Reviewed 1/27/10
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SITE HAZARD ASSESSMENT

WORKSHEET 1

Summary Score Sheet

SITE INFORMATION:

Name: Clarion Hotel
Address: 900 Capitol Way South
City: Olympia **County:** Thurston **State:** WA **Zip:** 98501
Section/Township/Range: S14/T18/R2W
Latitude: 47.04009 **Longitude:** -122.90018
TCP ID #9488181
Site scored/ranked for the February 2009 update
Date Scored: December 9, 2010

SITE DESCRIPTION:

The Clarion Hotel is located near the intersection of Capitol Way South and 9th Avenue in downtown Olympia, Washington. The hotel is a five story building which occupies the majority of the 1.09 acre parcel. Other surrounding properties include a variety of commercial and retail businesses. Three former gasoline service stations were located on adjacent parcels to the west and south-southwest.

Soils at the site consist of poorly sorted non-native fill materials from the ground surface down to a depth of approximately 12 feet below ground surface (bgs). Outwash deposits consisting of sand, clay, silt, and gravel have been encountered at depths below 12 feet bgs. Groundwater has been reported at depths ranging from approximately 10-15 feet bgs.

PREVIOUS SITE INVESTIGATIONS:

In February 2008, Associated Environmental Group, LLC (AEG) conducted a Phase II Environmental Assessment at the site. Five direct push soil borings were advanced to a depth of approximately 20 feet bgs in selected areas of the site. Seven soil samples and five groundwater samples were analyzed for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, xylene (BTEX). Final results indicated the presence of diesel-range hydrocarbons at a concentration of 6,200 milligrams per kilogram (mg/kg), which exceeded the Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup level in soil. No MTCA exceedances were detected in groundwater.

On October 21, 2008, the Thurston County Health Department (TCHD) received a citizen complaint referral from Ecology, which stated that a leaking underground storage tank was being removed from the site. TCHD conducted a site visit on October 23, 2008 and discovered an open excavation exceeding 10 feet wide by 10 feet long by 15 feet deep. No workers were on site at the time and the excavation was secured by temporary chain link fencing. However, the entire excavation was visible through the fence. The excavation sidewalls were observed to contain gray petroleum-like staining and diesel-like odors were observed in ambient air. The sidewall staining was observed at various depths below approximately 6 feet bgs.

After contacting the property owner, TCHD learned that Envitech, LLC had conducted a previous Phase II Environmental Assessment and was currently conducting a remedial excavation. The assessment included the advancement of 10 additional soil borings in the vicinity of the previously discovered diesel contamination. Based on laboratory results, Envitech began excavating petroleum-contaminated soils and

discovered an abandoned underground storage tank (UST) at a depth of approximately 4 feet bgs. The UST, measuring approximately 46 inches in diameter by 8 feet long, was determined to contain diesel fuel and may have been utilized for heating. The tank and associated contaminated soil was excavated and transported offsite for disposal. The final excavation measured approximately 16 feet long by 16 feet wide by 16 feet deep. Reportedly, groundwater was not encountered during the course of the excavation. Five confirmation soil samples were collected from the excavation: 4 sidewall samples at a depth of 14 feet bgs and one sample from the excavation bottom. Petroleum-range hydrocarbons were not detected in any of the samples.

CONCLUSIONS

After reviewing the cleanup report from Envitech, it was the opinion of Thurston County that final documentation did not sufficiently demonstrate that cleanup efforts were completed in accordance with applicable MTCA regulations:

1) Confirmation soil samples did not adequately characterize the final limits of the excavation. Only one sample was collected from each sidewall at a depth of 14 feet bgs. However, contaminated soils were previously encountered at depths ranging from 7 to 16 feet bgs.
2) The report stated that groundwater was not encountered during the project, but a site map suggested that a groundwater sample may have been obtained. The sample was identified as "W" but detailed information was not provided. Diesel-range hydrocarbons were detected in this sample at a concentration of 4,900 (units not specified).
3) Several soil borings adjacent to the UST excavation did not extend to the bottom of the contamination zone.
4) Supporting documentation was omitted from the Envitech report. Laboratory documents such as original analytical results, chains of custody, and quality control data were not included for all samples. Soil boring logs were also not included.

SPECIAL CONSIDERATIONS

Due to the contamination documented on-site being primarily subsurface, the surface water and air routes are not applicable for WARM scoring for this site. Only the groundwater route will be scored.

ROUTE SCORES:

Surface Water/Human Health:	**NS**	Surface Water/Environmental.:	**NS**
Air/Human Health:	**NS**	Air/Environmental:	**NS**
Groundwater/Human Health:	**18.4**		

OVERALL RANK: 5

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE – NOT SCORED**
   a. List those substances to be considered for scoring: Source:

   b. Explain basis for choice of substance(s) to be used in scoring.

   c. List those management units to be considered for scoring: Source

   d. Explain basis for choice of unit to be used in scoring:

2. **AIR ROUTE - NOT SCORED**
   a. List those substances to be considered for scoring: Source:

   b. Explain basis for choice of substance(s) to be used in scoring:

   c. List those management units to be considered for scoring: Source:

   d. Explain basis for choice of unit to be used in scoring:

3. **GROUNDWATER ROUTE**
   a. List those substances to be considered for scoring: Source: 1, 2
      Diesel-range hydrocarbons (TPH-D)
   b. Explain basis for choice of substance(s) to be used in scoring:
      TPH-D was detected at concentrations exceeding MTCA Method A cleanup levels in soil.
   c. List those management units to be considered for scoring: Source: 1, 2
      Contaminated soil
   d. Explain basis for choice of unit to be used in scoring:
      Potential release to groundwater.

WORKSHEET 6
Groundwater Route

1.0 SUBSTANCE CHARACTERISTICS

1.2 Human Toxicity

	Substance	Drinking Water Standard (µg/L)	Value	Acute Toxicity (mg/ kg-bw)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	TPH-Diesel	160	4	490 rat	5	0.004	5	ND	ND	-

** Potency Factor*

Source: 3, 4
Highest Value: 5
(Max = 10)
Plus 2 Bonus Points? No
Final Toxicity Value: 5
(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)

Cations/Anions [Coefficient of Aqueous Migration (K)] OR	Solubility (mg/L)
1=	1= TPH-Diesel, 3.0E+01, Value 1

Source: 3, 4
Value: 1
(Max = 3)

1.3 Substance Quantity (volume):

Explain basis: Unknown. Use default value=1.	Source: 1, 2 **Value: 1** (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Area capped with concrete/asphalt. Score as landfill: 1) No liner, Value 3 2) Engineered cover/no ponding, Value 0 3) No leachate collection, Value 2	1, 2	**5** (Max = 10)
2.2	**Net precipitation:** Nov-Apr (inches): 38.54" total precipitation, 11.74" evapotranspiration rate, 38.54-11.74 = 26.80 net precip.	5, 6	**3** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Poorly sorted non-native fill, native sand, silt, and gravel.	1	**3** (Max = 4)
2.4	**Vertical depth to groundwater:** 10-15 feet bgs	1	**8** (Max = 8)

3.0 TARGETS

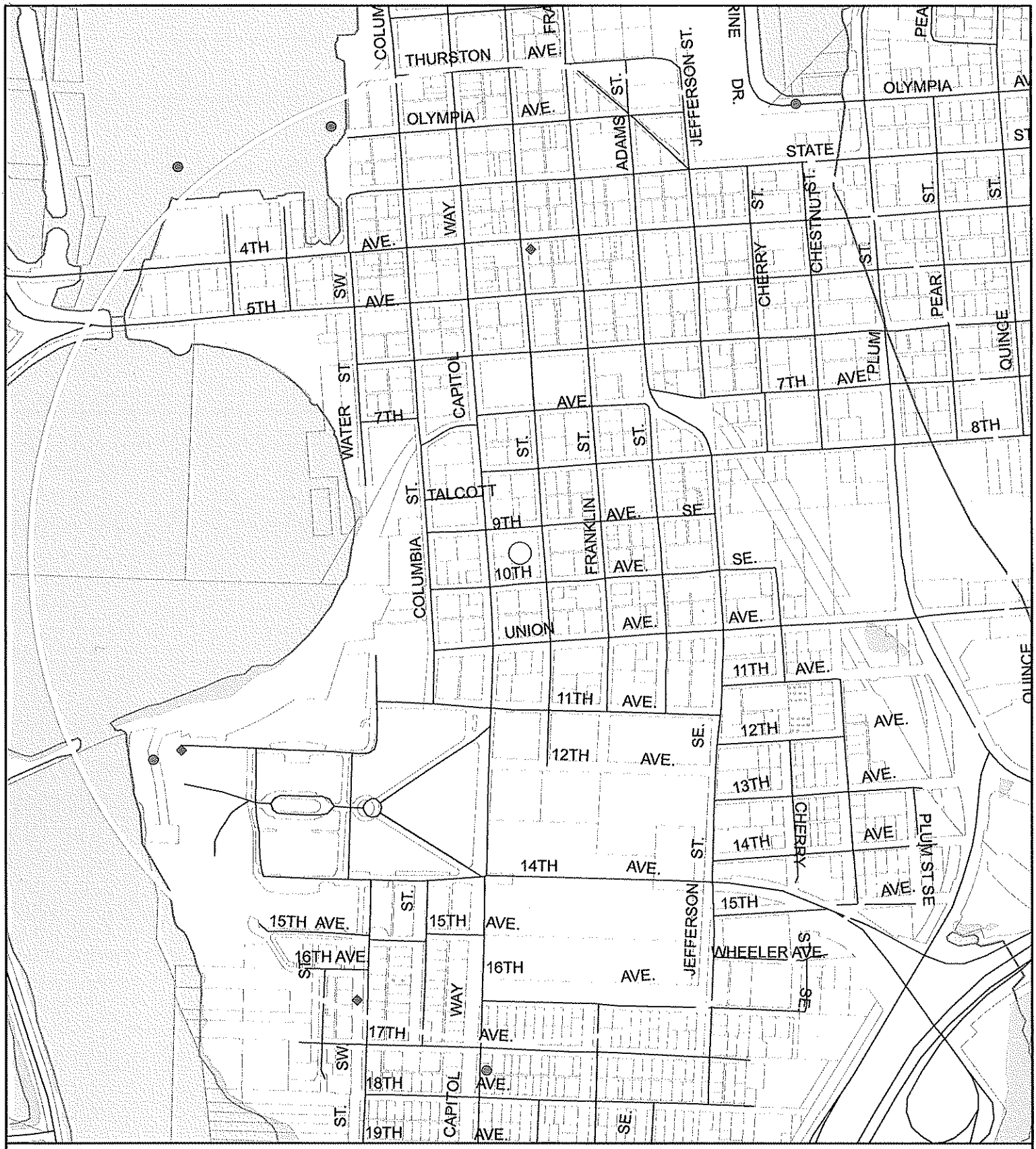
		Source	Value
3.1	**Groundwater usage:** Public supply, alternate sources available	8, 9	**4** (Max = 10)
3.2	**Distance to nearest drinking water well:** 1,650 **feet**	7	**3** (Max = 5)
3.3	**Population served within 2 miles:** √ **pop.** = >10,000	8, 9	**100** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** **(0.75)*√# acres** = √138 x 0.75=8.8	9	**9** (Max = 50)

4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: No documented release	1, 2	**0** (Max = 5)

SOURCES USED IN SCORING

1. Associated Environmental Group, L.L.C., *Phase II ESA – Subsurface Investigation, Clarion Hotel,* February 20, 2008.
2. Envitech, L.L.C., *Remedial Action Report, Clarion Hotel,* November 4, 2008.
3. Washington State Department of Ecology, *Toxicology Database for Use in Washington Ranking Method Scoring*, January 1992.
4. Washington State Department of Ecology, *WARM Scoring Manual*, April 1992.
5. Western Regional Climate Center, Precipitation data from the Olympia, Washington Airport, June 1948 to September 2005.
6. Table 16-Estimated Evapotranspiration, E.M. 2462, p. 42, for Thurston County Airport.
7. Thurston County Geodata Center, Roads and Transportation Division, October 2007.
8. Washington State Department of Health, Drinking Water Division, Sentry Database, October 2007.
9. Washington State Department of Ecology, Water Resources Program, Water Right Tracking System (WRTS), October 2007.



Clarion Hotel

Half Mile Radius Around Site

Wetland

Sensitive Species Location

Well

Stream

Roads

THURSTON COUNTY

Clarion Hotel

Ecology Site ID #9488181

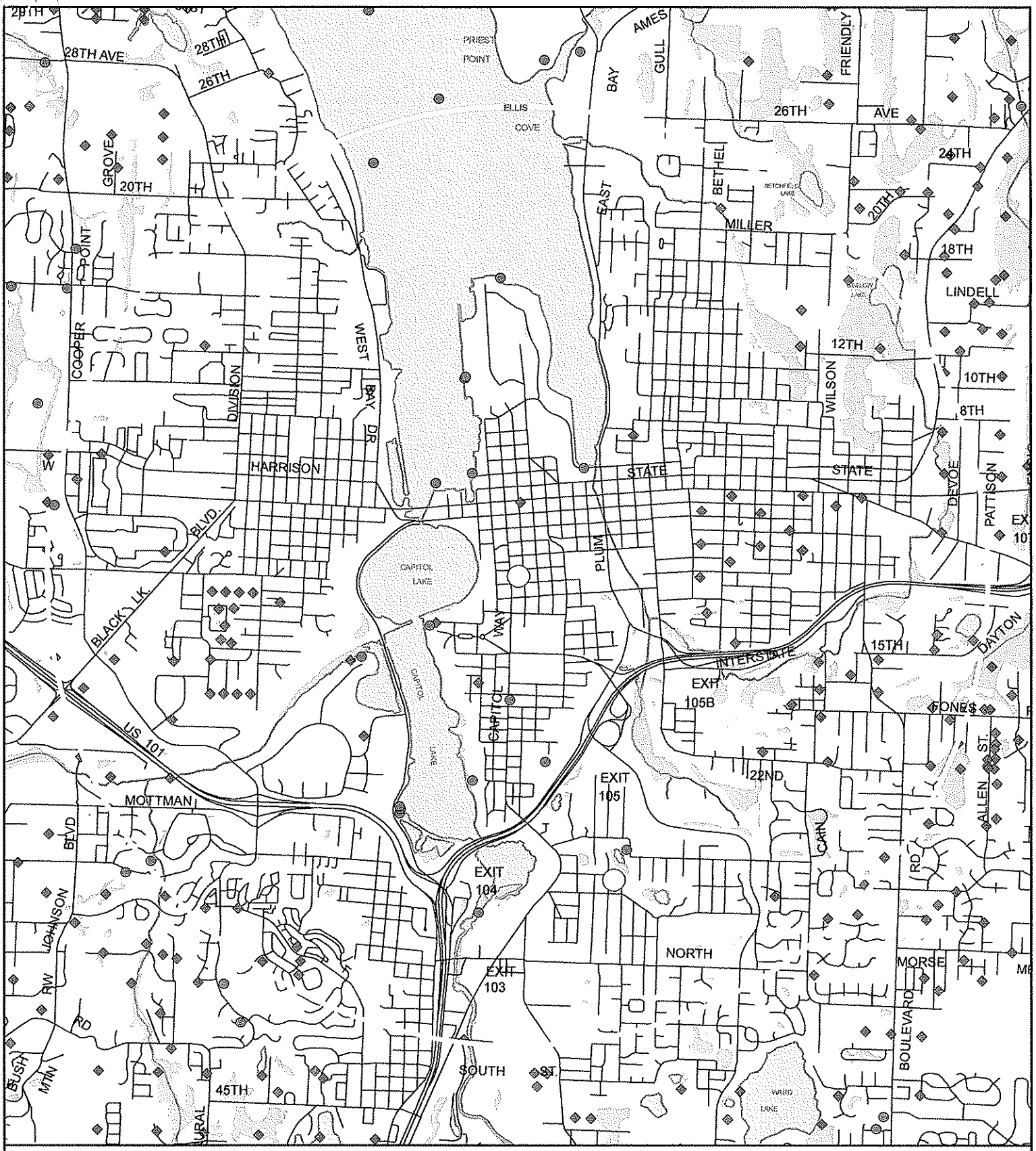
Half Mile Radius Analysis

Approximate Population (2000 Census) within Half Mile Radius: 2652

0 0.125 0.25 Miles

Thurston GeoData Center

Map Created on 08/25/2009 abc



Clarion Hotel

Two Mile Radius Around Site

Wetland

Sensitive Species Location

Well

Stream

Roads

THURSTON COUNTY

Clarion Hotel

Ecology Site ID #9488181

Two Mile Radius Analysis

Apprximate Population (2000 Census) within 37,301

0 0.5 1 Miles

THURSTON COUNTY

Thurston GeoData Center

Map Created on 08/25/2009 abc