WASHINGTON STATE DEPARTMENT OF ECOLOGY

INITI L INVESTIGATION ELD REPORT

ERTS Number: S541074
Parcel #: 2084140040
COUNTY: PIERCE

SITE INFORMATION

Site Name (e.g., Co. name over door):	Site Address (including City and Zip+4):	Site Phone:
35th St. Landfill (City Fill)	S. 35th Street and Pacific Avenue	none
Site Contact and Title: Jim Parvey	Site Contact Address (including City and Zip+4): City of Tacoma, Public Works Engineering Services 747 Market Street, Tacoma 98402	Site Contact Phone: 253/502-2111
Site Owner: City of Tacoma	Site Owner Address (including City and Zip+4): Assets Management Division 747 Market Street, Room 737 Tacoma 98402	Site Owner Phone: 253/591-5535
Site Owner Contact:	Site Owner Contact Address (including City and Zip+4):	Owner Contact Phone:
Alternate Site Name(s):	Comments:	Is property > 10 acres? Yes ☐ No ☒
Previous Site Owner(s):	Comments:	

Location: Quarter-Quarter: 3-4 Section: 09 Township: 20N Range: 03E
Latitude: Degrees: 47 Minutes: 13 Seconds: 42.8 N
Longitude: Degrees: 122 Minutes: 26 Seconds: 00.1W

27 34

S 47th ave

INSPECTION INFORMATION

Inspection Date: n/a	Inspection Time:		Entry Notice: Announced ☐	Unannounced ☐
Photographs	Yes ☐	No ☐	Weather: Clear ☐ Rain ☐	Temperature: °F
Samples	Yes ☐	No ☐	Wind Direction:	Wind Speed:

RECOMMENDATION

No Further Action (Indicate NFA in box below):		**LIST on ISIS** (Indicate in box below):	
Release or threatened release does not pose a threat	☐	Site Hazard Assessment	☒
No release or threatened release	☐	Interim Action	☐
Educational mailing	☐	Emergency Action	☐
Refer to program/agency (Name: _____)	☐	Independent Cleanup Action In progress	☐
Independent Cleanup Action Completed (i.e., contam, removed)	☐		

COMPLAINT (Brief Summary of ERTS):
Contamination is present in an old City of Tacoma landfill.

SITE STATUS (Brief Summary of site condition(s) after investigation):
Soil is contaminated with arsenic above MTCA cleanup levels. Additional impact to soil and groundwater is suspected from the dumping of street sweepings and vactor waste. This site is recommended for inclusion in the SIS database.

Investigator: S. Bell	Date Submitted: 08.05.05

OBSERVATIONS

Description:

I reviewed the information available on this former dump site in the TPCHD files. The 35th Street Landfill site reportedly encompassed an approximate 5 acre area and multiple parcels. The borders of the area were reportedly Pacific Avenue on the west and A Street on the east, between S. 35th St and S. 34th St. bridge, but likely extended further south towards Harrison Street. It is difficult to determine what parcels are associated with the "35th St. Landfill", but they likely include 2084140040, 2084140050, 2085130060, 2085130070 at a minimum. Parcel numbers 2085140040 and 2085140070 may also be impacted from the former landfill. The 35th St. Landfill site is located within what had been a natural ravine that drained into Commencement Bay. The southern limits of the ravine are uncertain but extended at least as far as S. 38th Street at one time. The ravine is now filled in on the southern end, with the fill extending to an area between the S. 34th St. bridge and S. 35th St. The City of Tacoma is also responsible for at least some of the ravine fill outside the "35th St. Landfill" footprint acknowledged in the files.

The 35th St. Landfill site was used by the City of Tacoma to dump waste materials from the early 1960's through 1992. Reported materials dumped were waste concrete, asphalt, other inert materials, street sweepings and vactor waste ("catch basin cleanings"). The street sweepings and vactor waste were placed primarily at the northern end of the fill. Prior to 1987, the complainant's company (Dickson Company) also dumped materials at this site although it was reported to be inert material only. In 1991, the City of Tacoma regraded the fill to provide better stability, covered the site with topsoil, and hydroseeded.

An Environmental Site Assessment (copy attached) was conducted by the City of Tacoma in 1991. Sampling conducted for the ESA included TPH, metals, and VOCs, with most results below detection limits or MTCA cleanup levels. Samples were analyzed at the City Technical Support Lab. Nine test pits were dug to depths ranging from 12 to 15 feet and soil samples were collected from five of the pits at various depths. Concencentrations of arsenic above MTCA cleanup levels (20 mg/kg) were detected in the soil collected from two locations at 21.7 and 228 mg/kg, respectively. TPH results in soil ranged from 500 to 1330 mg/kg. Observations recorded in the field notes for the test pits were diesel odors and layers of street sweepings. Handwritten notes in the TPCHD file indicate that sample splits were obtained by TPCHD staff and analyzed for TPH which was detected in two soil samples at levels exceeding MTCA: 84,000 and 3800 mg/kg. Analytical results to support the notes were not found in the file.

Two water samples were also collected from the northern end of the fill following a 24 hour rain event and submitted for analysis of TPH, metals, and VOCs. The samples were collected from the end of a culvert pipe which extends below the fill, and a run-off stream at the base of the fill. The TPH results were 25.6 and 32.0 mg/L. Xylene was detected in the culvert sample at 8.5 ug/L (erroneously attributed to 1,1,1-trichloroethane in the ESA report). Arsenic, chromium, copper, and zinc were also detected at relatively low levels in the surface water samples (as compared to drinking water standards): the highest concentration of arsenic detected was 0.013 mg/L, chromium was 0.007 mg/L, copper was 0.018 mg/L, and zinc was 0.042 mg/L. Lead was also detected in the run-off stream at the relatively high level of 0.039 mg/L.

The ESA recommended annual surface water and surface soil sampling with analysis for TPH to ensure bioremediation was occurring at this site. Sampling ensued in 1999 and results were reported to TPCHD. Not enough sample information was provided to determine where they were taken, and the analyses are inconsistent over time. However, the overall information provided from the sample results indicates low levels of oil, ranging from 110 to 230 ppm, have been detected in soil in recent years. In June 2001, a spring was located north of the fill, approxiately 58 yards north of the 34th Street overpass and sampled for pesticides, PNAs, volatiles, metals, and diesel. The only analytes detected were Barium (0.011 ppm), Chromium (0.001 ppm), and Lead (0.001 ppm). A spring was again sampled in September 2002 and analyzed for pesticides, SVOCs, VOCs, metals and TPH. Again, only metals were detected at low levels: Arsenic at 0.003 ppm, Barium at 0.012 ppm, Chromium at 0.001 ppm, and Lead at 0.002 ppm.

Overall, the investigative work conducted by the City has not adequately characterized any significant contamination that may be present in the subsurface at this site. The annual sampling provides little useful information related to the buried material at the site, with the exception of the spring sampling results. The field notes associated with the ESA are unclear but leave questions as to the sampling methodology for volatile components. Street sweepings and vactor waste were acknowledged to be part of the waste stream dumped at this site, were visible in the test pits, but were not purposely sampled. Petroleum hydrocarbons, metals, and carcinogenic PAHs are typical contaminants associated with this waste stream. PAHs were never analyzed for. It is likely that this site has residual contamination in the subsurface soils from the street sweepings, with potential impact to groundwater. Because of the suspected impact from the disposal of street sweepings and vactor waste, together with the elevated arsenic and TPH levels in soil, this site is recommended for inclusion on the SIS database.

Description of past practices likely to be responsible for contamination:

Dumping of street sweepings and vactor waste

ACTIVITIES OR PRACTICES RESPONSIBLE FOR CONTAMINATION:

Spill	☐	LUST	☐
Pesticide disposal	☐	Tank	☐
Landfill	☒	Improper handling	☐
Drums	☐	Improper disposal	☐
Other – Describe:			

Are discharges permitted (if yes, describe): No ☒ Yes ☐	Standard Industrial Code(s)

CONTAMINANT(S)

AFFECTED MEDIA	**CONTAMINANTS** (#1-16: See contaminants key) Enter letter designating status of contaminant: **C** = Confirmed (above cleanup levels); **S** = Suspected; **R**= Remediated															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ground Water			S				S				S					
Surface Water																
Drinking Water																
Soil			C				S				S					
Sediment																
Air																

1 Base/neutral organics	7 Petroleum products	13 Corrosive wastes
2 Halogenated organic compounds	8 Phenolic compounds	14 Radioactive wastes
3 Metals - Priority pollutants	9 Non-halogenated solvents	15 Conventional contaminants, organic
4 Metals - Other	10 Dioxin	16 Conventional contaminants, inorganic
5 Polychlorinated biPhenyls (PCBs)	11 Polynuclear aromatic hydrocarbons (PAHs)	
6 Pesticides	12 Reactive wastes	

SITE INFORMATION

Soil type		Slope	
Site vegetation/cover present:		Pasture/open field	☒
Forest	☐	Wetlands	☐
Bare soil	☐	Pavement	☐
Brush	☒	Surface water	☐
Landscaped	☐		

Other – Describe:

Are there any drinking water systems affected?	☐ Yes	☒ No
Municipal, private, or both? (Circle one)		
How many people are estimated to be affected? ____		
Is there a potential for a release or threatened release to affect a drinking water source?	☐ Yes	☒ No
Are there monitoring wells in the vicinity?	☐ Yes	☐ No
Are there dry wells in the vicinity?	☐ Yes	☐ No

CONTAMINANT PATHWAYS AND TARGETS

	Ingestion	Inhalation	Contact
Ground Water	x	x	x
Surface Water		x	x
Drinking Water			
Soil	x	x	x
Sediment			
Air		x	

Targets possible:			
Human, adult	☒	Residential	☒
Human, children	☒	Industrial	☒
		Commercial	☒

Sensitive environments (See WARM Scoring Manual for definition):
☒ Yes ☐ No If yes, describe:
Surface and ground water drains to the Thea Foss Waterway, and subsequently to Commencement Bay.

General Comments:

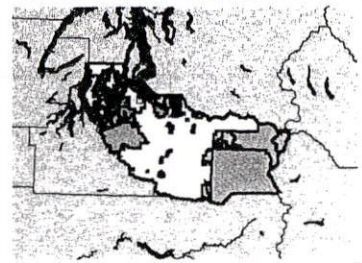
ERTS S541074, City Fill Dumpsite
Tacoma

MAP LEGEND

Roads - All*

N

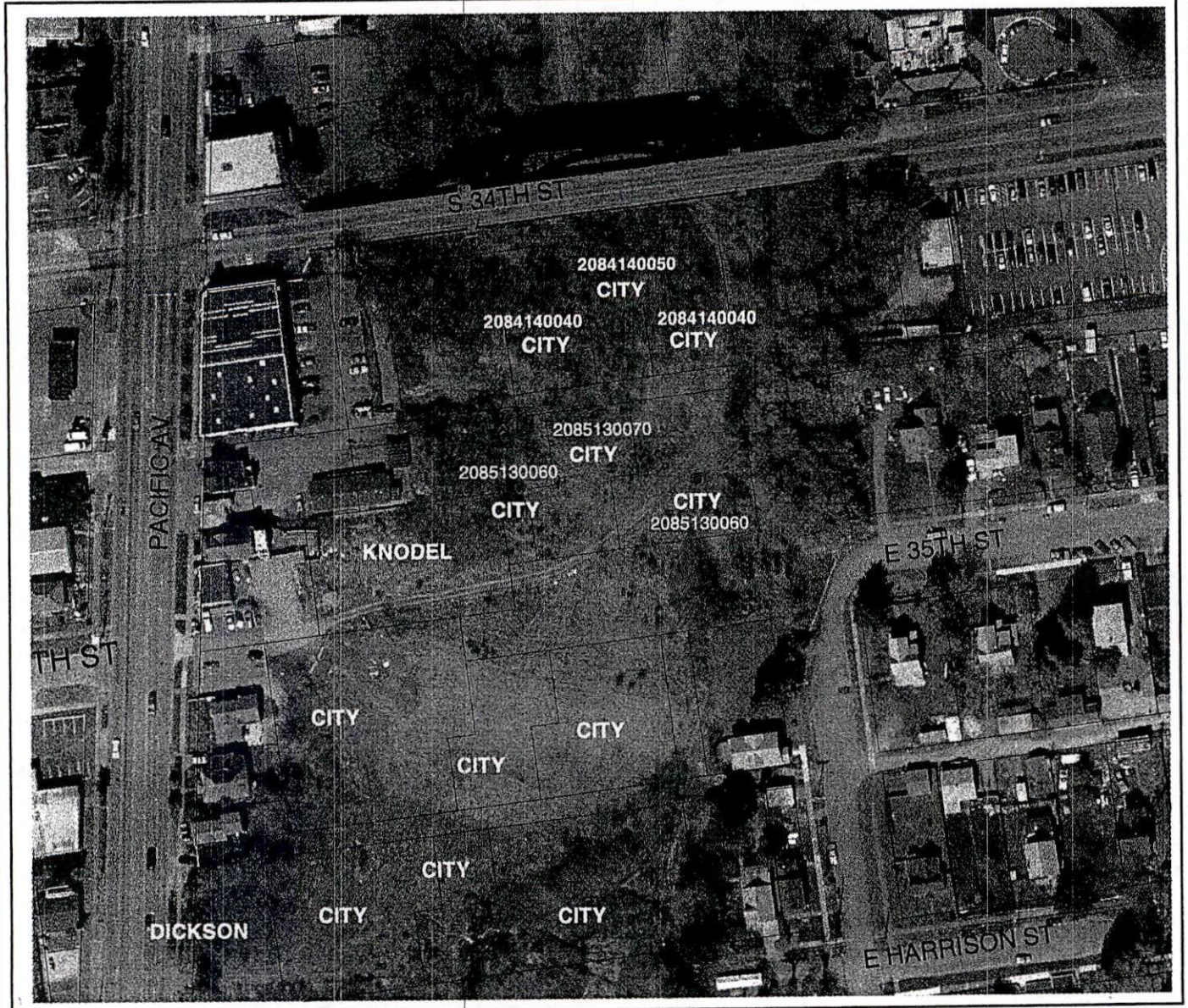
Scale 1:9195



17:43 Jul 26, 2005

Pierce County
Geographic Information Services

35th Street Landfill, City of Tacoma



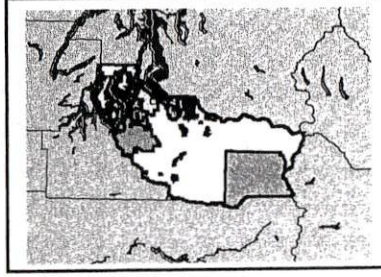
MAP LEGEND

Tax Parcels*

Roads - All*

N

Scale 1:1743



17:21 Jul 7, 2004

Pierce County

Geographic Information Services


S 34TH ST
2084140040
CITY OF TACOMA 2624590
2084140050
CITY OF TACOMA 2624590
2084140040
CITY OF TACOMA 2624590
2084140030
PIERCE COUNTY-TAX TITLE
2085130060
CITY OF TACOMA 2624590
2085130070
CITY OF TACOMA
2085130060
CITY OF TACOMA
PACIFIC AV
E 35TH ST
2085140040
CITY OF TACOMA 2624590
2085140040
CITY OF TACOMA 2624590
2085140070
CITY OF TACOMA
E HA

TACOMA-PIERCE COUNTY
HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH PROGRAM

CLEAN WATER. HEALTHY ENVIRONMENT. FOR LIFE.

Closed Landfill Study

Published April 1993
Revised September 2002

2.7 CITY FILL (35TH ST. LANDFILL)

The City Fill is located near 35th Street on the east side of Pacific Avenue in Sec 9, T 20N, and R 3E. The site was approximately 5 acres and was in operation from about 1960 to 1992.

2.7.1 PAST AND PRESENT USE

Most of this dumpsite was owned by the City of Tacoma (City). A portion of the site was at one time owned by the Dickson Company. A large natural gulch that extended parallel to Pacific Avenue south of South 38th Street northward toward Interstate 5 is the area that was filled. Most of the filling consisted of inert wastes and street sweepings, which consisted of sand, leaves, tree needles, and other organic wastes that had been swept from along roadsides. The site was used by the City's Street Maintenance Division and Sewer Utility Division as well as the Dickson Company, who performed several City projects.

In 1992, the City regraded the site in order to provide slope stability. Also, the site was hydroseeded to control erosion. The site is no longer being used as a City dumpsite. Currently, some of the perimeter of the site consists of residential houses and small businesses.

2.7.2 WASTE DISPOSAL PRACTICES

The City Fill was first used during the construction of Interstate 5 and nearby roads in the early 1960's. Most of the filling at that time consisted of waste concrete, asphalt, and other debris considered to be inert. In the 1970's, a portion of the site that had been purchased by the Dickson Company was used by that company for disposal of inert wastes. The Dickson Company was performing hauling activities for Tacoma and other parties. The City instructed Dickson to discontinue dumping in 1987 when it was discovered that some of Dickson's debris had been disposed of on City property. The fill site did not require a solid waste permit overseen by the TPCHD because the wastes being disposed of were considered inert or clean and a significant portion of the site was filled before these types of wastes came under the regulatory purview of the TPCHD.

From 1985 to 1992, the City dumped wastes into the fill area that were generated from the City's Street Maintenance Division and Sewer Utility Division. The materials dumped at that time were street sweepings, which being more organic, lead to the production of methane gas when buried. Also, oil leaked from automobiles leads to the presence of metals and petroleum hydrocarbons in the street sweepings. It appears that these activities were performed without a solid waste permit.

2.7.3 SUSPECTED PROBLEMS

Because of the organic nature of some of the wastes landfilled at the site, methane gas generation is occurring. Surface water contamination is a potential problem in the area, due to the unknown nature of some of the wastes dumped at the site.

2.7.4 FIELD RESULTS

In 1990 the TPCHD monitored for landfill gas at the 35th Street site. High concentrations of combustible gas were detected along the northern face of the ravine.

The City of Tacoma conducted an environmental site assessment in April 1991 (final report dated April 1992) for the Tacoma Public Works Department's Street Maintenance Division. Soil samples and surface water samples were collected and analyzed for a variety of chemical constituents. Elevated total petroleum hydrocarbons were detected in some soil samples. Elevated arsenic was also discovered in some soil samples (228 ppm). Arsenic and xylene were also detected in surface water samples.

A methane monitoring investigation was also conducted in 1992 at an area south of the 35th Street site near a City Light substation. No combustible gas was detected.

In 1998, the City Fill site was placed on a periodic methane monitoring schedule due to previous high concentrations of methane gas having been detected. A methane survey was conducted on March 3, 1999 jointly by the City of Tacoma Solid Waste Utility (TSWU) and the TPCHD. Only trace levels of methane gas were detected. The TSWU conducted methane monitoring at the site twice in 1999. No combustible gas above 1% of the LEL (Lower Explosive Limit) were detected in those monitoring events. The last methane monitoring event prior to the writing of this report was conducted by the TPCHD on April 23, 2001. Perimeter barhole gas monitoring was conducted at five locations. A single gas probe on-site was also monitored. Results of the methane survey are shown in Table 5 and Figure 7.

Table 5. Methane monitoring results for the City Fill (35th St. Landfill) on April 23, 2001.

Sample	Methane reading	Depth of Measurement
1	20% LEL	24"
2	6% LEL	36"
3	23% LEL	28"
4	8% LEL	24"
5 (Gas Probe)	1640 ppm	?
6	9% LEL	36"

LEL = Lower Explosive Limit
ppm = parts per million

The bank and the toe of the slope were also inspected for signs of leaching during the last site inspection. No visible signs of leaching were noted. A large puddle of water was noted at the toe of the slope. On March 23, 1999, March 16, 2000, and May 7, 2001 the City of Tacoma Public Works Department (TPW) performed sampling of soil and surface water at the landfill site. Analysis of the samples showed no petroleum contamination present. A spring was noted north of the landfill during the last sampling event. The spring flows north into a storm drain. The spring was sampled on May 8, 2001. No contamination above state cleanup standards was detected.

2.7.5 RECOMMENDATIONS

In the environmental site assessment report of 1992, it was recommended that annual surface water and soil sampling with analysis for TPH (Total Petroleum Hydrocarbons) be performed. Also, methane monitoring, including barhole monitoring, is to be conducted. All results and data are to be forwarded to the TPCHD.

Due to the close proximity of residential and business buildings to the landfill, the potential for methane migration into the buildings exists. Therefore, the TPCHD concurs with the recommendations of the report and recommends that semi-annual methane monitoring, including barhole monitoring, be conducted. TSWU will conduct the methane monitoring and forward all results to the TPCHD for review. Future methane monitoring frequency at the site may be altered based upon the results obtained. The soil and water sampling activities recommended in the report will continue to be performed by TPW on an annual basis.

54th Street Landfill 4-4-91

GK, DP, Jeff Gefords, 2 other city personnel

Test pits to be dug w/ extend a hoe backhoe.

TP-1

0-6' Mostly clean fill - small amounts of demo (concrete)

6-10' increasing amount of demo, including wood demo
8' - appears to have been a can of paint.

10-12' soils Dark greyish sand & gravels with some silts
smells like product in soils - diesel

12-14' similar to 10-12'

FID reading of "smelly" soils highest reading pegged at 1000 ppm
Sample taken by Refuse utility at this spot, voas not packed air
split taken by G. Kato - 20 minutes later -
volatiles probably gone.
split - composite of "smelly pile" (10-14')

TP-2

0-4 soils

4-6 Yard waste type material w/ soil

---

consistent 100-350 ppm

appears cleaner as go deeper

sample taken (Tacoma + TPCHD split) from a bucket
scraped from 0-10' 300 ppm FID reading.

Tacoma Sample - VOLA bottle, by hand, not packed in bottle.

4th Street Landfill 4-4-91

GK, DP, JG etc

TP-3

4-6 - Misc demo

7-8 - leafy, twigs - street sweepings included
Strong diesel odor pegged (10004) PPM of FID
Samples taken (+ TPHD splits) at 7-8

8-12 - Odor diesel strong no OVA readings taken

12-14 Street sweepings

Very little demo in hole.
Soils appeared somewhat homogeneous from 6-12"

4-5-91

TP4

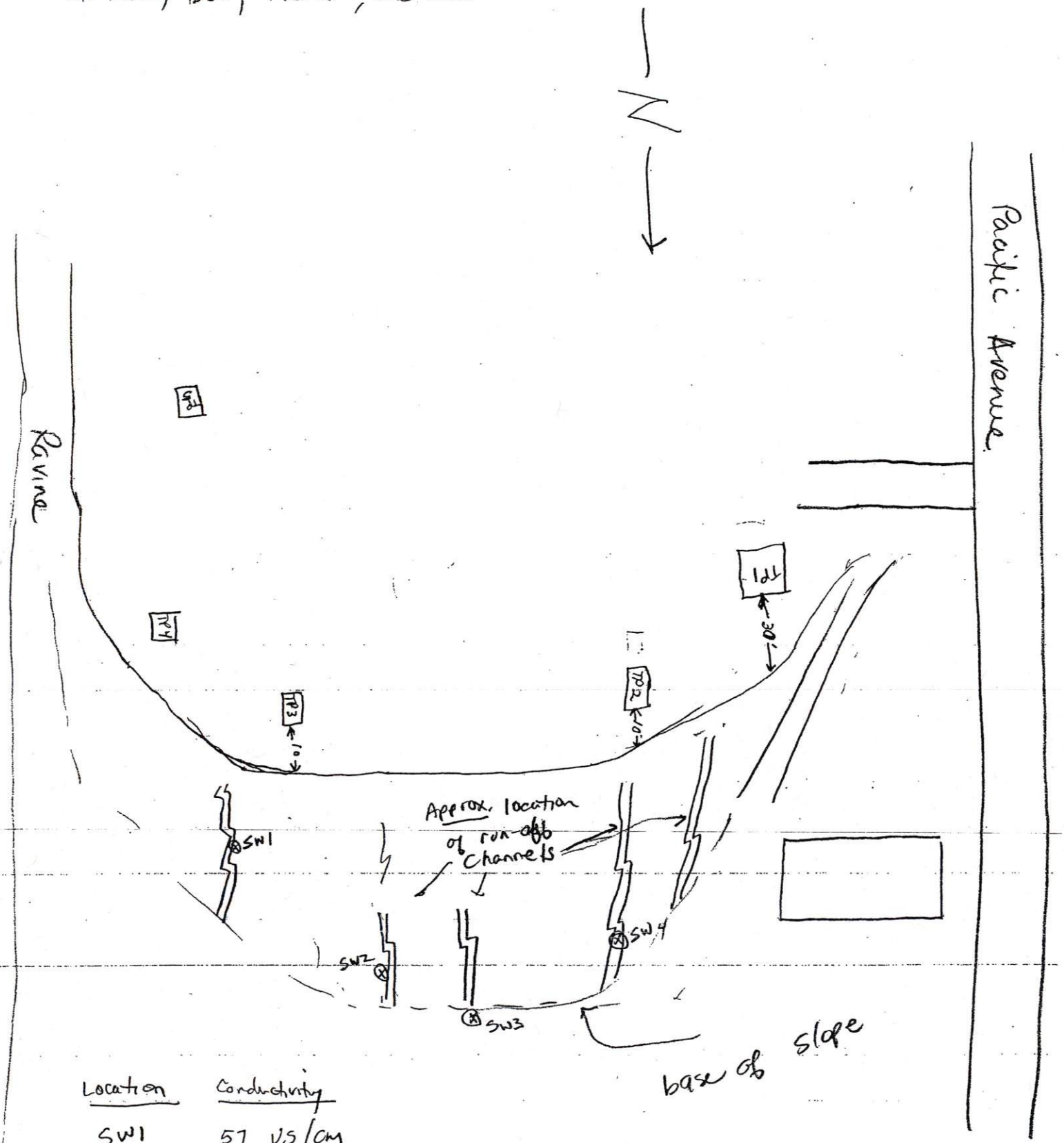
0 - ½'	Soil cover
½' - 1½'	asphalt etc
1½ - ~4	Fill, no odor some large demo (concrete) at 3-4'
4 +	odor, very slight, diesel
~5'	street sweepings

Samples taken from 3-4' of hole
FID ~100 PPM, appears to be street sweepings

TP-5 - Heavy concrete

4-4-91 34th street Landfill

G. Kato, Doug Pierce, One other

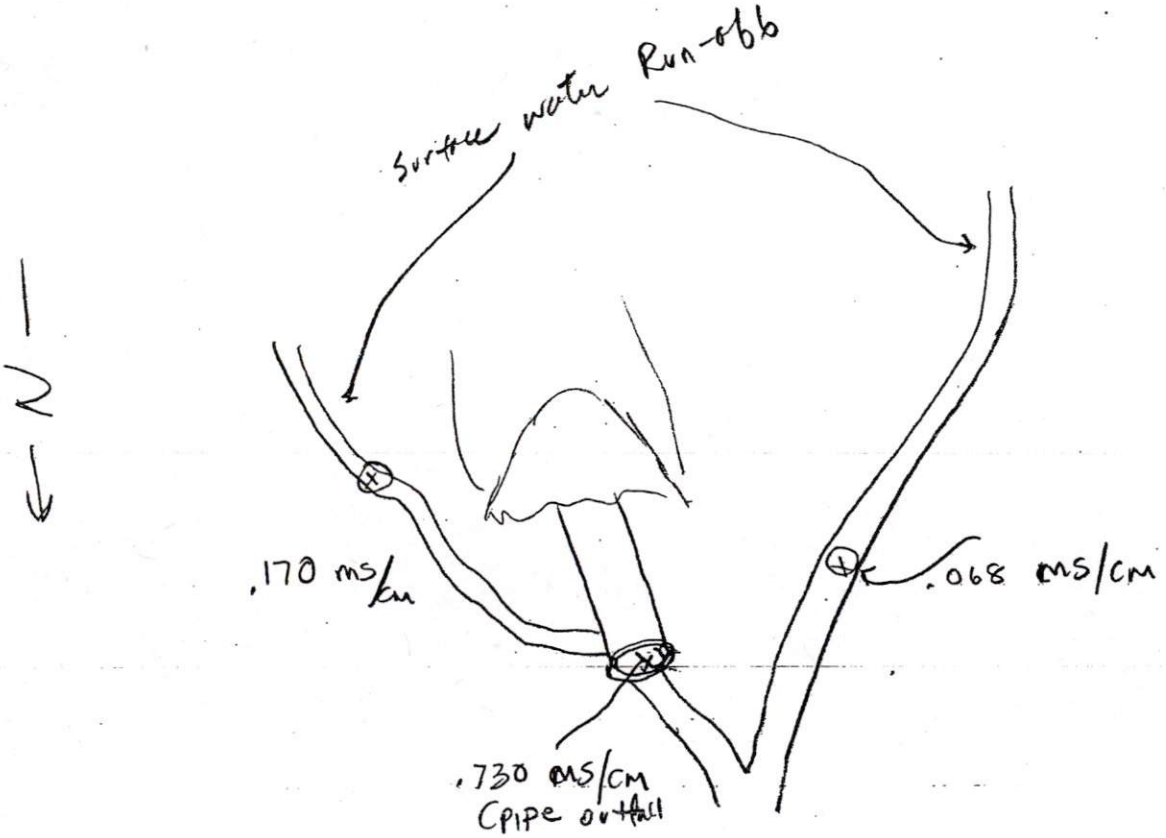


Location	Conductivity
SW1	57 uS/cm
SW2	68 uS/cm
SW3	88 uS/cm
SW4	184 uS/cm

4-4-91 34th Street Landfill

G. Keto, Doug Pierce, One Other

at pipe outfall at N. end of site



Written Dave Bosch, TPCHD Solid Waste Program

35th St Landfill —

~~Issues to be Resolved~~:

Comments: Background

Pg 2 States that City did not need SW permit under 173-304 because they were landfilling inert wastes & "clean" material.

→ The TPCHD has written correspondence since Nov 1987 that a SW permit was necessary for inert waste disposal per 173-304.

The obvious facts that materials disposed have characteristics of methane production, levels of TPH exceeding MTCA (200ppm) up to levels 84000 and arsenic levels at DW levels in one sampl all confirm that the materials disposed in this portion of the fill are ~~from~~ far from "inert" and "clean".

Pg 6. Surface H_2O Sampling methods & test results

Text states that all volatile organics screened in analysis were below detection limits except "1,1,1-trichloroethane."

* From Appendix C, the 8.5 ppb detection was in the analyte "xylenes".

4.2.1 Recommendations

Page 10 City states in document that cleanup of surface water not necessary because of lack of sig. levels of contaminants and future use of property.

* City should state what future uses are of site. → also stated in soil recommendation

Pg 10 4.3 Soil

Text states TP #9 soil sampl tested arsenic at 228ppm DW level is 100 ppm ~~#s~~ total #s.

Text states Recommendations

Annual surface H_2O sampling w/ analysis for TPH

" collection of surface soil w/ " " "

TPCHD soil analysis reveals TPH contamination 84 000ppm & 3800. The highest levels City obtained was 1300 ppm.

* TPCHD concerned other street sweepings collected are not being disposed of properly. Particularly street sweepings from N. Tac should be disposed of at ASARCO or Hoe waste dump. Street swapings should be analyzed for metals & TPH.

~~4.4.1 Air Qual. Recom.~~

4.4.1

Pg 12 "Air Quality Recommendations

Found CHy on-site. Assume will be completely gone w/in 10 yrs.

City recommends

Annual CHy mon. of site using borhole

Annual monitoring of surrounding properties for CHy migration

* TPCHD should recommend 1/4 monitoring to obtain baseline. Then can reduce monitoring requirements accordingly if levels permit.

** Why do "detection limits" for soils vary on each sample. Assume the results are in ppb.

Cline, Chuck (ECY)

From: Oberlander, Jim [joberlan@ci.tacoma.wa.us]
Sent: Monday, April 14, 2008 11:33 AM
To: Cline, Chuck (ECY)
Subject: FW: Old City fill near 35th and Pacific, Inspection and Methane Monitoring, 4-23-01, drainage to Thea Foss

My old e-mails

-----Original Message-----
From: Oberlander, Jim
Sent: Tuesday, April 24, 2001 12:55 PM
To: 'John Wright'; Getchell, Christopher
Cc: Fuller, Richard
Subject: RE: Old City fill near 35th and Pacific, Inspection and Methane Monitoring, 4-23-01, drainage to Thea Foss

I talked with Rick Fuller in our lab, he is planning to sample soon. His sample point is on top of the fill cap, south of the probe (5). I told him I would like to join him and take a better look at the toe, below the bridge. If there is leachate, it would most likely flow/following the old channel floor.

-----Original Message-----
From: John Wright [mailto:John#032#Wright@healthdept.co.pierce.wa.us]
Sent: Tuesday, April 24, 2001 8:10 AM
To: joberlan@ci.tacoma.wa.us
Subject: Re: Old City Landfill near 35th and Pacific, Inspection and Methane Monitoring, 4-23-01, drainage to Thea Foss

Jim:

Thanks for sending over the pictures. They came through in real good detail. I will be out of the office the rest of this week, but will attempt to contact Gary Kato about this site next Monday. If you have any questions about this site please give me a call.

798-6457

John Wright

>>> <joberlan@ci.tacoma.wa.us> 04/23/01 02:42PM >>>
Thanks for the tour, methane monitoring experience, and file information on
this old site. I may wish to hike further down the draw to verify if any
leaching.

Also, I am coordinating with our lab to learn the water sample stations. I
can print the photos if you would like them for your report/file.

<<Top View27s.jpg>> <<Toe & South,25s.jpg>> <<H2O@toe,26s.jpg>>
<<Looking East15s.jpg>> <<MW-1,16s.jpg>> <<MW-1,17s.jpg>>
<<MW-3,18s.jpg>> <<MW-5,19s.jpg>> <<MW-5,20s.jpg>> <<MW-6,21s.jpg>>
<<SUV22s.jpg>> <<Van,23s.jpg>> <<Van-24s.jpg>>

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In 1992, the City regraded the site in order to provide slope stability. The site was also hydroseeded to control erosion. The site is no longer being used as a City dumpsite. Currently, some of the perimeter of the site consists of residential uses and small businesses.

2.7.2 WASTE DISPOSAL PRACTICES

The City Fill was first used during the construction of Interstate 5 and nearby roads in the early 1960's. Most of the filling at that time consisted of waste concrete, asphalt, and other debris considered to be inert. In the 1970's, a portion of the site that had been purchased by the Dickson Company was used for disposal of inert wastes. The Dickson Company was performing hauling activities for the City of Tacoma and other parties. The City instructed Dickson to discontinue dumping in 1987 when it was discovered that some of Dickson's debris had been disposed of on City-owned property. The fill site did not require a solid waste permit from the TPCHD because the wastes being disposed of were considered inert or clean and a significant portion of the site was filled before these types of wastes came under the regulatory purview of the TPCHD.

From 1985 to 1992, the City dumped wastes into the fill area that were generated from the City's Street Maintenance Division and Sewer Utility Division. The materials dumped at that time were street sweepings, which being more organic, lead to the production of methane gas. Also, oil from vehicles leads to the presence of metals and petroleum hydrocarbons in the street sweepings. These disposal activities were performed without a solid waste permit.

2.7.3 SUSPECTED PROBLEMS

Because of the organic nature of some of the wastes landfilled at the site, methane gas generation is occurring. Surface water contamination is a potential problem in the area, due to the unknown nature of some of the wastes dumped at the site.

2.7.4 FIELD RESULTS

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Table 5. Methane monitoring results for the City Fill (35th St. Landfill) on October 27, 2005.

Sample	Methane reading	Depth of Measurement
1	ND	30"
2	120 ppm	24"
3	20 ppm	12"
4	120 ppm	30"
5	ND	12"
6	320 ppm	24"

ND = No Detection
ppm = parts per million

The bank and the toe of the slope were inspected for signs of leaching during the April 2001site inspection. No visible signs of leaching were noted. A large puddle of water was noted at the toe of the slope. From 1999 to 2004 the City of Tacoma Public Works Department (TPW) performed sampling of soil and surface water at the landfill site on an annual basis. Analysis of the samples showed no petroleum contamination present. A spring was noted north of the landfill during the last sampling event. The spring flows north into a storm drain. The spring was sampled on May 8, 2001. No contamination above state cleanup standards was detected. In July 2005 the TPCHD, on behalf of Ecology's Toxics Cleanup Program, received an request to conduct an initial investigation of this site to determine possible contamination. After a review of the facility's files, it was determined that sampling at the site performed by city agencies was inadequate. An initial investigation, including further sampling was conducted in August 2005. The sampling results confirmed petroleum hydrocarbon, heavy metals, arsenic, and lead contamination at varying degrees. The extent of the contamination had not been confirmed as of the writing of this report.

2.7.5 RECOMMENDATIONS

Due to the close proximity of residential and business buildings to the landfill, the potential for methane migration into the buildings exists. Therefore, the TPCHD recommends that semi-annual methane monitoring, including barhole monitoring, continue to be conducted. TSWU will conduct the methane monitoring and forward all results to the TPCHD for review. Future methane monitoring frequency at the site may be altered based upon the results obtained.

The soil and water sampling activities recommended in the 1992 report that had been conducted by TPW are not useful and can at this point be discontinued. Ecology, in accordance with the TPCHD's Site Hazard Assessment Program will work with the property owner to resolve contamination issues at the site. In the future, Ecology may conduct a Site Hazard Assessment of the site. At that time, Ecology will assess whether action will be needed and if necessary establish a priority for the work.

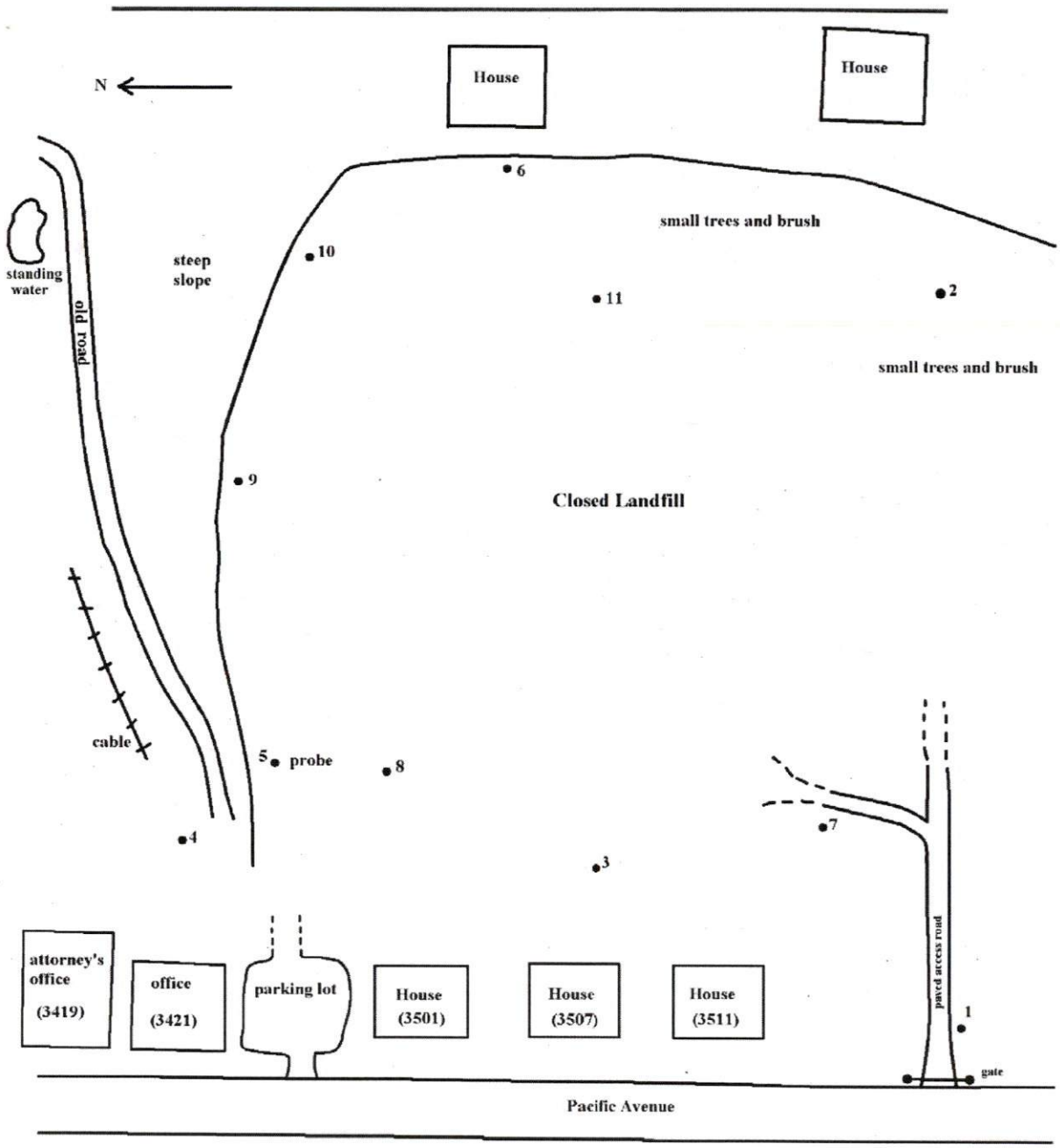

Figure 7. City Fill (35th St. Landfill)

Live Search Maps

Bird's eye view printing is unavailable.

For the best possible print results, click the printer icon on the Live Search Maps page.

Cline, Chuck (ECY)

From: Lee, Gary (ECY)
Sent: Monday, April 07, 2008 2:27 PM
To: Cline, Chuck (ECY); Rose, Scott (ECY)
Subject: FW: 35th Street Landfill

Here's the contact information for the site. Thanks.

From: Eric Weber [mailto:EWeber@landauinc.com]
Sent: Friday, March 14, 2008 4:34 PM
To: Lee, Gary (ECY)
Cc: O'Loughlin, John; Jennifer Wynkoop
Subject: 35th Street Landfill

Gary;

It was nice to talk with you and I look forward to working with you to move the 35th Street Landfill through the VCP process. As I mentioned to you on the phone, our goal is to resolve any outstanding issues associated with the site as quickly as possible and remove it from the *Confirmed and Suspected Sites List*. If there is anything we can do to facilitate this process let me know.

Thanks Eric

Eric Weber ♦ Principal Hydrogeologist
Landau Associates, Inc.
950 Pacific Ave., Suite 515, Tacoma, WA 98402
253.926.2493 ♦ fax 253.926.2531 ♦ cell 206 940-2406
eweber@landauinc.com ♦ www.landauinc.com

Email is a sustainable communications tool – please consider this before printing.

City of Tacoma

http://govME.org/map

Pierce County

1973

3 foot pixel

City Backgrounds

Tacoma

SCALE 1 : 2,609

200 0 200 400 600

FEET

Tuesday, April 08, 2008 5:04 PM

City of Tacoma

http://govME.org/map

Pierce County
Aerial Photo 1950
3 foot pixel
City Backgrounds
Tacoma

SCALE 1 : 2,609

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FEET

Tuesday, April 08, 2008 5:08 PM

City of Tacoma

http://govME.org/map

Pierce County
Aerial Photo 1998 6in
1 foot pixel
City Backgrounds
Tacoma

SCALE 1 : 1,305

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FEET

Tuesday, April 08, 2008 5:00 PM

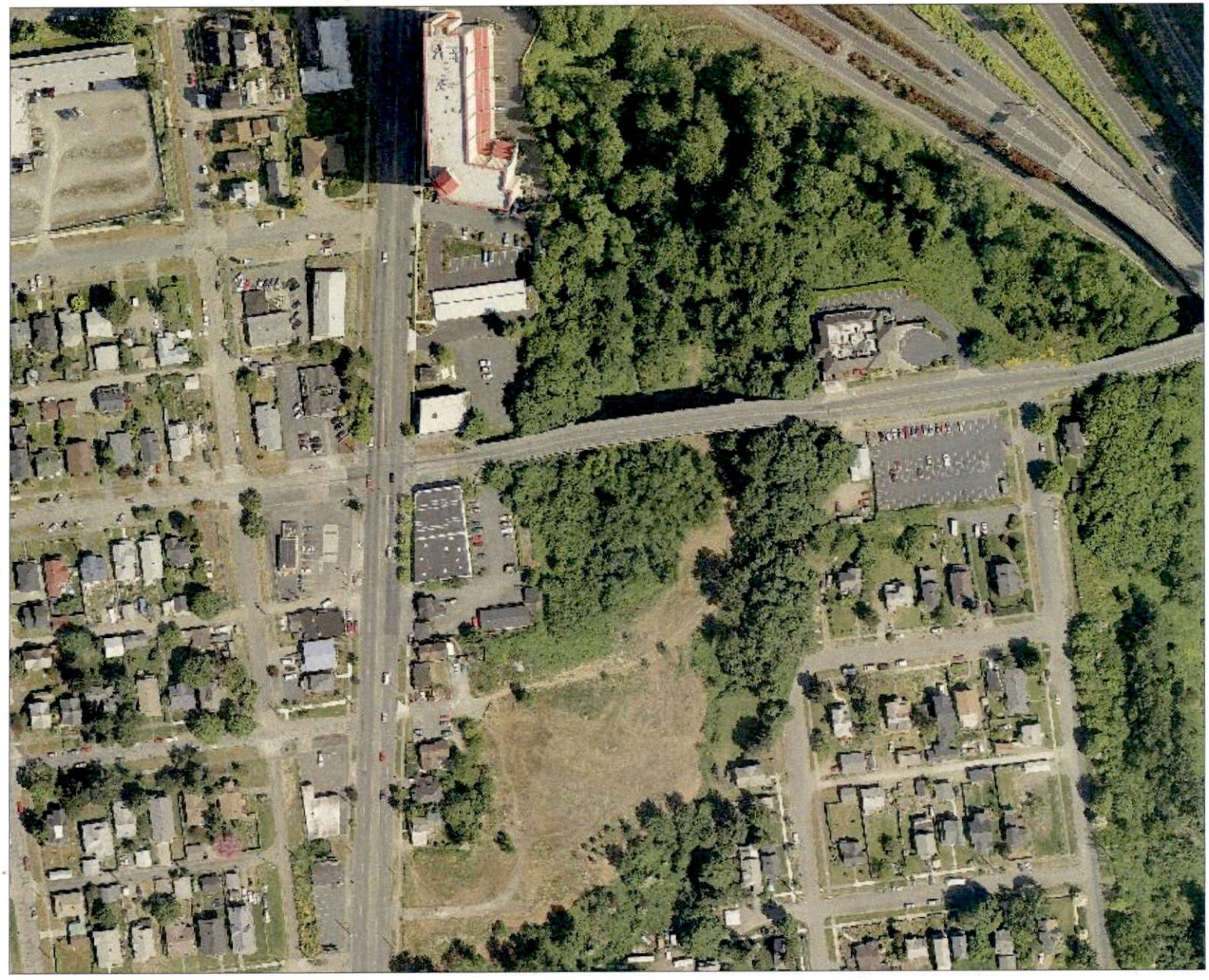
City of Tacoma

Pierce County

2 foot pixel

City Backgrounds

Tacoma



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FEET

Tuesday, April 08, 2008 4:54 PM

City of Tacoma

http://govME.org/map

Pierce County

1973

3 foot pixel

City Backgrounds

Tacoma

SCALE 1 : 5,218

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FEET

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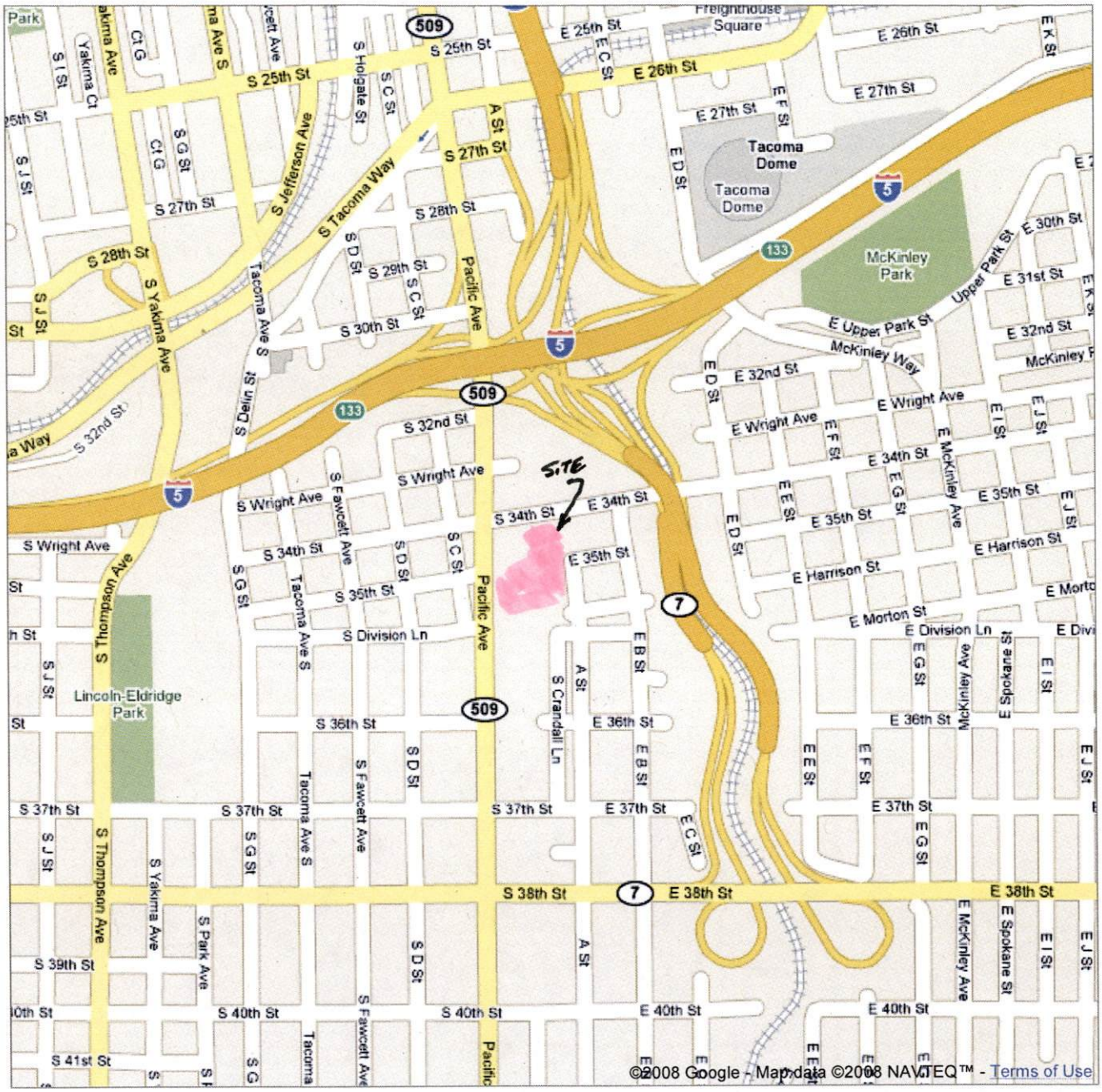
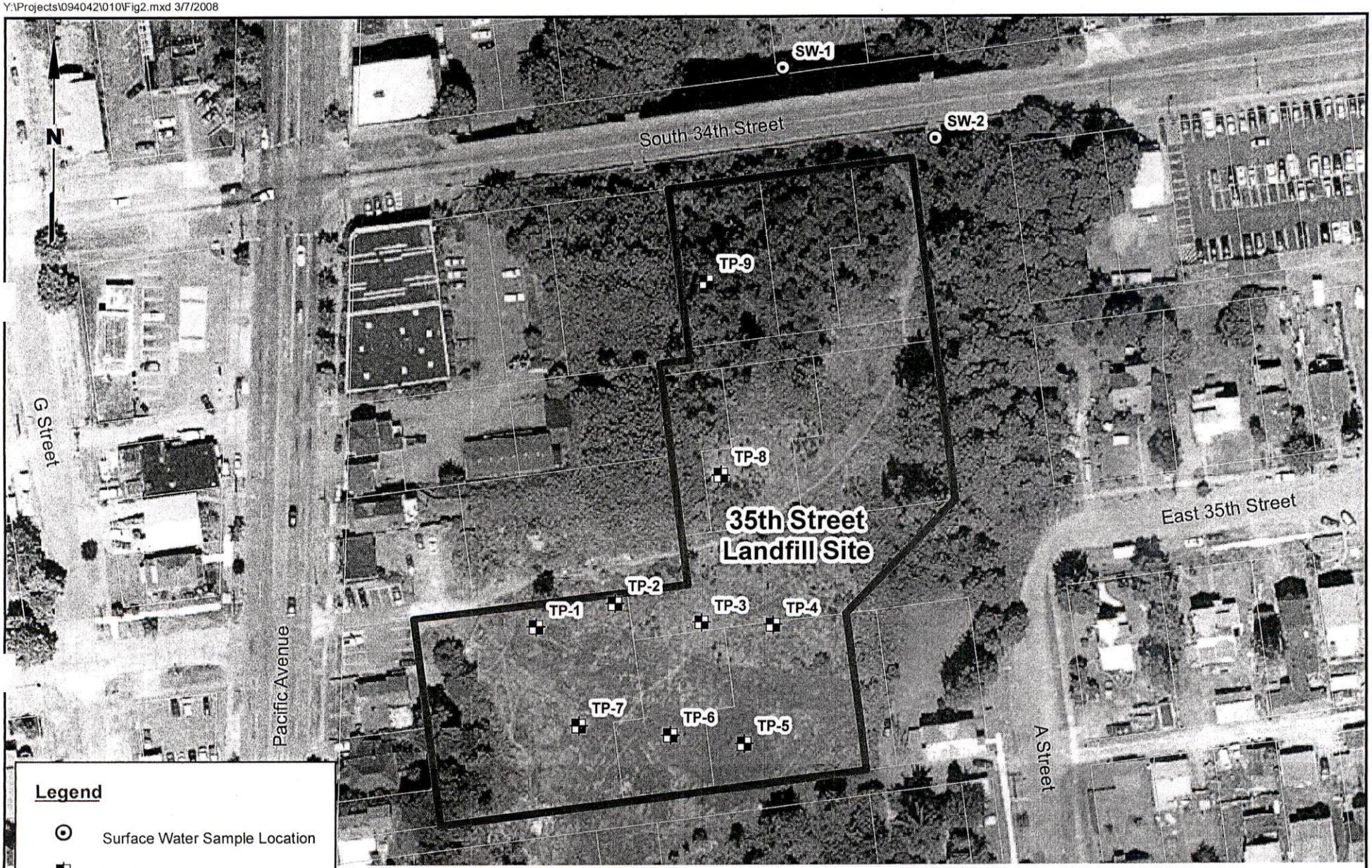


FIGURE 1

Y:\Projects\094042\010\Fig2.mxd 3/7/2008



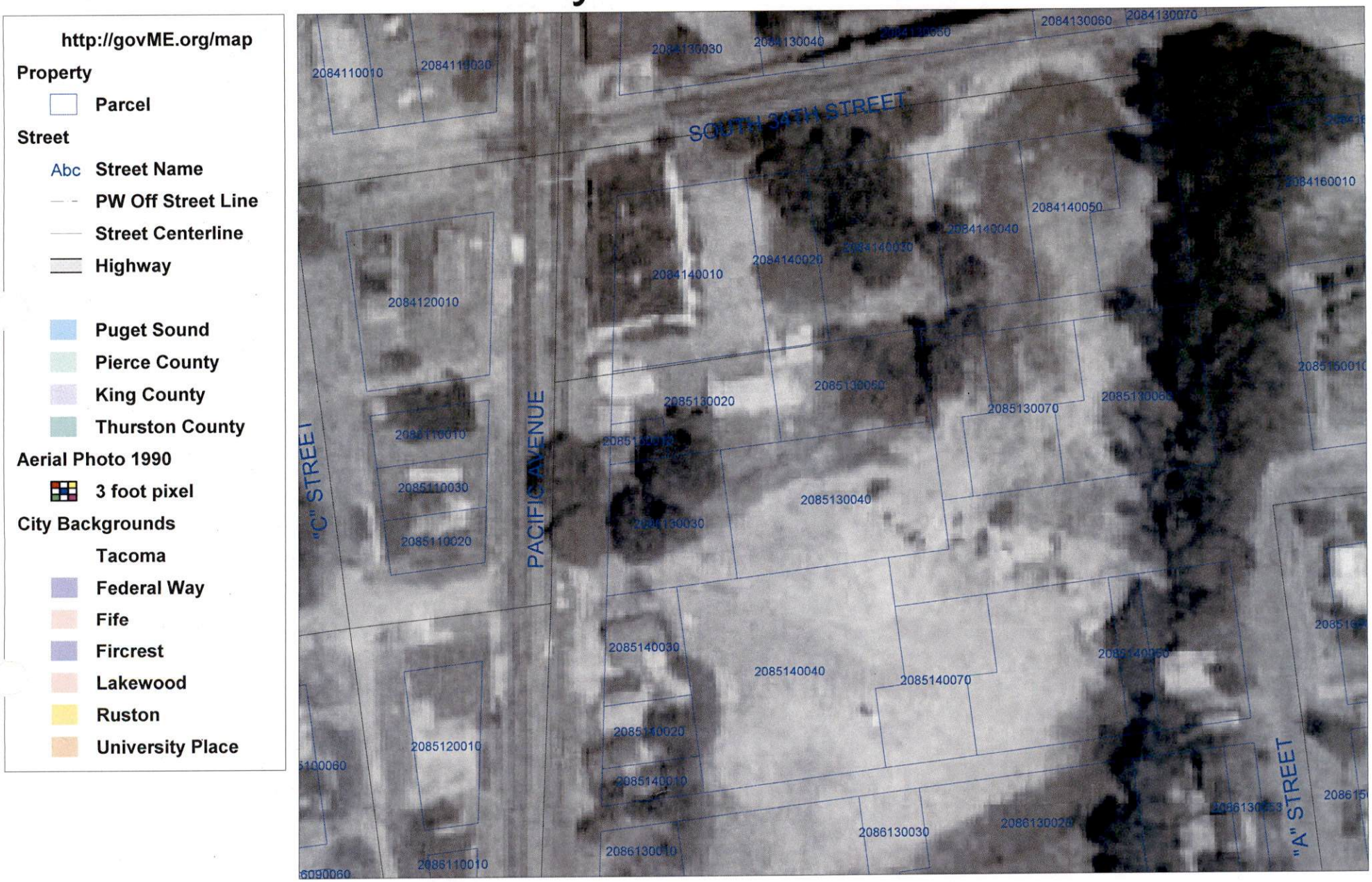
LANDAU ASSOCIATES

35th Street Landfill Site
Tacoma, Washington

Historic Sampling Locations
1991 Environmental
Site Assessment

Figure
2

City of Tacoma



SCALE 1 : 1,305

100 0 100 200 300

FEET

FIGURE 3

Thursday, April 10, 2008 4:58 PM

City of Tacoma

Street

- Abc Street Name
- PW Off Street Line
- Street Centerline
- Highway

- Puget Sound
- Pierce County
- King County
- Thurston County

Aerial Photo 1990

- 3 foot pixel

City Backgrounds

- Tacoma
- Federal Way
- Fife
- Fircrest
- Lakewood
- Ruston
- University Place

SCALE 1 : 2,609

200 0 200 400 600

FEET

FIGURE 4

Thursday, April 10, 2008 12:41 PM

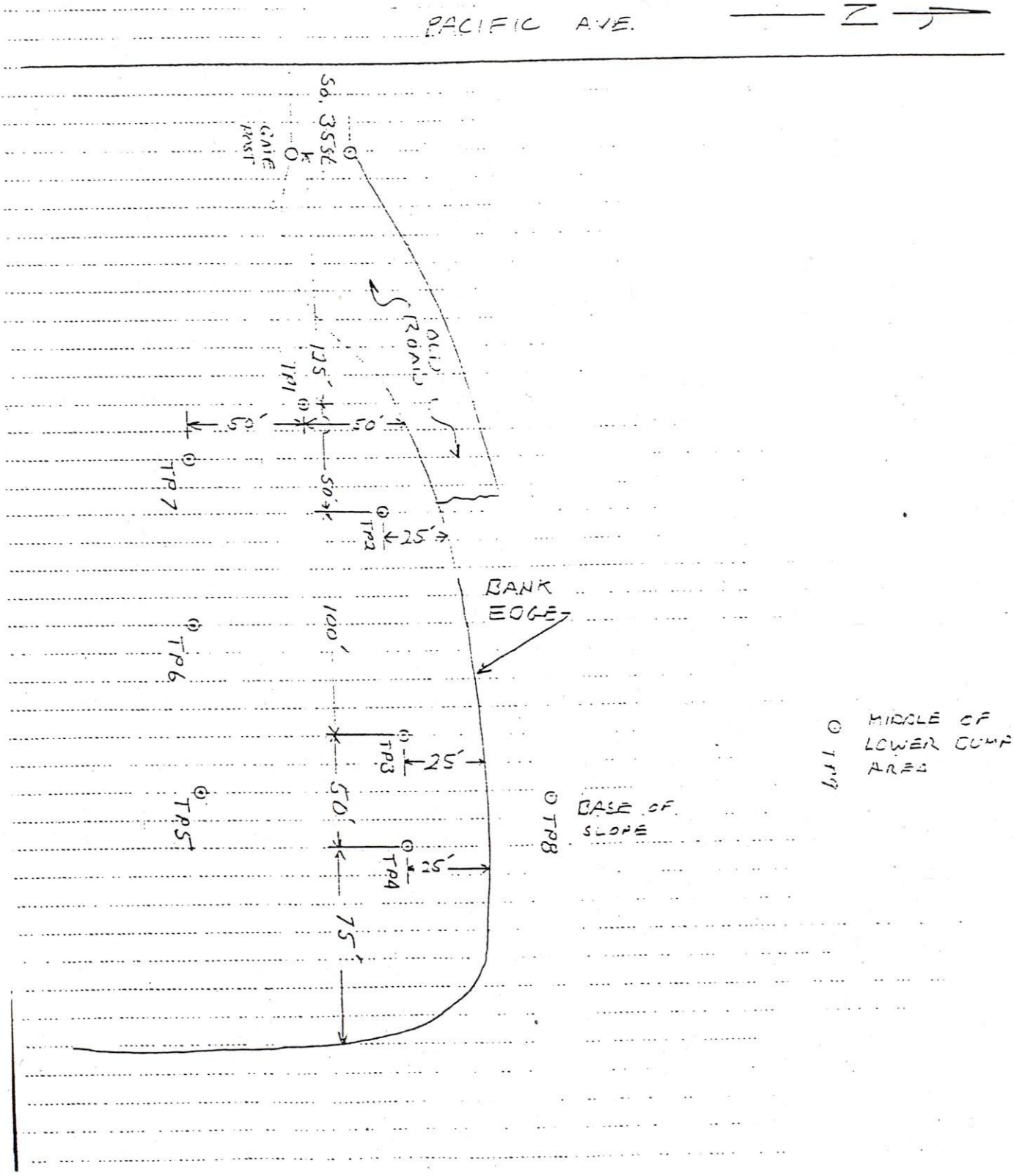


FIGURE 5 TEST PIT LOCATION 35TH STREET GULCH

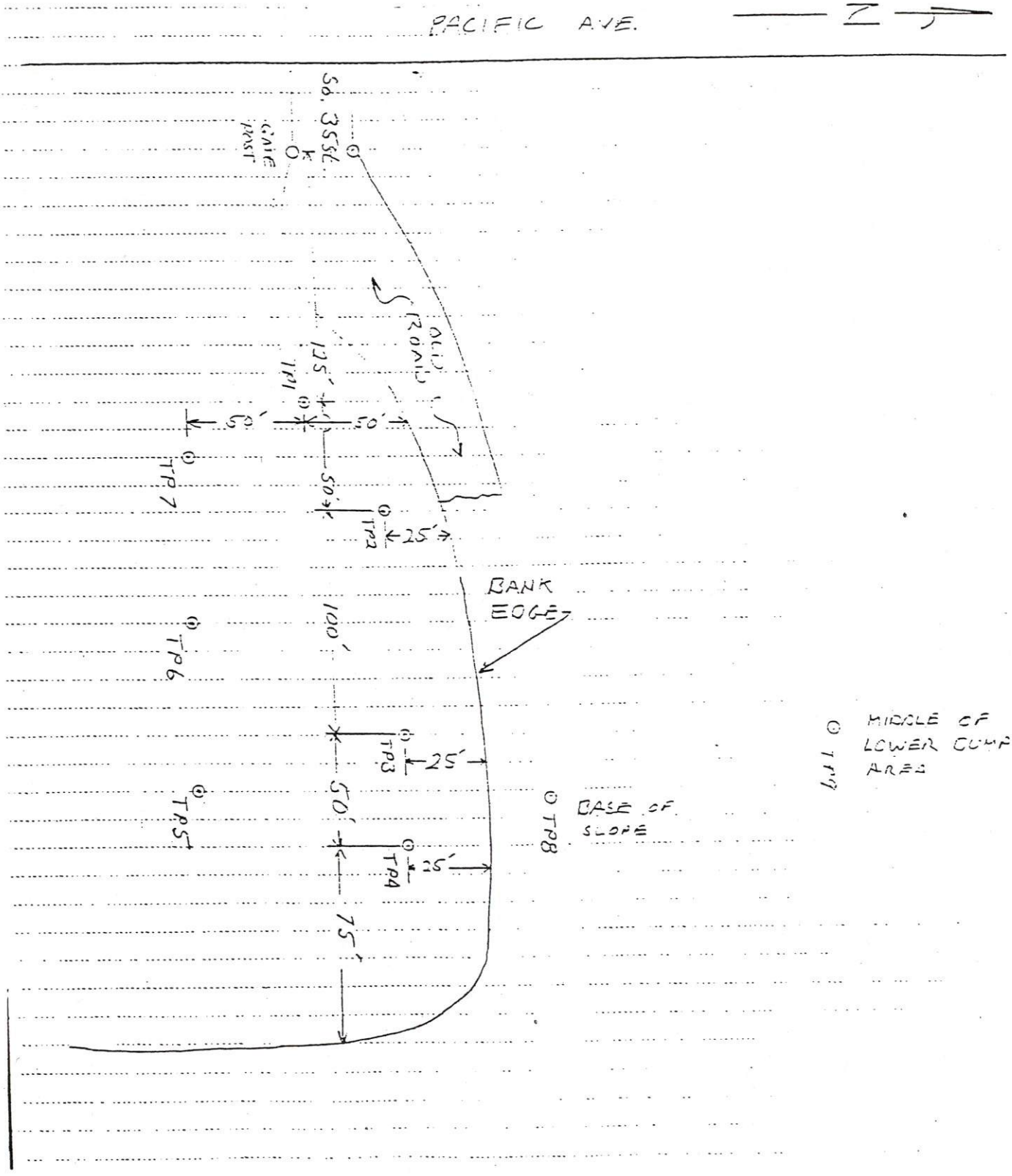


FIGURE 2 TEST PIT LOCATION 35TH STREET GULCH

City of Tacoma

http://govME.org/map

Pierce County

Aerial Photo 1931

3 foot pixel

City Backgrounds

Tacoma

SCALE 1 : 2,609

200 0 200 400 600

FEET

Tuesday, April 08, 2008 5:21 PM

City of Tacoma

http://govME.org/map

Pierce County
Aerial Photo 1950
3 foot pixel
City Backgrounds
Tacoma

SCALE 1 : 5,218

500 0 500 1,000 1,500
FEET

Tuesday, April 08, 2008 5:37 PM

City of Tacoma

http://govME.org/map

Street

- Abc Street Name
- PW Off Street Line
- Street Centerline
- Highway

- Puget Sound
- Pierce County
- King County
- Thurston County

Aerial Photo 1996

- 3 foot pixel

City Backgrounds

- Tacoma
- Federal Way
- Fife
- Fircrest
- Lakewood
- Ruston
- University Place

SCALE 1 : 2,609

200 0 200 400 600

FEET

Thursday, April 10, 2008 12:43 PM

City of Tacoma

http://govME.org/map

Street

- Abc Street Name
- PW Off Street Line
- Street Centerline
- Highway

- Puget Sound
- Pierce County
- King County
- Thurston County

Aerial Photo 1998 6in

- 2 foot pixel

City Backgrounds

- Tacoma
- Federal Way
- Fife
- Fircrest
- Lakewood
- Ruston
- University Place

SCALE 1 : 2,609

200 0 200 400 600

FEET

Thursday, April 10, 2008 12:44 PM

City of Tacoma

http://govME.org/map

Street

- Abc Street Name
- PW Off Street Line
- Street Centerline
- Highway

- Puget Sound
- Pierce County
- King County
- Thurston County

2006

- 2 foot pixel

City Backgrounds

- Tacoma
- Federal Way
- Fife
- Fircrest
- Lakewood
- Ruston
- University Place

SCALE 1 : 2,609

200 0 200 400 600

FEET

Thursday, April 10, 2008 12:45 PM

City of Tacoma

http://govME.org/map

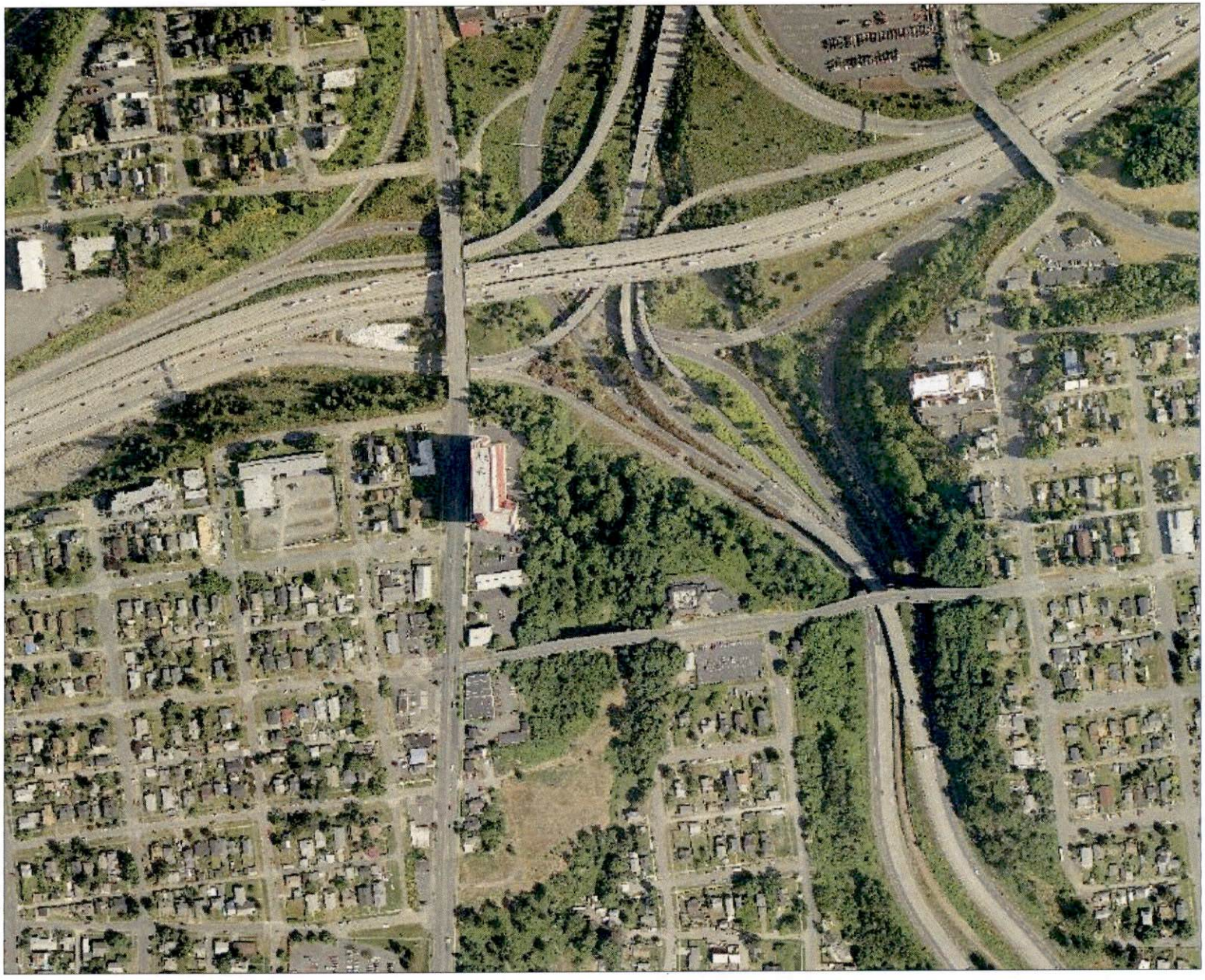
Pierce County

2006

3 foot pixel

City Backgrounds

Tacoma



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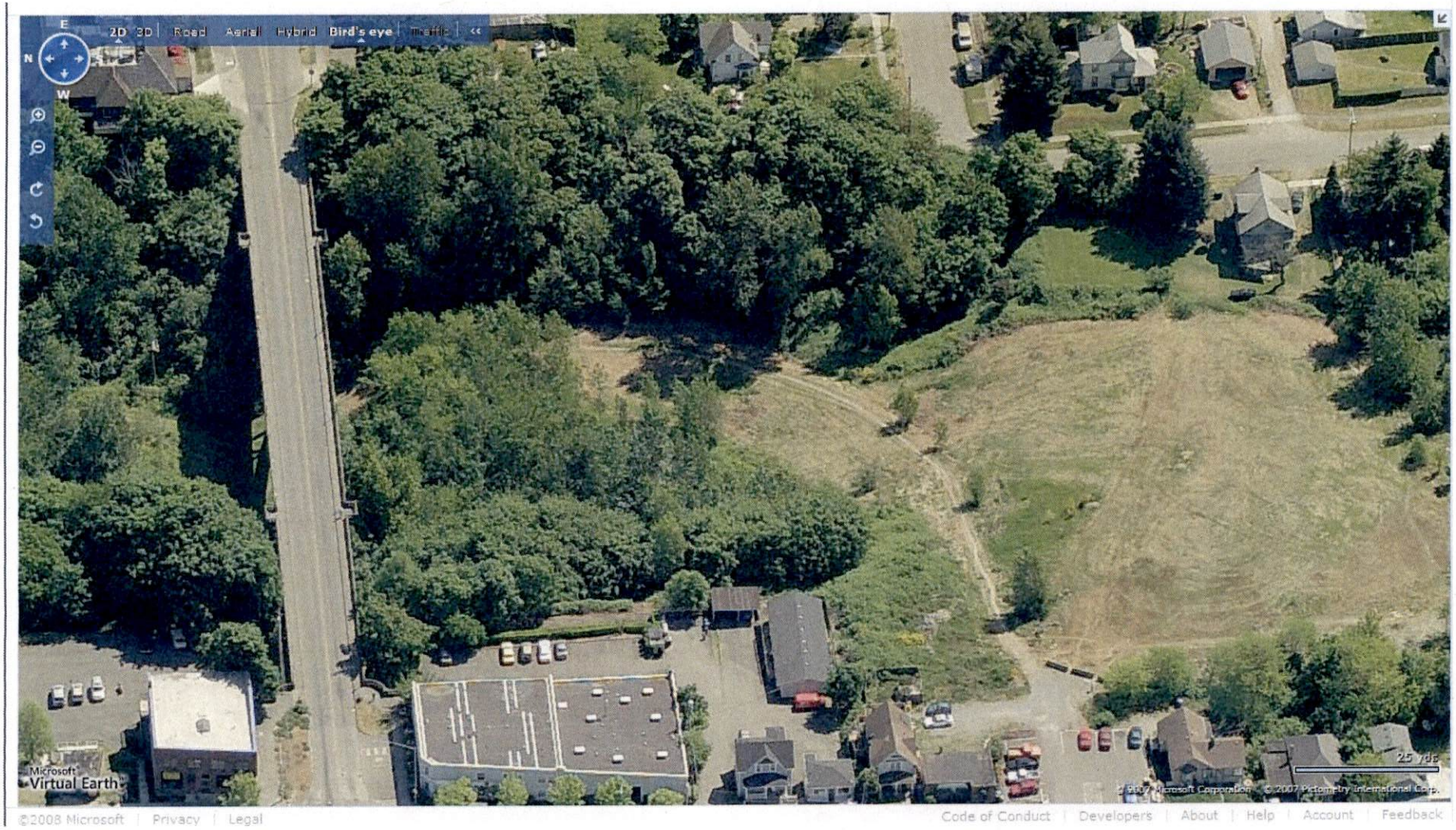
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2D 3D | Road Aerial Hybrid Bird's eye | Traffic | <<
Microsoft Virtual Earth
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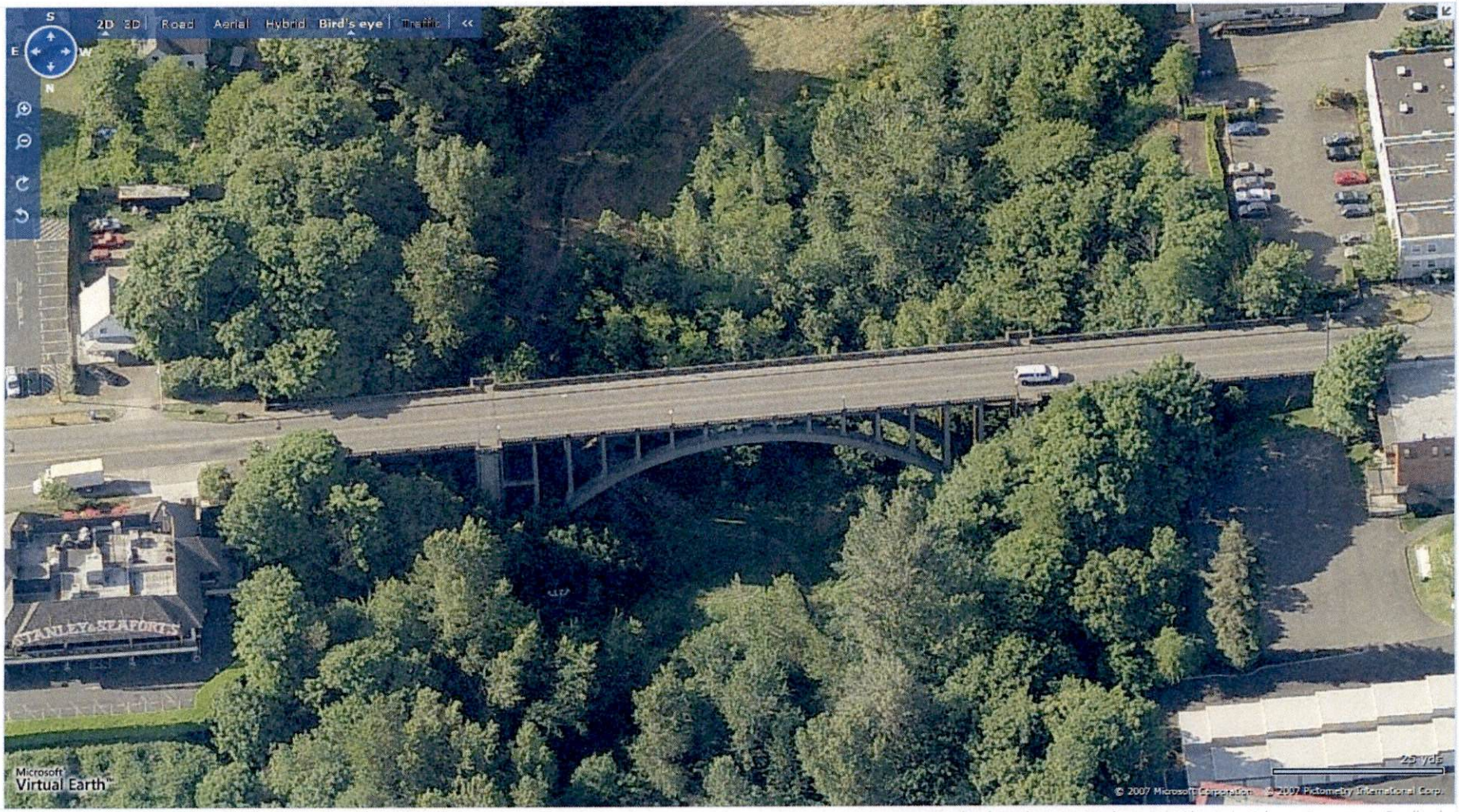
Code of Conduct | Developers | About | Help | Account | Feedback



WASHINGTON STATE DEPARTMENT OF ECOLOGY

INITI . INVESTIGATION . ELD REPORT

ERTS Number: S541074
Parcel #: 2084140040
COUNTY: PIERCE

SITE INFORMATION

Site Name (e.g., Co. name over door): 35th St. Landfill (City Fill)	Site Address (including City and Zip+4): S. 35th Street and Pacific Avenue	Site Phone: none
Site Contact and Title: Jim Parvey	Site Contact Address (including City and Zip+4): City of Tacoma, Public Works Engineering Services 747 Market Street, Tacoma 98402	Site Contact Phone: 253/502-2111
Site Owner: City of Tacoma	Site Owner Address (including City and Zip+4): Assets Management Division 747 Market Street, Room 737 Tacoma 98402	Site Owner Phone: 253/591-5535
Site Owner Contact:	Site Owner Contact Address (including City and Zip+4):	Owner Contact Phone:
Alternate Site Name(s):	Comments:	Is property > 10 acres? Yes ☐ No ☒
Previous Site Owner(s):	Comments:	

Location: Quarter-Quarter: 3-4 Section: 09 Township: 20N Range: 03E
Latitude: Degrees: 47 Minutes: 13 Seconds: 42.8 N
Longitude: Degrees: 122 Minutes: 26 Seconds: 00.1W

27 34

B 47th ave

INSPECTION INFORMATION

Inspection Date: n/a	Inspection Time:		Entry Notice: Announced ☐	Unannounced ☐
Photographs	Yes ☐	No ☐	Weather: Clear ☐ Rain ☐	Temperature: ° F
Samples	Yes ☐	No ☐	Wind Direction:	Wind Speed:

RECOMMENDATION

No Further Action (Indicate NFA in box below):		**LIST on ISIS** (Indicate in box below):	
Release or threatened release does not pose a threat	☐	Site Hazard Assessment	☒
No release or threatened release	☐	Interim Action	☐
Educational mailing	☐	Emergency Action	☐
Refer to program/agency (Name: _____)	☐	Independent Cleanup Action In progress	☐
Independent Cleanup Action Completed (i.e., contam, removed)	☐		

COMPLAINT (Brief Summary of ERTS):
Contamination is present in an old City of Tacoma landfill.

SITE STATUS (Brief Summary of site condition(s) after investigation):
Soil is contaminated with arsenic above MTCA cleanup levels. Additional impact to soil and groundwater is suspected from the dumping of street sweepings and vactor waste. This site is recommended for inclusion in the SIS database.

Investigator: S. Bell	Date Submitted: 08.05.05

OBSERVATIONS

Description:
I reviewed the information available on this former dump site in the TPCHD files. The 35th Street Landfill site reportedly encompassed an approximate 5 acre area and multiple parcels. The borders of the area were reportedly Pacific Avenue on the west and A Street on the east, between S. 35th St and S. 34th St. bridge, but likely extended further south towards Harrison Street. It is difficult to determine what parcels are associated with the "35th St. Landfill", but they likely include 2084140040, 2084140050, 2085130060, 2085130070 at a minimum. Parcel numbers 2085140040 and 2085140070 may also be impacted from the former landfill. The 35th St. Landfill site is located within what had been a natural ravine that drained into Commencement Bay. The southern limits of the ravine are uncertain but extended at least as far as S. 38th Street at one time. The ravine is now filled in on the southern end, with the fill extending to an area between the S. 34th St. bridge and S. 35th St. The City of Tacoma is also responsible for at least some of the ravine fill outside the "35th St. Landfill" footprint acknowledged in the files.

The 35th St. Landfill site was used by the City of Tacoma to dump waste materials from the early 1960's through 1992. Reported materials dumped were waste concrete, asphalt, other inert materials, street sweepings and vactor waste ("catch basin cleanings"). The street sweepings and vactor waste were placed primarily at the northern end of the fill. Prior to 1987, the complainant's company (Dickson Company) also dumped materials at this site although it was reported to be inert material only. In 1991, the City of Tacoma regraded the fill to provide better stability, covered the site with topsoil, and hydroseeded.

An Environmental Site Assessment (copy attached) was conducted by the City of Tacoma in 1991. Sampling conducted for the ESA included TPH, metals, and VOCs, with most results below detection limits or MTCA cleanup levels. Samples were analyzed at the City Technical Support Lab. Nine test pits were dug to depths ranging from 12 to 15 feet and soil samples were collected from five of the pits at various depths. Concencentrations of arsenic above MTCA cleanup levels (20 mg/kg) were detected in the soil collected from two locations at 21.7 and 228 mg/kg, respectively. TPH results in soil ranged from 500 to 1330 mg/kg. Observations recorded in the field notes for the test pits were diesel odors and layers of street sweepings. Handwritten notes in the TPCHD file indicate that sample splits were obtained by TPCHD staff and analyzed for TPH which was detected in two soil samples at levels exceeding MTCA: 84,000 and 3800 mg/kg. Analytical results to support the notes were not found in the file.

Two water samples were also collected from the northern end of the fill following a 24 hour rain event and submitted for analysis of TPH, metals, and VOCs. The samples were collected from the end of a culvert pipe which extends below the fill, and a run-off stream at the base of the fill. The TPH results were 25.6 and 32.0 mg/L. Xylene was detected in the culvert sample at 8.5 ug/L (erroneously attributed to 1,1,1-trichloroethane in the ESA report). Arsenic, chromium, copper, and zinc were also detected at relatively low levels in the surface water samples (as compared to drinking water standards): the highest concentration of arsenic detected was 0.013 mg/L, chromium was 0.007 mg/L, copper was 0.018 mg/L, and zinc was 0.042 mg/L. Lead was also detected in the run-off stream at the relatively high level of 0.039 mg/L.

The ESA recommended annual surface water and surface soil sampling with analysis for TPH to ensure bioremediation was occurring at this site. Sampling ensued in 1999 and results were reported to TPCHD. Not enough sample information was provided to determine where they were taken, and the analyses are inconsistent over time. However, the overall information provided from the sample results indicates low levels of oil, ranging from 110 to 230 ppm, have been detected in soil in recent years. In June 2001, a spring was located north of the fill, approxiately 58 yards north of the 34th Street overpass and sampled for pesticides, PNAs, volatiles, metals, and diesel. The only analytes detected were Barium (0.011 ppm), Chromium (0.001 ppm), and Lead (0.001 ppm). A spring was again sampled in September 2002 and analyzed for pesticides, SVOCs, VOCs, metals and TPH. Again, only metals were detected at low levels: Arsenic at 0.003 ppm, Barium at 0.012 ppm, Chromium at 0.001 ppm, and Lead at 0.002 ppm.

Overall, the investigative work conducted by the City has not adequately characterized any significant contamination that may be present in the subsurface at this site. The annual sampling provides little useful information related to the buried material at the site, with the exception of the spring sampling results. The field notes associated with the ESA are unclear but leave questions as to the sampling methodology for volatile components. Street sweepings and vactor waste were acknowledged to be part of the waste stream dumped at this site, were visible in the test pits, but were not purposely sampled. Petroleum hydrocarbons, metals, and carcinogenic PAHs are typical contaminants associated with this waste stream. PAHs were never analyzed for. It is likely that this site has residual contamination in the subsurface soils from the street sweepings, with potential impact to groundwater. Because of the suspected impact from the disposal of street sweepings and vactor waste, together with the elevated arsenic and TPH levels in soil, this site is recommended for inclusion on the SIS database.

Description of past practices likely to be responsible for contamination:
Dumping of street sweepings and vactor waste

ACTIVITIES OR PRACTICES RESPONSIBLE FOR CONTAMINATION:

Spill	☐	LUST	☐
Pesticide disposal	☐	Tank	☐
Landfill	☒	Improper handling	☐
Drums	☐	Improper disposal	☐
Other – Describe:			

Are discharges permitted (if yes, describe): No ☒ Yes ☐	Standard Industrial Code(s)

CONTAMINANT(S)

AFFECTED MEDIA	**CONTAMINANTS** (#1-16: See contaminants key) Enter letter designating status of contaminant: **C** = Confirmed (above cleanup levels); **S** = Suspected; **R**= Remediated															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ground Water			S				S				S					
Surface Water																
Drinking Water																
Soil			C				S				S					
Sediment																
Air																

1 Base/neutral organics	7 Petroleum products	13 Corrosive wastes
2 Halogenated organic compounds	8 Phenolic compounds	14 Radioactive wastes
3 Metals - Priority pollutants	9 Non-halogenated solvents	15 Conventional contaminants, organic
4 Metals - Other	10 Dioxin	16 Conventional contaminants, inorganic
5 Polychlorinated biPhenyls (PCBs)	11 Polynuclear aromatic hydrocarbons (PAHs)	
6 Pesticides	12 Reactive wastes	

SITE INFORMATION

Soil type		Slope	
Site vegetation/cover present:		Pasture/open field	☒
Forest	☐	Wetlands	☐
Bare soil	☐	Pavement	☐
Brush	☒	Surface water	☐
Landscaped	☐		
Other – Describe:			

Are there any drinking water systems affected?	☐ Yes	☒ No
Municipal, private, or both? (Circle one)		
How many people are estimated to be affected? ____		
Is there a potential for a release or threatened release to affect a drinking water source?	☐ Yes	☒ No
Are there monitoring wells in the vicinity?	☐ Yes	☐ No
Are there dry wells in the vicinity?	☐ Yes	☐ No

CONTAMINANT PATHWAYS AND TARGETS

	Ingestion	Inhalation	Contact
Ground Water	x	x	x
Surface Water		x	x
Drinking Water			
Soil	x	x	x
Sediment			
Air		x	

Targets possible:			
Human, adult	☒	Residential	☒
Human, children	☒	Industrial	☒
		Commercial	☒

Sensitive environments (See WARM Scoring Manual for definition):
☒ Yes ☐ No If yes, describe:
Surface and ground water drains to the Thea Foss Waterway, and subsequently to Commencement Bay.

General Comments:

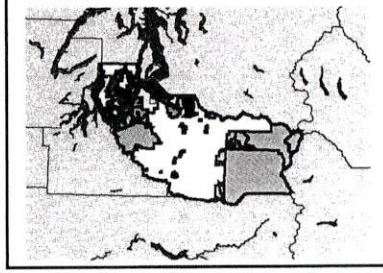
ERTS S541074, City Fill Dumpsite
Tacoma

MAP LEGEND

Roads - All*

N

Scale 1:9195



17:43 Jul 26, 2005

Pierce County
Geographic Information Services

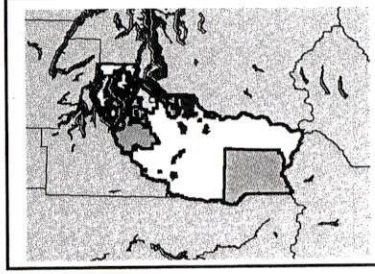
35th Street Landfill, City of Tacoma

MAP LEGEND

Tax Parcels*
Roads - All*

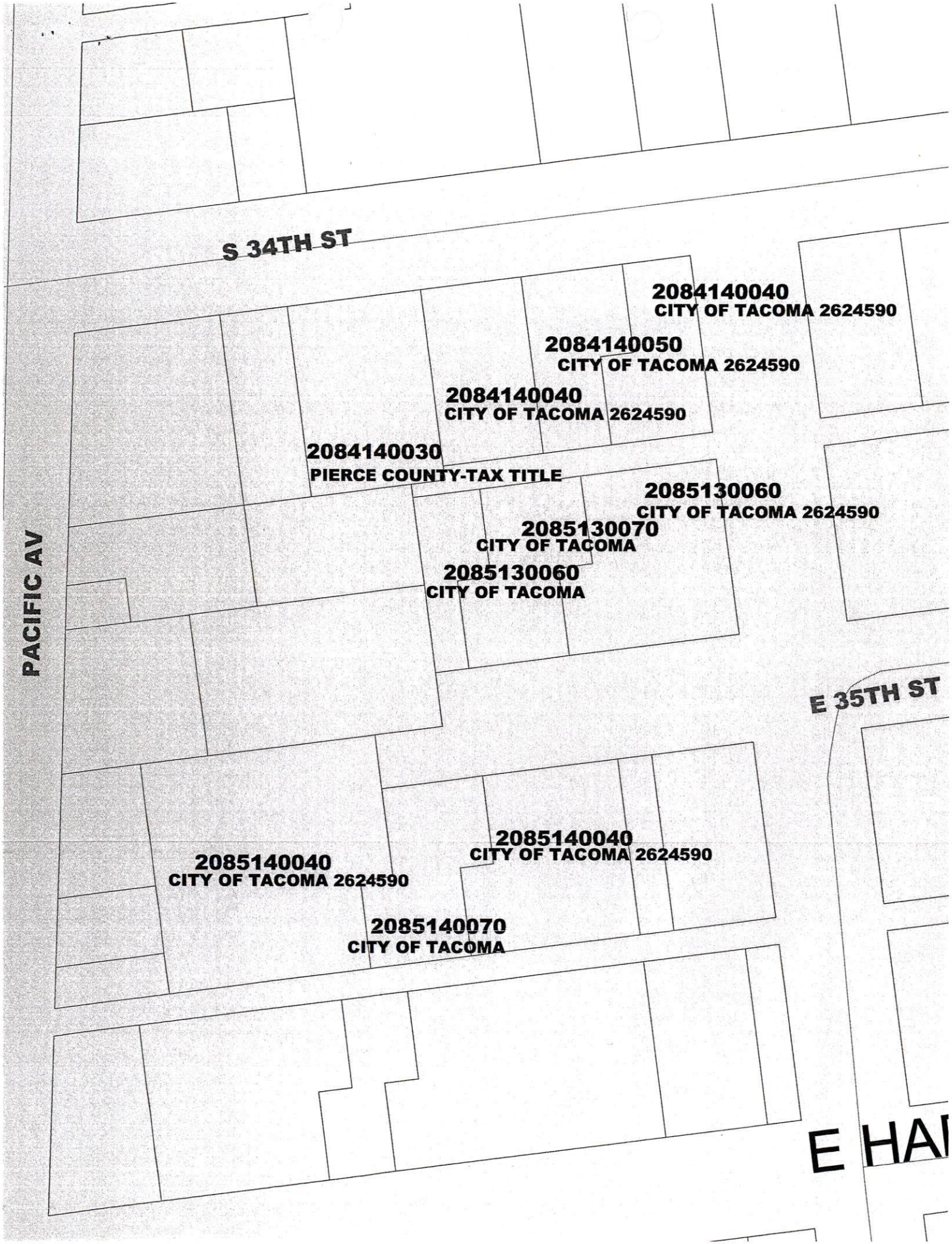
N

Scale 1:1743



17:21 Jul 7, 2004

Pierce County
Geographic Information Services


S 34TH ST
2084140040
CITY OF TACOMA 2624590
2084140050
CITY OF TACOMA 2624590
2084140040
CITY OF TACOMA 2624590
2084140030
PIERCE COUNTY-TAX TITLE
2085130060
CITY OF TACOMA 2624590
2085130070
CITY OF TACOMA
2085130060
CITY OF TACOMA
PACIFIC AV
E 35TH ST
2085140040
CITY OF TACOMA 2624590
2085140040
CITY OF TACOMA 2624590
2085140070
CITY OF TACOMA
E HA

TACOMA-PIERCE COUNTY
HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH PROGRAM

CLEAN WATER. HEALTHY ENVIRONMENT. FOR LIFE.

Closed Landfill Study

Published April 1993
Revised September 2002

2.7 CITY FILL (35TH ST. LANDFILL)

The City Fill is located near 35th Street on the east side of Pacific Avenue in Sec 9, T 20N, and R 3E. The site was approximately 5 acres and was in operation from about 1960 to 1992.

2.7.1 PAST AND PRESENT USE

Most of this dumpsite was owned by the City of Tacoma (City). A portion of the site was at one time owned by the Dickson Company. A large natural gulch that extended parallel to Pacific Avenue south of South 38th Street northward toward Interstate 5 is the area that was filled. Most of the filling consisted of inert wastes and street sweepings, which consisted of sand, leaves, tree needles, and other organic wastes that had been swept from along roadsides. The site was used by the City's Street Maintenance Division and Sewer Utility Division as well as the Dickson Company, who performed several City projects.

In 1992, the City regraded the site in order to provide slope stability. Also, the site was hydroseeded to control erosion. The site is no longer being used as a City dumpsite. Currently, some of the perimeter of the site consists of residential houses and small businesses.

2.7.2 WASTE DISPOSAL PRACTICES

The City Fill was first used during the construction of Interstate 5 and nearby roads in the early 1960's. Most of the filling at that time consisted of waste concrete, asphalt, and other debris considered to be inert. In the 1970's, a portion of the site that had been purchased by the Dickson Company was used by that company for disposal of inert wastes. The Dickson Company was performing hauling activities for Tacoma and other parties. The City instructed Dickson to discontinue dumping in 1987 when it was discovered that some of Dickson's debris had been disposed of on City property. The fill site did not require a solid waste permit overseen by the TPCHD because the wastes being disposed of were considered inert or clean and a significant portion of the site was filled before these types of wastes came under the regulatory purview of the TPCHD.

From 1985 to 1992, the City dumped wastes into the fill area that were generated from the City's Street Maintenance Division and Sewer Utility Division. The materials dumped at that time were street sweepings, which being more organic, lead to the production of methane gas when buried. Also, oil leaked from automobiles leads to the presence of metals and petroleum hydrocarbons in the street sweepings. It appears that these activities were performed without a solid waste permit.

2.7.3 SUSPECTED PROBLEMS

Because of the organic nature of some of the wastes landfilled at the site, methane gas generation is occurring. Surface water contamination is a potential problem in the area, due to the unknown nature of some of the wastes dumped at the site.

2.7.4 FIELD RESULTS

In 1990 the TPCHD monitored for landfill gas at the 35th Street site. High concentrations of combustible gas were detected along the northern face of the ravine.

The City of Tacoma conducted an environmental site assessment in April 1991 (final report dated April 1992) for the Tacoma Public Works Department's Street Maintenance Division. Soil samples and surface water samples were collected and analyzed for a variety of chemical constituents. Elevated total petroleum hydrocarbons were detected in some soil samples. Elevated arsenic was also discovered in some soil samples (228 ppm). Arsenic and xylene were also detected in surface water samples.

A methane monitoring investigation was also conducted in 1992 at an area south of the 35th Street site near a City Light substation. No combustible gas was detected.

In 1998, the City Fill site was placed on a periodic methane monitoring schedule due to previous high concentrations of methane gas having been detected. A methane survey was conducted on March 3, 1999 jointly by the City of Tacoma Solid Waste Utility (TSWU) and the TPCHD. Only trace levels of methane gas were detected. The TSWU conducted methane monitoring at the site twice in 1999. No combustible gas above 1% of the LEL (Lower Explosive Limit) were detected in those monitoring events. The last methane monitoring event prior to the writing of this report was conducted by the TPCHD on April 23, 2001. Perimeter barhole gas monitoring was conducted at five locations. A single gas probe on-site was also monitored. Results of the methane survey are shown in Table 5 and Figure 7.

Table 5. Methane monitoring results for the City Fill (35th St. Landfill) on April 23, 2001.

Sample	Methane reading	Depth of Measurement
1	20% LEL	24"
2	6% LEL	36"
3	23% LEL	28"
4	8% LEL	24"
5 (Gas Probe)	1640 ppm	?
6	9% LEL	36"

LEL = Lower Explosive Limit
ppm = parts per million

The bank and the toe of the slope were also inspected for signs of leaching during the last site inspection. No visible signs of leaching were noted. A large puddle of water was noted at the toe of the slope. On March 23, 1999, March 16, 2000, and May 7, 2001 the City of Tacoma Public Works Department (TPW) performed sampling of soil and surface water at the landfill site. Analysis of the samples showed no petroleum contamination present. A spring was noted north of the landfill during the last sampling event. The spring flows north into a storm drain. The spring was sampled on May 8, 2001. No contamination above state cleanup standards was detected.

2.7.5 RECOMMENDATIONS

In the environmental site assessment report of 1992, it was recommended that annual surface water and soil sampling with analysis for TPH (Total Petroleum Hydrocarbons) be performed. Also, methane monitoring, including barhole monitoring, is to be conducted. All results and data are to be forwarded to the TPCHD.

Due to the close proximity of residential and business buildings to the landfill, the potential for methane migration into the buildings exists. Therefore, the TPCHD concurs with the recommendations of the report and recommends that semi-annual methane monitoring, including barhole monitoring, be conducted. TSWU will conduct the methane monitoring and forward all results to the TPCHD for review. Future methane monitoring frequency at the site may be altered based upon the results obtained. The soil and water sampling activities recommended in the report will continue to be performed by TPW on an annual basis.

34th Street Landfill 4-4-91

GK, DP, Jeff Gefords, 2 other city personnel

Test Pits to be dug w/ extend a hoe backhoe.

TP-1

0-6' Mostly clean fill - small amounts of demo (concrete)

6-10' increasing amount of demo, including wood demo
8' - appears to have been a can of paint.

10-12' soils Dark greyish sand & gravels with some silts
smells like product in soils - diesel

12-14' similar to 10-12'

FID reading of "smelly" soils highest reading pegged at 1000 ppm
Sample taken by Refuse utility at this spot, voks not packed air
split taken by G. Kato - 20 minutes later -
volatiles probably gone.
split - composite of "smelly pile" (10-14')

TP-2

0-4 soils

4-6 Yard waste type material w/ soil

---

consistent 100-350 ppm

appears cleaner as go deeper

sample taken (Tacoma + TPCHD split) from a bucket
scraped from 0-10' 300 ppm FID reading.

Tacoma Sample - VOLA bottle, by hand, not packed in bottle.

94th Street Landfill 4-4-91

GK, DP, JG etc

TP-3

4-6 - Misc demo

7-8 - leafy, twigs - street sweepings included
Strong diesel odor pegged (1000+) PPM of FID
Samples taken (+ TPHD splits) at 7-8

8-12 - Odor diesel strong. no ova readings taken

12-14 street sweepings

Very little demo in hole.
Soils appeared somewhat homogeneous from 6-12"

4-5-91

TP4

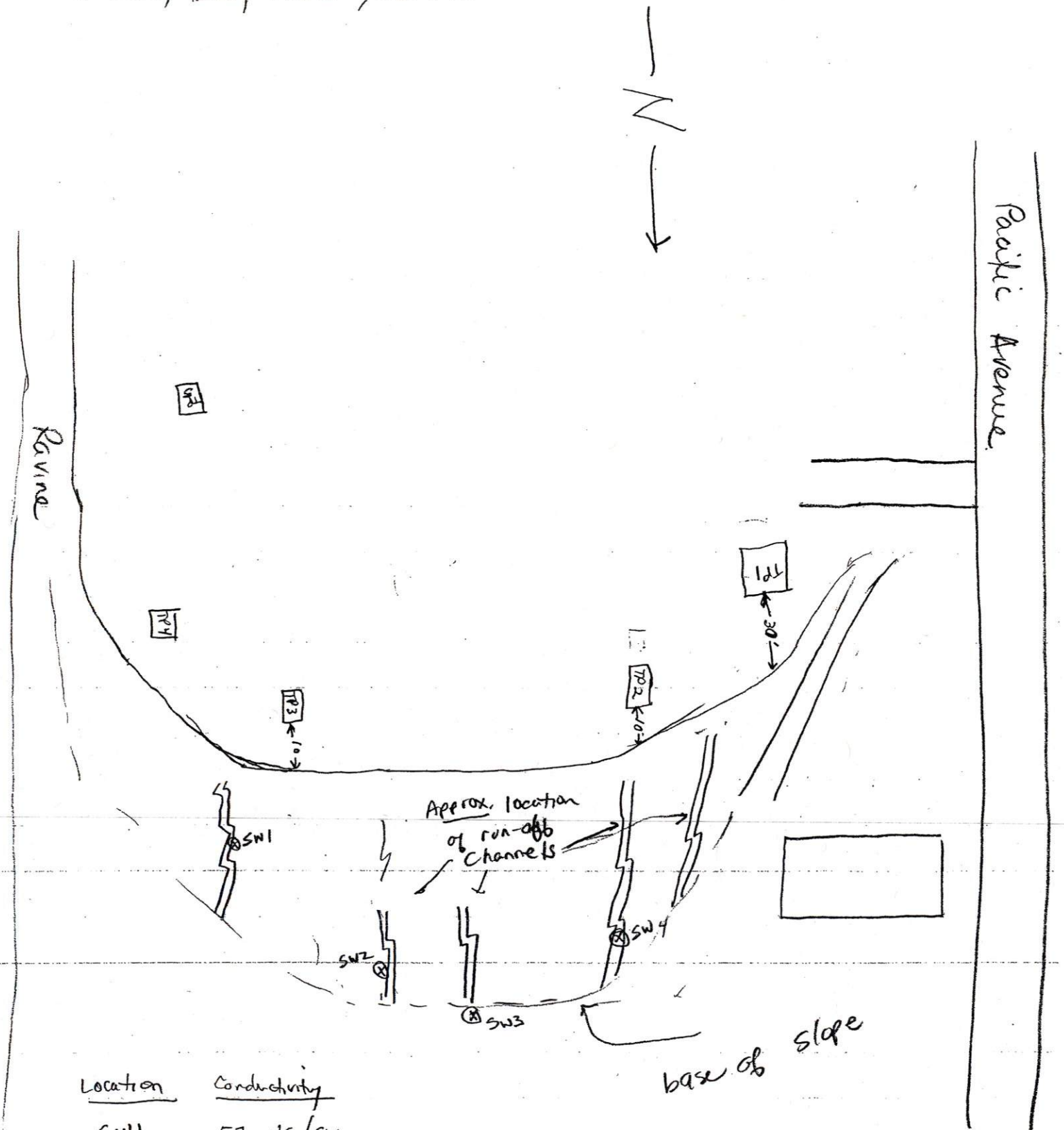
0 - ½'	Soil cover
½' - 1½'	asphalt etc
1½ - ~4	Fill, no odor some large demo (concrete) at 3-4'
4 +	odor, very slight, diesel
~5'	street sweepings

Samples taken from 3-4' of hole
FID ~100 PPM, appears to be street sweepings

TP-5 - Heavy concrete

4-4-91 34th Street Landfill

G. Kato, Doug Pierce, One other

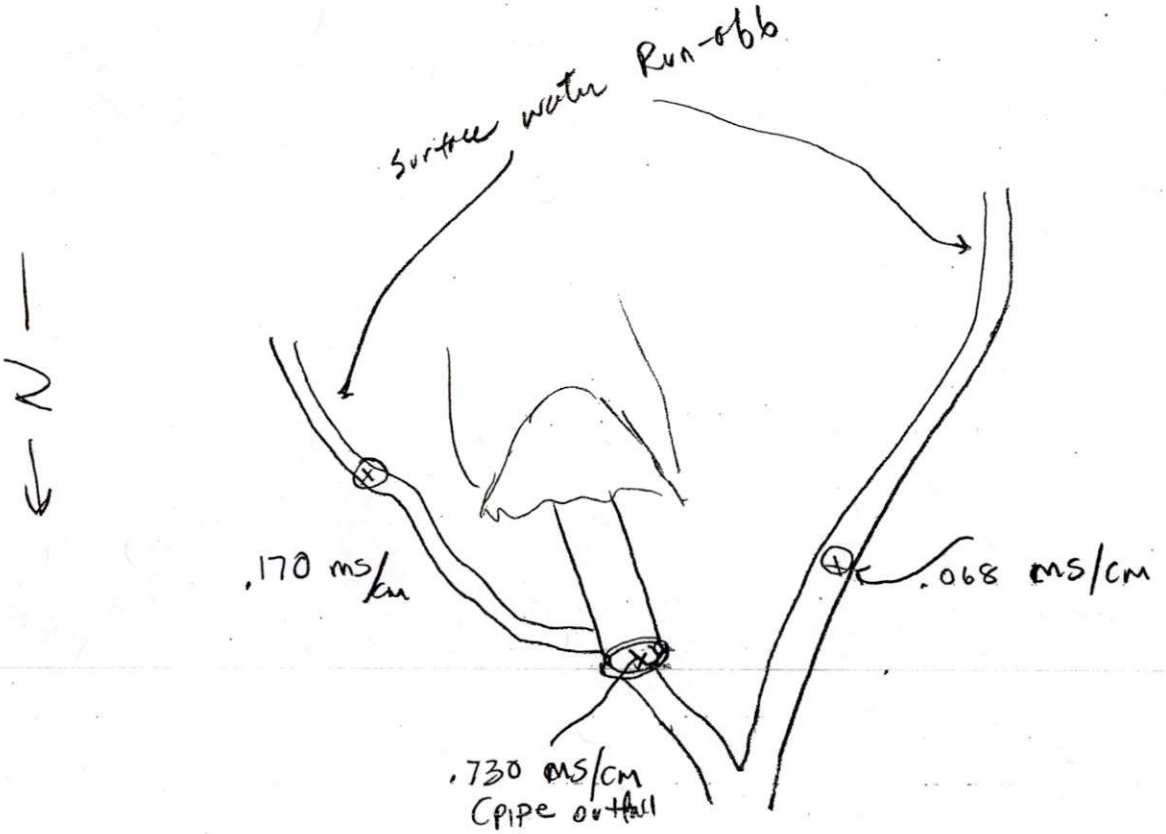


Location	Conductivity
SW1	57 us/cm
SW2	68 us/cm
SW3	88 us/cm
SW4	184 us/cm

4-4-91 34th Street Landfill

G. Keto, Doug Pierce, One Other

at pipe outfall at N. End of site



Written Dave Bosch, TPCHD Solid Waste Program

35th St Landfill —

~~Issues to be Resolved~~:

Comments: Background

Pg 2 States that City did not need SW permit under 173-304 because they were landfilling inert wastes & "clean" material.

→ The TPCHD had written correspondence since Nov 1987 that a SW permit was necessary for inert waste disposal per 173-304.

The obvious facts that materials disposed have characteristics of methane production, levels of TPH exceeding MTCA (200ppm) up to levels 84000 and arsenic levels at DW levels in one sample all confirm that the materials disposed in this portion of the fill are ~~from~~ far from "inert" and "clean".

Pg 6. Surface H_2O Sampling methods & test results

Text states that all volatile organics screened in analysis were below detection limits except "1,1,1-trichloroethane."

* From Appendix C, the 8.5 ppb detection was in the analyte "xylenes"

4.2.1 Recommendations

Page 10 City states in document that cleanup of surface water not necessary because of lack of sig. levels of contaminants and future use of property.

* City should state what future uses are of site. → also stated in soil recommendation

Pg 10 4.3 Soil

Text states TP #9 soil sampl tested arsenic at 228 ppm DW level is 100 ppm ~~#s~~ total #s.

Text states Recommendations

Annual surface H_2O sampling w/ analysis for TPH
" collection of surface soil w/ " " "

TPCHD soil analysis reveals TPH contamination 84 000 ppm & 3800. The highest levels City obtained was 1300 ppm.

* TPCHD concerned other street sweepings collected are not being disposed of properly. Particularly street sweepings from N. Tac should be disposed of at ASARCO or Hart waste dump. Street swepings should be analyzed for metals & TPH.

~~Air qual. recom.~~

Pg 12 4.4.1 Air Quality Recommendations

Found CH_4 on-site. Assume will be completely gone w/in 10 yrs.

City recommends
Annual CH_4 mon. of site using bar hole
Annual monitoring of surrounding properties for CH_4 migration

* TPCHD should recommend 1/4 monitoring to obtain baseline. Then can reduce monitoring requirements accordingly if levels permit.

** Why do "detection limits" for soils vary on each sample. Assume the results are in ppb.

APPENDIX B

TEST PIT PRELIMINARY OBSERVATIONS

TP1: Soil; loamy clay, rocky in sections. Asphalt and concrete scraps. Wood scraps less than 1% except for an area at 8 feet deep which contained 20% wood. Sniffed soil from depth of 10 feet. Well installed full depth, 10 to 11 feet deep. 4/4/91

TP2: Soil, loamy clay, sandy. Very small amount of construction debris. Odor of something burned (ashes). Vein of leaves at 6 feet deep. Well installed full depth, 10 to 11 feet deep. 4/4/91

TP3: Soil; sand and rock, very uniform. No leaves or garbage. Top 1 foot, asphalt cold mix. Top 3 feet, construction debris with very small amount of wood. Diesel smell in soil, high reading at 8 feet deep. Well installed full depth, 12 feet deep. 4/4/91

TP4: Soil; sand-clay and gravel. Asphalt and concrete chunks. No wood. Some street sweepings at 2 feet deep. Small amount of leaves at 5 feet deep. Excavation appeared to be mostly road break-out material. Well installed full depth, 12 feet deep. 4/5/91

TP5: Excavation material consists of concrete, gravel and rebar. Bricks, clay and gravel from 8 to 10 feet deep. Excavated to 10 feet deep. No well. 4/5/91

TP6: Not excavated.

TP7: Soil; loamy clay. Concrete chunks and bricks. A few pieces of wood. Excavated to 10 to 11 feet deep. No well. 4/5/91

TP8: Soil; sand and silt. Vein of grass and roots at 3 feet deep. A small amount of asphalt chunks and wood debris. Soil was too muddy to excavated below 8 feet deep. No well. 4/5/91

TP9: Asphalt pieces, water pipe, garbage, wood and one can of spaghetti. Soil; sandy loam, rocky in places. Leaves at various levels. Candy wrapper found marked "use before 11/88". No well. 4/5/91

(W0097S)

APPENDIX B

DOCUMENTATION OF PRECIPITATION

Record rain triggers few slides, floods

By Susan Gordon
and Brian Harrah
The News Tribune

When it rained, it poured. And poured and poured.

The seemingly endless downpour that drenched Western Washington on Wednesday and Thursday set a record for the most rainfall in a 24-hour period in the month of April, the National Weather Service said Thursday.

And it's possible the total rainfall this week could set a new precipitation mark for the entire month at Seattle-Tacoma International Airport.

In a 24-hour period ending at 4 p.m. Thursday, 2.88 inches of new rain fell at Sea-Tac, shattering the precipitation mark of 1.85 inches set in 1965, Bauck said. During the same period, 3.21 inches fell at Olympia; 2.95 inches at McChord Air Force Base in Tacoma; and 2.53 inches at Ocean Shores.

So far this month, as of 7 p.m. Thursday, 3.91 inches of rain have fallen at Sea-Tac, said weather service meteorologist Bruce Bauck.

The rainfall record for the entire month of April, established in 1978, is 4.19 inches, he said.

Urban flood and small stream warnings were issued by the weather service Thursday.

The heavy rain triggered landslides along several roadways Thursday evening, but most blocked streets should be cleared by early today, county road officials said.

A 150-foot mudslide slung trees and debris across Jovita Boulevard between 114th Avenue East and the West Valley Highway, a worker at the Pierce County road shop in Puyallup said.

The stretch of road was to be closed through Thursday night, he added.

Slides also closed Canyon Road between Pioneer Way and 72nd Street East; Old Military Road between 122nd Street East and Washington 162; and East Valley highway near the 3200 block.

A mudslide also occurred in the 4900 block of Marine View Drive, a Tacoma fire official said. The road was blocked late Thursday, but crews may have it cleared today.

Fire Department to complain of swamped basements. However, there were no serious flooding problems reported, he said.

Bill Lokey of Pierce County's Emergency Management Office said workers distributed sand bags and fielded numerous calls from residents beginning about 6 p.m.

Water seeped into six homes in the Danbridge Model Home complex in University Place, but residents did not have to be evacuated, he said.

Volunteers were sandbagging Fennel Creek near McMillan late Thursday to keep the rising waters from a nearby home, he added.

Floodwaters submerged parts of a mobile home and trailer park in Spring Valley, just off Washington 99 near the Pierce-King county line. Runoff began pooling about 2:30 p.m. Thursday.

"I've got about four feet of water at my place," said Doreen McDonald, a park resident, later in the evening.

The emergency office was expected to be staffed through the night, Lokey said.

Western Washington rivers rose but were expected to stay within their banks, as cooler than normal temperatures prevented a potentially dangerous thawing of mountain snows. The freezing level was at 4,000 feet about midday Thursday and was expected to drop to 3,500 feet, weather service specialist Martin Thompson said.

"Basically it's just rainfall, not snowmelt," he said. "If we had warm temperatures in the mountains, we would have problems. We don't have problems."

The deluge can be blamed on a broad frontal system of moist air which moved through the region from the Oregon Coast on Wednesday afternoon and stalled over Western Washington, Bauck said.

But there is a rainbow amid all the foul-weather news: The downpour should slacken today.

The forecast today calls for showers and partial clearing with cooler than normal temperatures — upper 40s to low 50s — and gusty winds. Another weather system bringing more rain is expected to arrive late Sunday or early