
SITE MITIGATION PLAN
MANDELA GATEWAY REDEVELOPMENT SITE
Seventh Street and Mandela Parkway
Oakland, California

BRIDGE Housing Corporation
San Francisco, California

12 November 2002
Project No. 3433.02

Treadwell&Rollo

12 November, 2002
Project No. 3433.02

Mr. Jesse Wu
BRIDGE Housing Corporation
One Hawthorne Street, Suite 400
San Francisco, California 94105

Subject: Site Mitigation Plan
Mandela Gateway Redevelopment Site
Seventh Street and Mandela Parkway
Oakland, California

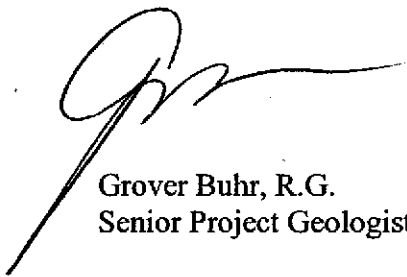
Dear Mr. Wu:

Enclosed is our *Site Mitigation Plan* for the proposed construction activities at the Mandela Gateway Redevelopment Site in Oakland, California.

As qualified persons, we judge the mitigation measures identified, if completed, will mitigate significant environmental or health and safety risks likely to be caused by the hazardous materials in or on the property in question.

We appreciate the opportunity to work with you on this project. If you have any questions, please call.


Sincerely yours,
TREADWELL & ROLLO, INC.



Grover Buhr, R.G.
Senior Project Geologist

34330209.OAK

Attachment



Craig S. Shields, G.E.
Principal

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**SITE MITIGATION PLAN
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Seventh Street and Mandela Parkway
Oakland, California**

1.0 INTRODUCTION

This site mitigation plan (SMP) presents the measures recommended by T&R to mitigate worker and site user risks associated with the presence of chemical compounds and metals in the soil at the Mandela Gateway Redevelopment Site property located at Seventh Street and Mandela Parkway in Oakland, California (Figure 1). The SMP was prepared by Treadwell & Rollo (T&R), for BRIDGE Housing Corporation (BRIDGE).

The site consists of two areas: the block bordered by Seventh Street, Center Street, Eighth Street and Mandela Parkway ("West Block"), and the partial block bordered by Seventh Street, Mandela Parkway and Eighth Street ("East Block"), as shown on Figures 1 and 2. The site is a combination of residential and commercial properties and parking lots located in a mixed commercial and residential area in west Oakland. We understand BRIDGE plans to redevelop the site with multi-story at-grade structures that will include parking garages, retail space, and residential units.

2.0 BACKGROUND

The site encompasses an area of approximately 5.2 acres and is relatively flat. The West Block is currently occupied by the vacated Westwood Gardens apartment complex. The apartment complex consists of four 3-story, multi-unit residential buildings, a central partially paved plaza area, a driveway/parking area, a paved basketball court and landscaped areas. The East Block is currently occupied by J&A Truck Repair (J&A), a CalTrans Park and Ride parking lot (CalTrans lot) and a portion of a parking lot owned by Armored Transport Systems, Inc. (AT Systems). The J&A lot consists of a main service building and several sheds, with concrete or asphalt

pavement covering the remainder of the lot. The CalTrans and AT Systems lots are mostly asphalt-paved lots, with minor curbed landscaped areas.

The site is in an area of Oakland that historically has been residential, commercial and light industrial. Adjacent property uses are residential to the north, residential and commercial to the west, commercial to the east, and parking, automotive repair and a BART station to the south.

The subject property is at an elevation of approximately 11 to 16 feet above Mean Sea Level. The ground surface at the site vicinity is relatively flat. Previous investigations in the site vicinity indicate groundwater flows to the southwest, toward the Oakland Inner Harbor.

Sampling and analysis of soil during the investigation indicated lead and pesticides are present in the shallow soil in the West Block. These chemicals were found at concentrations greater than Risk-Based Screening Levels (RBSLs) for surface soil in residential areas. Some concentrations found also indicate the soil may require disposal as a hazardous waste, if disposed off site. In the East Block, concentrations of cadmium, lead and/or petroleum hydrocarbons greater than RBSLs were found in shallow soil in the truck parking and truck maintenance areas and the parking lots. As in the West Block, concentrations found in localized areas indicate that some soil may require disposal as a hazardous waste, if disposed off site. A full discussion of sampling and analytical results and their import is presented in the Treadwell & Rollo report titled *Phase I and II Environmental Site Assessment, Mandela Gateway Redevelopment Site, Seventh Street and Mandela Parkway, Oakland, California*, dated 2 August 2002.

3.0 PROJECT DESCRIPTION

We understand BRIDGE plans to demolish and remove the existing buildings and construct a new affordable housing development on the site. A plan of the proposed development showing the layout of the planned development is shown in Figure 3.

Development on the West Block will consist of an L-shaped building that will occupy the southeastern portion of the site, an at-grade asphalt-paved parking lot accessed from Center Street, a private asphalt-paved street, and 14 townhouses along Eighth Street.

The development on the East Block will consist of multiple building types. The largest building will be constructed in the southeast corner of the site and will consist of a large, one-story concrete podium with 2 to 3 levels of wood-framed residences above. A landscaped town square will be constructed adjacent to the podium structure. The town square will be surrounded by 2- to 3-story, wood-framed buildings. An asphalt-paved private street will be constructed north of the podium structure and town square. The northernmost buildings, which will front on Eighth Street, will be 2- to 3-story, wood-framed residential buildings with concrete slab-on-grade floors. There will be a total of 82 and 104 residential units in the West and East Blocks, respectively. Other proposed improvements on the sites include recreation areas, community rooms, pedestrian walkways, and landscaped areas.

4.0 SITE HISTORY

Based on the previous T&R Phase I and Phase II ESA, past site use included residential and commercial activities. Before the 1940's, the site was completely residential with ornamental gardens. In the 1940's, the West Block of the site was occupied by U.S. Marine Corps military housing, while the East Block was predominantly private residences with few stores, a restaurant, an automobile garage and a pipe valves and fitting business. By the late 1950's, the East Block had been vacated and was being used as a highway construction yard for the Nimitz Freeway, which was constructed over a portion of the East Block. In the 1970's, the West Block became a private apartment complex called Westwood Gardens. The East Block remained a highway construction yard until the late 1970's, when it's western portion began to house a series of truck repair businesses. In 1989, the Cypress viaduct, covering a portion of the East Block, was destroyed in an earthquake. In the 1990's, the portion of the East Block formerly covered by the viaduct was converted into a CalTrans parking lot. The West Block remained

Westwood Gardens until 2002. The East Block remains an operating truck repair business and a parking lot to this day.

5.0 SOIL MANAGEMENT CRITERIA

T&R conducted sampling and analyses of site soil to the planned project excavation depths. Detected chemical concentrations were compared to standards for in-place shallow soil in residential areas and standards for soil disposal. Soil management will be conducted during demolition of existing foundations and excavation of existing structures, excavation and construction during development, and during the life of the development. Disposition of the soil, whether remaining on site or off site, will be driven by the development design. Soil management procedures will be recommended based on risk to construction workers, the public and future site occupants.

For evaluating the results with respect to the planned residential use of the site, reported concentrations were compared with RBSLs developed by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). The RWQCB developed the RBSLs to indicate contaminant concentrations below which no mitigative action will generally need to be taken to address risk to public health or the environment, or to meet other regulatory standards. The RBSLs used apply to residential land-use scenarios for surface soils (soil shallower than three meters) in areas where shallow groundwater is not considered a potential source of drinking water. For lead, the California Department of Toxic Substances Control (DTSC) risk-based threshold for exposed surface soil at schools was used, which is by extension considered safe for residential use. This threshold value for lead in surface (or shallow) soil is 225 mg/kg.

For evaluating disposal requirements, if soil needs to be excavated and disposed off site, results were compared to regulatory criteria that define waste as hazardous (Class I) or non-hazardous (Class II or III) waste. These criteria include the Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC) and the Federal Regulatory Level (RL), as set forth in Title 22 of the California Code of Regulations (CCR). The TTLC specifies in mg/kg the

total amount of a substance in soil that will require the soil to be disposed as a California hazardous waste. The STLC specifies in milligrams per liter (mg/l) the concentration of the soluble fraction of a substance in soil, as determined by the California Waste Extraction Test (WET), that will require the soil to be disposed as a California hazardous waste. Generally, when the total concentration of a substance is 10 times greater in mg/kg than the STLC in mg/l, the soil should be tested for that substance using the WET, although the total concentration may be less than the TTLC. Thus, a soil may qualify as a California hazardous waste when the soluble fraction of a contaminant exceeds the STLC and the total concentration of the contaminant is less than the TTLC.

The RL specifies in mg/l the concentration of the soluble fraction of a substance in soil, as determined by the Toxicity Characteristic Leaching Procedure (TCLP), that will require the soil be disposed as a Federal, or Resource Conservation and Recovery Act (RCRA), hazardous waste. In general, if the total concentration of a substance in soil exceeds 20 times the RL, the soil should be tested for the soluble fraction of the substance using the TCLP, which will then be compared directly to the RL.

In addition, Section 25157.8 of the California Health and Safety Code requires that waste containing certain metals (copper, lead, nickel) above specified levels must be disposed in Class I hazardous waste disposal facilities, even if the waste does not meet the criteria for hazardous waste. Certain Class II landfills have obtained variances to this rule, such that they can accept lead exceeding 350 mg/kg if the results of solubility testing indicate that the soil does not qualify as a hazardous waste.

Regarding excavated soil to be left on site that triggers classification as a hazardous waste, U.S. EPA and the California Department of Toxic Substances Control (DTSC) have promulgated "contained in" rules for "areas of contamination". These rules allow such material to remain on site and be moved within the site boundaries if the soil stays within the boundaries of the contaminated area, is not moved across public land without specific variances, and is controlled to mitigate exposure to construction workers, the public or site occupants.

6.0 SUBSURFACE INVESTIGATION AND RESULTS

On 4 May 2002, Treadwell & Rollo performed an initial environmental investigation for the site. To evaluate the possible impacts to soil and groundwater in the West Block and East Block, Treadwell & Rollo advanced 14 soil borings at the site to sample soil and groundwater, collected soil samples from trenches excavated for an archeological investigation, and analyzed selected samples for applicable contaminants of concern. The complete results of the investigation can be found in the Treadwell & Rollo report titled *Phase I and Phase II Environmental Site Assessment, Mandela Gateway Redevelopment Site, Seventh Street and Mandela Parkway, Oakland, California*, dated 2 August 2002. The following is a summary of the soil investigation contained within that report.

6.1 Subsurface Conditions

The site is generally underlain by about 2 to 6 feet of fill, except in the eastern part of the CalTrans lot, where the fill may be up to eight feet thick. The fill generally consists of loose to medium dense sand with silt and silty sand with varying amounts of debris, including bricks, shells, and metal. On the East Block, the fill may contain debris from the former Cypress viaduct and Kirkham Street, including abandoned utilities, concrete foundations, and other debris.

The fill is underlain by native sand with varying amounts of silt and clay (referred to as Merritt sand) to the maximum depth of the test borings (16 feet). The sand contains clayey fines (particles passing the No. 200 sieve) and is lightly cemented below the water table.

Groundwater was measured in the borings at depths ranging from about 8 to 12 feet bgs, which corresponds to elevations of about +3.5 to -3 feet (City of Oakland datum). These do not represent stabilized groundwater measurements. Based on data from 800 Center Street (Former Signal Service Station and Chevron USA Station #206145), groundwater flows toward the southwest.

6.2 Soil Results and Discussion

The analytical results for soil samples collected from the site are discussed in detail in the T&R Phase I and Phase II ESA report. This section summarizes the contaminants of concern to the planned redevelopment of the site.

West Block

Lead was found in all samples collected up to one foot bgs at concentrations that may qualify the soil as hazardous waste, if disposed off site. In one sample, lead was detected at a concentration greater than the DTSC risk-based level. Pesticides in three of the four locations tested were greater than the RBSLs to depths of one foot bgs. In one of these locations (B-12), pesticides were also detected at levels that will qualify the soil within one foot of the surface as a hazardous waste. Based on these distributions, and given a large margin of error because soil was sampled in only four locations, approximately 75% of the soil to a depth of 1.5 feet and 25% of soil to 2.5 feet may exceed RBSLs for lead or pesticides, requiring mitigative measures be performed for the planned development. Such measures may include capping or removal and disposal off site. For off-site disposal, half of the four samples tested to one foot bgs contained lead or pesticides that would qualify the soil as a hazardous waste, and levels of lead were reported that, if tested for soluble lead, could qualify all soil at the site to a depth of one foot bgs as hazardous waste.

East Block

In the J&A lot, the near-surface soil is contaminated with lead, cadmium and petroleum hydrocarbons. As much as half of the soil to a depth of two feet bgs may require mitigative measures because of cadmium, lead or motor-oil concentrations that exceed residential-use standards. Samples in three of the four borings to 1.0 foot bgs and in all four borings from 1.5 to 2.0 feet bgs contain lead or motor oil that may qualify the soil as a hazardous waste if disposed off site. Groundwater results indicate no significant impacts to groundwater that would require remediation.

In the Cal-Trans Lot, near-surface soil is contaminated with lead and petroleum hydrocarbons. The sources of the contamination are probably the presence of artificial fill, the former use of the site as a highway construction/equipment yard, and the former presence of an elevated highway. A significant portion of the soil samples tested, up to 25% to a depth of two foot bgs, exceeded the DTSC risk-based threshold or the RBSL for residential site use, based on lead or motor oil concentrations. Therefore, mitigative measures, such as capping or off-site disposal will probably be required for a significant volume of soil. In addition, a significant amount of soil will probably qualify as hazardous waste, if excavated and disposed off site.

7.0 RECOMMENDATIONS FOR MITIGATIVE ACTIONS

The results of our environmental investigation and previous investigations by others indicate that shallow soil at the site contains contaminants that warrant mitigation for residential site use. In the West Block, soil contains lead and pesticides at concentrations that may qualify the soil as hazardous waste and pesticides exceeding residential RBSLs. In the East Block, shallow soil contains lead, cadmium and motor oil at concentrations greater than residential RBSLs and that may meet the criteria for California hazardous waste. The presence of these contaminants poses soil and groundwater management and potential health and safety concerns that should be addressed as part of the site development activities.

The planned development proposes multi-unit residential buildings, town houses, parking structures and open space, as shown on Figure 3. Whether soil will need to be removed from the site during development has not yet been determined. Soil containing contaminants in concentrations greater than the residential-use RBSLs that remains on site must be capped to prevent exposure to future site users.

7.1 Soil Management

The proposed construction activities will disturb the underlying fill during demolition, excavation and grading activities. During these activities, soil management procedures will be

used to prevent significant exposure to site workers and the public. The procedures are designed to control exposure by dermal contact, ingestion and inhalation of dust particles. Procedures to control exposure by dermal contact and ingestion will be specified in a health and safety plan (see Section 7.3). To control exposure by dust inhalation, dust control measures will be implemented to reduce exposure both on and off site. These measures are typically performed by the excavation contractor and may include moisture-conditioning the soil, using dust suppressants or by covering the exposed soil with plastic sheeting. These dust control measures will be performed throughout demolition, excavation and grading. The standard of monitoring will be to prevent visibly entrained dust. Soil management procedures will be observed by a third party separate from the contractor for documentation that procedures are accurately followed.

7.1.1 Soil Management During Demolition

Current landscape areas and areas to be exposed when existing slabs and subgrade structures are excavated present the greatest potential for contaminant exposure during demolition. Dust control measures, primarily soil wetting, will be implemented to prevent entrainment of soil particles into the atmosphere. Soil excavated during demolition of below-grade structures will be placed in covered stockpiles prior to reuse or disposal. The amount of such soil excavated will be kept to a minimum. If possible, excavated soil to be reused will be placed in the location of reuse directly, to minimize handling of soil. Areas will be graded after structural excavation.

7.1.2 Temporary Capping

Construction may not directly follow demolition of structures, in either the West or East Block. If there is an extended period of time between demolition and construction, the following mitigative measures will be put into place.

- The site will be fenced to prevent access to the site.

- Drainage off the site will be prevented by grading the site to drain inward. Collected water is expected to percolate downward in the soil column. If water becomes excessively ponded, it will be pumped and discharged to the combined sewer under permit with the East Bay Municipal Utility District or recycled at a licensed and permitted facility.
- A temporary cap will be placed over the soil to prevent entrainment of dust. The cap will be permeable to allow the downward movement of rainwater. The cap will consist of one of several options: hydroseeding of grasses and subsequent watering, if needed; placement of grass sod over the block; treating the surface soil with a dust-suppressing chemical; or placement of a geotextile fabric that may be anchored by a layer of imported base rock.

7.1.3 Soil Excavation and Reuse

Soil to be reused on site that contains contaminants exceeding the residential-use RBSLs must be capped. In areas that will contain buildings or pavement, these structures will provide a sufficient cap. In landscaped or other unpaved areas, two feet of soil that does not contain constituents exceeding the RBSLs will be required to be placed as surface cover.

Disturbance of soil containing elevated concentrations will be minimized. During excavation, soil to be reused on site will be excavated and moved directly to its permanent location as much as possible. Soil to be reused will also be placed as close to its origin as allowed by the design. The original and final locations of soil excavated and reused on site will be documented. This documentation will be kept on record by the contractor and site owner, and be part of the maintenance records for future site use.

Soil to be disposed off site will be excavated and loaded directly to trucks for transportation or stockpiled near its origin pending removal. Stockpiles will be covered to prevent dust when not actively being worked.

7.1.4 Soil Profiling and Disposal

Soil to be disposed off site will be profiled based on samples already collected, on WET and TCLP testing of archived samples, or by stockpiling and resampling (if necessary). Soil profiled as non-hazardous will be transported and disposed at a licensed Class II landfill. Soil classified as California hazardous will be transported either out of state to an appropriate licensed facility or to a Class I facility in California.

7.2 Groundwater Management

Groundwater is not expected to be generated during site construction. However, if it is, the groundwater should either be disposed of in the sanitary or storm sewer system under permit with the appropriate regulatory agency or recycled at a licensed and permitted facility.

7.3 Health and Safety Issues

There may be the potential for the impacted soil to affect construction workers at the site, nearby residents, workers and/or pedestrians, and future users of the site. The routes of potential lead exposure could be through three pathways: (1) dermal (skin) contact with the soil, (2) inhalation of dusts and/or vapors, and (3) ingestion of the soil.

The most likely potential for human exposure to the contaminants will be during soil excavation and grading operations. Because on-site materials may contain lead and other chemicals in excess of Proposition 65 guidelines, it is recommended that proper health and safety procedures, as well as warning requirements, be implemented during construction. The potential health risk to on-site construction workers and the public will be minimized by developing a comprehensive health and safety plan (HSP), prepared by a certified industrial hygienist who represents the site contractors. The site contractor should be responsible for establishing and maintaining proper health and safety procedures to minimize worker and public exposure to site contaminants during construction.

The HSP will describe the health and safety training requirements, specific personal hygiene, and monitoring equipment that will be used during construction to protect and verify the health and safety of the construction workers and the general public from exposure to constituents in the soil. It may also be necessary to conduct air monitoring to evaluate the amount of airborne contaminants during grading.

A site health and safety officer (HSO) should be on site at all times during excavation activities to ensure that all health and safety measures are maintained. The HSO will have authority to direct and stop (if necessary) all construction activities in order to ensure compliance with the HSP.

7.4 Site Capping

The risk of direct contact with the underlying soil by future site users will be mitigated by capping the entire site, either with buildings, pavement or two feet of clean soil. The cap will sufficiently reduce the health risk through dermal contact and ingestion by providing a physical barrier, thereby eliminating the exposure pathway between the contaminants and site users.

7.5 Documentation of SMP Implementation

A report will be prepared by a third party separate from the contractors upon completion of site mitigation activities to document implementation of this SMP. This report will present a chronology of the relevant construction events, a summary of analytical data, and a description of all mitigation activities taken during construction. It will also include a statement that indicates the mitigation activities have been performed in accordance with this SMP.

7.6 Maintenance Requirements

The objective of these maintenance requirements is to ensure that the long-term site mitigation measures, specifically capping the soil will remain effective during the site's use and occupancy period. The owner and operator will maintain this SMP, maintenance work plans, and

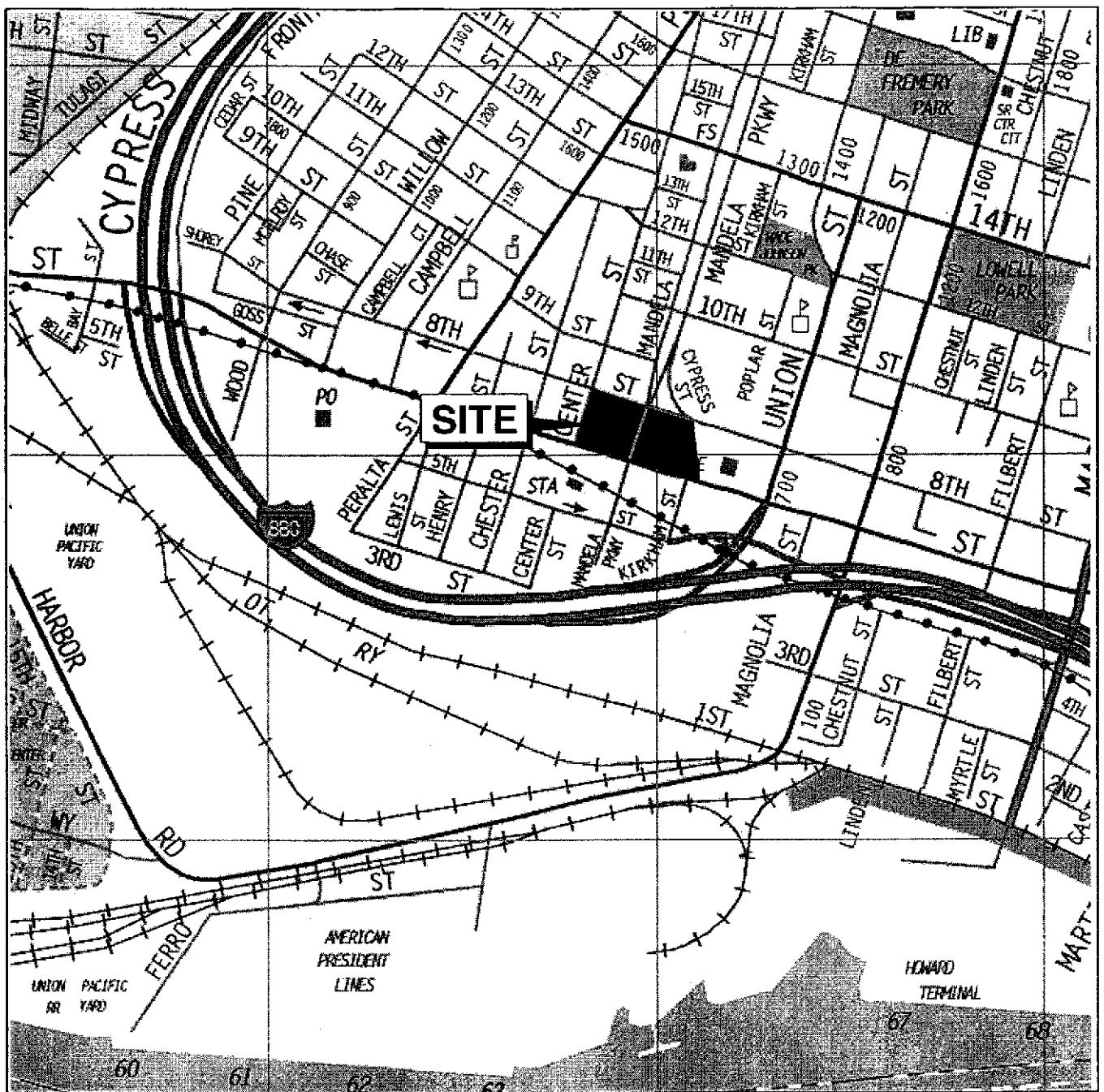
maintenance records in a readily accessible on-site location and shall be responsible for informing any employee or contractor who will perform below-grade construction, of the environmental conditions, soil management concerns, and health and safety requirements stipulated in this SMP.

These measures will also be enforced during any post-development construction activities such as utility line repair, building expansion, and other activities that may disturb the underlying contaminated soil. To maintain the integrity of the cap and to protect future site workers who may disturb the cap, the following procedures will be adhered to by the owner and/or operator of the site:

1. Prepare a specific work plan that includes a description of the proposed construction activities, soil management plan, and health and safety plan.
2. Direct any contractor or employee who disturbs the encapsulating layer and is engaged in any excavation or earth movement at the property to comply with the appropriate local, State, and Federal regulations.
3. Direct any contractor or employee engaged in any activities that involve penetrating the encapsulating layer to repair the disturbed area as soon as is practical.
4. Control dust by wetting and protect exposed or excavated soil from storm run-on and run-off during the period of excavation, soil movement, or exposure.
5. Determine by appropriate testing whether any excess material removed from the site is hazardous pursuant to State or Federal hazardous criteria. This material must be managed in accordance with all appropriate regulations.
6. Prepare a report that describes the maintenance activities related to the encapsulating layer or excavation of soil.

8.0 REFERENCES

Treadwell& Rollo, 2002, titled *Phase I and II Environmental Site Assessment, Mandela Gateway Redevelopment Site, Seventh Street and Mandela Parkway, Oakland, California*, 2 August 2002.



Base map: The Thomas Guide
 Alameda County
 1999



No scale

MANDELA GATEWAY
 Oakland, California

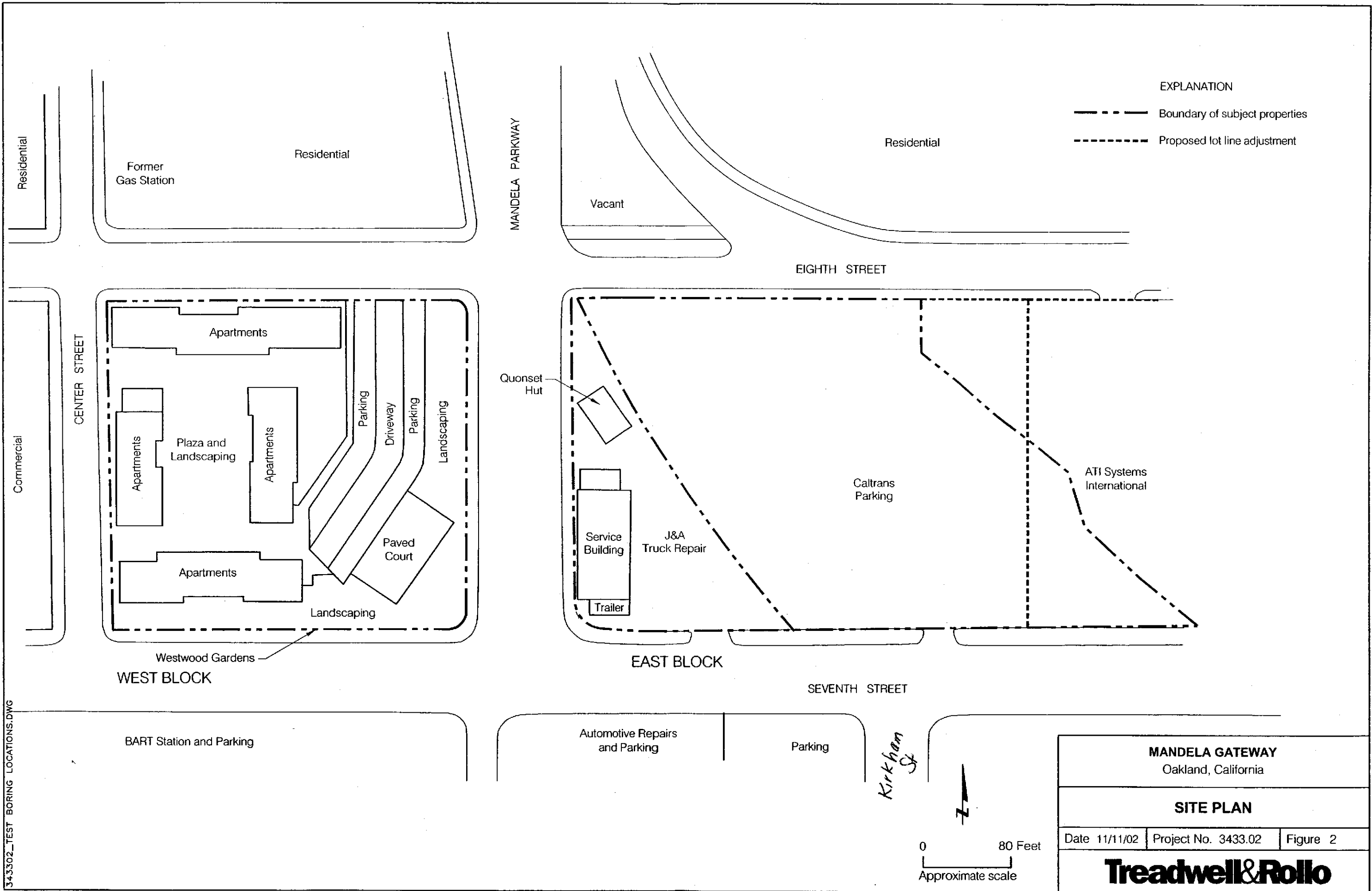
SITE LOCATION MAP

Treadwell & Rollo

Date 07/29/02

Project No. 3433.02

Figure 1

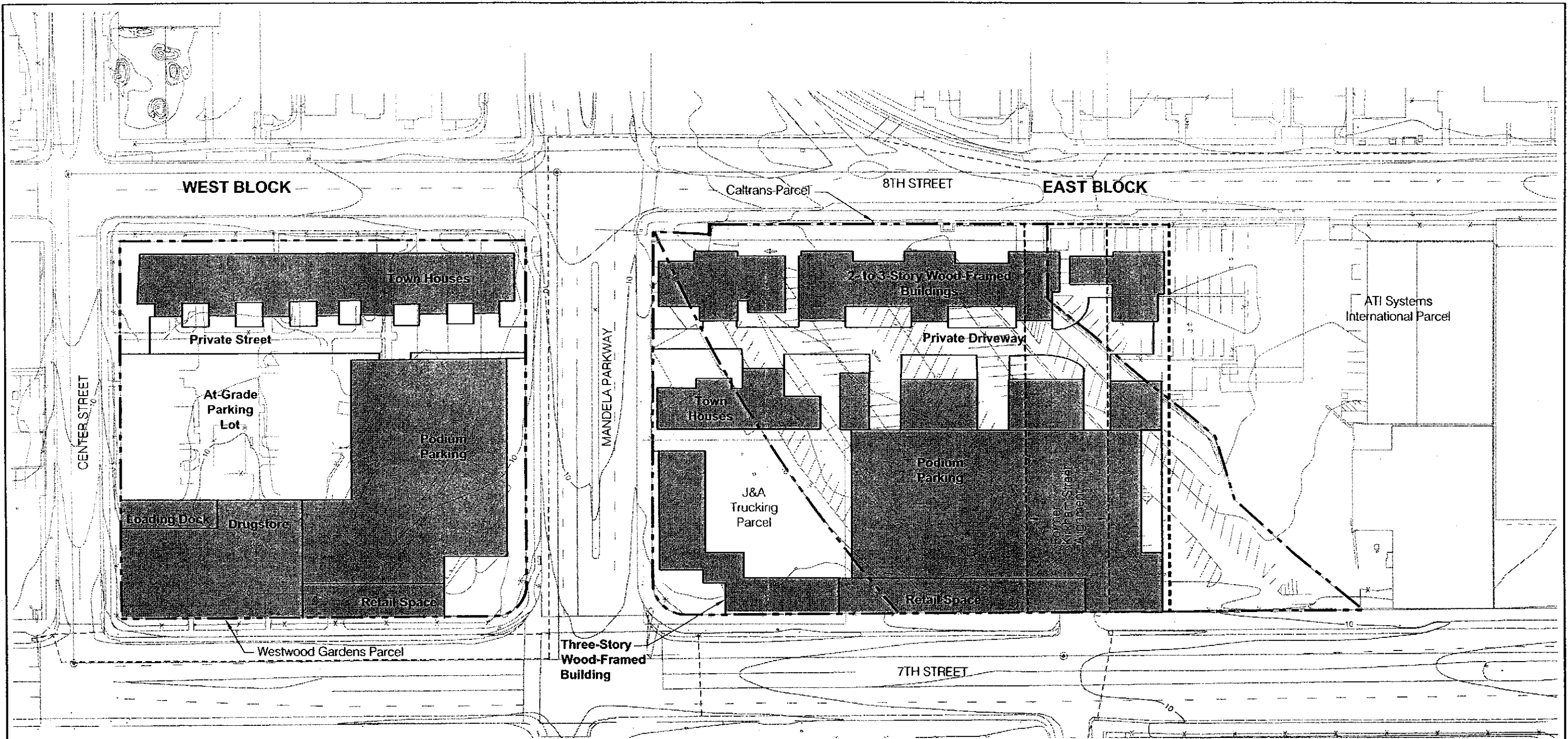


EXPLANATION

- Boundary of subject properties
- - - Proposed lot line adjustment

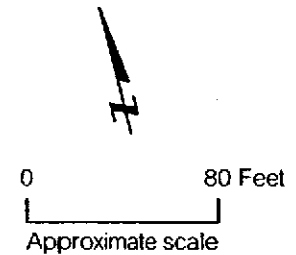
343302_TEST BORING LOCATIONS.DWG

MANDELA GATEWAY Oakland, California		
SITE PLAN		
Date 11/11/02	Project No. 3433.02	Figure 2
Treadwell&Rollo		



EXPLANATION

- Existing property line
- - - Proposed lot line adjustment
- Proposed building



Reference: 1. DK Associates, "Topographic Survey - Mandela Gateway", May 30, 2002.
 2. Site plan prepared by Michael Willis Architects, dated 11 July 2002.

MANDELA GATEWAY Oakland, California		
PROPOSED DEVELOPMENT		
Date 11/11/02	Project No. 3433.02	Figure 3
Treadwell&Rollo		

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