2/26/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	4/10/2020	7/3/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	7/16/2021
tblConstructionPhase	PhaseEndDate	3/13/2020	3/14/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	7/19/2021
tblConstructionPhase	PhaseStartDate	4/11/2020	8/3/2020
tblConstructionPhase	PhaseStartDate	3/14/2020	3/16/2020
tblConstructionPhase	PhaseStartDate	2/27/2021	6/21/2021
tblConstructionPhase	PhaseStartDate	2/29/2020	3/2/2020
tblGrading	AcresOfGrading	40.00	10.00
tblGrading	MaterialExported	0.00	773.00

tblGrading	MaterialImported	0.00	18,985.00
tblLandUse	LotAcreage	5.60	5.32
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	130.00
tblTripsAndVMT	HaulingTripNumber	2,470.00	3,300.00
tblVehicleTrips	ST_TR	22.75	123.75
tblVehicleTrips	SU_TR	16.74	123.75
tblVehicleTrips	WD_TR	1.89	123.75

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1685	42.4826	22.4704	0.0633	18.2675	2.1991	20.4666	9.9840	2.0232	12.0072	0.0000	6,508.1112	6,508.1112	1.1981	0.0000	6,537.6934
2021	2.5499	21.8537	21.7316	0.0491	1.4761	0.9770	2.4531	0.3976	0.9185	1.3161	0.0000	4,834.2463	4,834.2463	0.7226	0.0000	4,852.3108
Maximum	**4.1685**	**42.4826**	**22.4704**	**0.0633**	**18.2675**	**2.1991**	**20.4666**	**9.9840**	**2.0232**	**12.0072**	**0.0000**	**6,508.1112**	**6,508.1112**	**1.1981**	**0.0000**	**6,537.6934**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1685	42.4826	22.4704	0.0633	7.2470	2.1991	9.4461	3.9263	2.0232	5.9495	0.0000	6,508.1112	6,508.1112	1.1981	0.0000	6,537.6934
2021	2.5499	21.8537	21.7316	0.0491	1.4761	0.9770	2.4531	0.3976	0.9185	1.3161	0.0000	4,834.2463	4,834.2463	0.7226	0.0000	4,852.3108
Maximum	**4.1685**	**42.4826**	**22.4704**	**0.0633**	**7.2470**	**2.1991**	**9.4461**	**3.9263**	**2.0232**	**5.9495**	**0.0000**	**6,508.1112**	**6,508.1112**	**1.1981**	**0.0000**	**6,537.6934**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**55.82**	**0.00**	**48.08**	**58.35**	**0.00**	**45.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.1251	5.5435	14.0290	0.0501	4.2404	0.0429	4.2833	1.1348	0.0400	1.1748		5,099.8045	5,099.8045	0.2724		5,106.6131
Total	**1.1434**	**5.5435**	**14.0328**	**0.0501**	**4.2404**	**0.0429**	**4.2833**	**1.1348**	**0.0400**	**1.1748**		**5,099.8125**	**5,099.8125**	**0.2724**	**0.0000**	**5,106.6217**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.1251	5.5435	14.0290	0.0501	4.2404	0.0429	4.2833	1.1348	0.0400	1.1748		5,099.8045	5,099.8045	0.2724		5,106.6131
Total	**1.1434**	**5.5435**	**14.0328**	**0.0501**	**4.2404**	**0.0429**	**4.2833**	**1.1348**	**0.0400**	**1.1748**		**5,099.8125**	**5,099.8125**	**0.2724**	**0.0000**	**5,106.6217**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/2/2020	3/14/2020	5	10	
2	Grading	Grading	3/16/2020	7/3/2020	5	80	
3	Trenching	Trenching	7/6/2020	7/31/2020	5	20	
4	Building Construction	Building Construction	8/3/2020	6/18/2021	5	230	
5	Paving	Paving	6/21/2021	7/16/2021	5	20	
6	Architectural Coating	Architectural Coating	7/19/2021	8/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.28

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 744 (Architectural Coating – sqft)

OffRoad Equipment

Phase 2 Davenport Park Expansion - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Trenching	Trenchers	1	8.00	78	0.50
Trenching	Forklifts	1	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,300.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**7.0458**	**2.1974**	**9.2433**	**3.8730**	**2.0216**	**5.8946**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1826	0.0000	6.1826	3.3288	0.0000	3.3288			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1826**	**1.2734**	**7.4560**	**3.3288**	**1.1716**	**4.5003**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3691	12.0146	2.7933	0.0320	0.7212	0.0384	0.7597	0.1977	0.0368	0.2345		3,469.5130	3,469.5130	0.2490		3,475.7388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4457**	**12.0690**	**3.3948**	**0.0337**	**0.8889**	**0.0398**	**0.9287**	**0.2422**	**0.0381**	**0.2802**		**3,635.6261**	**3,635.6261**	**0.2543**		**3,641.9828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4112	0.0000	2.4112	1.2982	0.0000	1.2982			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**2.4112**	**1.2734**	**3.6846**	**1.2982**	**1.1716**	**2.4698**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3691	12.0146	2.7933	0.0320	0.7212	0.0384	0.7597	0.1977	0.0368	0.2345		3,469.5130	3,469.5130	0.2490		3,475.7388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4457**	**12.0690**	**3.3948**	**0.0337**	**0.8889**	**0.0398**	**0.9287**	**0.2422**	**0.0381**	**0.2802**		**3,635.6261**	**3,635.6261**	**0.2543**		**3,641.9828**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7733	7.1992	6.0963	8.0000e-003		0.5140	0.5140		0.4729	0.4729		775.6114	775.6114	0.2509		781.8826
Total	**0.7733**	**7.1992**	**6.0963**	**8.0000e-003**		**0.5140**	**0.5140**		**0.4729**	**0.4729**		**775.6114**	**775.6114**	**0.2509**		**781.8826**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0290	0.3208	8.9000e-004	0.0894	7.5000e-004	0.0902	0.0237	6.9000e-004	0.0244		88.5936	88.5936	2.7900e-003		88.6634
Total	**0.0409**	**0.0290**	**0.3208**	**8.9000e-004**	**0.0894**	**7.5000e-004**	**0.0902**	**0.0237**	**6.9000e-004**	**0.0244**		**88.5936**	**88.5936**	**2.7900e-003**		**88.6634**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7733	7.1992	6.0963	8.0000e-003		0.5140	0.5140		0.4729	0.4729	0.0000	775.6114	775.6114	0.2509		781.8826
Total	**0.7733**	**7.1992**	**6.0963**	**8.0000e-003**		**0.5140**	**0.5140**		**0.4729**	**0.4729**	**0.0000**	**775.6114**	**775.6114**	**0.2509**		**781.8826**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0290	0.3208	8.9000e-004	0.0894	7.5000e-004	0.0902	0.0237	6.9000e-004	0.0244		88.5936	88.5936	2.7900e-003		88.6634
Total	**0.0409**	**0.0290**	**0.3208**	**8.9000e-004**	**0.0894**	**7.5000e-004**	**0.0902**	**0.0237**	**6.9000e-004**	**0.0244**		**88.5936**	**88.5936**	**2.7900e-003**		**88.6634**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1562	4.4667	1.2910	0.0106	0.2689	0.0214	0.2903	0.0774	0.0204	0.0979		1,131.6861	1,131.6861	0.0757		1,133.5779
Worker	0.5519	0.3915	4.3309	0.0120	1.2072	0.0101	1.2173	0.3202	9.3000e-003	0.3295		1,196.0140	1,196.0140	0.0377		1,196.9565
Total	**0.7081**	**4.8582**	**5.6219**	**0.0226**	**1.4761**	**0.0315**	**1.5075**	**0.3976**	**0.0297**	**0.4273**		**2,327.7001**	**2,327.7001**	**0.1134**		**2,330.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1562	4.4667	1.2910	0.0106	0.2689	0.0214	0.2903	0.0774	0.0204	0.0979		1,131.6861	1,131.6861	0.0757		1,133.5779
Worker	0.5519	0.3915	4.3309	0.0120	1.2072	0.0101	1.2173	0.3202	9.3000e-003	0.3295		1,196.0140	1,196.0140	0.0377		1,196.9565
Total	**0.7081**	**4.8582**	**5.6219**	**0.0226**	**1.4761**	**0.0315**	**1.5075**	**0.3976**	**0.0297**	**0.4273**		**2,327.7001**	**2,327.7001**	**0.1134**		**2,330.5344**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1340	4.0693	1.1792	0.0105	0.2689	8.6100e-003	0.2775	0.0774	8.2300e-003	0.0857		1,122.8512	1,122.8512	0.0725		1,124.6634
Worker	0.5150	0.3522	3.9772	0.0116	1.2072	9.7500e-003	1.2169	0.3202	8.9900e-003	0.3291		1,158.0312	1,158.0312	0.0341		1,158.8831
Total	**0.6490**	**4.4216**	**5.1564**	**0.0221**	**1.4761**	**0.0184**	**1.4944**	**0.3976**	**0.0172**	**0.4148**		**2,280.8824**	**2,280.8824**	**0.1066**		**2,283.5465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1340	4.0693	1.1792	0.0105	0.2689	8.6100e-003	0.2775	0.0774	8.2300e-003	0.0857		1,122.8512	1,122.8512	0.0725		1,124.6634
Worker	0.5150	0.3522	3.9772	0.0116	1.2072	9.7500e-003	1.2169	0.3202	8.9900e-003	0.3291		1,158.0312	1,158.0312	0.0341		1,158.8831
Total	**0.6490**	**4.4216**	**5.1564**	**0.0221**	**1.4761**	**0.0184**	**1.4944**	**0.3976**	**0.0172**	**0.4148**		**2,280.8824**	**2,280.8824**	**0.1066**		**2,283.5465**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2922**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2922**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.1724					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**0.3913**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1049	0.0718	0.8102	2.3700e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		235.8952	235.8952	6.9400e-003		236.0688
Total	**0.1049**	**0.0718**	**0.8102**	**2.3700e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**235.8952**	**235.8952**	**6.9400e-003**		**236.0688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.1724					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**0.3913**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1049	0.0718	0.8102	2.3700e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		235.8952	235.8952	6.9400e-003		236.0688
Total	**0.1049**	**0.0718**	**0.8102**	**2.3700e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**235.8952**	**235.8952**	**6.9400e-003**		**236.0688**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1251	5.5435	14.0290	0.0501	4.2404	0.0429	4.2833	1.1348	0.0400	1.1748		5,099.8045	5,099.8045	0.2724		5,106.6131
Unmitigated	1.1251	5.5435	14.0290	0.0501	4.2404	0.0429	4.2833	1.1348	0.0400	1.1748		5,099.8045	5,099.8045	0.2724		5,106.6131

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	693.00	693.00	693.00	1,994,135	1,994,135
Parking Lot	0.00	0.00	0.00		
Total	693.00	693.00	693.00	1,994,135	1,994,135

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Unmitigated	0.0183	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0170					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Total	**0.0183**	**3.0000e-005**	**3.7400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.0100e-003**	**8.0100e-003**	**2.0000e-005**		**8.5400e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0170					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.0100e-003	8.0100e-003	2.0000e-005		8.5400e-003
Total	**0.0183**	**3.0000e-005**	**3.7400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.0100e-003**	**8.0100e-003**	**2.0000e-005**		**8.5400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

NOISE MODELING

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TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd North of E South St
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	103.9	221.2	475.3

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E South St to E 55th Way
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22300 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	105.8	225.3	484.0

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E 55th Way to Candlewood St
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	99.9	212.4	456.2

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd South of Candlewood St
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.8	199.1	427.4

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	92.2	195.7	420.1

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.0	197.2	423.5

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E 55th Way West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 0 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16200 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	86.1	182.4	391.3

TABLE Existing-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.5	185.3	397.7

TABLE Existing Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd North of E South St
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21800 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	104.3	221.9	476.8

TABLE Existing Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E South St to E 55th Way
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	107.6	229.3	492.7

TABLE Existing Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E 55th Way to Candlewood St
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21000 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	101.8	216.5	465.1

TABLE Existing Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd South of Candlewood St
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	94.1	199.8	429.0

TABLE Existing Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.0	197.2	423.5

TABLE Existing Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.0	197.2	423.5

TABLE Existing Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E 55th Way West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 0 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	86.8	183.8	394.5

TABLE Existing Plus Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Existing Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.8	186.1	399.3

TABLE Cumulative-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd North of E South St
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	105.2	223.9	481.1

TABLE Cumulative-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E South St to E 55th Way
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	107.0	227.9	489.8

TABLE Cumulative-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E 55th Way to Candlewood St
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.8	214.4	460.6

TABLE Cumulative-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd South of Candlewood St
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	95.1	201.9	433.6

TABLE Cumulative-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25400 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.2	197.8	424.6

TABLE Cumulative-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.9	199.3	427.9

TABLE Cumulative-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E 55th Way West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 410 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 0 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Cumulative-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16500 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.2	184.6	396.1

TABLE Cumulative-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	88.5	187.5	402.5

TABLE Cumulative Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd North of E South St
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	105.2	223.9	481.1

TABLE Cumulative Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E South St to E 55th Way
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23300 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	108.8	231.9	498.4

TABLE Cumulative Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd E 55th Way to Candlewood St
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21300 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	102.7	218.5	469.5

TABLE Cumulative Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: N. Paramount Blvd South of Candlewood St
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19000 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	95.4	202.6	435.1

TABLE Cumulative Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.9	199.3	427.9

TABLE Cumulative Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E South St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.9	199.3	427.9

TABLE Cumulative Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: E 55th Way West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 410 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 0 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Cumulative Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St West of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.5	185.3	397.7

TABLE Cumulative Plus Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/01/2019
ROADWAY SEGMENT: Candlewood St East of N Paramount Blvd
NOTES: Daveport Park Expansion - P.M. - Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17000 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

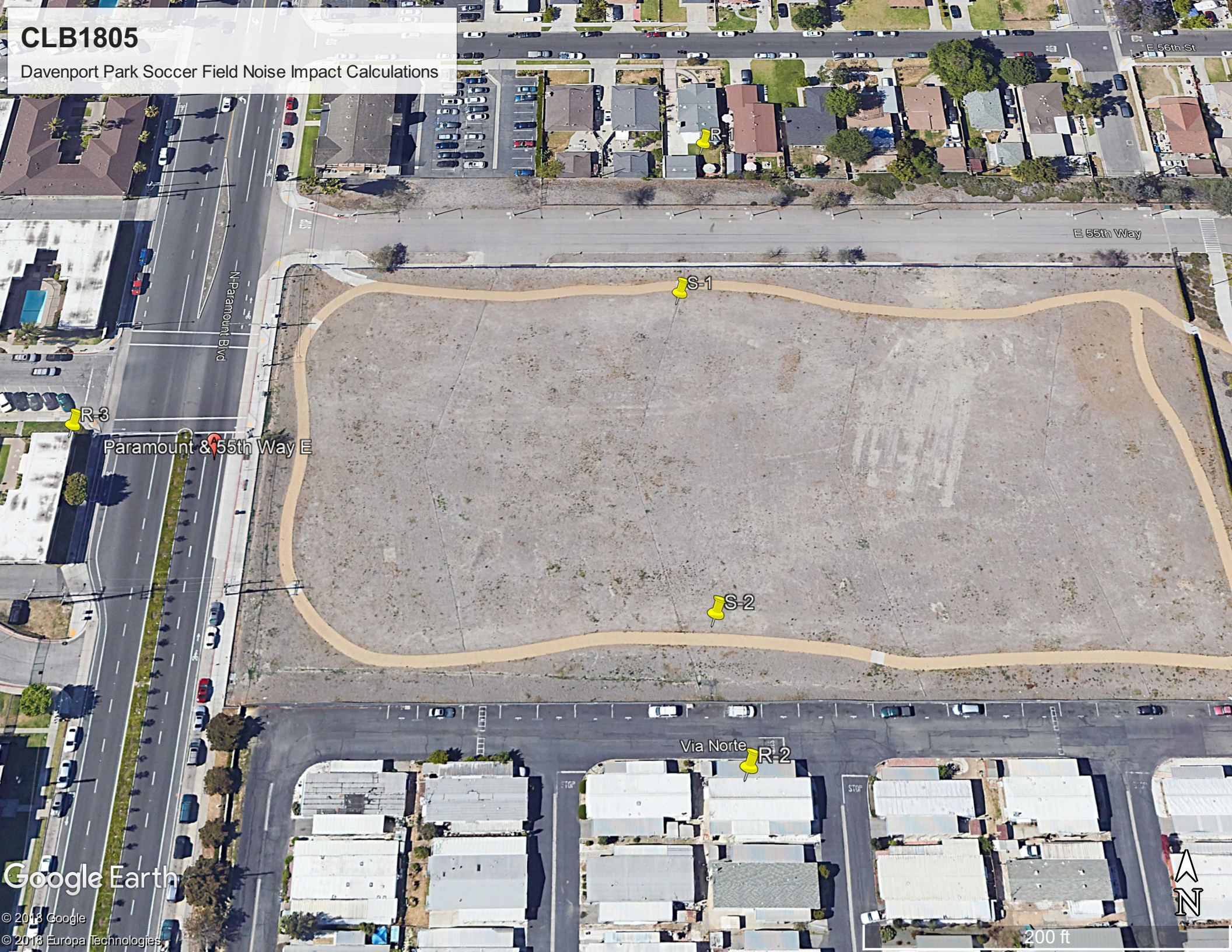
CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	88.8	188.3	404.1

CLB1805

Davenport Park Soccer Field Noise Impact Calculations



Assumptions	Loud Voices		
Man Voice	dist	Female Voice	dist
88	3	82	3
Number of Males		Number of Females	
10		10	
Combined Males		Combined Males	
98		92	
Combined People			Time
99.0			5

Assumptions	Loud Voices		
Man Voice	dist	Female Voice	dist
87	3	81	3
Number of Males		Number of Females	
10		10	
Combined Males		Combined Males	
97		91	
Combined People			Time
98.0			10

Assumptions	Raised Voices		
Man Voice	dist	Female Voice	dist
77	3	77	3
Number of Males		Number of Females	
10		10	
Combined Males		Combined Males	
87		87	
Combined People			Time
90.0			45

Hourly Leq
93.9

R	Daily Reference Level at 3 ft	North Bleachers		South Bleachers		Combined Noise Level
		Dist (ft)	Level	Dist (ft)	Level	
1	89.1	135	56.1	375	47.2	56.6
2		330	48.3	90	59.6	59.9
3		415	46.3	435	45.9	49.1

APPENDIX D

TRAFFIC IMPACT ANALYSIS MEMORANDUM

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CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: November 6, 2019

TO: Maryanne Cronin, City of Long Beach Development Services Department

FROM: Dean Arizabal, LSA

SUBJECT: Davenport Park Expansion Project – Traffic Impact Assessment

LSA is pleased to submit this traffic impact assessment for the proposed Davenport Park expansion (project). The purpose of this effort is to establish baseline conditions and evaluate potential impacts associated with the expansion of the park, which is located at 2910 East 55th Way in Long Beach, California.

LSA has prepared the following traffic impact assessment for existing and cumulative conditions for study area intersections both with and without the proposed project. In addition, this assessment evaluates temporary impacts that construction activity may have on study area intersections. Intersection levels of service (LOS) for the aforementioned conditions have been determined, and potential impacts to traffic and parking associated with the proposed project have been identified.

PROJECT DESCRIPTION

The project proposes to expand the existing 5.5-acre (ac) Davenport Park facilities by approximately 6 additional ac located directly west of the current site. This park expansion includes the construction of a soccer field and a 5,000-square-foot (sf) skate park and the addition of 31 diagonal surface parking spaces (along the south side of East 55th Way adjacent to the park). The proposed project would also provide a school bus drop-off area in the existing roundabout, which would eliminate 11 existing parking spaces. The proposed project would integrate the existing Davenport Park with facilities included as part of the project by removing the existing vegetated fence currently located along the eastern boundary of the site. Vehicular access to the existing park and future expansion is provided via the right-in/right-out intersection of Paramount Boulevard/East 55th Way (North). Pedestrian access and circulation are provided around the perimeter of the park. The project is illustrated on Figure 1 (all figures included in Attachment A).

Trip Generation

Project a.m. and p.m. peak-hour trips were generated using trip rates referenced in the San Diego Association of Governments (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (2002), the *Long Beach Sports Park Environmental Impact Report* (EIR) (LSA 2004), and the *Center Avenue Skate Park Study* (Austin-Foust Associates 2011). The SANDAG trip generation rates for the park use were utilized as they provide trip-generating characteristics more

customized to Southern California and the project area. SANDAG-developed rates for park uses have been utilized in recent nearby studies such as the *Drake Park Soccer Field Project Traffic Impact Analysis* (LSA 2013). The rates developed in the *Long Beach Sports Park EIR* (LSA 2004) were used in this traffic impact assessment to provide a worst-case estimate for the potential usage of the soccer field. The *Long Beach Sports Park EIR* (LSA 2004) developed trip generation rates for soccer field use based on the estimated number of participants and attendees and times of usage. The estimated activity was based on a review of typical schedules of use at other soccer fields in Long Beach. The rates developed in the *Center Avenue Skate Park Study* (Austin-Foust Associates 2011) were used in this traffic impact assessment because they most closely reflect the proposed skate park.

As use of the entire park may overlap with or occur concurrently with the soccer field and the skate park, the project trip generation includes the 6 ac expansion, soccer field, and 5,000 sf skate park in an effort to provide a conservative assessment. The project is forecast to generate a total of 14 trips in the a.m. peak hour (11 inbound and 3 outbound) and 79 trips in the p.m. peak hour (37 inbound and 42 outbound), and 418 average daily trips (ADT).

The existing 5.5 ac Davenport Park generates a total of 11 trips in the a.m. peak hour (9 inbound and 2 outbound), 22 trips in the p.m. peak hour (9 inbound and 13 outbound), and 275 ADT.

With the proposed expansion, Davenport Park is anticipated to generate a total of 25 trips in the a.m. peak hour (20 inbound and 5 outbound), 101 trips in the p.m. peak hour (46 inbound and 55 outbound), and 693 ADT.

Trips generated by the project are shown in Table A (all tables are provided in Attachment B).

Trip Distribution and Assignment

Project-related trips were distributed through the study area intersections based on the trip distribution utilized for the existing portion of Davenport Park in the previous *Traffic and Parking Study for Proposed 55th Way Park* (Meyer, Mohaddes Associates 2003), as the project would have an identical land use. Project volumes were assigned to the arterial street system based on this trip distribution, as summarized below:

- North: 5 percent via Paramount Boulevard
- South: 10 percent via Paramount Boulevard
- East: 5 percent via South Street and 20 percent via Candlewood Street
- West: 40 percent via South Street and 20 percent via Candlewood Street

The resulting project trip assignment, which takes into account the right-in/right-out access to the park, was overlaid onto the existing and cumulative traffic volumes to determine the “plus project” volumes.

Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **Paramount Boulevard** is located west of the project site and is a four-lane roadway with two lanes of traffic in each direction. Paramount Boulevard is classified as a Major Avenue in the City of Long Beach (City) *General Plan Mobility Element* (2013). The cross-streets along Paramount Boulevard between East South Street and Candlewood Street are stop-controlled intersections, with the exception of the signalized intersection of Paramount Boulevard/East 55th Way (South). The roadway has on-street parking and Class II bike lanes on each side. The posted speed limit is 40 miles per hour (mph).

- **East 55th Way** (South) west of Paramount Boulevard serves as a one-lane one-way street with angled on-street parking to facilitate outbound traffic from the Southwood Garden Apartments complex. All inbound traffic into the Southwood Garden Apartments complex utilizes East 56th Street approximately 230 feet (ft) to the north. Sidewalks are provided along each side of the street on the west leg. The intersections of the east and west approaches are offset by approximately 80 ft with the east approach to the north. East 55th Way (North) provides right-in/right-out–only access for Davenport Park. The speed limit on East 55th Way is 25 mph.

- **South Street** is located north of the project site and is a four-lane roadway with two lanes of traffic in each direction. South Street is classified as a Major Avenue in the City's *General Plan Mobility Element* (2013). The roadway has on-street parking along both sides of the roadways. Sidewalks are provided along each side of the street. There are no bike lanes along the roadway, and the posted speed limit is 35 mph.

- **Candlewood Street** is located south of the project site and is a four-lane roadway with two lanes of traffic in each direction. Candlewood Street (Market Street) west of Paramount Boulevard is classified as a Minor Avenue in the City's *General Plan Mobility Element* (2013). The roadway has on-street parking west of Paramount Boulevard. Sidewalks are provided along each side of the street. There are no bike lanes along the roadway, and the posted speed limit is 40 mph.

LEVEL OF SERVICE ANALYSIS

This traffic analysis focuses on the a.m. and p.m. peak-hour LOS at four intersections for existing and cumulative conditions with and without the project. In addition, construction activities have also been evaluated.

Intersections

The study area includes the following locations:

1. Paramount Boulevard/South Street
2. Paramount Boulevard East 55th Way (North)
3. Paramount Boulevard/East 55th Way (South)
4. Paramount Boulevard/Candlewood Street

The study area is illustrated on Figure 2. A.M. peak-hour (between 7:00 a.m. and 9:00 a.m.) and p.m. peak-hour (between 4:00 p.m. and 6:00 p.m.) turning movement volumes for the study area

intersections were collected by National Data and Surveying Services (NDS) in March 2015. The existing traffic counts are provided as Attachment C.

Methodology

The following traffic analysis was conducted according to the applicable methodologies of the City, the Los Angeles County (County) Metropolitan Transportation Authority Congestion Management Program (CMP) (2010), and applicable provisions from the California Environmental Quality Act (CEQA).

Intersection Capacity Utilization Methodology

The Intersection Capacity Utilization (ICU) methodology has been used to determine the signalized intersection LOS in the study area. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. The ICUs were developed for this analysis using Traffix (Version 8.0) software.

According to the City's *General Plan Mobility Element* (2013), LOS at an intersection is considered to be unsatisfactory when the v/c ratio exceeds 0.90 (LOS D). As such, improvements are recommended at locations that operate at LOS E or F. The relationship of the v/c ratio to LOS is demonstrated in the following table:

LOS	V/C Ratio
A	0.00–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	>1.00

LOS = level of service
V/C = volume to capacity

The City considers LOS D as the upper limit of satisfactory operations for total intersection operation. Mitigation is required for any signalized intersection where project traffic causes the intersection to deteriorate from LOS D to LOS E or F, or if the project traffic causes an increase in the v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition.

Highway Capacity Manual Methodology

The *Highway Capacity Manual* (HCM), 6th Edition, (Transportation Research Board 2017) methodology has been used to determine the LOS for the unsignalized, stop-controlled intersection of Paramount Boulevard/East 55th Way (North). The HCM methodology calculates the average delay experienced by all vehicles at an intersection. The resulting calculation of average delay experienced by vehicles at the intersection is then used to determine the LOS at that location. LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS is a qualitative assessment of

the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. The relationship between LOS and the delay (in seconds) at intersections is as follows:

Level of Service	Unsignalized Intersection Delay (seconds)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

Source: *Highway Capacity Manual* (Transportation Research Board 2017)

Existing Baseline Conditions and Level of Service Analysis

Consistent with the County CMP, LSA applied 6.1 percent total growth to the year 2015 traffic counts to represent existing (2019) conditions. Table B summarizes the results of the existing a.m. and p.m. peak-hour analyses for the study area intersections. All LOS worksheets are provided in Attachment D. As Table B indicates, all intersections operate at satisfactory LOS (LOS D or better), with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour.

Existing Plus Project Conditions and Level of Service Analysis

Table B presents a summary of the existing plus project conditions. As Table B indicates, all study area intersections would operate at satisfactory LOS (LOS D or better) with the proposed project, with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour. The addition of project traffic would not exceed the City's level-of-significance threshold.

Cumulative Baseline Conditions and Level of Service Analysis

Per the City Development Services Development Projects Map (http://www.longbeach.gov/lbds/maps/), there are no cumulative (approved or pending) projects in the vicinity of Davenport Park. However, for consistency with the County CMP, LSA applied 7.9 percent total growth to the year 2015 traffic counts to develop cumulative (2022) traffic conditions, corresponding to the project opening year. Table C presents a summary of the cumulative a.m. and p.m. peak-hour analyses for the study area intersections. As Table C indicates, all intersections are forecast to operate at satisfactory LOS (LOS D or better), with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour.

Cumulative Plus Project Conditions and Level of Service Analysis

Table C presents a summary of the cumulative plus project intersection LOS. As Table C indicates, all study area intersections would operate at satisfactory LOS (LOS D or better) with the proposed project, with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour. The addition of project traffic would not exceed the City's level-of-significance threshold.

Existing Plus Construction Activity Conditions

Study area intersection LOS have been evaluated to identify any impacts associated with peak construction activity of the proposed project. Project construction is anticipated to generate a maximum of 7 workers and 50 haul trucks per weekday. Workers are anticipated to arrive during the a.m. peak hour and depart during p.m. peak hour. Haul truck activity would occur between 7:00 a.m. and 5:00 p.m. As such, a uniform distribution of haul truck trips has been assumed for a 10-hour construction day.

The size and speed of these 50 haul trucks have been taken into consideration when developing construction traffic generation through the use of passenger car equivalent (PCE) factors. As a haul truck would take more time and space than a typical passenger car to traverse any given roadway facility, a PCE factor of 2.5 has been utilized to convert haul truck traffic into typical passenger car traffic. The 7 workers and 50 haul trucks are anticipated to generate a total of 32 a.m. peak-hour trips (20 inbound and 12 outbound) and 32 p.m. peak-hour trips (12 inbound and 20 outbound) in PCEs.

Trips generated by peak project construction activity are shown in Table D.

Based on knowledge of the study area and the right-in/right-out access at Paramount Boulevard/East 55th Way (North), construction vehicles are anticipated to access the site from the south via Paramount Boulevard/Candlewood Street and exit to the north via Paramount Boulevard/South Street.

Table E presents a summary of existing plus construction activity intersection LOS. As Table E indicates, all study area intersections would operate at satisfactory LOS (LOS D or better) with the project, with the exception of the intersection of Paramount Boulevard/South Street (LOS E) in the p.m. peak hour. Construction-related traffic would not exceed the City's level-of-significance threshold.

PARKING

This parking analysis reviews the parking supply and demand for the proposed project. The existing parking supply is 53 spaces. The proposed project would reduce the existing parking by 11 spaces to provide a new bus drop-off area. In addition, the project would add 31 diagonal parking spaces along the south side of East 55th Way to the modified parking supply of 42 spaces, for a total of 73 parking spaces within the park.

The proposed project would expand the existing park to a total of 11.5 ac. Based on parking standards from the City's Municipal Code Chapter 21.41.216, Off-Street Parking and Loading Requirements, Table 41-1C, 11.5 ac of park space would require 23 parking spaces (2 parking spaces per acre). The proposed soccer field is not expected to be used for any league purposes (i.e., for the American Youth Soccer Organization [AYSO]) and is anticipated to be used for recreation use only. The City Code has not defined any separate parking requirement for the proposed skate park; therefore, this results in a total demand of 23 parking spaces.

The total parking supply of 73 spaces after construction of the proposed project would allow for a residual of 50 parking spaces compared to City Code and is adequate for the future parking demand of the park.

PEDESTRIAN ACCESS

The project site currently has full pedestrian and bicycle access via existing facilities along Paramount Boulevard. Paramount Boulevard within the study area currently provides sidewalks and Class II bike lanes along each side. In addition, Paramount Boulevard/East 55th Way (South) currently has crosswalks at all four corners of the intersection.

Full pedestrian access to the project site via sidewalks is also provided along both South Street and Candlewood Street. Class I bike routes currently exist along Candlewood Street east of Paramount Boulevard. South Street currently does not provide bicycle facilities. According to the City's *General Plan Mobility Element* (2013), Class II bike lanes are proposed along South Street west and east of Paramount Boulevard.

CONCLUSION

Based on the results of this traffic impact assessment, the anticipated traffic generated to and from the project site can be accommodated without causing a significant impact to the study area intersections. The project is also not anticipated to experience any parking deficiencies.

Attachments: A: Figures 1 and 2
B: Tables A through E
C: Existing Traffic Counts
D: Level of Service Worksheets

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Austin-Foust Associates. 2011. *Center Avenue Skate Park Study*.

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ATTACHMENT A

FIGURES 1 AND 2

NOTES:

1. Performance in Lighting 25'-0" Light Pole with System Park Square #079280 at 22'-0" AFG
2. Performance in Lighting System Park Line #072290 at 15'-0" AFG on opposite side of pole.

LSA

FIGURE 1

N

0 65 130

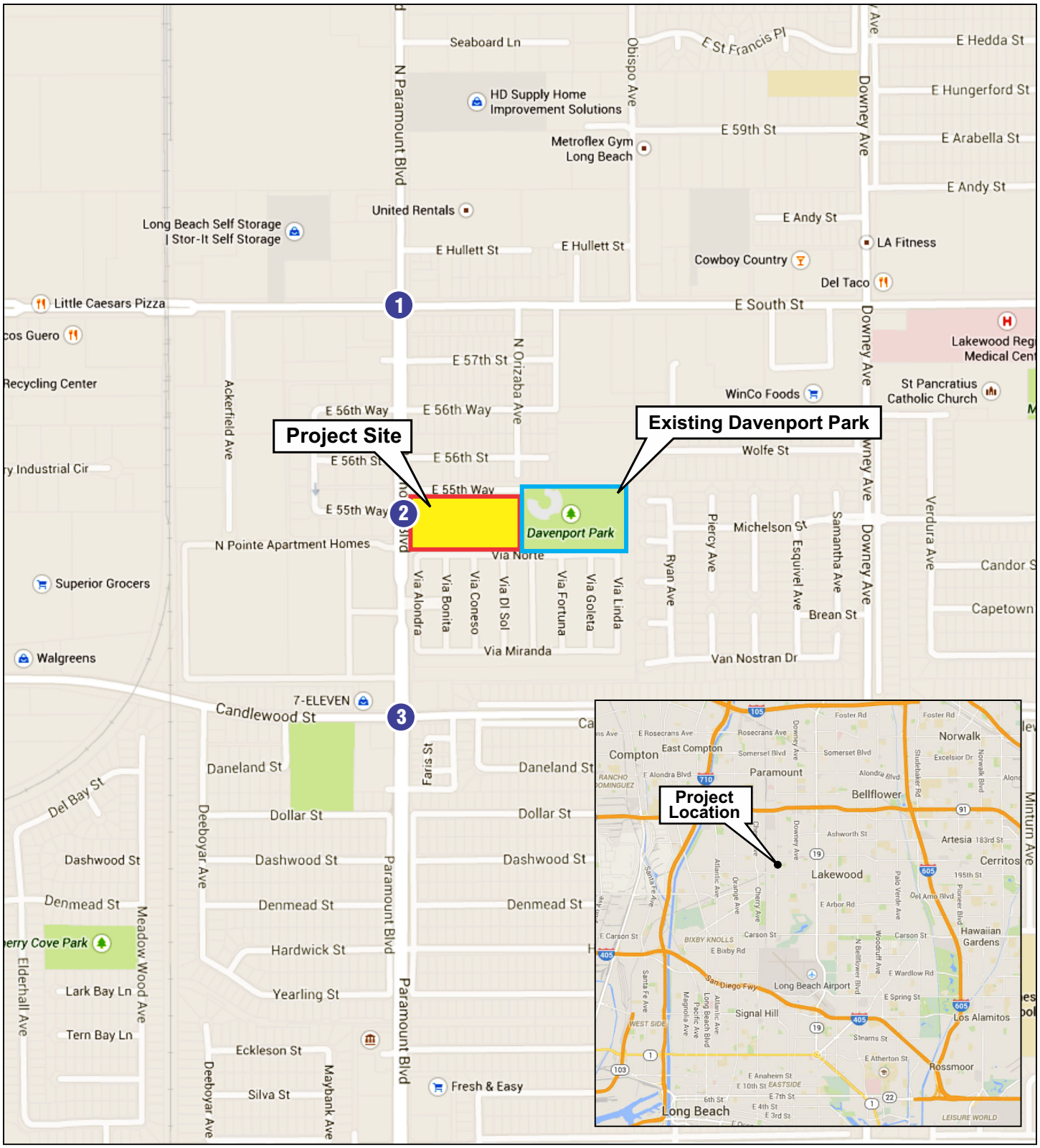
FEET

SOURCE: Anchor QEA

Davenport Park Expansion

Conceptual Site Plan

I:\CLB1805\G\Concept_Site_Plan.cdr (11/6/2019)



LSA

LEGEND

Project Site

Existing Davenport Park

Study Area Intersection

N

0 500 1000

FEET

SOURCE: Google Maps

FIGURE 2

Davenport Park Expansion
Traffic Impact and Parking Analysis

Project Location and Study Area Intersections

I:\CLB1805\G\Traffic\Location&Ints.cdr (10/31/2019)

ATTACHMENT B

TABLES A THROUGH E

LSA

Table A: Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates									
City Park[1]		acre	50.00	1.60	0.40	2.00	1.60	2.40	4.00
Soccer Field[2]		field	72.00	-	-	-	24.00	24.00	48.00
Skate Park[3]		TSF	9.10	0.16	0.14	0.30	0.63	0.73	1.36
Existing Trip Generation									
City Park	5.5	acre	275	9	2	11	9	13	22
Project Trip Generation									
City Park	6.0	acre	300	10	2	12	10	14	24
Soccer Field	1	field	72	-	-	-	24	24	48
Skate Park	5.0	TSF	46	1	1	2	3	4	7
Total			418	11	3	14	37	42	79
Existing Plus Project Trip Generation									
City Park	11.5	acre	575	19	4	23	19	27	46
Soccer Field	1	field	72	-	-	-	24	24	48
Skate Park	5.0	TSF	46	1	1	2	3	4	7
Total			693	20	5	25	46	55	101

[1] Trip rates referenced from the San Diego Association of Governments (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (2002).

[2] Trip rates based on players and spectators per field and an average vehicle occupancy, as documented in the *Long Beach Sports Park Environmental Impact Report* (LSA 2004).

[3] Trip rates from the *Center Avenue Skate Park Study* (Austin-Foust Associates 2011).

ADT = average daily traffic

TSF = thousand square feet

LSA

Table B: Existing Baseline and Plus Project Level of Service Summary

	Intersection	Existing			
		AM Peak Hour		PM Peak Hour	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1	Paramount Boulevard/South Street (Signal)				
	Baseline ICU	0.689	B	0.933	E
	Plus Project ICU	0.689	B	0.952	E
	Δ	0.000		0.019	
2	Paramount Boulevard/East 55th Way (North—Stop Control)				
	Baseline Delay (HCM)	11.3	B	13.2	B
	Plus Project Delay (HCM)	11.4	B	14.1	B
	Δ	0.1		0.9	
3	Paramount Boulevard/East 55th Way (South—Signal)				
	Baseline ICU	0.388	A	0.484	A
	Plus Project ICU	0.401	A	0.568	A
	Δ	0.013		0.084	
4	Paramount Boulevard/Candlewood Street (Signal)				
	Baseline ICU	0.662	B	0.815	D
	Plus Project ICU	0.666	B	0.844	D
	Δ	0.004		0.029	

Δ = change in V/C Ratio or Delay (reported in seconds)

HCM = *Highway Capacity Manual*

ICU = Intersection Capacity Utilization

LOS = level of service

V/C = volume to capacity

LSA

Table C: Cumulative Baseline and Plus Project Level of Service Summary

	Intersection	Cumulative			
		AM Peak Hour		PM Peak Hour	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1	Paramount Boulevard/South Street (Signal)				
	Baseline ICU	0.710	C	0.964	E
	Plus Project ICU	0.710	C	0.982	E
	Δ	0.000		0.018	
2	Paramount Boulevard/East 55th Way (North—Stop Control)				
	Baseline Delay (HCM)	11.4	B	13.3	B
	Plus Project Delay (HCM)	11.4	B	14.3	B
	Δ	0.0		1.0	
3	Paramount Boulevard/East 55th Way (South—Signal)				
	Baseline ICU	0.399	A	0.499	A
	Plus Project ICU	0.412	A	0.582	A
	Δ	0.013		0.083	
4	Paramount Boulevard/Candlewood Street (Signal)				
	Baseline ICU	0.682	B	0.843	D
	Plus Project ICU	0.687	B	0.871	D
	Δ	0.005		0.028	

Δ = change in V/C Ratio or Delay (reported in seconds)

HCM = *Highway Capacity Manual*

ICU = Intersection Capacity Utilization

LOS = level of service

V/C = volume to capacity

LSA

Table D: Construction Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Construction Trip Generation[1]									
Workers	7	PCE	14	7	0	7	0	7	7
Haul Trucks	125	PCE	250	13	12	25	12	13	25
Total			264	20	12	32	12	20	32

[1] Construction of the project is anticipated to generate a maximum of 7 workers and 50 haul trucks.
Workers have a PCE factor of 1, and haul trucks have a PCE factor of 2.5.
Workers are expected to arrive in the a.m. peak hour and depart during the p.m. peak hour.
Truck activity will occur between 7:00 a.m. and 5:00 p.m.
A uniform distribution has been assumed for truck trips during a typical 10-hour construction day.

ADT = average daily traffic

PCE = passenger car equivalent

LSA

Table E: Existing Baseline and Plus Construction Level of Service Summary

	Intersection	Existing			
		AM Peak Hour		PM Peak Hour	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1	Paramount Boulevard/South Street (Signal)				
	Baseline ICU	0.689	B	0.933	E
	Plus Project ICU	0.695	B	0.943	E
	Δ	0.006		0.010	
2	Paramount Boulevard/East 55th Way (North—Stop Control)				
	Baseline Delay (HCM)	11.3	B	13.2	B
	Plus Project Delay (HCM)	11.5	B	13.6	B
	Δ	0.2		0.4	
3	Paramount Boulevard/East 55th Way (South—Signal)				
	Baseline ICU	0.388	A	0.484	A
	Plus Project ICU	0.398	A	0.490	A
	Δ	0.010		0.006	
4	Paramount Boulevard/Candlewood Street (Signal)				
	Baseline ICU	0.662	B	0.815	D
	Plus Project ICU	0.664	B	0.825	D
	Δ	0.002		0.010	

Δ = change in V/C Ratio or Delay (reported in seconds)

HCM = *Highway Capacity Manual*

ICU = Intersection Capacity Utilization

LOS = level of service

V/C = volume to capacity

ATTACHMENT C

EXISTING TRAFFIC COUNTS

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Paramount Blvd and South St , Long Beach

Date:	3/5/2015
Day:	Thursday

Project #:	15-5107-001
City:	Long Beach

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Paramount Blvd)

Lanes	0	2	1		
AM	114	476	114	809	AM
NOON	0	0	0	0	NOON
PM	107	715	131	1091	PM

Eastbound Approach (South St)

	AM	NOON	PM
	914	0	1019
1	107	0	210
2	543	0	984
0	75	0	135
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
115	0	110	0
715	0	792	2
100	0	177	1
775	0	1298	
AM	NOON	PM	

Northbound Approach

AM	651	85	587	118	AM
NOON	0	0	0	0	NOON
PM	1027	120	771	183	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg		
704	809	AM
0	0	NOON
953	1091	PM

West Leg			East Leg		
AM	NOON	PM			
914	0	1019	930	0	1079
725	0	1329	775	0	1298
			AM	NOON	PM

South Leg		
651	790	AM
0	0	NOON
1027	1074	PM

Total Volume Per Leg

North Leg		
1513		AM
0		NOON
2044		PM

West Leg			East Leg		
AM	NOON	PM			
1639	0	2348	1705	0	2377
			AM	NOON	PM

South Leg	
1441	AM
0	NOON
2101	PM

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Paramount Blvd and E 55th Way , Long Beach

Date:	3/5/2015
Day:	Thursday

Project #:	15-5107-002
City:	Long Beach

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Paramount Blvd)

Lanes	0	2	0		
AM	0	664	1	776	AM
NOON	0	0	0	0	NOON
PM	0	943	2	1040	PM

Eastbound Approach (E 55th Way)

Lanes	AM	NOON	PM
	1	0	2
0	16	0	22
1	0	0	0
0	18	0	16

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
0	0	0	0
0	0	0	0
1	0	2	

Northbound Approach

AM	682	1	760	0	AM
NOON	0	0	0	0	NOON
PM	959	2	1018	0	PM
		0	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	665	0	945
	776	0	1040
East Leg	1	0	2
	0	0	0
	1	0	2
West Leg	34	0	38
	1	0	2
South Leg	682	0	959
	761	0	1020

Total Volume Per Leg

	AM	NOON	PM
North Leg	1441	0	1985
East Leg	1	0	2
West Leg	35	0	40
South Leg	1443	0	1979

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Paramount Blvd and Candlewood St , Long Beach

Date: 3/5/2015

Day: Thursday

Project #: 15-5107-003

City: Long Beach

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Paramount Blvd)

Lanes	0	2	1		
AM	81	574	83	665	AM
NOON	0	0	0	0	NOON
PM	91	681	146	1000	PM

Eastbound Approach (Candlewood St)

Lanes	AM	NOON	PM
	685	0	571
1	79	0	142
2	369	0	740
0	124	0	72

Westbound Approach

AM	NOON	PM	Lanes
84	0	103	0
524	0	407	2
98	0	67	1
482	0	982	

Northbound Approach

AM	796	80	502	30	AM
NOON	0	0	0	0	NOON
PM	820	73	755	96	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	738	665	AM
	0	0	NOON
	918	1000	PM

West Leg			East Leg		
AM	NOON	PM			
685	0	571	706	0	577
572	0	954	482	0	982
			AM	NOON	PM

	South Leg	
AM	796	612
NOON	0	0
PM	820	924

Total Volume Per Leg

	North Leg
AM	1403
NOON	0
PM	1918

West Leg			East Leg		
AM	NOON	PM			
1257	0	1525	1188	0	1559
			AM	NOON	PM

	South Leg
AM	1408
NOON	0
PM	1744

ATTACHMENT D

LEVEL OF SERVICE WORKSHEETS

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.689
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: B

Street Name:	Paramount Blvd									South St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	90	623	125	121	505	121	114	576	80	106	759	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	623	125	121	505	121	114	576	80	106	759	122
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	623	125	121	505	121	114	576	80	106	759	122
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	92	634	127	123	514	123	116	587	81	108	773	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	634	127	123	514	123	116	587	81	108	773	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	634	127	123	514	123	116	587	81	108	773	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.08	0.08	0.16	0.08	0.07	0.18	0.05	0.07	0.24	0.08
Crit Moves:		****		****			****				****	

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	2	824	9	0	706
Future Vol, veh/h	0	2	824	9	0	706
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	867	9	0	743

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	434	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	570	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	570	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	570	-
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	11.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.388
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 0	0	0 2	0 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	0	807	0	0	706	0	17	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	807	0	0	706	0	17	0	19	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	807	0	0	706	0	17	0	19	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	847	0	0	741	0	18	0	20	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	847	0	0	741	0	18	0	20	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	847	0	0	741	0	18	0	20	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.47	0.00	0.53	0.00	0.00	0.00
Final Sat.:	0	3200	0	0	3200	0	756	0	844	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.23	0.00	0.01	0.00	0.02	0.00	0.00	0.00
Crit Moves:		****		****					****			

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.662
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: B

Street Name:	Paramount Blvd									Candlewood St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Permit+Prot			Permit+Prot			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	85	533	32	88	609	86	84	392	132	104	556	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	533	32	88	609	86	84	392	132	104	556	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	533	32	88	609	86	84	392	132	104	556	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	91	571	34	94	653	92	90	420	141	111	596	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	571	34	94	653	92	90	420	141	111	596	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	571	34	94	653	92	90	420	141	111	596	95
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.75	0.25	1.00	1.50	0.50	1.00	1.72	0.28
Final Sat.:	1600	3019	181	1600	2804	396	1600	2394	806	1600	2758	442
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.19	0.06	0.23	0.23	0.06	0.18	0.18	0.07	0.22	0.22
Crit Moves:	****				****		****				****	

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.933
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 120 Level Of Service: E

Street Name:	Paramount Blvd									South St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	127	818	194	139	759	114	223	1044	143	188	840	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	818	194	139	759	114	223	1044	143	188	840	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	818	194	139	759	114	223	1044	143	188	840	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	135	867	206	147	804	121	236	1106	151	199	890	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	867	206	147	804	121	236	1106	151	199	890	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	135	867	206	147	804	121	236	1106	151	199	890	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.27	0.13	0.09	0.25	0.08	0.15	0.35	0.09	0.12	0.28	0.08
Crit Moves:		****		****				****		****		

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Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	13	1106	9	0	1003
Future Vol, veh/h	0	13	1106	9	0	1003
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	1177	10	0	1067

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	589	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	452	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	452	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	452	-
HCM Lane V/C Ratio	-	-	0.031	-
HCM Control Delay (s)	-	-	13.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.484
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	2	0	0	0	0	2	0	0	0	0	1!	0	0	0	0	0	0	0
Volume Module:																				
Base Vol:	0	1082		0		0	1003		0		23	0		17		0		0		0
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1082		0		0	1003		0		23	0		17		0		0		0
Added Vol:	0	0		0		0	0		0		0	0		0		0		0		0
PasserByVol:	0	0		0		0	0		0		0	0		0		0		0		0
Initial Fut:	0	1082		0		0	1003		0		23	0		17		0		0		0
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	1145		0		0	1061		0		24	0		18		0		0		0
Reduct Vol:	0	0		0		0	0		0		0	0		0		0		0		0
Reduced Vol:	0	1145		0		0	1061		0		24	0		18		0		0		0
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1145		0		0	1061		0		24	0		18		0		0		0
Saturation Flow Module:																				
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.00	0.00		0.00	2.00	0.00		0.57	0.00	0.43		0.00	0.00	0.00		0.00	0.00	0.00	
Final Sat.:	0	3200		0		0	3200		0		920	0		680		0		0		0
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.36	0.00		0.00	0.33	0.00		0.02	0.00	0.03		0.00	0.00	0.00		0.00	0.00	0.00	
Crit Moves:		****				****					****									

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.815
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 70 Level Of Service: D

Street Name:	Paramount Blvd									Candlewood St			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permit+Prot				Permit+Prot				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	77	801		102		155	723		97		151	785		76		71	432		109	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	77	801		102		155	723		97		151	785		76		71	432		109	
Added Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	77	801		102		155	723		97		151	785		76		71	432		109	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97	
PHF Volume:	80	827		105		160	747		100		156	811		79		73	446		113	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	80	827		105		160	747		100		156	811		79		73	446		113	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	80	827		105		160	747		100		156	811		79		73	446		113	
Saturation Flow Module:																				
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.77	0.23		1.00	1.76	0.24		1.00	1.82	0.18		1.00	1.60	0.40					
Final Sat.:	1600	2839		361		1600	2821		379		1600	2918		282		1600	2555		645	
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.29	0.29		0.10	0.26	0.26		0.10	0.28	0.28		0.05	0.17	0.17					
Crit Moves:		****				****						****			****					

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.689
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Paramount Blvd									South St					
Approach:	North Bound				South Bound				East Bound				West Bound		
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected				
Rights:	Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	93	623	125	121	506	121	114	576	84	107	759	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	623	125	121	506	121	114	576	84	107	759	122
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	1	0	0	0	1	0	0	0	4	1	0	0
Initial Fut:	94	623	125	121	507	121	114	576	88	108	759	122
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	96	634	127	123	516	123	116	587	90	110	773	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	634	127	123	516	123	116	587	90	110	773	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	634	127	123	516	123	116	587	90	110	773	124

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600

Capacity Analysis Module:

Vol/Sat:	0.06	0.20	0.08	0.08	0.16	0.08	0.07	0.18	0.06	0.07	0.24	0.08
Crit Moves:		****		****			****				****	

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Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	5	824	20	0	714
Future Vol, veh/h	0	5	824	20	0	714
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	867	21	0	752

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	434	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	570	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	570	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	570	-
HCM Lane V/C Ratio	-	-	0.009	-
HCM Control Delay (s)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.401
Loss Time (sec): 10 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 | Level Of Service: A

Street Name:	Paramount Blvd								E 55th Way					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted				Permitted				Permitted				Permitted							
Rights:	Include				Include				Include				Include							
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																				
Base Vol:	0	818		0		0	714		0		17		0		19		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	0	818		0		0	714		0		17		0		19		0		0	
Added Vol:	0	0		0		0	0		0		0		0		0		0		0	
PasserByVol:	0	-5		10		10	-1		0		0		0		0		2		0	
Initial Fut:	0	813		10		10	713		0		17		0		19		2		0	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95	0.95		0.95		0.95	0.95		0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	0	853		10		10	748		0		18		0		20		2		0	
Reduct Vol:	0	0		0		0	0		0		0		0		0		0		0	
Reduced Vol:	0	853		10		10	748		0		18		0		20		2		0	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	0	853		10		10	748		0		18		0		20		2		0	
Saturation Flow Module:																				
Sat/Lane:	1600	1600		1600		1600	1600		1600		1600		1600		1600		1600		1600	
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Lanes:	0.00	1.98		0.02		1.00	2.00		1.00		0.47		0.00		0.53		0.50		0.00	
Final Sat.:	0	3161		39		1600	3200		1600		756		0		844		800		0	
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.27		0.27		0.01	0.23		0.00		0.01		0.00		0.02		0.00		0.00	
Crit Moves:		****				****									****		****			

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.666
Loss Time (sec): 10 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 | Level Of Service: B

Street Name:	Paramount Blvd								Candlewood St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permit+Prot				Permit+Prot				Protected				Protected							
Rights:	Include				Include				Include				Include							
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	85	534		32		95	609		87		86	392		132		104	556		91	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	85	534		32		95	609		87		86	392		132		104	556		91	
Added Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
PasserByVol:	0	1		0		0	0		0		2	0		0		0	0		2	
Initial Fut:	85	535		32		95	609		87		88	392		132		104	556		93	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.93	0.93		0.93		0.93	0.93		0.93		0.93	0.93		0.93		0.93	0.93		0.93	
PHF Volume:	91	573		34		102	653		93		94	420		141		111	596		100	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	91	573		34		102	653		93		94	420		141		111	596		100	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
FinalVolume:	91	573		34		102	653		93		94	420		141		111	596		100	
Saturation Flow Module:																				
Sat/Lane:	1600	1600		1600		1600	1600		1600		1600	1600		1600		1600	1600		1600	
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Lanes:	1.00	1.89		0.11		1.00	1.75		0.25		1.00	1.50		0.50		1.00	1.71		0.29	
Final Sat.:	1600	3019		181		1600	2800		400		1600	2394		806		1600	2741		459	
Capacity Analysis Module:																				
Vol/Sat:	0.06	0.19		0.19		0.06	0.23		0.23		0.06	0.18		0.18		0.07	0.22		0.22	
Crit Moves:	****						****				****						****			

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.952
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	135	Level Of Service:	E

Street Name:	Paramount Blvd									South St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	165	820	196	139	761	114	223	1044	158	190	840	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	165	820	196	139	761	114	223	1044	158	190	840	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	25	3	3	0	3	0	0	0	23	3	0	0
Initial Fut:	190	823	199	139	764	114	223	1044	181	193	840	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	201	872	211	147	809	121	236	1106	192	204	890	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	872	211	147	809	121	236	1106	192	204	890	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	872	211	147	809	121	236	1106	192	204	890	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.13	0.09	0.25	0.08	0.15	0.35	0.12	0.13	0.28	0.08
Crit Moves:	****				****			****		****		

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Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	55	1106	46	0	1043
Future Vol, veh/h	0	55	1106	46	0	1043
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	59	1177	49	0	1110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	589	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	452	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	452	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	452	-
HCM Lane V/C Ratio	-	-	0.129	-
HCM Control Delay (s)	-	-	14.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.568
Loss Time (sec): 10 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 | Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	0	1119		0	0	1043		0	23		0	17		0	0	0
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1119		0	0	1043		0	23		0	17		0	0	0
Added Vol:	0	0		0	0	0		0	0		0	0		0	0	0
PasserByVol:	0	-5		34	34	-7		0	0		0	0		38	0	38
Initial Fut:	0	1114		34	34	1036		0	23		0	17		38	0	38
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	1179		36	36	1096		0	24		0	18		40	0	40
Reduct Vol:	0	0		0	0	0		0	0		0	0		0	0	0
Reduced Vol:	0	1179		36	36	1096		0	24		0	18		40	0	40
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1179		36	36	1096		0	24		0	18		40	0	40
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.94	0.06		1.00	2.00	1.00		0.57	0.00	0.43		0.50	0.00	0.50	
Final Sat.:	0	3105		95	1600	3200	1600		920	0	680		800	0	800	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.38		0.02	0.34	0.00		0.02	0.00	0.03		0.03	0.00	0.05	
Crit Moves:		****			****				****						****	

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.844
Loss Time (sec): 10 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 78 | Level Of Service: D

Street Name:	Paramount Blvd									Candlewood St			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permit+Prot				Permit+Prot				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																
Base Vol:	77	805		102	182	727		105	158	785		76	71	432		116
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	77	805		102	182	727		105	158	785		76	71	432		116
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
PasserByVol:	0	6		0	12	6		12	12	0		0	0	0		12
Initial Fut:	77	811		102	194	733		117	170	785		76	71	432		128
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97	
PHF Volume:	80	838		105	200	757		121	176	811		79	73	446		132
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	80	838		105	200	757		121	176	811		79	73	446		132
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	80	838		105	200	757		121	176	811		79	73	446		132
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.78	0.22		1.00	1.72	0.28		1.00	1.82	0.18		1.00	1.54	0.46	
Final Sat.:	1600	2842		358	1600	2760		440	1600	2918		282	1600	2469		731
Capacity Analysis Module:																
Vol/Sat:	0.05	0.29	0.29		0.13	0.27	0.27		0.11	0.28	0.28		0.05	0.18	0.18	
Crit Moves:		****			****					****			****			

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Cumulative AM              Wed Oct 30, 2019 13:45:27                 Page 2-1
--------------------------------------------------------------------------------
                                Davenport Park
                                    CLB1805
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
       ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Paramount Blvd/South St
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.710
Loss Time (sec):      10                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        51                Level Of Service:                   C
********************************************************************************
Street Name:          Paramount Blvd                      South St
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      92  633  127  123  514  123  115  586   81  108  771  124
Growth Adj:  1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse:   94  646  130  125  524  125  117  598   83  110  786  126
Added Vol:      0    0    0    0    0    0    0    0    0    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   94  646  130  125  524  125  117  598   83  110  786  126
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume:    96  657  132  128  534  128  119  609   84  112  801  129
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   96  657  132  128  534  128  119  609   84  112  801  129
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   96  657  132  128  534  128  119  609   84  112  801  129
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1600 3200 1600 1600 3200 1600 1600 3200 1600 1600 3200 1600
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.21 0.08 0.08 0.17 0.08 0.07 0.19 0.05 0.07 0.25 0.08
Crit Moves:        ****          ****             ****                ****
********************************************************************************
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Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	2	838	9	0	718
Future Vol, veh/h	0	2	838	9	0	718
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	882	9	0	756

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	441	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	564	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	564	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	564	-
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.399
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2	0	0	0	2	0	0	0	0	1! 0
Volume Module:												
Base Vol:	0	821	0	0	718	0	17	0	19	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	837	0	0	732	0	17	0	19	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	837	0	0	732	0	17	0	19	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	879	0	0	768	0	18	0	20	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	879	0	0	768	0	18	0	20	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	879	0	0	768	0	18	0	20	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.47	0.00	0.53	0.00	0.00	0.00
Final Sat.:	0	3200	0	0	3200	0	756	0	844	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.24	0.00	0.01	0.00	0.02	0.00	0.00	0.00
Crit Moves:		****		****					****			

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.682
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: B

Street Name:	Paramount Blvd									Candlewood St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permit+Prot			Permit+Prot			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	86	542	32	90	619	87	85	398	134	106	565	91
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	88	553	33	92	631	89	87	406	137	108	576	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	553	33	92	631	89	87	406	137	108	576	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	94	593	35	98	677	95	93	435	146	116	618	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	593	35	98	677	95	93	435	146	116	618	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	593	35	98	677	95	93	435	146	116	618	99
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.75	0.25	1.00	1.50	0.50	1.00	1.72	0.28
Final Sat.:	1600	3022	178	1600	2806	394	1600	2394	806	1600	2756	444
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.20	0.06	0.24	0.24	0.06	0.18	0.18	0.07	0.22	0.22
Crit Moves:	****				****		****				****	

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.964
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	147	Level Of Service:	E

Street Name:	Paramount Blvd											South St					
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	129	832	197			141	771	115			227	1062	146			191	855	119		
Growth Adj:	1.02	1.02	1.02			1.02	1.02	1.02			1.02	1.02	1.02			1.02	1.02	1.02		
Initial Bse:	132	849	201			144	786	117			232	1083	149			195	872	121		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	132	849	201			144	786	117			232	1083	149			195	872	121		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94		
PHF Volume:	139	899	213			152	833	124			245	1148	158			206	924	129		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	139	899	213			152	833	124			245	1148	158			206	924	129		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	139	899	213			152	833	124			245	1148	158			206	924	129		
Saturation Flow Module:																				
Sat/Lane:	1600	1600	1600			1600	1600	1600			1600	1600	1600			1600	1600	1600		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00		
Final Sat.:	1600	3200	1600			1600	3200	1600			1600	3200	1600			1600	3200	1600		
Capacity Analysis Module:																				
Vol/Sat:	0.09	0.28	0.13			0.10	0.26	0.08			0.15	0.36	0.10			0.13	0.29	0.08		
Crit Moves:		****				****						****				****				

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Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	13	1124	9	0	1020
Future Vol, veh/h	0	13	1124	9	0	1020
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	1196	10	0	1085

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	598	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	445	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	445	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	445	-
HCM Lane V/C Ratio	-	-	0.031	-
HCM Control Delay (s)	-	-	13.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.499
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2	0	0	2	0	0	1! 0	0	0	0
Volume Module:												
Base Vol:	0	1101	0	0	1020	0	24	0	17	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	1123	0	0	1040	0	24	0	17	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1123	0	0	1040	0	24	0	17	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	1188	0	0	1101	0	26	0	18	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1188	0	0	1101	0	26	0	18	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1188	0	0	1101	0	26	0	18	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.59	0.00	0.41	0.00	0.00	0.00
Final Sat.:	0	3200	0	0	3200	0	937	0	663	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.34	0.00	0.02	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****					****			

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.843
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 78 Level Of Service: D

Street Name:	Paramount Blvd									Candlewood St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	79	815	104	158	735	98	153	798	78	72	439	111
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	81	831	106	161	750	100	156	814	80	73	448	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	831	106	161	750	100	156	814	80	73	448	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	83	859	110	166	774	103	161	841	82	76	463	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	859	110	166	774	103	161	841	82	76	463	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	859	110	166	774	103	161	841	82	76	463	117
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.77	0.23	1.00	1.76	0.24	1.00	1.82	0.18	1.00	1.60	0.40
Final Sat.:	1600	2838	362	1600	2824	376	1600	2915	285	1600	2554	646
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.30	0.10	0.27	0.27	0.10	0.29	0.29	0.05	0.18	0.18
Crit Moves:		****		****				****		****		

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.710
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Paramount Blvd									South St					
Approach:	North Bound				South Bound				East Bound				West Bound		
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected				
Rights:	Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	95	633	127	123	515	123	115	586	85	109	771	124
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	97	646	130	125	525	125	117	598	87	111	786	126
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	1	0	0	0	1	0	0	0	4	1	0	0
Initial Fut:	98	646	130	125	526	125	117	598	91	112	786	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	100	657	132	128	536	128	119	609	92	114	801	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	657	132	128	536	128	119	609	92	114	801	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	657	132	128	536	128	119	609	92	114	801	129

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600

Capacity Analysis Module:

Vol/Sat:	0.06	0.21	0.08	0.08	0.17	0.08	0.07	0.19	0.06	0.07	0.25	0.08
Crit Moves:		****		****			****				****	

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Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	5	838	20	0	726
Future Vol, veh/h	0	5	838	20	0	726
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	882	21	0	764

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	441	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	564	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	564	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	564	-
HCM Lane V/C Ratio	-	-	0.009	-
HCM Control Delay (s)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.412
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Paramount Blvd												E 55th Way					
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted				Permitted				Permitted				Permitted					
Rights:	Include				Include				Include				Include					
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0			
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0			
Lanes:	0	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																		
Base Vol:	0	832	0		0	726	0		17	0	19		0	0	0			
Growth Adj:	1.02	1.02	1.02		1.02	1.02	1.02		1.02	1.02	1.02		1.02	1.02	1.02			
Initial Bse:	0	849	0		0	741	0		17	0	19		0	0	0			
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0			
PasserByVol:	0	-5	10		10	-1	0		0	0	0		2	0	2			
Initial Fut:	0	844	10		10	740	0		17	0	19		2	0	2			
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95			
PHF Volume:	0	885	10		10	776	0		18	0	20		2	0	2			
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0			
Reduced Vol:	0	885	10		10	776	0		18	0	20		2	0	2			
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
FinalVolume:	0	885	10		10	776	0		18	0	20		2	0	2			
Saturation Flow Module:																		
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600			
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
Lanes:	0.00	1.98	0.02		1.00	2.00	1.00		0.47	0.00	0.53		0.50	0.00	0.50			
Final Sat.:	0	3163	37		1600	3200	1600		756	0	844		800	0	800			
Capacity Analysis Module:																		
Vol/Sat:	0.00	0.28	0.28		0.01	0.24	0.00		0.01	0.00	0.02		0.00	0.00	0.00			
Crit Moves:		****			****						****		****					

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Paramount Blvd												Candlewood St					
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permit+Prot				Permit+Prot				Protected				Protected					
Rights:	Include				Include				Include				Include					
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0			
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0			
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																		
Base Vol:	86	543	32		97	619	88		87	398	134		106	565	93			
Growth Adj:	1.02	1.02	1.02		1.02	1.02	1.02		1.02	1.02	1.02		1.02	1.02	1.02			
Initial Bse:	88	554	33		99	631	90		89	406	137		108	576	95			
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0			
PasserByVol:	0	1	0		0	0	0		2	0	0		0	0	2			
Initial Fut:	88	555	33		99	631	90		91	406	137		108	576	97			
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
PHF Adj:	0.93	0.93	0.93		0.93	0.93	0.93		0.93	0.93	0.93		0.93	0.93	0.93			
PHF Volume:	94	595	35		106	677	96		97	435	146		116	618	104			
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0			
Reduced Vol:	94	595	35		106	677	96		97	435	146		116	618	104			
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
FinalVolume:	94	595	35		106	677	96		97	435	146		116	618	104			
Saturation Flow Module:																		
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600			
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			
Lanes:	1.00	1.89	0.11		1.00	1.75	0.25		1.00	1.50	0.50		1.00	1.71	0.29			
Final Sat.:	1600	3022	178		1600	2802	398		1600	2394	806		1600	2740	460			
Capacity Analysis Module:																		
Vol/Sat:	0.06	0.20	0.20		0.07	0.24	0.24		0.06	0.18	0.18		0.07	0.23	0.23			
Crit Moves:	****					****			****					****				

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.982
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 170 Level Of Service: E

Street Name:	Paramount Blvd							South St					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1	
Volume Module:													
Base Vol:	167	834	199	141	773	115	227	1062	161	193	855	119	
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	
Initial Bse:	170	851	203	144	788	117	232	1083	164	197	872	121	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
PasserByVol:	25	3	3	0	3	0	0	0	23	3	0	0	
Initial Fut:	195	854	206	144	791	117	232	1083	187	200	872	121	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
PHF Volume:	207	904	218	152	838	124	245	1148	198	212	924	129	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	207	904	218	152	838	124	245	1148	198	212	924	129	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	207	904	218	152	838	124	245	1148	198	212	924	129	
Saturation Flow Module:													
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600	
Capacity Analysis Module:													
Vol/Sat:	0.13	0.28	0.14	0.10	0.26	0.08	0.15	0.36	0.12	0.13	0.29	0.08	
Crit Moves:	****				****			****		****			

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Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	55	1124	46	0	1060
Future Vol, veh/h	0	55	1124	46	0	1060
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	59	1196	49	0	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	598	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	445	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	445	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	445	-
HCM Lane V/C Ratio	-	-	0.131	-
HCM Control Delay (s)	-	-	14.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.5	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.582
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 1	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	0	1138	0	0	1060	0	24	0	17	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	1161	0	0	1081	0	24	0	17	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	-5	34	34	-7	0	0	0	0	38	0	38
Initial Fut:	0	1156	34	34	1074	0	24	0	17	38	0	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	1223	36	36	1137	0	26	0	18	40	0	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1223	36	36	1137	0	26	0	18	40	0	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1223	36	36	1137	0	26	0	18	40	0	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.94	0.06	1.00	2.00	1.00	0.59	0.00	0.41	0.50	0.00	0.50
Final Sat.:	0	3109	91	1600	3200	1600	937	0	663	800	0	800
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.39	0.02	0.36	0.00	0.02	0.00	0.03	0.03	0.00	0.05
Crit Moves:		****		****			****					****

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.871
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 87 Level Of Service: D

Street Name:	Paramount Blvd									Candlewood St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permit+Prot			Permit+Prot			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	79	819	104	185	739	106	160	798	78	72	439	118
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	81	835	106	189	754	108	163	814	80	73	448	120
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	6	0	12	6	12	12	0	0	0	0	12
Initial Fut:	81	841	106	201	760	120	175	814	80	73	448	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	83	869	110	207	785	124	181	841	82	76	463	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	869	110	207	785	124	181	841	82	76	463	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	869	110	207	785	124	181	841	82	76	463	137
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.73	0.27	1.00	1.82	0.18	1.00	1.54	0.46
Final Sat.:	1600	2842	358	1600	2763	437	1600	2915	285	1600	2470	730
Capacity Analysis Module:												
Vol/Sat:	0.05	0.31	0.31	0.13	0.28	0.28	0.11	0.29	0.29	0.05	0.19	0.19
Crit Moves:		****		****				****		****		

Davenport Park
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.695
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Paramount Blvd								South St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	90	635	125			121	505	121			114	576	80			106	759	122		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	90	635	125			121	505	121			114	576	80			106	759	122		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	6	0			0	10	0			0	0	0			0	0	0		
Initial Fut:	90	641	125			121	515	121			114	576	80			106	759	122		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	0.98	0.98	0.98			0.98	0.98	0.98			0.98	0.98	0.98			0.98	0.98	0.98		
PHF Volume:	92	653	127			123	524	123			116	587	81			108	773	124		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	92	653	127			123	524	123			116	587	81			108	773	124		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	92	653	127			123	524	123			116	587	81			108	773	124		
Saturation Flow Module:																				
Sat/Lane:	1600	1600	1600			1600	1600	1600			1600	1600	1600			1600	1600	1600		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00		
Final Sat.:	1600	3200	1600			1600	3200	1600			1600	3200	1600			1600	3200	1600		
Capacity Analysis Module:																				
Vol/Sat:	0.06	0.20	0.08			0.08	0.16	0.08			0.07	0.18	0.05			0.07	0.24	0.08		
Crit Moves:		****				****					****						****			

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Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	14	824	29	0	706
Future Vol, veh/h	0	14	824	29	0	706
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	867	31	0	743

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	434	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	570	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	570	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	570	-
HCM Lane V/C Ratio	-	-	0.026	-
HCM Control Delay (s)	-	-	11.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.398
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Street Name:	Paramount Blvd									E 55th Way		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 0	0	0 2	0 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	0	827	0	0	706	0	17	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	827	0	0	706	0	17	0	19	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	10	0	0	6	0	0	0	0	0	0	0
Initial Fut:	0	837	0	0	712	0	17	0	19	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	878	0	0	747	0	18	0	20	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	878	0	0	747	0	18	0	20	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	878	0	0	747	0	18	0	20	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.47	0.00	0.53	0.00	0.00	0.00
Final Sat.:	0	3200	0	0	3200	0	756	0	844	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.23	0.00	0.01	0.00	0.02	0.00	0.00	0.00
Crit Moves:		****		****					****			

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.664
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: B

Street Name:	Paramount Blvd									Candlewood St		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Permit+Prot			Permit+Prot			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	85	533	32	88	609	86	84	392	132	124	556	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	533	32	88	609	86	84	392	132	124	556	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	10	0	0	6	0	0	0	0	0	0	0
Initial Fut:	85	543	32	88	615	86	84	392	132	124	556	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	91	582	34	94	659	92	90	420	141	133	596	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	582	34	94	659	92	90	420	141	133	596	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	582	34	94	659	92	90	420	141	133	596	95
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.75	0.25	1.00	1.50	0.50	1.00	1.72	0.28
Final Sat.:	1600	3022	178	1600	2807	393	1600	2394	806	1600	2758	442
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.19	0.06	0.23	0.23	0.06	0.18	0.18	0.08	0.22	0.22
Crit Moves:	****				****		****				****	

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Paramount Blvd/South St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.943
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	E

Street Name:	Paramount Blvd								South St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	127	838	194			139	759	114			223	1044	143			188	840	117		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	127	838	194			139	759	114			223	1044	143			188	840	117		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	10	0			0	6	0			0	0	0			0	0	0		
Initial Fut:	127	848	194			139	765	114			223	1044	143			188	840	117		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94		
PHF Volume:	135	898	206			147	810	121			236	1106	151			199	890	124		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	135	898	206			147	810	121			236	1106	151			199	890	124		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	135	898	206			147	810	121			236	1106	151			199	890	124		
Saturation Flow Module:																				
Sat/Lane:	1600	1600	1600			1600	1600	1600			1600	1600	1600			1600	1600	1600		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00			1.00	2.00	1.00		
Final Sat.:	1600	3200	1600			1600	3200	1600			1600	3200	1600			1600	3200	1600		
Capacity Analysis Module:																				
Vol/Sat:	0.08	0.28	0.13			0.09	0.25	0.08			0.15	0.35	0.09			0.12	0.28	0.08		
Crit Moves:		****				****						****				****				

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑	↱		↑↑
Traffic Vol, veh/h	0	33	1106	21	0	1003
Future Vol, veh/h	0	33	1106	21	0	1003
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	1	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	1177	22	0	1067

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	589	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	452	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	452	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	452	-
HCM Lane V/C Ratio	-	-	0.078	-
HCM Control Delay (s)	-	-	13.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Paramount Blvd/E 55th Way (South)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.490
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name:	Paramount Blvd							E 55th Way					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R	
Control:	Permitted			Permitted			Permitted			Permitted			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	0	0 2	0 0	0	0 2	0 0	0	0 1!	0 0	0	0 0	0 0	
Volume Module:													
Base Vol:	0	1094	0	0	1003	0	23	0	17	0	0	0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	0	1094	0	0	1003	0	23	0	17	0	0	0	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
PasserByVol:	0	6	0	0	10	0	0	0	0	0	0	0	
Initial Fut:	0	1100	0	0	1013	0	23	0	17	0	0	0	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
PHF Volume:	0	1164	0	0	1072	0	24	0	18	0	0	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	0	1164	0	0	1072	0	24	0	18	0	0	0	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	0	1164	0	0	1072	0	24	0	18	0	0	0	
Saturation Flow Module:													
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.57	0.00	0.43	0.00	0.00	0.00	
Final Sat.:	0	3200	0	0	3200	0	920	0	680	0	0	0	
Capacity Analysis Module:													
Vol/Sat:	0.00	0.36	0.00	0.00	0.33	0.00	0.02	0.00	0.03	0.00	0.00	0.00	
Crit Moves:		****		****					****				

Davenport Park
CLB1805

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Paramount Blvd/Candlewood St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.825
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 73 Level Of Service: D

Street Name:	Paramount Blvd							Candlewood St					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R	
Control:	Permit+Prot			Permit+Prot			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	
Volume Module:													
Base Vol:	77	801	102	155	723	97	151	785	76	83	432	109	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	77	801	102	155	723	97	151	785	76	83	432	109	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
PasserByVol:	0	6	0	0	10	0	0	0	0	0	0	0	
Initial Fut:	77	807	102	155	733	97	151	785	76	83	432	109	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
PHF Volume:	80	834	105	160	757	100	156	811	79	86	446	113	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	80	834	105	160	757	100	156	811	79	86	446	113	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	80	834	105	160	757	100	156	811	79	86	446	113	
Saturation Flow Module:													
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lanes:	1.00	1.78	0.22	1.00	1.77	0.23	1.00	1.82	0.18	1.00	1.60	0.40	
Final Sat.:	1600	2841	359	1600	2826	374	1600	2918	282	1600	2555	645	
Capacity Analysis Module:													
Vol/Sat:	0.05	0.29	0.29	0.10	0.27	0.27	0.10	0.28	0.28	0.05	0.17	0.17	
Crit Moves:		****		****				****		****			

APPENDIX E

NATIVE AMERICAN CONSULTATION

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CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

411 West Ocean Blvd., 3rd Floor Long Beach, CA 90802 (562) 570-6194 FAX (562) 570-6068

PLANNING BUREAU

October 28, 2019

Mr. Andrew Salas
PO Box 393
Covina, CA 91723

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8267)

Re: AB 52 Consultation with the Gabrieleno Band of Mission Indians – Kizh Nation for the Davenport Park Expansion Project.

Dear Mr. Salas:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Under AB 52, the Gabrieleno Band of Mission Indians – Kizh Nation has 30 days upon receipt of this letter to request consultation regarding the Davenport Park Expansion Project. Please respond within the above timeframe, pursuant to PRC Section 21080.3.1(d) if you would like to consult on this project.

Project Description: The project site is located on Assessor's Parcel Number (APN) 7157-006-905, at 5550 Paramount Boulevard, in Long Beach, California. The rectangular parcel is currently undeveloped. The project proposes to expand Davenport Park, located directly east of the project site at 2910 East 55th Way. The existing site and the adjacent 5.5-acre Davenport Park site were formerly occupied by a municipal waste landfill and later by the Cal Coast Packing Crating Company. The industrial use is no longer in operation on the site, and the landfill has since been closed and capped in compliance with the California Department of Resources, Recycling, and Recovery (CalRecycle) Closed, Illegal, and Abandoned Disposal Site (CIA) program and the CalRecycle Solid Waste Cleanup Program (Assembly Bill [AB] 2136). The existing site is characterized by the presence of scattered vegetation and soil.

The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. Features included as part of the park expansion would include a sports field at the center of the site, a parking lot on the northern portion of the site, and picnic facilities. The park would include landscaping, irrigation, walking paths, seating areas, and trash receptacles. In addition, security lighting

would be provided throughout the project site. A skate park and fitness equipment pads would be included in a future phase.

As a matter of policy, the City requires a tribal monitor be given access to any construction site during grading activities. Typical condition text is found below:

> Prior to the issuance of any Grading Permit for the project, the City of Long Beach Development Services Department shall ensure that the construction contractor provide access for Native American monitoring during ground-disturbing activities. This provision shall be included on project plans and specifications. The site shall be made accessible to any Native American tribe requesting to be present, provided adequate notice is given to the construction contractor and that a construction safety hazard does not occur. The monitor(s) shall be approved by a local tribal representative and shall be present on-site during the construction phases that involve any ground disturbing activities. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) shall be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the CEQA, California Public Resources Code Division 13, Section 21083.2 (a) through (k). Neither the City of Long Beach, project applicant, nor construction contractor shall be financially obligated for any monitoring activities. If evidence of any tribal cultural resources is found during ground-disturbing activities, the monitor(s) shall have the capacity to halt construction in the immediate vicinity of the find, in order to recover and/or determine the appropriate plan of recovery for the resource. The recovery process shall not unreasonably delay the construction process. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the monitor has determined that the site has a low potential for archaeological resources.

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demonstrating attendance. This documentation shall be made available to the City upon request.

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- **Archaeological Resource and/or Tribal Cultural Resource Discovery and Treatment.** In the event of the unanticipated discovery of archaeological or other cultural resources, whether discovered through Native American monitoring or not, all work activities in the area (within approximately 100 feet of the discovery) shall be halted or redirected until the discovery can be evaluated by a qualified archaeologist. Construction shall not resume until a qualified archaeologist has conferred with the City and, in the case of prehistoric archaeological resources and tribal cultural resources, the Native American monitor, on the significance of the resource. If it is determined that the discovered archaeological resource and/or tribal cultural resource is significant under CEQA, avoidance and preservation in place shall be the preferred manner of mitigation, pursuant to PRC Section 21083.2(b) and Section 21084.3. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Treatment Plan shall be prepared and implemented by a qualified archaeologist, in consultation with the City, that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource or cultural information in the event of a tribal cultural resource. The City shall also consult with appropriate Native American representatives in determining treatment for prehistoric or Native American

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To ensure compliance with AB 52, the City respectfully requests that you assist us by providing any relevant information you may have regarding tribal cultural resources within the project area boundaries. Your comments and concerns are important to the City's planning process. If you have any questions or concerns with the Project, please contact:

Maryanne Cronin, Project Planner
Department of Development Services, Planning Bureau
411 West Ocean Blvd., 3rd floor
Long Beach, CA 90802
maryanne.cronin@longbeach.gov

I can also be reached by phone at (562) 570-5683.

Sincerely,

Maryanne Cronin
Project Planner

Attachments: Site Vicinity Map
Site Plan

1:3,127
0
0.0375
0.075
0.15 mi
0
0.05
0.1
0.2 km
October 28, 2019

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CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

411 West Ocean Blvd., 3rd Floor Long Beach, CA 90802 (562) 570-6194 FAX (562) 570-6068

PLANNING BUREAU

October 28, 2019

Mr. Joseph Ontiveros
PO Box 487
San Jacinto, CA 92581

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8274)

Re: AB 52 Consultation with the Soboba Band of Luiseno Indians for the Davenport Park Expansion Project.

Dear Mr. Ontiveros:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Under AB 52, the Soboba Band of Luiseno Indians has 30 days upon receipt of this letter to request consultation regarding the Davenport Park Expansion Project. Please respond within the above timeframe, pursuant to PRC Section 21080.3.1(d) if you would like to consult on this project.

Project Description: The project site is located on Assessor's Parcel Number (APN) 7157-006-905, at 5550 Paramount Boulevard, in Long Beach, California. The rectangular parcel is currently undeveloped. The project proposes to expand Davenport Park, located directly east of the project site at 2910 East 55th Way. The existing site and the adjacent 5.5-acre Davenport Park site were formerly occupied by a municipal waste landfill and later by the Cal Coast Packing Crating Company. The industrial use is no longer in operation on the site, and the landfill has since been closed and capped in compliance with the California Department of Resources, Recycling, and Recovery (CalRecycle) Closed, Illegal, and Abandoned Disposal Site (CIA) program and the CalRecycle Solid Waste Cleanup Program (Assembly Bill [AB] 2136). The existing site is characterized by the presence of scattered vegetation and soil.

The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. Features included as part of the park expansion would include a sports field at the center of the site, a parking lot on the northern portion of the site, and picnic facilities. The park would include landscaping, irrigation, walking paths, seating areas, and trash receptacles. In addition, security lighting

would be provided throughout the project site. A skate park and fitness equipment pads would be included in a future phase.

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PLANNING BUREAU

October 28, 2019

Mr. Anthony Morales
PO Box 693
San Gabriel, CA 91778

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8304)

Re: AB 52 Consultation with the Gabrieleno/Tongva San Gabriel Band of Mission Indians for the Davenport Park Expansion Project.

Dear Mr. Morales:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

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PLANNING BUREAU

October 28, 2019

Mr. Michael Mirelez
PO Box 1160
Thermal, CA 92274

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8335)

Re: AB 52 Consultation with the Torres Martinez Desert Cahuilla Indians for the Davenport Park Expansion Project.

Dear Mr. Mirelez:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Under AB 52, the Torres Martinez Desert Cahuilla Indians has 30 days upon receipt of this letter to request consultation regarding the Davenport Park Expansion Project. Please respond within the above timeframe, pursuant to PRC Section 21080.3.1(d) if you would like to consult on this project.

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To ensure compliance with AB 52, the City respectfully requests that you assist us by providing any relevant information you may have regarding tribal cultural resources within the project area boundaries. Your comments and concerns are important to the City's planning process. If you have any questions or concerns with the Project, please contact:

Maryanne Cronin, Project Planner
Department of Development Services, Planning Bureau
411 West Ocean Blvd., 3rd floor
Long Beach, CA 90802
maryanne.cronin@longbeach.gov

I can also be reached by phone at (562) 570-5683.

Sincerely,

Maryanne Cronin
Project Planner

Attachments: Site Vicinity Map
Site Plan

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CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

411 West Ocean Blvd., 3rd Floor Long Beach, CA 90802 (562) 570-6194 FAX (562) 570-6068

PLANNING BUREAU

October 28, 2019

Ms. Sandonne Goad
106 ½ Judge John Aiso Street, #231
Los Angeles, CA 90012

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8359)

Re: AB 52 Consultation with the Gabrielino/Tongva Nation for the Davenport Park Expansion Project.

Dear Ms. Goad:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Under AB 52, the Gabrielino/Tongva Nation has 30 days upon receipt of this letter to request consultation regarding the Davenport Park Expansion Project. Please respond within the above timeframe, pursuant to PRC Section 21080.3.1(d) if you would like to consult on this project.

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The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. Features included as part of the park expansion would include a sports field at the center of the site, a parking lot on the northern portion of the site, and picnic facilities. The park would include landscaping, irrigation, walking paths, seating areas, and trash receptacles. In addition, security lighting

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PLANNING BUREAU

October 28, 2019

Mr. Robert Dorame
PO Box 490
Bellflower, CA 90707

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8311)

Re: AB 52 Consultation with the Gabrieleno Tongva Indians of California Tribal Council for the Davenport Park Expansion Project.

Dear Mr. Dorame:

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PLANNING BUREAU

October 28, 2019

Ms. Linda Candelaria
80839 Camino Santa Juliana
Indio, CA 92203

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8380)

Re: AB 52 Consultation with the Gabrielino-Tongva Tribe for the Davenport Park Expansion Project.

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demonstrating attendance. This documentation shall be made available to the City upon request.

- **Native American Monitoring.** A Native American monitor from the tribe or tribes identified as a consulting party for the project under AB 52 shall be present during all earth-moving construction activities. The Native American monitor shall be given the opportunity to participate in the cultural resources sensitivity training described in the preceding mitigation measure. At least 30 days prior to issuance of grading permits by the City of Long Beach for each of the four individual sites and any off-site improvements, a Native American Monitoring Agreement (Monitoring Agreement) shall be developed between the City and the consulting party. The Monitoring Agreement shall pertain to prehistoric archaeological resources and Tribal cultural resources, respectively, and shall identify any monitoring requirements and treatment of cultural resources to meet both the requirements of CEQA and those of the Tribal representative. The Monitoring Agreement shall also address communication protocols in the event of an unanticipated discovery of cultural materials, and the roles, responsibilities, and authorities of the Native American Monitor. The Monitoring Agreement shall also detail the protocols for treatment and final disposition of any Native American cultural resources, sacred sites, and human remains discovered on the site that the Native American Monitor shall implement in consultation and coordination with the Native American Most Likely Descendant, as identified by the NAHC. In accordance with the mitigation measure below, discovery and treatment of human remains shall comply with State Health and Safety Code Section 7050.5 and PRC Section 5097.98.

- **Archaeological Resource and/or Tribal Cultural Resource Discovery and Treatment.** In the event of the unanticipated discovery of archaeological or other cultural resources, whether discovered through Native American monitoring or not, all work activities in the area (within approximately 100 feet of the discovery) shall be halted or redirected until the discovery can be evaluated by a qualified archaeologist. Construction shall not resume until a qualified archaeologist has conferred with the City and, in the case of prehistoric archaeological resources and tribal cultural resources, the Native American monitor, on the significance of the resource. If it is determined that the discovered archaeological resource and/or tribal cultural resource is significant under CEQA, avoidance and preservation in place shall be the preferred manner of mitigation, pursuant to PRC Section 21083.2(b) and Section 21084.3. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Treatment Plan shall be prepared and implemented by a qualified archaeologist, in consultation with the City, that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource or cultural information in the event of a tribal cultural resource. The City shall also consult with appropriate Native American representatives in determining treatment for prehistoric or Native American

resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. Any evaluation and treatment shall be supervised by an individual or individuals that meet the Secretary of the Interior's Professional Qualification Standards.

- **Treatment of Human Remains.** In accordance with California Health and Safety Code Section 7050.5, if human remains are found, the Los Angeles County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains (100 feet or as determined by the project archaeologist) shall occur until the procedures set forth in this measure have been implemented. If the County Coroner determines that the remains are, or are believed to be, Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with California PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

To ensure compliance with AB 52, the City respectfully requests that you assist us by providing any relevant information you may have regarding tribal cultural resources within the project area boundaries. Your comments and concerns are important to the City's planning process. If you have any questions or concerns with the Project, please contact:

Maryanne Cronin, Project Planner
Department of Development Services, Planning Bureau
411 West Ocean Blvd., 3rd floor
Long Beach, CA 90802
maryanne.cronin@longbeach.gov

I can also be reached by phone at (562) 570-5683.

Sincerely,

Maryanne Cronin
Project Planner

Attachments: Site Vicinity Map
Site Plan

1:3,127
0
0.0375
0.075
0.15 mi
0
0.05
0.1
0.2 km
October 28, 2019

Stairs to Neighborhood at N. Orozaba Avenue Street-end
Repair Asphalt
School Bus Drop-off
Future Skate Park
Decomposed Granite Pedestrian Paths with Low-profile Lighting
Parking Landscape Trees
Benches
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Bicycle Rack Area (Typ. of 2)
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Entry Plaza
Paramount Blvd
Preserve Existing Fence
Street Trees on Berms
Fitness Equipment Pads (Equipment in Future Phase, Typ. of 6)

CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

411 West Ocean Blvd., 3rd Floor Long Beach, CA 90802 (562) 570-6194 FAX (562) 570-6068

PLANNING BUREAU

October 28, 2019

Mr. Charles Alvarez
23454 Vanowen St.
West Hills, CA 91307

Via US Mail and Certified Mail, Return Receipt Requested (7018 1830 0000 2094 8373)

Re: AB 52 Consultation with the Gabrielino-Tongva Tribe for the Davenport Park Expansion Project.

Dear Mr. Alvarez:

Please let this letter serve as notification that the City of Long Beach, as the lead agency, is initiating consultation in compliance with Assembly (AB) 52 for the Davenport Park Expansion Project. Please consider this letter and preliminary project information as the initiation of the California Environmental Quality Act procedures, specifically Public Resources Code (PRC) Section 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Under AB 52, the Gabrielino-Tongva Tribe has 30 days upon receipt of this letter to request consultation regarding the Davenport Park Expansion Project. Please respond within the above timeframe, pursuant to PRC Section 21080.3.1(d) if you would like to consult on this project.

Project Description: The project site is located on Assessor's Parcel Number (APN) 7157-006-905, at 5550 Paramount Boulevard, in Long Beach, California. The rectangular parcel is currently undeveloped. The project proposes to expand Davenport Park, located directly east of the project site at 2910 East 55th Way. The existing site and the adjacent 5.5-acre Davenport Park site were formerly occupied by a municipal waste landfill and later by the Cal Coast Packing Crating Company. The industrial use is no longer in operation on the site, and the landfill has since been closed and capped in compliance with the California Department of Resources, Recycling, and Recovery (CalRecycle) Closed, Illegal, and Abandoned Disposal Site (CIA) program and the CalRecycle Solid Waste Cleanup Program (Assembly Bill [AB] 2136). The existing site is characterized by the presence of scattered vegetation and soil.

The proposed project would expand the existing 5.5-acre Davenport Park by approximately 6 acres, for total park size of approximately 11.5 acres. Features included as part of the park expansion would include a sports field at the center of the site, a parking lot on the northern portion of the site, and picnic facilities. The park would include landscaping, irrigation, walking paths, seating areas, and trash receptacles. In addition, security lighting

would be provided throughout the project site. A skate park and fitness equipment pads would be included in a future phase.

As a matter of policy, the City requires a tribal monitor be given access to any construction site during grading activities. Typical condition text is found below:

> Prior to the issuance of any Grading Permit for the project, the City of Long Beach Development Services Department shall ensure that the construction contractor provide access for Native American monitoring during ground-disturbing activities. This provision shall be included on project plans and specifications. The site shall be made accessible to any Native American tribe requesting to be present, provided adequate notice is given to the construction contractor and that a construction safety hazard does not occur. The monitor(s) shall be approved by a local tribal representative and shall be present on-site during the construction phases that involve any ground disturbing activities. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) shall be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the CEQA, California Public Resources Code Division 13, Section 21083.2 (a) through (k). Neither the City of Long Beach, project applicant, nor construction contractor shall be financially obligated for any monitoring activities. If evidence of any tribal cultural resources is found during ground-disturbing activities, the monitor(s) shall have the capacity to halt construction in the immediate vicinity of the find, in order to recover and/or determine the appropriate plan of recovery for the resource. The recovery process shall not unreasonably delay the construction process. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the monitor has determined that the site has a low potential for archaeological resources.

Additionally, the following are typical mitigation measures the City has required as part of the Mitigation Monitoring and Reporting Program for an Environmental Impact Report (EIR) or Mitigated Negative Declaration (MND):

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