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ENVIRONMENTAL PROTECTION
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CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 5301 • OAKLAND, CALIFORNIA 94612-2034

Public Works Agency
Environmental Services

FAX (510) 238-7286
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June 20, 2000

wp7101 Edgewater

Mr. Barney Chan
Alameda County Environmental Health Services
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: **Work Plan for Additional Subsurface Investigation**
City of Oakland Municipal Service Center
7101 Edgewater Drive
Oakland, California

Dear Mr. Chan:

Enclosed is one copy of the subject work plan, prepared by our consultant, Baseline Environmental Consulting Inc., for the City of Oakland Municipal Service Center at 7101 Edgewater Drive.

The tasks proposed in this work plan include installation of additional borings to: (1) evaluate the presence of potential migration pathways in specific areas of the site; (2) to delineate the spatial extent of free-product identified in on-site wells (TBW-1, TBW-3, TBW-5, and MW-6); and (3) to investigate soil and groundwater quality in the vicinity of Building 5. We also anticipate installing one additional well (MW-18) between MW-6 and MW-16.

Please call me at 238-6259, if you have any questions or require additional information.

Sincerely,

Joseph A. Cotton
Environmental Program Specialist

cc: Andrew Clark-Clough
David Elias, Cambria Environmental Technology
Diane Heinz, Port of Oakland

BASELINE

ENVIRONMENTAL CONSULTING

16 June 2000
98383-17

Mr. Joseph Cotton
City of Oakland, Public Works Agency
Environmental Services Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, CA 94612

Subject: Work Plan for Additional Subsurface Investigation, City of Oakland Municipal Services Center, 7101 Edgewater Drive, Oakland

BASELINE has been retained by the City of Oakland to review the existing environmental data for the City of Oakland's Municipal Services Center (MSC) (Table 1) and to develop an investigative/remedial approach that would result in acquisition of case closure from the Alameda County Environmental Health Department (County) and the San Francisco Bay Regional Water Quality Control Board (RWQCB). As we have discussed, an important step toward achieving case closure is definition of the extent of free product in the site subsurface and subsequent removal of the product to the extent practicable. This work plan proposes field activities that, upon implementation, should provide the information needed to define the extent of free product at each of the on-site locations where product has been identified and allow determination of appropriate remedial options. It is anticipated that after the issue of the free product is resolved, we would work with the City and the County to develop risk-based closure criteria for the site.

Background

The 17-acre site, located at 7101 Edgewater Drive in Oakland, is owned by the Port of Oakland (Port), and currently leased by the City of Oakland for use as a corporation yard. Bordering the MSC site to the west and the north is the Martin Luther King Regional Shoreline park. This park land is leased from the Port by the East Bay Regional Parks District (EBRPD).

The entire site consists of artificial fill underlain by Bay Mud. Based on the observed stratigraphic relationship of artificial fill overlying Bay Mud (recorded in boring logs), it appears that prior to development, the entire site was shallow bay and/or tidal marsh environments. Placement of fill on the eastern and central portions of the site predates available aerial photographs. The earliest aerial photograph reviewed was from 1953, and fill in the eastern and central portions of the site was placed prior to that date. However, based on review of aerial photographs and written account of the fill history, the western portion of

5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686 • FAX: (510) 420-1707
Emeryville Petaluma San Francisco

Port's concern?

the site (and the off-site strip of land between the site and the Bay) was filled from 1969 to 1970, representing the final phase of filling.

The MSC site has been the subject of numerous environmental investigations starting in about 1989. The suspected sources of on-site contamination include releases from former underground storage tanks (USTs), the gasoline and diesel fuel distribution hydrant system, and the floor drain sumps formerly located near Building No. 5. All but three of the USTs have been removed from the site. The fuel hydrant system was removed from the site in 1998 by Turnkey Environmental under the direction of Cambria Consultants. It is our understanding that the sumps were recently decommissioned and that the three USTs (containing gasoline and diesel) that remain in active use at the site were recently upgraded to meet current standards.

under City's oversight

Environmental investigations have resulted in the installation of 24 wells (monitoring and remediation wells) both on and off-site. Monitoring wells MW-3 and MW-4 were destroyed in November 1999, leaving 22 wells in-place. Numerous soil and water samples have been collected from temporary borings and trenches. Elevated levels of petroleum hydrocarbons have been identified in soil and groundwater at some of the former UST locations, along portions of the former fuel hydrant system, and along the bayfront.

Varying thicknesses of free product have been identified at several locations, including TBW-1, TBW-3, TBW-5, MW-6, and MW-16 (Figure 2 and Table 1). In addition, free product has been observed in excavations and storm drains near Building No. 5 and in the storm drain east of TBW-1 (field investigation of free product associated with the storm drain east of TBW-1 has recently been completed by others and will be described in a separate summary report). Some removal of free product has occurred from the wells using a pneumatic skimmer in TBW-5 and passive skimmers in MW-6, TBW-1, and TBW-3.

Proposed Field Activities

- Using continuous-core direct push sampling technology, we would extract and examine soil cores at compass points around each suspected/confirmed product locations (Figures 2, 3, and 4). In addition, a minimum of six borings and one monitoring well would be installed west of MW-6 (Figure 3) to further define the extent of free product and evaluate the potential presence of preferential flowpaths between MW-6 and the Bay.

  Is this necessary? MW-16, 17 info avail.

  Cores would be advanced to just below the soil/groundwater interface and examined for product/sheen. At each location where product is identified, the product thickness would be estimated. If product is observed, another core would be advanced at a more distant location from the source, until the extent of product has been defined in all four directions. It is proposed that only those samples collected from the soil/water interface

do not agree,

of the final perimeter cores would be submitted to the analytical laboratory for analysis of TPHg, TPHd, TPHmo, BTEX, and MTBE to confirm the extent of free product. Each soil sample selected for laboratory analysis would be labeled, sealed with teflon film, plastic caps, and silicone tape. All samples would be stored in a cooled container and transported under chain-of-custody procedures to a state-certified analytical laboratory. Each boring would be logged by a BASELINE geologist in conformance with the Unified Soil Classification System. Each of the borings would be backfilled with cement grout. All excess soil cores and rinse water would contained in sealed drums and disposed of off-site at an appropriate facility.

need lateral + vertical extent

- Selected samples would be analyzed for polynuclear aromatic hydrocarbons and physical parameters (e.g. moisture content, TOC, porosity, and bulk density), as needed, to support subsequent risk-assessment activities.

only samples in clean areas

- Prior to initiation of field activities, boring permits would be acquired from Alameda County. We would review the proposed field activities with on-site personnel to ascertain whether known subsurface utilities occur in the proposed sampling locations. Underground Service Alert (USA) would be contacted to provide additional definition of utility locations. All on-site activities would be conducted under a site-specific health and safety plan.

- A summary report would be prepared for submittal to the County and RWQCB. The extent of free product at each location would be shown graphically. Based on the extent of the affected areas, product volume, and hydrogeology, we would recommend an appropriate remedial technology (i.e. excavation and off-haul, interceptor trench with skimming, dual-phase extraction, and/or sparging) to meet the goals of the project.

A copy of this work plan should be submitted to Mr. Barney Chan at the County. Upon approval of the work plan by the County and your authorization to proceed, we would begin the permitting process and schedule the field work. Should you have any questions or wish to discuss this work plan further, please contact us at your convenience.

Sincerely,

Bruce Abelli-Amen
Senior Certified Hydrogeologist

Yane Nordhav
Principal
Registered Geologist No. 4009

BAA/YN/km
98383-17.wrkpln.wpd-6/15/00

TABLE 1

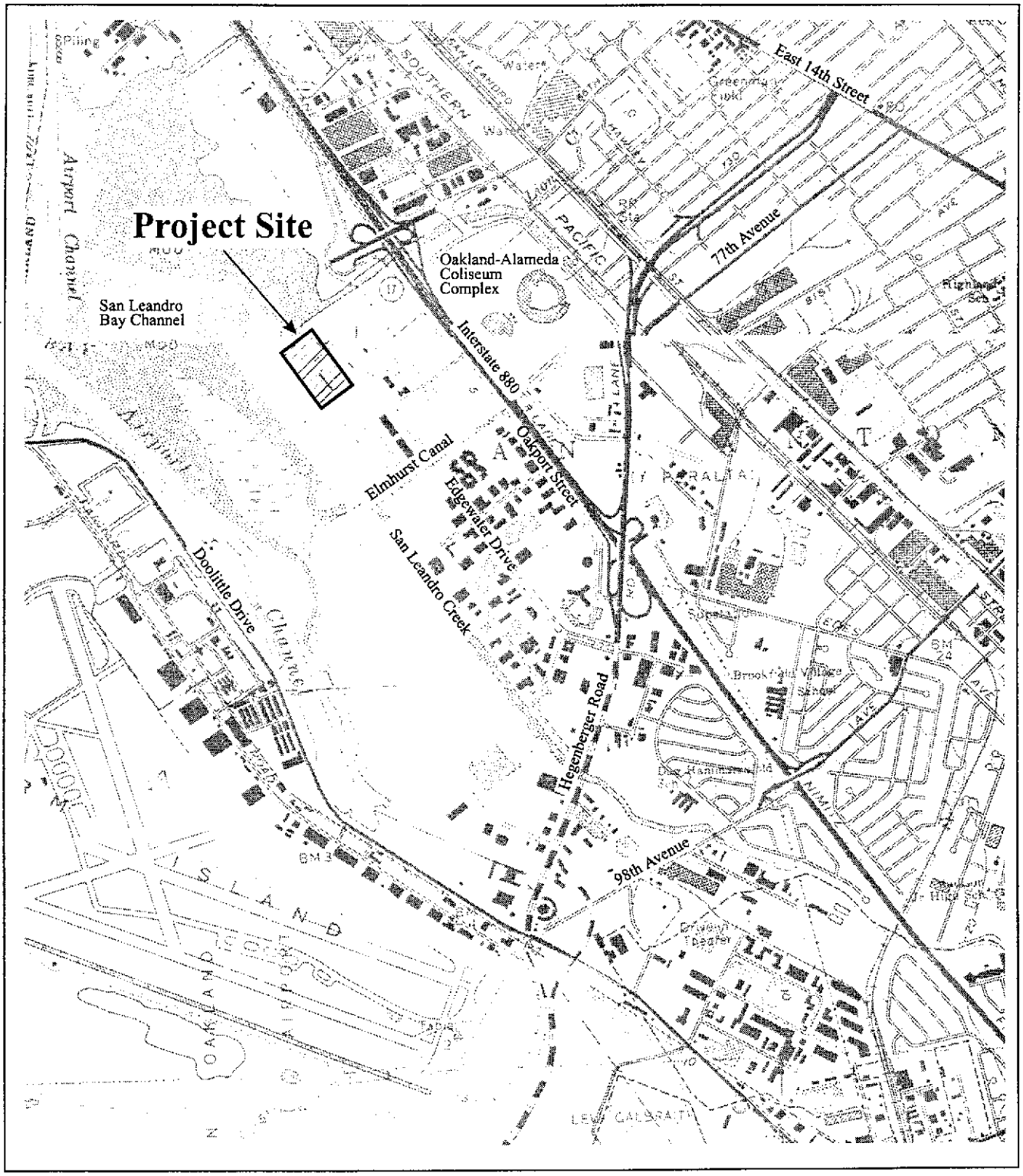
FREE PRODUCT DATA
City of Oakland Municipal Service Center
1701 Edgewater Drive
Oakland, CA

Sample ID	Sample Date	Groundwater Elevation	Free Product Thickness (ft)
TBW-1	02/23/99	NA	0.10
	05/27/99	NA	0.01
	08/24/99	NA	0.18
TBW-2	Not measured[1]	NA	NA
TBW-3	08/24/99	NA	globules
	01/18/00	6.19	globules
TBW-5	02/23/99	NA	1.45
	05/27/99	NA	1.13
	08/24/99	NA	1.33
	11/22/99	NA	1.29
	01/18/00	4.02	0.9
MW-6	08/19/98	NA	0.125
	11/11/98	3.89	0.05
	05/27/99	4.07	0.20
	08/24/99	3.52	0.03
	11/22/99	3.02	0.16
	01/18/00	2.90	0.019
MW-16	01/18/00	3.35	0.1
RW-1	5/00	NA	None[1]

NA = Data not available.
[1] Elias, David, Registered Geologist, Cambria, written communication with Bruce Abelli-Amen of BASELINE, 14 June, 2000.

REGIONAL LOCATION

Figure 1



Municipal Service Center
7101 Edgewater Drive
Oakland, California

0 2000 Feet

Source: USGS Map.

BASELINE

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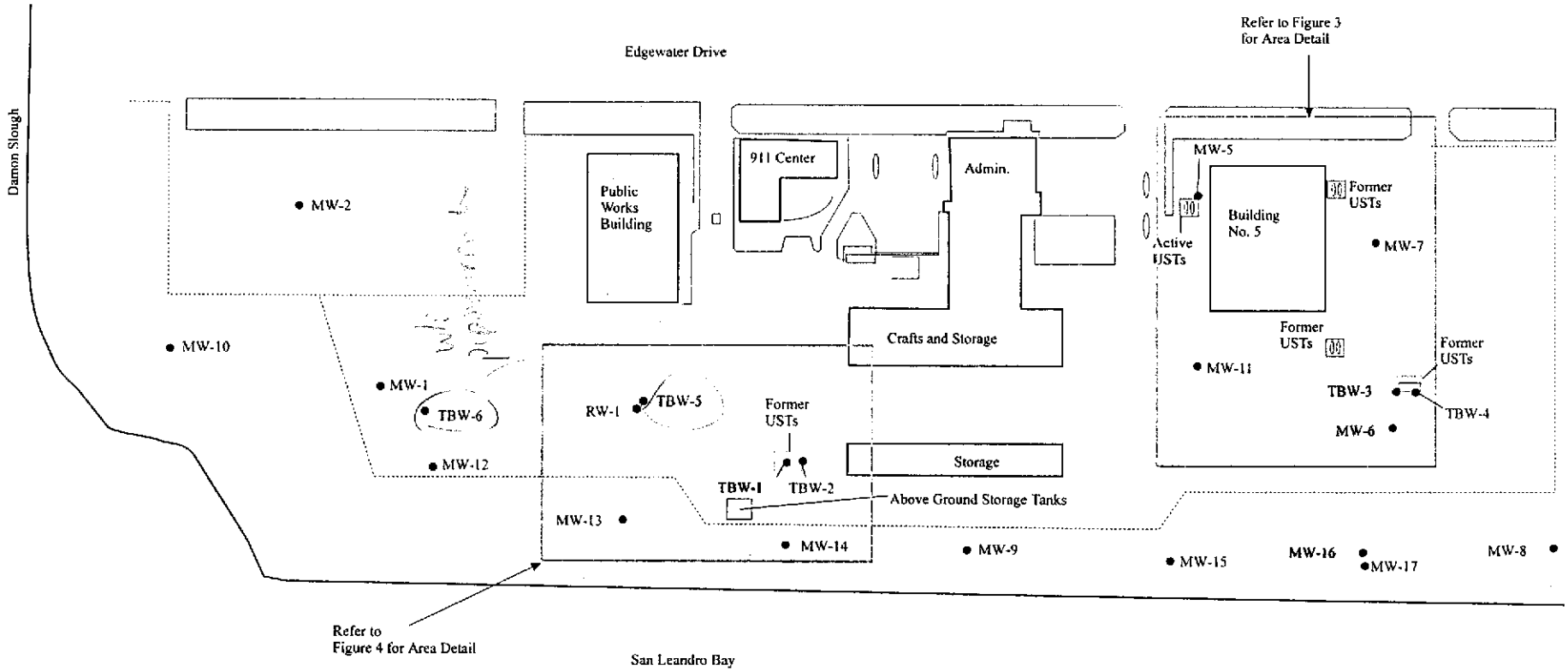
SITE PLAN

Figure 2



Municipal Service Center
7101 Edgewater Drive
Oakland, California

Legend

- Monitoring or Remediation Well Location

0 150 Feet

BASELINE

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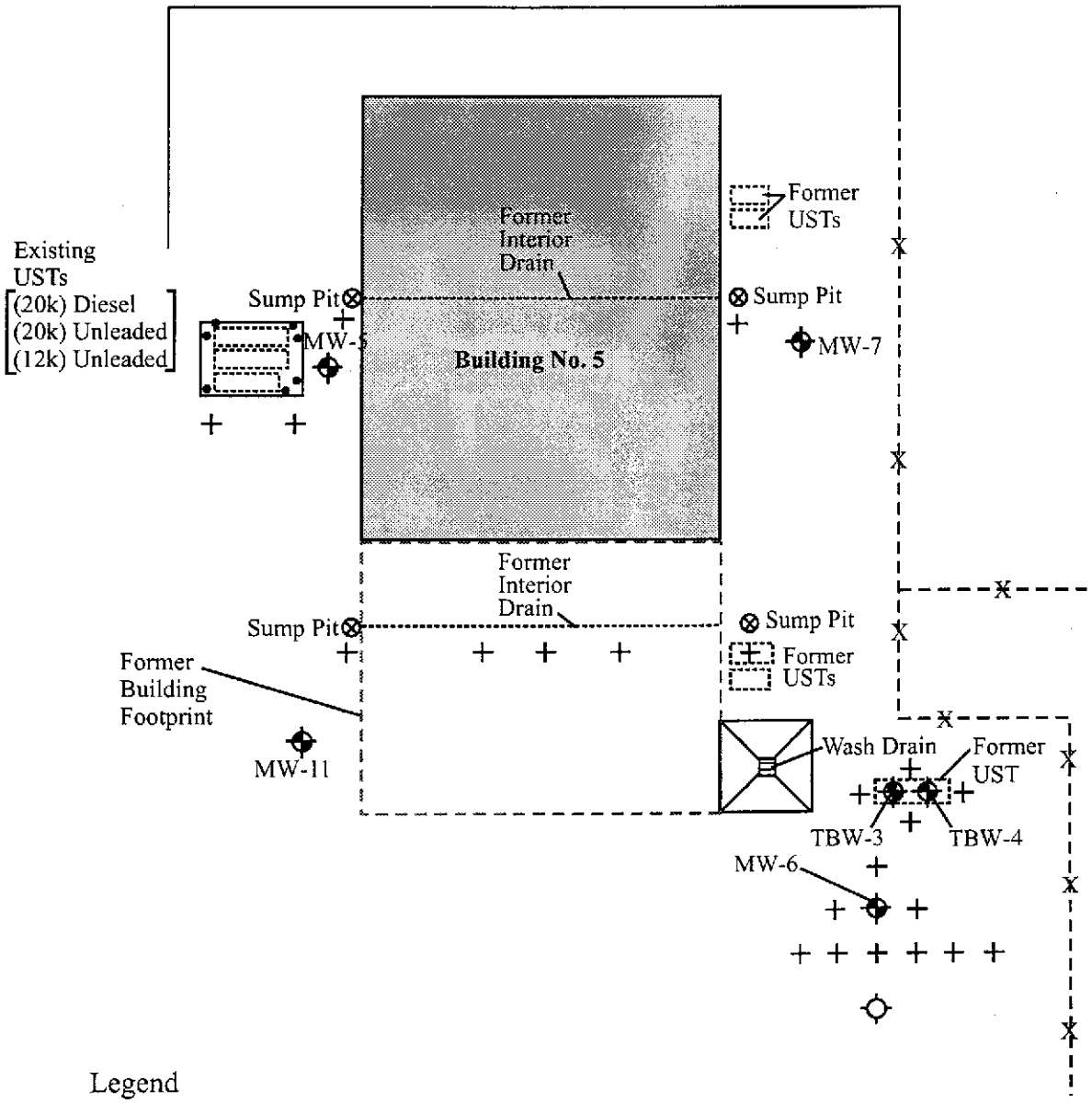
BUILDING NO. 5 DETAIL

Figure 3



Legend

+	Proposed Boring Location (additional borings may be installed, if free product is encounted)
⊕	Proposed Monitoring Well Location
•	Tank Backfill Well (Constructed with 8" Corrugated Steel Pipe)
--X--	Fence

Municipal Service Center
7101 Edgewater Drive
Oakland, California

0 80 Feet

BASELINE

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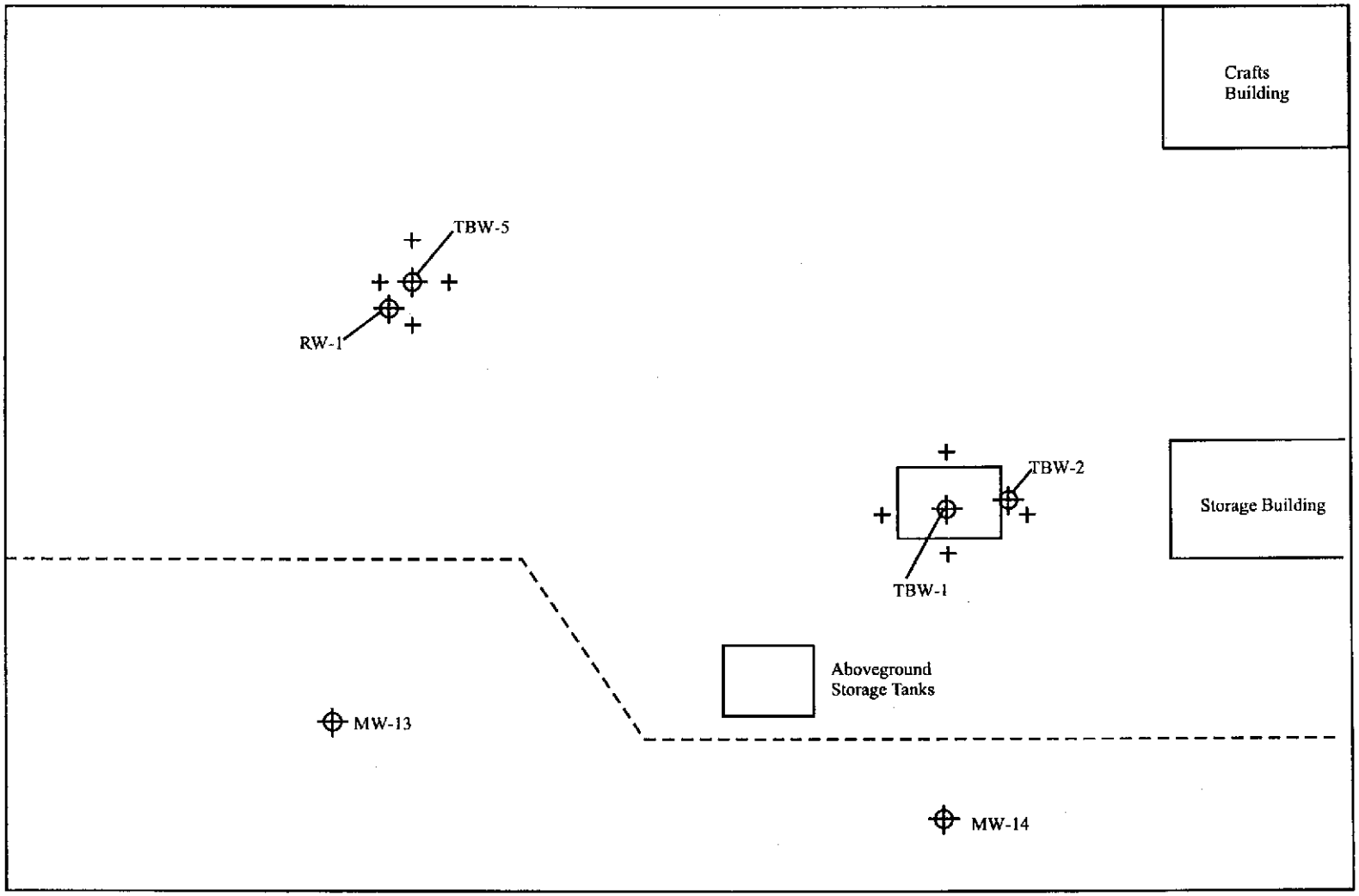
CENTRAL SITE DETAIL

Figure 4



Legend

+ Proposed Boring Location (additional borings maybe installed if free product is encounted)

⊕ Monitoring or Remedication Well Location

0 60 Feet

Municipal Service Center
7101 Edgewater Drive
Oakland, California

BASELINE

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