

DUNN GEOSCIENCE CORPORATION

12 METRO PARK ROAD
ALBANY, NY 12205
(518) 458-1313
FAX (518) 458-2472

September 20, 1991

FEDERAL EXPRESS

Ms. Cynthia Chapman
Hazardous Materials Specialist
Department of Environmental Health
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

Dear Ms. Chapman:

Subject: ANCC Oakland Facility
Quarterly Groundwater Monitoring

In responding to requests made in your December 5, 1990 letter, DUNN has completed a second round of quarterly groundwater monitoring at the subject site. This second round of monitoring was performed over the period of July 15 to July 18, 1991. The monitoring included the measurement of groundwater levels and product thicknesses, and the collection of groundwater samples for chemical analysis.

With this letter, DUNN is forwarding the results obtained during this quarterly monitoring event. Table 4-1 is a summary of groundwater level and product thickness measurements, recorded at the site since April, 1991. Tables 4-8 through 4-10 provide a summary of the groundwater analytical results of the samples collected during the second quarterly monitoring. Detailed analytical reports from Anametrix, Inc., are appended with this letter. Plate 5 is a groundwater contour map of water levels recorded on July 15, 1991.

Eighteen of the nineteen wells at the site were sampled during this quarterly monitoring event. Monitoring well GW-1 was not sampled because product continued to be present on the water surface as the well was being purged. The analyses completed on the groundwater samples was essentially the same as that completed during the first round of sampling conducted in April, 1991. However, based on the results of the first round of groundwater sampling and the results of numerous soil sample analyses, the 17 CAM metals analyses were modified slightly for this second round. The metals which were not detected during the first round of sampling were not analyzed for during the second round. All of the details and procedures that were followed



during the first round of sampling (see DUNN's August 1991 Report, Section 3.2) were followed during this second round also.

From a qualitative perspective, the analytical results of this second round of groundwater sampling are very similar to those obtained from the first round. With few exceptions, the quantitative variability occurring from the first to the second quarter's results are minimal. One notable exception is that the total concentration of volatile organic compounds (EPA Method 8240) detected in well GW-3 during this second round was nearly twice as much as that of the first round.

Based on the analytical results of the first two rounds of groundwater sampling, DUNN is proposing to slightly modify the groundwater sampling plan prior to conducting third quarter monitoring. The sampling plan being proposed, with deletions lined-out and additions in boldface, is as follows:

<u>Area</u>	<u>Well(s)</u>	<u>Analysis</u>
1	MW-12; GW-5	BTEX with TPH as Gasoline (DHS LUFT Method)
2	MW-13, GW-6	VOC (8240) with TICs; Semi-VOC (8270) with TICs; TPH as Diesel (DHS LUFT Method); PCB (8080); Total and Field Filtered Metals: Chromium, Nickel, Zinc, and Lead;
3	MW-1 through MW-7, GW-1 (if possible), and GW-2	VOC (8240) with TICs; Semi-VOC (8270) with TICs; PCB (8080); TPH as Gasoline (DHS LUFT); TPH as Diesel (DHS); Total and Field Filtered Metals: Arsenic, Barium, Nickel, Zinc, Lead;

- 4 ~~GW-3, MW-8, MW-9, MW-10~~ VOC (8240) w/ TICS;
Semi-VOC (8270) w/ TICS;
~~PCB (8080);~~
Total and Field Filtered Metals: Arsenic,
Barium, Chromium, Nickel, Zinc, Lead,
and Silver;

- MW-8, MW-9, MW-10** **Total and Field Filtered Metals: Arsenic,**
Barium, Chromium, Nickel, Zinc,
Lead and Silver;

- 5 MW-11, ~~GW-4~~ VOC (8240) w/ TICS;
~~Semi-VOC (8270) w/ TICS;~~
~~PCB (8080);~~
TPH as Gasoline (DHS LUFT);
TPH as Diesel (DHS LUFT);
Total and Field Filtered Metals: Zinc, Lead.

DUNN would appreciate a response from the Department of Environmental Health regarding this proposed sampling plan as soon as possible, since third quarter sampling is scheduled to begin on October 21, 1991. Should you have any questions, please do not hesitate to contact me at (518) 458-8931.

Very truly yours,

DUNN GEOSCIENCE CORPORATION



Edward W. Alusow
Senior Environmental Scientist
Project Manager
Registered Geologist No. 4282

EWA/me

- cc: J. Peters
- J. Moran
- L. Feldman

TABLE 4-1

**AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA, FACILITY**

Summary of Water Level Measurements

WELL NO.	M.P. EL.	4/16/91			5/15/91			6/17/91			7/15/91		
		DEPTH TO PRODUCT	DEPTH TO WATER	W.T. EL.	DEPTH TO PRODUCT	DEPTH TO WATER	W.T. EL.	DEPTH TO PRODUCT	DEPTH TO WATER	W.T. EL.	DEPTH TO PRODUCT	DEPTH TO WATER	W.T. EL.
MW-1	15.47	11.76	11.77	3.71		11.93	3.54		12.43	3.04		12.79	2.68
MW-2	14.86		8.95	5.91		10.05	4.81		10.50	4.36		10.74	4.12
MW-3	14.56		8.27	6.29		8.74	5.82		9.29	5.27		9.53	5.03
MW-4	15.27	12.00	12.01	3.27		12.36	2.91		12.58	2.69		12.77	2.50
MW-5	14.73	11.50	11.79	3.18	11.80	12.14	2.87	12.20	12.28	2.52	12.31	12.42	2.40
MW-6	13.24		10.36	2.88		10.76	2.48		10.96	2.28		11.03	2.21
MW-7	16.20		13.04	3.16		13.34	2.86		13.53	2.67		13.73	2.47
MW-8	12.90		10.07	2.83		10.44	2.46		10.66	2.24		10.76	2.14
MW-9	11.69		9.45	2.24		9.79	1.90		9.98	1.71		10.06	1.63
MW-10	13.03		10.00	3.03		10.36	2.67		10.58	2.45		10.69	2.34
MW-11	14.49		10.87	3.62		11.25	3.24		11.51	2.98		11.65	2.84
MW-12	16.81		6.93	9.88		7.10	9.71		7.34	9.47		7.52	9.29
MW-13	18.31		9.16	9.15		9.47	8.84		9.73	8.58		9.95	8.36
GW-1	15.35		10.96	4.39	10.98	11.36	4.05		12.27	3.08	12.78	12.94	2.54
GW-2	13.10		10.45	2.65		10.75	2.35		10.98	2.12		11.06	2.04
GW-3	11.55		8.89	2.66		9.28	2.27		9.47	2.08		9.46	2.09
GW-4	11.70		9.93	1.77		9.80	1.90		9.97	1.73		10.06	1.64
GW-5	17.72		7.53	10.19		7.75	9.97		7.98	9.74		8.20	9.52
GW-6	19.78	13.33	13.35	6.43	13.90	14.04	5.86		14.24	5.54	14.48	14.60	5.28

All elevations (EL.) are expressed in feet above mean sea level.

Depths are measured in feet below the well measuring point (M.P.).

Estimated product specific gravity of 0.83 was used to calculate an adjusted depth to water in wells containing product.

TABLE 4-8
AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA PLANT

Summary of Detected Volatile Organic Compounds
in Groundwater (EPA Method 8240)
July 1991

Soil Boring No. Monitoring Well No.	AREA 2		AREA 3									AREA 4				AREA 5	
	SB-19 MW-13	GW-6	SB-2 MW-1	SB-3 MW-2	SB-4 MW-3	SB-5 MW-4	DUP. X-1	SB-6 MW-5	SB-7 MW-6	SB-8 MW-7	GW-2	SB-9 MW-8	SB-10 MW-9	SB-11 MW-10	GW-3	SB-14 MW-11	GW-4
Dilution Factor	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.00	1.00	1.00
Vinyl Chloride	nd	nd	9 J	30 J	5 J	nd	nd	nd	nd	nd	14 J	nd	nd	nd	nd	nd	nd
Chloroethane	nd	nd	nd	14 J	50 J	15 J	11 J	13 J	nd	nd	5 J	nd	nd	nd	nd	nd	nd
Acetone	nd	nd	nd	65 J	33	nd	nd	22 J	nd	nd	20 J	nd	nd	nd	nd	nd	nd
Trans-1,2-Dichloroethene	nd	nd	nd	nd	3 J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	nd	nd	nd	95 J	91 J	nd	nd	nd	31 J	nd	13 J	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	nd	nd	nd	7 J	nd	nd	nd	nd	nd	nd	3 J	nd	nd	nd	nd	nd	nd
2-Butanone	nd	nd	nd	41 J	nd	nd	nd	nd	nd	nd	33 J	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	nd	nd	nd	nd	nd	nd	nd	nd	3 J	nd	nd	nd	nd	nd	nd	nd	nd
Vinyl Acetate	nd	nd	nd	nd	nd	27 J	30 J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzene	nd	nd	41	350 J	300 E	300 E	280 J	210 E	nd	nd	70 J	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	nd	nd	nd	8 J	7 J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	nd	3 J	4 J	160 J	14 J	7 J	7 J	6 J	nd	nd	31 J	nd	nd	nd	220 J	nd	nd
Tetrachloroethene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3 J	nd
2-Hexanone	nd	nd	nd	170 J	27 J	180 J	210 J	110 J	nd	nd	33 J	nd	nd	nd	nd	nd	nd
Chlorobenzene	nd	3 J	36	50 J	9	24 J	21	56 J	nd	nd	10 J	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	72 J	110 J	48 J	10 J	9 J	36 J	nd	nd	8 J	nd	nd	nd	10,000	nd	nd
Xylene (total)	nd	nd	74 J	730 E	160 J	38 J	34 J	51 J	nd	nd	28 J	nd	nd	nd	35,000 E	nd	nd
1,3-Dichlorobenzene	nd	nd	12 J	nd	nd	12 J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	nd	nd	70 J	7 J	3 J	11 J	11 J	27 J	nd	5 J	nd	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	nd	nd	67 J	40	17 J	27 J	28 J	54 J	nd	3 J	13 J	nd	nd	nd	nd	nd	nd
Total	nd	6 J	385 J	1877 J	767 J	651 J	641 J	585 J	34 J	8 J	281 J	nd	nd	nd	45220 J	3 J	nd
TICs (total)	nd	34	353	614	135	226	266	349	nd	nd	40	nd	nd	nd	51	nd	nd

nd indicates compound was not detected.

J indicates compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value.

E indicates the amount reported exceeded the linear range of the instrument calibration.

TICs = Tentatively Identified Compounds, all should be considered approximate values.

All concentrations expressed in ug/l (ppb).

TABLE 4-9
AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA, FACILITY
Summary of Detected Semi-Volatile Organic Compounds
in Groundwater (EPA Method 8270)
July 1991

Soil Boring Number Monitoring Well Number	AREA 2		AREA 3									AREA 4				AREA 5	
	SB-19 MW-13	GW-6	SB-2 MW-1	SB-3 MW-2	SB-4 MW-3	SB-5 MW-4	DUP X-1	SB-6 MW-5	SB-7 MW-6	SB-8 MW-7	GW-2	SB-9 MW-8	SB-10 MW-9	SB-11 MW-10	GW-3	SB-14 MW-11	GW-4
Dilution Factor	1.00	1.00	1.00	10.00	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
bis (2-Chloroethyl) ether	nd	nd	nd	nd	nd	23	25	13	nd	nd	5J	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	nd	nd	38	nd	nd	nd	nd	23	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	nd	nd	33	nd	6J	13	14	38	nd	nd	10J	nd	nd	nd	nd	nd	nd
2-Methylphenol	nd	nd	nd	49J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	9J	nd	nd
2,4-Dimethylphenol	nd	nd	nd	750	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	39	nd	nd
Napthalene	nd	31	79	140	16	8J	8J	69	nd	nd	3J	nd	nd	nd	25	nd	nd
2-Methylnaphthalene	nd	58	39	41J	nd	11	12	47	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5J	nd	nd
Fluorene	nd	10	nd	nd	nd	nd	nd	3J	nd	nd	nd	nd	nd	nd	3J	nd	nd
Phenanthrene	nd	16	nd	nd	nd	nd	nd	4J	nd	nd	nd	nd	nd	nd	8J	nd	nd
Total	nd	115	189	980 J	22 J	55 J	59 J	197 J	nd	nd	18 J	nd	nd	nd	89 J	nd	nd
TICs (total)	70	960	550	2,700	1,010	1,050	1,050	690	40	30	260	29	19	7	2,570	27	65

nd indicates compound was not detected.

J indicates compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value.

TICs + Tentatively Identified Compounds, all should be considered approximate values.

All concentrations expressed in ug/l (ppb).

TABLE 4-10
AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA, FACILITY
Summary of Detected Total Petroleum Hydrocarbons,
PCBs, and Metals in Groundwater
July 1991

Soil Boring Number Monitoring Well Number	AREA 1		AREA 2		AREA 3										AREA 4				AREA 5	
	SB-15 MW-12	GW-5	SB-19 MW-13	GW-6	SB-2 MW-1	SB-3 MW-2	SB-4 MW-3	MW-3 DUP	SB-5 MW-4	DUP X-1	SB-6 MW-5	SB-7 MW-6	SB-8 MW-7	GW-2	SB-9 MW-8	SB-10 MW-9	SB-11 MW-10	GW-3	SB-14 MW-11	GW-4
TPH as gasoline (DHS method) (ug/l)	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BTEX																				
Benzene	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as diesel (DHS method) (ug/l)	--	--	500	29,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB (EPA 8080) (ug/l) Aroclor-1260	--	--	nd	nd	2.4	6.0	nd	--	nd	nd	2.0	nd	nd	nd	nd	nd	nd	nd	nd	nd
Metals (ug/l)																				
Arsenic (total)	--	--	--	--	12.3	48.9	25.0	21.4	33.1	38.1	43.1	nd	nd	nd	nd	nd	16.9	52.3	--	--
Arsenic (filtered)	--	--	--	--	nd	42.1	23.2	--	31.8	31.2	39.5	nd	nd	nd	nd	nd	10.3	43.4	--	--
Barium (total)	--	--	--	--	200	213	213	214	633	573	644	129	269	580	108	209	nd	285	--	--
Barium (filtered)	--	--	--	--	187	195	151	--	541	482	536	nd	189	479	101	142	nd	231	--	--
Chromium (total)	--	--	nd	nd	--	--	--	--	--	--	--	--	--	--	nd	13.8	nd	nd	--	--
Chromium (filtered)	--	--	nd	nd	--	--	--	--	--	--	--	--	--	--	nd	nd	nd	nd	--	--
Nickel (total)	--	--	73.3	nd	nd	109	nd	nd	nd	nd	41.6	nd	100	nd	nd	71.5	nd	nd	--	--
Nickel (filtered)	--	--	51.4	nd	nd	101	nd	--	nd	nd	nd	nd	51.3	nd	nd	nd	nd	nd	--	--
Zinc (total)	--	--	8740	nd	25.0	41.6	28.0	27.0	nd	nd	36.0	nd	24.8	nd	31.9	30.6	nd	28.8	48.3	nd
Zinc (filtered)	--	--	7410	nd	29.7	30.4	nd	--	nd	nd	nd	nd	23.1	nd	49.4	24.8	nd	82.1	23.3	nd
Lead (total)	--	--	nd	5.0	3.1	8.0	nd	nd	4.0	6.4	4.1	nd	5.5	4.0	nd	4.3	nd	27.2	3.2	nd
Lead (filtered)	--	--	nd	nd	11.6	nd	nd	--	4.2	4.6	nd	nd	nd	4.3	nd	nd	nd	4.1	nd	nd
Silver (total)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	nd	nd	12.1	15.7	--	--
Silver (filtered)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	nd	nd	28.3	11.7	--	--

-- indicates compound was not analyzed.

DIRECTION OF GROUNDWATER FLOW ←

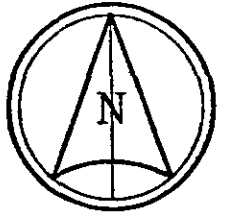
Access Road

PLATE 5

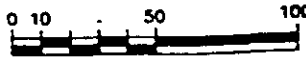
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PROJ. MGR: Edward W. Alusow			
PREPARED BY: Walter O. Howard			
DRAFTED BY: S.C.Galloway			
CHECKED BY:			
PROJ. NO.: 02345-01983			
DWG. NO. 2M8985_4			
DATE: June 1991			
SHEET 5 OF 5			
DATUM: Mean Sea Level			
CONTOUR INTERVAL = 1.0 FEET			
USGS QUAD.: OAKLAND EAST			

FRAGMENT BEGIN


11 000000 20



GEOGRAPHIC NORTH



SCALE IN FEET



DUNN GEOSCIENCE CORPORATION
12 Metro Park Road
Albany, NY 12205

GROUNDWATER CONTOUR MAP
7/15/91
AMERICAN NATIONAL CAN
OAKLAND PLANT

CITY OF OAKLAND ALAMEDA COUNTY, CA

BE



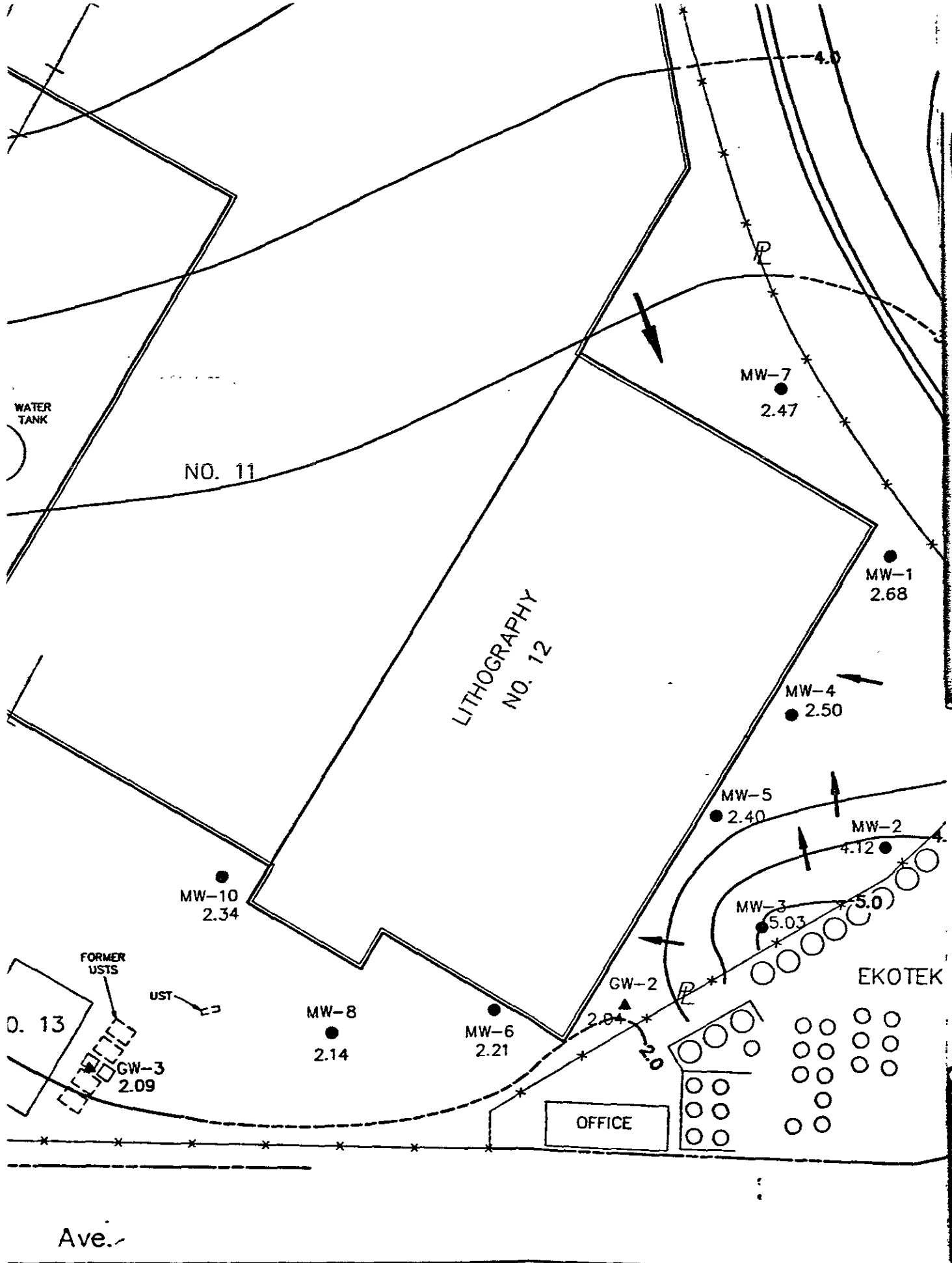
EH
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LEGEND

MW-3 WELL IDENTIFICATION NUMBER
● MONITORING WELL LOCATION
6.29 GROUNDWATER ELEVATION

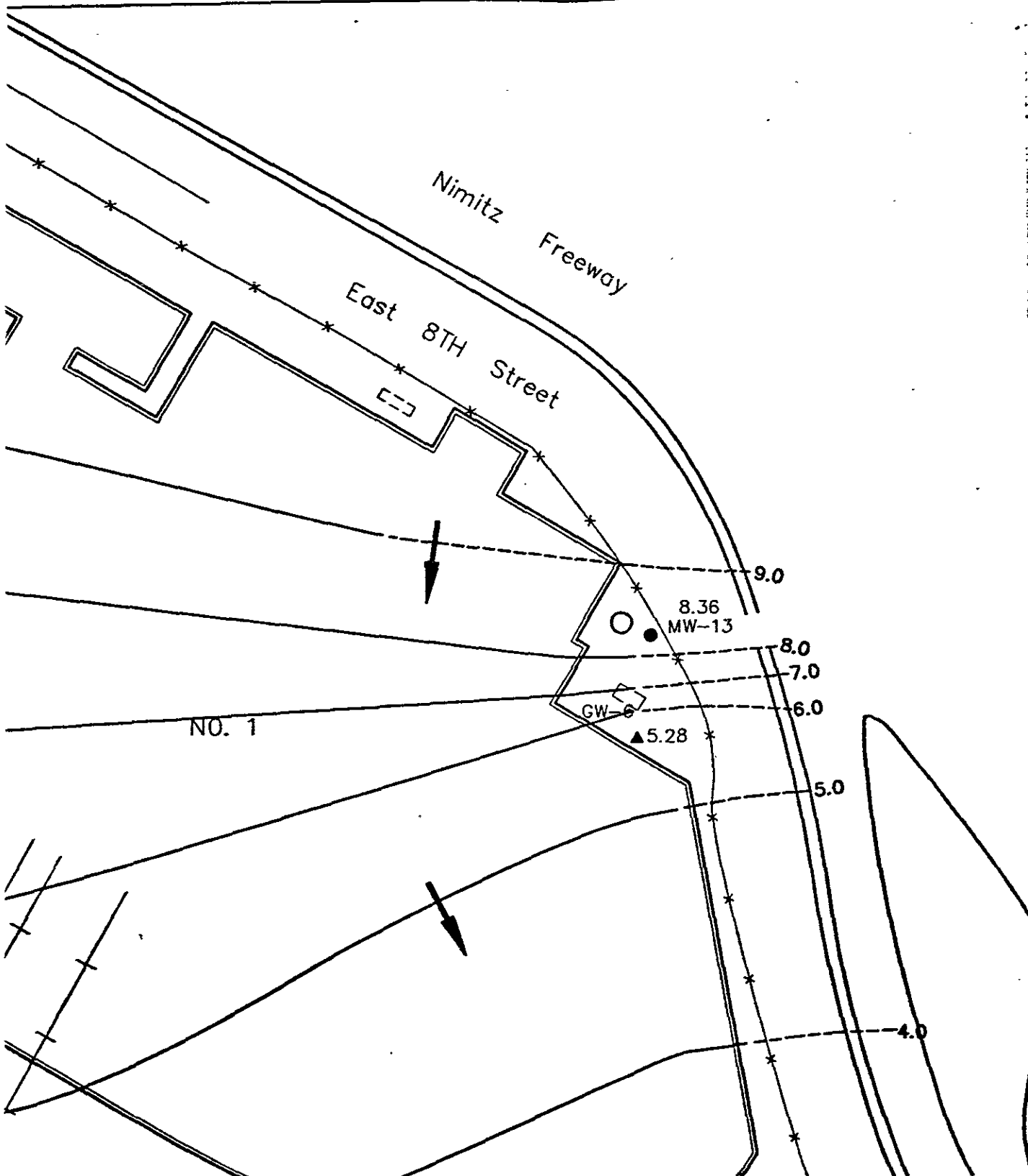
4.0 GROUNDWATER CONTOUR

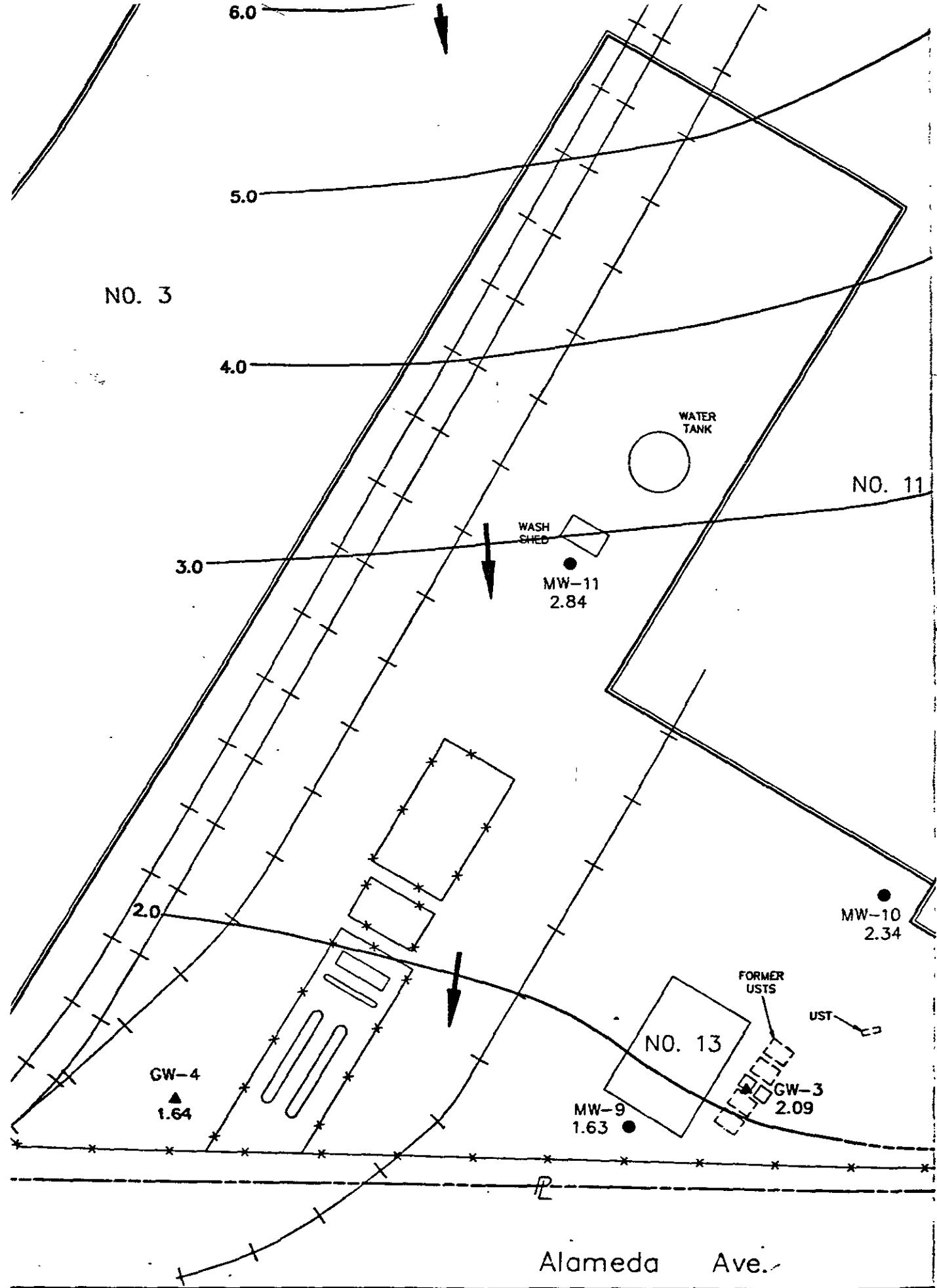
← DIRECTION OF GROUNDWATER FLOW



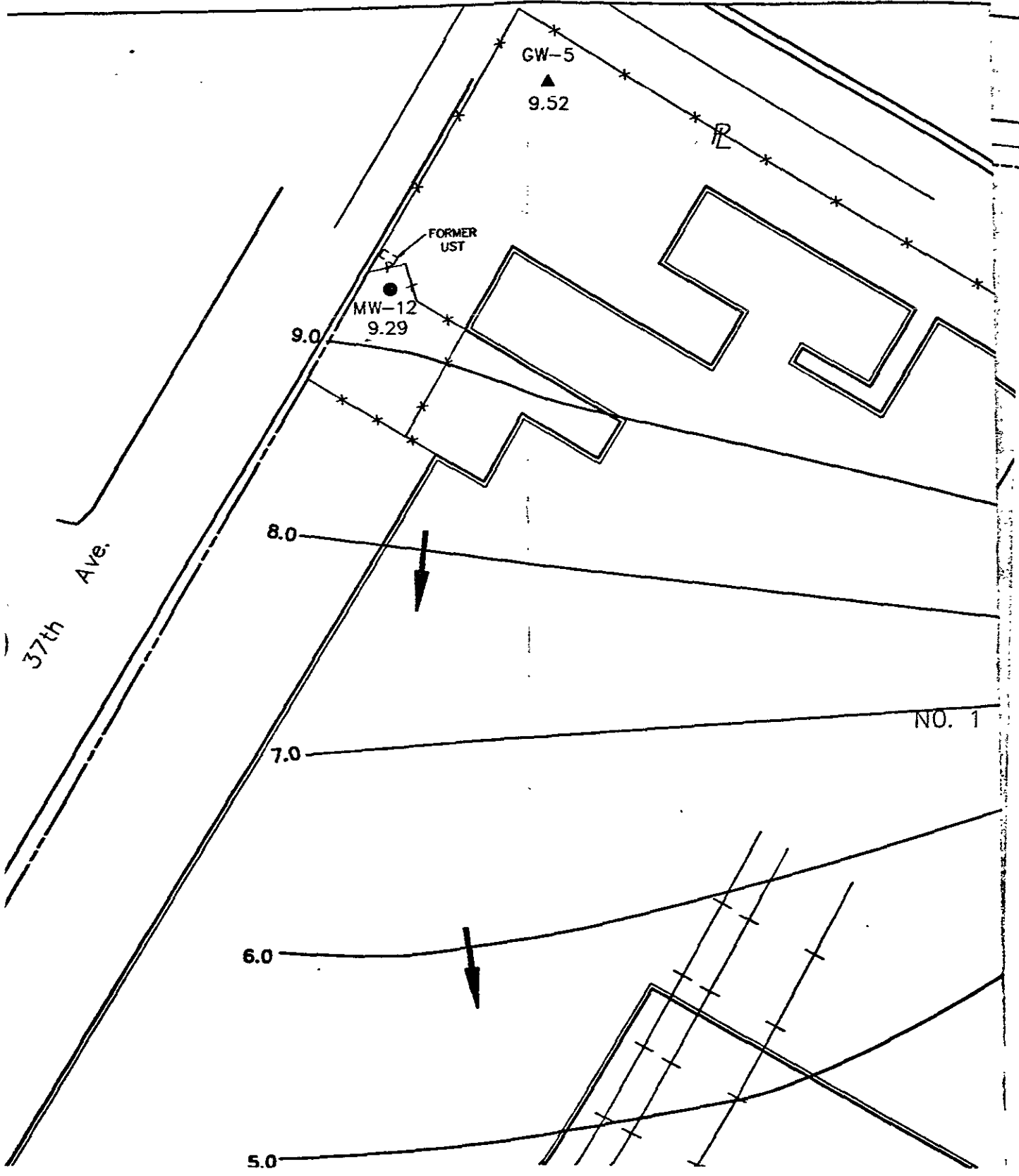
100' 20' 40' 60' 80'

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10-22-00 0000000000



37th Ave

37th Ave.

GW-5
▲
9.52

FORMER
UST
●
MW-12
9.29

9.0

8.0

7.0

NO. 1

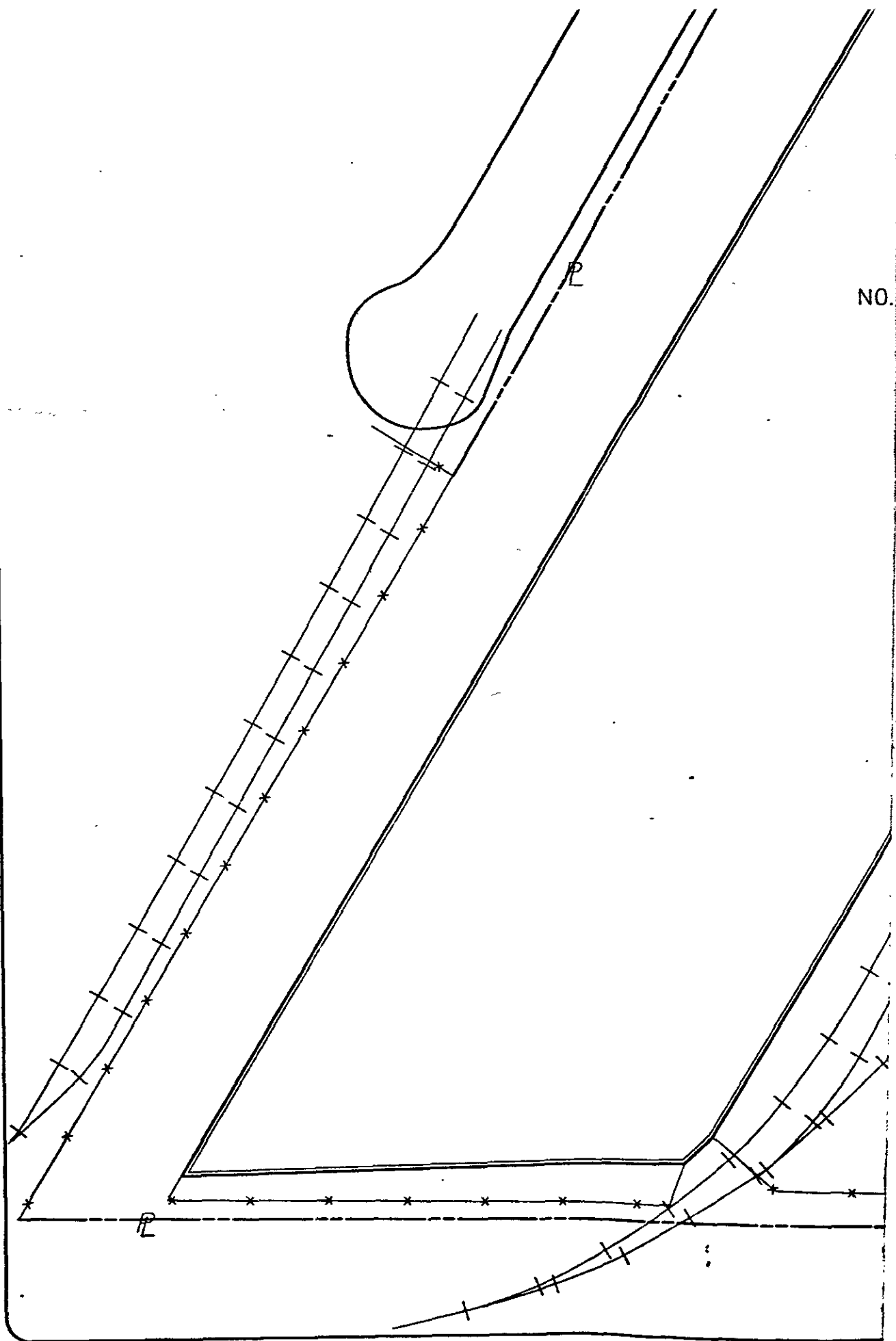
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NO.

WM 6262627075M

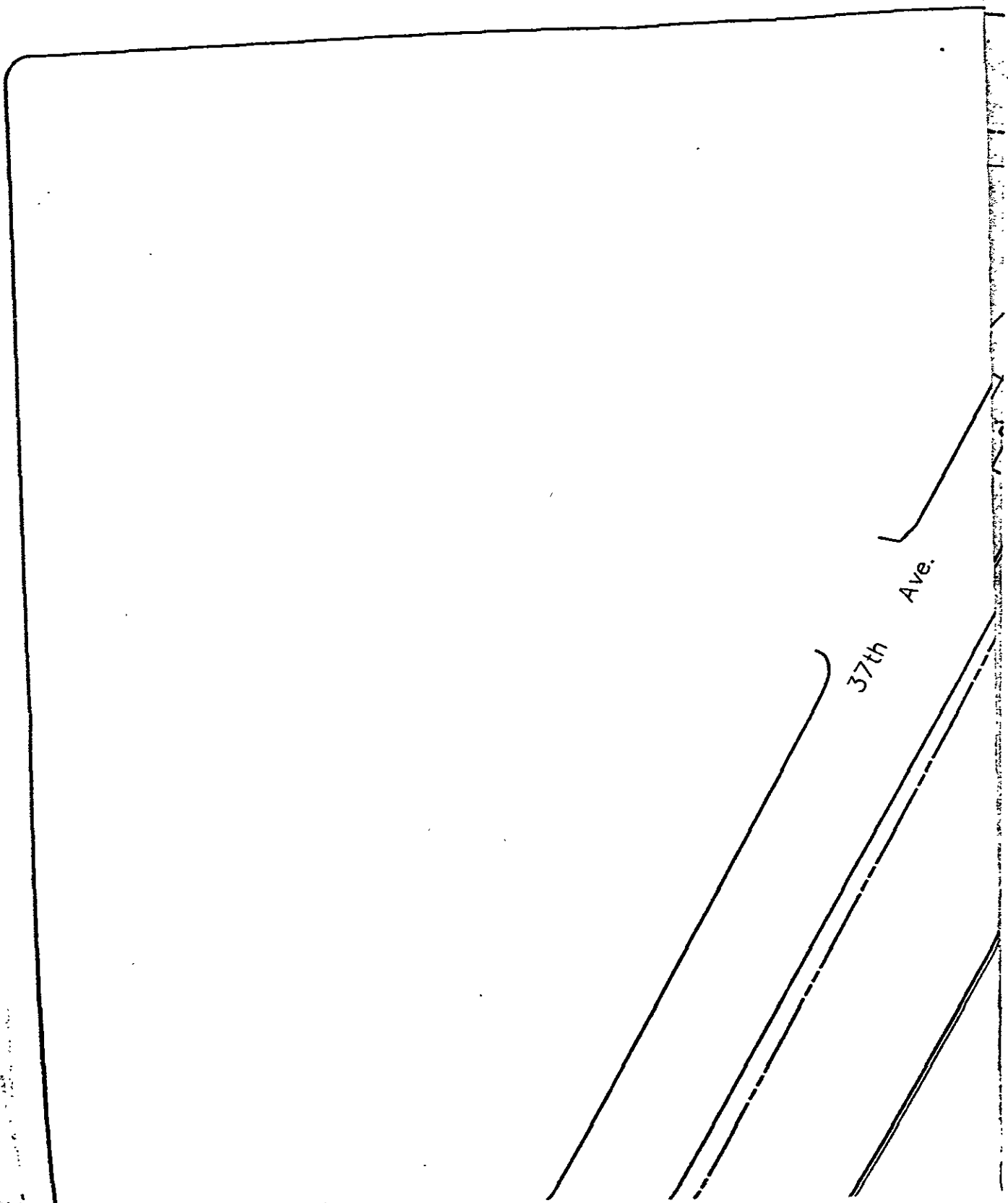


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FRAGMENT END

WI 000000000000

37th Ave.



FRAGMENT BEGIN

WELLS

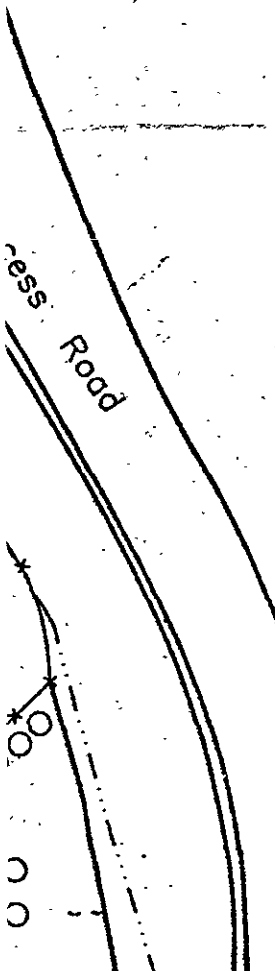
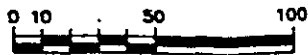


PLATE 1

	REVISIONS	BY	DATE
PROJ. MGR: Edward W. Alusow			
PREPARED BY: Walter O. Howard			
DRAFTED BY: S.C.Galloway			
CHECKED BY:			
PROJ. NO.: 02345-01983			
DWG. NO. 2M8985			
DATE: June 1991			
SHEET 1 OF 4			
DATUM:			
CONTOUR INTERVAL = none FEET			
USGS QUAD.: OAKLAND EAST			



GEOGRAPHIC NORTH



SCALE IN FEET

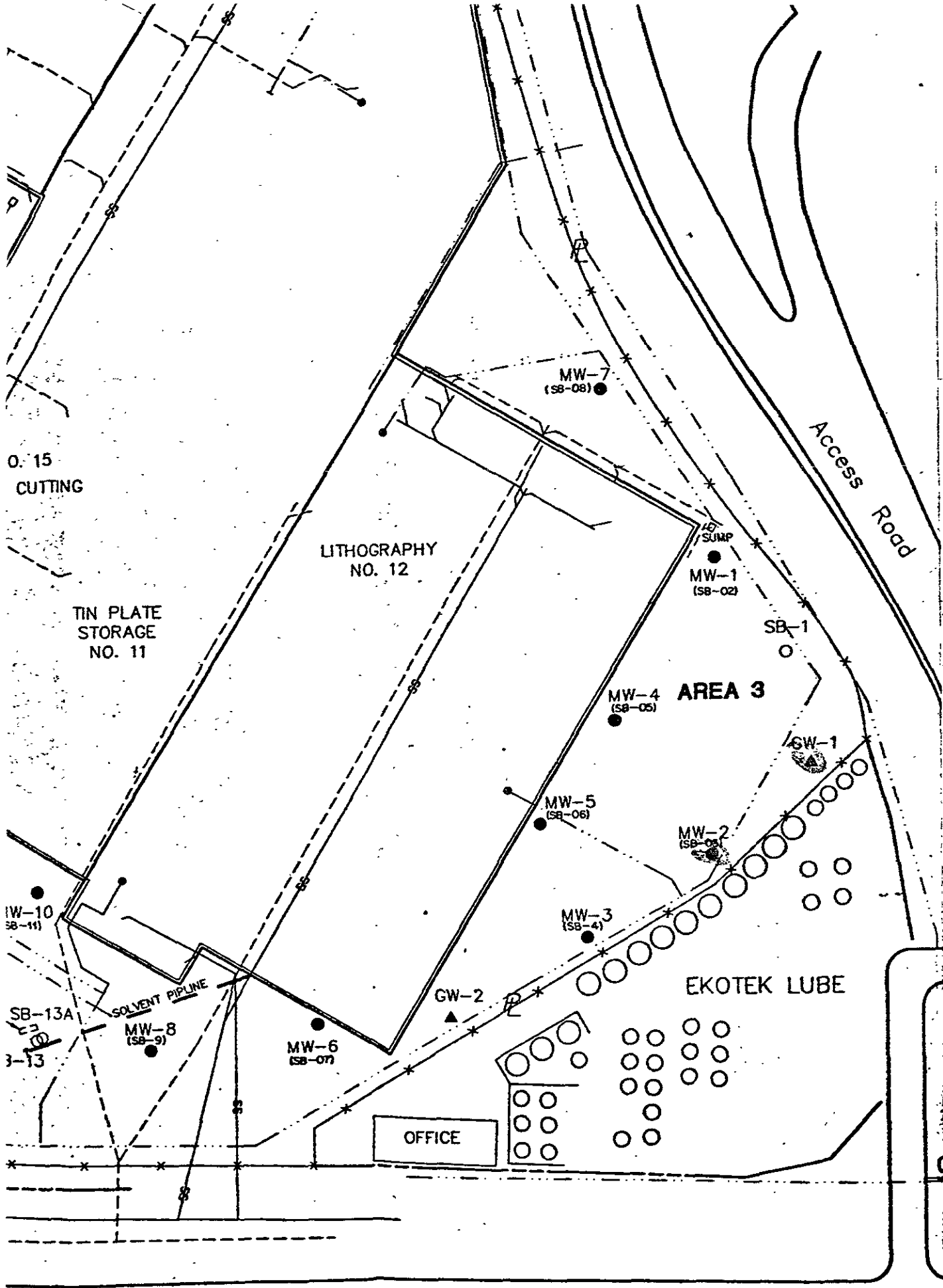


DUNN GEOSCIENCE CORPORATION
12 Metro Park Road
Albany, NY 12205

SITE PLAN
AMERICAN NATIONAL CAN
OAKLAND PLANT

CITY OF OAKLAND

ALAMEDA COUNTY, CA



EH 0000000000

Nimitz Freeway

East 8TH Street

FORMER UST

OFFICES

AREA 2

MW-13
(SB-19)

SB-18A

UST

SUMP

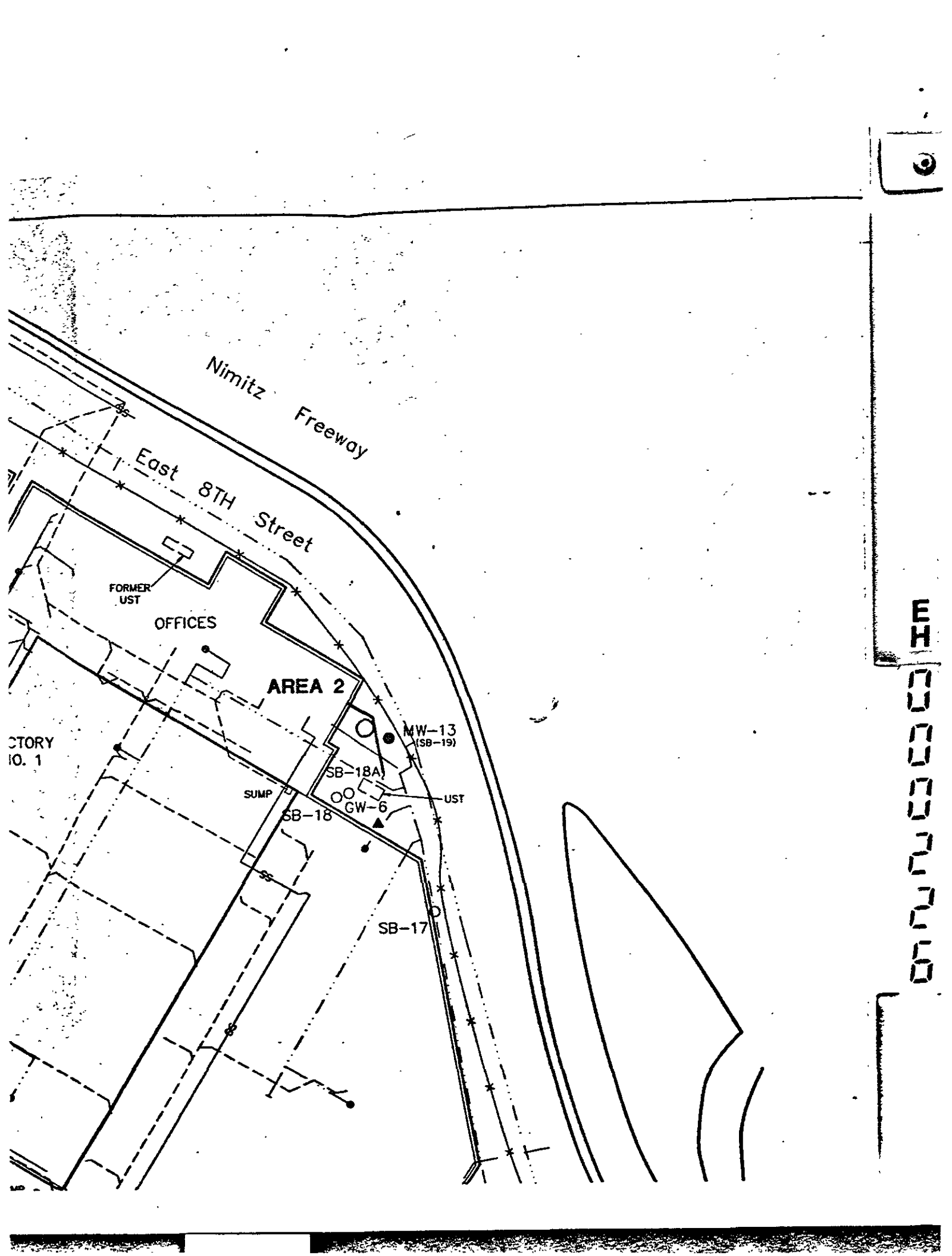
GW-6

SB-18

SB-17

CTORY
NO. 1

ER
00000000



CAN WAREHOUSE
NO. 3

SUMP

WATER
TANK

NO. 15
COIL CUTTING

SB-16

WASH
SHED

CB 0

MW-11
(SB-14)

AREA 5

AREA 4

MW-10
(SB-11)

FORMER
USTS

UST-SB-13A

NO. 13

SOLVENT
STORAGE

SB-13

GW-3

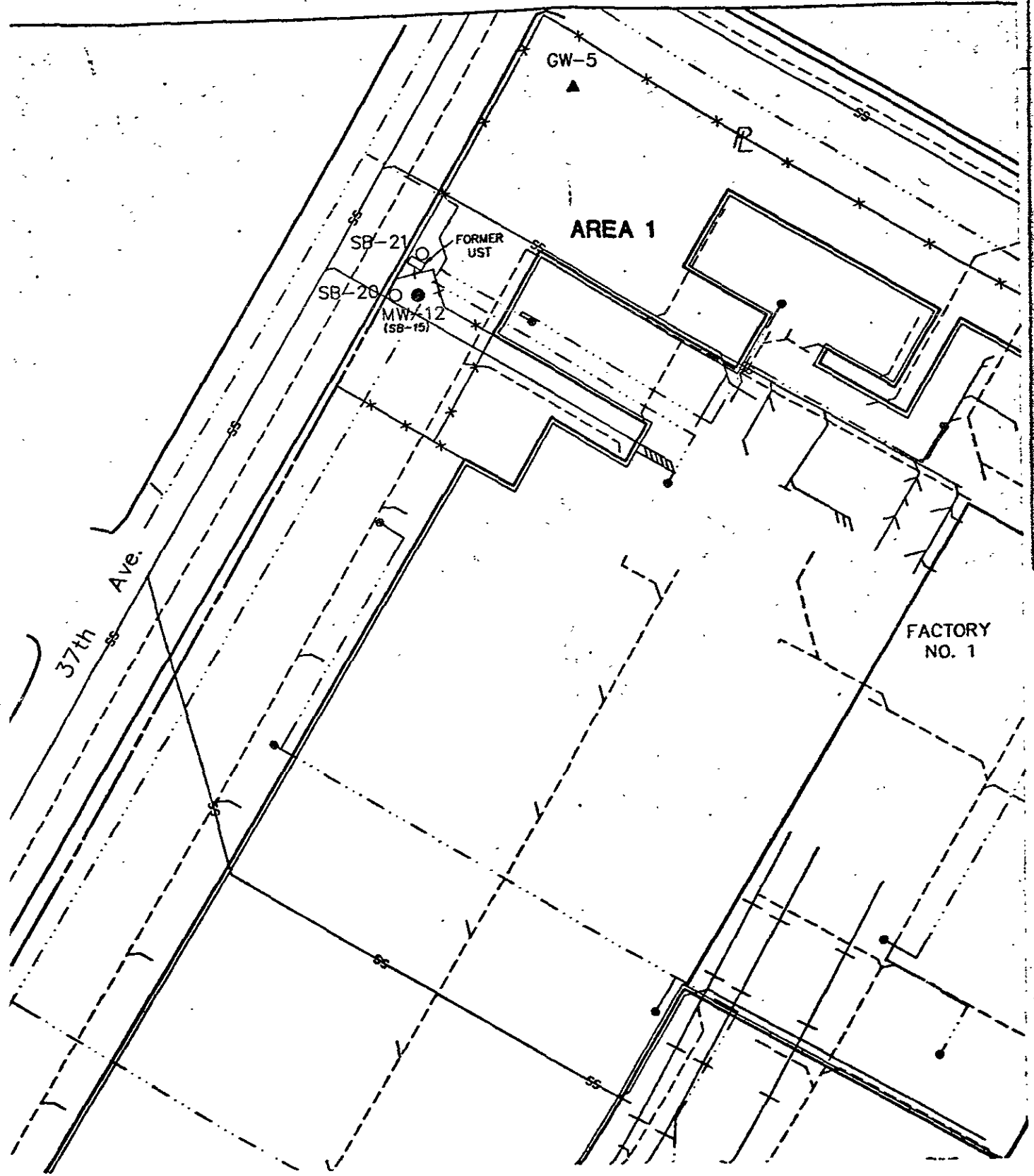
MW-9
(SB-10)

SW-4

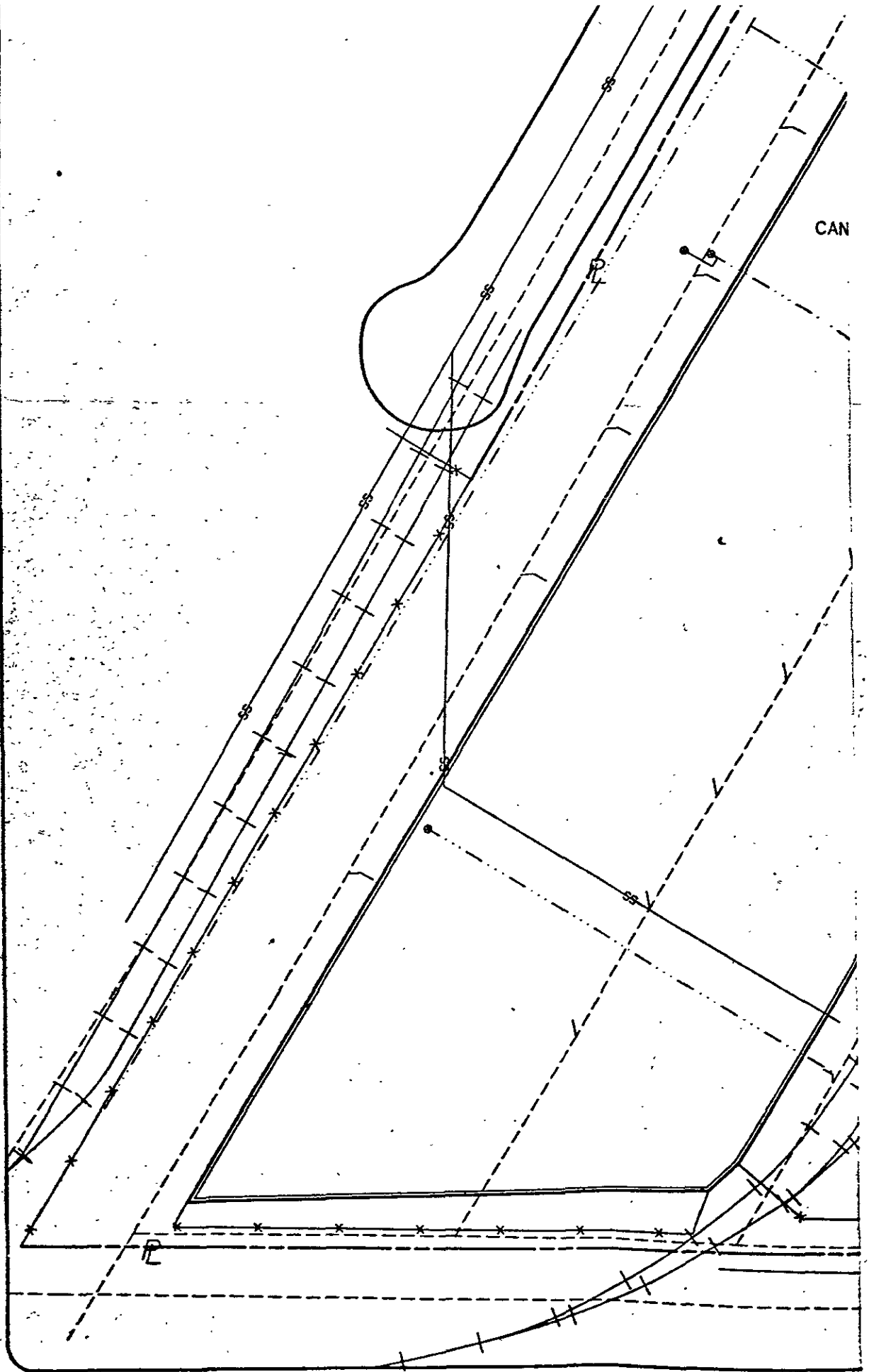
SUMP
PUMP

CB 0

Alameda Ave.



EE 00000000



WF 00000000

FRAGMENT END

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