

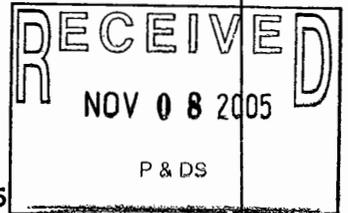
ATTACHMENT D:

**WETLAND DELINEATION
REPORT**

**ECHO LAKE TOWNHOMES
WETLAND DELINEATION**

PREPARED FOR:

**PRESCOTT HOMES, INC.
10613 NE 38TH PLACE #17
KIRKLAND, WA 98033**



OCTOBER 2005

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201478

EXECUTIVE SUMMARY

At the request of Prescott Homes Inc. (Prescott Homes), Adolfson Associates, Inc. (Adolfson) delineated wetlands and prepared this technical report for the proposed Echo Lake Townhomes project on two parcels (#2227300070 and #2227300071) located in the City of Shoreline, King County, Washington. The study area is located within Section 4, Township 25 North, Range 5 East. All rights-of-entry to the subject property were granted by Prescott Homes. The boundaries of the study area were established based on information provided by Prescott Homes.

Adolfson biologists Donna Frosthalm and Janice Martin conducted a site visit on August 3, 2005. Access to the site is via North 199th Street, a one-lane roadway. The site is bounded by North 199th Street, offices and apartments to the north, Echo Lake to the southeast and condominiums to the southwest. There are no structures on-site. However, there are building foundations located near the eastern portion of the site, and geotechnical studies had recently been completed. A large approximate 10-foot high, 100 square-foot debris pile full of unearthed stumps and branches was found at the northwest corner of the site near the entrance. Walking trails are present on the site and lead to the lake. There is a cement bulkhead between the site and Echo Lake.

One wetland was identified on-site. Wetland A is a palustrine emergent, lake-fringe wetland associated with Echo Lake. Wetland A is a Type II wetland because it is associated with Echo Lake, and is hydrologically connected to lake fringe wetlands to the east, south and southwest of Echo Lake (personal communication, Matt Torpey, City Planner, August 19, 2005).

According to the City of Shoreline Municipal Code (SMC), critical areas are defined under Chapter 20.80 the City's Critical Areas Ordinance. The City is in the process of updating their Critical Areas Code and regulatory implications for this site may change. The new Critical Areas Code is anticipated to be adopted by December 2005 (personal communication, Matt Torpey, City Planner, August 19, 2005).

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1.0 PROJECT AUTHORIZATION AND SCOPE OF WORK

At the request of Prescott Homes Inc. (Prescott Homes), Adolfson Associates, Inc. (Adolfson) delineated wetlands and prepared this technical report for the proposed Echo Lake Townhomes project on two parcels (#2227300070 and #2227300071) located in the City of Shoreline, King County, Washington. The study area is located within Section 4, Township 25 North, Range 5 East. All rights-of-entry to the subject property were granted by Prescott Homes. The boundaries of the study area were established based on information provided by Prescott Homes.

The Scope of Work for this project included wetlands determinations and delineations on two parcels, and preparation of this technical report. A brief discussion of regulatory implications and permitting considerations is also included in this report.

2.0 SITE DESCRIPTION

The Echo Lake Townhomes site, an approximately 1.1-acre site composed of two parcels (#2227300070 and #2227300071), is located in the City of Shoreline, Washington, Section 4, Township 25 North, Range 5 East. The site is bounded by North 199th Street, offices and apartments to the north, Echo Lake to the southeast and condominiums to the southwest (Figure 1).

There were no structures on-site. There are building foundations located near the eastern portion of the site, and geotechnical testing had recently been completed. A large approximate 10-foot high, 100 square-foot debris pile of unearthed stumps and branches was found at the northwest corner of the site near the entrance. A few walking trails occur on the site and lead to the lake. There is a cement bulkhead between the site and Echo Lake. The site slopes upwards from Echo Lake to the west towards Highway 99.

3.0 WETLAND DEFINITION AND REGULATIONS

Wetlands are formally defined by the Corps of Engineers (Corps) (Federal Register 1982), the Environmental Protection Agency (EPA) (Federal Register 1986), the Washington Shoreline Management Act (SMA) (1971) and the Washington State Growth Management Act (GMA) (1992) as "... those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (Federal Register, 1982, 1986). In addition, the SMA and the GMA definitions add: "Wetlands do not include those artificial wetlands intentionally created from non-wetland site, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990 that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those

artificially created wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands”.

Numerous federal, state, and local regulations govern development and other activities in or near wetlands; at each level, there are typically several agencies charged with such powers. Specific regulatory implications concerning the subject property are summarized within this report.

4.0 METHODS

Two levels of investigation were conducted for the analysis of wetlands on the subject property: a review of existing information and an on-site investigation.

4.1 Review of Existing Information

A review of existing literature, maps, and other materials was conducted to identify wetlands or site characteristics indicative of wetlands on the subject property. Note that these sources can only indicate the likelihood of the presence of wetlands; actual wetland determinations must be based upon data obtained from field investigations.

Several documents were available for this review:

- *U.S. Geological Survey 1:24,000 Topographic Map*, Edmonds East quadrangle. 1987 updated 1994.
- *National Wetland Inventory*, Edmonds East quadrangle. (U.S. Fish and Wildlife Service, 1987 updated 1999).
- *Hydric Soils of the State of Washington*. (Natural Resources Conservation Service, 2001).
- *McAleer Creek and Lyon Creek Basins Characterization Report*. May 2004. Tetra Tech / KCM.
- *King County Sensitive Areas Map Folio*. (1990).
- *A Catalog of Washington Streams and Salmon Utilization Volume 1 Puget Sound* (Williams et. al, 1975).
- *Echo Lake Site Soils Report*. Terra Associates. February 1989.
- *Preliminary site soils infiltration information email*. Scott Riegel of Earth Solutions. August 25, 2005.

4.2 On-site Investigation

Methods defined in the *Washington State Wetlands Identification and Delineation Manual* (Washington State Department of Ecology, 1997), a manual consistent with the *Corps of*

Engineers Wetlands Delineation Manual ("1987 Manual") (Environmental Laboratory, 1987) were used to determine the presence and extent of wetlands on the subject property Washington state and all local governments must use the state delineation manual to implement the SMA and/or the local regulations adopted pursuant to the GMA. The methodology outlined in the manual is based upon three essential characteristics of wetlands: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology. Field indicators of these three characteristics must all be present in order to make a positive wetland determination (unless problem areas or atypical situations are encountered).

The "routine on-site determination method" was used to determine the wetland boundaries. The routine method is used for areas equal to or less than five acres in size, or for larger areas with relatively homogeneous vegetative, soil, and hydrologic properties.

Formal data plots were established in areas of relatively homogeneous vegetation, where information regarding each of the three wetland parameters (vegetation, soils, and hydrology) was recorded. Dominant herbs and saplings/shrubs within a five-foot radius, and dominant trees and woody vines within a 30-foot radius from the data plot center were recorded on the data form (Washington State Department of Ecology, 1997). This information was used to distinguish wetlands from non-wetlands. If wetlands were determined to be present on the subject property, the wetland boundaries were delineated. Wetland boundaries were identified with sequentially-numbered colored flagging imprinted with the words "WETLAND DELINEATION." Data plot locations were marked with colored flagging.

5.0 WETLAND CHARACTERISTICS

5.1 Hydrology

Water must be present in order for wetlands to exist; however, it need not be present throughout the entire year. Wetland hydrology is considered to be present when there is permanent or periodic inundation or soil saturation for more than 12.5 percent of the growing season (typically two weeks in lowland Pacific Northwest areas). Areas which are inundated or saturated for between 5 and 12.5 percent of the growing season in most years, may or may not be wetlands. Areas inundated or saturated for less than 5 percent of the growing season are non-wetlands (Ecology 1997).

Indicators of wetland hydrology include observation of ponding or soil saturation, water marks, drift lines, drainage patterns, sediment deposits, oxidized rhizospheres, water-stained leaves, and local soil survey data. Where positive indicators of wetland hydrology are observed, it is assumed that wetland hydrology occurs for a sufficient period of the growing season to meet the wetland criteria, as described by Ecology (1997).

5.2 Soils

Hydric soils are indicative of wetlands. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (Federal Register, 1994). The NRCS, in cooperation with the National Technical Committee for Hydric Soils, has compiled lists of hydric soils (NRCS, 2001). These lists identify soil series mapped by the NRCS that meet hydric soil criteria. It is common, however, for a map unit of non-wetland (non-hydric) soil to have inclusions of hydric soil, and vice versa. Therefore, field examination of soil conditions is important to determine if hydric soil conditions exist. The NRCS has developed a guide for identifying field indicators of hydric soils (NRCS, 1998). This list of hydric soil indicators is considered to be dynamic; revisions are anticipated to occur on a regular basis as a result of ongoing studies of hydric soils. Due to anaerobic conditions, hydric soils exhibit certain characteristics, collectively known as "redoximorphic features," that can be observed in the field (Vepraskas, 1999). Redoximorphic features include: high organic content, accumulation of sulfidic material (rotten egg odor), greenish- or bluish-gray color (gley formation), spots or blotches of different color interspersed with the dominant (or matrix) color (mottling), and dark soil colors (low soil chroma) (USDA, NRCS, 1998; Vepraskas, 1999). Soil colors are described both by common color name (for example, "dark brown") and by a numerical description of their hue, value, and chroma (for example, 10YR 2/2) as identified on a Munsell soil color chart (Munsell Color, 2000). Soil color is determined from a moist soil sample.

5.3 Vegetation

Plants must be specially adapted for life under saturated or anaerobic conditions to grow in wetlands. The U.S. Fish and Wildlife Service (USFWS) has determined the estimated probability of each plant species' occurrence in wetlands and has accordingly assigned a "wetland indicator status" (WIS) to each species (USFWS, 1997). Plants are categorized as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), upland (UPL), not listed (NL), or no indicator status (NI). Definitions for each indicator status are listed in the Glossary (Appendix A). Species with an indicator status of OBL, FACW, or FAC are considered adapted for life in saturated or anaerobic soil conditions. Such species are referred to as "hydrophytic" vegetation. A (+) or (-) sign following the WIS signifies greater or lesser likelihood, respectively, of being found in wetland conditions.

Areas of relatively homogeneous vegetative composition can be characterized by "dominant" species (see Glossary in Appendix A). The indicator status of the dominant species within each vegetative strata is used to determine if the plant community may be characterized as hydrophytic. The vegetation of an area is considered to be hydrophytic if greater than 50% of the dominant plant cover is comprised of species having an indicator status of OBL, FACW, or FAC.

Common plant names are used throughout this text. The common and taxonomic (scientific) names and wetland indicator status for each plant noted is presented in Appendix B. Scientific nomenclature of all plant species encountered follows that of Hitchcock and Cronquist (1973).

Where the taxonomic names of plant species have been recently changed, former names (synonymies) are included in Appendix B.

6.0 FINDINGS

The following sections describe the results of the field investigation conducted by Donna Frosthalm and Janice Martin on the Echo Lake Townhomes site on August 3, 2005. These sections describe the wetland found on the site, upland habitats, and observations of wildlife. Four data plots were established within relatively uniform areas of vegetation on the site. Data sheets, which correspond to formal data plots, are provided in Appendix C.

6.1 Existing Information

A wetland inventory report prepared by Tetra Tech/KCM (2002) identified approximately 0.2 acre of lake fringe wetland along the east, south and southwestern edges of Echo Lake. The existing wetland on the subject property was not identified in the Tetra Tech/KCM report (2002) entitled *McAleeer Creek and Lyon Creek Basins Characterization Report* (Figure 2).

The National Wetlands Inventory (NWI) indicates that all of Echo Lake is wetland (Figure 3). The USGS topographic map (Figure 4) shows the topography of the subject property and surrounding areas.

6.2 Wetlands Determinations

One wetland was identified on the subject property. This wetland is associated with Echo Lake. The following describes the wetland and the upland habitats found on the site. Figure 5 shows the location of the wetland on the Echo Lake Townhomes property. GeoDatum professionally surveyed the wetland boundaries.

6.2.1 Wetland A

Location and Geomorphic Setting. Wetland A is a palustrine emergent wetland located near the southeast corner of the subject property along the shoreline of Echo Lake. There is a bulkhead separating the wetland from the Lake. It is likely that the wetland extends both north and south of the subject property. Wetland A is characterized by Data Plot A-1.

Hydrology. At the time of the site visit, the soils in the wetland were damp to the soil surface, and the water depth of the Lake immediately adjacent to the bulkhead was eight inches. Based on our observations, it was assumed that soils would be saturated to the surface early in the growing season in years of normal precipitation. For this reason, we have assumed that the wetland hydrology parameter has been met.

Soils. The soil observed at Data Plot A-1 was a blackish-brown (2.5Y 3/1) silt loam from the soil surface to 12 inches in depth. From 12 to 14 inches in depth the soil was a dark grey (2.5Y 4/1) sand.

Vegetation. Wetland A is a palustrine emergent wetland that consists of such herbaceous plant species as spreading bentgrass, velvet grass, yellow flag, creeping buttercup, toad rush, and soft rush. Trees, some of which are partially rooted outside of the wetland, provide cover to some of the wetland.

6.3 Upland Description

Upland vegetation on the Echo Lake Townhomes site consists of a number of weedy species such as velvet grass, Himalayan blackberry, bull thistle and Robert's herb. Native trees, such as Douglas-fir, and non-native ornamentals are present in the upland areas. There were no signs of wetland hydrology in the upland areas.

6.4 Wildlife Observations

Wildlife use of the site included mallard, black-capped chick-a-dee, American robin, barn swallow, and bullfrog. Other species of birds, mammals, reptiles and or amphibians in addition to those observed are expected to use habitat on the project site. For example nocturnal species may be present that were not active during the site visit or other species may only be highly visible in this area during certain seasons.

6.5 Off-site Wetlands

Echo Lake has been documented to have lake fringe wetlands along the east, south and southwestern shorelines of the Lake. There is a possibility that more wetland areas exist nearby due to the hydrological connection to the lake. The proximity of these wetlands can provide habitat corridors and connections for wildlife to refuge, food and other habitats.

7.0 REGULATORY IMPLICATIONS

Wetlands are regulated at the local, state, and federal level. Agencies with jurisdiction include the City of Shoreline, U.S. Army Corps of Engineers, and Washington State Department of Ecology (Ecology). Regulatory implications associated with development in wetlands include, but may not be limited to, those discussed in this section. All applicable permits should be obtained prior to developing or otherwise altering wetlands.

7.1 Local Regulations

The City of Shoreline regulates wetlands and lakes in the City's Code under subchapter 4 (SMC 20.80 – Critical Area). According to SMC 20.80.060, all critical area tracts shall be clearly marked with permanent field markings. Any alteration or impact to the functions or values of critical areas must be in accordance with the standards set forth in SMC 20.80.080 and SMC 20.80.350. Required wetland buffers within the Echo Lake Townhome project area shall be in accordance with SMC 20.80.330 which provides a minimum and maximum buffer widths. According to SMC the maximum buffer widths for Wetland A is 100 feet and the minimum buffer width is 50 feet.

The City is in the process of updating their Critical Areas Code and regulatory implications for this site may change. The new Critical Areas Code may be adopted by December, 2005 (personal communication, Matt Torpey, City Planner, August 19, 2005).

7.2 State Regulations

Section 401 of the Federal Clean Water Act directs each state to certify that proposed in-water activities will not adversely affect water quality or violate state aquatic protection laws. Ecology is responsible for administering the state certification program. The state certification process is usually triggered through a Section 404 permit application. The response from Ecology may be approval, approval with conditions, denial, or a request for delay due to lack of information. A Section 401 Water Quality Certification is required for any project permitted under Section 404 of the Clean Water Act (see Federal Regulations below). Any conditions attached to the 401 Certification become part of the Section 404 permit.

7.3 Federal Regulations

The U.S. Army Corps of Engineers regulates discharges of dredged or fill materials into waters of the United States, including wetlands under Section 404 of the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." A Section 404 permit may be required if a proposed project involves filling wetlands. The Corps has established two types of permit programs under Section 404: nationwide and individual. Nationwide permits are issued when a proposed activity will have minimal adverse impacts to wetlands. All other projects are permitted under the individual permitting process. The Corps determines which permitting process is used for a proposed project. The Corps will require that wetland impacts be avoided or minimized to the extent practicable, and mitigation will likely be required for unavoidable wetland impacts.

8.0 LIMITATIONS

It should be recognized that the delineation of wetland boundaries is an inexact science; wetland professionals may disagree on the precise location of wetland boundaries. The final determination of wetland boundaries is the responsibility of the resource agencies that regulate

activities in and around wetlands. Accordingly, all wetland delineations performed for this study, as well as the conclusions drawn in this report, should be reviewed by the appropriate regulatory agencies prior to any detailed site planning or construction activities. Further, wetlands are by definition transition areas; wetland boundaries may change with time. We therefore recommend that this wetlands study be verified with the appropriate regulatory agencies as soon as practical.

Within the limitations of schedule, budget, and scope-of-work, we warrant that this study was conducted in accordance with generally accepted environmental science practices, including the technical guidelines and criteria in effect at the time this study was performed, as outlined in the Methods section. The results and conclusions of this report represent the authors' best professional judgment, based upon information provided by the project proponent in addition to that obtained during the course of this study. No other warranty, expressed or implied, is made.

9.0 REFERENCES

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service. Publ. # FWS/OBS-79/31. 131 p.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Federal Register. 1982. Title 33: Navigation and Navigable Waters; Chapter II, Regulatory Programs of the corps of Engineers. Vol 47, No. 138, p. 31810, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register. 1986. 40 CFR Parts 320 through 330: Regulatory Programs of the Corps of Engineers; Final Rule. Vol. 51. No. 219. pp. 41206-41260, U.S. Govt. Printing Office, Washington, D.C.
- Federal Register. July 13, 1994. Changes in Hydric Soils of the United States. Washington, DC. (current Hydric Soil Criteria).
- King County. 1990. *King County Sensitive Areas Map Folio*.
- Munsell Color. 2000. *Munsell Soil Color Charts*. Gretag Macbeth, New Windsor, NY.
- Snyder, D.E., P.S. Gale, and R.F. Pringle. 1973. *Soil Survey of King County Area, Washington*. U.S. Soil Conservation Service, Washington, D.C.
- Natural Resources Conservation Service (NRCS). 2001. *Hydric Soils of the State of Washington*.
- Tetra Tech/ KCM. May 2004. *McAleer Creek and Lyon Creek Basins Characterization Report*. Prepared for the City of Shoreline.
- United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 1998. *Field Indicators of Hydric Soils in the United States, Version 4.0*, G.W. Hurt, Whited, P.M., and Pringle, R.F. (eds.). USDA, NRCS, Ft. Worth, TX.
- United States Department of Interior, US Fish and Wildlife Service (USFWS). 1997. National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary. A draft revision of: Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: Northwest (Region 9)*. US Fish and Wildlife Service. Biol. Rpt. 88(26.9). Washington, D.C.
- United States Department of Fish and Wildlife Service National Wetlands Inventory. 1987 updated 1999. Edmonds East quadrangle.
- United States Geological Survey. 1994. Topographic Map, Edmonds East quadrangle, (scale 1:24,000).

Vepraskas, M.J. 1999. *Redoximorphic Features for Identifying Aquic Conditions*. Technical Bulletin 301. North Carolina Agricultural Research Service. North Carolina State University. Raleigh, North Carolina.

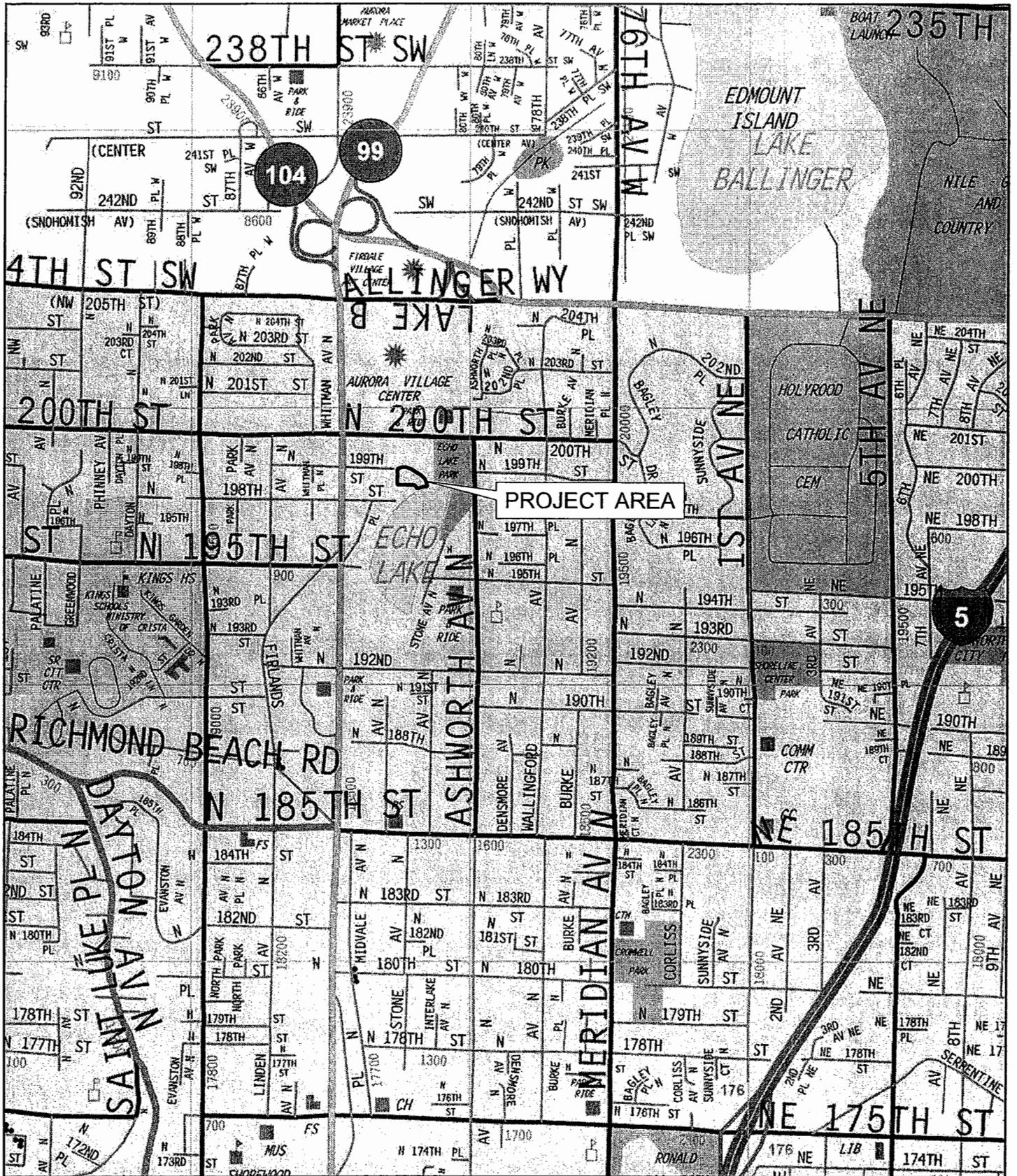
Washington State Department of Ecology . 1997. *Washington State Wetlands Identification and Delineation Manual*. Washington State Department of Ecology, Publication No. 96-94.

Washington State Department of Ecology. 1994. *Wetlands Regulations Guidebook*. Washington State Department of Ecology, Publication No. 88-5.

Personal Communications

Matt Torpey, City of Shoreline Planner, Planner II, telephone communication on August 19, 2005.

FIGURES

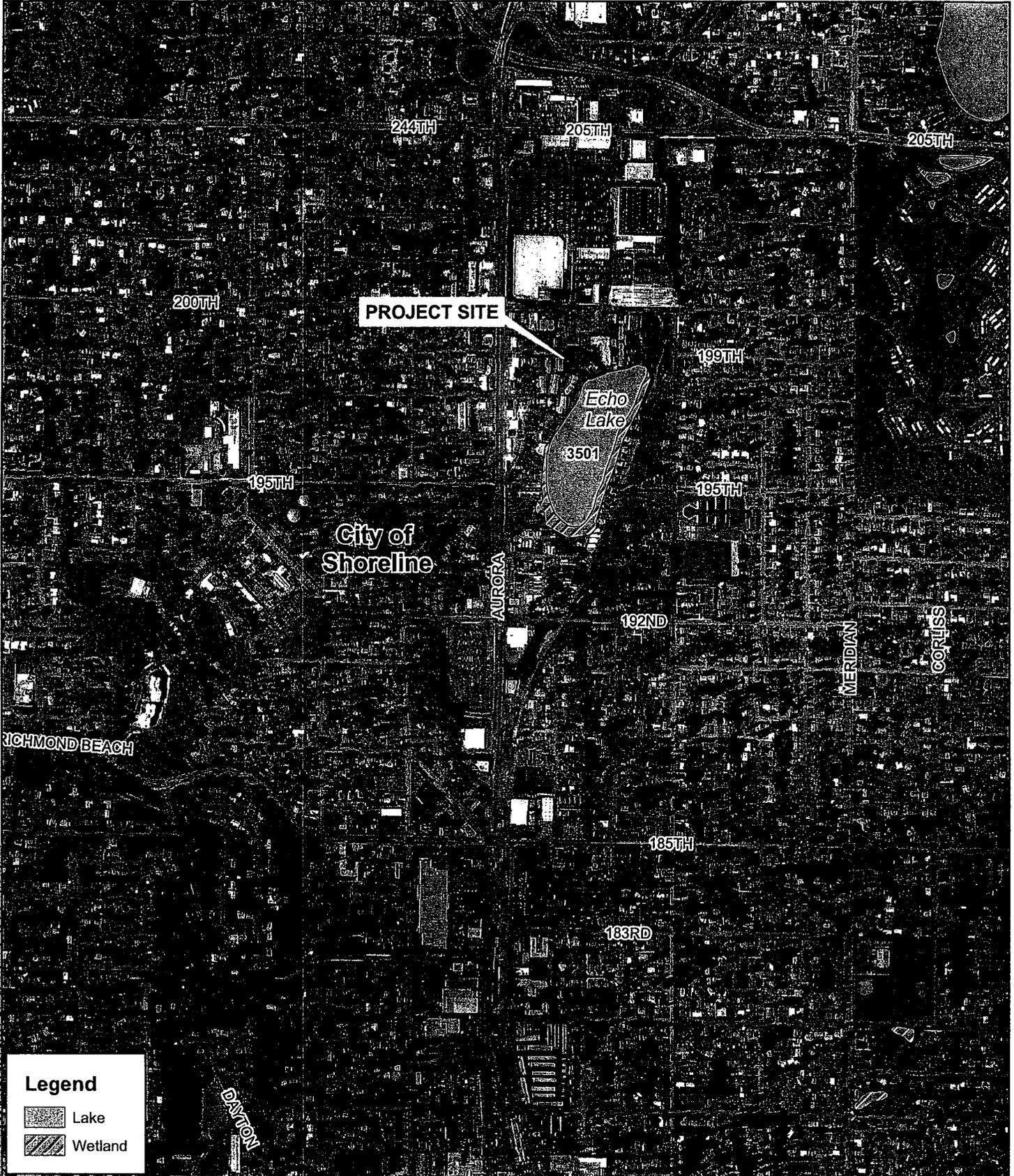


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 guarantees regarding any aspect of data depiction.
 SOURCE: Thomas Bros. Maps, 2004.



FIGURE 1
VICINITY MAP
 ECHO LAKE TOWNHOMES
 SHORELINE, WASHINGTON



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Legend

-  Lake
-  Wetland



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 Date last updated: 10/02/05

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 warranties or guarantees regarding any aspect of data depiction.
 SOURCE: King County GIS, 2004; City of Shoreline wetlands, 2002

FIGURE 2
TETRA TECH/KCM MCALEER
& LYON CREEK BASINS CHARACTERIZATION REPORT
 ECHO LAKE TOWNHOMES WETLAND REPORT
 SHORELINE, WASHINGTON



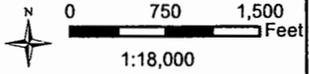
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Legend

-  NWI
-  NWI
-  1 Mile Radius



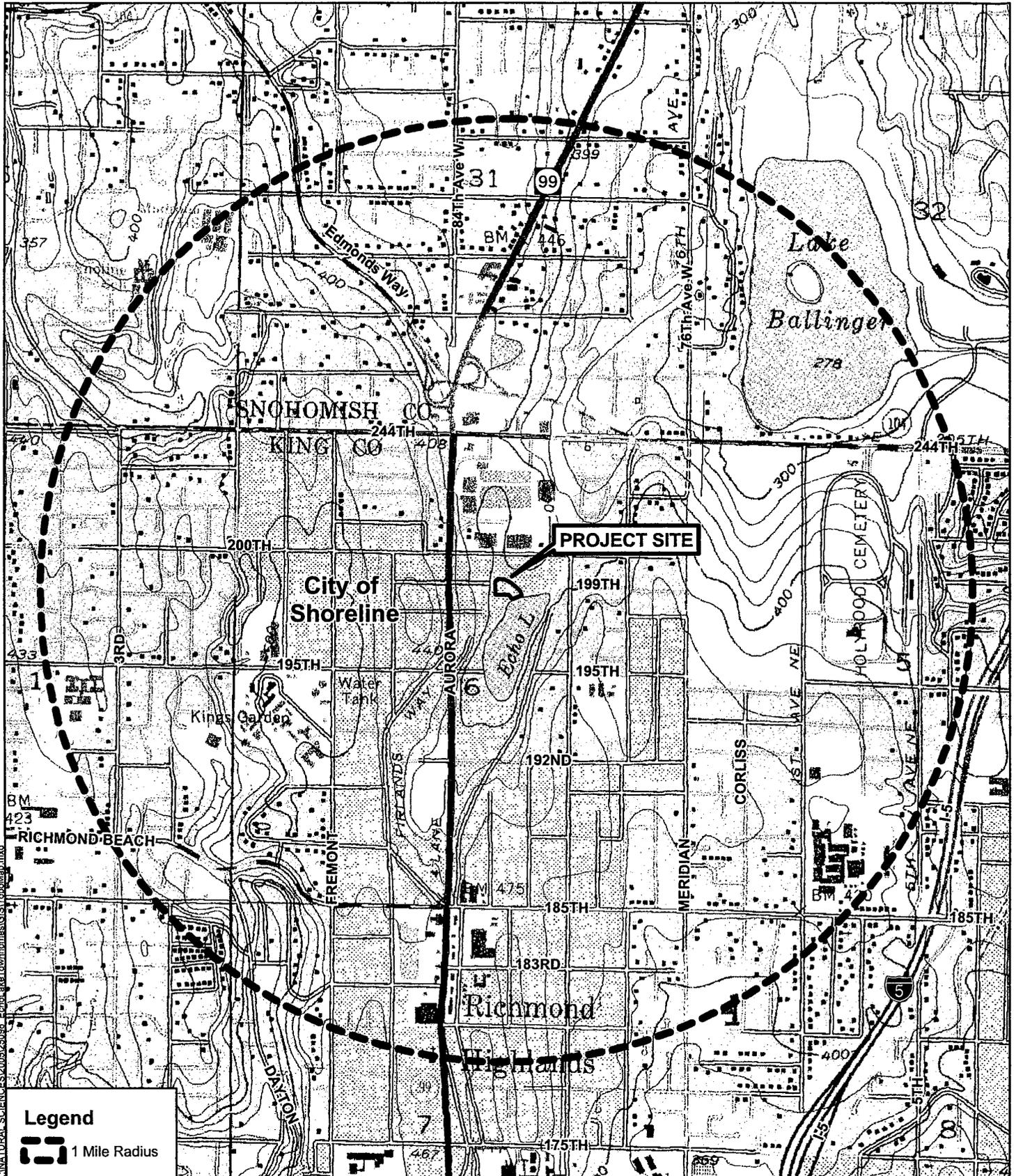
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 warranties or guarantees regarding any aspect of data depiction.
 SOURCE: King County GIS, 2004; NWI, 1987 (updated 1999)

FIGURE 3
 NWI

ECHO LAKE TOWNHOMES WETLAND REPORT
 SHORELINE, WASHINGTON



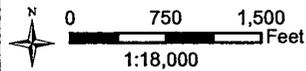
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Legend

1 Mile Radius



File name: Fig4.pdf
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 Date last updated: 10/02/05



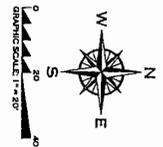
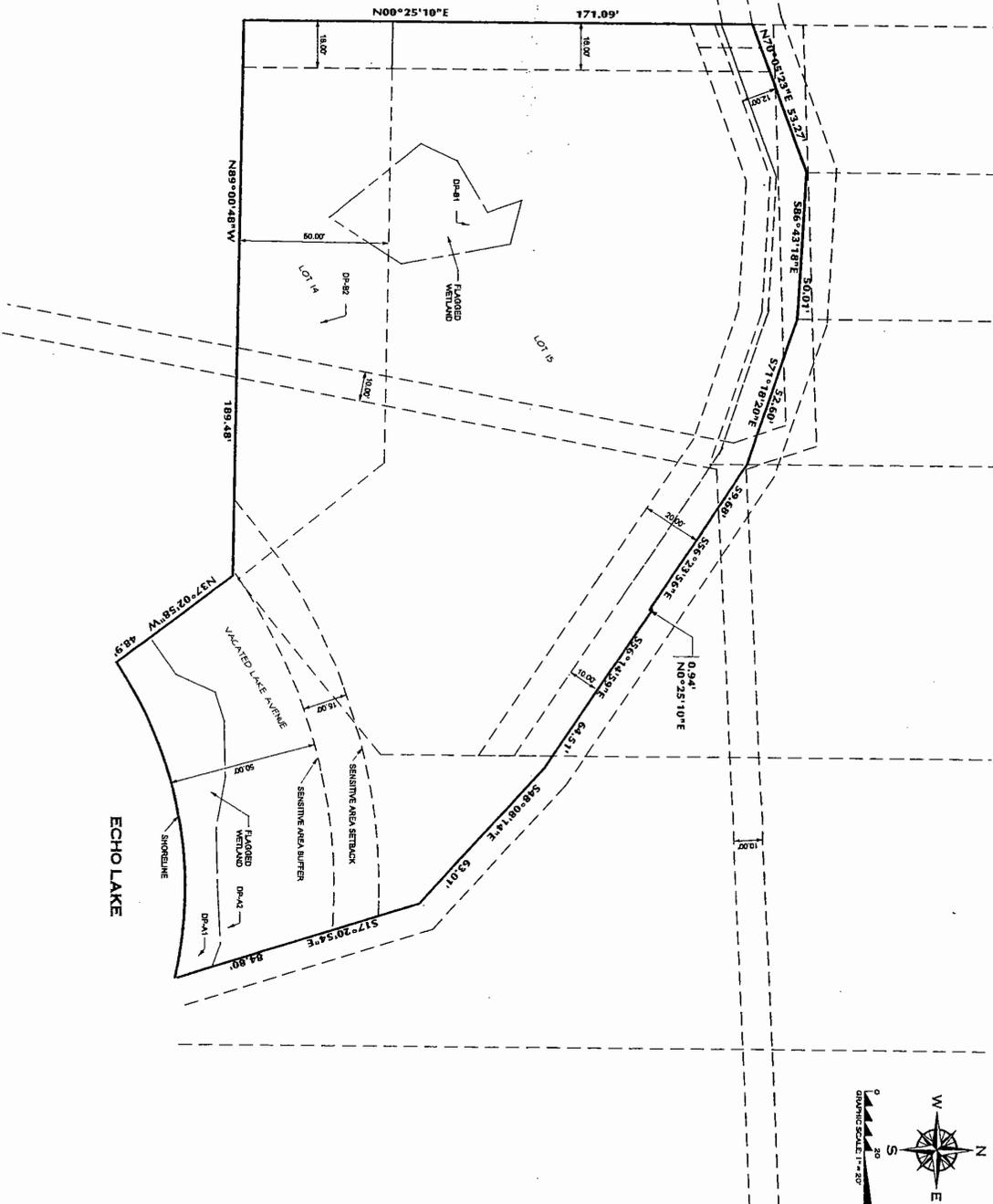
Map data are the property of the sources listed below.
 Inaccuracies may exist, and Adolfsen Associates, Inc. implies no
 warranties or guarantees regarding any aspect of data depiction.
 SOURCE: King County GIS, 2004; USGS Topoquad, 1994

FIGURE 4
TOPOGRAPHY
 ECHO LAKE TOWNHOMES WETLAND REPORT
 SHORELINE, WASHINGTON

GENERAL NOTES

1. THIS EXHIBIT IS BASED ON THE CHICAGO TITLE INSURANCE COMPANY COMMITMENT FOR TITLE INSURANCE, ORDER NO. 1198997, DATED MAY 20, 2005 AT 8:00 A.M.
2. THE INFORMATION ON THIS MAP DOES NOT REPRESENT THE RESULTS OF A SURVEY. UTILITY LOCATIONS ARE BASED ON AN UNRECORDED SURVEY BY CHENOWETH & ASSOCIATES, DATED AUGUST, 1987, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

- SCHEDULE B, EASEMENT 1, PER AP: 1910583, RIGHT-OF-WAY
- SCHEDULE B, EASEMENT 2, PER AP: 1882095, WATERLINE, DRIVEWAY & UTILITIES
- SCHEDULE B, EASEMENT 3, PER AP: 1882096, DRIVEWAY & UTILITIES
- SCHEDULE B, EASEMENT 4, PER AP: 3913510, WATERMAIN
- SCHEDULE B, EASEMENT 5, PER AP: 4454211, S DRAIN
- SCHEDULE B, EASEMENT 6, PER AP: 4454211, SET PROPERTY ASIDE AS BEACH PROPERTY
- SCHEDULE B, EASEMENT 7, PER AP: 5122968, SEWER
- SCHEDULE B, EASEMENT 8, PER AP: 5122964, SEWER
- SCHEDULE B, EASEMENT 9, PER AP: 5122965, SEWER, (DOES NOT AFFECT SUBJECT PARCEL)
- SCHEDULE B, EASEMENT 10, PER AP: 6152996, SEWER, (DOES NOT AFFECT SUBJECT PARCEL)
- SCHEDULE B, EASEMENT 11, PER AP: 6152991, SEWER
- SCHEDULE B, EASEMENT 12, PER AP: 7109210382, SEWER, (DOES NOT AFFECT SUBJECT PARCEL)
- SCHEDULE B, EASEMENT 13, PER AP: 9709110988, DEBRIS REMOVAL, (TEMPORARY EASEMENT)





 Prepared: F105, without a
 Certificate issued by JAS
 Date last revised: 02/21/05
 Survey No.: 102098

 Map data are the property of the landowner and/or
 other parties. The engineer and/or surveyor
 assumes no responsibility for
 information not shown on this map.
 SOURCE: GeoData, Inc. Survey

FIGURE 5
 SURVEYED WETLAND BOUNDARIES
 ECHO LAKE TWONHOMES WETLAND DELINEATION REPORT
 SHORELINE, WASHINGTON