- [ ] City box number 5-1
- [ ] Title/cover page w/the following info:
  - [x] Company (author) name
  - [x] Report Date
  - [ ] Project name
  - [ ] Company's job number
  - [ ] City DCLU project number (7-digit number)
  - [x] City Permit number (6-digit number)
  - [ ] Kroll map index number (3-digit number, w?/E,W,N,S)
  - [x] Green label
  - [x] Site address (may be on 1st or 2nd page of text)
- [ ] Executive Summary and associated figures
- [ ] Table of Contents
- [x] Project Location Plan/Map or Vicinity Map
- [x] Site Plans, Boring Location Plans, or Exploration Plans
- [ ] Survey
- [ ] Geologic Maps
- [ ] Cross Sections/Subsurface Profiles
- [ ] Fill or Peat Thickness Maps and Contour Maps
- [ ] Boring Logs
- [x] Geology Text (if no logs)
- [ ] Soil Classification Key/Boring Log Key
- [ ] Probe Logs
- [ ] Test Pit Logs
- [ ] Monitoring Well Logs
- [ ] Cone Penetrometer Logs
- [ ] Shear Wave Velocity Measurements
- [ ] Groundwater Maps
- [ ] GW Elevation Tables/Data
- [ ] Soils Lab Testing (Geotechnical) Summary Tables
  - [ ] Grain Size Analyses/Hydrometer Analyses
  - [ ] Atterberg Limits
  - [ ] Strength tests: Triaxial, Unconfined, Direct Shear
  - [ ] Organic Content
  - [ ] ^{14}C or Radiocarbon Testing
  - [ ] Other_____
- [ ] Soil Chemical Analytical Testing Summary Tables
- [ ] Water/Groundwater Chemical Analytical Summary Tables
- [ ] Comments pictures
- [ ] Date Copied 3-4-99 By [illegible]

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Dennis M. Bruce, P.E.

M.S.C.E., M.B.A. Geotechnical/Civil Engineer

March 19, 1995

(126)

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Vistra, Inc.
P.O. Box 27107
1415 NE 123rd St.
Seattle, WA 98125

Subject: **Geotechnical Assessment - Fairview Avenue E. - Proposed Two Duplexes**

This engineering report presents the results of a geotechnical assessment of the Vistra, Inc. property at 2500 Fairview Ave. E., Seattle, WA. This assessment was necessitated by owner/architect concerns, as well as City of Seattle D.C.L.U. requirements.

References:

- Location Map (figure 1)
- Site Plan with Soil Test Pit Location (figure 2)
- Project Plans by Architect Mr. Bob Cooper
- Site Photographs (attached)

Understood Background:

The property is located approximately 1 block east of the east shore of Lake Union. The site is the shape of a rhombus, with approximately 90 ft. of frontage along Fairview Ave. E. and approximately 100 ft. of depth. (Refer to site plan and architect's plans).

The property is currently enclosed with fencing and has functioned as a boat storage yard (refer to photographs). It is unknown what historical use the property has had, however no evidence of any buildings, structures, or foundations were observed nor encountered during the site investigation.

Some entrance area gravel grading is evident on this essentially flat site.

The surrounding and adjacent properties are all developed with small commercial buildings or residential condominiums.

It is understood that this project proposes to construct two duplexes, per Architect's plans.

SOILS • FOUNDATIONS • SITE DEVELOPMENT • INSPECTION • DRAINAGE • DESIGN & PERMIT • LEGAL

17814 8th Ave. N.W. • Seattle, Washington 98177 • (206) 546-9217

000232448 VISTRA INC
BUILDING ID S 1
EC CHANGE USE FROM PARKING LOT TO TOWNHOUSE;
N CONSTRUCT A DUPLEX
O GRADE APPROXIMATELY 172 CU YDS OF MATERIAL;
OO ALL PER PLANS
02500 FAIRVIEW
PROJECT NR: 9501691 DV E
PR (PS)
CN: 950404 LU: 950404
REV
REV
REV
SR

The frontage area along City of Seattle Street right-of-way (Fairview Ave. E.) is not well maintained. Currently, drainage problems exist (see photo 1). Resolution/ improvement is recommended.

Assessment:

The primary issue affecting development of this property was foundation criteria. Namely, does proximity to Lake Union result in subgrade conditions requiring pile foundations?

Visual assessment of the property was performed by this engineer on January 13, 1995, and revealed **no slides, no settlements, no creep, nor any erosional degradation.**

Test Pits:

A series of three soil test pits were backhoe dug on March 1, 1995 under this engineer's direction. (See figure 2 for test pit locations, and photographs of test pit results).

The findings of all three test pits were similar, namely:

TP #1-#3

Depth	Material
0 to 6 inches	Compacted gravel or grass and organic silt (depending on location).
6 to 15 inches	Dark brown sandy silt (intermixed with gravels near entranceway)
15 inches to 2.5 feet	Moderate to dense light brown sandy silt with occasional cobbles
2.5 to 8.5 feet	Dense to very dense gray silt with cobbles (difficult backhoe digging below 7 ft.).

A very minor trickle of seepage water was observed in Test Pit #1. No water was evident in Test Pits #1 and #2.

All three test pits were left open for approximately 1 hour. Pit walls remained vertical. No sloughing occurred.

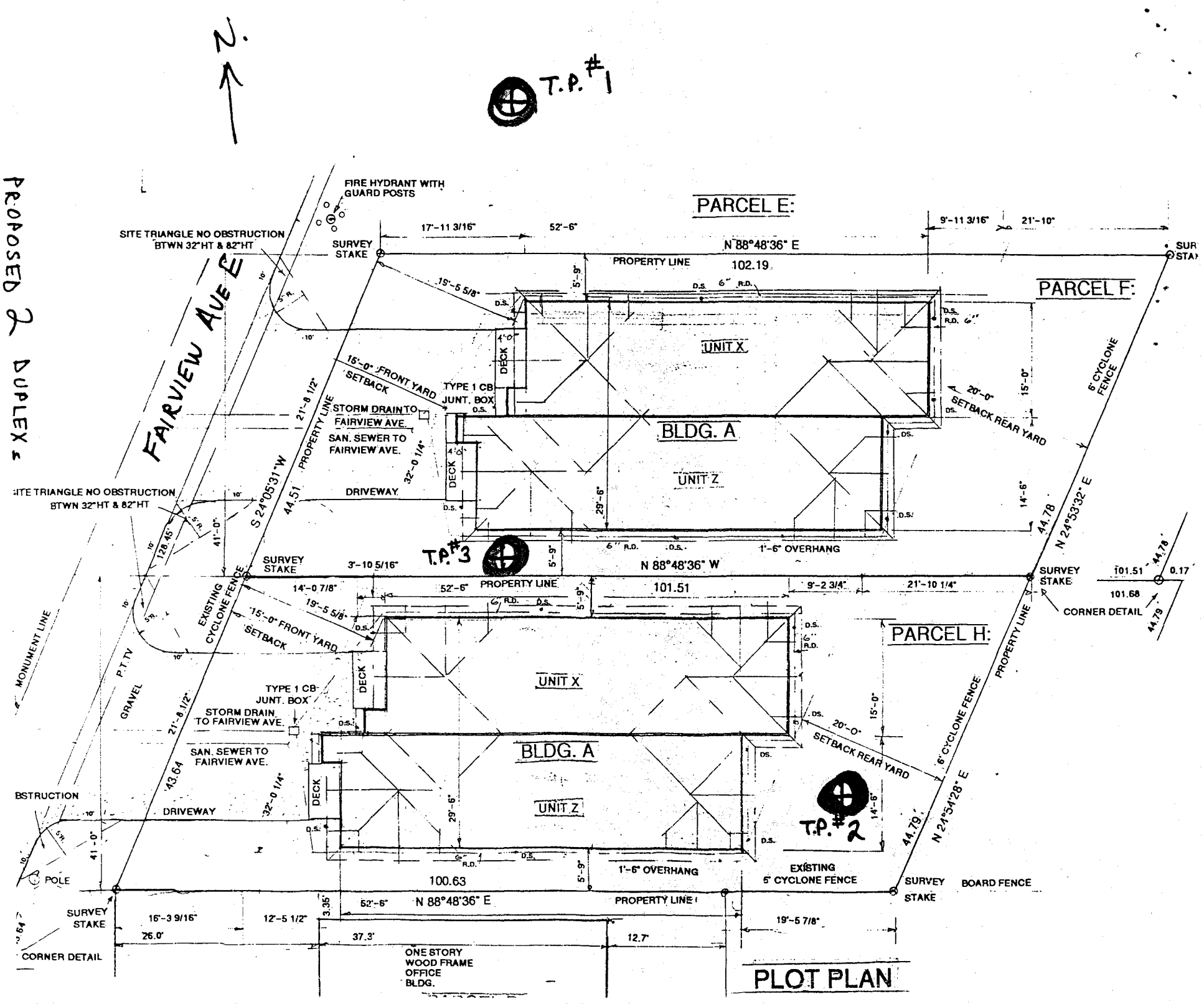
Conclusion/Recommendation:

The site is **geotechnically approved** for the proposed residence design subject to the following conditions.

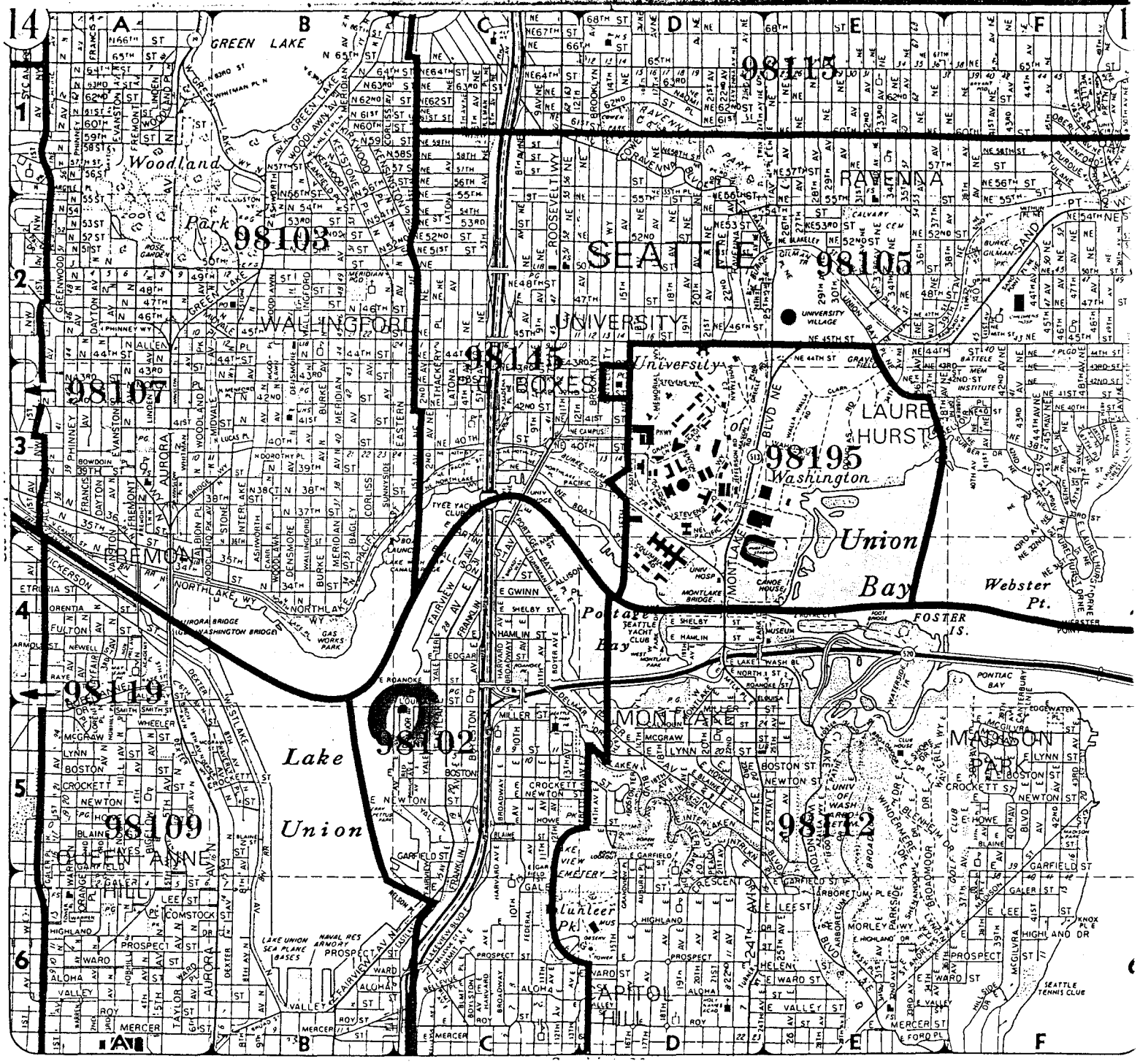
- Standard reinforced continuous and spread footings. Allowable bearing pressure: **2,000 p.s.f.**
- Equivalent fluid pressure of 35 p.c.f. is recommended for any retaining wall design provided drainage zone is inspected and verified by this engineer.

PROPOSED 2 DUPLEX
AND SOIL TEST PIT LOCATIONS

FIG #2



NORTH



LOCATION MAP

FIG #1

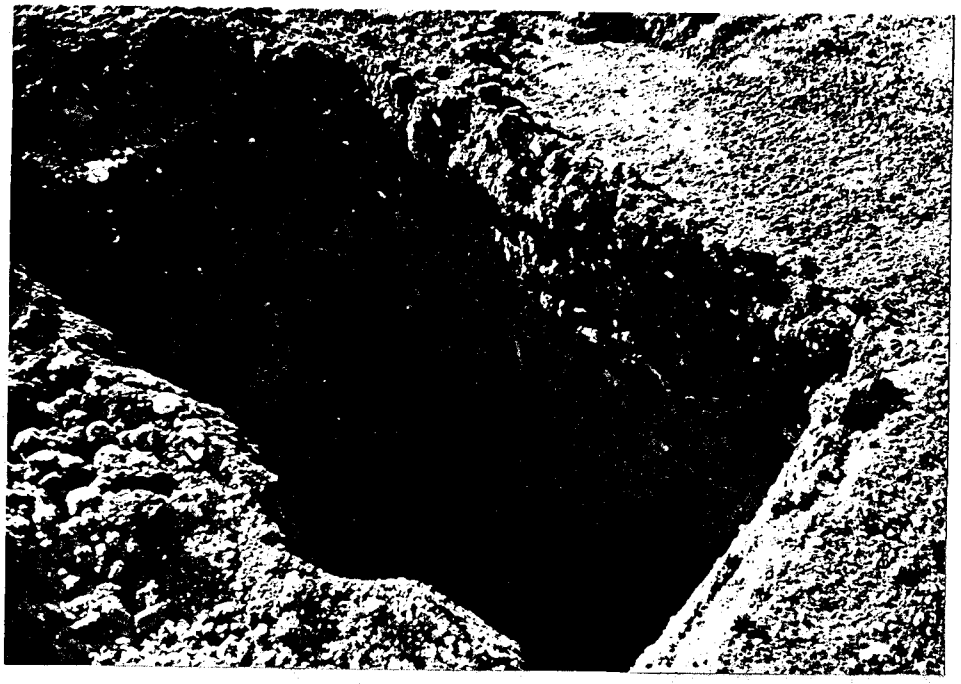


Photo 5. Test Pit #1. Very dense subgrade soils. Pit walls stand vertically. (Approximately 15 inches of surficial driveway gravels intermixed with former top soil).

Photo 6. Test Pit #1. Note cobbles in excavated material. Very dense material.

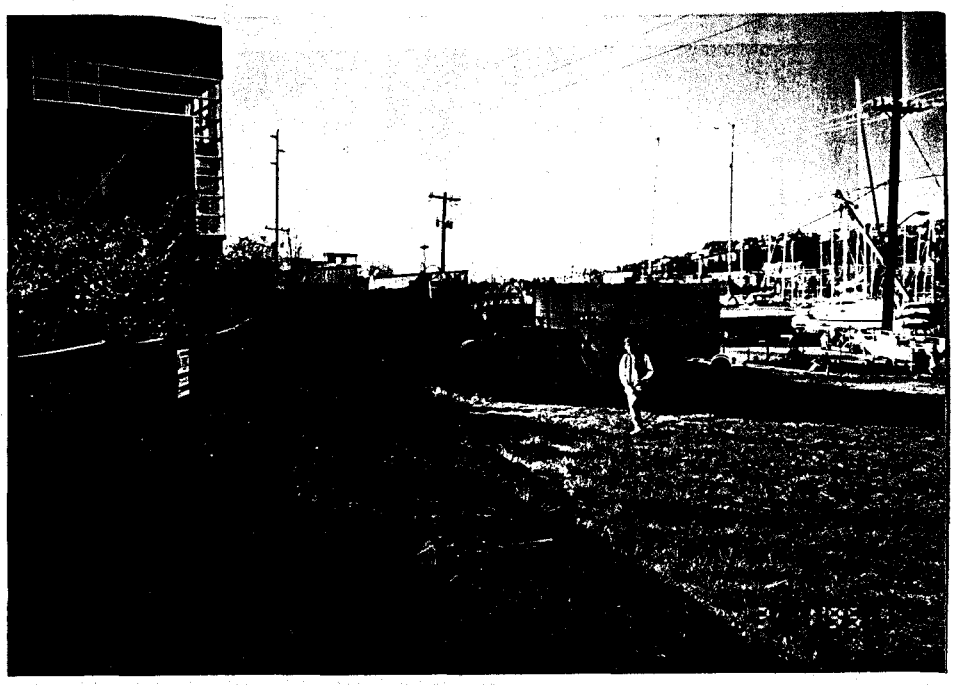


Photo 7. Test Pit #2 at southeast corner of property. Fairview Ave. E. at right.

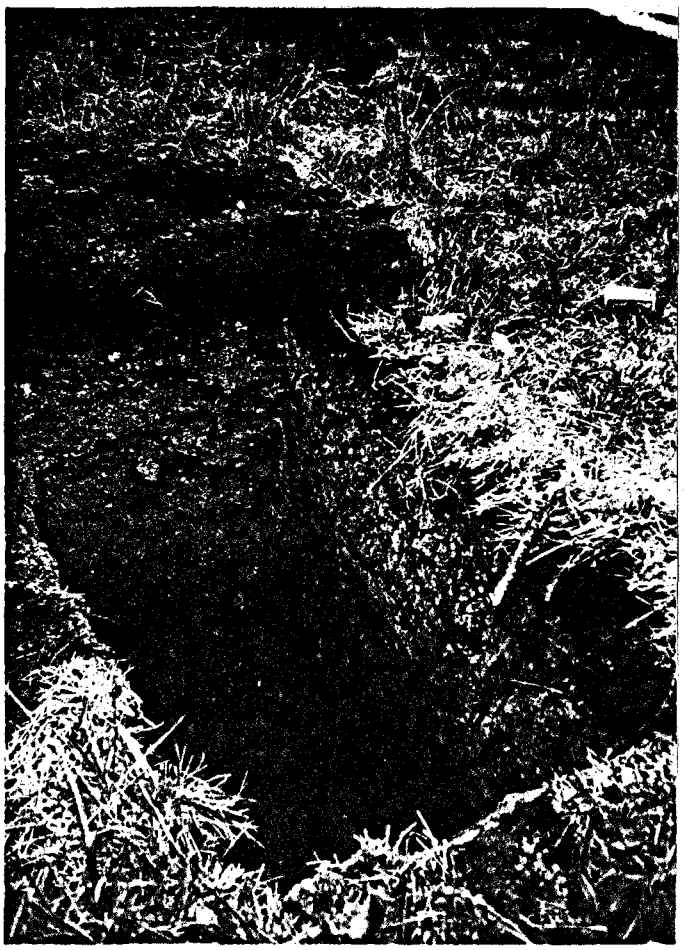


Photo 8. Test Pit #2. Similar very dense silty cobbly subgrade. Test Pit #3 (no photos) between Test Pit #1 and #2 verified the same subgrade stratigraphy.