

November 30, 1992
Project C92020

Good Chevrolet
1630 Park Avenue
Alameda, California 94501
Attn: Ms. JoAnn Stewart, General Manager

Subject: Response to Alameda County Department of Environmental Health
Request for Investigation Work Plan for 1630 Park Avenue, Alameda, CA.

Reference: (a) Letter from Alameda County Department of Environmental Health,
dated August 25, 1992 requesting a Work Plan for a Supplemental Site
Characterization Investigation at the subject site

Dear Ms. Stewart:

In accordance with our Quarterly Monitoring Work Plan dated July 11, 1992, Geo Plexus personnel obtained ground water samples in July and October, 1992 from the three existing ground water monitoring wells to assess the ground water conditions at the project site. Our personnel have also been recording ground water levels on a monthly basis from July through November, 1992 to evaluate the direction of ground water flow at the project site.

In response to reference (a), this letter report summarizes the findings of monitoring program to date, provides our opinion regarding the findings of previous investigations, and provides recommendations for continued assessment of the ground water conditions.

SUMMARY OF GROUND WATER FLOW

Depth to water measurements were reported by Environmental Science & Engineering and Ground Water Technology in the previous reports as indicated in Table 1.

Ground water elevations were measured in each well on a monthly basis from July through November, 1992 to establish the direction of ground water flow (a previous point of contention) and to establish variations, if any, in the direction and gradient of the ground water flow beneath the site. The recorded depth to water measurements, and incremental monthly changes in water depths (increase or decrease) are summarized in Table 1.

TABLE 1
DEPTH TO WATER MEASUREMENTS
 (reported by others)

Monitoring Well	<u>8/11/91</u>	<u>4/9/91</u>
MW-1	8.93	7.59
MW-2	9.24	8.01
MW-3	9.00	8.06

TABLE 2
DEPTH TO WATER MEASUREMENTS
 (reported by Geo Plexus, 1992)

Monitoring Well	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>Total Change in Depth</u>
MW-1	8.72	9.09 (-0.37)	9.25 (-0.16)	9.34 (-0.09)	9.21 (-0.13)	(-0.49)
MW-2	9.03	9.34 (-0.31)	9.46 (-0.12)	9.52 (-0.06)	9.42 (-0.10)	(-0.39)
MW-3	8.82	9.05 (-0.23)	9.09 (-0.04)	9.15 (-0.06)	9.05 (-0.10)	(-0.23)

The water elevations recorded by Geo Plexus (Table 2) indicate that ground water has continued to fall in elevation through the monitoring period with Monitoring Well MW-1 having the greatest change and Monitoring Well MW-3 having the least change. Correlation with the previous data (by others) is not significant, although it suggests that the water table was elevated in April, 1991.

The water elevations also indicate that the ground water flow across the site has varied from northwest (July, 1992) to north-northeast as indicated on Figures 1 thru 5. The ground water flow directions indicate that Monitoring Wells MW-2 and MW-3 are situated in a down- to cross-gradient direction from the former storage tank location, depending on the direction of flow, and Monitoring Well MW-1 is located in an up- to cross-gradient direction from the former tank location.

SUMMARY OF ANALYTICAL TESTING

The ground water samples obtained during this monitoring period have contained reportable quantities of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatics Compounds (Benzene, Toluene, Ethylbenzene, and Xylenes); however, the concentrations have not been consistent and do not correlate with previously reported concentrations.

For comparison purposes, Table 3 summarizes the analytical test results based on individual well records and Table 4 summarizes the analytical test data based on monthly records.

DISCUSSION

The reported analytical test data indicates that Monitoring Well MW-1, which is located hydraulically up- to cross-gradient from the location of the former tanks has contained the highest concentrations of gasoline (21,020 ppb) and the greatest fluctuation in concentrations of gasoline (21,020 - 850 ppb) of the three wells monitored (see Table 3).

The concentrations of gasoline constituents reported for the individual wells, specifically Monitoring Well MW-1, appear inconsistent with the hypothesis that the former underground storage tanks are the "direct source" of these compounds and that the compounds are being dispersed laterally from the former tank area. The concentrations detected in Monitoring Wells MW-2 and MW-3 (see Table 3) also indicate dissimilar variations with respect to the hypotheses that the "source" is/was located 20-30 feet up-gradient.

Table 3 also indicates that there was a progressive, although erratic, reduction in the concentrations detected in Monitoring Wells MW-1 and MW-2 from 1987 through 1991 with a substantial increase in concentrations in July, 1992 (see Table 4). Monitoring Well MW-3 continued a progressive increase from 1987 through 1991, and continues to suggest an erratic response in 1992.

The depth to water measurements indicate that the ground water table has dropped approximately 0.25-0.5 feet from July through November, 1992 and cyclic increases and decreases have not been observed. The continued decrease in the water table and the absence of observable cyclic changes suggests that the ground water has not been "re-introduced" into contaminated soil, if any, which could remain at depth in the former tank location. This would dispel the hypotheses that the observed increases in concentrations are a result of re-introduction of the ground water into contaminated soil, if present. Had this been the case, the April, 1991 analytical testing should have detected an increase in concentrations with the corresponding increase in ground water levels.

TABLE 3

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

<u>Date Sampled</u>	<u>Total Petroleum Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-Benzene</u>	<u>Total Xylenes</u>
<u>Monitoring Well MW-1</u>					
1-21-87 (1)	21,020	1,148	8,627	1,792	6,012
1-11-89 (1)	1,400	74	10	13	5
7-12-89 (1)	1,200	470	49	45	33
4-09-91 (2)	850	260	10	15	12
7-14-92 (3)	13,000	2,300	1,200	1,200	1,200
10-7-92 (3)	3,600	1,600	80	120	120
<u>Monitoring Well MW-2</u>					
1-21-87 (1)	5,018	386	1,981	285	1,432
1-11-89 (1)	10,000	3,000	410	240	190
7-12-89 (1)	7,600	2,700	540	250	320
4-09-91 (2)	4,900	910	210	130	200
7-14-92 (3)	13,000	4,400	1,500	610	1,100
10-7-92 (3)	11,000	5,200	1,500	500	1,200
<u>Monitoring Well MW-3</u>					
1-21-87 (1)	10,287	1,428	3,281	610	2,761
1-11-89 (1)	5,300	1,800	340	150	160
7-12-89 (1)	7,800	3,100	900	300	480
4-09-91 (2)	9,400	1,400	730	200	510
7-14-92 (3)	17,000	3,500	390	390	260
10-7-92 (3)	9,200	4,300	470	390	610

Note: (1) Concentrations reported by Groundwater Technology, Inc.
 (2) Concentrations reported by Environmental Science & Engineering, Inc.
 (3) Geo Plexus, Inc.

TABLE 4

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

<u>Date Sampled</u>	<u>Total Petroleum Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-Benzene</u>	<u>Total Xylenes</u>
1-21-87 (1)					
MW-1	21,020	1,148	8,627	1,792	6,012
MW-2	5,018	386	1,981	285	1,432
MW-3	10,287	1,428	3,281	610	2,761
1-11-89 (1)					
MW-1	1,400	74	10	13	5
MW-2	10,000	3,000	410	240	190
MW-3	5,300	1,800	340	150	160
7-12-89 (1)					
MW-1	1,200	470	49	45	33
MW-2	7,600	2,700	540	250	320
MW-3	7,800	3,100	900	300	480
4-09-91 (2)					
MW-1	850	260	10	15	12
MW-2	4,900	910	210	130	200
MW-3	9,400	1,400	730	200	510
7-14-92 (3)					
MW-1	13,000	2,300	1,200	1,200	1,200
MW-2	13,000	4,400	1,500	610	1,100
MW-3	17,000	3,500	390	390	260
10-7-92 (3)					
MW-1	3,600	1,600	80	120	120
MW-2	11,000	5,200	1,500	500	1,200
MW-3	9,200	4,300	470	390	610

Note: (1) Concentrations reported by Groundwater Technology, Inc.
 (2) Concentrations reported by Environmental Science & Engineering, Inc.
 (3) Geo Plexus, Inc.

OFF-SITE SOURCE REVIEW

A preliminary reconnaissance and review of regulatory agency records was performed to identify potential/known off-site sources in the immediate vicinity of the project site. Four known sources of petroleum hydrocarbon/toxic products have been identified in the immediate vicinity of the site as indicated on Figure 6. These sites include:

BP/Mobile	1541 Park Street
Cavanaugh Motors	1700 Park Street
Exxon/Regal	1725 Park Street
Alameda Auto Enhancers	2327 Lincoln Avenue

Cavanaugh Motors and the Exxon/Regal site are located hydraulically down-gradient and/or cross-gradient from the project site. The BP/Mobile site is located cross- to up-gradient from the site; however, based on published reports the contaminant plume extends along the north side of Park Street and is unlikely to influence the ground water quality in the project monitoring wells, specifically MW-1.

The remaining identified source is Alameda Auto Enhancers which is situated immediately up-gradient from the project site. Detailed information regarding this site has not been obtained to date.

One underground storage tank also exists immediately across Park Street from the project site; however, specific information regarding this tank is not available at this time.

CONCLUSIONS AND RECOMMENDATIONS

The information available to date indicates a consistent decrease in the ground water table across the project site and the direction of ground water flow has been established with a gradual change from northwest to north-northeast.

The analytical testing of water samples obtained from the monitoring wells indicates erratic concentration variations and the data is insufficient for use as a basis for a remedial action program or to define the basis for further site characterization efforts at this time.

Good Chevrolet currently maintains additional underground storage tanks which are located on the west side of the show room/office/maintenance building (opposite side from the former tank site) and is currently soliciting/reviewing proposals to excavate and remove the tanks. It is recommended that additional site characterizations not be performed until the existing tanks have been removed and the soil/ground water conditions at that location have been assessed.

Geo Plexus, Incorporated

1900 Wyatt Drive, Suite 1, Santa Clara, California 95054 Phone 408/987-0210 Fax 408/988-0815

It is also recommended that the existing ground water monitoring wells located at the project site continue to be monitored monthly (water level) and sampled quarterly in accordance with the established/approved quarterly monitoring program. This future data, which would be obtained on a consistent basis, would be used as the basis for evaluating further site characterization effort and/or remedial action, if required.

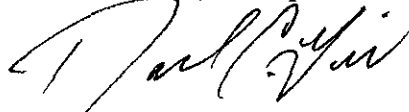
Furthermore, we trust that Alameda County Department of Environmental Health personnel will concur with our recommendations to continue the established monitoring program and to defer additional site characterization investigations until the first year of consistent monitoring is achieved or until such time that additional data becomes available either from the forthcoming tank removal or from "off-site" investigations (by others).

Copies of this letter report should be forwarded to:

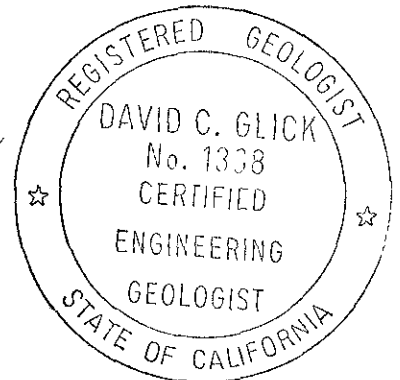
Ms. Juliet Shin
Alameda County Health Care Services,
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Respectfully submitted,

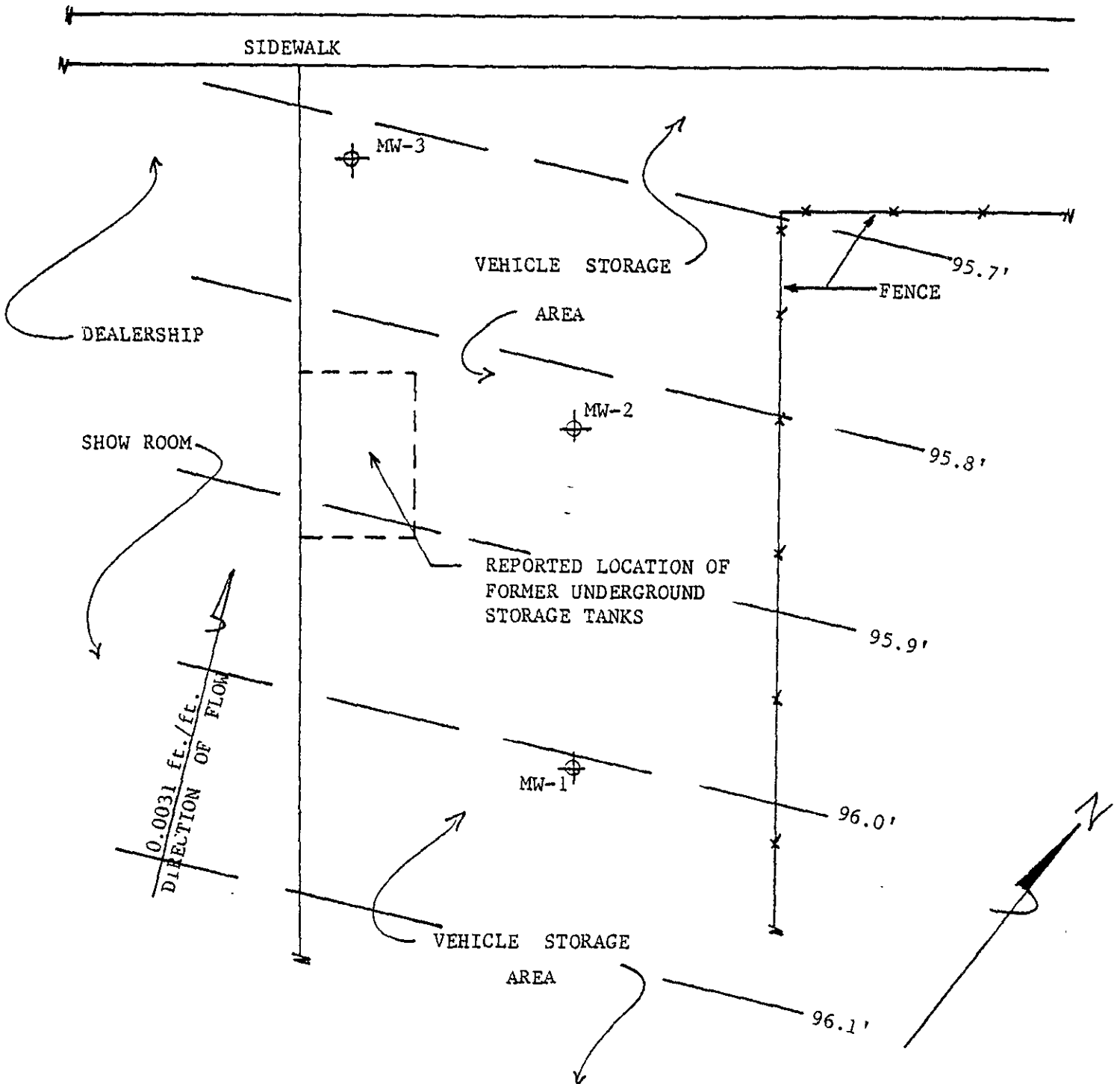
Geo Plexus, Incorporated



David C. Glick, CEG 1338
Director, Geological and
Environmental Services



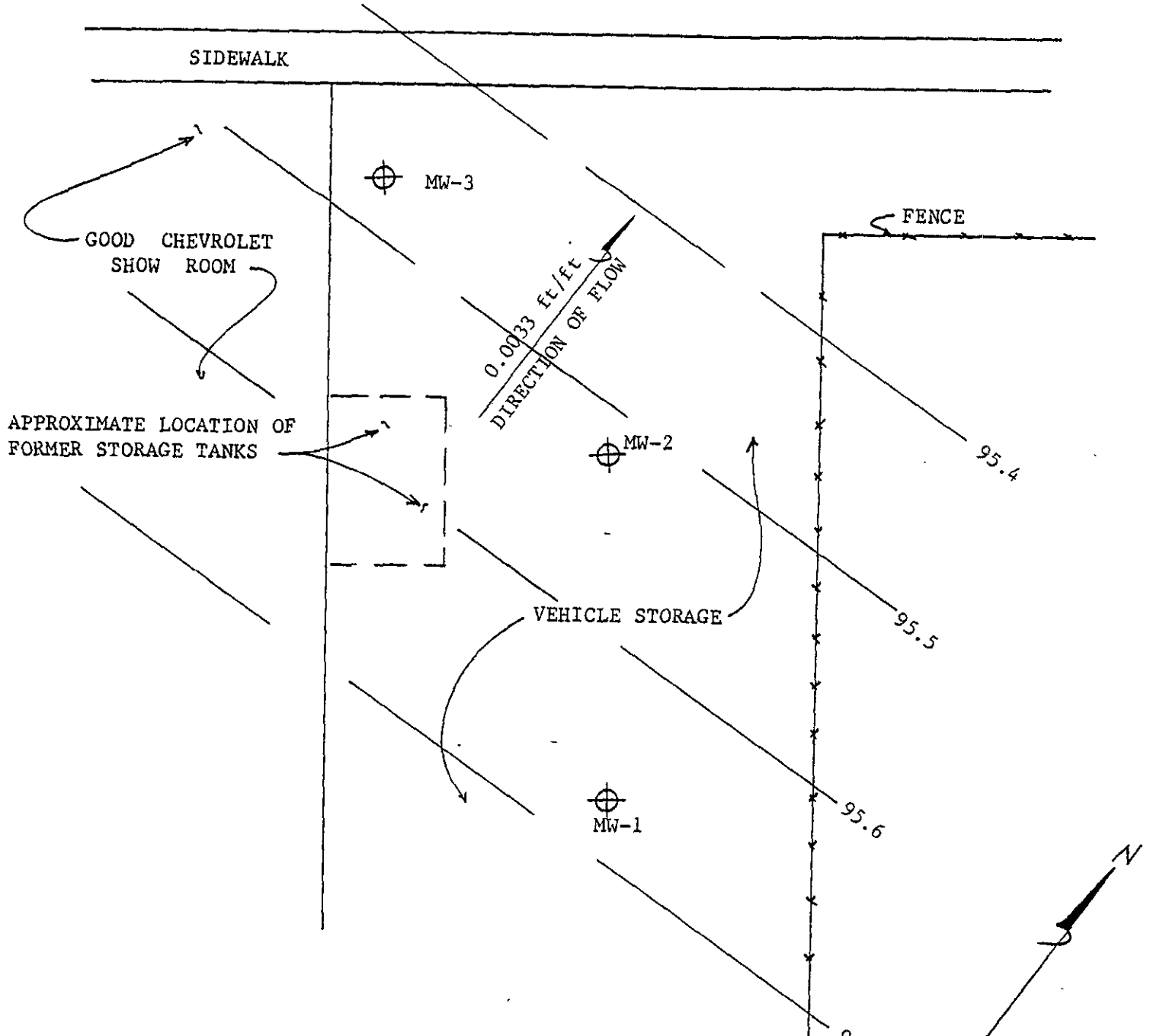
PARK AVENUE



- NOTE: (1) SITE PLAN FROM ENVIRONMENTAL SCIENCE & ENGINEERING, Inc. REPORT, dated 5/8/91
- (2) WELL CASING ELEVATIONS BASED ON ENVIRONMENTAL SCIENCE & ENGINEERING, Inc. REPORT, dated 5/8/91

GOOD CHEVROLET		
DATE 7/14/92	SCALE 1"=24'	DRAWN BY dcg
GRADIENT PLAN		
		Figure 1

PARK AVENUE

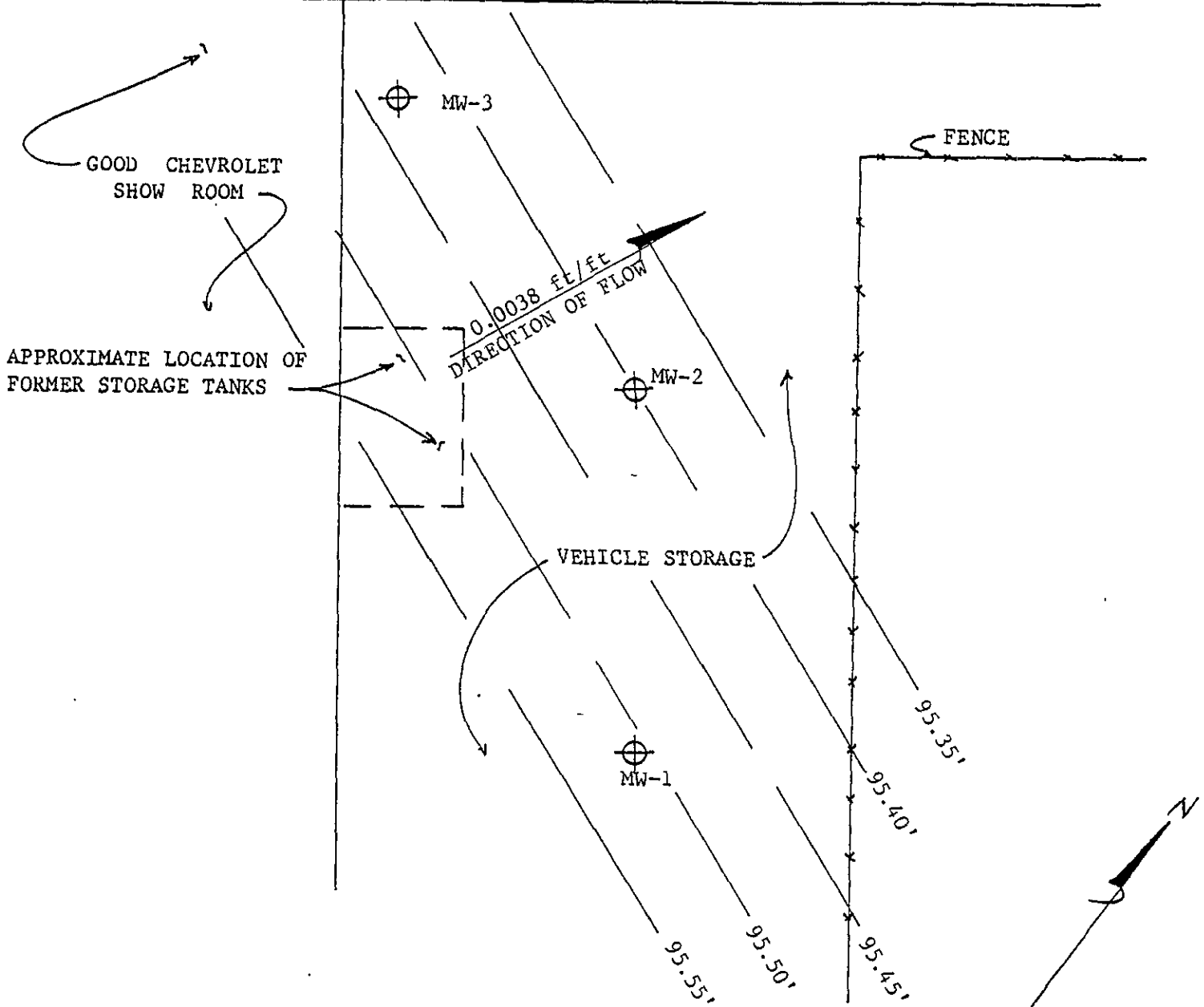


NOTE: (1) Site Plan from Environmental Science & Engineering, inc. Report dated 5/8/91
 (2) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

GOOD CHEVROLET		
DATE 8-31-92	SCALE 1"=24'	DRAWN BY dcb
GRADIENT PLAN		
		Figure 2

PARK AVENUE

SIDEWALK

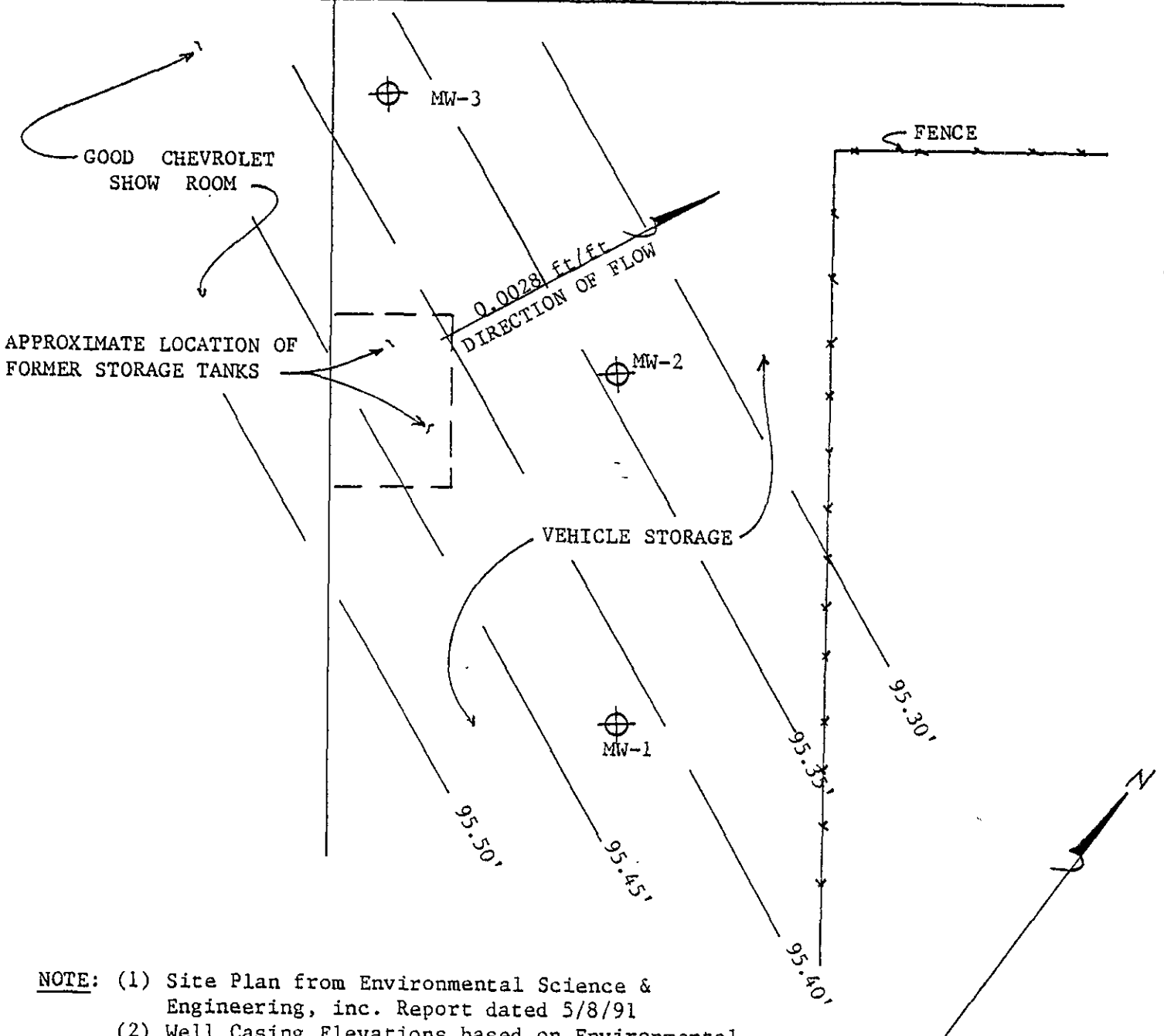


- NOTE:** (1) Site Plan from Environmental Science & Engineering, inc. Report dated 5/8/91
 (2) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

GOOD CHEVROLET		
DATE 9-28-92	SCALE 1"=24'	DRAWN BY dgc
GRADIENT PLAN		
		Figure 3

PARK AVENUE

SIDEWALK



NOTE: (1) Site Plan from Environmental Science & Engineering, inc. Report dated 5/8/91
 (2) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

GOOD CHEVROLET		
DATE 10/7/92	SCALE 1"=24'	DRAWN BY dcg
GRADIENT PLAN		
		Figure 4

PARK AVENUE

SIDEWALK

GOOD CHEVROLET
SHOW ROOM

APPROXIMATE LOCATION OF
FORMER STORAGE TANKS

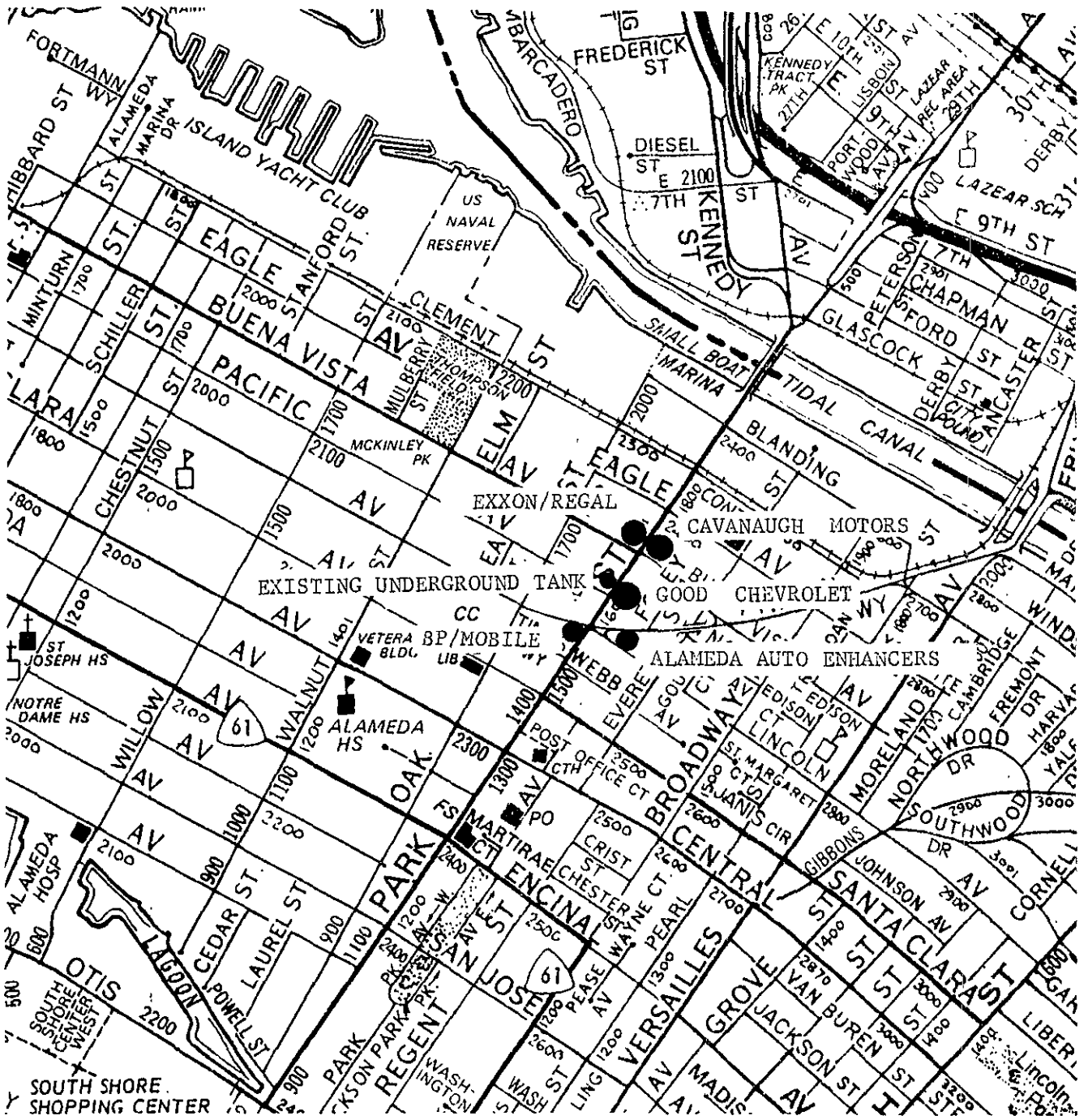
VEHICLE STORAGE

FENCE

ESTIMATED
FLOW
DIRECTION

- Note: (1) Site plan from Environmental Science & Engineering, inc. Report dated 5/8/91
 (2) Well casing elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

GOOD CHEVROLET		
DATE 11/17/92	SCALE 1" = 24'	DRAWN BY dca
GRADIENT PLAN		
		Figure 5



GOOD CHEVROLET		
DATE 11/30/92	SCALE na	DRAWN BY dcg
ADJACENT SOURCE SITES		
		Figure 6