RECEIVED
AUG 24 1998
DEPT. OF ECOLOGY

NORTH POINT APARTMENTS

250 UNITS
MARINE VIEW DRIVE
EVERETT, WASHINGTON

SEPA SUBMITTAL

July 28, 1998

Prepared by

Kussman Associates
P.O. Box 1705
Bothell, Washington 98041-1705
Phone: (425) 486-8300
Fax: (425) 806-9628

CITY OF EVERETT
PLANNING AND COMMUNITY DEVELOPMENT
LAND USE PERMIT APPLICATION

- ☐ Boundary Line Adjustment
- ☐ Lot Certification
- ☐ Nonconforming Use/Building
- ☐ Planning Director's Review Process I Decision
- ☐ Planning Director's Review Process II Decision
- ☐ Rezone
- ☒ SEPA
- ☐ Shoreline
- ☐ Short Subdivision
- ☐ Special Property Use: Review Process I
- ☐ Special Property Use: Review Process II
- ☐ Special Property Use: Review Process III
- ☐ Subdivision
- ☐ Variance
- ☐ Other _____

FOR OFFICE USE ONLY

FILE # _____

FEE $ _____ *RECEIPT #* _____

_____
STAMP IN DATE

Applicant Kussman Associates (Lyle Kussman) Phone (425) 486-8300
Address P.O. Box 1705 Fax (425) 806-9628

Property Owner Steffen Jacobson Phone (425) 451-0602
Address P.O. Box 40028, Bellevue, WA 98015

Primary Contact (if other than applicant) (Same) Phone _____
Address _____ Fax _____

Property Address or Location NE Corner of 11th St. & Marine View Dr., Everett, WA 98201

Tax Identification Number 172905-1-005-0008

Legal Description (attach if necessary) (See Attached)

Zoning R-4 Comprehensive Plan Designation Residential

Area of Property (Acres/Square Feet) 201,660 sq. ft.

Project Description Construct new 250-unit apartment complex with associated parking and recreation facilities.

Name of the planner who conducted the Pre-Application meeting (or signed waiver) Mary Cunningham

I am the owner or am authorized by the owner to sign and submit this application. I grant permission for City staff and agents to enter onto the subject property for the sole purpose of making any inspection of the property which is necessary to process this application. I certify under penalty of perjury of the laws of the State of Washington that the information on this application and all information submitted herewith is true, complete, and correct.

Signature by Owner/Applicant/Agent W. M. Kussman Date 7/22/98

City and State where this application is signed Bothell (City), Washington (State)

2930 Wetmore, Ste 100, Everett, WA 98201 ☎ (206)259-8731, Fax (206)259-8742

PROJECT DATA

Project Name: North Point Apartments

Owner: Steffen Jacobson
P.O. Box 40028
Bellevue, Washington 98015
Phone: (425) 451-0602

Project Address: N.E. Corner of 11th Street and Marine View Drive
Everett, WA 98201

Legal Description: All that portion of the Southeast Quarter of the Northeast Quarter and of the Northeast Quarter of the Northeast Quarter Section 17, Township 29 North, Range 5 East, W.M. in Snohomish County, Washington, described as follows:

Beginning on the east line of Walnut Street where it intersects the south line of said Northeast Quarter of the Northeast Quarter;
Thence north along the east line of Walnut Street 205 feet;
Thence east to the west line of the Great Northern Railroad Right-of-Way;
Thence south along said Right-of-Way to the north line of 11th Street;
Thence west along the said north line of 11th Street to the east line of Walnut Street;
Thence north along the east line of Walnut Street to the True Point of Beginning.

CITY OF EVERETT
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all government agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply". In addition, complete the Supplemental Sheet for Nonproject Actions (Part D).

For nonproject actions, the references in the checklist to the words "project", "applicant", and "property or site" should be read as "proposal", "proposer", and "affected geographic area", respectively.

A. BACKGROUND

1. **Name of proposed project, if applicable:**
North Point Apartments

2. **Name of applicant:** Kussman Associates

3. **Address and phone number of applicant and contact person:**

Kussman Associates (Lyle Kussman)
P.O. Box 1705
Bothell, WA 98041-1705
Phone: (425) 486-8300
Fax: (425) 806-9628

4. **Date checklist prepared:** July 13, 1998

5. **Agency requesting checklist:**
City of Everett, Department of Planning and Community Development.

6. **Proposed timing or schedule (including phasing, if applicable):**
Begin construction April, 1999, completion January, 2000.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**
None

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**
Geotechnical Report, Traffic Impact Analysis, Noise Assessment, Environmental Site Assessment, and Crime Prevention Through Environmental Design (CPTED) Report.

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**
None

10. **List any government approvals or permits that will be needed for your proposal, if known.**
City of Everett SEPA, Building Permit, Grading Permit, Plumbing Permit, Electrical Permit, and Sprinkler Permit.

11. **Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist**

that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.
Construct a new 250-unit apartment building with off-street parking for 456 automobiles. Building gross floor area equals 341,362 square feet. Area of project site equals 201,660 square feet (4.63 acres).

12. **Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (Attach complete legal description if available.)**

N.E. Corner of 11th Street and Marine View Drive
Everett, Washington 98201

Legal Description:

All that portion of the Southeast Quarter of the Northeast Quarter and of the Northeast Quarter of the Northeast Quarter Section 17, Township 29 North, Range 5 East, W.M. in Snohomish County, Washington, described as follows:
Beginning on the east line of Walnut Street where it intersects the south line of said Northeast Quarter of the Northeast Quarter;
Thence north along the east line of Walnut Street 205 feet;
Thence east to the west line of the Great Northern Railroad Right-of-Way;
Thence south along said Right-of-Way to the north line of 11th Street;
Thence west along the said north line of 11th Street to the east line of Walnut Street;
Thence north along the east line of Walnut Street to the True Point of Beginning.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. **General description of the site (circle one):**

Flat, rolling, hilly, steep slopes, mountainous, other (moderately sloped)

b. **What is the steepest slope on the site (approximate percent slope)?**
Ninety percent.

c. **What general types of soils are found on the site (for example: clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

To be determined by pending Geotechnical Report.
This site is not prime farmland.

d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**
To be determined by pending Geotechnical Report.

e. **Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**
To be determined subject to pending Geotechnical Report.

f. **Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**
Yes -- erosion can result from grading and excavation work during construction.

g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**
68 percent (138,650 sq. ft.).

h. **Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**
Silt fencing, hay bales, plastic over mounds of backfill, catch basin filters, rock construction entrance, sedimentation ponds and straw mulch during construction. Erosion control landscaping and storm drainage system upon completion.

2. <u>Air</u>

a. **What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**
Minimal amounts of dust and vehicle emissions during construction, and minimal amounts of automobile emissions when complete.

b. **Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**
No.

c. **Proposed measures to reduce or control emissions or other impacts to air, if any:**
Water spray during construction as required to reduce dust.

3. <u>Water</u>

a. **Surface:**

1) **Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**
No.

2) **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**
No

3) **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**
None.

4) **Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**
No.

5) **Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.**
No.

6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**
No.

b. Ground:

1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**
No -- roof runoff and runoff from pavement areas will be collected in a detention system that will allow gradual flow of storm runoff into the City's existing combined storm and sanitary sewer.

2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**
None.

c. **Water Runoff (including storm water):**

1) **Describe the source of runoff (including storm water) and the method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**
Roof runoff and runoff from pavement areas will be collected in a detention system that will allow gradual flow of storm runoff into the City's existing combined storm and sanitary sewer.

2) **Could waste materials enter ground or surface waters? If so, generally describe.**
No -- wastes will be collected and discharged into the City's existing combined storm and sanitary sewer.

d. **Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**
An on-site storm drainage system will be installed to collect roof runoff and runoff from parking areas. This system will provide detention that will allow gradual flow of storm runoff into the City's existing combined storm and sanitary sewer.

4. <u>Plants</u>

a. **Check or circle types of vegetation found on the site:**

_x_ **deciduous tree: alder, maple, aspen, other**
____ **evergreen tree: fir, cedar, pine, other**
_x_ **shrubs**
_x_ **grass**
____ **pasture**
____ **crop or grain**
____ **wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other**
____ **water plants: water lily, eelgrass, mil foil, other**
_x_ **other types of vegetation - describe** <u>weeds, blackberries, etc.</u>

b. **What kind and amount of vegetation will be removed or altered?**
Approximately 4.63 acres of grasses, shrubs and trees will be cleared from the area to be disturbed by new construction.

c. **List threatened or endangered species known to be on or near the site.**
None.

d. **Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**
New landscaping will be provided around the buildings, adjacent to parking areas and

along property edges in accordance with the City of Everett Zoning Code.

5. **Animals**

a. **Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:**

Birds: hawk, heron, eagle, songbirds, other_____

Mammals: Deer, bear, elk, beaver, other small mammals and rodents

Fish: bass, salmon, trout, herring, shellfish, other_____

b. **List any threatened or endangered species known to be on or near the site.**
None.

c. **Is the site part of a migration route? If so, explain.**
No.

d. **Proposed measures to preserve or enhance wildlife, if any:**
None.

6. **Energy and Natural Resources**

a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**
Electricity will be provided for heat, power and lights.

b. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**
No.

c. **What kinds of energy conservation features are included in the plans of this proposal? List of other proposed measures to reduce or control energy impacts, if any:**
Insulation and thermal glazing will be provided at heated areas per the Washington State Energy Code.

7. **Environmental Health**

a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so describe.**
The site has existing arsenic contamination from the defunct Asarco Smelter. Also,

minimal risk of fire exists, although the building will be fully sprinklered throughout.

1) **Describe special emergency services that might be required.**
Fire protection.

2) **Proposed measures to reduce or control environmental health hazards, if any:**
Removal or burial of contaminated soils. Building will be fully sprinklered. Project will have access for fire department and will utilize both new and existing fire hydrants.

b. Noise

1) **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, aircraft, other)?**
Train switch yard, traffic, and emergency vehicle sirens.

2) **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**
Short-term construction noise during the daytime, and minimal long-term traffic noise (24 hours).

3) **Proposed measures to reduce or control noise impacts, if any:**
Project will utilize materials and construction such as triple glazing, sound insulation, resilient furring, and double layers of gypsum wallboard for noise abatement in accordance with recommendations of noise report.

8. <u>Land and Shoreline Use</u>

a. What is the current use of the site and adjacent properties?
The project site is zoned R-4 and is currently vacant. To the north are multifamily properties zoned R-4. To the east is the Burlington Northern Railroad. On the south, across 11th street, the site is bordered by properties zoned C-1. To the southwest, across 11th street, and west, across Marine View Drive, are single family residences zoned R-2.

b. Has the site been used for agriculture? If so, describe.
No.

c. Describe any structures on the site.
None.

d. Will any structures be demolished? If so, what?
No.

e. **What is the current zoning classification of the site?**
R-4 (Multi-Family High Density).

f. **What is the current comprehensive plan designation of the site?**
Residential.

g. **If applicable, what is the current shoreline master program designation of the site?**
Not applicable.

h. **Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**
No.

i. **Approximately how many people would reside or work in the completed project?**
507 residents based on number of bedrooms (1.5 persons per bedroom).

j. **Approximately how many people would the completed project displace?**
None.

k. **Proposed measures to avoid or reduce displacement impacts, if any:**
None.

l. **Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**
Project complies with existing zoning codes and is consistent with comprehensive plan.

9. **Housing**

a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**
250 units of middle income housing.

b **Approximately how may units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**
None.

c. **Proposed measures to reduce or control housing impacts, if any:**
None.

10. **Aesthetics**

a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?**
Maximum building height is approximately 60 feet from finish grade to top of roof. The

principle exterior building materials will be vinyl siding with asphalt composition roofing.

b. **What views in the immediate vicinity would be altered or obstructed?**
Views from single family residences to the west would be altered, although existing vegetation currently blocks territorial views across the subject site.

c. **Proposed measures to reduce or control aesthetic impacts, if any:**
Building will use muted earth tone color scheme. Modulation of walls and roof has been designed to provide rhythm and to break up the surface of the exterior.

11. **Light and Glare**

a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**
Minimal light and glare will be produced -- exterior security lighting at night using directional luminaries, and normal glare off windows during the daytime.

b. **Could light or glare from the finished project be a safety hazard or interfere with views?**
No.

c. **What existing off-site sources of light or glare may affect your proposal?**
None.

d. **Proposed measures to reduce or control light and glare impacts, if any:**
Exterior security lighting will use directional luminaries. Underground parking will be provided which will screen glare from headlights. Landscaping will be provided to screen glare from headlights at surface parking.

12. **Recreation**

a. **What designated and informal recreational opportunities are in the immediate vicinity?**
Wiggums Hollow City Park is located two blocks west of the subject site. The park has ball fields, picnic areas and children's playground areas.

b. **Would the proposed project displace any existing recreational uses? If so, describe.**
No.

c. **Proposed measures to reduce or control impacts on recreation, including opportunities to be provided by the project or applicant, if any:**
Indoor and outdoor recreational facilities will be provided on site in compliance with zoning code requirements. Also, some additional funding is proposed to make off-site improvements to Wiggums Hollow City Park as a benefit to the surrounding community.

13. **Historic and Cultural Preservation**

a. **Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**
No.

b. **Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site?**
None.

c. **Proposed measures to reduce or control impacts, if any:**
None.

14. **Transportation**

a. **Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**
The site will be accessed from Marine View Drive and 11th Street. Marine View Drive is a major arterial that connects with freeway interchanges north and south of the site.

b. **Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop and where is it?**
Yes -- Public transit stops are located on Marine View Drive and are served by Everett Transit bus route #2. A new bus stop will be provided as part of the proposed development.

c. **How many parking spaces would the completed project have? How many would the project eliminate?**
456 new off-street parking spaces will be provided on the project site. No parking spaces will be eliminated.

d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**
No new streets or roads will be required for this project. Marine View Drive is already improved with curb, gutter and sidewalk; however, 11th Street will need to be improved with new curb, gutter and sidewalks as part of this development.

e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**
The project is immediately adjacent to the Burlington Northern Railroad switchyard, but will not utilize rail transportation.

f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

P.M.

g. **Proposed measures to reduce or control transportation impacts, if any:**
Access driveways are located as far as possible from road intersections. Sidewalks will be provided to separate pedestrians from vehicle traffic. Also, this project will pay taxes and fees to cover costs of transportation impacts.

15. **Public Services**

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe:**
The project will result in increased need for public services including fire protection, police protection, health care and schools.

b. **Proposed measures to reduce or control direct impacts on public services, if any.**
Building fire protection and security systems will be provided along with payment of taxes and fees to cover costs of necessary services.

16. **Utilities**

a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**
Cable TV.

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Electricity:	Snohomish PUD
Gas:	Washington Natural Gas
Water:	City of Everett
Sewer:	City of Everett
Refuse:	Rubatino Refuse Removal Inc.
Telephone:	GTE
Cable TV:	TCI

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Steven M. Krosin

Date Submitted: 7/28/98

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent of the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. **How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?**

   Proposed measures to avoid or reduce such increases are:

2. **How would the proposal be likely to affect plants, animals, fish, or marine life?**

   Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. **How would the proposal be likely to deplete energy or natural resources?**

   Proposed measures to protect or conserve energy and natural resources are:

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

   Proposed measures to protect such resources or avoid or reduce impacts are:

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

   Proposed measures to avoid or reduce shoreline and land use impacts are:

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**

   Proposed measures to reduce or respond to such demand(s) are:

7. **Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.**

GIBSON TRAFFIC CONSULTANTS
TRAFFIC ENGINEERING • TRANSPORTATION PLANNING
1712 PACIFIC AVENUE • SUITE 100 • EVERETT, WA 98201 • PH: (425) 339-8266 • FAX: (425) 258-2922

May 27, 1998

Mr. Wayne Wentz, P.E.
City of Everett, Public Works
3200 Cedar Street
Everett, WA 98201

Re: Proposed Eastview Apartments (250 Units) on 11th Street in the City of Everett
Traffic Impact Assessment and Supplementary Traffic Information (GTC # 98-037)

Dear Mr. Wentz:

Gibson Traffic Consultants (GTC) has been retained by Steffen Jacobson (applicant) to provide the traffic study required by the City for the proposed Eastview Apartments development, to be located on the east side of East Marine View Drive (EMVD) between 10th and 11th Streets (see **Figure 1**). This technical memorandum is intended to supply the City of Everett with the required traffic generation/distribution, driveway/pedestrian/access safety issues, nearby intersection level of service (LOS) and mitigation recommendations, per our scoping discussions.

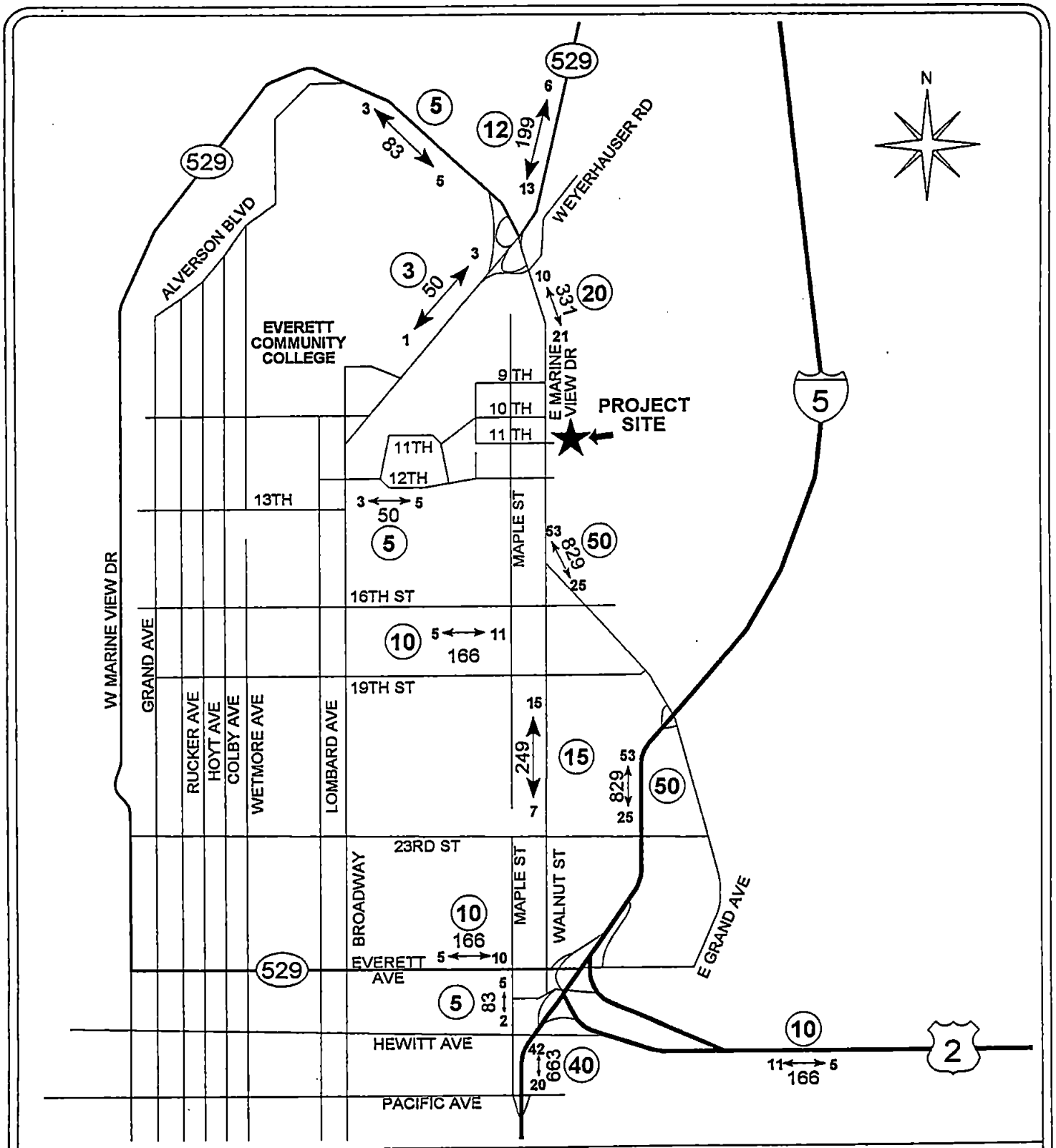
Proposed Site Development and Access

This application proposes to construct a 250-unit apartment complex. The site development proposes three (3) access driveways; two onto 11th Street and another directly onto East Marine View Drive (EMVD) located 88 feet north of 10th Street (centerline to centerline). Although the EMVD access is located less than 100 feet north of 10th Avenue, the expected traffic volumes on the minor approaches is low and the off-set is to the right, therefore, traffic conflicts with the access location (i.e. left-turn inbound movements) are not anticipated based on our mitigation discussion. The project site is presently vacant.

Scope of Analysis and Methodology

As requested in our scoping discussion, GTC would determine all City or State intersections or arterial corridors impacted by 10 or more PM peak site trips. Also, site access locations have been reviewed for safety and channelization warrants per your request.

Daily and PM peak hour trips generated by the existing uses and proposed development were estimated based on trip statistics for similar developments, compiled and published in the Institute of Transportation Engineers (ITE) *Trip Generation* manual, sixth edition, 1997. PM peak-hour turning counts were conducted for the study intersections during May 1998 by Traffic Data



GIBSON TRAFFIC CONSULTANTS — **TRAFFIC IMPACT STUDY**

EASTVIEW APARTMENTS
250 UNITS

CITY OF EVERETT

LEGEND

AWDT
PM ⟷ PEAK — NEW SITE TRAFFIC (DAILY/PEAK HOUR)

(25) — TRIP DISTRIBUTION %

FIGURE 1

PROJECT TRIP DISTRIBUTION

Gathering (TDG). All p.m. peak hour level of service (LOS) analysis calculations follow the methodology outlined in the 1994 *Highway Capacity Manual*, Special Report 209, Transportation Research Board and support software developed by McTrans. Terry Gibson, responsible for the traffic analysis, is a licensed professional engineer (Civil) in the State of Washington and past President of the Washington State section of ITE.

EXISTING CONDITIONS

Road Network

East Marine View Drive is a 2-lane principal City arterial that connects I-5 SB ramps to the south with SR-529 and Broadway to the north. EMVD has 40-foot pavement width with parking allowed both sides. EMVD is posted 35 mph in the site vicinity and carries 7,400 daily trips of which of which 580 trips occur during the p.m. peak hour. There is a continuous sidewalk along the west side of EMVD but on the east side there is continuous sidewalks south of the site with sidewalks only along the frontage of recent development to the north. A signalized pedestrian crossing is provided at 12th Street and a Everett Transit stop is located immediately north of 10th Street.

10th and 11th Streets are local collector roads west of EMVD that terminate at EMVD. 11th Street would be improved to provide half street improvements along the site frontage while 10th Street would still not continue east of EMVD.

FUTURE TRAFFIC ANALYSIS

Traffic Generation

Trip generation estimates for the proposed apartment development were based on trip generation data published in the ITE *Trip Generation* manual for land use code 220. The proposed development, when fully occupied, would add **1,658 daily and 155 PM peak (105 inbound/50 outbound) "new" trips** to the local street system. **Table 1** summarizes the trip generation results and calculations are attached to this memorandum letter.

Table 1
TRIP GENERATION SUMMARY

TRIPS	"NEW" TRIPS
DAILY	1,658
PM PEAK [1]	155 (105/50)

1 Inbound/Outbound PM peak trips are shown in parenthesis.

Trip Distribution: New P.M. peak hour trip distribution and assignments for the project, as shown in **Figure 1,** were based on the proximity of employment, retail, educational and recreations destinations within the project vicinity, and existing travel patterns in the site vicinity as well as on prior distribution for similar developments in the vicinity. It is anticipated that 50% of the project generated traffic would be destined south along EMVD towards the I-5 SB ramps and 15% destined south along Walnut Street. An anticipated 15% would be destined west along 12th, 16th and 19th Streets. The remaining 20% would be destined north towards SR-529 and West Marine View Drive.

Impacted Roads and Traffic Mitigation Payments

City Mitigation fees: The proposed development would impact various City of Everett (or State) improvement intersections with 10 or more peak project trips or corridor improvements with 10+ project ADT, as summarized in **Table 2.**

Table 2

Impacted Intersections/corridors
Mitigation Payments

Intersections with 10 or More Peak Trips	Project PM Peak Trips	Future Intersection Pk Volume	% Share	Construction Costs in $	Mitigation Payment in $
E. Marine View Dr. @ 16th Street	78	1,520 + 78	4.881	150,000	7,322.00
E. Marine View Dr. @ SR-529	31	3,200 + 31	0.959	$140,000	1,343.00
E. Marine View Dr. @ I-5 SB Off Ramp	78	2,400 + 78	3.148	130,000	4,092.00
Broadway @ 19th Street	16	3,300 + 16	0.483	350,000	1,689.00
				TOTAL =	14,446.00

Site Access

GTC has conducted field sight distance checks and a channelization warrant analysis for the proposed access locations per our scoping discussion.

Channelization: GTC conducted a left-turn channelization warrant assessment using WSDOT *Design Manual* guidelines. Based on Figures 910-6 and 910-71, the proposed access driveway and 11th Avenue intersection would not warrant left-turn channelization on EMVD.

Sight Distance: The 85th percentile speed along East Marine View Drive is 40 mph based upon a speed survey along the frontage. Therefore, the proposed access should have desirable entering sight distance of 580 feet and minimum stopping sight distance of 320 feet.

The proposed **EMVD access driveway** would have over 600 feet in either direction and easily satisfy safe stopping and desirable entering sight distance. As stated previously, 11th Street would terminate immediately east of the project site. Clear sight distance for the access points would be provided east to the terminus and west to the EMVD intersection. GTC additionally, conducted sight distance field checks at the 11th Avenue/EMVD intersection as this would be the main access for site trips onto the City arterial system. The 11th Street intersection also has over 600 feet of entering sight distance in each direction; thus, satisfying City stopping and desirable entering sight distance requirements.

On Site Mitigation

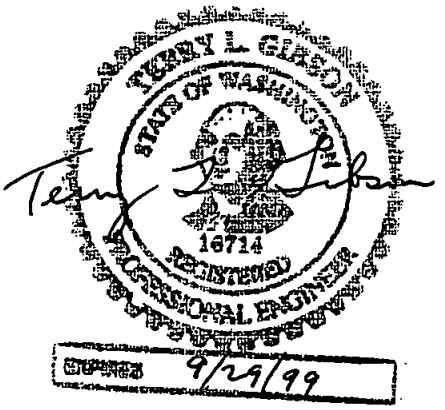
The following street/safety improvements are recommended to ensure the safety of vehicular and pedestrian traffic in the project vicinity.

1. Construct required frontage improvements on East Marine View Drive and 11th Street. per City of Everett design standards.
2. Relocate the existing transit stop located at the proposed EMVD driveway south of the proposed access
3. Mitigate off-site traffic impacts on the City street system by contributing $ 14,446 towards programmed City transportation improvements.

We trust that GTC's memorandum letter and attachments adequately address the traffic impacts of the proposed Eastview Apartments development. If you have any questions, please don't hesitate to contact us at (425) 339-8266. Thanks again, Wayne, for your timely input and coordination.

Sincerely,

GIBSON TRAFFIC CONSULTANTS, INC. PS.



Edward T. Koltonowski
Senior Traffic Engineer

Attachments

XC: Lyle Kussman, Architect

GIBSON TRAFFIC CONSULTANTS

GIBSON TRAFFIC CONSULTANTS

Trip Generation Worksheet for Rate-Based Calculations

Project: Eastview Apartments
Project Number: 98-037
Land Use: Apartments
ITE TGM Code: 220
Analysis Case: Weekday PM Peak

Analyst: etk
Date: 5/22/98
Checked By:
Date:

Trip Generation Variables & Results			
Variable	**Quantity**	**Unit of Measure**	**Source**
Project / Site	**250**	**Dwelling Unit**	**Site Plan**
ADT Trip Generation Rate	6.63	Trips / Dwelling Unit	ITE "Trip Generation" Manual, 6th edition
Gross ADT	1,657.50	Gross ADT	ADT Rate x Site Variable
New ADT	**1,657.50**	**New ADT**	**ADT & PM Peak Hour Trips Distributed by Trip Type Table**
PM Peak Hour Trip Generation Rate	0.62	Trips / Dwelling Unit	ITE "Trip Generation" Manual, 6th edition
Gross PM Peak Hour Trip Total	155.00	Gross PM Peak Hour Trip Total	PM Peak Hour Rate x Site Variable
New PM Peak Hour Trips	**155.00**	**New PM Peak Hour Trips**	**ADT & PM Peak Hour Trips Distributed by Trip Type Table**

GIBSON TRAFFIC CONSULTANTS

Trip Generation Worksheet for Rate-Based Calculations

Project: Eastview Apartments
Project Number: 98-037
Land Use: Apartments
ITE TGM Code: 220
Analysis Case: Weekday PM Peak

Analyst: etk
Date: 5/22/98
Checked By:
Date:

ADT & PM Peak Hour Trips Distributed by Trip Type

	Trip Factors (%)		ADT	PM Peak Hour Trips		
	ADT	Peak Hour Traffic	Total	Total	68% In	32% Out
Gross Total	100%	100%	1,657.50	155.00	105.40	49.60
TDM	0%	0%	0.00	0.00	0.00	0.00
CROSSOVER	0%	0%	0.00	0.00	0.00	0.00
Pass-By/Diverted	0%	0%	0.00	0.00	0.00	0.00
New Trips	**100%**	**100%**	**1,657.50**	**155.00**	**105.40**	**49.60**
Subtotal Check	100%	100%	1,657.50	155.00	105.40	49.60
Subtotal vs. Gross Total	OK	OK	OK	OK	OK	OK

Table to Check for Rounding Inaccuracies
(Values rounded to the nearest hundreth of a trip)

	Trip Factors (%)		ADT	PM Peak Hour Trips		
	ADT	Peak Hour Traffic	Total	Total	68% In	32% Out
Gross Total	OK	OK	OK	OK	OK	OK
Crossover	OK	OK	OK	OK	OK	OK
Pass-By	OK	OK	OK	OK	OK	OK
Diverted	OK	OK	OK	OK	OK	OK
New	OK	OK	OK	OK	OK	OK
Subtotal Check	OK	OK	OK	OK	OK	OK

Apartment
(220)

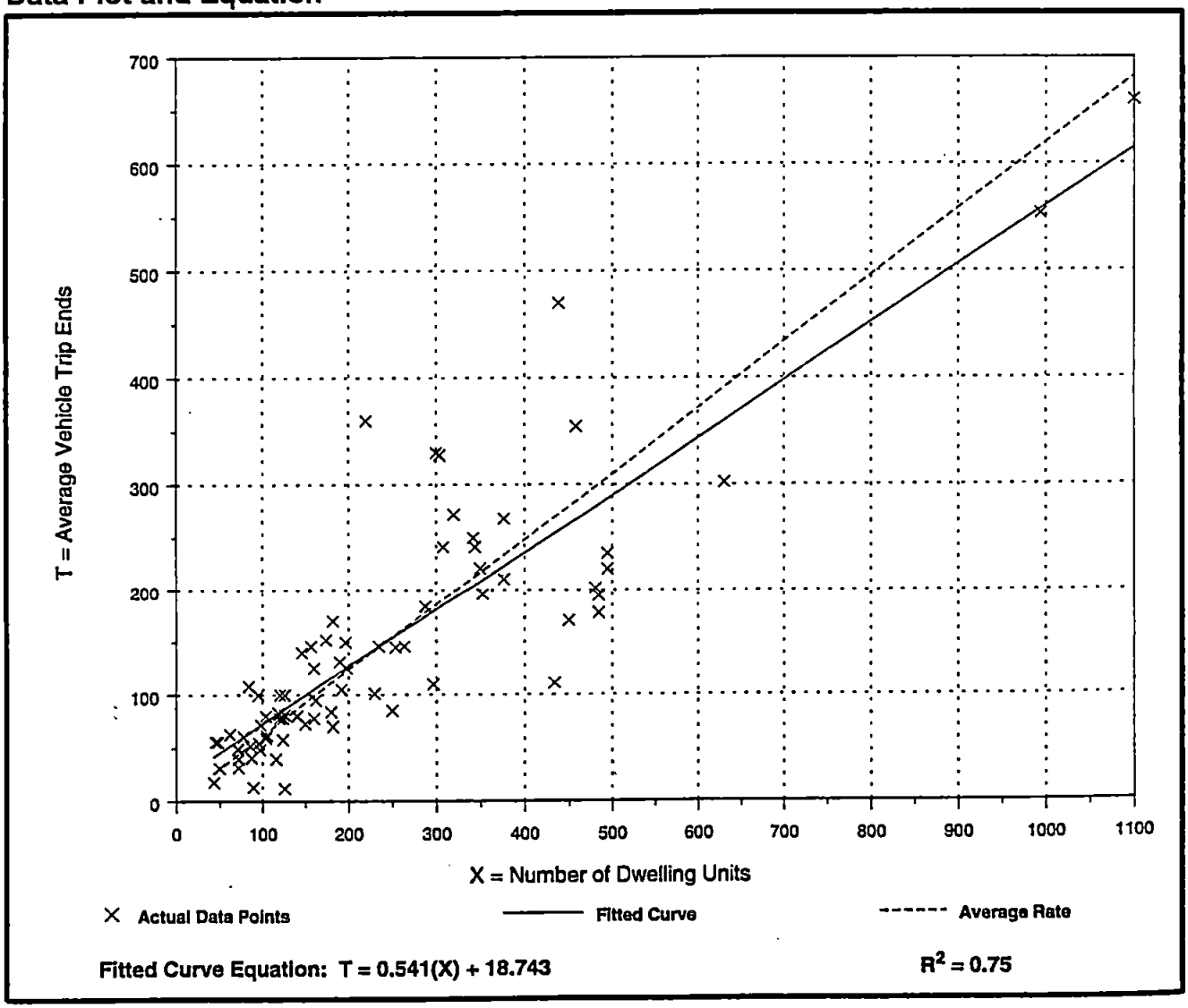
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 78
Avg. Number of Dwelling Units: 232
Directional Distribution: 67% entering, 33% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.62	0.10 - 1.64	0.82

Data Plot and Equation



Fitted Curve Equation: T = 0.541(X) + 18.743

R^2 = 0.75

Apartment
(220)

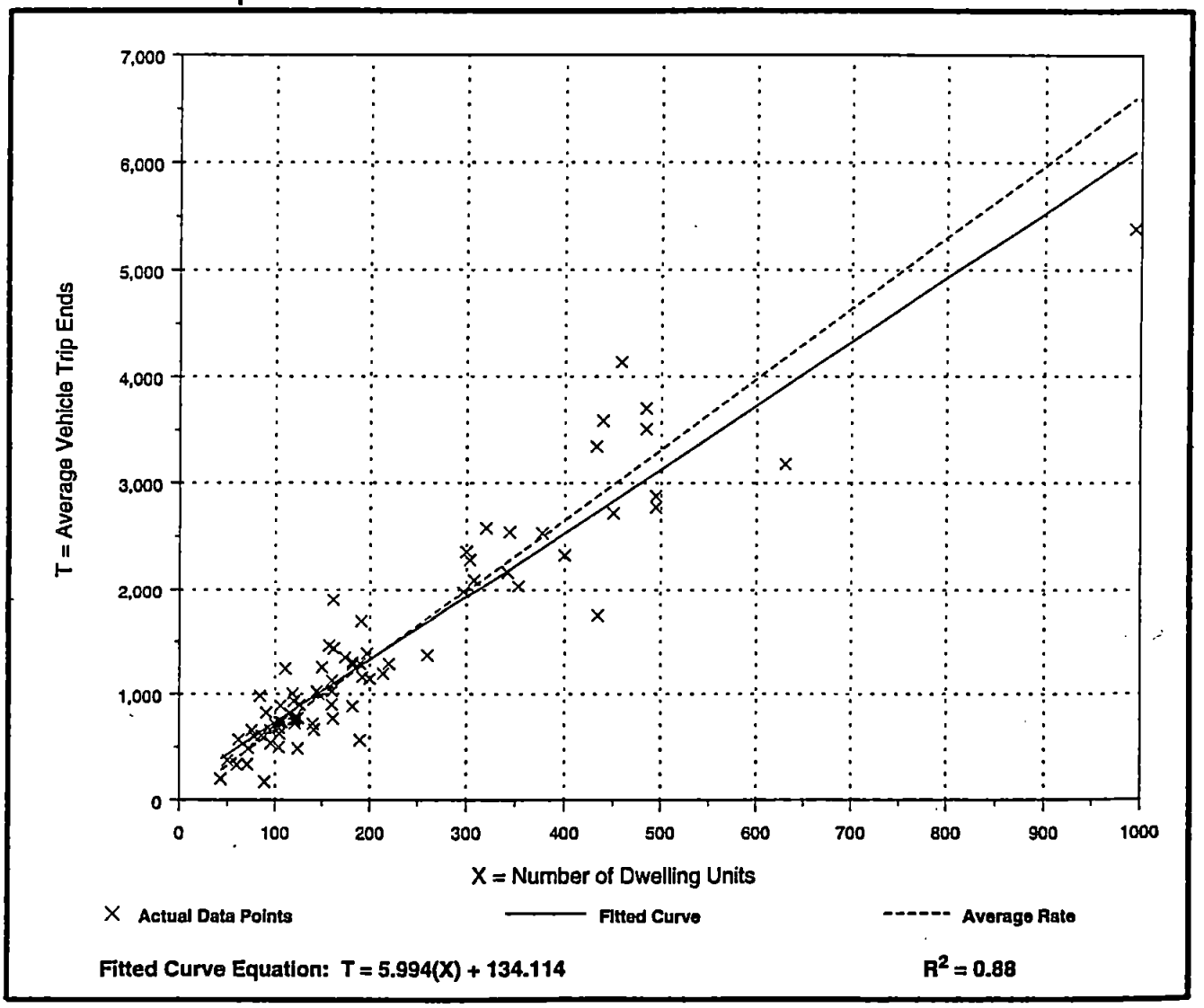
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 80
Avg. Number of Dwelling Units: 211
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.63	2.00 - 11.81	2.98

Data Plot and Equation



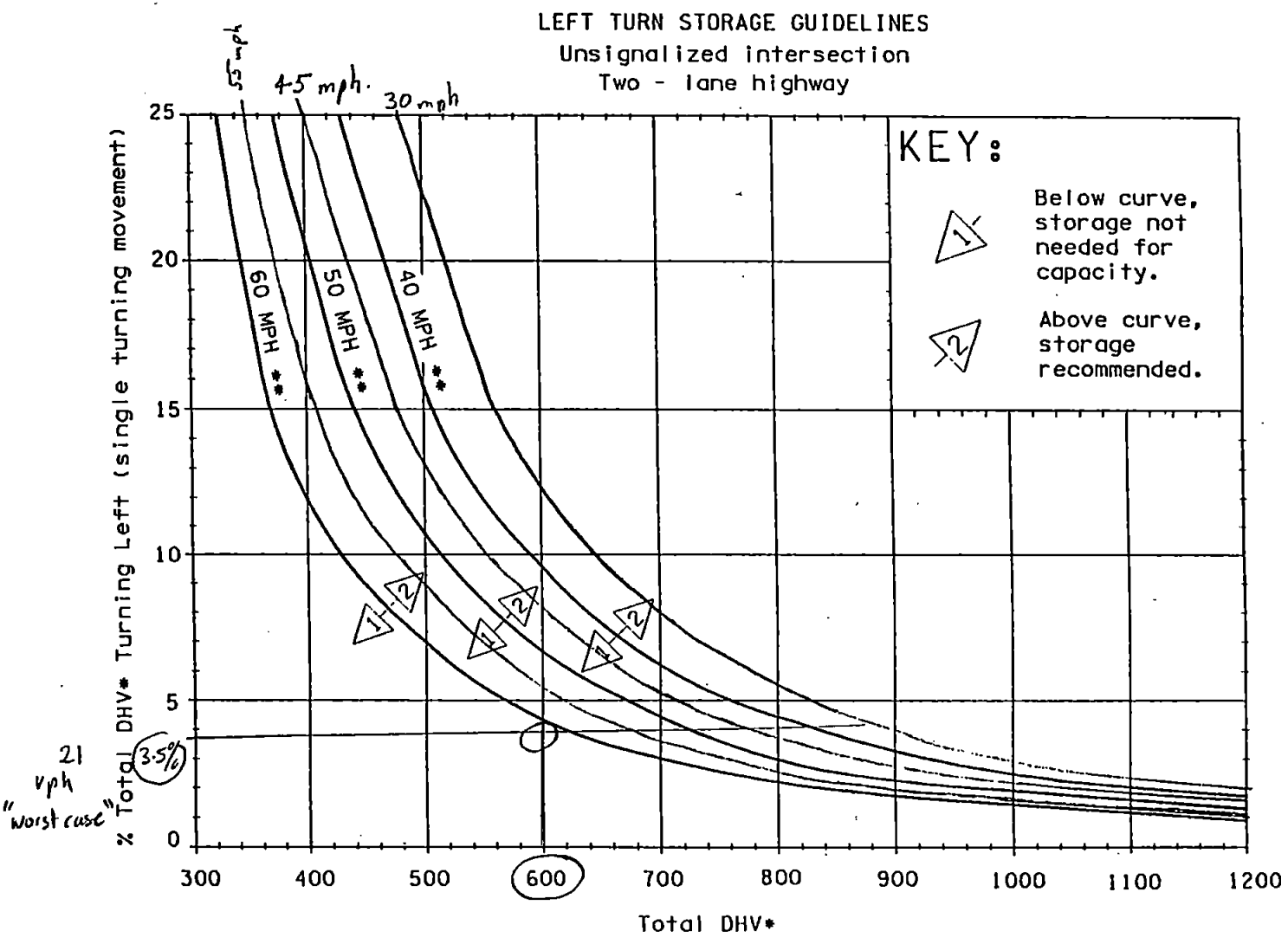
Fitted Curve Equation: T = 5.994(X) + 134.114 $R^2 = 0.88$

Trip Distribution Values (Raw values not corrected for rounding error.)

		PM PEAK		
%	ADT	IN	OUT	TOTAL
100%	1658	105	49	154
1%	16.6	1.05	0.49	1.54
2%	33.2	2.10	0.98	3.08
3%	49.7	3.15	1.47	4.62
4%	66.3	4.20	1.96	6.16
5%	**82.9**	**5.25**	**2.45**	**7.70**
6%	99.5	6.30	2.94	9.24
7%	116.1	7.35	3.43	10.78
8%	132.6	8.40	3.92	12.32
9%	149.2	9.45	4.41	13.86
10%	**165.8**	**10.50**	**4.90**	**15.40**
11%	182.4	11.55	5.39	16.94
12%	199.0	12.60	5.88	18.48
13%	215.5	13.65	6.37	20.02
14%	232.1	14.70	6.86	21.56
15%	**248.7**	**15.75**	**7.35**	**23.10**
16%	265.3	16.80	7.84	24.64
17%	281.9	17.85	8.33	26.18
18%	298.4	18.90	8.82	27.72
19%	315.0	19.95	9.31	29.26
20%	**331.6**	**21.00**	**9.80**	**30.80**
21%	348.2	22.05	10.29	32.34
22%	364.8	23.10	10.78	33.88
23%	381.3	24.15	11.27	35.42
24%	397.9	25.20	11.76	36.96
25%	**414.5**	**26.25**	**12.25**	**38.50**
26%	431.1	27.30	12.74	40.04
27%	447.7	28.35	13.23	41.58
28%	464.2	29.40	13.72	43.12
29%	480.8	30.45	14.21	44.66
30%	**497.4**	**31.50**	**14.70**	**46.20**
31%	514.0	32.55	15.19	47.74
32%	530.6	33.60	15.68	49.28
33%	547.1	34.65	16.17	50.82
34%	563.7	35.70	16.66	52.36
35%	**580.3**	**36.75**	**17.15**	**53.90**
36%	596.9	37.80	17.64	55.44
37%	613.5	38.85	18.13	56.98
38%	630.0	39.90	18.62	58.52
39%	646.6	40.95	19.11	60.06
40%	**663.2**	**42.00**	**19.60**	**61.60**
41%	679.8	43.05	20.09	63.14
42%	696.4	44.10	20.58	64.68
43%	712.9	45.15	21.07	66.22
44%	729.5	46.20	21.56	67.76
45%	**746.1**	**47.25**	**22.05**	**69.30**
46%	762.7	48.30	22.54	70.84
47%	779.3	49.35	23.03	72.38
48%	795.8	50.40	23.52	73.92
49%	812.4	51.45	24.01	75.46
50%	**829.0**	**52.50**	**24.50**	**77.00**

		PM PEAK		
%	ADT	IN	OUT	TOTAL
100%	1658	105	49	154
51%	845.6	53.55	24.99	78.54
52%	862.2	54.60	25.48	80.08
53%	878.7	55.65	25.97	81.62
54%	895.3	56.70	26.46	83.16
55%	**911.9**	**57.75**	**26.95**	**84.70**
56%	928.5	58.80	27.44	86.24
57%	945.1	59.85	27.93	87.78
58%	961.6	60.90	28.42	89.32
59%	978.2	61.95	28.91	90.86
60%	**994.8**	**63.00**	**29.40**	**92.40**
61%	1011.4	64.05	29.89	93.94
62%	1028.0	65.10	30.38	95.48
63%	1044.5	66.15	30.87	97.02
64%	1061.1	67.20	31.36	98.56
65%	**1077.7**	**68.25**	**31.85**	**100.10**
66%	1094.3	69.30	32.34	101.64
67%	1110.9	70.35	32.83	103.18
68%	1127.4	71.40	33.32	104.72
69%	1144.0	72.45	33.81	106.26
70%	**1160.6**	**73.50**	**34.30**	**107.80**
71%	1177.2	74.55	34.79	109.34
72%	1193.8	75.60	35.28	110.88
73%	1210.3	76.65	35.77	112.42
74%	1226.9	77.70	36.26	113.96
75%	**1243.5**	**78.75**	**36.75**	**115.50**
76%	1260.1	79.80	37.24	117.04
77%	1276.7	80.85	37.73	118.58
78%	1293.2	81.90	38.22	120.12
79%	1309.8	82.95	38.71	121.66
80%	**1326.4**	**84.00**	**39.20**	**123.20**
81%	1343.0	85.05	39.69	124.74
82%	1359.6	86.10	40.18	126.28
83%	1376.1	87.15	40.67	127.82
84%	1392.7	88.20	41.16	129.36
85%	**1409.3**	**89.25**	**41.65**	**130.90**
86%	1425.9	90.30	42.14	132.44
87%	1442.5	91.35	42.63	133.98
88%	1459.0	92.40	43.12	135.52
89%	1475.6	93.45	43.61	137.06
90%	**1492.2**	**94.50**	**44.10**	**138.60**
91%	1508.8	95.55	44.59	140.14
92%	1525.4	96.60	45.08	141.68
93%	1541.9	97.65	45.57	143.22
94%	1558.5	98.70	46.06	144.76
95%	**1575.1**	**99.75**	**46.55**	**146.30**
96%	1591.7	100.80	47.04	147.84
97%	1608.3	101.85	47.53	149.38
98%	1624.8	102.90	48.02	150.92
99%	1641.4	103.95	48.51	152.46
100%	**1658.0**	**105.00**	**49.00**	**154.00**

East Marin View Driveway Access



Left-Turn Storage Guidelines

Figure 910-6

*DHV is total volume from both directions. Current year volume may be used on 3-R Projects.
**Speeds are posted speed limits.

Southbound

Location: E.M.V.D. n/o 12th St
Weather : Cloudy
Counter : 16

City of Everett
(425)259-8800

Site:
Date: 10/14/97
File: [none]

Begin Time	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	28	0	0	0	2	10	12	4	0	0	0	0	0	0	35
1:00	17	0	0	0	0	8	8	1	0	0	0	0	0	0	35
2:00	8	0	0	1	0	4	1	2	0	0	0	0	0	0	34
3:00	23	0	0	1	3	12	4	3	0	0	0	0	0	0	33
4:00	94	1	0	2	7	30	37	16	1	0	0	0	0	0	35
5:00	246	1	0	2	22	87	94	36	3	1	0	0	0	0	35
6:00	305	1	2	1	12	134	116	30	5	3	0	0	0	1	35
7:00	214	0	0	2	28	89	57	35	2	0	1	0	0	0	34
8:00	156	0	0	2	15	88	39	12	0	0	0	0	0	0	33
9:00	187	0	2	1	15	90	56	21	2	0	0	0	0	0	34
10:00	213	2	0	6	26	90	68	18	3	0	0	0	0	0	34
11:00	233	0	0	4	19	121	65	24	0	0	0	0	0	0	34
12:PM	203	1	4	3	25	89	62	16	3	0	0	0	0	0	33
1:00	244	0	0	6	21	121	76	17	2	0	0	1	0	0	34
2:00	313	1	0	8	38	115	113	31	3	0	0	1	0	3	35
3:00	318	0	1	4	24	134	118	36	1	0	0	0	0	0	34
4:00	300	1	0	0	27	116	112	39	4	0	0	1	0	0	35
5:00	221	0	0	3	15	84	96	22	1	0	0	0	0	0	35
6:00	186	0	0	1	25	90	49	15	3	1	0	0	1	1	34
7:00	106	0	0	1	3	47	44	11	0	0	0	0	0	0	35
8:00	81	0	0	1	16	27	25	9	3	0	0	0	0	0	34
9:00	81	0	0	1	11	27	28	12	1	1	0	0	0	0	35
10:00	34	0	0	0	1	17	8	8	0	0	0	0	0	0	35
11:00	20	0	0	0	1	8	7	3	1	0	0	0	0	0	36
Daily Totals	3,831	8	9	50	356	1,638	1,295	421	38	6	1	3	1	5	34
Percent of Total		0.2	0.2	1.3	9.3	42.8	33.8	11.0	1.0	0.2	0.0	0.1	0.0	0.1	

Percentile Speeds:

10%	15%	50%	85%	90%
29.5	30.5	34.6	39.6	41.1

10 MPH Pace Speed: 30 - 40
Number in pace : 2,933
% in pace : 76.6

Speed Exceeded :	45 MPH	55 MPH	65 MPH
Percentage :	1.4	0.3	0.2
Totals :	54	10	6

Northbound

City of Everett
(425)259-8800

Location: E.M.V.D. n/o 12th St
Weather : Cloudy
Counter : 16

Site:
Date: 10/14/97
File: [none]

Begin Time	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	22	0	0	0	0	8	9	4	1	0	0	0	0	0	37
1:00	22	0	0	0	2	8	9	2	1	0	0	0	0	0	35
2:00	18	0	0	1	0	10	6	1	0	0	0	0	0	0	34
3:00	21	0	0	0	1	8	7	3	2	0	0	0	0	0	36
4:00	60	0	0	0	5	25	24	6	0	0	0	0	0	0	35
5:00	184	0	0	1	10	105	51	12	1	3	1	0	0	0	34
6:00	226	0	2	4	20	119	63	12	3	1	1	1	0	0	34
7:00	269	0	0	3	32	133	81	17	2	0	0	0	0	1	34
8:00	186	0	0	1	25	88	50	19	1	1	1	0	0	0	34
9:00	157	0	0	1	25	77	40	13	0	0	0	0	1	0	33
10:00	196	0	0	0	21	96	64	12	3	0	0	0	0	0	34
11:00	193	0	3	3	14	107	49	16	0	0	0	0	1	0	34
12:PM	217	1	0	1	28	110	56	18	1	1	1	0	0	0	34
1:00	220	0	1	0	19	115	67	14	0	1	2	0	1	0	34
2:00	237	0	0	2	25	101	84	23	0	0	1	0	0	1	34
3:00	286	0	0	0	12	125	110	35	3	0	1	0	0	0	35
4:00	277	0	0	2	10	122	113	26	1	0	2	0	0	1	35
5:00	212	0	0	1	16	93	75	22	2	0	0	1	1	1	35
6:00	161	1	0	0	24	83	43	6	3	0	0	1	0	0	33
7:00	111	0	0	2	12	62	21	13	0	0	1	0	0	0	34
8:00	91	0	0	2	11	42	30	5	1	0	0	0	0	0	34
9:00	90	0	0	0	6	39	35	8	1	1	0	0	0	0	35
10:00	48	0	0	1	1	28	12	6	0	0	0	0	0	0	34
11:00	28	0	0	0	1	16	7	4	0	0	0	0	0	0	34
Daily Totals	3,532	2	6	25	320	1,720	1,106	297	26	8	11	3	4	4	34
Percent of Total		0.1	0.2	0.7	9.1	48.7	31.3	8.4	0.7	0.2	0.3	0.1	0.1	0.1	

Percentile Speeds:

10%	15%	50%	85%	90%
30.0	30.5	34.1	39.2	40.0

10 MPH Pace Speed: 30 - 40
Number in pace : 2,826
% in pace : 80.0

Speed Exceeded :	45 MPH	55 MPH	65 MPH
Percentage :	1.6	0.6	0.2
Totals :	56	22	8

GIBSON TRAFFIC CONSULTANTS

SHEET: 1 OF 4
BY: ATK DATE 5/22
CHECKED _____ DATE _____
JOB NO. 98-037

PROJECT Fairview Apts
SUBJECT Site Photos:
Marine View Drive Access

View North (right)

View South (left)

1712 PACIFIC AVENUE • SUITE 100 • EVERETT, WA 98201 • PH: (425) 339-8266 • FAX: (425) 258-2922

GIBSON TRAFFIC CONSULTANTS

SHEET: 2 OF 4
BY: KTK DATE 5/22
CHECKED _____ DATE _____
PROJECT Fairview Ave JOB NO. 22-037
SUBJECT Site Photos
Marine View Drive @ 11th Street

View east along 11th St site frontage

View west along 11th St accross Marine View Dr

GIBSON TRAFFIC CONSULTANTS

SHEET: 3 OF 4
BY: JTC DATE 5/22
CHECKED _____ DATE _____
JOB NO. 98-037

PROJECT Eastview Apts
SUBJECT Site Photos:
Marine View Dr @ 111th Street

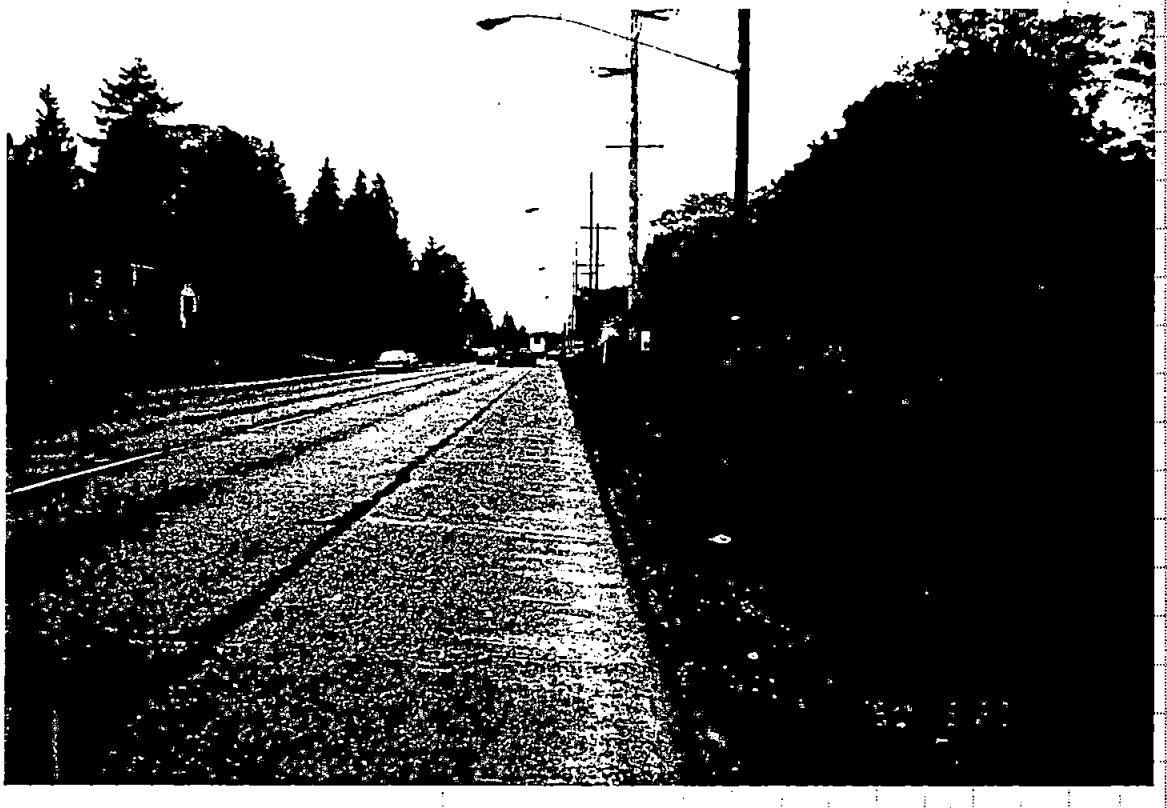
View south. (left)

View north (right)

GIBSON TRAFFIC CONSULTANTS

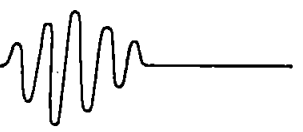
SHEET: 4 OF 4
BY: ATC DATE 5/22/
CHECKED _____ DATE _____
JOB NO. 98-037

PROJECT Fairview Ave
SUBJECT Site Photo:
Marine View Drive Site Frontage.



1712 PACIFIC AVENUE • SUITE 100 • EVERETT, WA 98201 • PH: (425) 339-8266 • FAX: (425) 258-2922

MICHAEL R. YANTIS ASSOCIATES, INC., P.S.
consulting in acoustics and vibration



NOISE ASSESSMENT:

NORTHPOINT APARTMENTS

EVERETT, WASHINGTON

for

Steffen Jacobson

July, 1998

1809 Seventh Ave., Suite 1609
Seattle, WA 98101
Office (206) 583-0465
Fax (206) 583-0615

INTRODUCTION

The following report documents our investigation of environmental noise at the proposed Northpoint Apartments, located near the intersection of 11th Street and E. Marine view Dr., in Everett, Washington. Measured noise levels are compared to pertinent criteria to determine the impact of existing environmental noise. As needed throughout this report, please refer to Appendix 1 for a general discussion of noise and its descriptors.

SITE DESCRIPTION

The Northpoint Apartments site is bordered to the east by a Burlington Northern switchyard, to the west by E. Marine view Dr., and to the north and south by residential property. The site is currently heavily forested, and slopes down from E. Marine view Dr. towards the railroad switchyard. There are no other significant topographical features.

Maximum noise levels at the site are due to switchyard operations. The switchyard is currently used on an as needed basis, operating 7 days a week. Freight passage along the tracks adjacent to the proposed Northpoint Apartments site currently occurs frequently during the day and at night.
At times when the switchyard is not active, the primary source of ambient noise at the site is traffic on I-5, which is located some distance to the east of the site.

MEASUREMENT DESCRIPTION

A 48-hour measurement of ambient noise was made at the site on June 18, 1998. The measurement was made using a Larson/Davis 700 type 2 integrating precision sound level meter. The location of the 48-hour measurement is shown in Figure 1. The measurement location was set back approximately 100 feet west of the east property line. This is equivalent to the setback distance of the building face closest to the rail yard.

Rail activity is currently fairly constant, with slightly higher activity on weekdays. The noise measurements were taken during the week, so as to be worst-case.

MEASUREMENT RESULTS

The Sound Pressure Level (SPL) descriptors in this report are given in terms of A-weighted L_{eq}, L_{max}, and L_{dn}. L_{eq} is the energy average sound pressure level, dB re 20 micropascals. L_{max} is the maximum short term sound pressure level, dB re 20 micropascals. L_{dn} is the Day-Night Equivalent Noise Level, which is a 24-hour continuous sample of L_{eq}, with a 10 dBA penalty added to sound occurring during nighttime hours (between 10:00 p.m. and 7:00 a.m.).

"A-weighted" sound level descriptors are frequency weighted to conform to the human ear's perception of loudness (see Appendix I for a more detailed discussion of noise descriptors).

The Sound Pressure Level (SPL) data measured at the site are as follows:

48 Hour Noise Measurement Data - 6/18/98 to 6/19/98

Hour	*L_{eq} (dBA)*	*L_{max} (dBA)*
1200	55	75
1300	56	80
1400	51	66
1500	50	75
1600	53	79
1700	55	77
1800	58	73
1900	51	73
2000	56	84
2100	46	65
2200	46	59
2300	49	81
0000	54	88
0100	54	84
0200	52	75
0300	52	79
0400	50	80
0500	53	71
0600	53	83
0700	54	78
0800	55	78
0900	54	75
1000	54	82
1100	55	85

$$L_{dn} = 58.8 \text{ dBA}$$

48 Hour Noise Measurement Data - 6/19/98 to 6/20/98

Hour	L_{eq} *(dBA)*	L_{max} *(dBA)*
1200	54	70
1300	53	68
1400	53	70
1500	54	77
1600	54	76
1700	52	81
1800	51	71
1900	54	82
2000	54	82
2100	51	66
2200	50	71
2300	48	75
0000	52	84
0100	53	83
0200	50	82
0300	49	79
0400	50	80
0500	49	77
0600	51	78
0700	47	71
0800	54	81
0900	50	76
1000	48	78
1100	49	68

L_{dn} = 61.8 dBA

48 Hour Average L_{dn} = 60 dBA

The measured L_{dn} was 59 and 62 dBA, with L_{max} ranging from a low of 59 to a high of 88 dBA throughout the measurement. The highest L_{max} which occurred more then once during the measurement was 84 dBA. These levels are considered typical for the site.

Since sound is measured on a decibel scale, loudness of sound is not linear. 110 dBA is not 10 percent louder than 100 dBA. A 3 dBA difference in sound levels is a perceptible difference. A 5 dBA difference is significantly louder (or softer), and a 10 dBA difference is twice as loud (or soft).

EXPECTED NOISE LEVELS

Prediction of L_{dn} levels at different locations around the Northpoint site is difficult due to multiple noise sources in different directions, however L_{dn} levels at buildings are not expected to exceed those measured during the 48 hour measurement. Noise levels at the parking area along the east site boundary may slightly exceed these levels. Noise levels in the recreation area will be reduced due to shielding by the surrounding buildings, resulting in typical noise levels of Ldn = 50 dBA.

Maximum noise levels (L_{max}) are primarily due to switchyard operations. L_{max} levels at locations to the west of the measurement location will be reduced due to distance attenuation. Noise levels at the west side of the apartment building, which faces away from the switchyard, will be reduced by an additional 10 dB or more. This reduction is due to the acoustical shielding provided by the building structures. Expected L_{max}'s at various locations around the building exterior are shown in Figure 1.

Building construction which meets current energy codes can be expected to provide 20 dB of outdoor to indoor Noise Level Reduction (NLR) of locomotive noise. Depending on the location and orientation of the apartment units with respect to the switchyard, the expected *average* L_{max} (with windows closed) ranges from 52-65 dBA.

PERTINENT CRITERIA

The impact of ambient noise levels on the proposed residential site can be determined by comparing them to pertinent criteria. In this case, City of Everett noise ordinance does not apply, since railroads are exempt as a noise source. The city applies federal government recommendations to assess residential noise levels.

In 1980, several federal agencies combined to form the Federal Interagency Committee on Urban Noise (FICUN), and produced a written set of guidelines titled, "Guidelines for Considering Noise in land Use Planning and Control". These guidelines were produced to develop a consensus among the federal agencies regarding recommended noise levels for various land uses. The recommended noise levels and corresponding land uses documented in the FICUN report and in agreement with HUD guidelines are as follows:

Exterior Noise levels (L_{dn})	*Recommended Land Use*
0-55 dBA	Residential without restrictions.
55-65 dBA	Residential property generally acceptable. The guidelines note that some people may find noise levels in this category objectionable, but considering cost of mitigating measures, these noise levels are generally acceptable for residential use.
65-75 dBA	Generally unacceptable for residential use. Residential use in this environment requires special construction techniques to achieve a minimum Noise Level Reduction (NLR) of 25 dB for noise levels between 65 dBA and 70 dBA and a NLR of 30 dB for noise levels between 70 dBA and 75 dBA.
75 dBA or above	Unacceptable for residential use

Interior noise levels (L_{dn})	*Recommended Land Use*
< 45 dBA	Acceptable for residential use
> 45 dBA	Unacceptable for residential use

The FICUN document does not identify criteria for short term maximum noise levels. Although sleep interference criteria can be complicated, a level of 45 dBA is typically used for a threshold of significant sleep interference for single event occurrences (reference 2).

COMPARISON OF EXPECTED NOISE LEVELS TO CRITERIA

Expected exterior and interior L_{dn} levels at the Northpoint Apartments site do not exceed the levels established by FICUN as compatible with residential land use. Short term maximum noise levels will, however, exceed the criteria for sleep interference.

With windows closed, expected average interior L_{max} levels in the apartment units will exceed the criteria of 45 dBA for sleep interference by 7-20 dB during nighttime hours.

MITIGATION

In order to meet a maximum interior noise level of L_{max} 45 dBA, mitigation in the form of special exterior wall construction will be required. Figure 2 shows the noise level reduction requirements.

The following specifications are included as an aid in making selections that will result in the required attenuation of exterior noise levels:

Exterior construction for 25 dB Noise Level Reduction

Exterior Walls:

(a) Exterior walls, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-30; *or*

(b) Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish.

1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2 inch thick, installed on the studs.

2. Continuous composition board, plywood or gypsum board sheathing at least 1/2 inch thick shall cover the exterior side of the wall studs.
3. Sheathing panels shall be covered on the exterior with overlapping building paper.
4. Insulation material at least R-11 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

(c) Masonry walls having a weight of at least 25 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered.

Exterior Windows:

(a) Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28; *or*

(b) Windows shall be double glazed with panes at least 3/16" thick.

(c) Double-glazed windows shall be weather-stripped and airtight when the window is closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.

(d) Glass shall be sealed in an airtight manner with a non-hardening sealant or a soft elastomer gasket or gasket tape.

(e) The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-0027, TT-S-00230 or TT-S-00153.

Exterior Doors:

(a) Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC-26; *or*

(b) All exterior side-hinged doors shall be solid-core wood or insulated hollow metal door at least 1-3/4" thick, and shall be fully weather-stripped

(c) Exterior sliding doors shall be weather-stripped with an efficient airtight gasket system with performance as specified under the 'Exterior Windows' section. The glass in the sliding doors shall be at least 3/16" thick.

(d) Glass in doors, over two square feet in area, shall be sealed in an airtight nonhardening sealant or in a soft elastomer gasket or glazing tape.

(e) The perimeter of door frames shall be sealed airtight to the exterior wall construction as specified under 'Exterior Windows' above.

Roofs:

(a) Combined roof and ceiling construction other than described in this section shall have a laboratory sound transmission class rating of at least STC-34, *or*;

(b) With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of 1/2" composition board, plywood or gypsum board sheathing topped by roofing as required.

(c) Open beam roof construction shall follow the energy insulation standard method for batt insulation.

(d) Window or dome skylights shall conform to the standards specified under the 'Exterior Windows' section.

Ceilings:

(a) Gypsum board or plaster ceilings at least 1/2" thick shall be provided where required. Ceiling shall be substantially airtight with a minimum of penetrations.

(b) Glass fiber or mineral wool insulation at least R-19 shall be provided above the ceiling between joists.

Ventilation:

(a) A ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirement for various uses in occupied rooms without the need to open any window, doors or other openings to the exterior. The inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1" thick coated glass fiber, and shall be at least 5' long with one 90 degree bend.

(b) Gravity vent openings in attics shall be as close to code minimum in number and size, as practical.

(c) Bathroom, laundry and similar exhaust ducts connecting the interior space to the outdoors, shall contain at least a 5' length of internal sound-absorbing duct lining. Exhaust ducts less than 5' long shall be fully lined. Each duct shall be provided with a bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Duct lining shall be coated glass fiber duct liner at least 1" thick.

(d) Fireplaces shall be provided with well fitted dampers.

Air Leakage

The following locations shall be sealed, caulked, gasketed, or weather-stripped to limit or eliminate air leakage:

1. Exterior joints around window and door frames between the window or door frame and the framing.
2. Openings between walls and foundations.
3. Between the wall sole plate and the rough flooring.
4. Openings at penetrations of utility services through walls, floor, and roofs.
5. Between wall panels at corners.
6. All other such openings in the building envelope.

Exterior construction for 35 dB Noise Level Reduction

Exterior Walls:

(a) Exterior walls, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-40; *or*

(b) Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish.

1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 5/8 inch thick, installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer or stucco. If the exterior is siding, the interior gypsum board or plaster must be fastened resiliently to studs or double thickness must be used.
2. Continuous composition board, plywood or gypsum board sheathing at least 1 inch thick shall cover the exterior side of the wall studs.
3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper.
4. Insulation material at least R-19 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

Exterior Windows:

(a) Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-38; *or*

(b) Windows shall be double glazed with panes at least 3/16" thick. Panes of glass shall be separated by a minimum 1/2" airspace and shall not be equal in thickness.

(c) Double-glazed windows shall employ fixed sash or efficiently weather-stripped, operable sash. The sash shall be rigid and weather-stripped with material that is compressed airtight when the window is closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.

(d) Glass shall be sealed in an airtight manner with a non-hardening sealant or a soft elastomer gasket or gasket tape.

(e) The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-0027, TT-S-00230 or TT-S-00153.

Exterior Doors:

(a) Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC-33; *or*

(b) Double door construction is required for all door openings to the exterior. Openings fitted with side hinge doors shall have one solid-core wood or insulated hollow metal door at least 1-3/4" thick, separated by a vestibule or enclosed porch at least 3' in length. Both doors shall be tightly fitted and fully weather-stripped.

(c) The glass of double glazed sliding doors shall be separated by a minimum 1/2" airspace. Each sliding frame shall be provided with an efficiently airtight weather-stripping material as specified in the 'Exterior Windows' section.

(d) Glass of all doors shall be at least 3/16" thick. Glass of double sliding doors shall not be equal in thickness.

(e) The perimeter of door frames shall be sealed airtight to the exterior wall construction as specified in the 'Exterior Windows' section.

(f) Glass in doors shall be sealed in an airtight non-hardening sealant or in a soft elastomer gasket or glazing tape.

Roofs:

(a) Combined roof and ceiling construction other than described in this section shall have a laboratory sound transmission class rating of at least STC-44, *or*;

(b) With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of 3/4" composition board, plywood or gypsum board sheathing topped by roofing as required.

(c) Open beam roof construction shall follow the energy insulation standard method for batt insulation, except use a 1" plywood decking with shakes or other suitable roofing material.

(d) Window or dome skylights shall have an STC rating of at least STC-33.

Ceilings:

(a) Gypsum board or plaster ceilings at least 5/8" thick shall be provided where required. Ceiling shall be substantially airtight with a minimum of penetrations. The ceiling panels shall be mounted on resilient clips or channels.

(b) Glass fiber or mineral wool insulation at least R-30 shall be provided above the ceiling between joists.

Floors:

(a) The floor of the lowest occupied rooms shall be slab on fill, below grade.

Ventilation:

(a) A ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirement for various uses in occupied rooms without the need to open any window, doors or other openings to the exterior. The inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1" thick coated glass fiber, and shall be at least 10' long with one 90 degree bend.

(b) Gravity vent openings in attics shall be as close to code minimum in number and size, as practical. The openings shall be fitted with transfer ducts at least 6 feet in length containing internal 1" thick coated fiberglass sound absorbing duct lining. Each duct shall have a lined 90 degree bend in the duct such that there is no direct line-of-sight from the exterior duct through the duct into the attic.

(c) Bathroom, laundry and similar exhaust ducts connecting the interior space to the outdoors, shall contain at least a 10' length of internal sound-absorbing duct lining. Exhaust ducts less than 10' long shall be fully lined, and shall meet the provisions under the 'air leakage' section. Each duct shall be provided with a lined 90 degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-

opening cross-section. Duct lining shall be coated glass fiber duct liner at least 1" thick.

(d) Fireplaces shall be provided with well fitted dampers.

(e) Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination which allows proper ventilation. The duct shall be provided with a 90 degree bend.

Air Leakage

The following locations shall be sealed, caulked, gasketed, or weather-stripped to limit or eliminate air leakage:

1. Exterior joints around window and door frames between the window or door frame and the framing.
2. Openings between walls and foundations.
3. Between the wall sole plate and the rough flooring.
4. Openings at penetrations of utility services through walls, floor, and roofs.
5. Between wall panels at corners.

Exterior construction for 40 dB Noise Level Reduction

Exterior Walls:

(a) Exterior walls, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-45; *or*

(b) Stud walls shall be at least 6 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish.

1. Interior surface of the exterior walls shall be TWO layers of gypsum board or plaster at least 5/8 inch thick, installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer or stucco. If the exterior is siding, the interior gypsum board or plaster must be fastened resiliently to studs or triple thickness must be used.
2. Continuous composition board, plywood or gypsum board sheathing at least 1 inch thick shall cover the exterior side of the wall studs.
3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper.
4. Insulation material at least R-19 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

Exterior Windows:

(a) Windows other than as described in this section shall be as described above ("Exterior construction for 35 dB Noise Level Reduction") except as follows:

(b) Windows opening into sleeping areas shall have a laboratory sound transmission class rating of at least STC-43. Careful selection will be required to obtain this level of performance, particularly from an operable window. DeVac, Milco, or Euroline make windows which approach this performance. In particular, Euroline make a window (Brugman S81 tilt and turn) which would

meet this criteria. We will provide further information and assistance in making a proper window selection.

Exterior Doors, roofs, ceilings, floors, ventilation, air leakage:

(a) Exterior Doors, roofs, ceilings, floors, ventilation, air leakage shall be as described above ("Exterior construction for 35 dB Noise Level Reduction").

Note: if two exterior building areas with different noise level reduction requirements encompass one apartment unit, the higher of the two noise level reduction requirements should be used for that entire unit.

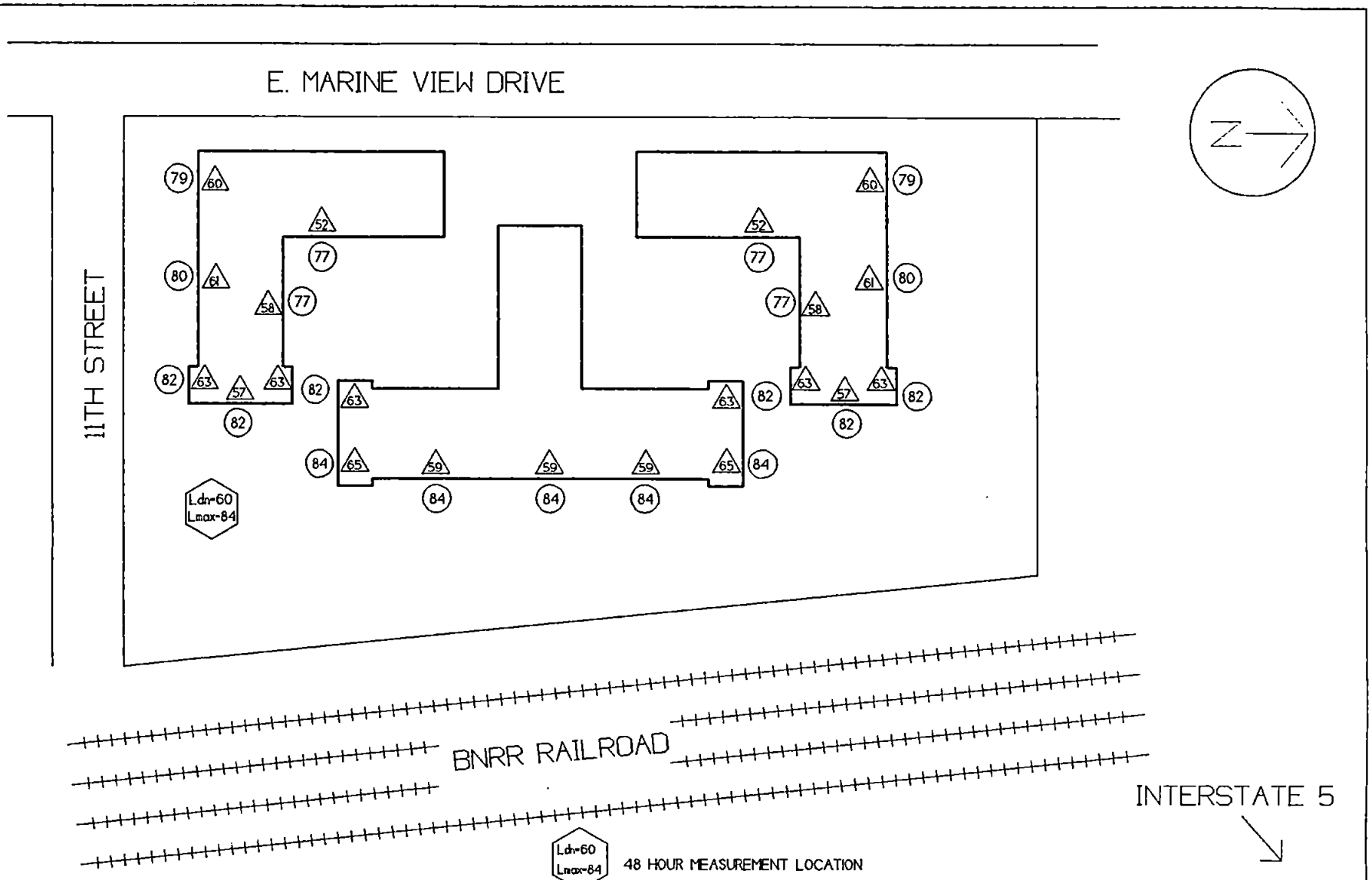


FIGURE 1

NORTHPOINT APARTMENTS
48 HOUR NOISE MEASUREMENT AND PREDICTED Lmax'S

MICHAEL R. YANTIS ASSOCIATES

7/15/98

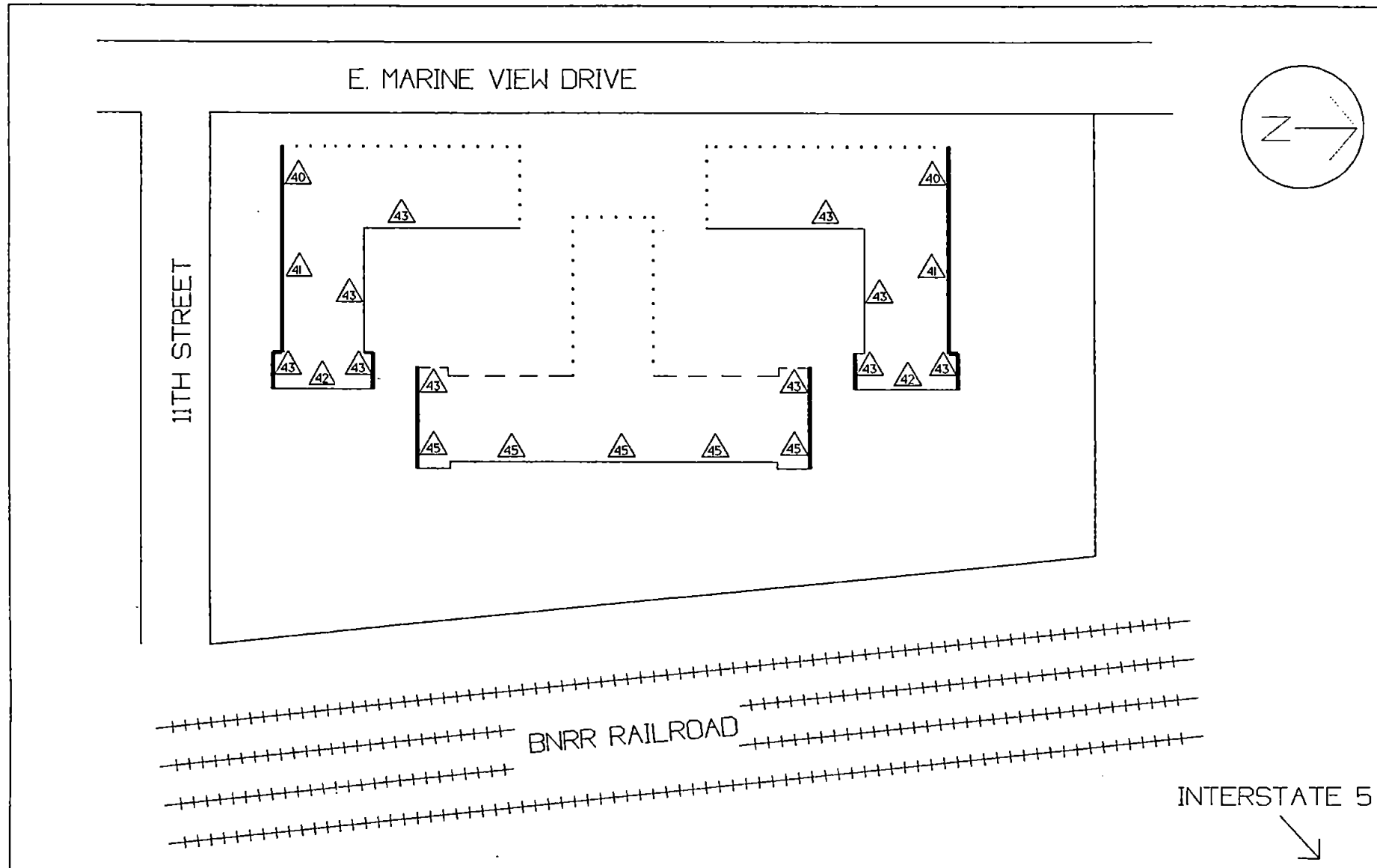


FIGURE 2

NORTHPOINT APARTMENTS - BUILDING EXTERIOR NOISE LEVEL REDUCTION REQUIREMENTS AND RESULTING INTERIOR LEVELS

MICHAEL R. YANTIS ASSOCIATES

7/15/98

REFERENCES:

1. "Guidelines for Considering Noise in Land Use Planning and Control", Federal Interagency Committee on Urban Noise, June 1980.

2. "Effects of noise on man", James D. Miller, J. Acoust. Soc. Am., Vol. 56, No. 3, September 1974.

3. "Information on Levels of Environmental Noise Requisite to Protect Public Health & Welfare with an Adequate Margin of Safety", Environmental Protection Agency, March 1974.

APPENDIX I: GENERAL DISCUSSION OF ENVIRONMENTAL NOISE

Environmental noise typically refers to the total acoustic environment as measured or heard by humans. This acoustic environment is made up of background noise caused by distant traffic, airplanes, etc., and higher level noise dominated by nearby sources such as car pass-bys, airplane flyovers, or close construction activity. The most commonly used measure of sound is the sound pressure level (SPL), which represents the magnitude of the sound pressure in the air.

The human ear responds differently to sounds at different frequencies (pitch). This is demonstrated by the fact that we hear higher pitched sounds easier than lower ones of the same magnitude. To compensate for the different "loudness" as perceived by humans at different pitches, a standard weighting curve is applied to measured levels. This weighting curve represents the human ear's sensitivity, and is labeled "A" weighting. The units of magnitude of the sound are written dBA ("A" weighted decibels), which is a logarithmic scale. Regulatory agencies use the dBA scale as one measure of evaluating noise impacts.

The nature of dB scales means that individual dB ratings for different noise sources cannot be added directly to give the dB rating of the combination of these sources. Two noise sources producing equal dB rating at a given location will produce a composite noise that is 3 dB greater than the individual levels. Similarly, the loudness of sounds does not vary arithmetically. A difference of 3 dB is marginally detectable to the untrained ear. A 5 dB difference is easily detectable, and a sound that is 10 dB more than another sounds twice as loud.

The following table presents examples of common noise levels:

SPL(dBA)	Example
0	Threshold of audibility
20	Quiet rural area (no traffic)
40	Suburban neighborhood (distant traffic)
60	Normal conversation
70	Busy freeway
100	Jackhammer
130	Threshold of pain

Annoyance of environmental noise is further affected by the maximum (peak) levels. Factors which affect the annoyance caused by short term peak noise levels include:

1. The duration of peak levels.

2. The exceedance of peak levels over existing ambient levels. Existing high noise levels may mask short term peaks.

3. Time which short term peaks occur. Short term peak noise levels which might not cause annoyance during the day could cause sleep interference if they occur at night.

Several statistical descriptors are commonly used to describe noise levels which fluctuate. The statistical descriptors are L(1), L(10), L(50), L(90), and L(99), and represent the sound that is exceeded the percentage of time in parentheses. For example, L(50) is the sound level exceed 50% of the time in a given time interval. L(1) levels generally represent maximum levels, L(50) average levels, and L(99) background levels.

Another noise descriptor is the Equivalent Noise Level (L_{eq}), which is the dBA level of a constant sound which has the same acoustical energy as the time-varying noise. The EPA describes it: "The equivalent sound level is a single value of sound level for any desired duration, which includes all of the time-varying sound energy in the measurement period". Therefore, a sound that was 60 dBA for ten minutes, and 70 dBA for ten minutes would have an L_{eq} for the total time period of 67 dBA (remember, logarithms do not add together directly). It can be seen that the higher level sounds are weighted heavier in the calculation, because they have more energy. Maximum noise levels are therefor accounted for in the L_{eq} descriptor.

The Ldn, or day-night equivalent sound level, is the L_{eq} measured over a 24 hour period, with a 10 dBA penalty applied to night-time levels (10:00pm to 7:00am).

Noise levels at locations removed from the source are affected by several factors:

1. The distance between the noise source and receiver and size of the noise source. Noise resulting from a large noise source (such as a football game) will fall off at a slower rate than noise from a point source (such as a loudspeaker), with increasing distance.

Depending on the above factors, distance attenuation will vary from 3 to 6 dB per doubling of distance from the source to the receiver. The following factors may provide additional reduction of noise levels at the receiver:

1. Intervening topography. Topography which blocks the line of sight from the receiver to the noise source will typically result in a 5-15 dB reduction in noise levels at the receiver.

2. Intervening vegetation. Vegetation which blocks the line of sight from the source to the receiver, such as trees or shrubs, acts as barrier to sound. Vegetation is porous, however, and makes a poor barrier. 3 dB of attenuation per 100 ft. of distance is typical for trees. Depending on several factors, vegetation can produce as much as 15 dB reduction at long distances (greater than 300 ft).

GEOTECH
CONSULTANTS, INC.
13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

ENVIRONMENTAL SITE ASSESSMENT
Phases 1 and 2

Undeveloped Land
East Marine View Drive
Everett, Washington

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

GEOTECH
CONSULTANTS, INC.

13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

November 10, 1997

JN 97382A

Steffen Jacobson
3035 Fairweather Place
Hunts Point, Washington 98004-1002

Subject: **Transmittal Letter**
Phase 1 Environmental Site Assessment
Undeveloped Land
East Marine View Drive
Everett, Washington

Dear Mr. Jacobson:

Geotech Consultants, Inc. is pleased to present the results of our recently completed Phase 1 Environmental Site Assessment for the subject property. Our work was completed in accordance with our proposal dated October 21, 1997. Please find the assessment attached.

We appreciate this opportunity to be of service to you on this project. If you have any questions, or if we may be of additional service, please contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

David Bair

David Bair
Environmental Engineer

DLB:alt

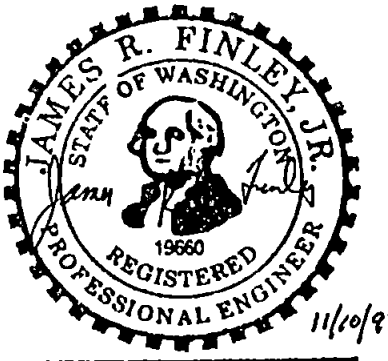
PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

Submitted by:

GEOTECH CONSULTANTS, INC.

David Bair

David Bair
Environmental Engineer



11/10/97

EXPIRES 8/17/98

James R. Finley, P.E.
Principal

TABLE OF CONTENTS

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

1.0 EXECUTIVE SUMMARY

The subject property is located along East Marine View Drive between 10th Street and 11th Street, approximately one and three-quarters miles northeast of downtown Everett. The Vicinity Map, Plate 1, illustrates the general location of the site. Land use in the surrounding area is characterized by residences to the north, south, and west and railroad tracks to the east.

Presently, no permanent structures are on the site. Historical research indicates that the property was undeveloped prior to 1947. The property is the proposed location for a 240-unit apartment complex.

Based upon research completed for this report, it appears that the subject property is within the area designated as the Everett Smelter Study Area. Soil within this area has the potential for containing concentrations of arsenic, cadmium, lead, and other metals above natural background levels due to past activities at the former Asarco smelter in Everett. The Snohomish Health District has made recommendations for working with soil in this area, and those recommendations are attached to this report. This assessment did not reveal any other recognized environmental conditions in connection with the subject property. A discussion of the scope of our work, our site observations, and our conclusions are contained in this report.

2.0 INTRODUCTION

This report presents the results of our Phase 1 Environmental Site Assessment of the property at East Marine View Drive in Everett, Washington.

2.1 Special Terms and Conditions

The scope of work for our review of this site did not include the examination, sampling, or analysis of subsurface soil or groundwater on the site for potential environmental contaminants. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be given the opportunity to review the findings, re-evaluate the conclusions of this report, and provide amendments as required.

2.2 Purpose and Scope Of Work

The purpose of an environmental assessment is to satisfy one of the requirements to qualify for the innocent landowner defense in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): that is, to make "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." Our scope of work and the limitations of our study are consistent with American Society for Testing and Materials (ASTM) Designation E1527: *Standard Practice for Environmental Site Assessments: Phase 1*

Environmental Site Assessment Process. The objective of a Phase 1 assessment is to minimize potential future liability for environmental problems by demonstrating that at the time this report was prepared, the owner, holder, or buyer had no knowledge or reason to know that any hazardous substance had been released or disposed on, in, or at the property. An additional objective of the Phase 1 assessment is to identify potential contamination sources.

The goal of the processes established by the ASTM is to identify recognized environmental conditions. The term "recognized environmental conditions" means the presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate governmental agencies.

Our study included:

- A review of the chronology of ownership and site history, using county assessor records, historical maps, and aerial photography as primary resources. An attempt was made to identify possible former industries or uses at, on, or near the site and presenting some probability of generating waste, which may have included dangerous or hazardous substances, as defined by state and federal laws and regulations.

- A reconnaissance of the property to look for evidence of potential contamination in the form of soil stains, odors, vegetation stress, discarded drums, or discolored water.

- The acquisition and review of available reports and other documentation pertaining to the subject property or nearby sites.

- A search of available state and federal government records using software and a database developed and maintained by VISTA Information Solutions, Inc. (VISTA). VISTA reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property.

3.0 SITE DESCRIPTION AND RECONNAISSANCE

3.1 Location and Legal Description

Located on the eastern side of East Marine View Drive between 10th Street and 11th Street, the subject property totals 4.22 acres of land. The Vicinity Map, Plate 1, illustrates the general location of the site.

The property is situated in the northeast quarter of Section 17, Township 29 North, Range 5 East,

Willamette Meridian, in Snohomish County, Washington. The tax identification number, as recorded by the Snohomish County Assessor's Office, is 172905-005-0006.

3.2 Site and Vicinity Characteristics

An environmental engineer from our firm visited the site on October 22, 1997 to observe on-site conditions and land use practices in the surrounding area. The undeveloped subject property is covered with trees, brambles, grass, and other native vegetation. All accessible areas on the property were visited. Land use in the immediate vicinity is generally characterized by older single-family dwellings.

3.2.1 Site Improvements

The entire 4.22-acre lot is undeveloped and covered by native vegetation. Access to the property is from East Marine View Drive on the west and from 11th Street on the south.

Potable water, storm, and sanitary sewer services in the area are provided by the City of Everett.

3.2.2 Building Materials

No structures exist on the site.

3.2.3 Current Uses of Property

Undeveloped presently, the subject property is the proposed location for a 240-unit apartment complex. The property is covered by trees, brambles, grass, and other native vegetation. The property slopes down to the east, dropping approximately 60 feet over 300 feet.

At the time of our site visit, we observed small amounts of litter along East Marine View Drive and several piles of yard wastes on the margins of the property, but no major stains, odors, or unusual vegetative conditions that might indicate the potential presence of contamination on the subject property.

3.2.4 Current Uses of Adjoining Properties

Land use in the site vicinity is characterized by residential development. More specifically, the property is bordered as follows:

North: The subject property is bordered to the north by an apartment building constructed in the early 1980's, then single-family residences.

East: To the east of the property and lower in elevation lie railroad tracks operated by the Burlington Northern Railroad.

South: The property is bordered on the south by 11th Street and older single-family residences.

West: East Marine View Drive forms the western border of the subject property. Across this street are single-family residences.

During our reconnaissance, we did not observe any signs of improper storage or disposal practices of hazardous waste on any of the neighboring sites that would negatively impact the subject property.

3.3 Hazardous Materials

3.3.1 Storage Tanks and Containers

At the time of our site visit, we looked for evidence of underground or above-ground storage tanks on the subject parcel. No signs of underground or above-ground storage tanks were observed during our site reconnaissance.

3.3.2 Asbestos-Containing Materials

No structures are on the site. We did not observe signs of asbestos-containing materials on the property.

3.3.3 Lead-Based Paint

Until the 1960's, paint containing 30 to 40 percent lead was commonly used on the interior and exterior surfaces of buildings. Exposure to particles of lead-based paint (LBP), either through inhalation or ingestion, has been found to cause a variety of adverse human health effects. Children are particularly sensitive to these effects, and chronic exposure to lead can cause learning difficulties, mental retardation, and delayed neurological and physical development. In 1977, the Consumer Products Safety Commission banned consumer use of paint products that contain lead in excess of 0.06 percent. The current LBP standard, as defined by the Lead-Based Paint Poisoning Prevention Act and the Department of Housing and Community Development Act, Title 10, is any paint or other surface coating that contains lead in excess of 1.0 milligrams per square centimeter or 0.5 percent by weight (5,000 parts per million).

No structures are on the subject property. We did not observe any signs of lead-based paint on the site.

3.3.4 PCBs

Prior to 1979, polychlorinated biphenyls (PCBs) were widely used in electrical equipment, such as transformers, capacitors, switches, fluorescent light ballasts, and voltage regulators, owing to their excellent cooling properties. In 1976, the EPA initiated the regulation of PCBs through the Toxic Substances Control Act (TSCA). These regulations generally control the use, manufacture, storage, documentation, and disposal of PCBs. The EPA eventually banned PCB use in 1978, and the adoption of

amendments to TSCA under Public Law 94-469 in 1979 prohibited any further manufacturing of PCBs in the United States.

No buildings are on the property.

We observed two pole-mounted transformers on the subject property. No certifications or labels regarding PCBs were noted on the transformers. Careful examination of the transformers revealed no cracks, staining, or other evidence of potential leakage.

3.3.5 Waste Generation and Disposal

No hazardous or solid waste is generated at the subject property.

3.4 Other Conditions of Concern

Radon is a naturally occurring, highly mobile, chemically inert, radioactive gas created through the radioactive decay of uranium and thorium. The potential for the occurrence of radon varies widely and depends on: (1) the concentration of radioactive materials in the underlying bedrock, (2) the relative permeability of soils with respect to gases, and (3) the amount of fracturing or faulting in the surficial materials (EPA, 1987). The EPA has established a concentration for radon of 4 pico-Curies per liter (pC/l) of air as a maximum permissible concentration "action level." According to some studies, the average concentration in homes across the United States is on the order of 1.4 pC/l.

Typically, the Puget Sound area of Washington is underlain by a consolidated thickness of glacial drift and rocks that do not contain radon-forming minerals. The Washington Department of Health, Division of Radiation Protection, published a study listing the Snohomish County average as 0.5 pC/l. Based on this information, it is our opinion that the potential for elevated levels of radon at this site is low.

4.0 HISTORICAL USE INFORMATION

Sources reviewed for information on site and area development and land use included historic aerial photography and resources at the Snohomish County Assessor's Office and the Everett Public Library.

4.1 Previous Environmental and Geotechnical Investigations

Geotech Consultants, Inc. has not completed geotechnical or environmental engineering studies for the site. We were not provided with these types of documents for review.

4.2 Historical Maps

A Sanborn Fire Insurance map prepared in 1914 and revised in 1955 shows the subject property as undeveloped. Development in the property's vicinity in 1914 consisted of single-family residences.

4.3 Tax Assessor Records

The Snohomish County Assessor's Office lists the current taxpayer as Nenadics Investments of Burnaby, B.C. Additional information indicates that Nenadics Investments purchased the property from Anton Kravagna in 1978. No restrictive conditions, contamination, or open space conditions are associated with the property.

4.4 Everett Public Library - Everett Directories

We examined Everett city directories at approximate five-year intervals from 1944 through 1990 for the subject site and surrounding properties. There was no listing for the subject site during those years. Properties to the north, south, and west were in residential use during that period.

4.5 Aerial Photographs

From a review of aerial photographs, dated 1947, 1955, 1967, 1976, 1981, 1985, 1989, and 1993, it appears that the subject property was undeveloped prior to 1947. Site conditions on the subject property and development in the surrounding area for each of these years are discussed in the paragraphs that follow.

1947: In this photograph, the subject property is covered by trees and other vegetation. The land to the north is also wooded. Railroad tracks are visible to the east, at the base of the hill. Two houses can be seen to the west, across East Marine View Drive. Farther west is denser residential development. To the south is additional residential development. Two mills are visible approximately one mile to the north.

1955: The subject property remains undeveloped and wooded. Residential development in the area has increased. An unpaved road on the south of the subject property now leads down to the railroad tracks.

1967: An area of the southwestern corner of the subject property has been cleared of trees. The remainder of the property is wooded. Along the southern border of the subject property, 11th Street has been extended downhill to the railroad tracks. The unpaved road on the subject property described in the 1955 photograph is no longer visible.

1976: The subject property and immediately surrounding parcels appear as described in the 1967 paragraph.

1981: A new school is visible approximately one-quarter mile to the west.

1985: The subject property remains undeveloped and wooded. An apartment building has been constructed immediately to the north. To the west, more houses have been constructed.

1989: 11th Street, to the south of the subject property, no longer extends east to the railroad tracks.

1993: The subject property and immediately surrounding parcels appear as described in our 1997 site visit.

5.0 ENVIRONMENTAL SETTING

5.1 Regional Physiographic Conditions

The site is situated on a gently rolling elevated drift plain in the Puget Sound Lowland geomorphic province. The Puget Sound Lowland is a basin lying between the Cascade Mountains to the east and the Olympic Mountains to the west and is covered mainly by glacially-deposited sediments. The plain was formed during the last period of continental glaciation that ended approximately 13,500 years ago. The site lies on the side of an east-facing slope. The western border of the site is at an approximate elevation of 90 feet above sea level. The eastern border is approximately 60 feet lower in elevation.

5.2 Soil and Geologic Conditions

A published geologic map for the site vicinity suggests that much of the material underlying the subject site is glacial till, a dense, heterogeneous mixture of silt, sand, and gravel. Typically, the till exhibits relatively low vertical hydraulic conductivity which frequently results in formation of a perched water table along its upper contact. The perched water table (if present) is frequently seasonal and derives recharge primarily from infiltration of precipitation through more permeable overlying soils.

We were not provided with any geotechnical studies for review and cannot comment more definitively upon the subsurface conditions beneath the site.

5.3 Hydrogeologic Conditions

The geologic unit that we assume characterizes the site is of relatively low permeability. Based upon local drainage patterns and upon our review of a U.S. Geological Survey map of the area, it is likely that the flow of surface, or shallow-seated subsurface, water across the property would be toward the east to the Snohomish River. According to a U.S. EPA Ground Water Handbook, water tables typically conform to surface topography.

6.0 RECORDS REVIEW

Geotech Consultants, Inc. utilized software and a database developed and maintained by VISTA Information Solutions, Inc. (VISTA) to complete a search of available state and federal government records. VISTA reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property. The databases searched by VISTA, as well as the search areas applied to each, are summarized in the following sections. A copy of the *VISTA Site Assessment Report* is included with this report as Appendix A.

6.1 Federal Records Sources

6.1.1 NPL

No sites within a one-mile radius of the subject property are found on the National Priority List.

6.1.2 CERCLIS

A review of the EPA's CERCLIS listing reveals no active sites within approximately one-half mile of the subject property that have been designated as potentially hazardous or eligible for participation in the Superfund cleanup program.

6.1.3 ERNS

The subject property does not appear on the Emergency Response Notification System (ERNS) database of spill response activities.

6.1.4 FINDS

A review of the Facility Index System (FINDS) listing and the EPA's Resource Conservation and Recovery Act (RCRA) Notifiers list, along with our site and area reconnaissance, reveals no RCRA-regulated businesses on the subject property or adjacent sites.

6.1.5 TSD

A review of the RCRIS-TSD list shows no sites within a one-mile radius of the subject property.

6.2 State Records Sources

6.2.1 WDOE Underground Storage Tanks

A review of the WDOE listing of underground storage tanks (USTs) reveals no registered USTs on, or adjacent to, the subject property. A review of the current Leaking Underground Storage Tank (LUST) list reveals five sites (two of the sites are listed twice) within a half-mile radius of the subject property that have experienced leaks of petroleum into the environment.

COMPANY AND ADDRESS	LOCATION	WDOE REMARKS
Everett Area 3 Mnt HQ 709 N Broadway	three-eighths mile northwest, crossgradient	cleanup completed for contaminated soil
Everett School Dist. 2301 12th St.	one-half mile south-southwest, crossgradient	cleanup completed for contaminated soil
Everett School Dist. 1110 Poplar St.	one-quarter mile west, crossgradient	cleanup in progress for contaminated soil

COMPANY AND ADDRESS	LOCATION	WDOE REMARKS
Time Oil Food Mart 928 N Broadway	one-half mile west, crossgradient	cleanup in progress for contaminated soil and groundwater
Time Station 168 928 N Broadway	one-half mile west, crossgradient	cleanup in progress for contaminated soil and groundwater
WDOT N Broadway 709 N Broadway	three-eighths mile northwest, crossgradient	cleanup completed for contaminated soil
Weyerhaeuser Everett Mill 515 E Marine View Dr.	three-eighths mile north, crossgradient	cleanup in progress for contaminated soil

Based upon the distances separating these sites from the subject property and upon their crossgradient hydrologic positions, it is our opinion that the potential for environmental impairment of the subject property from these sources is very low.

6.2.2 WDOE Hazardous Site Listings

A review of the WDOE Confirmed & Suspected Contaminated Sites (C&SCS) report shows four sites within an approximate one mile radius of the subject property that have been designated as confirmed hazardous substance sites.

SITE AND ADDRESS	LOCATION	AFFECTED MEDIA AND CONTAMINANTS
Alley Shop 1321 Broadway	five-eighths mile SW, crossgradient	Awaiting a site assessment for soil contaminated by metals.
BNRR/Delta Yard 3429 15th St.	three-eighths mile SE, crossgradient	Soil and groundwater contaminated by petroleum products.
Everett Smelter/Slag Site SR 529 and E Marine View Dr.	five-eighths mile N, crossgradient	Soil and groundwater contaminated by metals and petroleum; air, sediment, and surface water may also be affected.
Weyerhaeuser Everett 101 E Marine View Dr.	one mile N, crossgradient	Air, groundwater, surface water, soil, and possibly sediment contaminated by metals, PCBs, petroleum, and phenolic compounds.

Based upon the distances separating these sites (with the exception of the Everett Smelter/Slag site) from the subject property and upon their crossgradient hydrologic positions, it is our opinion that the potential for environmental impairment of the subject property from these sources is very low.

The Everett Smelter/Slag Site at State Route 529 and East Marine View Drive is located approximately five-eighths of a mile northeast of the subject property. This area is the historic location of a lead, gold, silver, and arsenic smelter which operated from 1893 to 1914. In the 1930s and 1940s, part of the site was developed into residential properties, some of which are in the exact location of the former smelter structures. Soil on the historic smelter site was contaminated through activities on the site itself, while airborne emissions affected the surrounding properties. WDOE first investigated the site in October 1990. Since then, a series of studies have been completed to investigate the quality of soil and groundwater on the

former smelter site and in the surrounding area. The smelter site itself has undergone some remediation. The subject property is located near the southeastern corner of this study area. Two soil samples near the subject property were obtained and analyzed during the course of the remedial investigation. Sample S-209 was obtained at 1014 East Marine View Drive, immediately west of the subject property, and another sample, S-309, was obtained at a property on the west side of the 1100 block of East Marine View Drive, less than one-half block south-southwest of the subject property. The results of these analyses, along with proposed cleanup levels and natural background levels, appear in the table which follows:

SOIL ANALYSES

SAMPLE NUMBER	ARSENIC	CADMIUM	LEAD
S-209	**22**[1]	0.5	44
S-309	31	1.2	**314**
Cleanup Levels[2]	7	2	250
Background levels[3]	7.30	0.77	16.83

Notes:

1. Results are reported in parts per million (ppm).
2. Cleanup levels for soil from the *Everett Smelter Site Remedial Investigation*, Hydrometrics, Inc., September 1995.
3. Natural background levels appear in *Natural Background Soil Metals Concentrations in Washington State*, WDOE Publication No. 94-115, October 1994.

As shown in the preceding table, concentrations of arsenic, cadmium, and lead above those considered to be natural background levels have been found on sites adjacent to or very near the subject property. It is possible that soils at the subject property as well may have been affected by the former activities at the Everett Smelter.

6.3 Local Agency Sources

A review of the Snohomish Health District records pertaining to current and abandoned landfills within the county suggests that one closed landfill is located approximately one mile north of the subject property: the former Weyerhaeuser kraft landfill at 101 East Marine View Drive. Based upon the distance separating this closed landfill from the subject property and upon its crossgradient hydrologic position, it appears to pose little risk to the subject site.

No active landfills are listed as being within a one-mile radius of the subject property.

6.4 Assumptions and Opinion of Contaminant Mobility and Site Vulnerability

We have not confirmed any potential sources of environmental contamination on the subject property. No confirmed hazardous waste-contaminated sites lie within 1,000 feet of the subject property in an upgradient hydraulic position. As such, it is our professional opinion that the potential for the migration of theoretical water-borne contamination onto the subject property is very

low. As discussed earlier, the subject property is in the Everett Smelter Study Area and has the potential to have been affected by past airborne migration of contaminants.

7.0 RESULTS OF INVESTIGATION

We performed a Phase 1 Environmental Site Assessment, consistent with the scope and limitations of ASTM Designation E 1527, for the property at East Marine View Drive in Seattle, Washington.

7.1 Findings

Based upon research completed for this report, it appears that the subject property is within the area designated as the Everett Smelter Study Area. Soil at properties within this area has the potential for containing concentrations of arsenic, cadmium, lead, and other metals above natural background levels due to past activities at the Everett smelter. The Snohomish Health District has made recommendations for working with soil in this area, and those recommendations are attached to this report. This assessment did not reveal any other recognized environmental conditions in connection with the subject property.

7.2 Conclusions and Recommendations

The Snohomish Health District has issued a Public Health Advisory offering guidelines for reducing potential exposure to elevated concentrations of metals by people living or working in the Everett Smelter Study Area. The Advisory notes that soil removed from the area has the potential to be designated as a Dangerous Waste due to high metals content and that construction activities should be planned to reduce potential exposure of workers to contaminated soil. A copy of this Advisory appears in Appendix B.

7.3 Limitations

This report has been prepared for the exclusive use of Steffen Jacobson and his representatives for specific application to this site. This work was performed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work is in accordance with our Fee Schedule and General Conditions and our signed proposal, which is dated October 21, 1997.

8.0 REFERENCES

Defenbach, Jeffrey R. *Solid Waste Sites of Record.* Snohomish Health District. Everett, Washington. June 17, 1996.

Division of Radiation Protection, Department of Health, State of Washington. Radiation Fact Sheet.

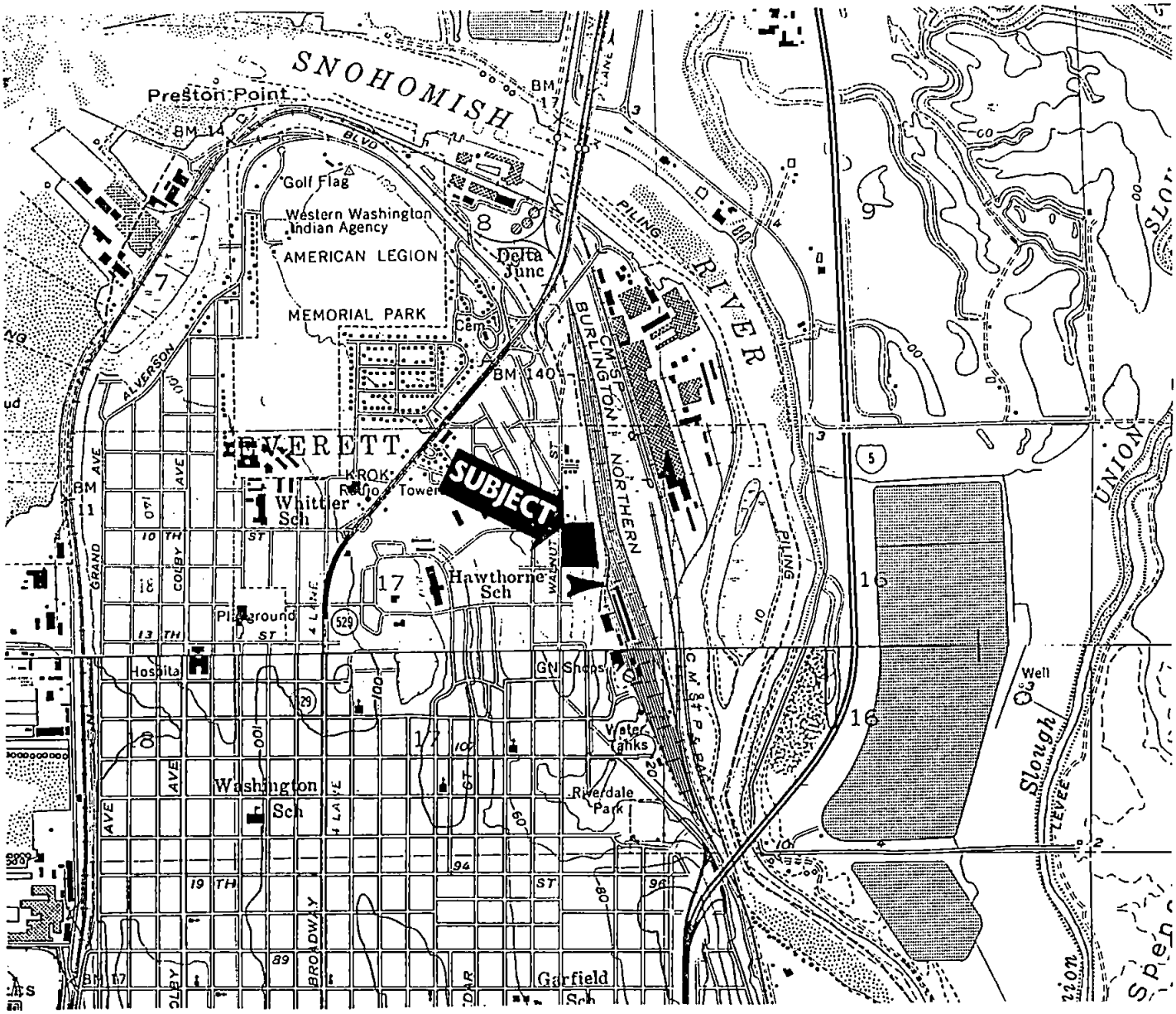
Hydrometrics, Inc. *Everett Smelter Site Remedial Investigation, Everett, Washington. (3 vol.)* September 1995.

Newcomb, R. C. *Ground Water Resources of Snohomish County Washington Geological Survey Water-Supply Paper 1135.* 1952.

Office of Research and Development, U.S. EPA. *U.S. EPA Ground Water Handbook - Volume 1: Ground Water and Contamination.* EPA/625/6-90/016a. September 1990.

Washington Department of Ecology. *Natural Background Soil Metals Concentrations in Washington State, Publication No. 94-145.* October 1994.

Washington Department of Ecology. *Everett Smelter Site Update.* May 1996.



Scale

0 — 1/2 — 1 mile

N

Inferred Direction of Shallow Groundwater Flow

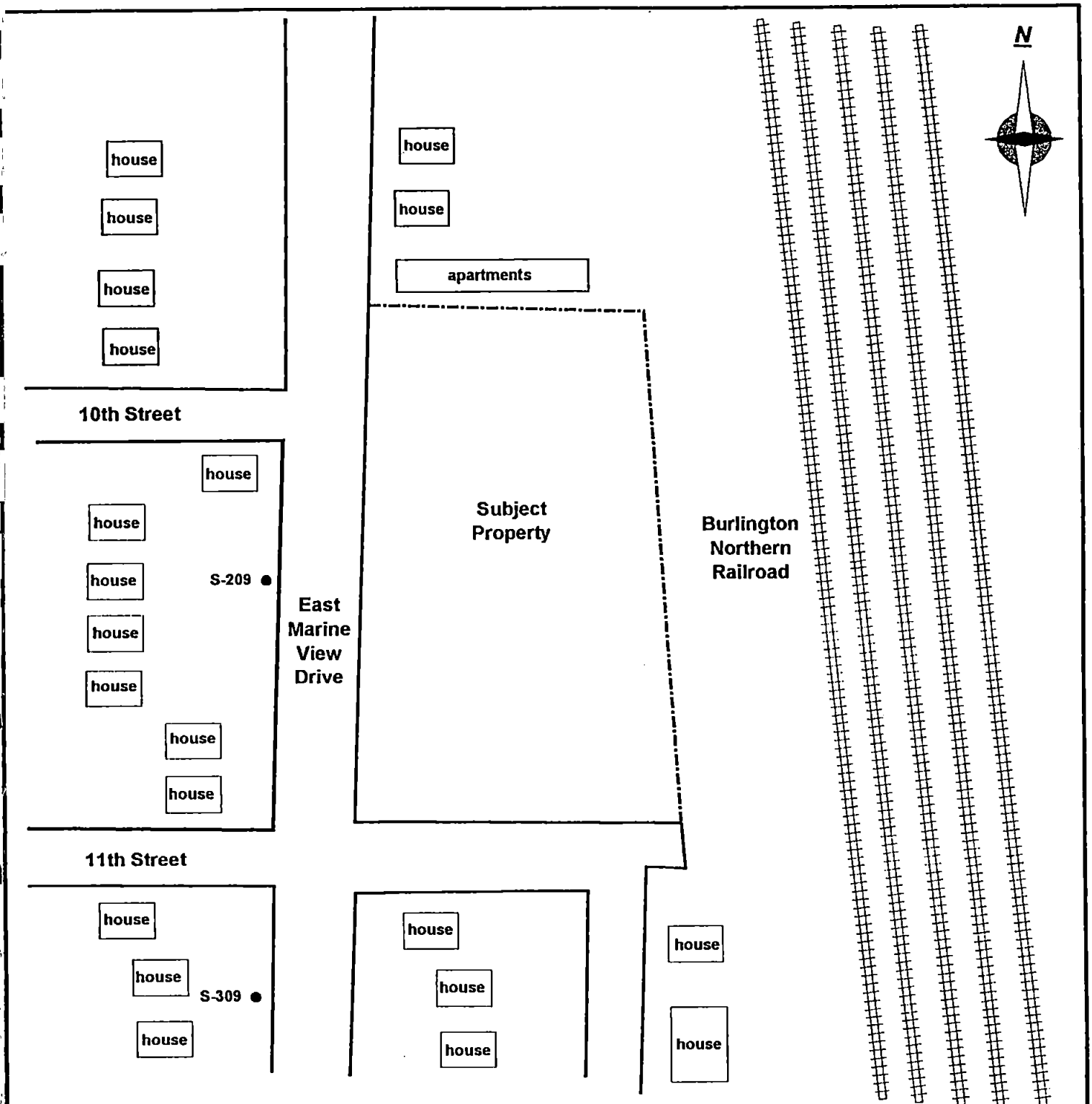
(Source: U.S. Geologic Survey map of Marysville and Everett Quadrangles, 1973)

GEOTECH CONSULTANTS, INC.

VICINITY MAP

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	Date:		Plate:
97382A	Oct. 1997		1



● Indicates location of soil sample

Inferred Direction of Groundwater Flow

GEOTECH
CONSULTANTS, INC.

SITE PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	*Date:*		*Plate:*
97382A	Oct. 1997	No Scale	2

Looking northeast at property.

Looking east across property.

GEOTECH
CONSULTANTS, INC.

SITE PHOTOGRAPHS

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	*Date:*		*Plate:*
97382A	Oct. 1997		3

APPENDIX A

VISTA's Site Assessment Report

SITE ASSESSMENT REPORT

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided Undeveloped Land 1000 E Marine View Drive Everett, WA 98201 Latitude/Longitude: (48.003655, 122.187900)	Steffen Jacobson 3035 Fairweather Place Hunts Point, WA 98004-1002

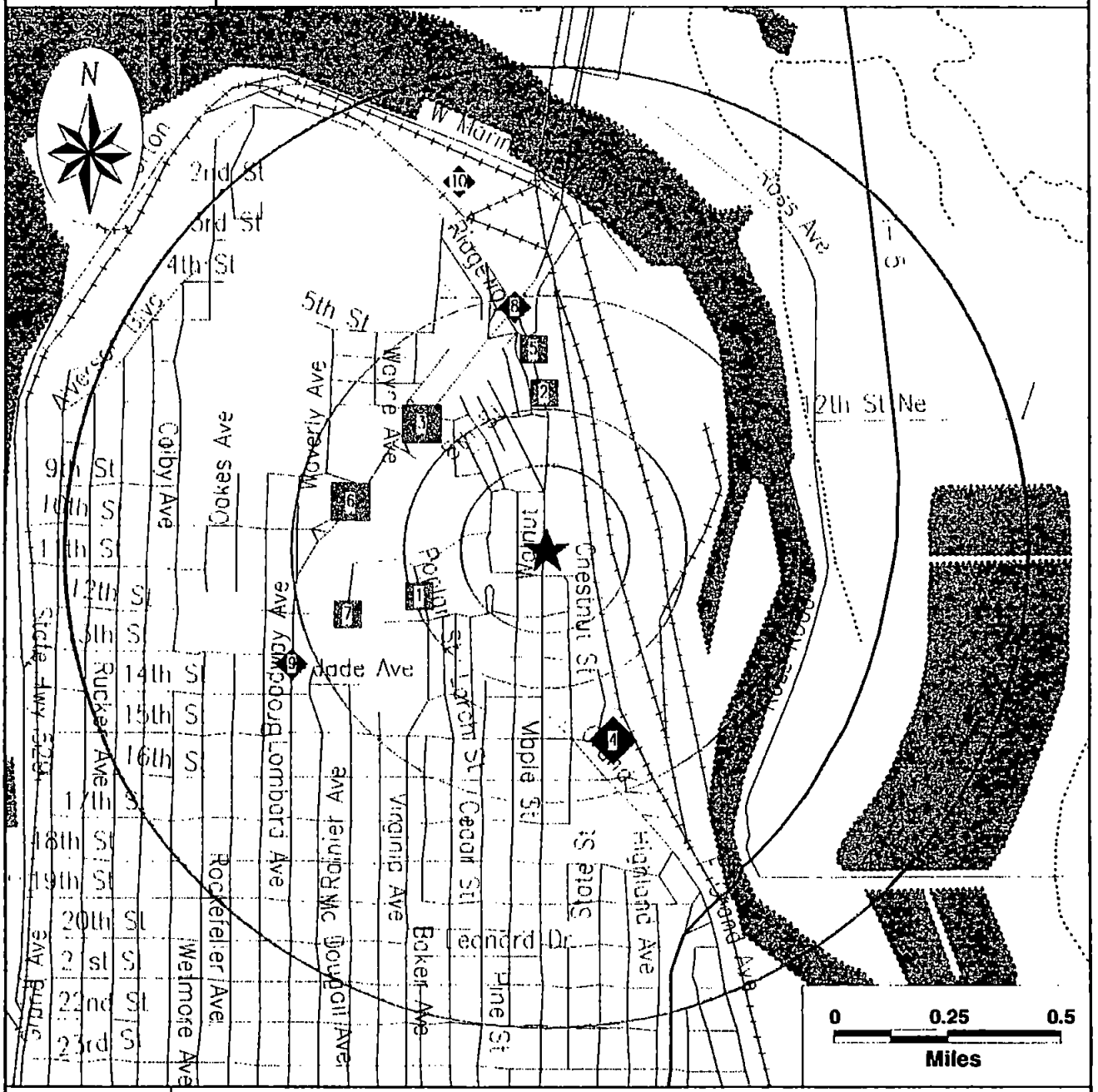
Site Distribution Summary Agency / Database - Type of Records			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
A) Databases searched to 1 mile:						
US EPA	NPL	National Priority List	0	0	0	0
US EPA	CORRACTS (TSD)	RCRA Corrective Actions and associated TSD	0	0	0	0
STATE	SPL	State equivalent priority list	0	0	1	1
STATE	SCL	State equivalent CERCLIS list	0	0	1	1
B) Databases searched to 1/2 mile:						
US EPA	CERCLIS / NFRAP	Sites currently or formerly under review by US EPA	0	0	0	-
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE	LUST	Leaking Underground Storage Tanks	0	1	6	-
STATE	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
STATE	TOXICS	Washington Site Register	0	0	5	-
C) Databases searched to 1/4 mile:						
STATE	UST	Registered underground storage tanks	0	0	-	-
D) Databases searched to 1/8 mile:						
US EPA	ERNS	Emergency Response Notification System of spills	0	-	-	-
US EPA	LG GEN	RCRA registered large generators of hazardous waste	0	-	-	-
US EPA	SM GEN	RCRA registered small generators of hazardous waste	0	-	-	-

This report meets the ASTM standard E-1527 for standard federal and state government database research in a Phase I environmental site assessment. A (-) indicates a distance not searched because it exceeds these ASTM search parameters.

NOTES

SITE ASSESSMENT REPORT

Map of Sites within 1 Mile



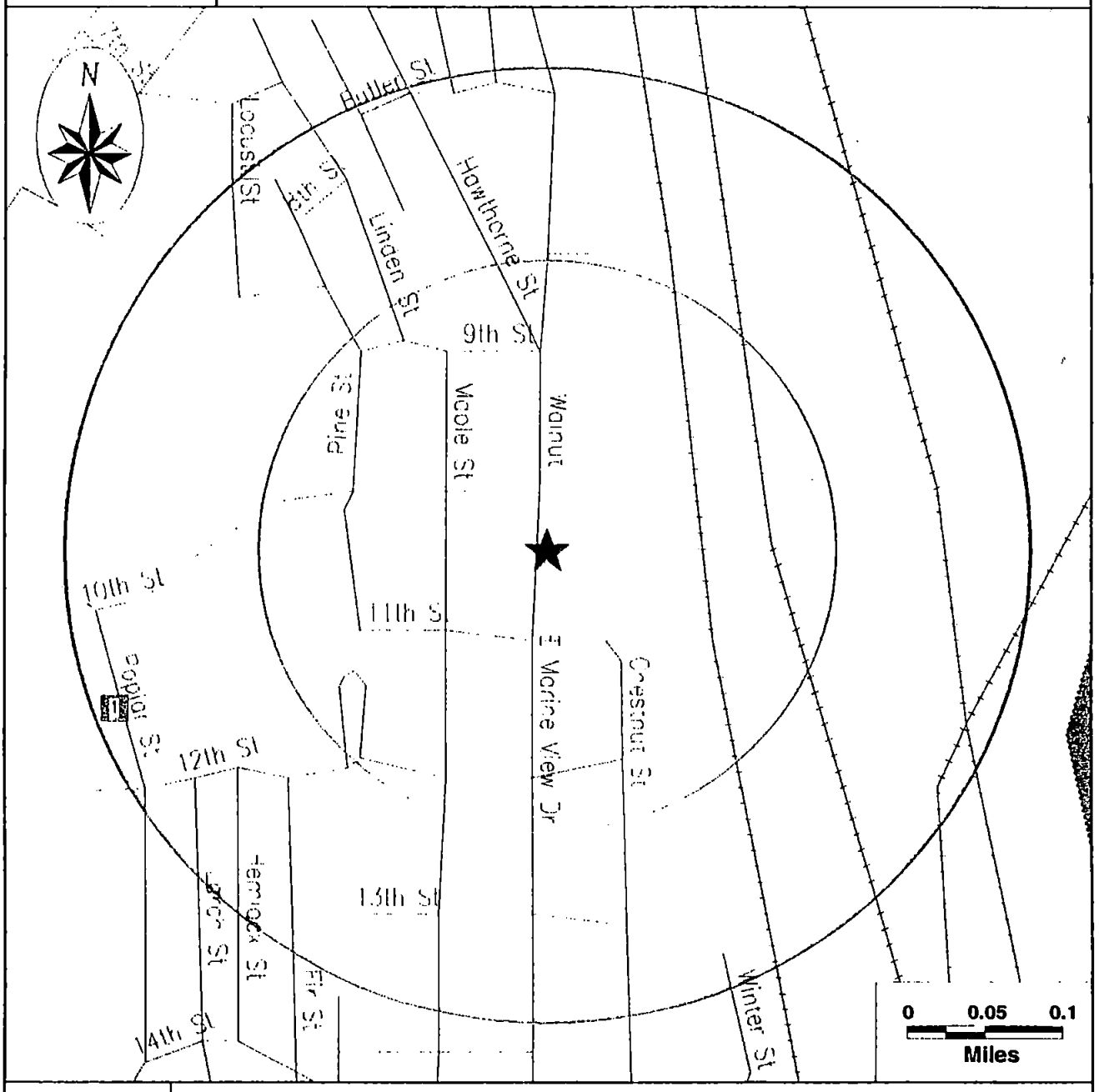
Subject Site	Category: / Databases Searched to:	A 1 mi.	B 1/2 mi.	C 1/4 mi.	D 1/8 mi.
★	Single Sites	◆	■	△	○
	Multiple Sites	◆	■	△	○
		NPL, SPL, CORRACTS (TSD), SCL	CERCLIS\ NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS

Highways and Major Roads
Roads
Railroads
Rivers or Water Bodies
Utilities

For More Information Call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403**
Report ID: **437211111**
Date of Report: **October 23, 1997**

SITE ASSESSMENT REPORT

Map of Sites within 1/4 Mile



Subject Site

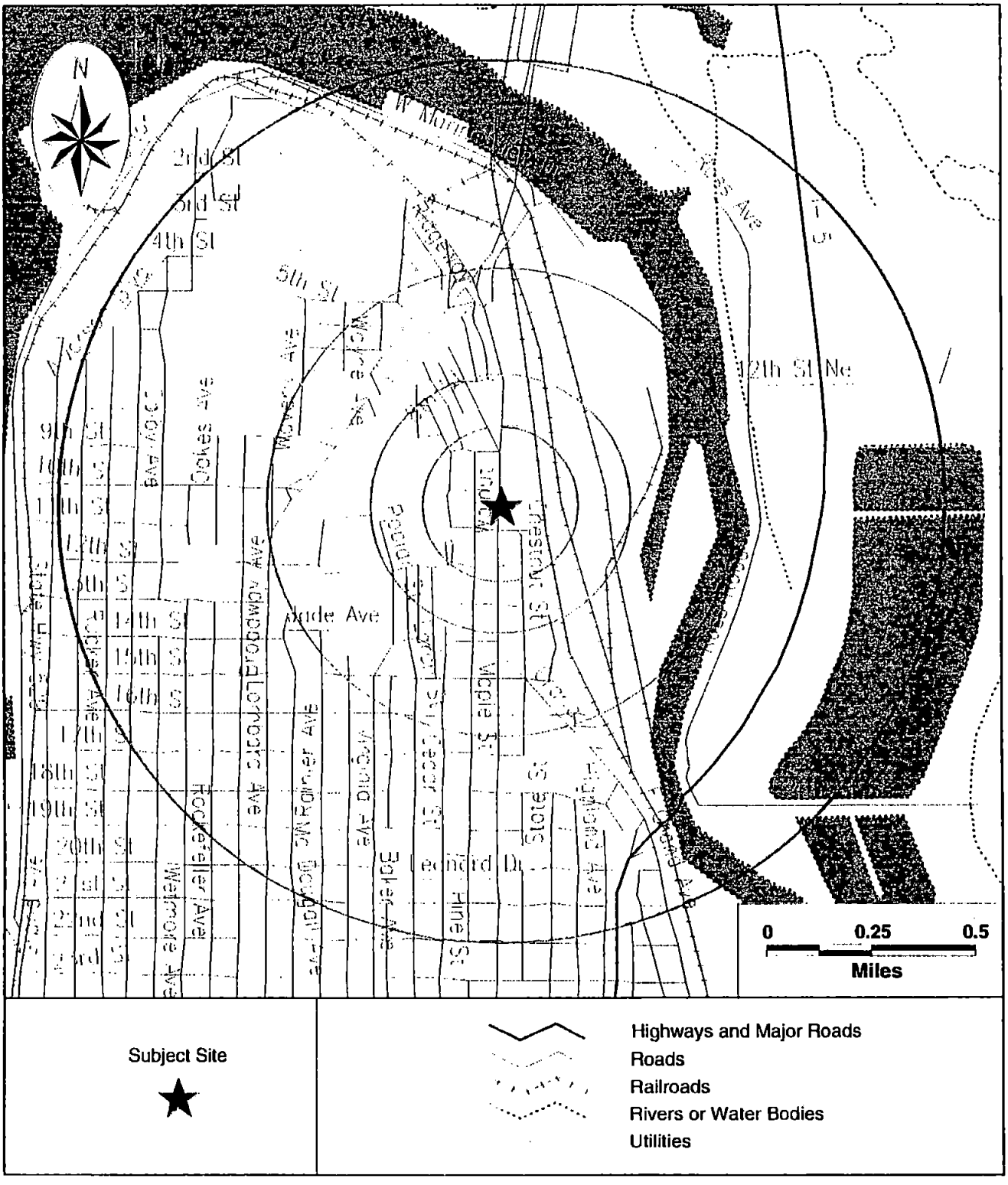
Category:	A	B	C	D
Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
Single Sites	◆	■	▲	○
Multiple Sites	◆	■	▲	○
	NPL, SPL, CORRACTS (TSD), SCL	CERCLIS\ NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS

Highways and Major Roads
Roads
Railroads
Rivers or Water Bodies
Utilities

For More Information Call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403**
Report ID: **437211111**
Date of Report: **October 23, 1997**

SITE ASSESSMENT REPORT

Street Map



SITE ASSESSMENT REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID / DISTANCE / DIRECTION	A				B					C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
No Records Found															

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID / DISTANCE / DIRECTION	A				B					C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
1	EVERETT SCHOOL HAWTHORNE ELEMENTA 1110 POPLAR EVERETT, WA	3629340 0.24 MI W							X						

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID / DISTANCE / DIRECTION	A				B					C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
2	WEYERHAEUSER EVERETT MILL 515 EAST MARINE VIEW DRIVE EVERETT, WA 98201	1846733 0.29 MI N							X			•			
3	EVERETT AREA 3 MNT HDQTRS SITE 709 N BROADWAY EVERETT, WA 98201	5749290 0.33 MI NW							X			•			
3	WDOT N BROADWAY EVERETT 709 N BROADWAY EVERETT, WA 98201	462259 0.33 MI NW							X						•
3	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT, WA 98201	6808462 0.34 MI NW									X				
4	BURLINGTON NORTHERN RR EVERETT 3429 15TH ST EVERETT, WA 98201	4864466 0.37 MI S									X				•
4	BNRR/DELTA YARD 3429 15TH ST EVERETT, WA 98201	5404181 0.41 MI SE				X									

X = search criteria; • = tag-along (beyond search criteria).
For more information call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403.**

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A				B					C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
5	CITY OF EVERETT NORTHEAST VIEW PARK E. MARINE VIEW DR. (BETWEEN BUTLER AND EVERETT, WA 98201	4288162 0.38 MI N									X				
6	TIME OIL FOOD MART # 01-168 928 NORTH BROADWAY EVERETT, WA 98201	4267089 0.38 MI W							X		X				
6	TIME STATION 168 928 NORTH BROADWAY EVERETT, WA 98201	1842779 0.38 MI W							X			•			
7	EVERETT SCHOOL DIST BAKER HTS 2301 12TH ST EVERETT, WA	1852678 0.40 MI W							X		X				
8	EVERETT SMELTER/SLAG SITE S.R. 529 E MARINE VIEW DR EVERETT, WA 98201	2884107 0.48 MI N			X										

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	VISTA ID DISTANCE DIRECTION	A				B					C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
9	THE ALLEY SHOP 1321 BROADWAY EVERETT, WA 98201	1854173 0.56 MI W				X									
10	WEYERHAEUSER EVERET 101 E MARINE VIEW DR EVERETT, WA 98201	467079 0.77 MI N			X		•				•	•			

UNMAPPED SITES	A				B					C	D		
VISTA ID	NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
No Records Found													

SITE ASSESSMENT REPORT

DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

No Records Found

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

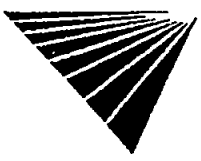
VISTA Address*:	EVERETT SCHOOL HAWTHORNE ELEMENTA 1110 POPLAR EVERETT, WA	VISTA ID#: Distance/Direction: Plotted as:	3629340 0.24 MI / W Point	Map ID 1

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	3803

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*AUGUST 4, 1992*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	200112

Agency Address:	*EVERETT SCHOOL HAWTHORNE ELEM* *1110 POPLAR* *EVERETT, WA*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*AUGUST 4, 1992*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*



SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

VISTA Address*:	WEYERHAEUSER EVERETT MILL 515 EAST MARINE VIEW DRIVE EVERETT, WA 98201	VISTA ID#:	1846733	Map ID
		Distance/Direction:	0.29 MI / N	2
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	1186

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*MARCH 13, 1989*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	6579

Agency Address:	*WEYERHAEUSER COMPANY* *515 EAST MARINE VIEW DRIVE* *EVERETT, WA 98201*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*MARCH 13, 1989*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

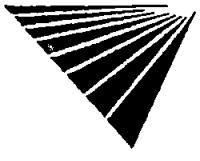
VISTA Address*:	EVERETT AREA 3 MNT HDQTRS SITE 709 N BROADWAY EVERETT, WA 98201	VISTA ID#:	5749290	Map ID 3
		Distance/Direction:	0.33 MI / NW	
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	12269

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*NOVEMBER 20, 1990*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	EPA/Agency ID:	N/A

Agency Address:	*EVERETT AREA 3 MNT HDQTRS SITE* *709 N BROADWAY* *EVERETT, WA 98201-1247*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*NOVEMBER 20, 1990*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*NOT AVAILABLE*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*



VISTA Address*:	WDOT N BROADWAY EVERETT 709 N BROADWAY EVERETT, WA 98201	VISTA ID#:	462259	Map ID 3
		Distance/Direction:	0.33 MI / NW	
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	2035

Agency Address:	WDOT EVERETT MAINTENANCE 709 N BROADWAY EVERETT, WA 98201
Tank Status:	NOT AVAILABLE
Discovery Date:	NOVEMBER 20, 1990
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

VISTA Address*:	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT, WA 98201	VISTA ID#:	6808462	Map ID 3
		Distance/Direction:	0.34 MI / NW	
		Plotted as:	Point	

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A

Agency Address:	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT 98201, WA 98201
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:2/20/91 0:00:00
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:91-24

VISTA Address*:	BURLINGTON NORTHERN RR EVERETT 3429 15TH ST EVERETT, WA 98201	VISTA ID#:	4864466	Map ID 4
		Distance/Direction:	0.37 MI / S	
		Plotted as:	Point	

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A

Agency Address:	BURLINGTON NORTHERN DELTA YARD (TWO REP 3429 15TH ST. EVERETT 98104, WA 98104
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:5/30/95 0:00:00
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM

Description:	ISSUE OF SITE REGISTER:94-05

WA Toxics - Washington Toxics / SRC# 3815 | EPA/Agency ID: N/A

Agency Address:	BURLINGTON NORTHERN RAILROAD/DELTA YARD 3429 15TH ST. EVERETT 98201, WA 98201
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:9/7/94 0:00:00
Description:	MEDIA:GROUNDWATER
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:93-40

Map ID: 4

VISTA Address*: BNRR/DELTA YARD
3429 15TH ST
EVERETT, WA 98201

VISTA ID#: 5404181
Distance/Direction: 0.41 MI / SE
Plotted as: Point

SCL - State Equivalent CERCLIS List / SRC# 3816 | Agency ID: 2841

Agency Address:	SAME AS ABOVE
Status:	UNKNOWN
Facility Type:	NOT AVAILABLE
Lead Agency:	NOT AVAILABLE
State Status:	INDEPENDENT REMEDIAL ACTION,INDEPENDENT SITE ASSESSMENT OR INTERIM RA RPT RECEIV
Pollutant 1:	PETROLEUM
Pollutant 2:	UNKNOWN
Pollutant 3:	UNKNOWN

Map ID: 5

VISTA Address*: CITY OF EVERETT NORTHEAST VIEW PARK
E. MARINE VIEW DR. (BETWEEN BUTLER AND
EVERETT, WA 98201

VISTA ID#: 4288162
Distance/Direction: 0.38 MI / N
Plotted as: Point

WA Toxics - Washington Toxics / SRC# 3815 | EPA/Agency ID: N/A

Agency Address:	CITY OF EVERETT NORTHEAST VIEW PARK E. MARINE VIEW DR. (BETWEEN BUTLER AND EVERETT 98201, WA 98201
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:METALS
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:6/11/93 0:00:00
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:93-05

VISTA Address*:	TIME OIL FOOD MART # 01-168 928 NORTH BROADWAY EVERETT, WA 98201	VISTA ID#:	4267089	Map ID 6
		Distance/Direction:	0.38 MI / W	
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	4062

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	OCTOBER 28, 1992
Media Affected:	GROUNDWATER,SOIL
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A

Agency Address:	TIME OIL FOOD MART #01-168 928 N. BROADWAY EVERETT 98201, WA 98201
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:10/27/93 0:00:00
Description:	MEDIA:GROUNDWATER
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:93-18
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:10/24/95 0:00:00
Description:	MEDIA:GROUNDWATER
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:94-13
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:10/16/96 0:00:00
Description:	MEDIA:GROUNDWATER
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:94-40

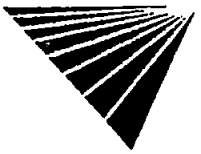
VISTA Address*:	TIME STATION 168 928 NORTH BROADWAY EVERETT, WA 98201	VISTA ID#:	1842779	Map ID 6
		Distance/Direction:	0.38 MI / W	
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		Agency ID:	4065
Agency Address:	SAME AS ABOVE		
Tank Status:	NOT AVAILABLE		
Discovery Date:	OCTOBER 28, 1992		
Media Affected:	SOIL/LAND/SAND		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Tank Status:	NOT AVAILABLE		
Discovery Date:	OCTOBER 28, 1992		
Media Affected:	GROUNDWATER		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		

VISTA Address*:	EVERETT SCHOOL DIST BAKER HTS 2301 12TH ST EVERETT, WA	VISTA ID#:	1852678	Map ID 7
		Distance/Direction:	0.40 MI / W	
		Plotted as:	Point	

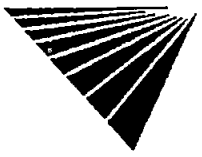
STATE LUST - State Leaking Underground Storage Tank / SRC# 2761		Agency ID:	2398
Agency Address:	SAME AS ABOVE		
Tank Status:	NOT AVAILABLE		
Discovery Date:	AUGUST 2, 1991		
Media Affected:	SOIL/LAND/SAND		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		



STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	200480
Agency Address:	*SAME AS ABOVE*	
Tank Status:	*NOT AVAILABLE*	
Discovery Date:	*AUGUST 2, 1991*	
Media Affected:	*SOIL/LAND/SAND*	
Substance:	*NOT AVAILABLE*	
Leak Cause:	*UNAVAILABLE*	
Leak Source:	*NOT AVAILABLE*	
Remedial Action:	*NOT AVAILABLE*	
Remedial Status 1:	*CLEANUP IN PROGRESS/REQUIRED*	
Remedial Status 2:	*NOT AVAILABLE*	
Fields Not Reported:	*Quantity (Units)*	

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	EPA/Agency ID:	N/A
Agency Address:	*EVERETT SCH DIS BAKER HTS* *2301 12TH ST* *EVERETT, WA 98201*	
Tank Status:	*NOT AVAILABLE*	
Discovery Date:	*AUGUST 2, 1991*	
Media Affected:	*SOIL/LAND/SAND*	
Substance:	*NOT AVAILABLE*	
Leak Cause:	*UNAVAILABLE*	
Leak Source:	*NOT AVAILABLE*	
Remedial Action:	*NOT AVAILABLE*	
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*	
Remedial Status 2:	*NOT AVAILABLE*	
Fields Not Reported:	*Quantity (Units)*	

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A
Agency Address:	*EVERETT SCHOOL DISTRICT - BAKER HEIGHTS* *2301 12TH ST.* *EVERETT 98201, WA 98201*	
Region:	*NOT REPORTED*	
State Detail Description:	*NO*	
Contact:	*NOT REPORTED*	
Description:	*WASTE:PETROLEUM PRODUCT*	
Description:	*DATE ECOLOGY RECEIVED REPORT:9/13/93 0:00:00*	
Description:	*MEDIA:SOIL*	
Description:	*REPORT TYPE:INTERIM*	
Description:	*ISSUE OF SITE REGISTER:93-04*	



SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	EVERETT SMELTER/SLAG SITE S.R. 529 E MARINE VIEW DR EVERETT, WA 98201	VISTA ID#:	2884107	Map ID 8
		Distance/Direction:	0.48 MI / N	
		Plotted as:	Point	
SPL - State Equivalent Priority List / SRC# 3817		Agency ID:	2744	

Agency Address:	*SAME AS ABOVE*
Status:	*UNKNOWN*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*NOT AVAILABLE*
State Status:	*REMEDIAL ACTION IN PROGRESS*
Pollutant 1:	*EPA PRIORITY POLLUTANTS-METALS CYANIDE*
Pollutant 2:	*UNKNOWN*
Pollutant 3:	*UNKNOWN*

SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

VISTA Address*:	THE ALLEY SHOP 1321 BROADWAY EVERETT, WA 98201	VISTA ID#:	1854173	Map ID 9
		Distance/Direction:	0.56 MI / W	
		Plotted as:	Point	
SCL - State Equivalent CERCLIS List / SRC# 3816		Agency ID:	2730	

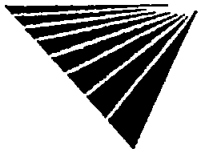
Agency Address:	*SAME AS ABOVE*
Status:	*UNKNOWN*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*NOT AVAILABLE*
State Status:	*AWAITING SITE HAZARD ASSESSMENT (SHA)*
Pollutant 1:	*EPA PRIORITY POLLUTANTS-METALS CYANIDE*
Pollutant 2:	*UNKNOWN*
Pollutant 3:	*UNKNOWN*

VISTA Address*:	WEYERHAEUSER EVERET 101 E MARINE VIEW DR EVERETT, WA 98201	VISTA ID#:	467079	Map ID 10
		Distance/Direction:	0.77 MI / N	
		Plotted as:	Point	
SPL - State Equivalent Priority List / SRC# 3817		Agency ID:	41	

Agency Address:	*SAME AS ABOVE*
Status:	*UNKNOWN*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*NOT AVAILABLE*
State Status:	*INDEPENDENT REMEDIAL ACTION,INDEPENDENT SITE ASSESSMENT OR INTERIM RA RPT RECEIV*
Pollutant 1:	*METALS,CYANIDE,PETRO PROD,PHENLC CMPD*
Pollutant 2:	*UNKNOWN*
Pollutant 3:	*UNKNOWN*

UNMAPPED SITES

No Records Found



SITE ASSESSMENT REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 3622

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was April, 1997.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

SPL
SRC#: 3817

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Confirmed Contaminated Sites Report was June, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

SCL
SRC#: 3816

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Suspected Contaminated Sites Report was June, 1997.

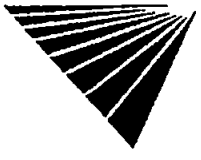
This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Affected Media and Contaminants Report includes sites in the following categories: (1) National Priorities List (NPL) Sites, Federal Lead; (2) National Priorities List (NPL) Sites, State Lead; (3) State Sites, Confirmed Hazardous Substances Sites (sites where the presence of hazardous substances has been confirmed by laboratory or field determinations; (4) Potential Hazardous Substance Sites, these sites have been reported to the Department of Ecology and further investigation including sampling is underway; (5) State Sites Under- going Long-Term Monitoring; and (6) Sites For Which Cleanup is Complete. This report includes some leaking underground storage tank sites.

CORRACTS
SRC#: 3946

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for RCRA Corrective Action Sites List was August, 1997.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.



B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 3859

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was July, 1997.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List(NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activiies or events at the site, financial funding information for the events, and unrestricted enforcement activities.

NFRAP
SRC#: 3860

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS-NFRAP was July, 1997.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

RCRA-TSD
SRC#: 3946

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 2763

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Municipal Sludge Waste Facilities was November, 1993.

This database is provided by the Department of Ecology, Solid Waste Services Program.

SWLF
SRC#: 2764

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Municipal Solid Waste Facilities was December, 1995.

This database is provided by the Department of Ecology, Solid Waste Services Program.

The Washington Solid Waste Inventory does not provide facility locations.

LUST
SRC#: 2761

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Northwest Region Leaking Underground Storage Tank Site List was November, 1995.

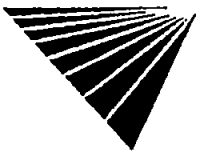
This database is provided by the Department of Ecology, Northwest Regional Office.

LUST
SRC#: 3913

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Leaking Underground Storage Tank List was July, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Department of Ecology Leaking Underground Storage Tank List contains some of the same sites included on the Regional lists. This list is being used because there are some "new" sites and it includes a site identification number. Because two lists are being used, sites may be reporting twice.



WA Site Register
SRC#: 3815

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Toxic Cleanup Program Site Register was May, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Site Register Toxics Cleanup Program report details activities related to the study and cleanup of hazardous waste sites under the Model Toxics Control Act. Note that the State of Washington cautions that information contained under the Site Description is summarized information from an Independent Report and the Department of Ecology is not responsible for the accuracy of these reports. This report includes some leaking underground storage tank sites.

C) DATABASES SEARCHED TO 1/4 MILE

UST's
SRC#: 3914

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Underground Storage Tank Database was July, 1997.

This database is provided by the Department of Ecology, Solid Hazardous Waste Program; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS
SRC#: 3949

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for was July, 1997.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through March 1996 revealed information regarding reported spills of oil or hazardous substances in the stated area.

RCRA-LgGen
SRC#: 3946

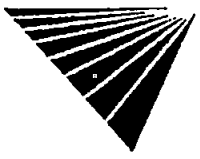
VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

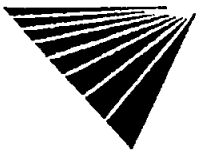
RCRA-SmGen
SRC#: 3946

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.



End of Report



APPENDIX B

Public Health Advisory
Everett Smelter Study Area

SNOHOMISH
HEALTH
DISTRICT

Environmental Health Division
Solid Waste and Toxics Section
3020 Rucker Avenue, Suite 102
Everett, WA 98201-3971
(425) 339-5250

April 30, 1997

Dear Occupant/Homeowner:

Enclosed is a ***Public Health Advisory*** which the Snohomish Health District is issuing to all persons in the Everett Smelter Site Study area. This Advisory has been issued periodically since 1990, when the problem of elevated concentrations of arsenic, lead, and cadmium were found in the soil. The District obtained your address from a mailing list, which includes addresses of all homes in the Everett Smelter Site Study Area (see map on back), as well as addresses of other interested parties. The mailing list is now maintained by the Public Involvement Committee, which includes representatives from the Washington State Department of Ecology, Snohomish Health District, ASARCO Inc., Everett Housing Authority, City of Everett, the Northeast Everett Community Organization, and the Northwest Everett Neighborhood Organization. The Advisory will be in effect until the study, or cleanup activity, has been completed.

In addition to the Health Advisory, we are pleased to announce that an agreement between the Health District and ASARCO Inc. has been finalized. The Community Protection Measures Agreement will allow the Health District to provide public health services that the community has asked for in the past, but otherwise have not been funded. We are currently responding to complaints regarding the site and seeking resolution of potential exposure concerns. Later this summer, we hope to provide an educational program, a technical library, voluntary urine arsenic and blood lead testing, a soil disposal program and the development of a citizens' committee. More announcements will follow.

Detailed information about the Smelter Site or the Community Protection Measures Agreement can be obtained from the Everett Public Library, or at our office at 3020 Rucker Avenue. For general information concerning the area, please call Susan Lee (Washington State Department of Ecology) at (425) 649-7138, or me at (425) 339-5250.

Sincerely,

Mike Young, R.S.
Community Protection Measures Project Manager
Environmental Health Specialist

MY:sei

Enclosures

SNOHOMISH HEALTH DISTRICT
3020 Rucker Avenue, Suite 102
Everett, WA 98201-3971
425 339-5250

PUBLIC HEALTH ADVISORY
UPDATE - April 1997

EVERETT SMELTER SITE AND SURROUNDING NEIGHBORHOOD GUIDELINES FOR REDUCING POTENTIAL EXPOSURE

While the Washington State Department of Ecology and ASARCO Inc. continue to work toward a cleanup solution for soils containing heavy metals in the Everett Smelter Site area, the Snohomish Health District is reissuing a health advisory to all persons who might live or work in the area. Please note that this advisory is not specific to any property, and that levels of metals found in the soil generally decrease with distance away from the original smelter site. The most recent addition to the study area includes property which may have metal concentrations at, or just above, naturally occurring levels found in soil. Most of the highly contaminated soil over the original smelter has been covered, fenced, or removed, and there appears to be no immediate danger to human health. Although it is uncertain if the remaining lower level concentrations of metal contamination (arsenic, lead, cadmium) in the soil pose a significant health concern, it is prudent to follow these precautionary health guidelines outlined below:

1. Children are more likely than adults to be exposed to arsenic, lead, and cadmium in soils and dust. Their exposure should be limited as much as practical.

   - Children should not play in dirt. Play areas covered with grass, or some other material, will reduce a child's exposure.
   - Encourage your children to wash their hands and faces after playing outdoors.
   - Damp mop and dust your house frequently to reduce your child's contact with dust.

2. Avoid eating vegetables and fruit grown within the affected area.

   - Lead and cadmium are known to accumulate in leafy vegetables such as lettuce, spinach, carrots, endive, cress and beet greens. Onions, mustard, potatoes, and radishes have a moderate ability to uptake heavy metals from the soil.
   - It is not know if these metals accumulate in blackberries or other fruit, therefore they should be avoided until more information is available. Metals were not found above the laboratory detection limits in one set of apples tested by Asarco.
   - If vegetables or fruit are consumed from local gardens, wash thoroughly before eating.

3. Use caution while working in the soil.

   - Avoid all unnecessary exposure to soil or dust in the affected area. Moisten soil before moving it.

- When disturbing the soil, wear clean, full body protective clothing (coveralls or long sleeve shirt and pants), shoes, and gloves. For maximum protection wear a dust mask or other respiratory protection. Wash work clothes separate from other clothing.

- Avoid eating, drinking, smoking, or chewing any material while in the work area.

- Soil that is to be disturbed should be sprayed with water before and during the project to prevent the generation of dust.

4. **Avoid other sources of metal exposure that could compound the metal contamination soil exposure.**

- Minimize children's exposure to hobbies that use lead (e.g., hobbies that involve the use of lead soldering or painting).

- Make sure your child eats a well-balanced diet. Children who have acceptable iron and calcium intake, and low fat intake, are less likely to absorb lead from their environment.

- Maintain the painted surfaces in your home (if it was built prior to 1980) to avoid exposure to lead paint chips and dust.

- If your job involves the use of lead or lead compounds, or if you work in a lead industry, shower and change clothes before returning home.

5. **Construction activity.**

- Employees of companies which are required to work in soil within the study area should refer to WAC 296-62 (the General Occupational Health Standard), or consult the Department of Labor and Industries for assistance on how to reduce work related exposure to contaminated soil.

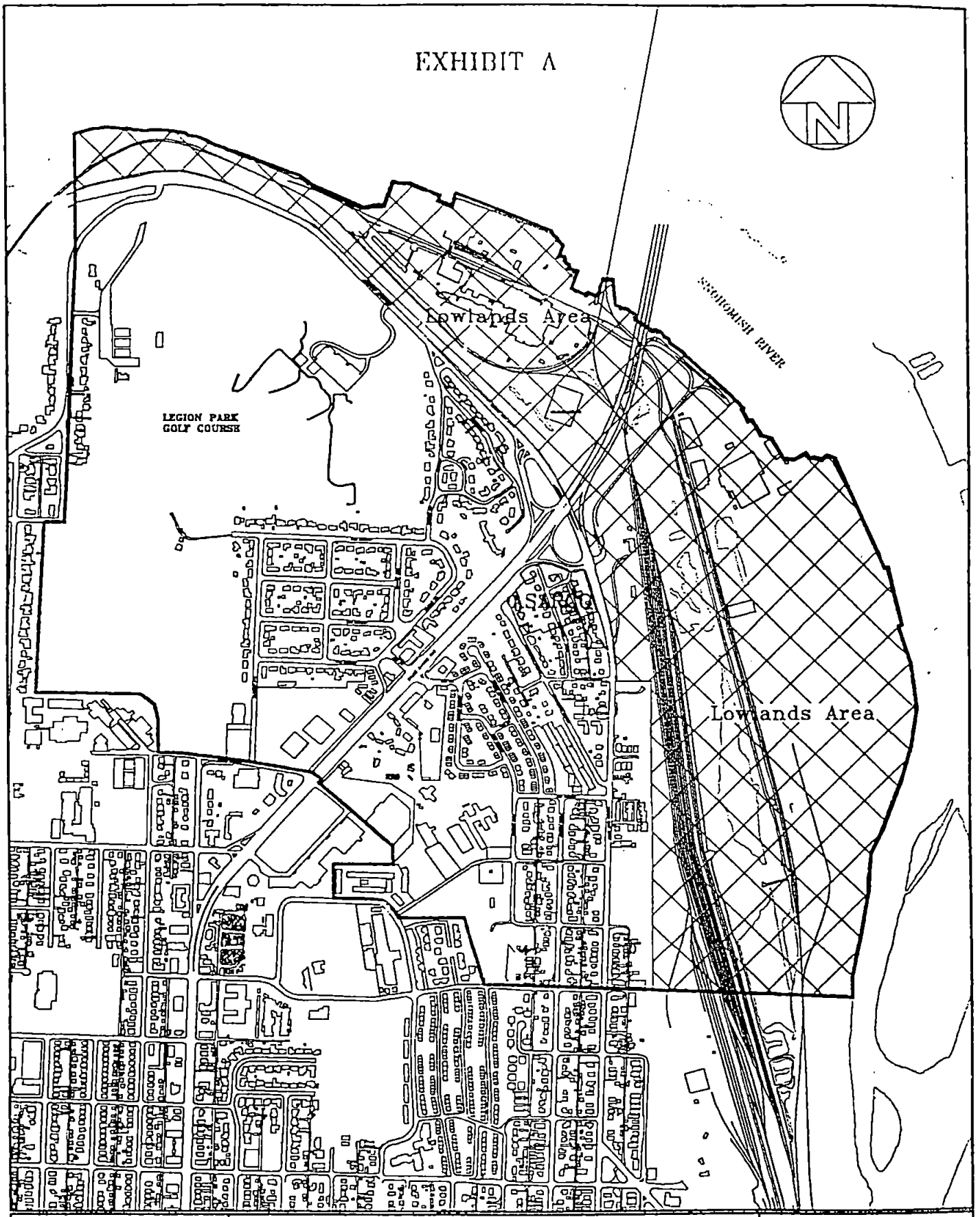
- Soil removal from any site in the study area must be carried out in consultation with the Snohomish Health District. Soils in the area may have the potential to be designated as Dangerous Waste due to high metals content.

6. **Pet precautions.**

- Testing of dog and cat hair show that these pets can come in contact with contaminated soil which may then be carried into the home. If possible, keep pets out of areas of exposed soil. Inspect your yard and look for exposed soil your pet may have access to. Fill any holes where dogs may be digging as soon as it is noticed. If possible, restrict pet access from your house. Bathe your pets frequently. Wash your hands after handling your pet, and before preparing or eating food.

If you are new to this community, or you know someone who is, please call Susan Lee at the Department of Ecology (425) 649-7138 for more information about the smelter site. Contact the Health District if you have any health related concerns. If you have any questions concerning this public health advisory, please call Mike Young of the Snohomish Health District at (425) 339-5250.

EXHIBIT A



Legend

SITE BOUNDARY

ASARCO OWNED

EVERETT SMELTER SITE

STUDY AREA (as of March 1, 1997)

Everett Smelter Site

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Update

The Washington Department of Ecology (Ecology) has prepared this fact sheet to update you on the activities at the Everett Smelter Site. The site is located in northeast Everett, Washington. All actions are being conducted according to the terms of the Model Toxics Control Act (MTCA), Chapter 70.105D, of the Revised Code of Washington (RCW).

Responsiveness Summary

The public comment period for the Remedial Investigation/Feasibility Study (RI/FS) Report was concluded on November 30, 1995. Five hundred and thirty-five comments were received. Most of the commentors were citizens in the Everett area. Less than twenty of the commentors identified themselves as representing a business, agency or other party.

Ecology is now writing responses to the comments in a Responsiveness Summary. In the Responsiveness Summary issues will be summarized from the comments. The responses then will be written to address the summarized issues.

Major issues in the comments include:

- regulations
- technical issues
- philosophy/rationale of cleanup
- health issues
- remediation methods
- institutional controls
- economic issues
- schedule.

If you commented to Ecology during the public comment period, you will receive a copy of the completed Responsiveness Summary by mail. The Responsiveness Summary will also be available at the Everett Public Library and Ecology's Northwest Regional Office in Bellevue.

Because of the volume of comments, the actual comment letters and transcripts will not be included in the Responsiveness Summary. The comment letters may be seen, however, at the information repositories listed above.

The Responsiveness Summary is due to be completed this summer.

New phase of work

With the completion of the public comment period for the RI/FS Report for the upland/soils portion of the site at the end of 1995, we have moved into a new phase of work. The previous phase was intended to define the nature and extent of soil contamination in the residential portion of the site. It also was intended to develop the alternatives to clean up the contamination in the residential area. The new phase focuses on choosing the appropriate cleanup alternatives and developing a plan for cleanup. A third phase will be to accomplish the cleanup.

May 1996

Contacts:

Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008-5452

Dave Nazy, Site Manager
(206) 649-7258

Susan Lee, Public Involvement
(206) 649-7138

Information Repositories:

Everett Public Library
2702 Hoyt Street
Everett, WA 98201
(206) 259-8000

Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452
(206) 649-7190

For special accommodation needs or language translation assistance, call (206) 649-7138 or (206) 649-4259 (TDD).

Ecology is an Equal Opportunity and Affirmative Action Agency.

fs14.ski
Printed on Recycled Paper

Continued From Page 2

- the relationship between upland area surface and ground water, and lowland area surface and ground water.

The investigation consists of soil borings, trench excavations, and monitoring well installations. The results of this investigation currently available indicate:

- Two separate aquifers in the lowland area contain elevated concentrations of arsenic.
- Upland area soils may be a contributing source of ground water contamination in the lowland area.
- Soils samples collected adjacent to East Marine View Drive, under the south-bound lane of State Route 529, contain elevated concentrations of arsenic, cadmium and lead.

Toxicity leaching study

Under Ecology oversight, Asarco is also conducting a Toxicity Characteristics Leaching Procedure (TCLP) investigation. TCLP is a lab test to measure the amount of contaminant that will leach from a soil sample.

This study will provide data that will be used to better estimate the soil arsenic concentration on the site expected to be designated as dangerous waste.

Interim actions inspections

Asarco is continuing the bi-monthly inspections of the interim actions conducted in 1992. These investigations are intended to identify areas where soil has become exposed. Asarco will repair any problems identified during the inspections.

Disturbing soil in the site area

Maintenance and construction projects that require the movement of soil continue to occur throughout the site area. The projects range from building a new driveway and landscaping to installing utility poles, road construction, and redeveloping of entire properties. Any of these involve disturbance of soil that may contain elevated concentrations of arsenic.

If you are planning or conducting a project in the site area, you will want to:

- **Obtain the available data on arsenic concentrations in the area of your project.** The scope of your project and the arsenic concentrations you expect to encounter will help define what precautions you should take.

- **Consider the need to collect and analyze soil samples before starting your project.** Sampling may be required if you have obtained a building and grading permit from the City of Everett. This is especially important if the project results in excess soil requiring disposal. Depending on the arsenic concentration, the soil you generate could be classified as clean fill, problem waste, or dangerous waste. Handling and disposal of problem and dangerous wastes may result in additional issues and costs.

- **Insure that each individual involved with the project has read and understood the Snohomish Health District's Public Health Advisory.** The advisory provides general guidelines to follow when working with contaminated soil in the study area.

- **Be aware that you are responsible for complying with regulations that are applicable to your project.** Ecology cannot act as your consultant or approve your project. Nevertheless, Ecology is available to answer questions, provide information and offer technical assistance. The Snohomish Health District can provide information regarding soil testing and disposal options.

Who to turn to with your questions about the former smelter site

Washington State Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008-5452
Ecology oversees the investigation of contaminated sites and their cleanup, and is the lead regulatory agency for the Everett Smelter Site. Questions about the process, progress, schedule, public participation, sampling results and who is responsible for what can be direct to Ecology. You may also visit the Ecology office in Bellevue to review the studies, community comments and other public documents about the site.

- ~~Dave Nary~~, Ecology Site Manager (206) 649-7258 Dave South fax 425 649-7098
- Susan Lee, Ecology Public Involvement (206) 649-7138

City of Everett Department of Public Works
3200 Cedar Street
Everett, WA 98201-4599
The City is responsible for zoning, building and grading permits, and street improvement projects.

- Dave Davis, City Engineer (206) 259-8913

Snohomish Health District
The Rucker Building
3020 Rucker Avenue, Suite 300
Everett, WA 98201-3971
Want to know what precautions are advised for you or your family when doing yard work or building a foundation? The Snohomish Health District issues advisories and answers specific health-related questions, as well as questions about soil tesing and disposal options.

- Mike Young, Environmental Health Specialist (206) 339-5250 Fax 425-339-5254

Washington Department of Labor & Industries
8625 Evergreen Way, Suite 250
Everett, WA 98208
If your question concerns safety of employed workers on the site, such as construction or landscape contractors, you will want to call the Department of Labor & Industries.

- Joe Wolf, Industrial Hygenist (206) 290-1426

Everett Public Library
2702 Hoyt Street
Everett, WA 98201
Some residents like to research things for themselves, such as the results of soil tests in neighborhood soils. To look up the arsenic levels that were found in testing done for the remedial investigation of the Everett Smelter Site, visit the library and ask for the collection of studies and other public documents about the site.

- (206) 259-8000

ASARCO Incorporated
P.O. Box 1677
Tacoma, WA 98401
(Everett Information Center to be opened in Northeast Everett in Summer 1996)
Asarco can answer questions about the 36 properties it owns in the area and what it is doing to meet its legal and community obligations in Everett.

- Tom Aldrich, Site Manager 1-800-750-5436
- Clint Stanovsky, Information Center Coordinator (206) 259-0822

PHASE 2 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

GEOTECH
CONSULTANTS, INC.

13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

March 20, 1998

JN 97382E

Steffen Jacobson
3035 Fairweather Place
Hunts Point, Washington 98004-1002

Subject: **Phase 2 Environmental Site Assessment**
Undeveloped Land
East Marine View Drive
Everett, Washington

Dear Mr. Jacobson:

We are pleased to present this report on the undeveloped property located on the east side of East Marine View Drive in Everett, Washington. The subject property is within the area designated as the Everett Smelter Study Area. Soil within this area has the potential for containing concentrations of arsenic above natural background levels due to past activities at the former ASARCO smelter in Everett. This report describes our investigation of shallow soil conditions on the property and summarizes our methodologies, findings, and conclusions. It was prepared in accordance with the terms of our proposal dated February 12, 1998.

SCOPE OF WORK

The scope of work for this project was prepared after discussions with Mr. David South, the Washington Department of Ecology's Program Manager for the Everett Smelter Study Area, regarding number, location, and depth of samples. Using a hand auger, we made twelve borings on the property to a depth of 24 to 30 inches and obtained soil samples at six-inch intervals. Selected soil samples at each location were analyzed for arsenic.

METHODOLOGY

Soil Sampling Procedures

We used a steel hand auger to obtain soil samples at twelve locations on the property. The auger was washed in a laboratory-grade detergent and rinsed twice with deionized water between sampling locations.

Soil samples at each test interval were transferred from the auger directly to sterilized glass jars with Teflon-sealed lids furnished by the project laboratory. The samples were stored in an iced chest at the site and taken to the laboratory in the chest. Each jar was labeled as to boring number and sample depth. EPA-recommended sample management protocol, including the maintenance of chain-of-custody documentation, was observed at each stage of the project.

Laboratory Analysis

Initially, the upper soil sample at each location was analyzed for total arsenic by EPA Method 6010. At locations where the arsenic concentration was found to be approximately 100 parts per million (ppm), all lower samples were analyzed. At locations where the arsenic concentration was much than 50 ppm, the next two lower samples (to 18 inches) were analyzed.

This analytical approach is intended to provide a basis for comparing the site environment to existing standards offered in the Model Toxics Control Act (MTCA), Chapter 173-340, Washington Administrative Code.

FINDINGS

Surface

The subject property is a 4.22-acre parcel of land located along East Marine View Drive between 10th Street and 11th Street, approximately 1.75 miles northeast of downtown Everett. The Vicinity Map, Plate 1, illustrates the general location of the site. Land use in the surrounding area is characterized by residences to the north, south, and west and railroad tracks to the east. The property is the proposed location for a 240-unit apartment complex. It is currently undeveloped and covered with trees, brambles, grass, and other native vegetation. Historical research indicates that the property was undeveloped prior to 1947.

Subsurface

The test boring locations are illustrated on the Site Exploration Plan, Plate 2. In general, the subsurface soil at the boring locations consists of several inches of organic material underlain by an orange-brown, sandy silt with gravel.

Results of Laboratory Analysis

The results of the laboratory analysis of the soil samples are provided in the following table. Laboratory reports documenting the analysis are attached to this report. Shaded values exceed Method A Cleanup levels.

LABORATORY RESULTS
ARSENIC IN SOIL[1]

Depth	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
0-6"	100	44	28	ND	33	89	110	ND	26	26	18	98
6-12"	ND[2]	ND	ND	27	ND	28	ND	ND	25	51	ND	ND
12-18"	ND	ND	ND	ND	ND	32	ND	ND	ND	75	ND	22
18-24"	ND	NT[3]	NT	NT	NT	NT	ND	NT	NT	NT	NT	32
24-30"	NS[4]	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	ND

Notes:

1. Results are reported in parts per million (ppm).
2. ND denotes not detected above the detection limit (10-16 ppm).
3. NT denotes not tested.
4. NS denotes not sampled.

The state cleanup guideline for arsenic in soil is published in the Model Toxics Control Act, Chapter 173-340 of the Washington Administrative Code (WAC), and have been set at 20.0 ppm for non-industrial areas. By contrast, the natural background level of arsenic in Puget Basin soils is estimated to be 7.3 ppm. Arsenic concentrations above the MTCA Method A cleanup level were found in nine of the twelve samples from the surface to six inches deep, in four of the twelve samples from six to twelve inches deep, and in three of the twelve samples from twelve to eighteen inches deep. Samples from 18 to 24 inches deep were tested at three locations, and the arsenic level was above the cleanup level at only one location. Two samples were tested from a depth of 24 to 30 inches and none showed a concentration above the detection limit of the test (10-16 ppm).

CONCLUSIONS

The results of the laboratory analysis of 41 soil samples collected from twelve locations and from as deep as 30 inches at the subject property suggest that arsenic is present in concentrations well above what is considered a natural background level. In general, arsenic concentrations above the MTCA Method A cleanup level appear to be limited to the upper 24 inches of soil, and decrease with depth. The arsenic concentrations across the property do not appear to be related to any particular surface or subsurface feature.

The Snohomish Health District has issued a Public Health Advisory offering guidelines for reducing potential exposure to elevated concentrations of metals by people living or working in the Everett Smelter Study Area. The Advisory notes that soil removed from the area has the potential to be designated as a Dangerous Waste due to high metals content and that construction activities should be planned to reduce potential exposure of workers to contaminated soil. Leachability studies would be required to determine if the site's soil would be classified as a dangerous waste.

Given the extensive amount of soil apparently affected by arsenic, it may be prudent to contact an environmental attorney regarding the rights of owners of land affected by the Everett Smelter.

LIMITATIONS

This report has been prepared for specific application to this project in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated February 12, 1998.

This report is for the exclusive use of Steffen Jacobson, and his representatives, for specific application to this site. No warranty is expressed or implied. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be allowed to re-evaluate the conclusions of this report and provide amendments as required.

The following documents are attached to complete this report:

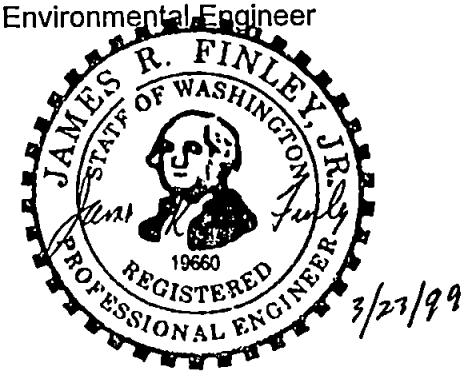
Plate 1	Vicinity Map
Plate 2	Sample Locations
Appendix	Laboratory Results

We appreciate our opportunity to provide environmental consulting services on this project. If you have any questions, or if we can be of further assistance, please do not hesitate to contact us.

Respectfully submitted,

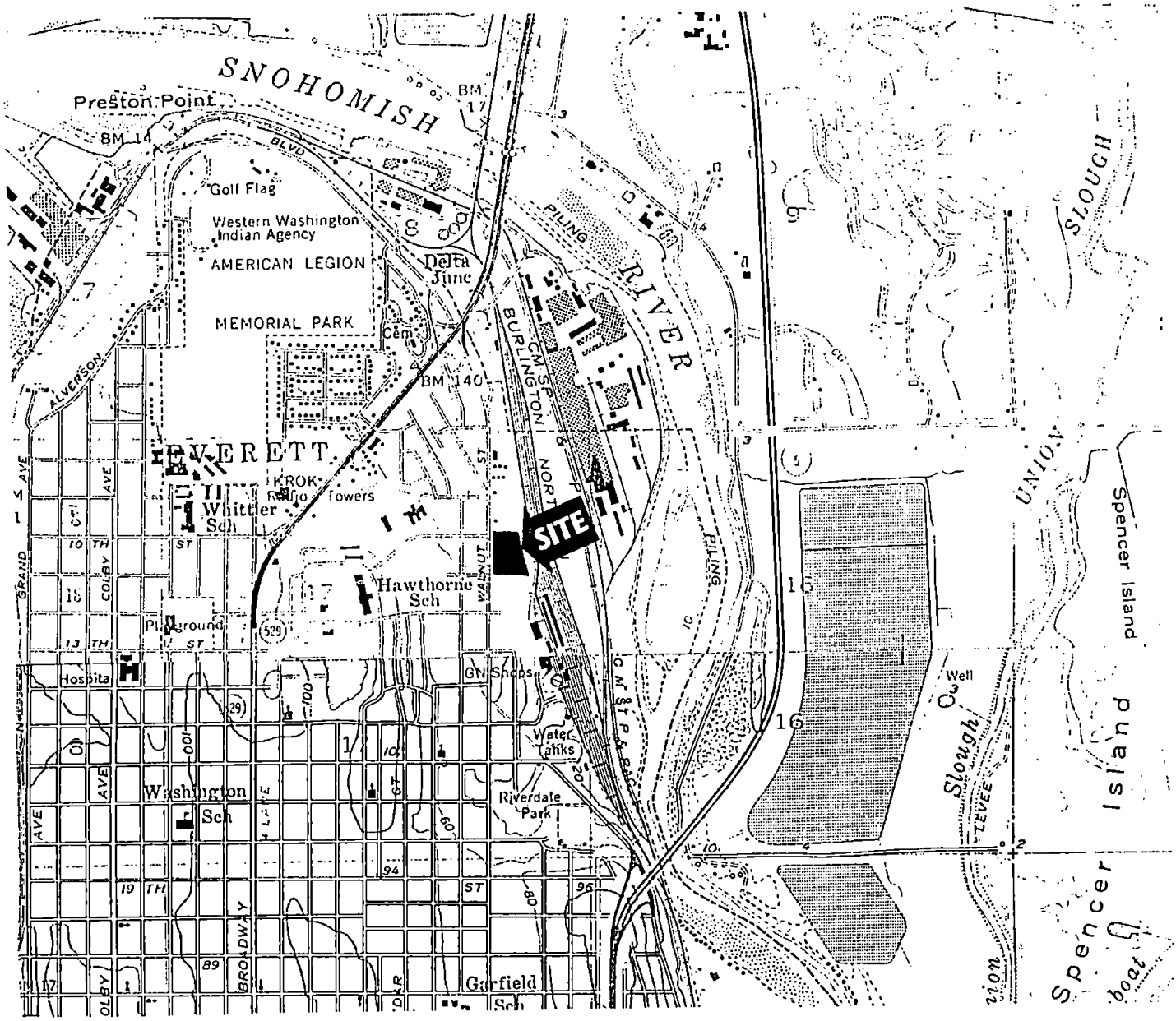
GEOTECH CONSULTANTS, INC.

David Bair
Environmental Engineer



James R. Finley, P.E.
Principal

DLB/JRF:alt



Scale

0 1/2 1 mile

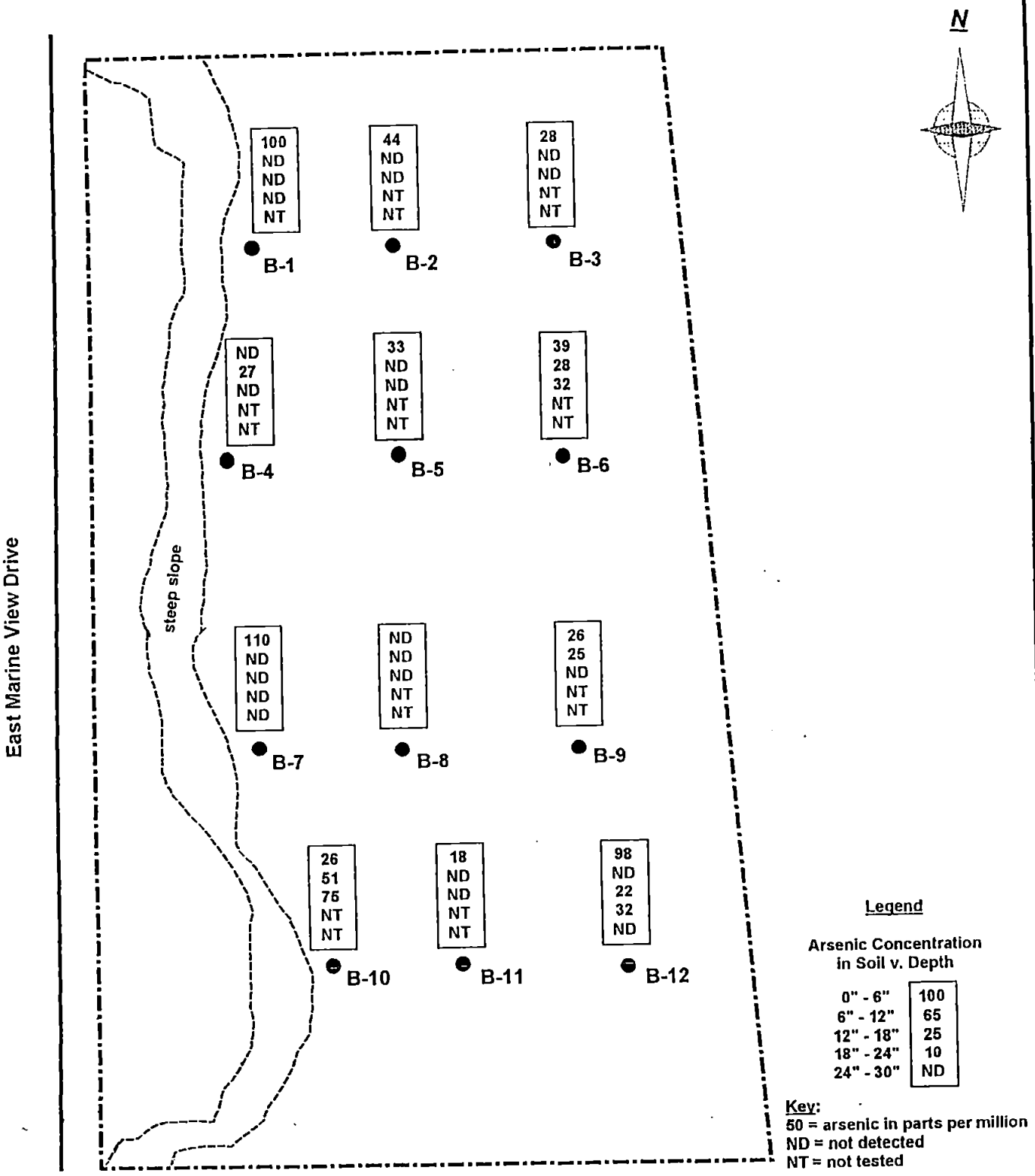
(Source: U.S. Geologic Survey map of Marysville and Everett Quadrangles, 1973)

GEOTECH CONSULTANTS, INC.

VICINITY MAP

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	Date:		Plate:
97382E	March 1998		1



GEOTECH CONSULTANTS, INC.

SAMPLE LOCATION PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	Date:		Plate:
97382E	March 1998	No Scale	2

APPENDIX

Laboratory Results

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

February 26, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9802-079

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on February 18, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted:	2-25-98
Date Analyzed:	2-25-98
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-1 S-1	02-079-01	**100**	13
B-2 S-1	02-079-05	**44**	13
B-3 S-1	02-079-10	**28**	12
B-4 S-1	02-079-14	**ND**	13
B-5 S-1	02-079-19	**33**	14
B-6 S-1	02-079-23	**39**	13
B-7 S-1	02-079-27	**110**	15
B-8 S-1	02-079-32	**ND**	14
B-9 S-1	02-079-37	**26**	13
B-10 S-1	02-079-42	**26**	14
B-11 S-1	02-079-46	**18**	15
B-12 S-1	02-079-51	**98**	20

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-25-98
Date Analyzed:	2-25-98
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0225S1

Analyte	Method	Result	PQL
Arsenic	6010	**ND**	10

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL

Date Extracted: 2-25-98
Date Analyzed: 2-25-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-07

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	**ND**	**ND**	NA		10

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL

Date Extracted: 2-25-98
Date Analyzed: 2-25-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-07

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**78.0**	78	**75.1**	75	3.8	

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

Date Analyzed: 2-25-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-1 S-1	02-079-01	23
B-2 S-1	02-079-05	24
B-3 S-1	02-079-10	15
B-4 S-1	02-079-14	25
B-5 S-1	02-079-19	29
B-6 S-1	02-079-23	23
B-7 S-1	02-079-27	33
B-8 S-1	02-079-32	26
B-9 S-1	02-079-37	25
B-10 S-1	02-079-42	26
B-11 S-1	02-079-46	35
B-12 S-1	02-079-51	50

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

P1 - Hydrocarbons in the diesel range (C12-C24) present in the sample which are elevating the oil result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAR

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
1	B-1 S-1	2-17		S	1													X							X
2	S-2	"		"	"																X				
3	S-3	"		"	"																Y				
4	S-4	"		"	"																Y				
5	B-2 S-1	"		"	"													X							X
6	S-2	"		"	"																X				
7	S-3	"		"	"																Y				
8	S-4	"		"	"																Y				
9	S-5	"		"	"																X				
10	B-3 S-1	"		"	"													X							X
11	1 S-2	"		"	"																X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBrin	2-18-98	Kristen Koch	2/18/98
FIRM GCI	TIME 900	FIRM OnSite Env.	TIME 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
12	B-3 S-3	2-17		S	1																X				
13	1 S-4																				X				
14	B-4 S-1																	X							X
15	S-2																				X				
16	S-3																				X				
17	S-4																				X				
18	S-5																				X				
19	B-5 S-1																	X							X
20	S-2																				X				
21	S-3																				X				
22	S-4																				X				
	[illegible]																				X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	2-18-98	[illegible] Kosh	2/18/98
FIRM GCI	TIME 0900	FIRM OnSite Env.	TIME 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
23	B-6 S-1	2-17		S	1													X							X
24	S-2																				X				
25	S-3																				X				
26	S-4																				X				
27	B-7 S-1																	X							X
28	S-2																				X				
29	S-3																				X				
30	S-4																				X				
31	S-5																				Y				
32	B-8 S-1																	X							X
33	S-2																				X				
34	S-3																				X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	2-18-98	Kristen Koch	2/18/98
FIRM: GCI	TIME: 0900	FIRM: OnSite Env.	TIME: 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME

COMMENTS:

REVIEWED BY | DATE REVIEWED

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	Arsenic			Hold				% Moisture
35	B-8 S-4	2-17		S	1																X				
36	" S-5	"		"	"																X				
37	B-9 S-1	"		"	"													X							X
38	" S-2	"		"	"																X				
39	" S-3	"		"	"																X				
40	" S-4	"		"	"																X				
41	" S-5	"		"	"																X				
42	B-10 S-1	"		"	"													X							X
43	" S-2	"		"	"																X				
44	" S-3	"		"	"																X				
45	" S-4	"		"	"																X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
O'Bair	2-18-98	Kristen Koch	2/18/98
FIRM: GCI	TIME: 0900	FIRM: OnSite Env.	TIME: 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jackson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	Arsenic		hold				% Moisture
46	B-11 S-1	2-17		S	1													X						X
~~47~~ 48	S-2																			X				
48	S-3																			X				
~~49~~ 49	S-4																			X				
50	S-5																			X				
51	B-12 S-1																	X						X
~~52~~ 52	S-2																			X				
~~53~~ 53	S-3																			X				
~~54~~ 54	S-4																			X				
~~55~~	Not Used																			X				
~~56~~ 55	B-10 S-5 KK																							

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	2-18-98	Kristen Koch	2/18/98
FIRM GCI	TIME 0900	FIRM OnSite Env.	TIME 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS: Change per Dave Bair KK

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

March 5, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9802-079

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on February 18, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-1 S-2	02-079-02	**ND**	13
B-1 S-3	02-079-03	**ND**	12
B-1 S-4	02-079-04	**ND**	12
B-2 S-2	02-079-06	**ND**	13
B-2 S-3	02-079-07	**ND**	13
B-3 S-2	02-079-11	**ND**	12
B-3 S-3	02-079-12	**ND**	12
B-4 S-2	02-079-15	**27**	14
B-5 S-2	02-079-20	**ND**	13
B-5.S-3	02-079-21	**ND**	13
B-6 S-2	02-079-24	**28**	13
B-6 S-3	02-079-25	**32**	13

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-7 S-2	02-079-28	**ND**	13
B-7 S-3	02-079-29	**ND**	13
B-7 S-4	02-079-30	**ND**	13
B-7 S-5	02-079-31	**ND**	16
B-8 S-2	02-079-33	**ND**	12
B-8 S-3	02-079-34	**ND**	12
B-9 S-2	02-079-38	**25**	15
B-9 S-3	02-079-39	**ND**	13
B-10 S-2	02-079-43	**51**	15
B-10 S-3	02-079-44	**75**	15
B-11 S-2	02-079-47	**ND**	14
B-11 S-3	02-079-48	**ND**	13

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-12 S-2	02-079-52	**ND**	14
B-12 S-3	02-079-53	**22**	14
B-12 S-4	02-079-54	**32**	14

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0304S1

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0304S2

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-079-54

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	**22.6**	**23.6**	4.6		10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-6

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	**14.4**	**13.4**	6.8		10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-079-54

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**110**	87	**111**	89	1.8	

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-6

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	96.8	82	103	88	7.0	

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

Date Analyzed: 3-4-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-1 S-2	02-079-02	22
B-1 S-3	02-079-03	18
B-1 S-4	02-079-04	16
B-2 S-2	02-079-06	21
B-2 S-3	02-079-07	23
B-3 S-2	02-079-11	17
B-3 S-3	02-079-12	17
B-4 S-2	02-079-15	26
B-5 S-2	02-079-20	25
B-5 S-4	02-079-21	25
B-6 S-2	02-079-24	25
B-6 S-3	02-079-25	25
B-7 S-2	02-079-28	25
B-7 S-3	02-079-29	21
B-7 S-4	02-079-30	23
B-7 S-5	02-079-31	37
B-8 S-2	02-079-33	19
B-8 S-3	02-079-34	19
B-9 S-2	02-079-38	32
B-9 S-3	02-079-39	25
B-10 S-2	02-079-43	33
B-10 S-3	02-079-44	34
B-11 S-2	02-079-47	30
B-11 S-3	02-079-48	34
B-12 S-2	02-079-52	36
B-12 S-3	02-079-53	30
B-12 S-4	02-079-54	30

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeniety. The sample was re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N1 - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample which are elevating the diesel result.

O1 - Hydrocarbons in the heavy oil range (>C24) are present in the sample which are elevating the diesel result.

P1 - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested
(Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No. 02-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
1	B-1 S-1	2-17		S	1													X							X
2	S-2																	⊗			X				
3	S-3																	⊗			X				
4	S-4																	⊗			X				
5	B-2 S-1																	X							X
6	S-2																	⊗			X				
7	S-3																	⊗			X				
8	S-4																				X				
9	S-5																				X				
10	B-3 S-1																	X							X
11	1 S-2																	⊗			X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	2-18-98	Kristen Koch	2/18/98
FIRM: GCI	TIME: 900	FIRM: On Site Env.	TIME: 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 3/2/98 per D.B. Fax.
DBair

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Ball

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ _____ (other)

Project Chemist: DAB
Laboratory No. 02-079

Requested Analysis

Lab #	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
12	B-3 S-3	2-17		S	1													⊗			X				
13	1 S-4																				X				
14	B-4 S-1																	X							X
15	S-2																	⊗			X				
16	S-3																				X				
17	S-4																				X				
18	S-5																				X				
19	B-5 S-1																	X							X
20	S-2																	⊗			X				
21	S-3																	⊗			X				
22	S-4																				X				
	[illegible]																				X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBall	2-18-98	Kristen Koch	2/18/98
FIRM GCI	TIME 0900	FIRM OnSite Env.	TIME 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ added 3/2/98 per Dave B.

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No. 02-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
23	B-6 S-1	2-17		S	1													X							X
24	S-2																	⊗			X				
25	S-3																	⊗			X				
26	S-4																				X				
27	B-7 S-1																	X							X
28	S-2																	⊗			X				
29	S-3																	⊗			X				
30	S-4																	⊗			X				
31	S-5																	⊗			X				
32	B-8 S-1																	X							X
33	S-2																	⊗			X				
34	S-3																	⊗			X				

RELINQUISHED BY: DBair	DATE: 2-18-98	RECEIVED BY: Kristen Koch	DATE: 2/18/98
FIRM: GCI	TIME: 0900	FIRM: OnSite Env.	TIME: 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 3/2 kits per Dave Bair

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB
Laboratory No. 02-079

Requested Analysis

Lab ID	Sample Identification		Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hold				% Moisture
35	B-8	S-4	2-17		S	1															X				
36	1	S-5																			X				
37	B-9	S-1																X							X
38	1	S-2																⊗			X				
39	1	S-3																⊗			X				
40	1	S-4																			X				
41	1	S-5																			X				
42	B-10	S-1																X							X
43	1	S-2																⊗			X				
44	1	S-3																⊗			X				
45	1	S-4																			X				
46																									

RELINQUISHED BY	DATE	RECEIVED BY	DATE
OBair	2-18-98	Kristen Koch	2/18/98
FIRM GCI	TIME 0900	FIRM OnSite Env.	TIME 9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
& Added 3/2/98 per D. Bair.

DISTRIBUTION LEGEND - White - OnSite Copy; Yellow - Report Copy; Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 9T382E
Project Name: Jackson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ Standard
- ☐ _____ (other)

Project Chemist: DAB

Laboratory No. 02-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic			hcid				% Moisture
46	B-11 S-1	2-17		S	1													X							X
47	S-2																	⊗			X				
48	S-3																	⊗			X				
49	S-4																				X				
50	S-5																				X				
51	B-12 S-1																	X							X
52	S-2																	⊗			X				
53	S-3																	⊗			X				
54	S-4																	⊗			X				
55	not needed																				X				
56																									
57	B-16 S-5 KK																								

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	2-18-98	Jaydon Koch	2/18/98
FIRM	TIME	FIRM	TIME
GCC	0900	OnSite Env.	9:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
Change per Dave Bair KK.
⊗ Added 3/2/98 per D. Bair.

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

March 6, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9803-006

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on March 3, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-12 S-5	03-006-01	**ND**	13

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-4-98
Date Analyzed:	3-5-98
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0304S2

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-06

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	**14.4**	**13.4**	6.8		10

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-06

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	96.8	82	103	88	7.0	

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

Date Analyzed: 3-4-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-12 S-5	03-006-01	25

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeniety. The sample was re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N1 - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample which are elevating the diesel result.

O1 - Hydrocarbons in the heavy oil range (>C24) are present in the sample which are elevating the diesel result.

P1 - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants Inc.
Project No.: 973&2E
Project Name: Steffan Jacobson
Project Manager: Dave Bair

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☑ Thurs or Fri (other)

Project Chemist: DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH		Arsenic						% Moisture
1	B-12 S-5	2-17		S	1														X						X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
DBair	3-3-98	Kristen Koch	3/3/98
FIRM GCI	TIME 1406	FIRM OnSite Env.	TIME 2:07
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Preliminary CPTED Review

NORTH POINT APARTMENTS

THE EMPOWERMENT GROUP
ALEX E. WARD, CPP
P. O. BOX 7193
BELLEVUE, WA. 98008
425-227-4350

CPTED REVIEW

NORTH POINT APARTMENT COMPLEX

SUMMARY OF FINDINGS

The North Point Apartment Complex sits on an undeveloped site in the north end of Everett on Marine View Drive. The neighborhood is very diverse on all sides of the property. To the west of the complex is a stretch of single family residences. To the north and to the west are several low rise (2 – 3 story) apartment complexes and a public housing development. Beyond the single family housing to the west is a Juvenile Justice Center that houses delinquent juveniles. Further west and a little south is another public housing development. To the south is a single family neighborhood. To the east you find Burlington Northern's train yard with five or so tracks.

To take the above data without looking further would be a very big mistake. When one looks at the apartment complexes in the area, they are clean. The public housing developments show a lot of tenant pride with flower and other gardens near the units. For the most part they are clean and well cared for. The single family houses are well cared for and gardens (especially flower gardens) abound. I stopped at a garage sale in the block of Marine View Drive directly south of the development land and talked to the people that owned the house there. I asked them what kind of a neighborhood it was. They indicated that there were several new homeowners nearby and that the people in the neighborhood get along and have few problems. Their biggest problem, in fact, was the noise from the traffic on Marine View Drive.

This is certainly not the best neighborhood in Everett, but the people seem to have the pride of ownership of the houses. In addition, there seemed to be no fortressing that one would expect to see if there were lots of crime problems. Also, there were few houses for sale, and the ones that were for sale seemed to have decent prices. New owners is also a good indicator of a neighborhood that is not deteriorating. I would think it would be important to check what the turnover rate in the houses is as well as what the sold prices are in comparison to the selling prices.

I saw two police cars while I was checking out the area. One might have been taking a report at an apartment complex, the other was heading for the juvenile detention center. I drove through the entire area and didn't see any signs of graffiti, most of the houses were in good repair. There were no vacant houses that I saw. Obviously, to do a complete CPTED survey I will need to get some crime data and talk to the police for their opinions.

I believe that the apartment complex that is being proposed would be a positive addition to the area. As in any complex, the design and management will dictate how successful it will be. The design seems to be a good one from a CPTED standpoint. The wall on the east side with the fence on top of it will most likely cure any potential problems that would come when the woods are gone and there is a direct connection to the railroad yard. Railroad yards are constant ly a focus for the homeless who often use the rail as their transportation system. I would expect that there will be homeless individuals relocated when the lot is prepared for the development, but the design of the complex should continue to shield the neighborhood from direct access from the railroad yard.

I can't think of anything that would be negative in regards to the development as long as it is managed properly – possibly increased traffic.

In order to conduct a complete evaluation I will need to contact police, fire, planning and check police and planning files. I will also need to see landscaping plans, lighting plans (preferably together), and photometric plans of the complex. I will also need to see the designs for any open space areas.

OVERVIEW OF CPTED PRINCIPLES

CPTED stands for Crime Prevention Through Environmental Design and is initially based on the works of Jane Jacobs, Oscar Newman and C. Ray Jeffery. Since it's beginnings in the late 1960's it has been expanded upon by many people and today it's principles are being used over much of the world to create safer environments.

The basis for much of today's CPTED approach focuses on the "Defensible Space" concept developed by Oscar Newman in his book ***Defensible Space: Crime Prevention Through Urban Design,*** 1972, Macmillan Publishing Company, New York. In this book, Newman discusses three tenants of Crime Prevention Through Environmental Design. These are: Surveillance, Access Control and Territoriality. Since the writing of the initial book, many people have added to these concepts. Currently the basic tenants stress the word "natural" in respect to Surveillance and Access Control. Natural means things that are built in by the design and are easy for people to become involved with. Mary Smith in her chapter on "Security and Safety" in the book ***Parking Structures: Planning, Design, Construction, Maintenance, and Repair*** discusses Passive and Active security measures. Passive Security Measures are a physical part of the facility. Her "passive security measures" are similar, therefore, to "natural" concepts as discussed by Newman.

Tim Crowe in his book ***Crime Prevention Through Environmental Design: Applications of Architectural Design and Space Management Concepts***, 1991, Butterworth-Heinemann, Stoneham, MA. Discusses three levels of security: Natural, Mechanical and Organized. Natural being built in. It is also the least costly to implement. Mechanical security involves what will be termed later as active security and costs more money to implement. Organized is made up of guards or receptionists that have salaries and benefits to be paid over the life of the building. Obviously when moving from Natural to Organized the cost gets steadily higher.

Other practitioners have added Maintenance to the original three basic tenants. One example: landscaping that is not properly maintained often causes lighting problems. Although many feel that maintenance isn't part of the basic CPTED principles, all would agree that initial decisions regarding design should include maintenance issues.

Canada has taken a bit of a different tract with their CPTED development. They discuss "A Working Guide for Designing Safer Urban Environments" (Safe City – City of Toronto Planning and Development Department.) In this document several important design issues are discussed. These are: Lighting, Sightlines, Entrapment Spots, Movement Predictors, Isolation, Land Use Mix, and Activity Generators. Depending upon whether these things are properly taken into account during the design phase may cause built space to be safe or unsafe.

During the rest of this report I will be using these terms to describe areas of the design that I feel will make people safe or unsafe. I will further describe the terms when I use them in an effort to make it easier for the reader to understand the concern.

ABBREVIATED BACKGROUND OF SITE

On Sunday, July 26, 1998 I visited the site of the proposed North Point Apartment development. It is located near 11th Street and Marine View Drive in Everett. I drove through the adjacent single family neighborhood, apartment complexes, public housing areas, past a trailer park, to the railroad yard, and past the Juvenile Justice Center.

One thing that is important to point out at the onset is that no one has, to my knowledge, come up with a formula to build space that is free from crime. CPTED is a way to look at built space and create the feeling that it is a safe place for people we are trying to attract. This encourages them to visit the space (in this case to live in the space). The effect is that their using the space as designed (especially in high concentrations) actually makes the space less desirable as a place for people who want to cause trouble (abnormal users – criminals, delinquents, etc.) to hang out. This means that a properly designed property will most likely not become a crime magnet.

It is then up to the individuals who live, work or visit the space to keep it crime free. Management has a big role to play. Well trained managers are better at screening tenants, assuring that maintenance keeps all aspects of the development in working condition, assuring that the space is neat , clean and properly cared for, and that people who are causing problems are dealt with swiftly (if need be evicted). Good design and effective management are the keys of ***Crime Free Public Housing*** and what usually makes one property successful and another one not.

I observed that this site is on an undeveloped piece of land. It is overgrown with trees and bushes and offers little view past, other than possibly of the mountains since the houses to the west are on higher lots and mostly are two story. I don't believe that the development will affect the view, however, that may be a concern of the neighbors.

There are other multi-family developments in the area of various sizes and layouts. I think this is a better designed than the ones I visited, from a CPTED standpoint. First of all, because it has underground parking that uses an access control system to allow access to tenants and deny access to others. The other complex I viewed that offered parking under the building was open, and I would think would be a target for people who were looking for vehicles or things inside them. Most, if not all, of the parking in the public housing developments was on the streets. The streets were narrow and crowded, but there was no sign of car related crime problems, although, I would bet there would be some.

This was Sunday morning, a warm day, and there were many people out walking and driving through the area. There were several garage sales and a few houses for sale. The only really negative thing I saw was freshly dumped litter (toys, hubcaps, books, etc. – looked like someone moved and just dumped what they couldn't take with them) in an undeveloped lot near the public housing – south and west of the lot (about ¼ mile away).

In general, I think the location is a good one for the apartment complex, as it is a positive change from the overgrown vacant lot. Also, if it is well designed and well managed it should bring more positive elements into the community.

The only potential negative impact I saw was the potential for increased traffic on Marine View Drive, however, there is already a lot of traffic and I'm not sure the additional vehicles for the apartment complex would be truly felt. Depending on what parking ratio the apartment community uses, and what the actual number of cars is, there might be a negative neighborhood impact due to additional street parking. This, however, is mitigated by the fact that there would be parking in front of the complex that would contain much overflow and there is designed additional above ground parking in the complex.

NORTH POINT – PROPOSED SITE PLAN

In reviewing the site plan, I think that the design and location of the buildings is good from a CPTED standpoint. Because of the arrangement of the buildings, they interact in a manner that conforms in the spirit of the CPTED tradition. This offers maximum surveillance opportunities. Lighting, landscaping, surface parking, walking paths and recreation facilities can not be evaluated for meeting CPTED guidelines from existing site plans and will have to be done further out in the building timetable.

Parking structures are inherently dangerous, according to the courts. They are also consistently one of the top five locations for violent crime in the United States. The unfortunate thing for residential parking structures is that when you add the fact that the complex is residential to the fact that it has a parking structure you have just hit 2 of the 5 top locations for violent crime to occur in the United States. Getting back to thinking about CPTED – it can only reduce the risk of personal and property crime in public spaces (in this case the parking structure and the grounds of the apartment complex would be at least considered semi-public.) Also, one should remember that the reason that violent crime occurs so often in residences is that domestic violence and child abuse are included in violent crime statistics.

In evaluating the parking structures in the North Point complex, I believe the architect has done an excellent job in locating the parking structures, their entry-exits, and in providing access control that is not only handy to the buildings in the development, but helps limit the number of people using each structure. This makes it possible for people to get to know each other – or at least recognize vehicles relative to the people who use them. Limiting access to the individual levels reduces the risk to individuals should someone break in to one level with the intent of victimizing cars on both levels.

For design of a card access, audible alarm or CCTV system that will work in your facility I would encourage you to contact someone who is familiar with such systems and can design it, put the design out for bid and monitor the installation to assure that what you asked for is what you got. One person I would highly recommend for this type of design is Fred Zagurski. He can be reached at 425-775-5050. Fred is an electrical engineer as well as a Certified Protection Professional and well versed in Crime Prevention Through Environmental Design.

Bibliography:

1. ***Defensible Space: Crime Prevention Through Urban Design,*** *Oscar Newman, 1972, Macmillan Publishing Company, New York, NY.*
2. ***Crime Prevention Through Environmental Design: Applications of Architectural Design and Space Management Concepts,*** *Timothy D. Crowe, 1991, Butterworth-Heinemann, Stoneham, MA.*
3. ***Parking Structures: Planning, Design, Construction, Maintenance, and Repair,*** *Anthony P. Chrest, Mary S. Smith, Sam Bhuyan, 1989, Van Nostrand Reinhold, New York, NY*
4. ***"A Working Guide for Planning and Designing Safer Urban Environments",*** *October, 1992, City of Toronto Planning and Development Department.*
5. ***Sourcebook 1995,*** *U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.*
6. ***Crime in the United States 1996,*** *U. S. Department of Justice, Federal Bureau of Investigation.*
7. ***"Crime Prevention Through Environmental Design in Parking Facilities",*** *U. S. Department of Justice, Office of Justice Programs, National Institute of Justice.*
8. ***Outsmart Crime,*** *Doug Shadel and Al Ward, 1995, Newcastle Publishing, North Hollywood, CA.*