Questa Engineering Corporation
CIVIL, ENVIRONMENTAL, AND WATER RESOURCE ENGINEERS

TRANSMITTAL

3597

To: Jennifer Eberle
Dept. of Environmental Health
80 Swan Way, Rm. 200
Oakland 94621

Date: 12-16-92

Subject: Hooshi's Auto Service Site (Tom English)
1499 MacArthur Blvd., Oakland

Comments:

Enclosed is a copy of the Health & Safety Plan for the work to be performed in January 1993.
As stated in a previous phone conversation, we intend to commence drilling on-site Jan. 7.
If there are any questions, please call.

xc: _____

By: Randall D. Smith

Via: _____

back 12-28

(510) 236-6114 • (FAX) 236-2423
P.O. BOX 356 • 1220 BRICKYARD COVE ROAD • POINT RICHMOND, CA 94807

92150

CFR 1910.120

QUESTA ENGINEERING CORPORATION

JOB SAFETY PLAN

This job safety plan is specifically prepared for:

1. **Site:** Hooshi's Auto Service **2. Job Number:** 92150

3. **Project Location:** 1499 MacArthur Blvd., Oakland, California

The possible hazards on this job are expected to: Contact with gasoline contaminated soils; those associated with drilling and heavy equipment on-site.

Required personal protective equipment for this project: Hardhats, steel-toed boots, safety glasses, gloves (Level D).

All personnel participating in the field must be trained in the general and specific hazards unique to the job and, if possible, meet recommended medical examination requirements.

Contractors:

This plan is prepared to inform all field personnel, including Questa's contractors and Questa's subcontractors, of the potential hazards on the site. However, each contractor or subcontractor must assume responsibility for his own employees' health and safety.

4. **Plan Prepared:**	Randall D. Smith Name	December 15, 1992 Date	550 ? R. Smith
5. **Plan Approved:**	Jeffrey H. Peters PM/DHSO	December 15, 1992 Date	
6. **Plan Revised:**	_____ Name	_____ Date	
7. **Revision Approved:**	_____ Name	_____ Date	

8. **Facility Description:** Single story building housing an auto repair business. Formerly three (3) underground gasoline storage tanks were located on-site. The remaining portion of the property consists of paved parking.

9. **Status** (active, inactive, unknown): Active

10. **Surroundings** (location with respect to residences, businesses, natural features, etc.): Surrounded by commercial, business and residential area.

11. **Site map** (attach map showing salient features, including location of Questa's work and location of contaminated areas). See attached figure.

12. **Climate:**

12a. Average wind speed and direction: 5 to 15 mph from west.

	July	October	January	April
12b. Mean High Temperature			65	
Mean Low Temperature			42	

13. **Site history (origin of contamination and history of injuries, exposure, chemical spills, complaints, etc.):** Three (3) underground tanks (two [2] 1,000 gallon, one [1] 500 gallon) were removed from the site by KTW & Associates on October 3, 1990. Five (5) soil samples were collected from the tank excavation and one (1) additional sample was collected from below the pipelines. Analytical testing of the soil sampled detected variable concentrations of hydrocarbon constituents ranging from non-detectable to 450 parts-per-million (ppm) of Total Petroleum Hydrocarbons as gasoline and Benzene concentrations ranged from non-detectable to 8.7 ppm.

14. **Description of Questa's work** including location with respect to areas of known or suspected contamination): Drill three (3) borings and complete all three (3) as groundwater monitoring wells. Collect soil and groundwater samples for analysis.

15. **Chemical contaminants:**

15a. List chemical contaminants that have been identified, their concentration, and the environmental media in which they are present. Hazardous property in formation for selected chemicals appears in **Appendix 1**. Review this information for all chemicals listed below. If chemicals are not listed in the appendix, you must enter the hazardous property information in **Appendix 1** in the spaces provided.

Chemical	Environmental Media (Enter Code)	Measured Maximum (ppm)	Concentration Minimum (ppm)
Gasoline	So	450	ND
Benzene	So	8.7	ND
Toluene			
Xylene			
Ethylbenzene			
Inorganic Lead			

Code for environmental media:

Sl = Sludge Lw = Liquid waste
Gw = Groundwater So = Soil
ND = Not Detected

15b. List chemical contaminants that are suspected to be present.

gas + benzene

15c. Has the site been adequately characterized to the best of your knowledge?

Yes _____ No X

16. Hazardous Analyses

List all activities in the Job Activity Column and assign a number to each activity (Example: 1. Ground Water Sampling)
Identify how each category of hazard exists at each activity.

Activity Number	Job Task	Mechanical	Electrical	Chemical	Temperature	Acoustical	02 Deficiency - Confined Space	Biohazard
1	Site Locating Drill rig setup	Rig Equipment	Overhead/ Underground Utilities	Potential in Soil	Heat Stress	Rig Noise	NA	Snakes Insect Bites
2	Drilling Soil, Sampling, and Well Insulation	Rig Equipment Sample Tubes Material Handling	Overhead/ Underground Utilities	Potential in Soil/Groundwater	Heat Stress	Rig Noise	NA	Snakes Insect Bites
3	Well Development	Pumping Equipment	Generator/ Electric Shock	Potential in Soil/Groundwater	Heat Stress	Pump Noise	NA	Snakes Insect Bites
4	Well Purging/ Groundwater Sampling	Pumping Equipment	Generator/ Electric Shock	Potential in Groundwater	Heat Stress	Pump Noise	NA	Snakes Insect Bites

If yes, list applicable references or previous reports/studies._____

_____

17. **Procedures to mitigate hazards.**

Identify procedures to mitigate all hazards listed in Item 16 by placing the task number next to the appropriate mitigating measure. Listing of standard procedures is not inclusive.

Activity List Number	**Mechanical Hazards**
N/A	Do not stand near backhoe buckets and earth moving equipment
1 - 4	Verify that all equipment is in good condition
1 - 4	Do not stand near or walk under elevated loads or ladders
N/A	Do not stand near unguarded excavation and trenches
N/A	Do not enter excavation or trenches over 5 feet deep that are not properly guarded, shored, or sloped
1 - 4	Consult DHSO if other mechanical hazards exist
	Electrical Hazards
1	Locate and mark buried utilities before drilling
1	Utilities located by: _____
1, 2	Maintain at least 15 foot clearance from overhead power lines and overhead structures
1, 2	Contact utility company from minimum clearance from high voltage powerlines. If unavoidable close to buried or overhead power lines, have power turned off, with circuit breaker locked and tagged.
1 - 4	Properly ground all equipment
1 - 4	Avoid standing in water when operating electrical equipment
1 - 4	If equipment must be connected by splicing wires, make sure all connections are properly taped
1 - 4	Be familiar with specific operating instructions for each piece of equipment

Chemical Hazards

1 - 4	Use personal protective equipment indicated in Section 18
2	Conduct direct reading air monitoring to evaluate respirators and explosive hazards (list instrument, action level, monitoring location, and action to be taken in Section 19)
2	Consult DHSO for personal air monitoring

Temperature Hazards - Heat Stress

N/A	When temperature exceeds 70°, take frequent breaks in shaded area. Unzip or removal coveralls during breaks. Have cool water or electrolyte replenishment solution available. Drink small amounts frequently to avoid dehydration. Count the pulse rate for 30 seconds as early as possible in the rest period. If the pulse rate exceed 100 beets per minute at the beginning of the rest period, shorten the work cycle by one-third.

Cold Stress

1 - 4	Wear multi-layer cold weather outfits, the outer layer should be of wind resistant fabric
N/A	0" to -30°F total work time is 4 hours. Alternate 1 hour in and i hour out of the low temperature area. Below -30°F, consult industrial hygienist
N/A	Trailer available on site for warm shelter

Acoustical Hazards

1 - 4	Use earplugs or earmuffs when noise level prevents conversation in normal voice at a distance of three feet

O_2 Deficiency - Confined Space Hazards

Confined spaces include trenches, pits, sumps, elevator shafts, tunnels, or any other area where circulation of fresh air is restricted or ability to readily escape from the area is restricted. Consult DHSO and Corporate Health and Safety Policy prior to entering confined space.

N/A	Obtain permit for confined space entry

_____	Monitor O_2 and organic vapors before entering. If following values are exceeded, do not enter
_____	O_2 less than 19.5 percent or greater than 25 percent
_____	Total hydrocarbons greater than 5 ppm above background, if all air contaminants have not been identified
_____	Concentrations of specific contaminants exceeding action level in Section 19 if all air contaminants are identified.
_____	Monitor O_2 and organic vapors continuously while inside confined space. If values cited in Item 1 are exceeded, evacuate immediately. Record instrument readings
_____	At least one person must be on standby outside the confined space who is capable of pulling workers from confined space in an emergency
_____	Use portable fans or blowers to introduce fresh air to confined spaces
_____	Work involving the use of flame, arc, spark or other source of ignition is prohibited within the exclusion zone

	Natural
1 - 4	Dust
N/A	Sidewall Failure
_____	_____

18. Required Personal Protective Equipment

Place the activity number from Section 17 next to each item of personal protective equipment required for that task. All personal safety equipment must meet ANSI standards or equivalent.

LEVEL:

A _____ B _____ C _____ D ____X____

HEAD

1 - 4	HARD HAT
_____	OTHER

EYE/FACE

1 - 4	SAFETY GLASSES
3	GOGGLES
_____	FACE SHIELD

HAND

2, 4	NEOPRENE
3	NITRILE
_____	PVC
_____	VITON
_____	OTHER

BODY

_____	FULL ENCAPSULATING SUIT:_____
_____	TWO PIECE RAIN SUIT, MATERIAL = _____
_____	ONE PIECE SPLASH SUIT, MATERIAL = _____
_____	HOODED TYVEK SUIT OR
_____	HOODED TYVEK/SARANAX SUIT
_____	HOODED TYVEK/POLYETHYLENE SUIT
1 - 4	CLOTH COVERALLS
_____	HIGH VISIBILITY VEST
_____	OTHER_____

LUNG

_____	SCBA (open circuit, pressure demand):_____
_____	FULL FACE RESPIRATOR, cartridge =
2	HALF MASK RESPIRATOR, cartridge = organic vapors (if necessary)
_____	OTHER_____

EAR

1 - 4	EARPLUG, type = _____
_____	EARMUFF, type = _____

FOOT

1 - 4	STEEL TOED BOOTS, type = _____
_____	DISPOSABLE OVER BOOTS, type = _____

OTHER SAFETY EQUIPMENT

1 - 4	Traffic cones
N/A	Lifeline harness
1 - 3	Barrier tape
N/A	Ventilation - blower/fan
1 - 4	Ground fault circuit interrupter

19. **Action levels**

A. Protection Levels

1. Unknown contaminants

For totally unknown contaminants, the following levels of protection should be utilized:

Breath Zone HNU/OVA

Reading for 1 minute:

Background	Level D
0 - 5 ppm above background	Level C
5 - 500 ppm above background	Level B
500 - 1,000 ppm above background	Level A

2. Known Contaminants

Instrument & Date of Calibration	Calibration Standard	Span/Setting Gas Select	Action Level Above Background Breathing Zone	Action
PID	ppm Benzene		5 ppm for greater than 1 minute	Don respirator (Level C)

B. Explosion Hazard

Instrument & Date of Calibration	Action Level Above Background (Ambient Air)	Action
N/A		

C. Oxygen Deficiency

Instrument & Date of Calibration	Action Level (Ambient Air)	Action
N/A		

D. Other Instruments

Instruments & Date of Calibration	Action Level Breathing Zone/Ambient Air	Action
	Date	
Dragger pump/tubes		
Radiation monitor		
Heat stress meter		
Noise meter		
H_2S meter		
Others		

20. Site Control/Work Zones

Describe location of exclusion zone, hot line, contamination reduction zone, and decontamination are and other control procedure(s). Show location on site plan. Exclusion zone will be 10 to 15 feet around bore holes, when possible. Contamination reduction will take place at edge of exclusion zone.

21. Decontamination Procedures

21a. Equipment Decontamination

Steam cleaning.

21b. Personnel Decontamination

Soap and water; discard gloves to trash bags.

22. Investigation-Derived Material Disposal

Drilling Spoils:	Stored on-site in 55 gallon drums.
Decontamination Solutions:	Stored in 55 gallon drums.
Protective Clothing:	Discard to trash bags.
Other:	

23. Site Resources

Toilet Facilities:	On-site.
Drinking Water Supply:	On-site.
Telephone:	~~On-site~~ (510) 530-4222.
Radio:	
Other:	

24. Required Emergency Equipment Location

Safety shower/eyewash:	
First aid kit:	On-site (company vehicle).
Fire Extinguisher:	On each piece of heavy equipment.
Other:	

25. Emergency Telephone Numbers

Ambulance:	911
Police:	911
Fire Department:	911
Hospital:	Highland General Hospital (510) 534-8055.
Client contact:	Mr. Tom English (510) 483-9015.
Poison Control Center:	(800) 523-2222.
San Francisco:	~~what?~~ (415) 821-8324. Poison Control
Project Manager:	~~who?~~ Office: (510) 236-6114 Home: (707) 778-2359 ~~R. Smith~~
DHSO:	~~who?~~ Office: (510) 236-6114 Home: (510) 268-8206

Jeff Peters
R Smith

(designated health + safety officer)

26. Emergency Routes

Take MacArthur Boulevard west to 14th Avenue; turn left onto 14th Avenue and proceed south approximately 1/4 mile to 31st Street. Turn right onto 31st Street, Highland Hospital is on left at 1411 E. 31st Street.

27. **Contingency Plans**

In the event of an injury, administer first aid; if serious call an ambulance. Questa personnel to wait at site to direct ambulance to accident site.

28. **Project Personnel List and Safety Plan Distribution Record**

28a. Questa Employees

All project staff must sign, indicating they have read and understand the Safety Plan. A copy of this Job Safety Plan must be made available for their review and readily available at the job site.

Employee Name	Date of Hazmat or Other Applicable Safety & Health Training	Date Distributed	Signature
Jeffrey H. Peters	November 1992		
Peter Almendinger	November 1992		
Randall D. Smith	November 1992		
Michael R. Potthast	December 1992		

28b. Contractors and Subcontractors

A copy of safety plan shall be provided to contracts and subcontractors who may be affected by activities covered under the scope of this Job Safety Plan. All contractors and subcontractors must comply with applicable OSHA, EPA and local government rules and regulations.

Firm Name	Contact Person	Date Distributed
Clear Heart Construction	Tim	

29. **Health and Safety Meeting**

All personnel participating in the project must receive initial health and safety orientation. Thereafter, a brief tailgate safety meeting is required as deemed necessary by the Site Safety Officer. who is it?

Date	Topics	Name of Attendant	Firm Name

30. **Visitor**

It is Questa's policy that visitors must furnish his/her own personal protective equipment. All

visitors are required to sign the visitor log and comply with the safety plan requirements. If the visitor represents a regulatory agency concerned with job site health and safety issues, the site safety officer shall also immediately notify DHSO.

VISITORS LOG

Name of Visitor	Firm Name	Date of Visit	Signature

JOB SAFETY PLANT - APPENDIX A

HAZARDOUS PROPERTY INFORMATION

This appendix contains hazardous property information for selected compounds. Place a check mark next to each compound identified in **Section 15**, and review the hazardous property information for those compounds. If you have identified compounds in **Section 15** that are not listed in the appendix, you must list the compounds and enter the appropriate information.

(Include copies of Material Safety Data Sheets for selected compounds in addition to or in lieu of completion of **Appendix 1**).

EXPLANATIONS AND FOOTNOTES

Water solubility is expressed in different terms in different references. Many references use the term "Insoluble" for materials that will not readily mix with water, such as gasoline. However, most of these materials are water soluble at the part per million or part per billion level. Gasoline, for example, is insoluble in the gross sense, and will be found as a discreet layer on top of the groundwater. But certain constituents, such as benzene, toluene, and xylene will also be found in solution in the groundwater at the part per million of part per billion level.

a. Water solubility expressed as 0.2g means 0.2 grams per 100 grams water at 20°C.

b. Solubility of metals depends on the compound in which they are present.

c. Several chlorinated hydrocarbons exhibit no flash point in conventional sense, but will burn in pressure of high energy ignition source or will form explosive mixtures at temperatures above 200°F.

d. Practically non-flammable under standard conditions.

e. Expressed as mm Hg under standard conditions.

f. Explosive concentrations of airborne dust can occur in confined areas.

g. Values for Threshold Limit Value-Time Weighted Average (TLV-TWA) are OSHA Permissible Exposure Limits except where noted in h and i.

h. TLV-TWA adopted by the American Conference of Governmental Industrial Hygienists, which is lower than the OSHA PEL.

i. TLV-TWA recommended by the national institute for Occupations Safety and Health (NIOSH). A TLV or PEL has not been adopted by ACGIH or OSHA.

j. A - corrosive
B - flammable
C - toxic

D - volatile
E - reactive
F - radioactive
G - carcinogen
H - infectious

k. Dermal Toxicity data is summarized in the following three categories:

Skin Penetration

\- A - neglible penetration (solid-polar)
\+ B - slight penetration (solid-nonpolar)
++ C - moderate penetration (liquid/solid-nonpolar)
+++ D - high penetration (gal/liquid-nonpolar)

Systemic Potency

E - slight hazard -LD50.500-15,000 mg/kg
lethal dose for 70 kg/man = 1 pint - 1 quart
F - moderate hazard - LD50.50-500 mg/kg
lethal dose for 70 kg/man = 1 ounce - 1 pint
G - extreme hazard - LD50.10-50 mg/kg
lethal dose for 70 kg/man = drops to 20 ml

Local Potency

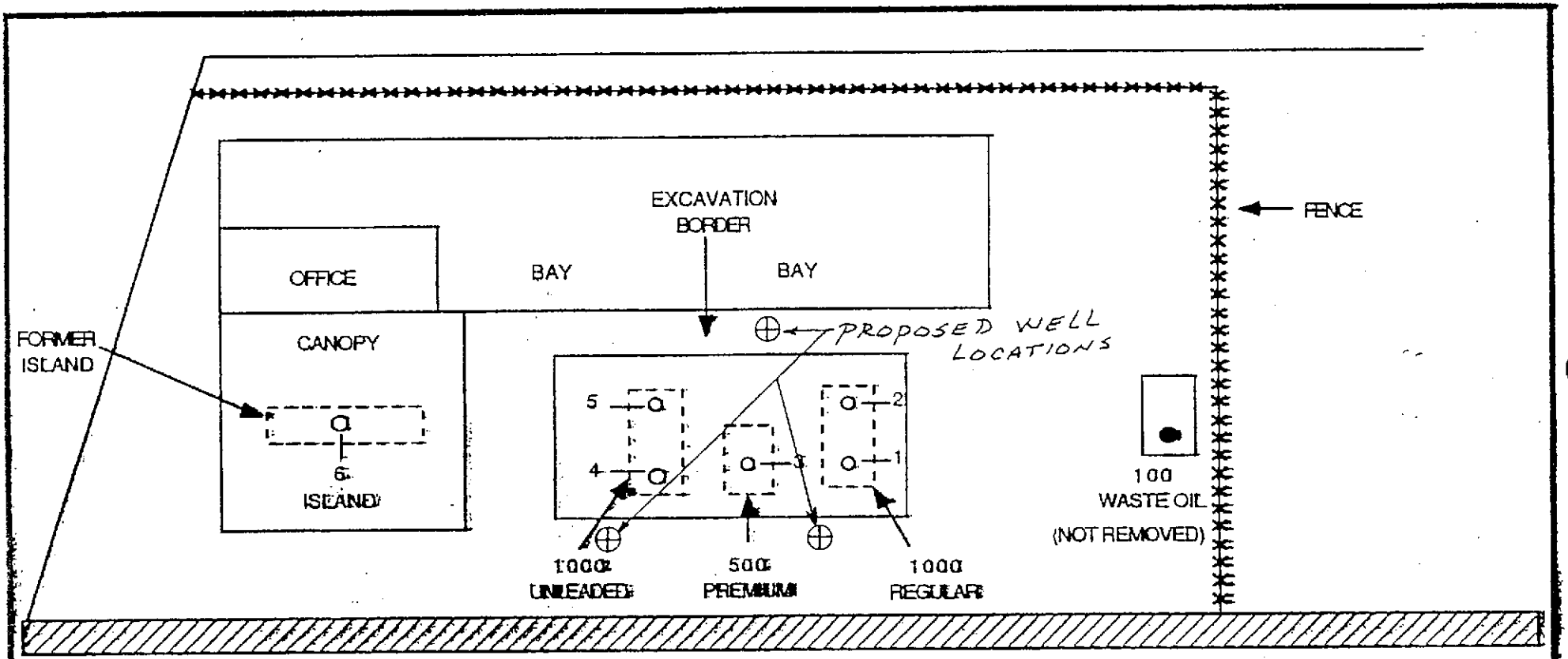
H - slight - reddening of skin
I - moderate - irritation/inflammation of skin
J - extreme - tissue destruction/necrosis

l. Acute Exposure Symptoms

A - abdominal pain
B - central nervous system depression
C - comatose
D - convulsions
E - confusion
F - dizziness
G - diarrhea
H - drowsiness
I - eye irritation
J - fever
K - headache
L - nausea
M - respiratory system irritation
N - skin irritation
O - tremors
P - unconsciousness
Q - vomiting
R - weakness

HARZADOUS PROPERTY INFORMATION

Material	WATER SOLUBILITY	SPECIFIC GRAVITY	VAPOR DENSITY	FLASH POINT (F)	VAPOR PRESSURE	LEL UEL	LD50 mg/kg	TLV-TWA (ppm)	IDLH LEVEL (ppm)	ODOR THRESHOLD OR WARNING CONCENTRATIONS	HAZARD PROPERTY	DERMAL TOXICITY	ACUTE EXPOSURE SYMPTOMS
VOLATILE ORGANIC PRIORITY POLLUTANTS													
Benzene	820 ppm	0.877	2.8	12	75 mm	0.34 % 7.1 %	3800	1	2,000	4.68	BCDG	CGI	BCDFHIKLM
Ethylbenzene	0.105 g	0.867	3.7	59	7.1 mm	1.00 %	3500	100	2,000	0.1-16.6	BCDE	BJ	A[redacted]HIKL
Toluene	0.05 g	0.866	3.2	40	22 mm	1.3 % 7.1 %	5000	100	2,000	0.17-40.0 fatigue (300-400)	BC	BEH	BEFHIKLMN
Xylene	0.00003 %	0.864	3.7	84	9.0 mm	1.1 % 7.0 %	5000	100	10,000	0.5 - 200	BCD	---	ABFHIKLMN
PETROLEUM PRODUCTS													
Diesel (Heating Oil)	Insol	0.81-0.90	----	130	----	0.6-1.3 6.0-7.5	----	None	None	0.08	BC	ABC	IM
Gasoline	Insol	0.72-0.76	3-4	45	variable	1.4 % 5.0 %	----	300	None	0.005-10	CD	AB	IM[redacted]



SCALE
NTS

DATE
10/18/90

DRAWN BY
EMM

KTN & ASSOCIATES
43289 Osgood Road, Fremont, Ca. 94539
(415) 623-0480
Cal. State Cont. Lic. #572427

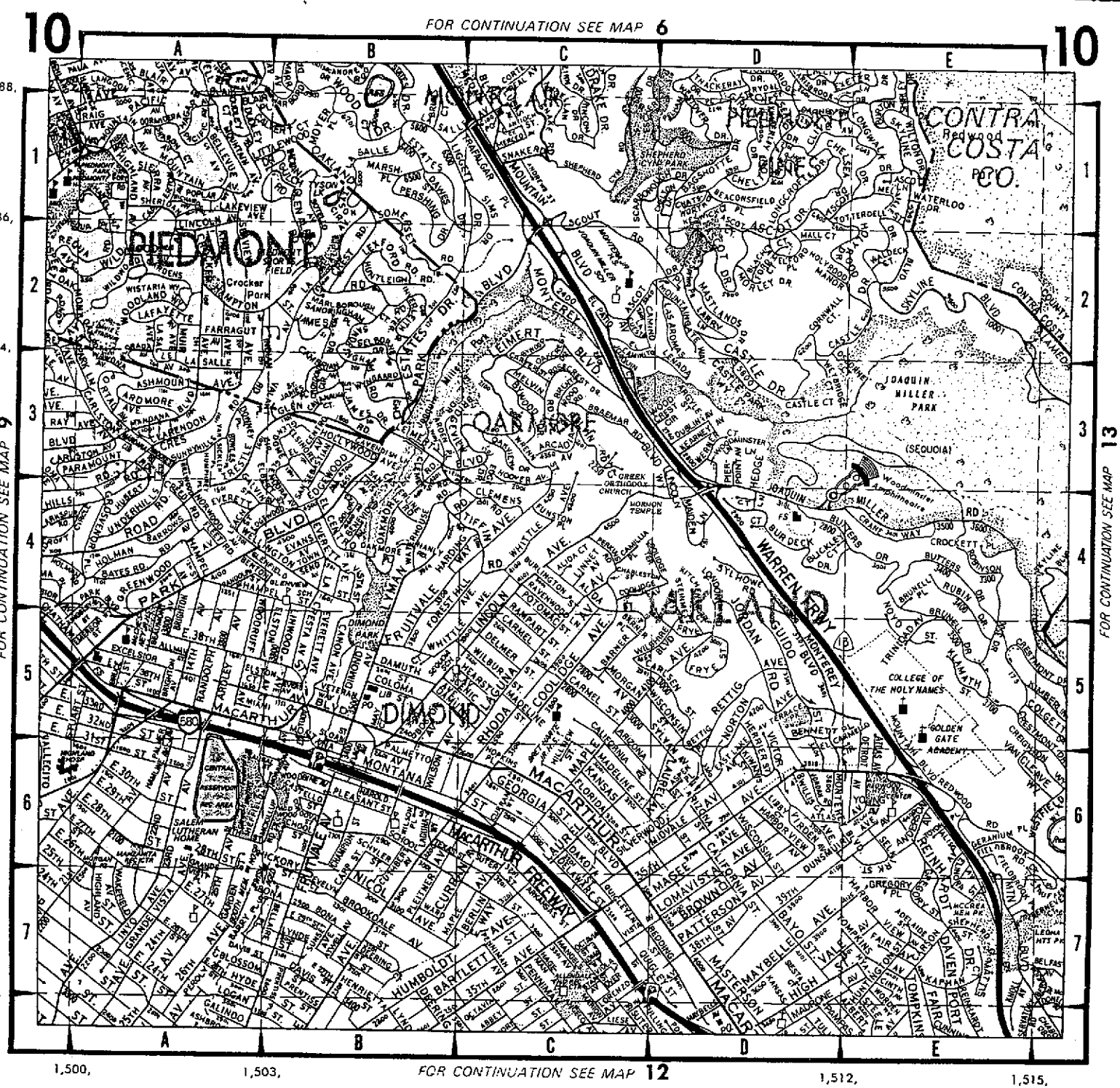
SAMPLE LOCATION MAP

1 = TPIKA-N
2 = TPIKA-S
3 = TPO.5K-C
4 = TPIKB-N
5 = TPIKB-S
6 = TP-L-1

PROJECT NO.: 1099

HOOSHS AUTO SERVICE
1499 Mac Arthur Blvd.
Oakland, California

shows 3 more (not 2)



Highland General Hospital

1411 E. 31st Oakland