

April 15, 1997

**SOIL AND GROUNDWATER
INVESTIGATION WORKPLAN**

240 West MacArthur Boulevard
Oakland, California

Project No. 1563

Prepared for

Mr. Warren Dodson
Dodson Ltd.
1323 South Flower Street
Los Angeles, CA 90015

and

Ms. Madhulla Logan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Prepared by

All Environmental, Inc.
3364 Mt. Diablo Blvd.
Lafayette, CA 94549
(510) 283-6000

AEI

ALL ENVIRONMENTAL, INC.

Environmental Engineering & Construction

April 15, 1997
Project No. 1563

Ms. Madhulla Logan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: 240 West MacArthur Blvd., Oakland, California

Dear Ms. Logan:

This letter is a proposed workplan for your review and approval for the soil and groundwater investigation to be performed at the above referenced site (Figure 1). All Environmental, Inc. (AEI) is providing environmental engineering consulting and construction services to Mr. Warren Dodson of Dodson, Ltd., and is submitting this letter on his behalf. The subject property currently supports the operation of Prestige Products Corporation, an automotive repair facility.

Previous Work

On February 14, 1991, a magnetometer survey was conducted by Mittelhauser Corporation on the property to determine whether or not underground storage tanks were present on the property. The report issued by Mittelhauser Corporation on February 21, 1991 describes a large magnetic anomaly in the northwestern portion of the property. The anomaly was not characteristic of USTs, however the surveyor believed the anomaly represented wide-spaced reinforcement placed for support following the removal of the tanks. In addition, a UST was identified west of the service bays. The UST was thought to be a waste oil UST based upon an observed cap labeled "fill box". According to the survey report, the City Fire Department records indicated that all fuel USTs were previously removed.

In March, 1991, Mittelhauser Corporation removed waste liquid from the waste oil UST and from an on-site sump. The sump was steamed cleaned prior to being broken up and removed. Soil staining was observed following the sump removal. Soil samples indicated up to 2,600 mg/Kg total oil and grease (TOG) present. Analyses for kerosene and diesel were non-detect. Contaminated soil was removed from in the vicinity of the former sump. Confirmation soil samples indicated the successful removal of the majority of TOG contamination. One soil sample indicated the presence of 360 mg/Kg of TOG remaining.

On October 3, 1996, AEI removed the previously identified 350 gallon waste oil UST from in front of the service bay doors. Visual staining was observed on the excavation bottom and sidewalls. Soil samples collected from the excavation indicated the soil beneath the UST was impacted with minor concentrations of petroleum hydrocarbons. At Alameda County Health Care Services Agency's (ACHCSA) request, AEI removed additional soil from the excavation bottom and sidewalls of the excavation. Confirmation soil samples collected from the excavation sidewalls and bottom indicated the successful removal of the petroleum hydrocarbon contamination. Groundwater was not encountered during the excavation activities. A report detailing the removal and subsequent excavation of contaminated soil was issued by AEI on January 3, 1997.

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On January 8, 1997, AEI advanced six exploratory soil borings in the locations shown on Figure 2. One soil boring was advanced in the southwest corner of the subject property to obtain an up-gradient groundwater sample. A Shell Service Station is located immediately south and adjacent to the subject property. No petroleum hydrocarbons were detected in the soil, however, 330 µg/l total petroleum hydrocarbons (TPH) as gasoline, 490 µg/l TPH as diesel, 220 µg/l methyl tertiary butyl ether (MTBE), 2.0 µg/l benzene, 0.72 µg/l toluene and 1.3 µg/l xylenes was found present in groundwater samples collected from the boring. Two soil borings (BH-2 and BH-3) were advanced near the former waste oil UST. Soil samples collected from the borings were not impacted with petroleum hydrocarbons. A grab groundwater sample from BH-2 contained 320 µg/l TPH as diesel. All other petroleum hydrocarbon constituents were non-detect. Three soil borings (BH-4, BH-5 and BH-6) were advanced down-gradient from the magnetic anomaly. Significant petroleum hydrocarbon contamination was found in soil samples collected at 15 feet below ground surface (bgs). Groundwater samples collected from BH-4 and BH-6 indicated concentrations of TPH as gasoline at 6600 µg/l and 13,000, MTBE at 170 µg/l and 320 µg/l, benzene at 58 µg/l and 870 µg/l, respectively. TPH as diesel was present at a concentration of 450,000 µg/l in the groundwater sample collected from BH-6.

Based upon the soil and groundwater data, the Alameda County Health Care Service Agency (ACHCSA) requested additional work to characterize the soil and groundwater contamination at the site. The following workplan is in response to the ACHCSA's, March 12, 1997 request.

Historical Research

AEI reviewed City of Oakland Building Department files, aerial photographs and Sanborn Fire Insurance Maps to obtain historical information pertaining to the subject property and adjacent properties.

Based upon information obtained from the historical resources, a Gulf service station previously operated at the site prior to 1979. Aerial photographs and Sanborn Fire Insurance Maps indicate the station existed as far back as 1950, however, the property was used for residential purposes in 1930. The locations of the former Gulf service station building, pump islands and underground storage tanks were depicted on a City of Oakland Building Department blueprint (date unknown). Please refer to Attachment A for a copy of the blueprint and Figure 2 for a site plan. The location of the former service station building and pump islands was confirmed during a review of Sanborn Fire Insurance maps and aerial photographs. Copies of the aerial photographs and Sanborn Fire Insurance maps are located in Attachment A.

The historical research indicated that the magnetic anomaly discovered during a former magnetometer survey was the former location of the Gulf service station pump islands. The former Gulf service station operated four underground storage tanks. The tanks consisted of one waste oil tank and three product tanks. The waste oil tank was removed by AEI in October, 1996. According to Mittelhauser Corporation's February, 1991 report, City Fire Department records indicated all fuel tanks were removed from the property, however, AEI found no records indicating the tanks were removed during records review.

Based upon information obtained during historical research, AEI proposes to perform the following scope of work to further delineate the petroleum hydrocarbon contamination in the soil and groundwater beneath the site.

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Scope of Work

AEI proposes to advance seven soil borings (SB-1 through SB-7) in the approximate locations shown on Figure 3. Two borings will be advanced to 15 feet below ground surface (bgs) in the vicinity of the former pump islands. One boring will be advanced to 15 feet bgs in the vicinity of the former gasoline USTs. Grab groundwater samples will be collected from the three 15' soil borings. The remaining four soil borings will be advanced to 20 feet bgs and converted to 2" groundwater monitoring wells. The soil borings will be advanced with a hollow stem auger drilling rig in the locations shown on Figure 3.

The soil borings will be logged by a professional geologist using the Unified Soil Classification System. Undisturbed soil samples will be collected at 5 foot intervals, starting at 5 feet bgs with a hammer driven California Modified split spoon sampler. The sampler will be advanced ahead of the auger tip by successive hammer blows. Soil samples obtained during drilling will be screened in the field via sensory perceptions and portable organic vapor meter. The soil samples will be secured using teflon tape and teflon caps.

All samples will be put on ice and transported, under chain of custody procedures to McCampbell Analytical, Inc. of Pacheco, California. One soil sample from each boring will be analyzed for TPH as gasoline, TPH as diesel, benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE).

Following the collection of soil samples, three of the borings will be backfilled with cement slurry as per ACHCSA requirements.

Four of the soil borings shown on Figure 3 will be converted to 2" groundwater monitoring wells. The wells will be constructed of 2" flush threaded Schedule 40 PVC casing, with up to 15 feet of .01" or .02" factory-slotted well screen. The top of each well screen will extend up to 3 feet above the encountered groundwater level to account for seasonal fluctuations. The well casings will be inserted through the augers to a point a few inches above the borehole terminus where it will be suspended until the well is secured within the sand pack. Sand (#2 or #3) will be poured through the augers in one- to two-foot lifts up to about two feet above the top of the perforated casing. One to two feet of bentonite pellets will be placed above the sand and activated with tap water. The seal will be finished up to the surface with tremmied cement/bentonite grout. A locking top cap and a flush-mounted watertight well cover will be installed.

The top of the casing elevation of the four monitoring wells will be surveyed to the nearest .01 ft. AEI will develop the newly installed wells, purge all of the wells and sample the groundwater from each well. AEI will monitor groundwater elevations and collect samples for analysis on a quarterly basis for at least one year. We will analyze the groundwater samples for TPH as gasoline, TPH as diesel, BTEX and MTBE. In addition, to verify that natural attenuation is occurring, the following natural attenuation indicator parameters will be measured: dissolved oxygen, oxidation-reduction potential, pH, conductivity, temperature, alkalinity, nitrate, sulfate and ferrous iron.

Soil cuttings will be stored on-site in a 55 gallon drums. Off-site disposal of drill cuttings will occur following the acceptance into a local landfill facility.


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AEI requests your approval to proceed with this project. Please let me know if you need additional information and please do not hesitate to call me at (510) 283-6000 if you have any questions.

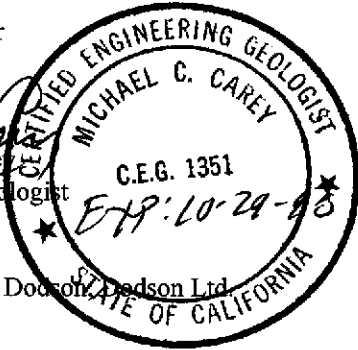
Sincerely,
ALL ENVIRONMENTAL, INC.



Jennifer Pucci
Project Manager



Michael C. Carey
Engineering Geologist
CEG 1351



cc: Mr. Warren Dodson, Dodson Ltd.

Figures
Attachment A



FROM:
THOMAS BROS. MAPS
1997

ALL ENVIRONMENTAL, INC.		
3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 2400 FT	APPROVED BY:	DRAWN BY:
DATE: 2 JANUARY 97		REVISED:
SITE LOCATION MAP		
240 WEST MACARTHUR BLVD. OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 1

HOWE STREET

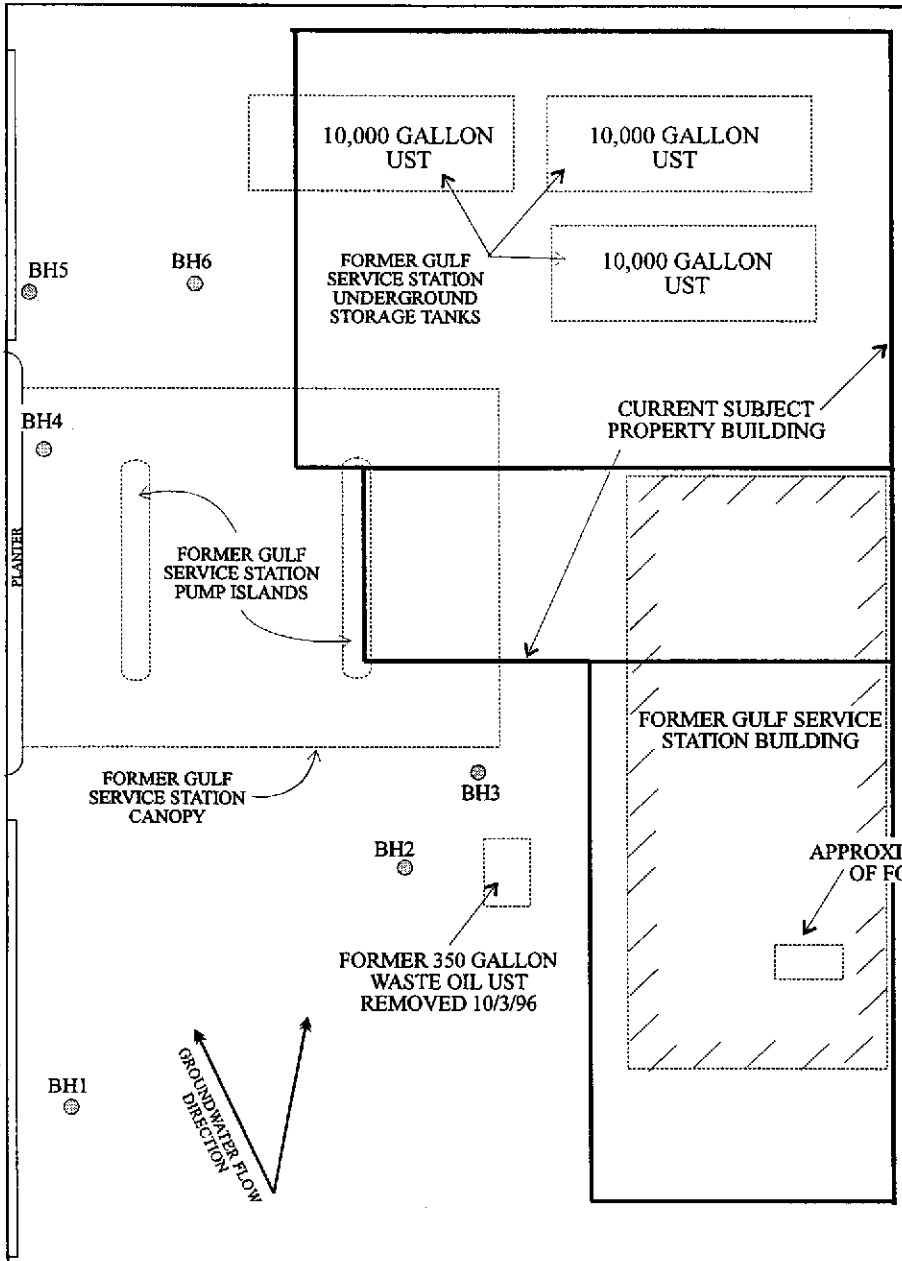
SIDEWALK

W. MACARTHUR BLVD.

SIDEWALK

ENTRANCE

ENTRANCE



MW-4

SHELL SERVICE STATION
230 WEST MACARTHUR BLVD.



KEY	
⊗	SOIL BORING LOCATIONS ADVANCED 1/10/97
- - -	APPROXIMATE LOCATION OF FORMER GULF SERVICE STATION STRUCTURES
▭	CURRENT SUBJECT PROPERTY BUILDING

ALL ENVIRONMENTAL, INC.		
3364 MT. DIABLO BOULEVARD, LAFAYETTE, CA		
SCALE: 1"=20'		REVISED BY: N. WALCHUK
DATE: 20 JANUARY 1997		APPROVED BY: J. ANDERSON
SITE PLAN		
240 WEST MACARTHUR BLVD. OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 2

HOWE STREET

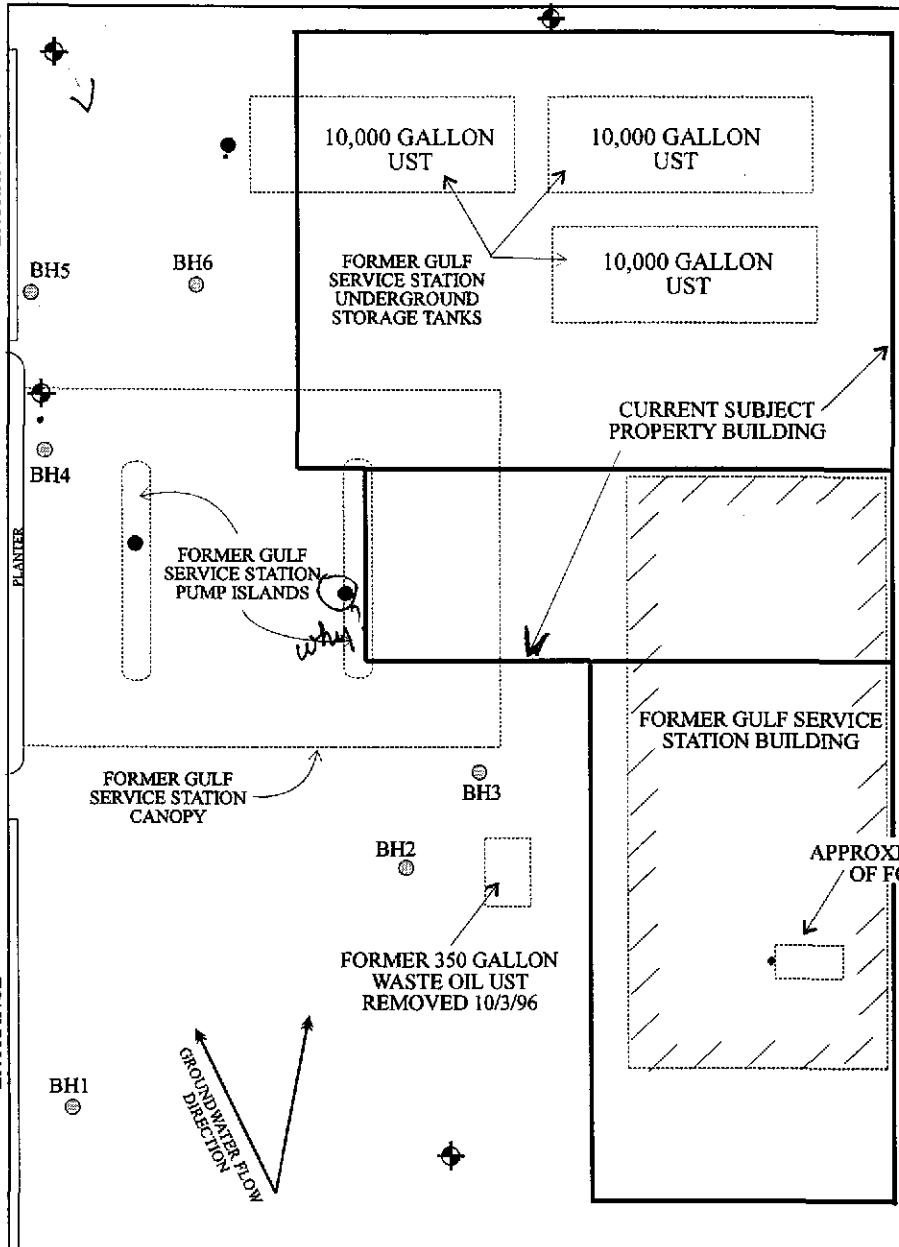
SIDEWALK

W. MACARTHUR BLVD.

SIDEWALK

ENTRANCE

ENTRANCE



MW-4 (EXISTING)

SHELL SERVICE STATION
230 WEST MACARTHUR BLVD.

KEY

- PROPOSED SOIL BORING LOCATIONS
- ⊕ PROPOSED MONITORING WELL LOCATIONS
- ⊙ SOIL BORING LOCATIONS ADVANCED 1/10/97
- APPROXIMATE LOCATION OF FORMER GULF SERVICE STATION STRUCTURES
- ▭ CURRENT SUBJECT PROPERTY BUILDING



ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE, CA

SCALE: 1"=20'

DATE: 20 JANUARY 1997

REVISED BY: J. PUCCI

APPROVED BY: J. PUCCI

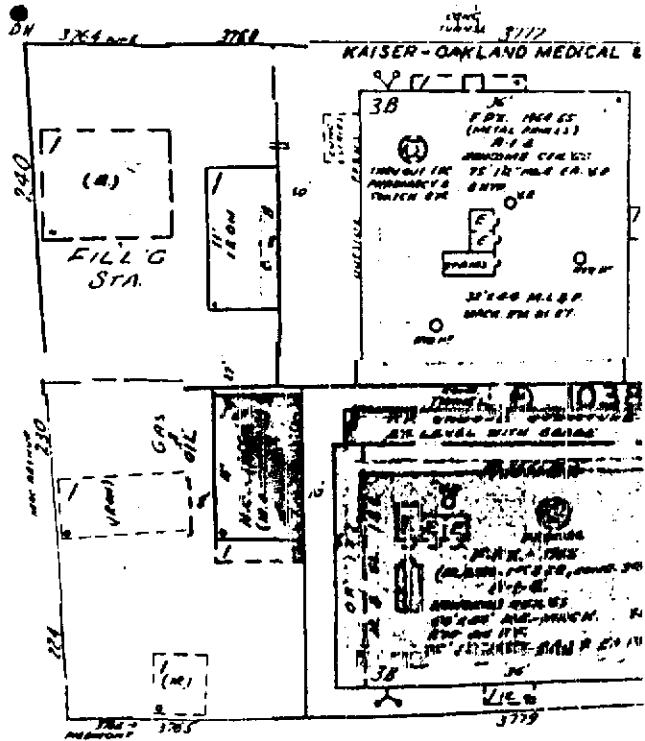
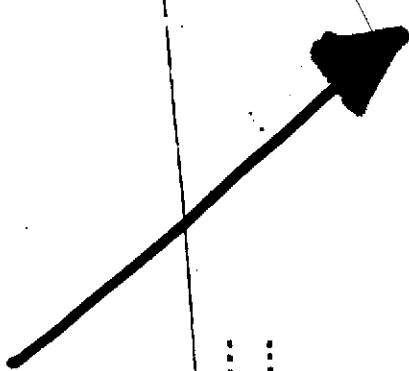
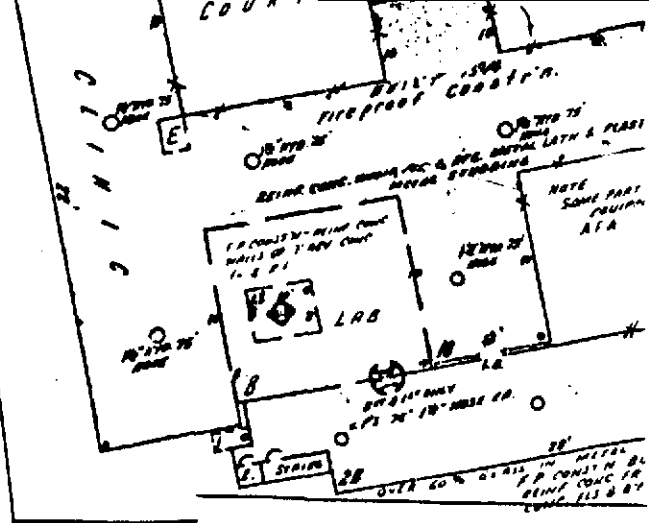
PROPOSED SOIL BORING AND
GROUNDWATER MONITORING WELL LOCATIONS

240 WEST MACARTHUR BLVD.
OAKLAND, CALIFORNIA

DRAWING NUMBER:
FIGURE 3

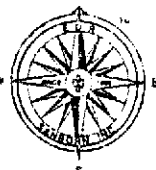
See map of Oakland Union

THUR BLVD. WEST (MOSS AV.)



See map of

CORR TO									
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EDR Sanborn, Inc.

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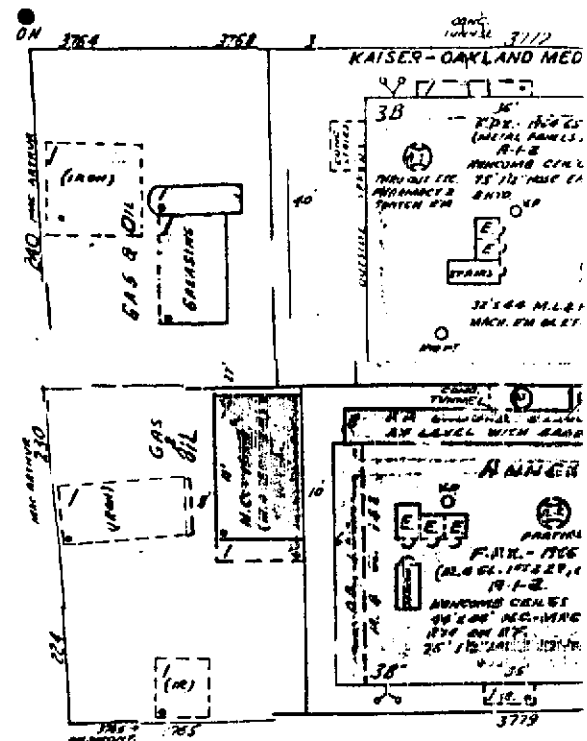
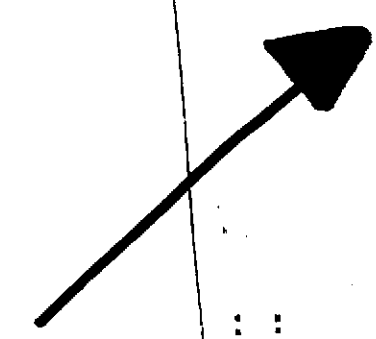
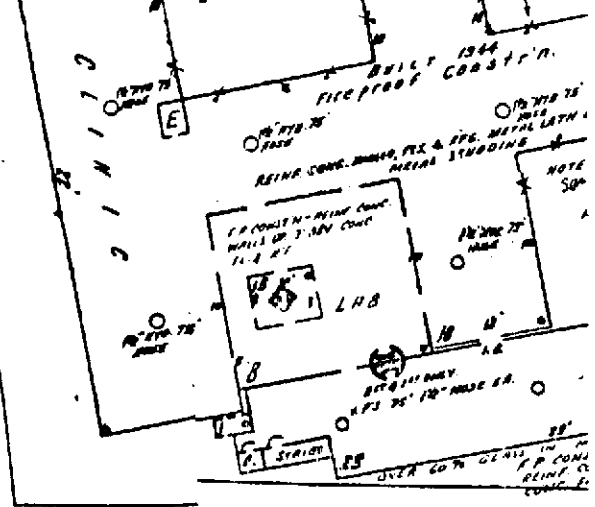
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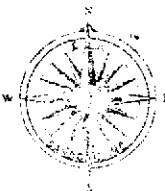
SEE MAP OF DAKI AND UOUMBE

THUR BLVD. WEST (MOSS AV.)



SEE MAP

CORR. TO.										
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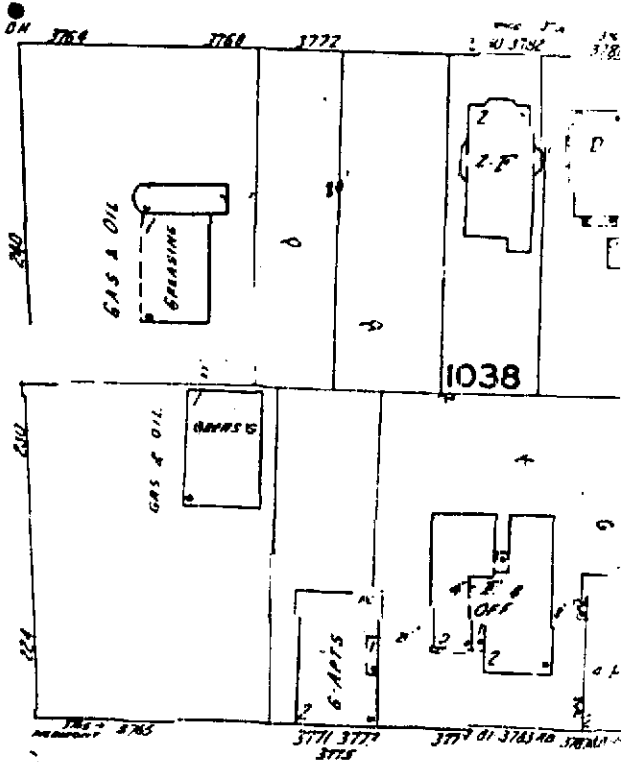
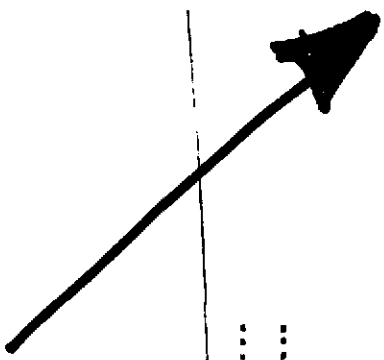
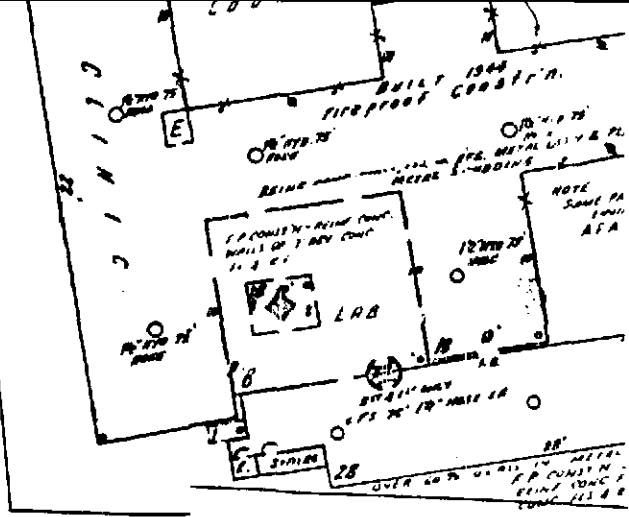
1967 Year
 RAC

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 EDR Sanborn, Inc. Research Associate

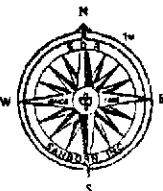
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See Map of Oakland Vol 10

THUR BLVD. WEST (MOSS AV)



See Map of



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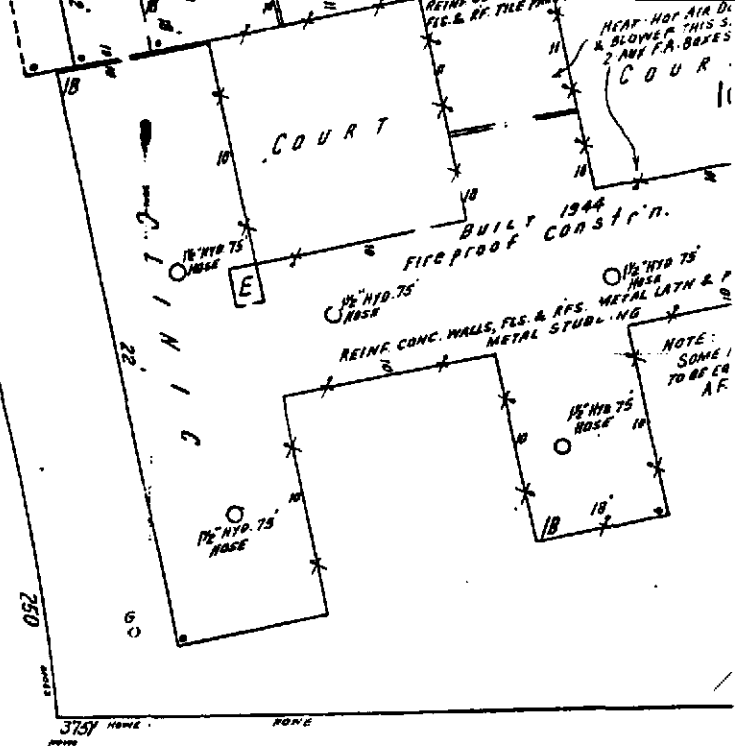
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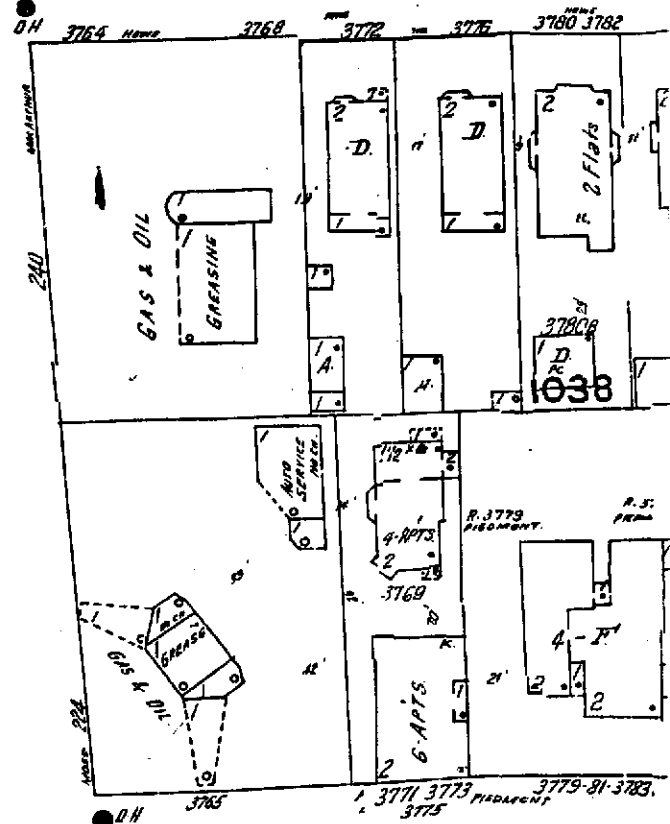
CORR TO

SEE MAP OF DAKOTA

MAC ARTHUR BLDG. WEST (M.C.S. AV.)



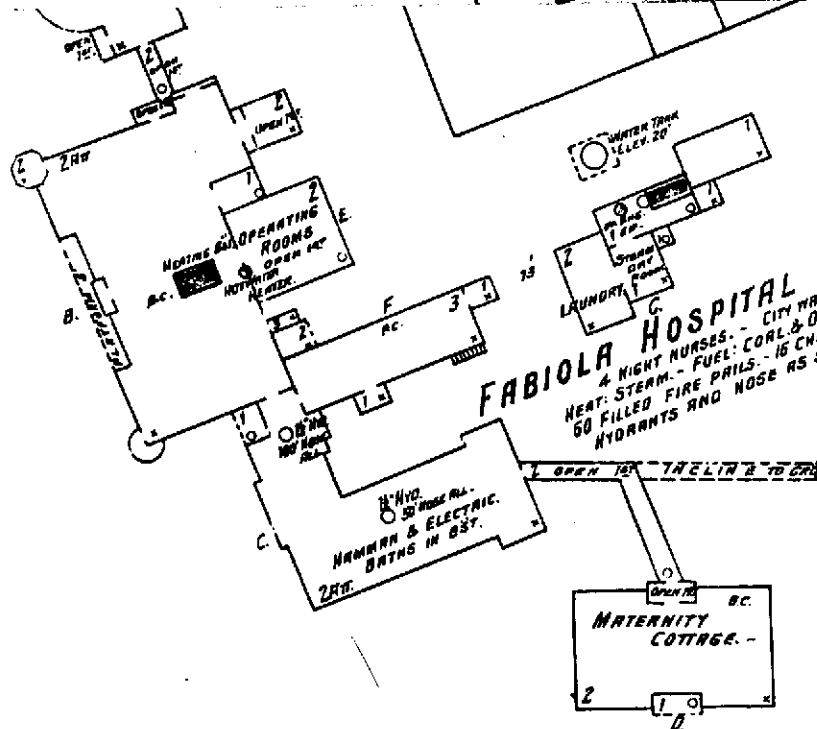
14" S.W.P.



1950

SEE MAP

1037



FABIOLA HOSPITAL ASS'N
 HEAT: STEAM. - FUEL: COAL & OIL. - LIGHTS: GAS. -
 60 FILLED FIRE PAILS. - 16 CHEMICAL EXTSRS. -
 HYDRANTS AND NOSE AS SHOWN. -

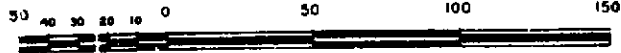
6" W. PIPE

N. MOSS

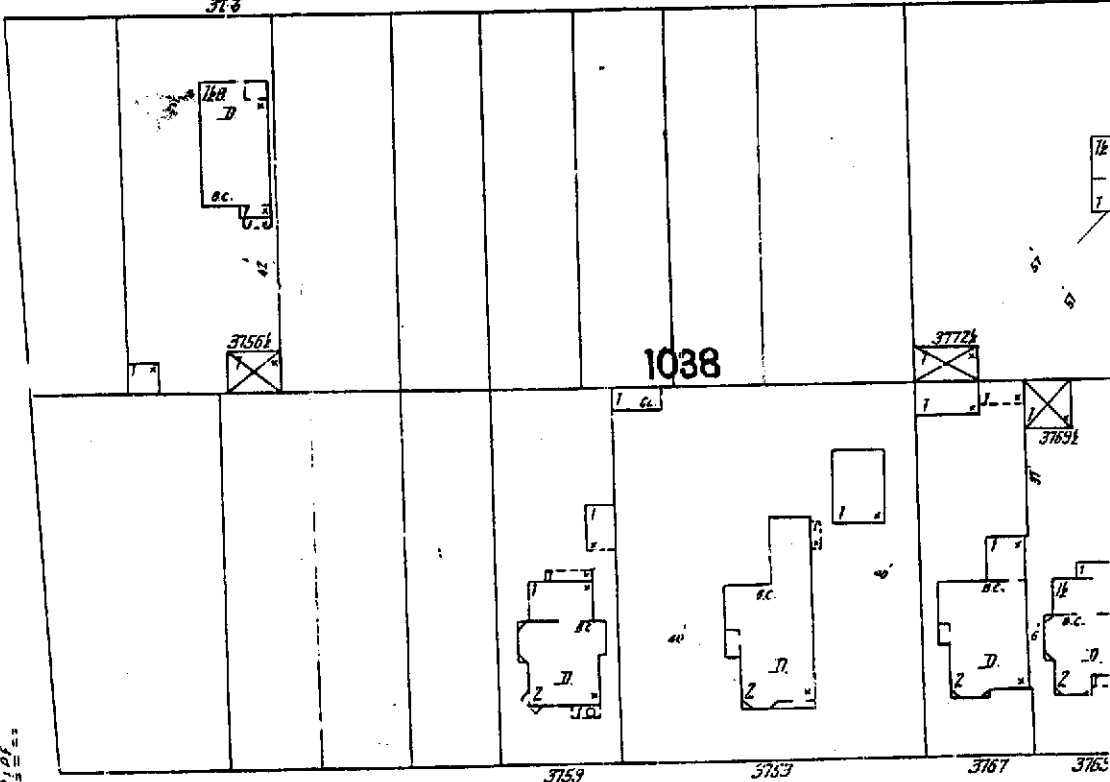
165

AV.

Scale of Feet.



6" W. PIPE



1038

1903

PIEDMONT

6" W. PIPE
 6" W. PIPE
 6" W. PIPE

LOT 3

LOT 2

LOT 1

Port Street

NOT TO BE USED FOR ANY OTHER PURPOSES
IN THE DEVELOPMENT OF THIS PROJECT
UNLESS SPECIFICALLY NOTED OTHERWISE
ON THIS PLAN. IN SUCH CASES,
THE USER SHALL BE RESPONSIBLE FOR
OBTAINING ALL NECESSARY PERMITS
AND APPROVALS FROM THE
APPLICABLE AGENCIES.

CITY OF OAKLAND ELECTRICAL
UNDERGROUND CONDUIT EXISTING
WITHIN LIMITS OF THIS PROJECT.
CALL 273-3010 72 HOURS
PRIOR TO EXCAVATION DATE
FOR DELINEATION ON THE SITE

BOULEVARD

PLANTER

STREET

STREET

LAND

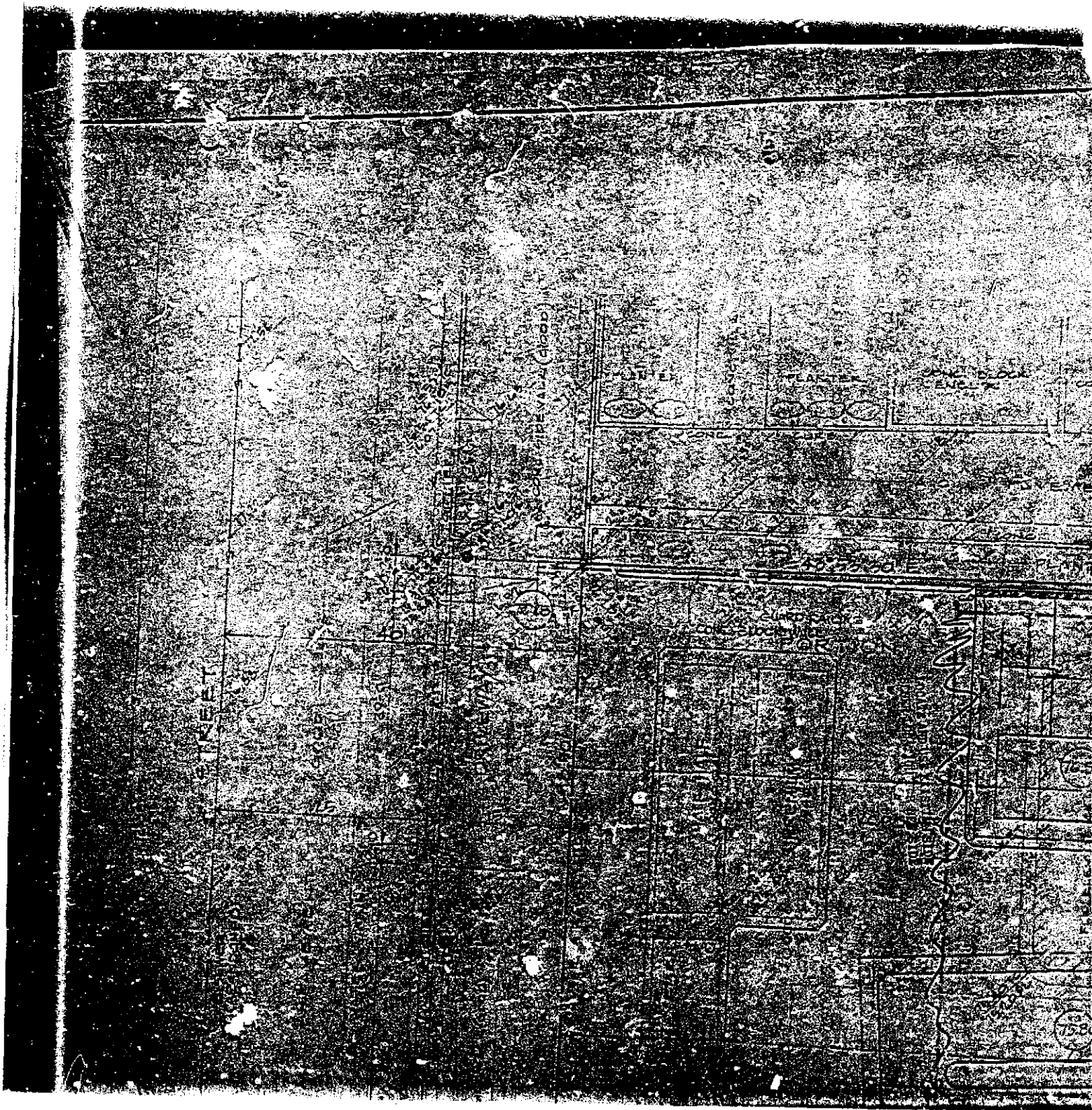
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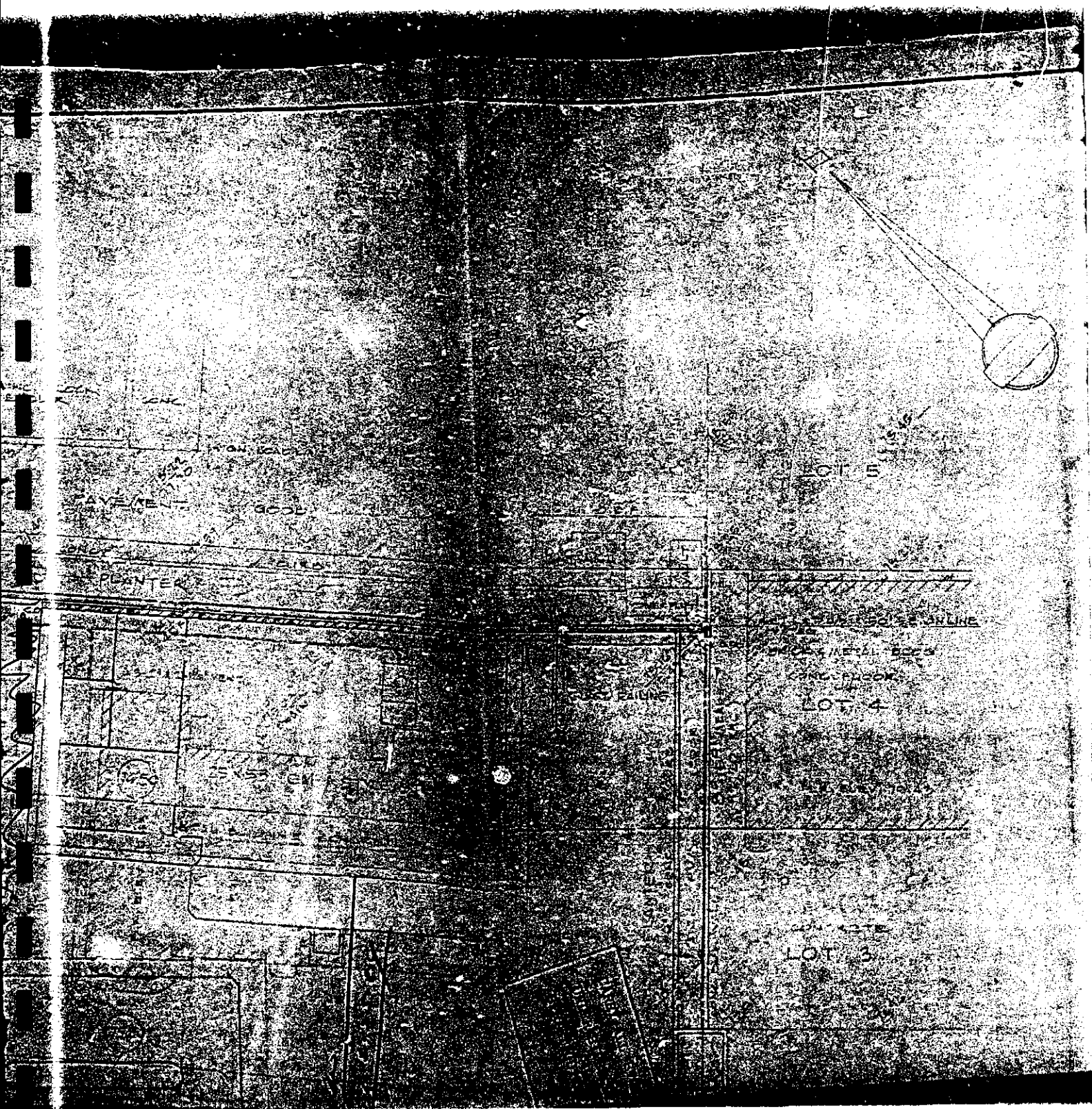
STREET

STREET

STREET

STREET







1935

PACIFIC

AERIAL SURVEYS

8407 Edgewater Drive
Oakland, CA 94621 • (510) 632-2020



1973



8407 Edgewater Drive
Oakland, CA 94621 • (510) 632-2020