

RECEIVED
SEP 08 1997
DEPT. OF ECOLOGY

September 4, 1997

Ms. Sue Goertzan
Windemere Real Estate
2737 - 77th Avenue SE, Suite 100
Mercer Island, Washington 98040

Re: Geophysical Survey
6501-6515 California Avenue SW
Seattle, Washington

EPI Project No. 15104.0

Dear Ms. Goertzan:

Environmental Partners, Inc. (EPI) conducted a geophysical survey and a review of City of Seattle records regarding current and past development of the subject property to identify a potential source of tetrachloroethylene that has been identified in ground water on the western portion of the site. The findings of this work are summarized below.

A dry cleaning establishment formerly occupied a portion of the building located on the subject property. Because dry cleaners are a common source of tetrachloroethylene contamination, it was believed possible that a related source of on-going contamination, such as an old septic system, drainfield, sewer line, or underground storage tank (UST) could potentially remain on-site.

Geophysical Survey

EPI subcontracted with GeoRecon International to conduct a geophysical survey of exterior portions of the subject property. Mr. John Musser, of GeoRecon conducted this survey over a several night-period (to avoid potential interference by vehicles parked on-site) in early July, 1997. Mr. Musser conducted the survey with ground-penetrating radar (GPR) equipment, which is capable of detecting buried features, such as piping, tanks, and drainfields. A summary of Mr. Musser's methodology and findings is included as Attachment A to this report; Mr. Musser's report includes a sketch of the subject property.

Mr. Musser stated that he found "no direct evidence of a septic tank, dry well, or drain field" at the subject property. Mr. Musser reported finding an anomalous area that appeared similar to buried piping at depth beneath a small planting area to the west of the southwestern corner of the subject building. Due to the configuration of the subject property, Mr. Musser was not able to further characterize this anomalous area.

Ms. Sue Goertzan
Re: West Seattle, Geophysics
September 4, 1997

It should be noted that the aforementioned anomalous area is located cross-gradient or down-gradient of the highest tetrachloroethylene concentrations found to-date in ground water (at monitoring well MW-3). Ground water was found to be flowing in a southeasterly direction in October, 1996 and February, 1997, and in a northeasterly direction in June, 1997. Due to the location of this anomalous area with respect to monitoring well MW-3, it is unlikely that the anomaly represents the location of a potential tetrachloroethylene source.

Mr. Musser also identified the locations of storm drainage lines, and buried electrical utilities. These findings do not appear to represent potential contaminant sources.

Review of City of Seattle Documentation

EPI reviewed old building plans and permits regarding the subject property at the City of Seattle Department of Construction and Land Use (DCLU). Original site plans, dating from 1919 did not show the potential locations of on-site septic systems, or original sewer lines. Records dating from 1919 through 1990 were reviewed. Pertinent findings include a letter from May of 1959 which indicates that the site was connected to public sewer at that time (no sewer locations were identified, however). Magic Cleaners was identified as an occupant of the southern tenant area from 1964 through 1977; no permit records or building plans showing specific on-site equipment were observed, however.

A permit dating from December of 1989 indicates that a house was demolished immediately south of the subject property in 1989. This house was located in an area that is currently occupied by an on-site parking and driveway area. No sewer or septic records was identified at DCLU, regarding this house.

EPI reviewed sewer card records for the subject property at the City of Seattle Department of Public Works. The subject property occupies lots 1, 2, 3, and 4 of the Seaview Park Addition. Catch basins and a six-inch storm line are shown on the western portion of the subject property; the configuration of these drainage features is similar to the storm line and catch basins identified by GeoRecon.

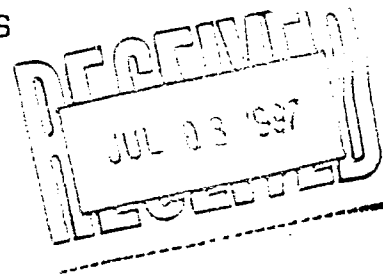
In addition, a former sewer line is observed on the sewer card to extend from the 6515 California Avenue portion of the subject building (the portion formerly occupied by Magic Cleaners). This old sewer does not appear to currently be in use; it connects to an old main line located to the north, beneath Fauntleroy Way SW. The date that the old line was decommissioned is not apparent, based on records observed by EPI. Public Works Department personnel reported that many of the old lines in the vicinity of the subject property used to be combined sewers. It should be noted that the on-site course of the old sewer line passes very close to monitoring well MW-3. If this line was active while Magic Cleaners occupied the site, it is possible that a leak is the source of contamination identified in ground water at the site. The portion of the sewer card pertaining to the subject property is included as Attachment B to this letter.

Attachment A
GeoRecon International Report

GEO RLCON INTERNATIONAL

applied geophysics

July 6, 1997
J97-664/AI



Environmental Partners, Inc
10940 NE 33rd Place, Ste 110
Bellevue, Wa 98004

RE: The Sue Goertzen Property
6501 - 6515 California Ave SW
Seattle, Washington

This letter reports the results of a Ground Penetrating Radar (GPR) survey for septic tanks, septic drain fields, Underground Storage Tanks, etc. in the parking lot area surrounding the buildings occupying the subject property. The work was completed after hours, beginning at 9:00 PM and 1:00 AM to avoid restricting parking for the business patrons as well as to avoid the parking traffic. The work was completed between June 29 and July 3, 1997.

Results of the Survey

Figure 1 attached to this drawing shows the utilities located in the parking lot area. Within the planting areas surrounding the structure and in the parking lot planting strips are small diameter water pipes not located.

No direct evidence of a septic tank, dry well or drain field was found.

The area indicated as "Area A" on Figure 1 had what might be piping at depth. The parking strip within the circled area prevented running the GPR over the area to adequately define the GPR images. The GPR antenna was only able to "peek" below the strip.

The roof drains for the property structure apparently feed to a foundation drain, that probably leads off to the main sewer on the street(s) side, rather than through the parking lot.

The existing catch basins (CB) drain from the South CB to the North CB and then Northwest to a CB located in the alley on the West side of the property. From this latter CB, the drain is to the Storm Drain collector in Fauntleroy Way SW.

The parking area on the South side of the property may have been an alley before the present property configuration. A transformer vault is located as shown on Figure 1. The power feed to the vault is down the center of the drive, and has one branch to the property structure and two branches to the building South of the subject

property. The gas main and water lines for the building on the South of the fence line, run along the South edge of the parking strip.

The Gas supply for the subject property is located on the Northwest corner of the building, facing Fauntleroy Way SW.

Methods

The Ground Penetrating Radar (a GSSI, SIR System 3) utilized a 500 Mega-Hertz antenna. The GPR antenna used for this investigation transmits a 2 nano-second (ns) pulse at a frequency of 500 Mega-Hertz for the selected scan rate of 8 times per second. When the signal encounters a change in electrical properties (a change in electrical permittivity), a portion of the signal energy is reflected back to the surface. The reflected signal is received by the antenna, processed and recorded on an analog recorder. The character of the reflection is used to define the source of the reflection.


Pipes produce hyperbolic reflections when traversed normal to the direction of the lay of the pipe. When traversing along the top of a pipe, the GPR record will show a horizontal surface reflection from the top of the pipe.

An AC line detector was used to locate and identify buried AC power lines. Direct burial electrical lines are difficult to locate with GPR (a result of the wire insulation and small wire diameter).

The GPR records were recorded at a 60 nano-seconds full scale sweep, and has 6 nano-seconds between horizontal time marks. The top of the recordings are marked at one metre (3.28 ft) intervals. The depth of an object is determined by the electro-magnetic wave propagation rate (inverse of wave velocity) of the site materials. The recorded time is two-way time, that is the time down to the surface and then back to the antenna. The two-way time is estimated to be between 5 to 6 nano-seconds per foot, or an estimated 1.3 to 1.6 feet between the horizontal time lines. The electro-magnetic velocity may vary across the site, both horizontally and vertically.

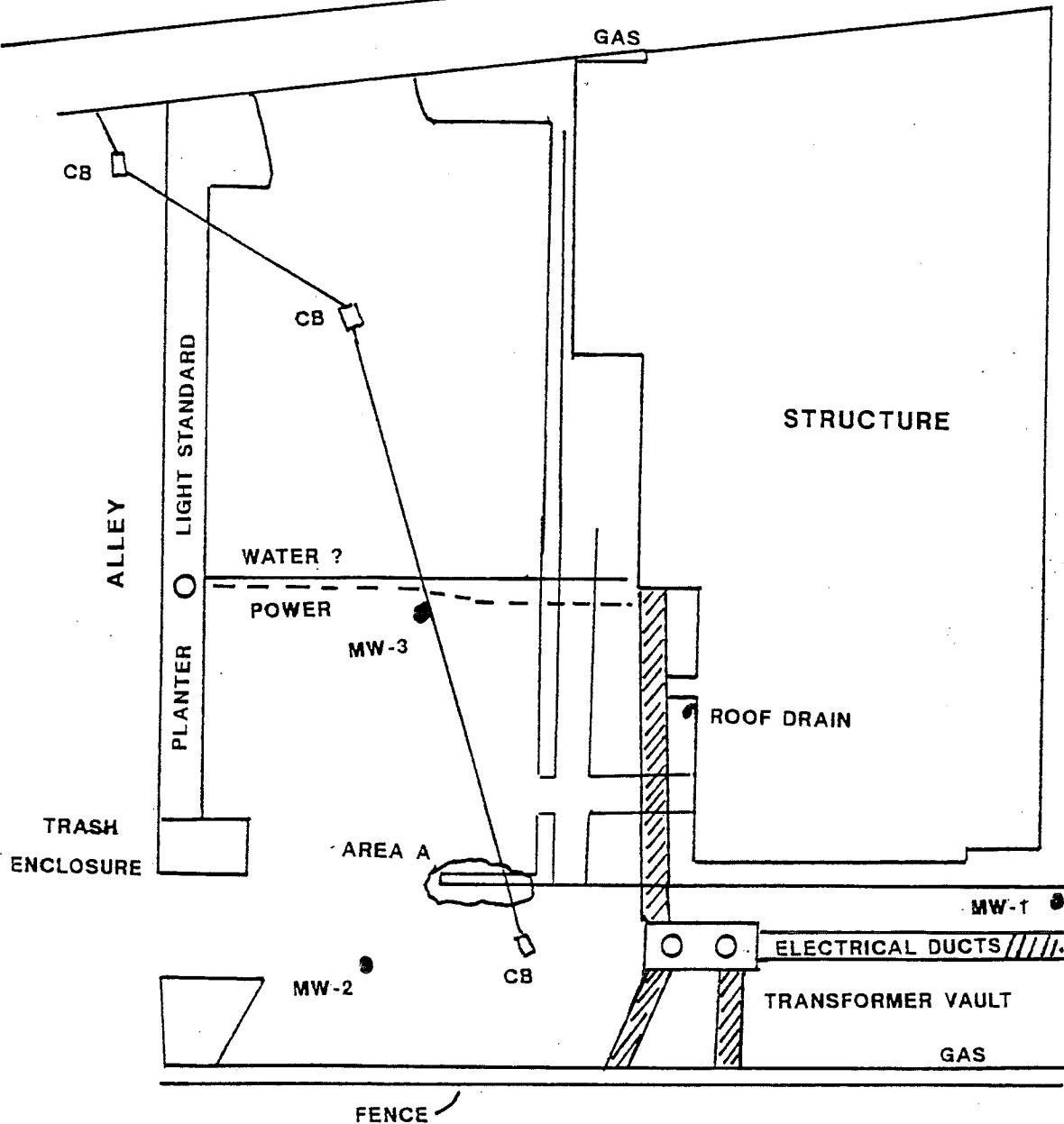
We trust that the above is sufficient for your requirements. Please let us know if you have any questions or if we may be of further assistance.

For Geo-Recon International


John M Musser
Principal Geophysicist

NORTH

FAUNTLEROY WAY SW



CALIFORNIA AVE. SW

0 30
SCALE (feet)

GPR IMAGERY

GPR LOCATION PLAN

J97-664/AI

GEO-RECON INTERNATIONAL

FIG. 1

Attachment B
Seattle Public Works Sewer Card

3046

59-23-23
132

3626

3626 V.O. 83894

VAC.

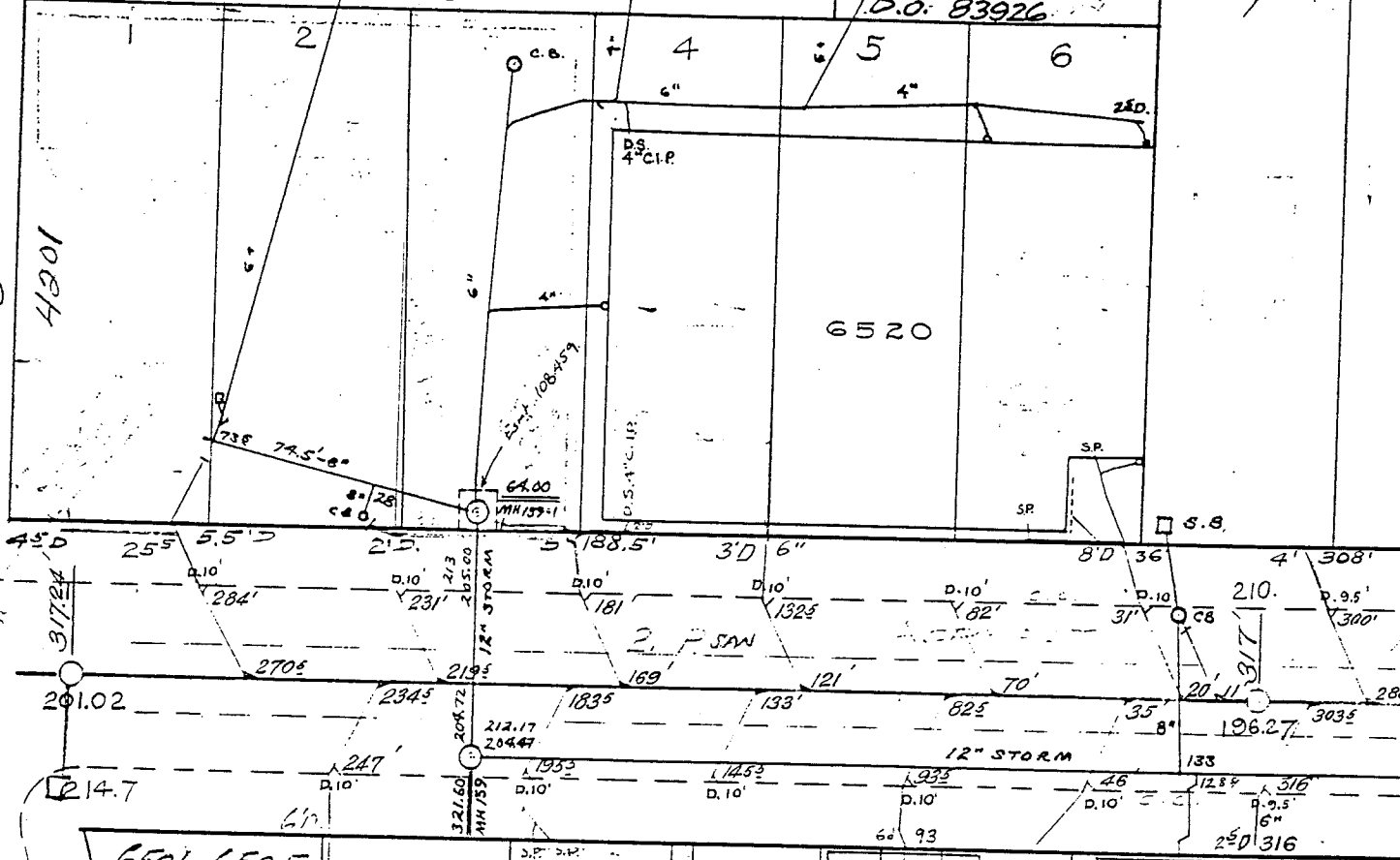
Morgan Terrace

Vol. 23-27
D.O. 83926

KING

S.W. Morgan St.

4201



6501-6505

6515

6521

6525

6531

6525

Subject Property

old line

6\"/>

PVC

2

3

4

5

6

7

See 4093-2

50

SEAVIEW PARK ADD

Storm Sep.
1977-213
ORD. 102657

Bk 12 L.I.D. # 2745 P. 22 & 23.

NE 26-24-3

Fountain

MAY 1980

SIN