

Sustainable Development Study – R-1 Zone: Executive Summary

Sustainable Development Study R-1 ■ City of Woodinville ■ October 2007

Sustainable Development Study – R-1 Zone: Executive Summary

Prepared for:
City of Woodinville

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January 2007
Revised February 2007
Revised August 2007
Revised September 2007
Revised October 2007

This document should be cited as:

Jones & Stokes and City of Woodinville Community Development Department. 2007. Sustainable Development Study – R-1 Zone: Executive Summary. October. (J&S.) Bellevue, WA. Prepared for City of Woodinville.

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Attachments

Attachment	Report Name	Prepared By:
Chapter 1: Environmental Report	City of Woodinville Sustainable Development Project: R-1 Area Environmental Report	Jones & Stokes, Steward & Associates and City of Woodinville
Appendix 1A	1A.1. Hydrogeologic Analysis for City Of Woodinville Sustainable Development Program and Preliminary Assessment of Hillside Drainages Infiltration 1A.2. Supplemental Golder Associates Analysis	Golder Associates, Inc.
Appendix 1B	Lake Leota Analysis for City Of Woodinville Sustainable Development Program	C. Michael Falter, Ph.D.
Appendix 1C	Wetland Evaluation for City of Woodinville Sustainable Development Program 1C.1. Woodinville Additional Wetland Reconnaissance Survey 1C.2. Woodinville Wetland Survey	C-1 Jones & Stokes C-2. Cooke Scientific
Appendix 1D	Woodinville Sustainable Development Study 1D.1. Low Impact Development Analysis for City of Woodinville Sustainable Development Program 1D.2. Low Impact Development Materials Presented to Citizen's Advisory Panel	Perteet Inc. and Various
Appendix 1E	Potential Wildlife Corridors in the City of Woodinville R-1 Area	Jones & Stokes
Appendix 1F	Woodinville Sustainable Development (regarding surface water)	Otak, Inc.
Chapter 2: Neighborhood Character in the R-1 Zone Report	Neighborhood Character in the R-1 Zone, City of Woodinville	City of Woodinville Development Services Department, Jones & Stokes
Chapter 3: Transportation Report	Transportation, City of Woodinville	City of Woodinville, Development Services Department, Perteet Inc.
Chapter 4: Capital Facilities and Utilities Report	Capital Facilities and Utilities in the R-1 Area	City of Woodinville Development Services Department
Chapter 5: Buildable Lands and Housing	Buildable Lands and Housing	Jones & Stokes
Chapter 6: Potential Code Amendments	Potential Code Amendments	Jones & Stokes
Chapter 7: Moratorium Ordinances	Moratorium Ordinances 419, 424, and 427	City of Woodinville
Chapter 8: Other Information/Errata	Reserved for added or corrected information by various authors as appropriate	Various Authors

Sustainable Development Study: R-1 Zone Executive Summary

Issue

The City of Woodinville (City) determined that a review of zoning densities needed to occur on lands currently classified as Residential-1 (R-1), where the minimum size for new parcels is one unit per acre. Under current Woodinville Municipal codes, the R-1 zone density can be increased to R-4 only upon approval of a rezone. R-1 to R-4 in the Woodinville's Comprehensive Plan is considered Low Density. This document is called the Sustainable Development Study and represents the results of the City's review of the R-1 study area. This study includes several individual analyses: environmental, neighborhood character, transportation, capital facilities, buildable lands and housing, and potential code amendments. Phase 1 of the Sustainable Development Study was initiated after a moratorium was established to limit development until the results of the study were available. The Moratorium expired in March 2007. Phase 1 of the Sustainable Development Study resulted in an interim ordinance that removed the provision of Woodinville Municipal Code (WMC) 21.04.080(1)(a) that allowed an R-1 zoned property only when sewer and other adequate facilities are not available. This interim zoning ordinance is set to expire in September 2007. This second phase of the Sustainable Development Study (Phase 2a) was commissioned to conduct further research and analysis on a variety of topics in order to help the City make thoughtful decisions on the long-range plans for the study area.

The R-1 zone encompasses approximately 33% or 1,200 acres, of the City's total area of 3,600 acres. One of seven major neighborhoods, the R-1 neighborhood is located on the northeastern uplands of the city (see Figure ES-1), and is referred to as the Leota and Wellington Neighborhoods. R-4, R-6, R-8, and five multifamily residential designations comprise the remainder of the City's residential area. Residential uses are also allowed in mixed-use zoning districts, such as the City's Central Business District (CBD) and the Tourist Business (TB) zone.

Recent court and Growth Management Hearings Board decisions may indicate that what have been called "minimum urban densities" are not invariably required in all urban areas. Among factors considered when determining appropriate residential densities are: whether the City is meeting its assigned growth target, the City's overall average density, what density and designations are applied to undeveloped/unplatted areas of the City, the percentage of overall land in the City where lesser densities may be permitted; and whether, overall, the City's planning record indicates that it is and will continue to meet its obligations under the Growth Management Act (GMA). In addition, in addressing housing, the GMA calls for ensuring "the vitality and character of established residential neighborhoods..."

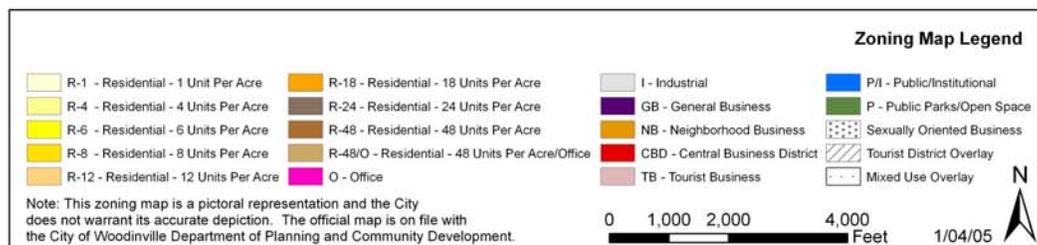
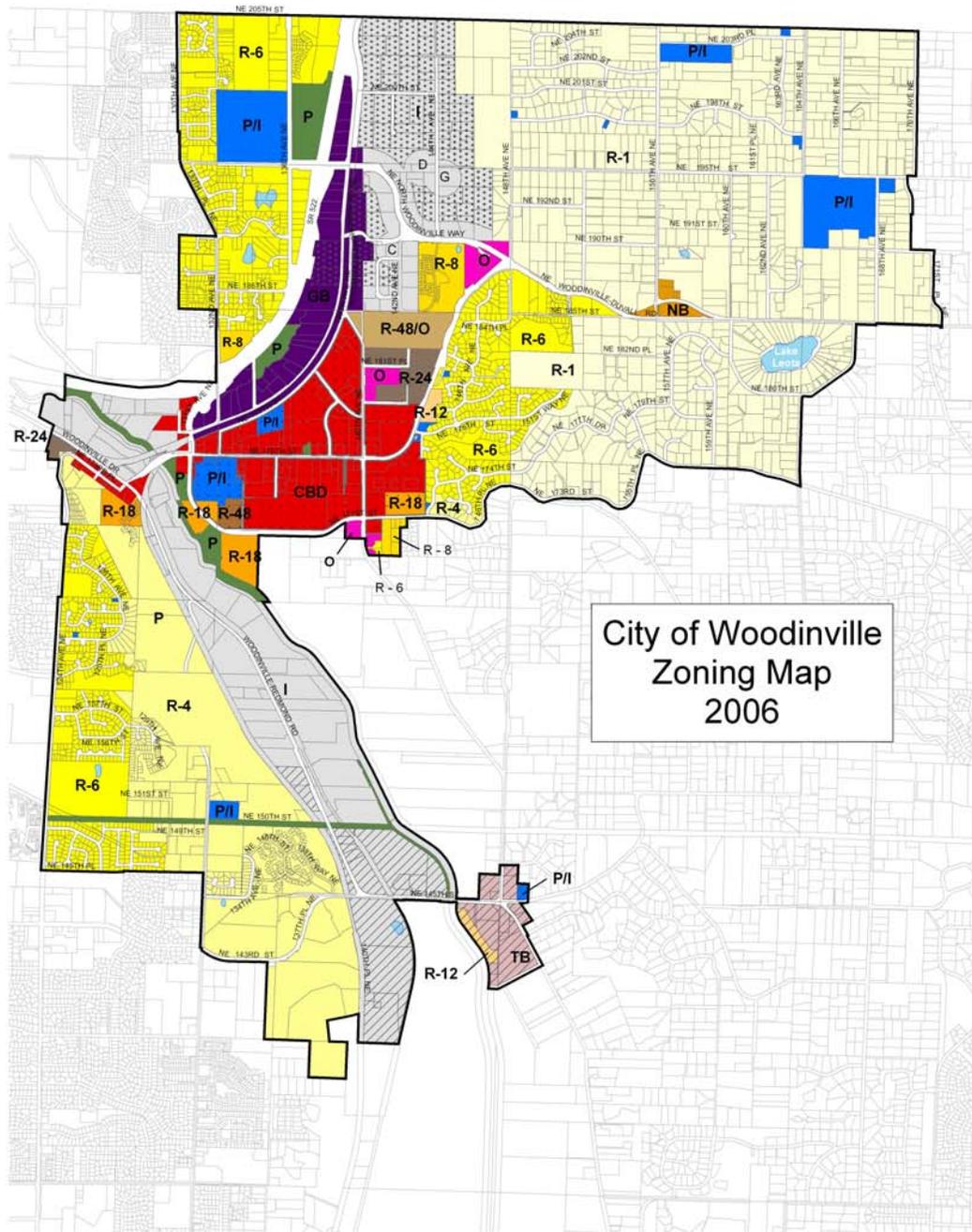


Figure ES-1. Zoning Map

Finally, past board decisions have explicitly authorized lower urban densities when they provide added or necessary protection for critical areas that are **large in scope, complex in structure and function, and of a high rank order**. (These criteria presented in boldface type are known as the “*Litowitz* test,” following the name of the plaintiff in the case where they were first identified¹.) Factors used in supporting lower densities are the same as those evaluated in this Sustainable Development Study. These factors are listed below:

- Environmental – what levels of density can the land support and maintain and protect important critical areas?
- Neighborhood Character – what areas of the R-1 zoned land have distinct character and/or covenants, conditions, and restrictions that should be recognized through zoning?
- Transportation – how would growth at different densities affect transportation systems?
- Capital Facilities and Services – are infrastructure systems and public services capable of supporting growth at different densities?

In addition to the above, the following are relevant contextual factors that must be evaluated when determining densities and are specifically discussed in the Buildable Lands and Housing report of this study (Chapter 5):

- The percentage of the overall land in the City where lesser and greater densities may be permitted.
- Whether the City is meeting and is continuing to meet its assigned growth target, the City’s overall average density, what density and designations are applied to undeveloped/unplatted areas of the City, and whether, overall, the City’s planning record indicates that it is meeting its obligations under the Growth Management Act (GMA).

The Sustainable Development Study examines each individual factor, and then based on a range of these factors:

- Provides zoning map alternatives/options for consideration by City decision-makers.
- Proposes development regulations amendments that are designed to help the City guide its growth and meet state goals. Development regulation amendments are divided into:
 - Specific amendments that can be accomplished within the timeframe of the Phase 2a Sustainable Development Study.
 - Proposals for more complex amendments that would need to be accomplished as part of the 2008 Annual Docket (Phase 2b).

¹ *Litowitz v. Federal Way*, CPSGMHB Case No. 96-3-005 (July 22, 1996).

Introduction and Background

The City of Woodinville is one of 39 cities in King County and is adjacent to Snohomish County’s boundary. In 2002, the City compared its demographics to King County as a whole and several Eastside and other nearby cities. Compared with Seattle, Mill Creek, Bothell, Kirkland, Redmond, Bellevue, and Issaquah, the City had the largest household size, the greatest population under the age of 19 years, the least growth between 1990 and 2000, and the smallest population. Since its inception, the City has promoted the desire to maintain a “Northwest Woodland Character,” identifying that desire in numerous places, including its Comprehensive Plan goals, Land Use LU-1, Community Design Goal CD-2, and Environmental Goal ENV-6. The R-1 study area differs from the rest of the City in the age of its housing and form of its development pattern. Houses in the R-1 zone are mostly homes built in the 1960s through the 1980s on large lots, but in other R-zoned areas they are newer homes on smaller lots.

Growth Management Act Goals

The GMA established 13 goals for the comprehensive planning process. Per Revised Code of Washington (RCW) 36.70A.020, the following goals are not listed in order of priority and shall be used exclusively for the purpose of guiding the development of comprehensive plans and development regulations:

- **Urban growth.** Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- **Reduce sprawl.** Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- **Transportation.** Encourage efficient multi-modal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
- **Housing.** Encourage the availability of affordable housing to all economic segments of the population of this state; promote a variety of residential densities and housing types; and encourage preservation of existing housing stock.
- **Economic development.** Encourage economic development throughout the state that is consistent with adopted comprehensive plans; promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons; promote the retention and expansion of existing businesses and recruitment of new businesses; recognize regional differences impacting economic development opportunities; and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.
- **Property rights.** Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.

- **Permits.** Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.
- **Natural resource industries.** Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forestlands and productive agricultural lands, and discourage incompatible uses.
- **Open space and recreation.** Retain open space; enhance recreational opportunities; conserve fish and wildlife habitat; increase access to natural resource lands and water; and develop parks and recreation facilities.
- **Environment.** Protect the environment and enhance the state’s high quality of life, including air and water quality, and the availability of water.
- **Citizen participation and coordination.** Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.
- **Public facilities and services.** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
- **Historic preservation.** Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.

Of particular interest in the R-1 study are goals to reduce sprawl, protect the environment, and provide housing choices.

Growth Management and Urban Densities

In 1995, the Central Puget Sound Growth Management Hearings Board established a “general rule” of four net dwelling units per acre as a minimum density for urban areas under the GMA. Calling this standard a “bright line,” the Board stated:

Any residential pattern at that density, or higher, is clearly compact urban development and satisfies the low end of the range required by the Act. Any larger urban lots will be subject to increased scrutiny by the Board to determine if the number, locations, configurations and rationale for such lot sizes complies with the goals and requirements of the Act, and the jurisdiction’s ability to meet its obligations to accept any allocated share of County-wide population. Any new residential land use pattern within a UGA [Urban Growth Area] that is less dense is not a compact urban development pattern, constitutes urban sprawl, and is prohibited.

The next year, the Central Board identified the criteria it would use to determine whether environmental factors could justify a lower density in urban areas:

The Board holds that when environmentally sensitive systems are large in scope (e.g., a watershed or drainage sub-basin), their structure and functions are complex and their rank order value is high, a local government may also choose to afford a higher level of protection by means of land use plan designations lower than 4 du [dwelling units]/acre.

These criteria have come to be known as the *Litowitz* test, following the name of the petitioner in the case. The criteria have not changed substantially under subsequent Growth Board decisions. This condition leaves some ambiguity. Watersheds and drainage sub-basins can be identified across a wide range of sizes, from a large river system such as the Columbia River to an individual wetland or small stream. To some degree, the structure and functions of nearly all natural systems are complex. The meaning of “rank order value” is also unclear and depends on scale. A particular stream or wetland, for example, could rank of high importance within a small jurisdiction or small drainage basin but of much less importance when considered at larger geographic scales. Nevertheless, it is clear that critical areas that are not of high relative value within the larger natural systems in the surrounding vicinity or within an individual jurisdiction would be unlikely to pass the *Litowitz* test.

In a later case, *Fuhriman v. Bothell*, the Board acknowledged “a possible expansion of *Litowitz* analysis,” where lower densities might be allowed to protect critical areas that do not, strictly speaking, meet the *Litowitz* criteria. It noted that critical areas that are linked hydrologically could have “unique geologic or topographical features that would also require the additional level of protection of lower densities in those limited geologically hazardous landscapes.” Such areas might, for example, provide sources of cool water for streams and rivers, wildlife habitat, and other ecological functions.

Complicating this legal context further, in 2005 the Washington State Supreme Court held that the Growth Boards do not have the legal authority to set “bright line” rules that are not contained within the GMA. The Court also suggested that local conditions, such as the existence of private covenants restricting density, could be taken into account by local governments in planning under the GMA. In March 2006, a King County Superior Court judge cited this Supreme Court ruling in voiding a Central Board decision against the City of Normandy Park, where the City had adopted a GMA plan that retained the existing zoning, which is generally well below four units per acre. Judge Bruce Hilyer found that, both under the Supreme Court case and under his own independent reading of the GMA, Growth Boards do not have the authority to impose “bright line” rules of their own construction, heightened scrutiny tests, or uniform minimum residential densities. Judge Hilyer emphasized that under the GMA, deference must be given to a local government’s decision regarding appropriate urban densities, based on local circumstances. The fact that the City’s plan met its growth allocations and that the City had no UGA for expansion appear to have been among key factors in the Normandy Park case.

Several parties have appealed and asked the Supreme Court to accept direct review of Judge Hilyer’s decision. Some have disagreed with Judge Hilyer and argued that, because *Viking* was not strictly speaking a GMA case, the Supreme Court’s statements cannot be relied upon in GMA planning. Thus, it is not absolutely certain what criteria might be applied to judge the validity of

Woodinville’s R-1 zoning, should it be challenged to the Central Board or the courts. It is worth noting, however, that the GMA provides for a “broad range of discretion” in local planning. The Act’s housing goal promotes “a variety of residential densities and housing types, and encourage[s] preservation of existing housing stock”(RCW 36.70A.020(4)). The Act also calls for housing elements in local Comprehensive Plans that ensure “the vitality and character of established residential neighborhoods” (RCW 36.70A.070(2)).

While there may be less certainty about urban and rural densities, the GMA goals that must be balanced remain. By reviewing a range of important planning issues—environmental, neighborhood character, transportation, and capital facilities—the City intends to achieve a balance of GMA goals appropriate to local conditions in Woodinville.

Growth Targets

In addition to meeting GMA goals, the City must plan for its fair share of population growth in accordance with GMA provisions. Under the King County population allocation process performed under the GMA, the City of Woodinville is required to provide as many as 1,869 new housing units by December 31, 2022. The City has already accommodated 448 housing units in the 2001 to 2005 time period (and an additional 37 net new units in 2006), leaving it with a housing allocation balance of 1,421 housing units (see Table ES-1). In an extensive public process, the City has strategically evaluated where and how it could locate its population growth with the goal of preserving its woodland community character. The City did this through creation of the downtown CBD, which allows a base density of 36 units per acre, up to a maximum of 48 units per acre. With development standards that encourage high-density housing and transit-oriented design. Further, the City also includes mixed-use development as an option in its Tourist Business (TB) zone where residential units can help create a vibrant community center among the City’s wineries and other tourist destinations.

Table ES-1. Housing Allocation Capacity

Housing Allocation and Permits Issued	Housing Units
2001 - 2022 Housing Allocation	1,869
2001 - 2005 Housing Permits Issued	-448 ¹
Housing Allocation Surplus	1,421

¹ Includes both Residential Zone Projects and known Commercial Zone Projects

Buildable Lands

The City’s 2007 Buildable Land Analysis conducted as part of the City’s 5-year review shows that the City has sufficient capacity under its current zoning to accommodate at least 2,139 new housing units. The City is likely to accommodate many of the remaining 1,421 dwelling units it needs to meet by the end of 2022 within its Town Center and Tourist Business neighborhoods,

where as many as 708 dwelling units are proposed in planned developments (though not permitted).

An analysis of the 2007 buildable lands data compared to developments in the pipeline indicates that the City has likely underestimated its mixed-use zoning capacity. A current development proposal in the TB zone is expected to bring approximately 250 new housing units into the City, approximately 161 more housing units than anticipated in this zone as part of the 2007 buildable lands analysis. Based upon this identified additional capacity, it is likely that the City has approximately 902 housing units as an allocation surplus, allowing the City to meet its 2022 growth target and future growth targets as well (see Table ES-2). Therefore, it appears that protecting critical areas and other important features in the study area can occur consistent with the City’s ability to accommodate current and future growth forecasts.

Table ES-2. Housing Capacity

Housing Capacity	Housing Units
Current Housing Unit Capacity per 2007 Buildable Lands	2,139
Current Housing Capacity (Unit Capacity - Vacancy Rates) per 2007 Buildable Lands	2,073
Additional Capacity Identified in Development Pipeline in TB zones	+250
Housing Allocation Balance	-1,421
Minimum Land Capacity beyond 2022 Target	902

Affordable Housing

As part of creating a comprehensive plan that accommodates overall growth targets, the City provides a variety of housing choices and accommodates affordable housing. Present zoning encourages high-density housing and transit-oriented design in the Town Center neighborhood, as well as detached dwellings, accessory dwelling units (ADUs), and other dwelling types in the balance of the city. From available evidence, the City’s mixed-use and multi-family residential zones are the areas where the City has the greatest chance of providing affordable housing to meet its goals. Attached housing is promoted in the City’s Town Center neighborhood where services and infrastructure are also concentrated. Future sources of City contributions to affordable housing could be Community Development Block Grant (CDBG) funds, general funds, fee waivers, incentives, or other types of contributions that may be reflected in budgets or other programs.

Whether the study area would be designated R-1 or R-4 densities, it is likely that single-family development at either density would not be affordable based on the information reviewed in Chapter of this report. This condition would likely be the same for other R-4 locations in the City.

In terms of affordability in the R-1 areas, one of the City’s best opportunities would be to promote ADUs that the City already allows. An inventory of ADUs in the City and a program to promote additional ADUs could be appropriate. The City may consider adopting a program similar to Mercer Island’s efforts to promote ADUs.

To strengthen Woodinville’s efforts in the Town Center neighborhood, a link between the R-1 study area and the CBD and/or Tourist Business District (TBD) zone could be made through amendments to the City’s transfer of development rights (TDR) program to promote density transfers from the R-1 zone to the Town Center neighborhood. In addition, completion of the City’s Downtown/Little Bear Creek Corridor Master Plan would help guide growth in the City’s downtown, continued regional coordination on affordable housing programs through A Regional Coalition for Housing (ARCH) and CDBG programs, added fee incentives or budget resources, and continued progress on Housing Element implementation strategies will help the City achieve its goals for growth management, housing variety, and affordable housing.

Public Participation

Another GMA goal involves ensuring public participation. To that end, a citizen’s advisory panel (CAP) was appointed. In addition, the Planning Commission conducted meetings. As of August 3, 2007, the following meetings have been conducted and/or planned:

CAP Meetings

Phase 1

- July 12, 2006: Discussion of Issues and Scope of Work; Develop Tentative Meeting Schedule
- July 19, 2006: Introduction of Subject Experts; Technical Expert Presentations; Stormwater, Hydrogeology, Limnology, Other
- August 2, 2006: Legal Issues; Technical Experts Continued; Data Needs; Critical Areas Definitions; Goals Discussion
- August 23, 2006: Goals Discussion; Data Needs; Critical Areas; Neighborhood Character
- September 6, 2006: Discussion of One Sentence Purpose of Being a Member; Continuation of Goals Discussion
- September 14, 2006: Continuation of Goals Discussion
- September 19, 2006: Continuation of Goals Discussion
- October 12, 2006: Environmental Studies Presentation, Consultants; Miscellaneous; Continuation of Goals Development; Transportation Issues Mailed

- November 15, 2006: Draft Environmental Report Presentation; CAP Final Goals and Policies Recommendation
- December 27, 2006: Draft Environmental Report Status; Housing-Neighborhood Character Study; Comp Plan and Regulatory Amendment Strategies
- January 3, 2007: Draft Environmental Report Status; Housing-Neighborhood Character Study; Comp Plan and Regulatory Amendment Strategies
- January 10, 2007: Open House Sustainable Development
- January 18, 2007: Open House Sustainable Development: ·Schedule of Sustainable Development Project: Housing-Neighborhood Character Study: Other Reports of Project
- January 24, 2007: Review Draft Sustainable Development Report with Consultants
- January 30, 2007: Review Draft Sustainable Development Report

Phase 2a

- May 31, 2007: Kick-off Meeting, Discuss Subjects to Be Covered in Phase 2a
- June 7, 2007: Neighborhood Character and Socio-Economic Factors
- June 12, 2007: Neighborhood Character Field Trip
- June 26, 2007: Neighborhood Character Discussion, Residential Zone Purpose Statements
- July 10, 2007: Affordable Housing, Covenants, Conditions & Restrictions (CCC&R) Research, Low Impact Development
- July 12, 2007: Transfer of Development Rights, Wetlands, Wildlife Corridors
- July 17, 2007: Hydrogeologic, Surface Water, Buildable Lands and Affordable Housing
- July 24, 2007: Follow-up and Summary of Subjects Covered Previously
- July 26, 2007: Potential Code Amendment Chapters of Preliminary Draft Sustainable Development Study; Continuation of Summary Discussion
- July 31, 2007: Neighborhood Character, Potential Code Amendments, and Environmental Chapters of Preliminary Draft Sustainable Development Study
- August 2, 2007: Executive Summary; Follow-up on Geologic Hazards; Options

Planning Commission Meetings

Phase 1

- June 7, 2006: Appointment of CAP Members

- August 16, 2006: Status Report on Environmental Studies
- September 20, 2006: Status Report on Sustainable Development
- November 15, 2006: Joint Meeting With CAP and Consultants Re: Environmental Report
- January 3, 2007: Comprehensive Plan, Zoning Code, and Regulatory Amendment Proposal Discussion
- January 18, 2007: Open House Sustainable Development
- January 24, 2007: Joint Meeting with CAP and Consultants; Review Draft Sustainable Development Report
- January 31, 2007: Public Hearing
- February 14, 2007: Public Hearing and Deliberation

Phase 2a

- August 8, 2007: Study Session on Phase 2a
- August 15, 2007: Study Session on Phase 2a
- September 5, 2007: Public Open House and Study Session on Phase 2a
- September 19, 2007: Public Hearing

The City Council is conducting additional public meetings through the Fall of 2007. Please see <<http://www.ci.woodinville.wa.us>> for more information.

Analysis

Table ES-3 outlines the reports prepared and used for this study. Each report is summarized below and in Table ES-4. In addition, each report is provided as a chapter that follows this Executive Summary.

Table ES-3. Report Preparation Matrix

Attachment	Report Name	Prepared By:
Chapter 1: Environmental Report	City of Woodinville Sustainable Development Project: R-1 Area Environmental Report	Jones & Stokes, Steward & Associates, and City of Woodinville
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Chapter 8: Other Information/Errata	Reserved for added or corrected information by various authors as appropriate	Various Authors

Environmental

The Environmental Report (Chapter 1) evaluates whether there are critical areas—including wetlands, fish and wildlife habitat conservation areas, geologically hazardous areas, and critical aquifer recharge areas—in or adjacent to the current R-1 zone that meet the *Litowitz* test and if so, how they could be affected by different zoning densities. Concurrently, the report evaluates how the function of critical areas may be impacted by development occurring outside of those critical areas, and whether low density may help to minimize such impacts. The report also addresses

options for the City to meet its overall environmental goals in this zone under a variety of densities, from R-1 to R-4. The areas studied include six drainage basins shown in Figure ES-2: Lake Leota Basin; the School Basin; the part of the R-1 zone that drains to Daniels Creek; the upper Woodin Creek Basin; the Hillside Drainages along the slopes of the northwest section of the zone; and the Golf Course Basin in the far northwest corner of the zone.

The data collected for this study have been used to determine a broader planning level analysis that identifies whether different zoning densities could improve the protection of important critical areas in the city. It is important to note that this study evaluates environmental issues at a planning level. This report recognizes that, consistent with the GMA, any future developments would be required to protect critical areas on their sites through the provisions of the Critical Areas Ordinance (Woodinville Municipal Code [WMC] 21.24) and the Stormwater Manual (WMC 14.09), e.g., protective buffers, detention and discharge to safe locations. However, this report also finds that even for limited areas where density greater than R-1 might be considered, protection of critical areas cannot confidently be secured at an R-4 (or greater) density. Although in principle the ecological and hydrologic impacts of greater density can be minimized via measures such as low impact development (LID), such measures have not been found to fully compensate for the associated impacts. Moreover, there is currently no regulatory process in place to designate appropriate minimization measures, let alone to ensure that such measures would be appropriately and fully implemented.

In summary, four critical areas have been identified as meeting the *Litowitz* test. These include Cold Creek Springs, Lake Leota, Cottage Lake, and a Snohomish County wetland complex just north of the R-1 zone, which would likely be rated a Category I wetland by Department of Ecology standards. These aquatic resources are all highly dependent on properly functioning headwater hydrologic systems to maintain water quantity and quality. These surface waters, in turn, service ecosystems that meet the *Litowitz* criteria. Cold Creek Springs is critical to maintenance of lower Cold Creek, downstream of the R-1 zone as habitat for a federally threatened population of Chinook salmon. Maintaining the viability of Cold Creek Springs, via maintenance of the headwater hydrologic system, is identified as a near-term goal in the federally approved recovery plan for the Chinook salmon.

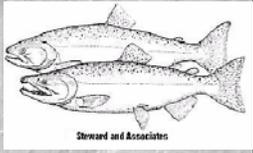
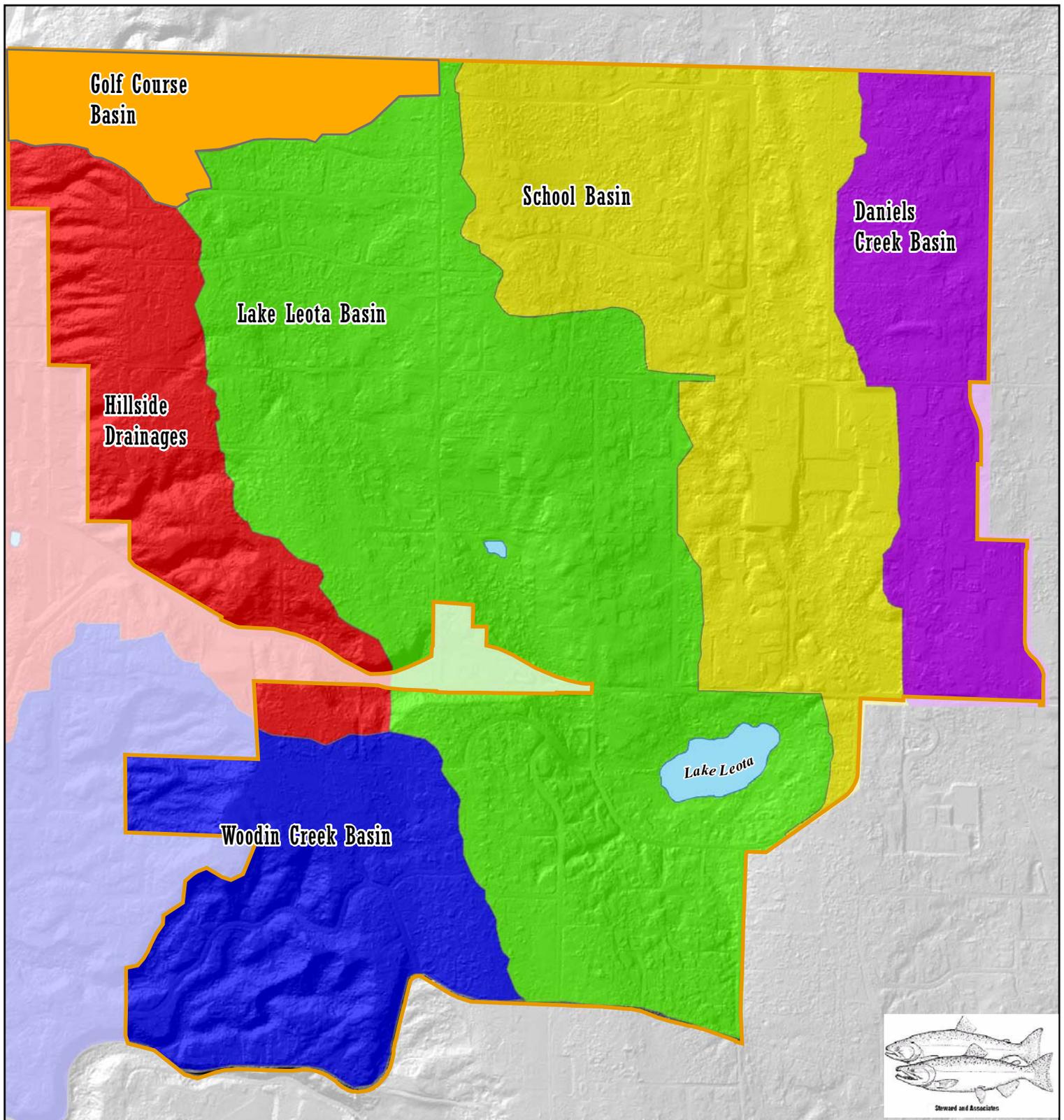


Figure ES-2. Woodinville Drainage Areas

September 12, 2007

Drainage areas

- | | |
|---|--|
|  Hillside Drainages |  Woodin Creek Basin |
|  School Basin |  Lake Leota Basin |
|  Daniels Creek Basin |  Golf Course Basin |

-  R-1 boundary
-  Waterbodies



Lake Leota is significant as the only lake in Woodinville, and is at high risk of water quality impairment caused by development pressures. Cottage Lake is under a Total Maximum Daily Load limitation imposed by the Washington Department of Ecology, which identifies stormwater contributions from Daniels Creek as a major source of nutrient inputs that have degraded water quality in the lake. Therefore, urbanization in the Daniels Creek Basin has a high risk of increasing stormwater yield and phosphorus discharges to Daniels Creek, exacerbating existing water quality problems in Cottage Lake. The Snohomish County wetland complex is also vulnerable to water quality and quantity issues that would likely result from higher intensity development in the R-1 zone.

Taking into account that individual developments are required to protect on-site critical areas such as streams, wetlands, steep slopes, aquifer recharge areas, and others by complying with the Woodinville Municipal Code, Critical Areas Ordinance, Chapter 21.24, this study determines that maintenance of low density (e.g., R-1) is an important and valuable tool in the effort to maintain or improve conditions in vulnerable critical areas and is recommended for the School, Daniels, and Leota basins. Other tools might also be considered and adopted, including providing sewerage for new development, new requirements for retention or increase in effective forest cover, and implementation of LID measures that are sufficiently stringent to maintain existing volumes of precipitation infiltration to groundwater. If such measures were developed, adopted, and effectively and stringently implemented, higher-density (not to exceed R-4) development might be accommodated in the R-1 zone without significantly increased impairment of the Cold Creek Springs, Lake Leota, Cottage Lake, and Snohomish County wetland complex critical areas. However, there are several reasons why this outcome is unlikely:

- Sewerage alters local hydrology in complex ways and is likely to result in at least local reductions in infiltration to groundwater.
- Reestablishment of forest and forest soils is a process that takes decades and therefore has limited potential to mitigate development impacts that happen in a space of months or years.
- A LID ordinance may or may not fully compensate for the hydrologic and ecological impacts of development. Such ordinances are difficult to properly implement and enforce, and rely on technology-intensive solutions that require an appropriate level of long-term maintenance (see Perteet’s detailed LID discussion in Appendix 1D-1 of Chapter 1 for details).

These reasons lead to the conclusion that effective, long-term protection of the high-value critical areas named above is best served by retention of R-1 zoning in the basins serving those critical areas.

In the Upper Woodin Creek Basin in the southwestern portion of the R-1 zone, the Environmental Report identifies geologic hazard areas that require specific engineering and geotechnical protection. Where appropriate, careful use of LID (which, if inappropriately constructed, could destabilize hazard areas) could also provide beneficial effects. In the Golf Course Basin and the Hillside Drainages Basin (which ultimately flow to Little Bear Creek), and in the Upper Woodin

Creek Basin, the Environmental Report recommends tightlining stormwater in fuse-welded pipe (e.g., high-density polyethylene pipe) near geologic hazards to below areas of instability.

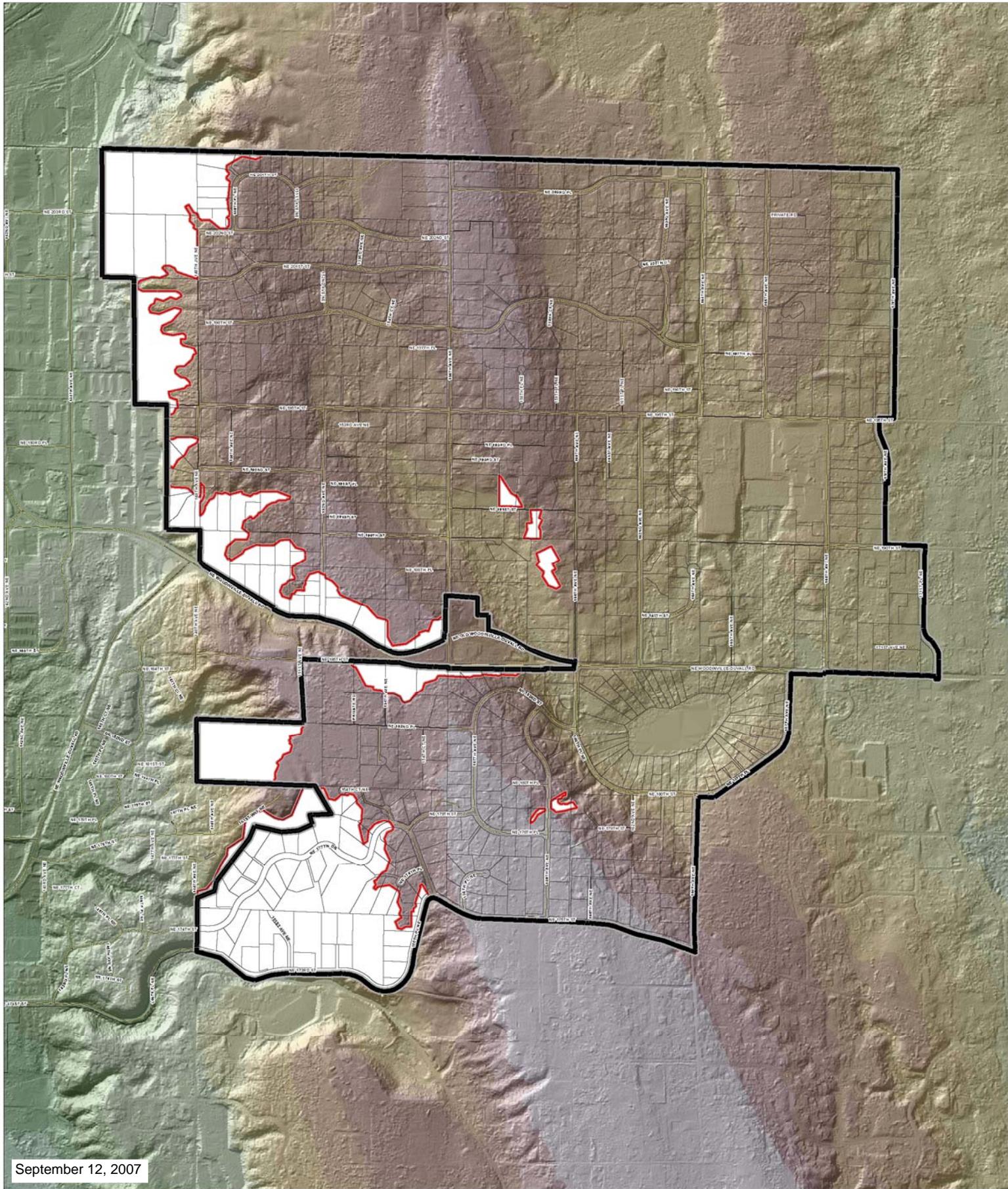
The Environmental Report also includes a hydrogeologic modeling of a worst-case scenario to determine how the geologic hazards in both of these areas may be affected by stormwater infiltration and what setback would be required if the worst case actually existed. Such infiltration might provide benefits to Lake Leota but could increase potential threats to these hazards. The southwest portion of the Upper Woodin Creek basin has complex, steep terrain that would best be served by lesser density, but the upper flatter portion of the basin could allow for greater density. (See Figure ES-3 for a topography map based on LIDAR (light detection and ranging) imaging; note that the red boundary identifies the areas of 15% slopes or greater.)

Neighborhood Character

Based on urban design principles, 12 theoretical neighborhoods were identified and evaluated for distinct neighborhood characteristics in the Neighborhood Character in the R-1 Zone Report found in Chapter 2. These conceptual neighborhoods are identified on Figure ES-4 and below:

- **Northwest Wellington.** The neighborhood is heavily wooded, has excellent spatial order and building texture, cohesive circulation, and is visually cohesive in terms of buildings, block patterns, and streets that together crisply define neighborhood boundaries.
- **Southwest Wellington.** Accessibility and lot configuration largely define this neighborhood. External access is limited, which makes for an enclave-like place. The wooded setting adds immensely to a sense of place.
- **North Wellington.** With few exceptions, this neighborhood is defined by its location in a physiographic plain and by the degree of road connectivity. External accessibility also defines boundaries and encloses the neighborhood.
- **Central Wellington.** There is only one major access into this neighborhood, NE 195th Street. Other minor roads connect from different directions and are closed off or dead end. Central Wellington is somewhat more defined by adjacent neighborhoods than it is unto itself.
- **South Wellington.** This area is commonly accessed off of 156th Avenue NE. It contains many unimproved or private roads that are the result of short plat activity. Its boundaries, similar to those of Central Wellington, are easily defined by adjacent neighborhoods.
- **Northeast Wellington.** This is a neighborhood defined primarily by the constricted nature of access. There is only one way in and one way out via 168th Avenue NE. It is further isolated by school property occupying the major portion of its southern extremity.

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Figure ES-3. 2004 Topography of the City of Woodinville, Revision 2
 Lidar Source: King County
 Identifies Slopes Greater than 15% in R-1 Study Area



Legend

	Parcel		54 - 97		218 - 257		362 - 397		517 - 581
	R1 Zoning Boundary		98 - 139		258 - 295		398 - 432		
	Steep Slope Area		140 - 177		296 - 328		433 - 470		
	15 - 53		178 - 217		329 - 361		471 - 516		



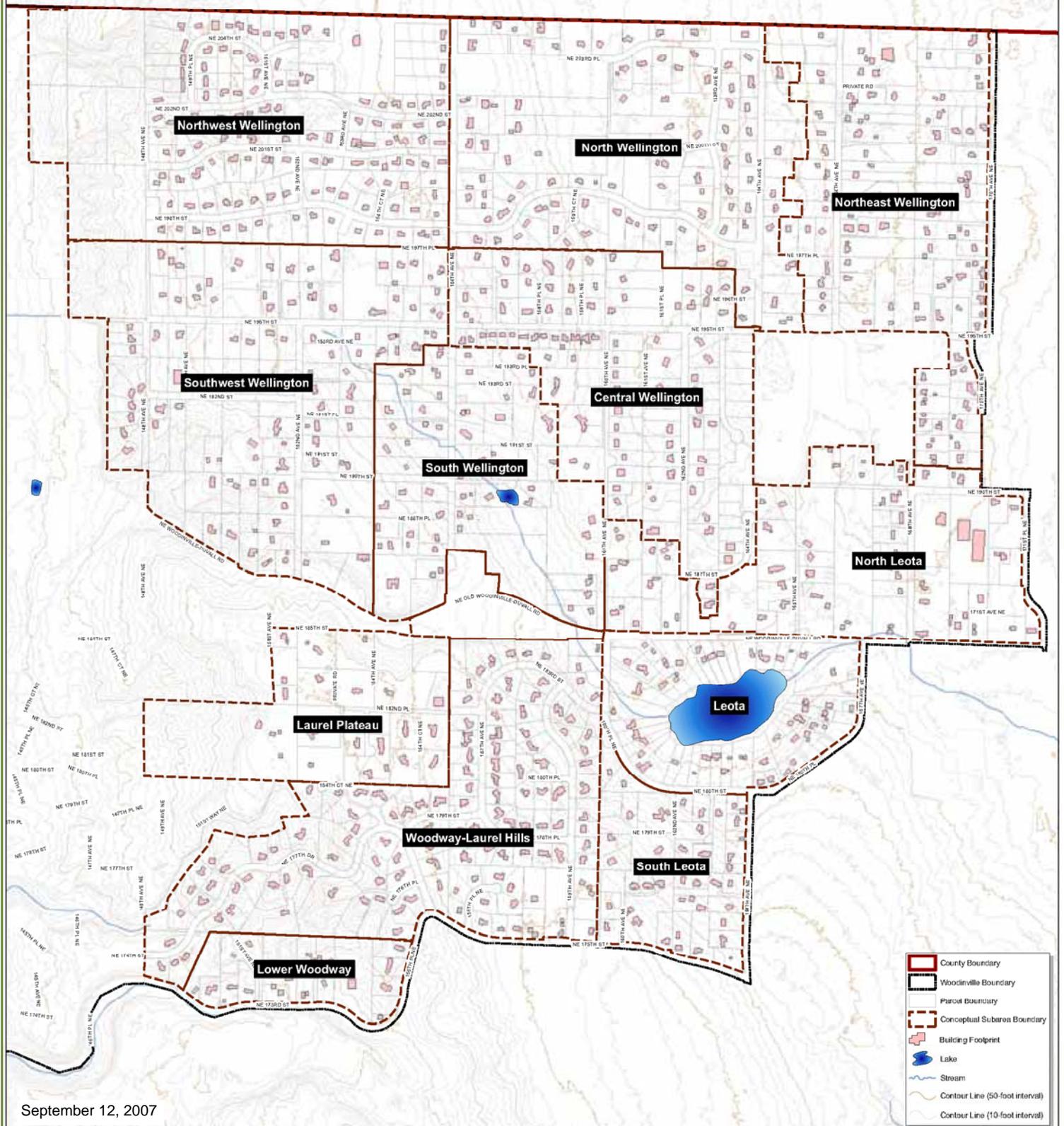
NO.	DESCRIPTION BY VERSION	DATE	BY
1	Final Issue	09/26/07	AK
2	Revised	09/27/07	AK
3			
4			
5			

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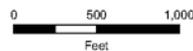
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Figure ES-4. Conceptual Subareas



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- **North Leota.** North Leota is characterized by its adjacency to Woodinville-Duvall Road and by its broad range of lot sizes. There is no connectivity in any sense of the term, but this neighborhood occupies the greatest extent of the Leota outwash plain niche.
- **Leota.** This neighborhood is the best defined in the study area. Common views, common access, lot configuration enclosure, and wooded nature make this one of Woodinville’s most distinct places.
- **South Leota.** This is a well-defined neighborhood, all on an even grade, facing northeast, shaded in the afternoon, wooded slope. Political boundaries and transportation network provide strong elements to boundary definition.
- **Laurel Plateau.** Terrace-flat topography defines this neighborhood. Steep slopes and formal subdivision boundaries confine this area into one neighborhood.
- **Woodway-Laurel Hills.** This neighborhood predominantly consists of two formal subdivisions that have similar street networks and topography. Ridge and slope topography characterize its common physiographic niche, and its richly manicured landscape amidst tall woods creates a common definitive sense of place.
- **Lower Woodway.** This neighborhood located in the southwest fringe of the study area has common access off of NE 173rd Street. Steep slopes are common throughout. Its identity is defined by its adjacency to its neighbor and by its isolation because of topography and access limitations.

Each neighborhood was evaluated by methods of character identification that included visual surveys and overlay mapping iterations of human-made, physical, and environmental phenomena. See the Neighborhood Character Report (Chapter 2) for details. This analysis was performed with the intent of identifying neighborhood character and validating its importance as a vital element in certain neighborhoods of Woodinville. As part of the Phase 2a review and analysis of Neighborhood Character, the threshold for identifying neighborhoods with high character was modified to allow all those that received high or medium ratings in seven of the 12 categories used in the neighborhood character analysis.

Based on the evaluation, the Neighborhood Character report identifies six neighborhoods with distinctive character that could be diminished if redevelopment occurred within them at different than existing densities, whether lower or higher:

- Northwest Wellington
- Southwest Wellington
- North Wellington
- Leota
- South Leota

- Woodway-Laurel Hills

These six neighborhoods were recommended to receive “neighborhood character recognition” through maintaining existing common density in the neighborhood.

Covenants, Conditions, and Restrictions

The City also commissioned research and analysis of subdivisions with CC&Rs within the study area. According to the list prepared by city staff, the study area contains portions of 20 recorded plats that include five lots or more (see Figure ES-5). These plats were reviewed for the presence of CC&Rs intended to establish or protect neighborhood character. Twelve subdivisions were identified as possessing CC&Rs intended to preserve the character of the neighborhood. These subdivisions included:

- Ten subdivisions contain architectural standards that require buildings and additional construction to be reviewed and approved by an architectural control or design committee.
- Four contain provisions allowing the presence of non-commercial equestrian activities.
- Seven restrict the removal of trees above a certain size in certain locations.
- Two prohibit the future subdivision of lots.
- One contains special protective measures designed to maintain the environmental quality and beauty of Lake Leota.

This analysis also included a review of whether subdivision CC&Rs caused a direct or indirect obstacle to further subdivision. Direct obstacles to subdivision are those CC&Rs that specifically address the ability of owners to subdivide their lots or construct buildings on those subdivided lots. Indirect obstacles to subdivision are those CC&Rs that do not directly deal with subdivision of lots, but may, in combination with each other, create difficulties such as approval requirements for actions that would be taken in connection with subdividing individual properties.

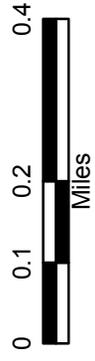
Based on this analysis, future increases in density through rezoning of portions of the study area have a potential to cause conflicts with the subdivisions of Woodview Crest, Woodway Country Estates, and Wellington Hills Estates. All are located within neighborhood subareas identified as having high neighborhood character association in the Neighborhood Character report. Similarly, due to concentrations of indirect obstacles, the subdivisions of Beverly Hills Estates, Laurel Hills, Nolan Woods, and Wellington may also experience conflicts, though perhaps to a lesser degree. The City has no obligation to enforce private covenants or prevent violation of them. However, it would be counterproductive to designate areas for a higher density where perpetual covenants make achievement of that density unachievable in the foreseeable future. Of these four subdivisions, only Beverly Hills Estates and Nolan Woods are not located within a neighborhood identified as having high neighborhood character association.

Figure ES-5a shows subdivisions with CC&Rs overlaid on neighborhoods of higher order.

Fig. ES-5. All Subdivisions Reviewed.

Legend

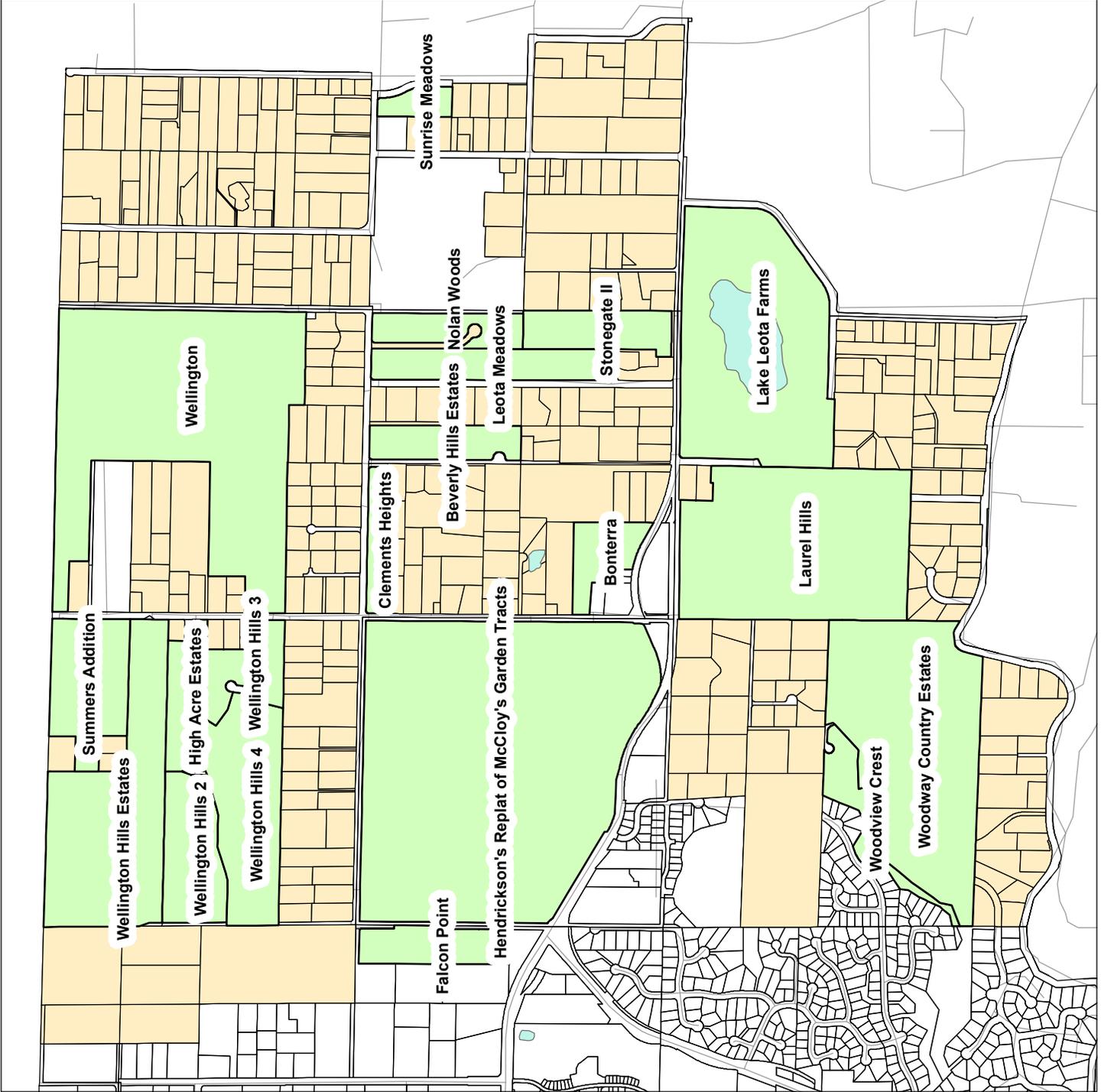
- Water Body
- Plats Reviewed
- R-1 Study Area
- Parcels



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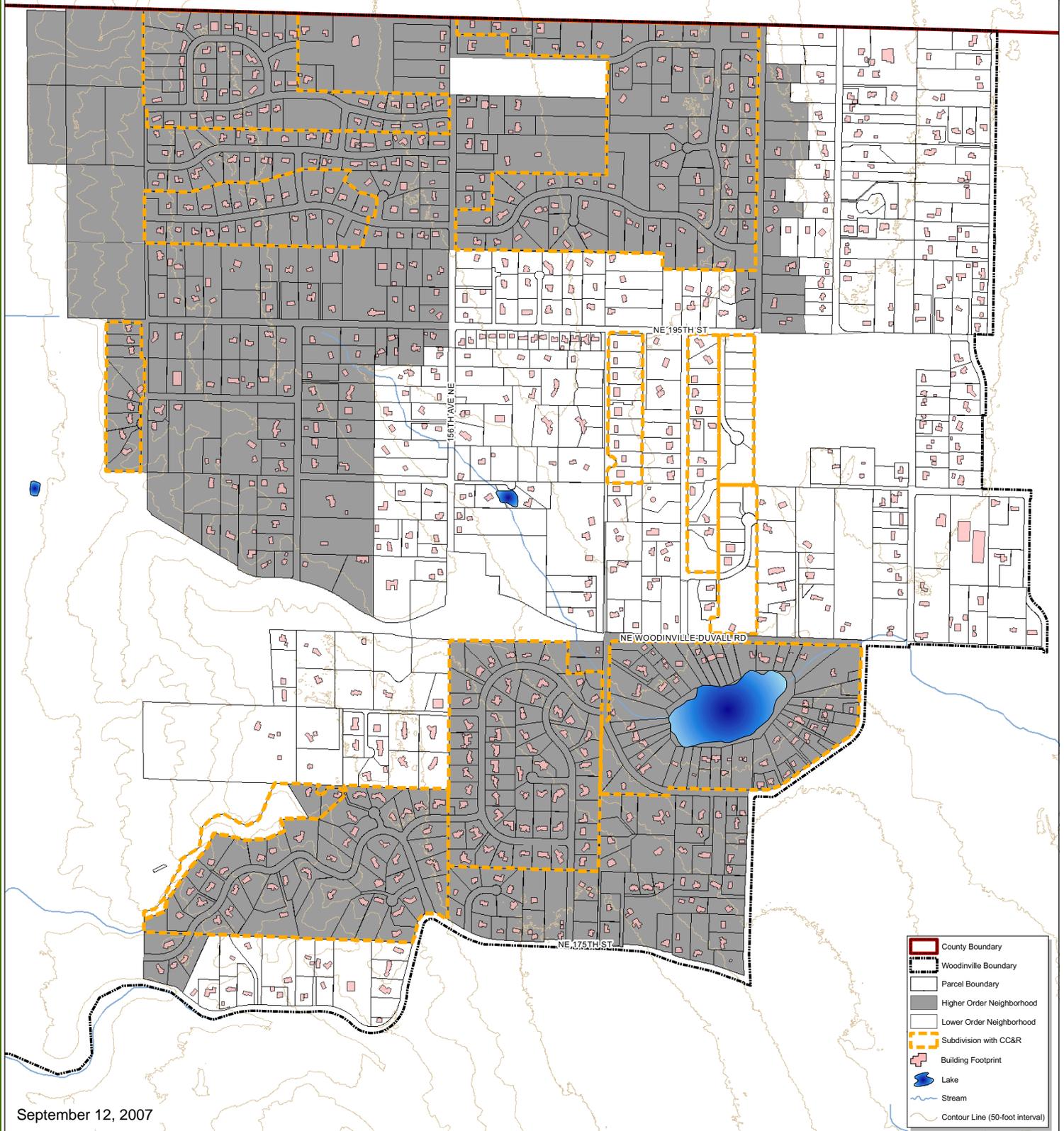


Jones & Stokes



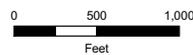
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Figure ES-5a
Subdivisions with CC&Rs overlaying
Neighborhoods of Higher Order



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The neighborhood analysis concluded that neighborhood character has an important place along with environment, transportation, and capital facilities in the Woodinville R-1 Area. Six neighborhood subareas were identified as having high neighborhood character by the original Neighborhood Character analysis. The conclusions derived from the neighborhood character study were supported by research and analysis of CC&Rs for plats located within the study area. This analysis revealed that there is a correlation between several of the neighborhoods identified as having high character association, and those with subdivisions containing CC&Rs intended to preserve and maintain a neighborhood character, or that directly or indirectly prevent further subdivision.

Transportation

The R-1 study area was reviewed for transportation conditions (see Chapter 3). Results show the majority of the roadways within the R-1 zone were developed under King County prior to the City's incorporation. With the exception of newer roads constructed under the City's design requirements, the local streets in the R-1 zone do not meet the City's road cross-section standards. Under the Fire Department Access standard, requiring a minimum paved width of 20 feet, only a few short sections of roadways do not meet this standard.

Future road improvements for the arterial and collector classified roads have been identified in the City's long-range capital improvements program (CIP) and will be systematically reviewed and considered for improvements. It is likely improvements will be performed in several phases along each of these classifications of roadways and as need dictates and development warrants. On local streets, these are likely to occur under special projects (such as a special district for sidewalks) or under development mitigation.

The 156th Avenue NE corridor in the R-1 area was used to review operational projections for level of service (LOS) at public road intersections. Using a very conservative traffic circulation model (with 50% of the existing R-1 zone redeveloping at a higher density, an annual growth of 2.5%, and assuming no road improvements) the analysis identified two intersections that would exceed the City's adopted LOS E by 2028. At both locations, the LOS could be brought back into compliance with widening improvements within the existing public right-of-way. The analysis assumptions included the Institute of Transportation Engineers (ITE) Trip Generation manual, 7th edition (2001). It is an international guideline used by traffic engineers and other professionals who are responsible for meeting mobility and safety needs.

For vehicle capacity, both the City's "Low-Density" and "High-Density" road standards, provide the same vehicle trip capacity. If additional capacity were needed, due to physical restrictions within the roadway (such as the need to address a narrow road section), adequate right-of-way currently exists to allow for any needed improvement to address deficiencies.

Several local streets and one minor arterial have been identified with vertical sight distance conditions. These instances are under review by the City for possible mitigation measures. Road grades within the entire R-1 zone are all within the City’s acceptable standards (under 15%).

Pedestrian and bike facilities are very limited within the entire R-1 zone area. Only Woodinville-Duvall Road has designated shared pedestrian and bike facilities along both sides of the roadway. Most of the developments following incorporation of the City (in 1993) do provide pedestrian facilities. However, these comprise a very small portion of the R-1 zone. Of the remaining streets, it is estimated that less than 20% have any type of pedestrian facility and travel by non-motorized means must utilize the edge of the pavement or shoulder area.

In summary, transportation conditions can be mitigated under different densities, and transportation is not a distinguishing factor in the R-1 study. However, one area in the southwest portion of the Upper Woodin Creek Basin with particularly difficult terrain for transportation improvements may be a candidate for less density (Monken pers. comm.).

It is important to note that the Transportation Chapter of the Sustainable Development Study is unchanged since February 2007. However, additional analyses will be conducted as part of Phase 2b of the Sustainable Development Study. These analyses will examine impacts on the transportation system from development outside the city limits, as well as identifying and estimating costs for future transportation improvements, among other things.

Capital Facilities

A range of capital facilities and services are evaluated in the Capital Facilities report (see Chapter 4). Results are similar for all R-1 zoned areas for police and fire services, schools, and water services. Differences are found in relation to sewer services as described below.

- **Police and Fire Services.** Projected increases in housing units due to zoning ranging from R-1 to R-4 would not affect response time for the police and fire service providers. Population and housing increases may require additional personnel and facilities (vehicles), but response time is not expected to be affected by increases in density, unless access is restricted.
- **Schools.** Student populations are currently in decline and excess capacity exists in the R-1 area; therefore, increasing density would not affect schools.
- **Water.** Increases in R-1 area zoning to R-4 on buildable parcels, would result in an increase in demand for 357,452 gallons per day per capita in the entire study area, considered by Water District officials to have no major impact to the current capacity of supply or facilities.
- **Sewer.** The western portion of the R-1 zone has gravity access to the existing sewer facilities and is physically better suited for R-4 zoning. The eastern area of the basin is more difficult to serve due to severe grade changes that would involve pump stations and major expenses. The Capital Facilities report indicates that the eastern portion is better suited for lower

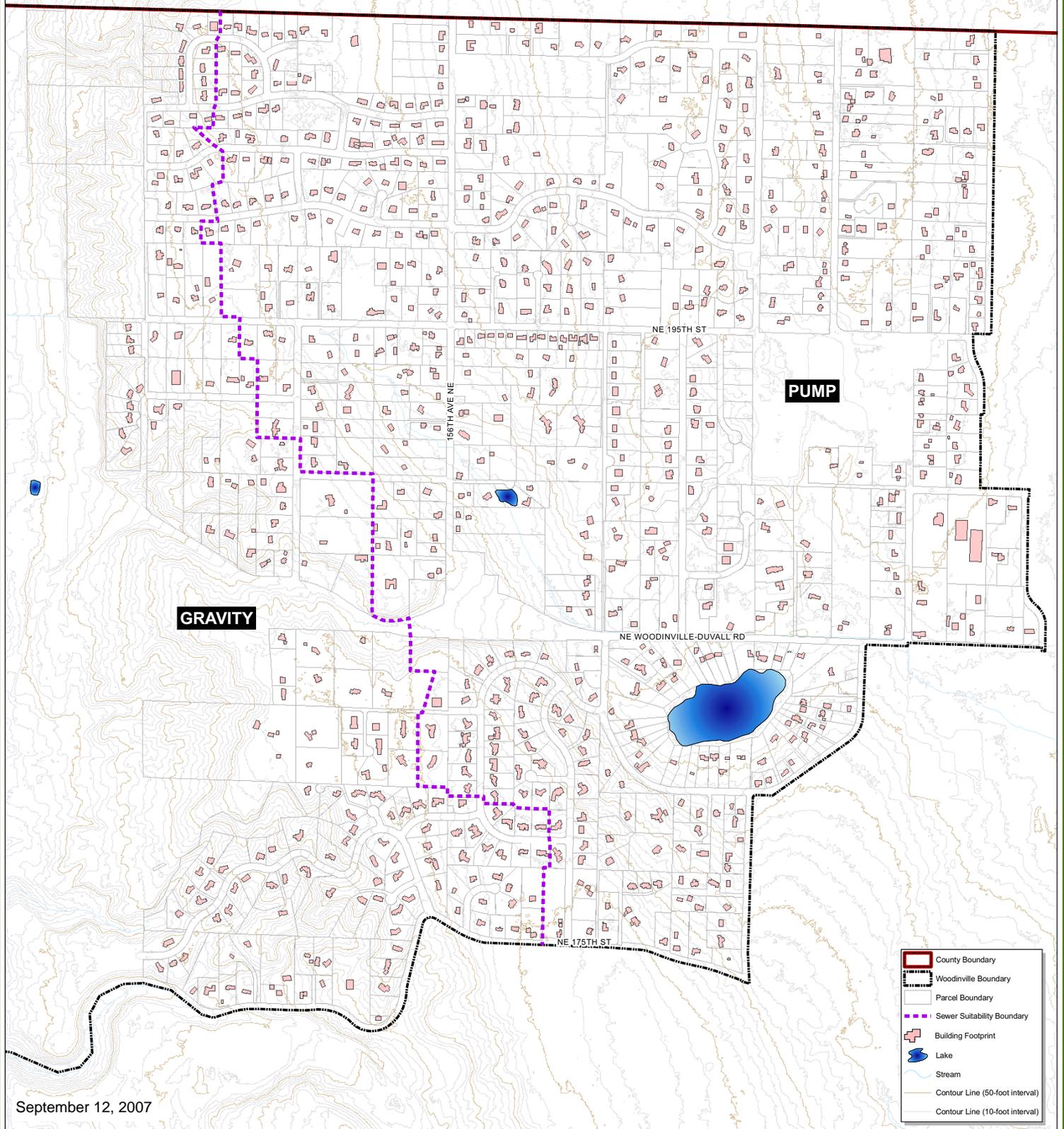
densities only as it relates to sewer until such time as sewer facility economics becomes feasible. Figure ES-6 identifies the “break” between the areas more easily served by sewer than those areas less easily served at the present time.

Overlay of All Study Topics

Based on each individual study topic, the following results were found:

- **Environmental:** We identify four critical areas as meeting the *Litowitz* test. These include Cold Creek Springs, Lake Leota, Cottage Lake, and a Snohomish County wetland complex just north of the R-1 zone. These aquatic resources are all highly dependent on properly functioning headwater hydrologic systems to maintain water quantity and quality. These surface waters, in turn, service ecosystems that meet the *Litowitz* criteria. Taking into account that individual developments are required to protect on-site critical areas such as streams, wetlands, steep slopes, aquifer recharge areas, and others by complying with WMC Critical Areas Ordinance, Chapter 21.24, this study determines that maintenance of low density (e.g., R-1) is an important and valuable tool in the effort to maintain or improve conditions in vulnerable critical areas. Other tools might also be considered and adopted, including providing sewerage for new development, new requirements for retention or increase in effective forest cover, and implementation of LID measures that are sufficiently stringent to maintain existing volumes of precipitation infiltration to groundwater. If such measures were developed, adopted, and effectively and stringently implemented, higher density (not to exceed R-4) development might be accommodated in the R-1 zone without significantly increased impairment of the Cold Creek Springs, Lake Leota, Cottage Lake, and Snohomish County wetland complex critical areas. However, due to the complex alterations to local hydrology resulting from sewerage, the limited impact that long-term reestablishment of forest and forest soils has to mitigate development, and the difficulty of properly implementing, enforcing, and maintaining LID in the long term, these measures are unlikely to sufficiently offset impacts of higher density development.

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Figure ES-6.
Gravity Flow Sewer Area and Pump Flow Sewer Areas

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Feet



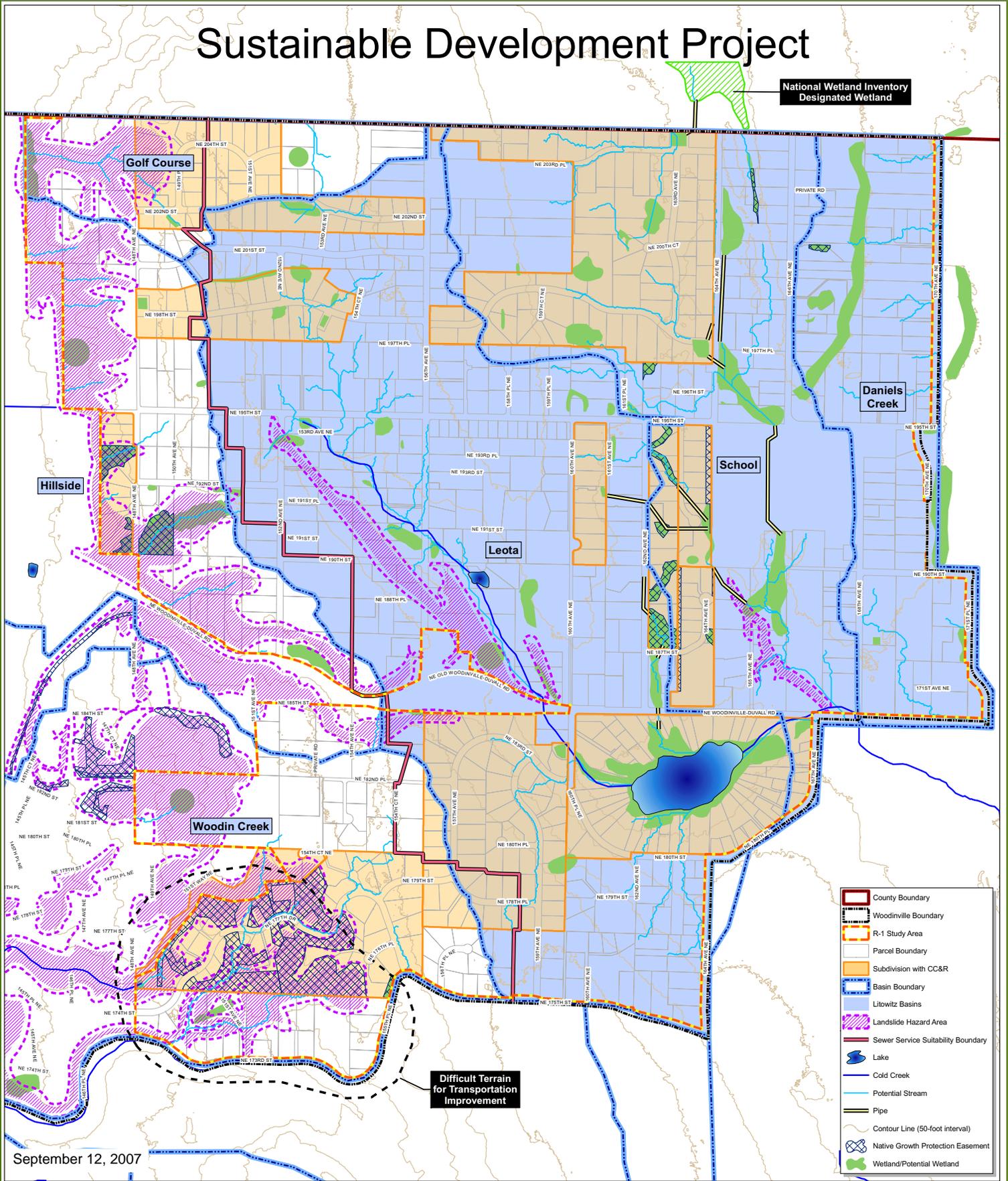
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- **Neighborhood Character:** Based on the evaluation, the Neighborhood Character report identifies six neighborhoods with distinctive character that could be diminished if redevelopment occurred within them at different-than-existing densities, whether lower or higher. These neighborhoods include Northwest Wellington, Southwest Wellington, North Wellington, Leota, South Leota, and Woodway-Laurel Hills. These six neighborhoods were recommended to receive “neighborhood character recognition” through maintaining existing common density in the neighborhood. These neighborhoods are identified on Figure ES-4. CC&R research revealed that most of the neighborhoods that exhibited high character association as part of the neighborhood character analysis were neighborhoods with recorded CC&Rs in them that either promote neighborhood character, or include direct or indirect obstacles to subdivision. Since CC&Rs have been recognized in past growth hearings board decisions, these subdivisions have been highlighted on Figure ES-7.
- **Transportation:** Transportation conditions can be mitigated under different densities, and transportation is not a distinguishing factor in the R-1 study. However, one area in the southwest portion of the Upper Woodin Creek Basin, with particularly difficult terrain for transportation improvements, may be a candidate for less density. Figure ES-7 illustrates the portion of the Upper Woodin Creek Basin where the slope system would likely inhibit more transportation improvements.
- **Capital Facilities:** Generally, public safety (police and fire services), school services, and water services can accommodate additional growth under R-1 or R-4 densities. The western portion of the R-1 zone has gravity access to the existing sewer facilities and is physically better suited for R-4 zoning. The eastern area of the basin is more difficult to serve because of severe grade changes that would involve pump stations and major expenses. The Capital Facilities report indicates that the eastern portion is better suited for lower densities only as it relates to sewer until such time as sewer facility economics becomes feasible. Figure ES-6 identifies the “break” between the areas more easily served by sewer than those areas less easily served at the present time. Figure ES-7 also shows sewer accessibility in conjunction with the other environmental, neighborhood, and transportation conclusions.

Figure ES-7 presents an overlay map showing basin boundaries, wetlands and potential wetlands, basins found to meet the *Litowitz* test, subdivisions with CC&Rs that recognize neighborhood character or provide an obstacle to subdivision, an area where future transportation improvements would be more difficult due to complex steep slopes, and areas where sewer service is more or less accessible. This figure, which presents the convergence of subjects reviewed as part of this study, was used to help develop options presented below.

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Figure ES-7
Sustainable Development Basemap

0 500 1,000
Feet



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Table ES-4. Sustainable Development Report Summary Matrix

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
<p>Lake Leota Basin</p>	<p>Conclusions:</p> <ul style="list-style-type: none"> ▪ R-1 zoning provides substantial, long-term environmental benefits not solely achieved by requirements of the Critical Areas Ordinance. ▪ Lake Leota is a significant resource as the only lake in Woodinville. Absent special protection measures, the lake is at imminent risk of water quality degradation sufficiently severe to violate state water quality criteria. ▪ In lots adjoining Lake Leota and its marginal wetlands, increased density would yield a net environmental benefit if accompanied by the conversion of these lots from septic to sewer service. (See options under technical findings below.) ▪ Require LID as part of stormwater regulations throughout basin. <p>Technical Findings:</p> <ul style="list-style-type: none"> ▪ Lake Leota meets <i>Litowitz</i> criteria. Further impairment of water quality inputs would likely result in violation of state water quality criteria for nutrients. ▪ Lake Leota is at risk of eutrophication; which would worsen with increased development density. ▪ Lake Leota is growing shallower, becoming more polluted. ▪ Trends in lake conditions and urbanization in its watershed, pose long-term risks to the lake, Cold Creek, and the Bear Creek system. ▪ Goal: Minimize stormwater runoff to the lake. ▪ Wastewater management should be modified to reduce nutrient inputs by either repairing or replacing existing poorly functioning septic systems. This could be achieved by (i) modification of existing septic systems to avoid overflows to the lake, (ii) replacing existing systems with specialized single-home treatment systems, or (iii) installation of sewers and conveyance to a central treatment facility. ▪ Limited Steep Slopes – per mapping. ▪ Wetlands are located around Lake Leota and would likely be rated as having moderate habitat values. Some wetlands to the north of the lake drain via surface flow and subsurface pipes and discharge into a large forested wetland present within a largely undeveloped lakeside property. ▪ Wildlife – no protected species documented; many birds and mammals exist in an urban setting; proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington ◀ ▪ Southwest Wellington ◀ ▪ North Wellington ◀ ▪ Central Wellington ▪ South Wellington ▪ Leota ◀ ▪ South Leota ◀ ▪ Woodway-Laurel Hills ◀ <p>◀ = identified for neighborhood character recognition through zoning measures.</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington: The neighborhood is heavily wooded, has excellent spatial order and building texture, cohesive circulation, and is visually cohesive in terms of buildings, block patterns, and streets that together crisply define neighborhood boundaries. ▪ Southwest Wellington: Accessibility and lot configuration largely define this neighborhood. External access is limited, which makes for an enclave-like place. The wooded setting adds immensely to a sense of place. ▪ North Wellington: With few exceptions, this neighborhood is defined by its location in a physiographic plain and by the degree of road connectivity. External accessibility also defines boundaries and encloses the neighborhood. ▪ Central Wellington: There is only one major access into this neighborhood, NE 195th Street. Other minor roads connect from different directions and are closed off or dead ends. Central Wellington is somewhat more defined by adjacent neighborhoods than it is unto itself. ▪ South Wellington: This area is commonly accessed off of 156th Avenue NE. It contains many unimproved or private roads that are the result of short plat activity. Its boundaries, similar to those of Central Wellington, are easily defined by adjacent neighborhoods. ▪ Leota: This neighborhood is the best defined in the study area. Common views, common access, lot configuration enclosure, and wooded nature make this one of Woodinville's most distinct places. ▪ South Leota: This is a well-defined neighborhood, all on a hillside grade, facing northeast, shaded in the afternoon, wooded slope. Political boundaries and transportation network provide strong elements to boundary definition. 	<ul style="list-style-type: none"> ▪ North of NE Woodinville-Duvall Road (System A): Roads have asphalt pavement with some areas of gravel shoulders and a mixture of open ditch or open shoulder drainage. The layout is typically long block sections with some gentle curves. Only a very small portion of streets in this area have curb and gutter or sidewalk sections. Internal circulation is possible in the northwesterly and northeasterly neighborhoods. Some vertical sight distance conditions have been identified in this area in the northwesterly neighborhoods. ▪ South of NE Woodinville-Duvall Road (System C): The general characteristics of these roads are asphalt pavement with some areas of paved shoulders along one side and a mixture of open ditch or open shoulder drainage. No streets were identified in this area to have curb and gutter or sidewalk sections. Internal circulation is fair. No sight distance concerns have been identified in this area. ▪ Intersection LOS 156th Ave NE: 156th Avenue NE at NE 198th Street and NE 195th Street would exceed adopted levels of service. However, it is likely that the LOS can be improved by the addition of turn lanes on both the arterial and local roadways and/or by the installation of a traffic control device such as a 4-way stop. Both NE 195th and NE 198th have sufficient right-of-way to allow for the lane widening. 	<ul style="list-style-type: none"> ▪ The western edge of the Lake Leota Basin has gravity access to the existing sewer facilities and may be physically suitable for R-4 zoning. ▪ The eastern area of the basin is more difficult to serve with sewers due to its location, which would involve pump stations and major expense. The eastern portion should remain at R-1 until such time as sewer facility economics become feasible. 	<ul style="list-style-type: none"> ▪ R-1 zoning appropriate for environmental protection, and meets <i>Litowitz</i> test. LID measures, avoidance of forest cover loss, and sewerage for new development and other measures may also be appropriate. These measures would provide resource protection, but not sufficiently to offset impacts of higher density development. ▪ Six neighborhoods have high commonality and are recommended for neighborhood character recognition; the dominant density in these neighborhoods would be kept consistent. Also includes all or part of seven subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. ▪ Transportation system would be somewhat impacted with higher density, but can be mitigated. Neutral issue for zoning. ▪ Western edge of basin has greater ability to be served by sewers at R-4 densities due to gravity flow.

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
		<ul style="list-style-type: none"> ▪ Woodway-Laurel Hills: This neighborhood predominantly consists of two formal subdivisions that have similar street networks and topography. Ridge and slope topography characterize its common physiographic niche, and its richly manicured landscape amidst tall woods creates a common definitive sense of place. <p>Also includes all or part of seven subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. Identified subdivisions include Lake Leota Farms, Laurel Hills, Leota Meadows, Beverly Hills Estates, Wellington, Wellington Hills Estates, and Wellington Hills 4.</p>			
<p>School Basin</p>	<p>Conclusions:</p> <ul style="list-style-type: none"> ▪ R-1 zoning benefits Cold Creek in the same manner as in Lake Leota basin; maintaining low density in this part of R-1 Zone is as important as in Lake Leota Basin. ▪ Protection of critical areas requires adopting LID to maximize infiltration of stormwater, minimizing loss of forest cover, providing sewerage for new development, and educational measures to discourage use of pesticides and fertilizers. <p>Technical Findings:</p> <ul style="list-style-type: none"> ▪ Surface water from basin drains to Cold Creek; provides relatively small contribution to Cold Creek flows. ▪ Groundwater from a portion of the basin flows directly to Cold Creek Springs. ▪ Stormwater impacts have little effect on contribution of cold, steady summer flows downstream. ▪ Cold Creek remains important system to protect in its own right, supporting five salmon species. ▪ Limited Steep Slopes – per mapping. ▪ Wetlands (north) – At least two wetlands in the northern part of the basin are connected to each other by a series of narrow surface channels, which convey water to the north into Snohomish County. Surface waters from these wetlands are routed through a stormwater pond and into the southern arm of a large National Wetland Inventory-mapped wetland located just north of the Woodinville city limits in Snohomish County. This wetland complex in Snohomish County north of the Woodinville city limit is large in scope, is mapped as having multiple wetland classes, and thus is likely complex in function and of some regional significance both to water quality and to local wildlife populations given its urbanized setting. This Snohomish County wetland complex would likely be rated Category I under the Department of Ecology rating system. ▪ Wetlands (south) – Six wetlands are likely at least seasonally connected with Cold Creek. These six 	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> ▪ North Wellington ◀ ▪ Northeast Wellington ▪ Central Wellington ▪ North Leota <p>◀= identified for neighborhood character recognition through zoning measures.</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> ▪ North Wellington: With few exceptions, this neighborhood is defined by its location in a physiographic plain and by the degree of road connectivity. External accessibility also defines boundaries and encloses the neighborhood. ▪ Northeast Wellington: This is a neighborhood defined primarily by the constricted nature of access. There is only one way in and one way out via 168th Avenue NE. It is further isolated by school property occupying the major portion of its southern extremity. ▪ Central Wellington: There is only one major access into this neighborhood, NE 195th Street. Other minor roads connect from different directions and are closed off or dead ends. Central Wellington is somewhat more defined by adjacent neighborhoods than it is unto itself. ▪ North Leota: North Leota is characterized by its adjacency to Woodinville-Duvall Road and by its broad range of lot sizes. There is no connectivity in any sense of the term, but this neighborhood occupies the greatest extent of the Leota outwash plain niche. <p>The School basin also includes all or part of four subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. Identified subdivisions include: Leota Meadows, Wellington, Nolan Woods, and Stonegate II.</p>	<ul style="list-style-type: none"> ▪ North of NE Woodinville-Duvall Road (System A): Roads have asphalt pavement with some areas of gravel shoulders and a mixture of open ditch or open shoulder drainage. The layout is typically long block sections with some gentle curves. Only a very small portion of streets in this area has curb and gutter or sidewalk sections. Internal circulation is possible in the northeasterly neighborhoods including part of the School Basin area. 	<ul style="list-style-type: none"> ▪ The basin is more difficult to serve by sewer due to its location, which would involve pump stations at major expense. 	<ul style="list-style-type: none"> ▪ R-1 zoning benefits Cold Creek in the same manner as in Lake Leota basin; maintaining low density in this part of R-1 Zone is as important as in Lake Leota Basin. LID measures, avoidance of forest cover loss, and sewerage for new development and other measures may also be appropriate. These measures would provide resource protection, but not sufficiently to offset impacts of higher density development. ▪ R-2 appropriate for neighborhood character recognition in North Wellington; a range of R densities (2 to 4) identified in other sub-areas. Also includes all or part of four subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. ▪ Lesser transportation network exists, but standards in place for development will address growth at any level including R-4. Neutral issue for zoning. ▪ Grade change and associated sewer cost limit higher densities at this time.

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
	<p>wetlands provide water quality treatment and retention of the largely untreated stormwater that runs off of local streets, homes, and landscaping within the School Basin.</p> <ul style="list-style-type: none"> Wildlife – no protected species documented; many birds and mammals exist in an urban setting; proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 				
Daniels Creek Basin	<p>Conclusions:</p> <ul style="list-style-type: none"> R-1 zoning provides benefits to Daniels Creek and to Cottage Lake similar to the Leota Basin. Development in Daniels Creek Basin has significantly impaired water quality in Cottage Lake. LID, sewerage for new development, etc. would provide benefits as in Lake Leota and School basins. <p>Technical Findings:</p> <ul style="list-style-type: none"> Surface water from area represents a small part of Daniels Creek basin; groundwater from area feeds the Cold Creek Springs, but only a small fraction of precipitation infiltrates to groundwater in the R-1 zone due to relatively impervious glacial till soils. Cottage Lake attenuates impact of Daniels Creek on rest of Bear Creek system. However, Cottage Lake is recognized as a water quality limited water body due to excessive nutrient concentrations primarily because of stormwater inputs. Daniels Creek is one of the principal sources of that contamination and further urbanization of the Daniels Creek Basin would likely worsen the problem. Limited steep slopes, per mapping. Wildlife – no protected species documented; many birds and mammals exist in an urban setting; proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> Northeast Wellington North Leota <p>◀= identified for neighborhood character recognition through zoning measures</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> Northeast Wellington: This is a neighborhood defined primarily by the constricted nature of access. There is only one way in and one way out via 168th Avenue NE. It is further isolated by school property occupying the major portion of its southern extremity. North Leota: North Leota is characterized by its adjacency to Woodinville-Duvall Road and by its broad range of lot sizes. There is no connectivity in any sense of the term, but this neighborhood occupies the greatest extent of the Leota outwash plain niche. <p>Daniels basin does not include any subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision.</p>	<ul style="list-style-type: none"> North of NE Woodinville-Duvall Road, East of 164th Avenue NE (System B): The general characteristics of these roads are asphalt pavement with some areas of gravel shoulders and a mixture of open ditch or open shoulder drainage. The layout is typically long, straight aligned block sections. Only a very small portion of streets in this area has curb and gutter or sidewalk sections. Internal circulation is possible but is poor as there is only one route possible in all cases without having to enter onto a major arterial. One vertical sight distance concern has been identified in this area. 	<ul style="list-style-type: none"> The basin is more difficult to serve by sewer due to its location, which would involve pump stations at major expense. The area should remain at R-1, until such time as sewer facility economics becomes feasible. 	<ul style="list-style-type: none"> R-1 zoning provides benefits to Daniels Creek and Cottage Lake. LID measures, avoidance of forest cover loss, and sewerage for new development and other measures may also be appropriate. These measures would provide resource protection, but not sufficiently to offset impacts of higher density development. No conceptual neighborhood sub-areas identified for neighborhood character recognition; R-4 density possible. No subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. More limited access options, but internal circulation possible including R-4. Neutral issue for zoning. Grade change and associated sewer cost limit higher densities at this time.
Upper Woodin Creek Basin	<p>Conclusions:</p> <ul style="list-style-type: none"> R-1 zoning provides some protection to geologic hazards, minor benefits to Woodin Creek. Stormwater management is necessary to protecting geologic hazard areas; fuse-welded tightlines (e.g., HDPE pipe) for discharge of stormwater. Infiltration near slopes would threaten geologic hazard areas. Sewer service is needed for densities greater than R-1, to prevent slope instabilities and groundwater contamination. LID would provide some downstream benefit to Woodin Creek, but infiltration should be prohibited within 50 feet from top of slope, and within 50 to 500 feet should be thoroughly reviewed and supported by geotechnical reports and approved by the City. <p>Technical Findings:</p>	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> Laurel Plateau Woodway-Laurel Hills ◀ Lower Woodway <p>◀= identified for neighborhood character recognition through zoning measures</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> Laurel Plateau: Terrace-flat topography defines this neighborhood. Steep slopes and formal subdivision boundaries confine this area into one neighborhood. Woodway-Laurel Hills: This neighborhood predominantly consists of two formal subdivisions that have similar street networks and topography. Ridge and slope topography characterize its common physiographic niche, and its richly manicured landscape amidst tall woods creates a common definitive sense of place. 	<ul style="list-style-type: none"> South of NE Woodinville-Duvall Road (System C): The general characteristics of these roads are asphalt pavement with some areas of paved shoulders along one side and a mixture of open ditch or open shoulder drainage. The terrain has gentle to moderate (hill slope) grade changes. Some grades in this section appear to be at the 15% grade slope standard. The layout is typically long block sections with gentle to moderate curve sections. No streets were identified in this area to have curb and gutter or sidewalk sections. Internal circulation is fair. No sight distance concerns have been identified in this area. Southwest portion of basin: One area in the southwest portion of the Upper Woodin Creek Basin, with particularly difficult terrain for transportation improvements, may be a candidate for less density due to sloped terrain adjacent to the roadway making it less feasible to be improved. 	<ul style="list-style-type: none"> The basin has gravity access to the existing sewer facilities and may be physically suitable for R-4 zoning. 	<ul style="list-style-type: none"> R-4 possible with environmental mitigation. R-2 appropriate for neighborhood character recognition in Woodway-Laurel Hills; up to R-4 possible in other sub-areas. Includes all or part of three subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. Except in southwest part of basin, lesser transportation network exists, but standards in place for development will address growth at any level including R-4. The southwest portion of basin, with particularly difficult terrain for transportation improvements, may be a candidate for less density. Basin has greater ability to be seweraged at R-4 densities.

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
	<ul style="list-style-type: none"> ▪ Woodin Creek probably does not meet <i>Litowitz</i> criteria, especially above fish blockages. ▪ R-1 area is relatively small part of basin. ▪ Native Growth Protection Easements (NGPEs) provide valuable protection that remains regardless of zoning. ▪ Geologic hazards are common and significant. ▪ HDPE fuse-welded tightlines and tanks or vaults, not ponds, should be adequate to protect slopes from adjacent stormwater. ▪ Groundwater surcharge from increased infiltration or denser septic discharges would pose risk to geologic hazards; infiltration should be prohibited within 50 feet from top of slope, and within 50 to 500 feet should be thoroughly reviewed and supported by geotechnical reports and approved by the city. ▪ Large underdeveloped parcel may have geologic hazards and wetland, is headwaters of North Tributary. ▪ Wildlife – no protected species documented, many birds and mammals exist in an urban setting, proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 	<ul style="list-style-type: none"> ▪ Lower Woodway: This neighborhood located in the southwest fringe of the study area has common access off of NE 173rd Street. Steep slopes are common throughout. Its identity is defined by its adjacency to its neighbor and by its isolation because of topography and access limitations. <p>The Upper Woodin Creek basin also includes all or part of three subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. Identified subdivisions include: Laurel Hills, Woodway Country Estates, and Woodview Crest (a portion of which is in the study area).</p>			
<p>Hillside Drainages</p>	<p>Conclusions:</p> <ul style="list-style-type: none"> ▪ R-1 zoning provides some protection to geologic hazards, minor benefits to Little Bear Creek. ▪ Stormwater management is key to protecting geologic hazard areas; fuse-welded tightlines (e.g., HDPE pipe) for discharge of stormwater. ▪ Infiltration near slopes would threaten geologic hazard areas. ▪ Sewer service is needed for densities greater than R-1, to prevent slope instabilities and groundwater contamination. ▪ LID would provide some downstream benefit to Little Bear Creek, but infiltration should be prohibited within 50 feet from top of slope, and within 50 to 500 feet should be thoroughly reviewed and supported by geotechnical reports and approved by the city; ▪ Other forms of LID still encouraged. <p>Technical Findings:</p> <ul style="list-style-type: none"> ▪ Hillside Drainages are relatively small part of Little Bear Creek basin flows. ▪ HDPE tightlines would be adequate to protect slopes from adjacent stormwater. ▪ Groundwater or perched water surcharge from increased infiltration or denser septic discharges would pose risk to geologic hazards. ▪ Along the northwestern portion of the basin, a large undeveloped forested hill slope runs north-south, connecting to a large vegetated area in the adjacent golf course to the north and an industrial area below. 	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington ◀ ▪ Southwest Wellington ◀ <p>◀= identified for neighborhood character recognition through zoning measures.</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington: The neighborhood is heavily wooded, has excellent spatial order and building texture, cohesive circulation, and is visually cohesive in terms of buildings, block patterns, and streets that together crisply define neighborhood boundaries. ▪ Southwest Wellington: Accessibility and lot configuration largely define this neighborhood. External access is limited, which makes for an enclave-like place. The wooded setting adds immensely to a sense of place. <p>The Hillside basin also includes all or part of two subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. Identified subdivisions include: Wellington Hills 4 and Falcon Point.</p>	<ul style="list-style-type: none"> ▪ North of NE Woodinville-Duval Road (System A): Roads have asphalt pavement with some areas of gravel shoulders and a mixture of open ditch or open shoulder drainage. The layout is typically long block sections with some gentle curves. Only a very small portion of streets in this area has curb and gutter or sidewalk sections. Internal circulation is possible in the northwesterly neighborhoods. Some vertical sight distance conditions have been identified in this area in the northwesterly neighborhoods 	<ul style="list-style-type: none"> ▪ Majority has gravity access to the existing sewer system facilities and may be physically suitable for R-4 zoning. 	<ul style="list-style-type: none"> ▪ R-4 possible with environmental mitigation. ▪ R-1 and R-2 appropriate for neighborhood character recognition in Northwest and Southwest Wellington. Includes all or part of two subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. ▪ Lesser transportation network exists, but standards in place for development will address growth at any level including R-4. Neutral issue for zoning. ▪ Basin has greater ability to be sewerated at R-4 densities.

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
	<p>Although there are no documented protected species (threatened, endangered) in this area, the area provides a place for urban species to forage, nest, drink and move into adjacent open areas. Pileated woodpeckers are a State Candidate species without specific or designated protection, and are not expected to be impacted by future development. The industrial area and highway limit the ability to support wildlife species that are not tolerant of substantial human disturbance. The proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment.</p>				
Golf Course Basin	<p>Conclusions:</p> <ul style="list-style-type: none"> ▪ R-1 zoning provides some protection to geologic hazards, minor benefits to Little Bear Creek, helps minimize erosion in Golf Course Creek; ▪ Stormwater management is key to protecting geologic hazard areas; fuse-welded tightlines (e.g., HDPE pipe) for discharge of stormwater; ▪ Infiltration near slopes would threaten geologic hazard areas; ▪ Sewer service is needed for densities greater than R-1, to prevent slope instabilities and groundwater contamination; ▪ LID, especially in headwaters of basin, could provide significant benefits to Golf Course creek; infiltration should be prohibited within 50 feet from top of slope, and within 50 to 500 feet should be thoroughly reviewed and supported by geotechnical reports and approved by the City. <p>Technical Findings</p> <ul style="list-style-type: none"> ▪ Golf Course Basin is relatively small part of Little Bear Creek basin flows. ▪ HDPE tightlines would be adequate to protect slopes from adjacent stormwater. ▪ Groundwater or perched water surcharge from increased infiltration or denser septic discharges would pose risk to geologic hazards. ▪ Golf Course creek may be perennial, provides important source of water for wildlife in area. ▪ Golf Course creek carries high sediment load from eroding ravine, which could be exacerbated by development in headwaters area without stormwater management focused on minimizing erosive discharges. ▪ Wildlife – no protected species documented; many birds and mammals exist in an urban setting; proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 	<p>Contains all or part of the following conceptual neighborhood sub-areas:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington ◀ <p>◀= identified for neighborhood character recognition through zoning measures.</p> <p>A description of the sub-areas follows:</p> <ul style="list-style-type: none"> ▪ Northwest Wellington: The neighborhood is heavily wooded, has excellent spatial order and building texture, cohesive circulation, and is visually cohesive in terms of buildings, block patterns, and streets that together crisply define neighborhood boundaries. <p>The Golf Course also includes all or part of one subdivision with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. The identified subdivisions Wellington Hills Estates.</p>	<ul style="list-style-type: none"> ▪ North of NE Woodinville-Duvall Road (System A): Roads have asphalt pavement with some areas of gravel shoulders and a mixture of open ditch or open shoulder drainage. The layout is typically long block sections with some gentle curves. Only a very small portion of streets in this area has curb and gutter or sidewalk sections. Internal circulation is possible in the northwesterly neighborhoods. Some vertical sight distance conditions have been identified in this area in the northwesterly neighborhoods 	<ul style="list-style-type: none"> ▪ Area has gravity access to the existing sewer system facilities and may be physically suitable for R-4 zoning. 	<ul style="list-style-type: none"> ▪ R-4 possible with environmental mitigation. ▪ R-1 and R-2 appropriate for neighborhood character recognition in Northwest and Southwest Wellington. Includes all or part of two subdivisions with identified provisions for maintaining neighborhood character and/or direct or indirect obstacles to subdivision. ▪ Lesser transportation network exists, but standards in place for development will address growth at any level including R-4. Neutral issue for zoning. ▪ Basin has greater ability to accommodate sewers at R-4 densities.
Multiple Basins	<ul style="list-style-type: none"> ▪ Some wetlands in the School Basin are hydrologically connected, elevating their importance as an interconnected system, even though taken separately they would not be of exceptional significance or functionally irreplaceable. No wetlands in the R-1 		<ul style="list-style-type: none"> ▪ The majority of the roadways within the R-1 zone were developed under King County development standards prior to the City's incorporation. With the exception of newer roads constructed under the City's design requirements, the local streets in the 	<ul style="list-style-type: none"> ▪ Police and Fire Services: Projected increases in housing units due to zoning changes from R-1 to R-4 would not affect response time for the department. Population and housing increases may require additional personnel and facilities (vehicles), but 	

Location/Boundary	Environmental	Neighborhood Character	Transportation	Capital Facilities	Summary
	<p>zone are of a high rank order. However, the Snohomish County Wetland Complex north of the study area would likely be rated Category I under the Department of Ecology rating system.</p> <ul style="list-style-type: none"> ▪ Cold Creek is determined to meet <i>Litowitz</i> criteria (see School Basin). No other stream within the study area is of a high rank order. Woodin Creek is large in scope (at least within the City’s jurisdiction) and complex in structure and function. However, it supports a small number of spawning salmon downstream and outside of the R-1 zone. ▪ Increased density in the R-1 zone would likely have only small impacts on all affected streams or lakes beside Cold Creek, Lake Leota, or Cottage Lake. Landscape level hydrologic impacts could be further minimized by appropriate stormwater management and mitigation. (See basin-by-basin recommendations). ▪ R-1 zoning provides some protection from geologic hazards. Protection of geologically hazardous areas in and adjacent to the R-1 zone depends primarily on proper development practices and stormwater management. ▪ The greatest current threat to the critical aquifer recharge area is from inadequate or poorly maintained septic systems. This threat would increase with more dense development on septic systems, but would decrease or be eliminated by development accompanied by sewers serving new and existing development. ▪ Wildlife – no protected species documented; many birds and mammals exist in an urban setting; proposed corridor system yields multiple benefits to wildlife, hydrology, and human environment. 		<p>R-1 zone do not meet the City’s road cross-section standards.</p> <ul style="list-style-type: none"> ▪ Under the Fire Department Access standard, requiring a minimum paved width of 20 feet, only a few short sections of roadways do not meet this standard. ▪ Future road improvements, for the arterial and collector classified roads, have been identified in the City’s long-range Capital Improvement Program and will be systematically reviewed and considered for improvements. ▪ On local streets, improvements are likely to occur under special projects (such as a special district for sidewalks) or under development mitigation. ▪ Two intersections on 156th Street would exceed the City’s adopted LOS E by 2028 assuming R-4 development levels (conservative estimates). At both locations, the LOS can be brought back into compliance with widening improvements within the existing public right-of-way. ▪ In regard to vehicle capacity, both the City’s “Low Density” and “High Density” road cross-section standard provide the same vehicle trip capacity. If additional capacity were needed, due to physical restrictions within the roadway, such as the need to address a narrow road section, adequate right-of-way current exists to allow for any needed improvement to address any deficiencies. ▪ Several local streets, and one minor arterial have been identified with vertical sight distance condition. These are currently being taken under review by the City for possible mitigation measures. ▪ Road grades within the entire R-1 zone are all within the City’s acceptable standards (under 15%). ▪ Pedestrian and bike facilities are very limited within the entire R-1 zone area. Only Woodinville-Duvall Road has designated shared pedestrian and bike facilities along both sides of the roadway. Most of the developments following incorporation of the City (in 1993) do provide pedestrian facilities. However, these make up a very small portion of the R-1 zone. Of the remaining streets, it is estimated that less than 20% have any type of pedestrian facility and travel by non-motorized means must use the edge of the pavement or shoulder area. 	<p>response time is not usually affected by increases in density, unless access is restricted.</p> <ul style="list-style-type: none"> ▪ Schools: Suitability for R-4, due, in part, to minor projected increase in student population that may result from R-4 density increases in the R-1 area, and due to the District’s ability to charge impact fees. ▪ Water: Increases in R-1 area zoning to R-4 over buildable parcels, would result in an increase in demand for 4,312 gallons per day in the entire study area, considered by Water District officials to have no major impact to the current capacity of supply or facilities. 	

Options For Consideration

Phase 2a of the Sustainable Development Study is a follow-up to Phase 1 of the study. Phase 1 of the Sustainable Development Study reviewed environmental, neighborhood character, transportation, and capital facilities in the R-1 study area, in an attempt to determine if there were factors present in the study area that warranted development intensities differing from those existing within the study area. The CAP and the Planning Commission determined that more information was needed to make an informed choice at the end of Phase 1. The result was an interim ordinance set to expire in 6 months and development of an extensive scope of work for additional study in Phase 2.

Phase 2a of the Sustainable Development Study was intended to be the portion of Phase 2 that could be accomplished within the 6-month timeframe of the interim ordinance. Phase 2a included the following components:

- Additional review of critical areas, including:
 - Surface water: determining areas contributing cold clear water to important ecological systems, and reviewing current status of Bear Creek Basin special protection measures.
 - Groundwater: updating and improving groundwater flow map and identifying impacts of increasing density.
 - Geologic: reviewing and updating landslide hazard areas and identifying earthquake hazards.
 - Wetlands: identifying additional wetlands and impacts from increased density, particularly in the School Basin.
 - Wildlife: identifying wildlife corridors and impacts from increased density.
- Neighborhood character review, including:
 - Review and revision to the Neighborhood Character Report that strengthened the analysis.
 - Identification of covenants, conditions, and restrictions (CC&Rs) that are in existence within the R-1 study area.
 - Review of socio-economics within the study area and how that affects neighborhood character.
- Buildable Lands and Affordable Housing review including:
 - Provision of a completed 2001-2005 Buildable Lands Report as part of the Sustainable Development Report.

- Evaluation of the City’s current affordable housing and an assessment of what other cities are doing to manage their housing.
- Potential code and regulatory amendments, including:
 - Re-evaluation of the City’s residential zone purpose statements.
 - Determination of the City’s ability for transfer of development rights/transfer of density credits regulations to preserve critical environmental or neighborhood character attributes in the R-1 study area.
- Transportation analyses, including conducting an origin-destination survey on main arterial and collector roads during PM peak hours and evaluating that information to provide an analysis of R-1 study area through-trips.

Additional tasks requiring more time than the 6-month period allowed (e.g., additional transportation modeling and identification of impacts of increased density to the transportation system and identifying impacts of increased density on surface water and storm water systems) were included in Phase 2b of the Sustainable Development Study.

The CAP met for an intensive 9-week period in an attempt to develop a Phase 2a report and options prior to expiration of the interim ordinance on September 11, 2007. During this time, the CAP reviewed and considered information from all components of the Sustainable Development Phase 2a work program with the exception of the transportation work, which was delayed until Phase 2b due to construction activity on Woodinville-Duvall Road during the study. Landslide hazard mapping information was received and presented to the CAP at its last meeting and at joint CAP/Planning Commission meetings. This information has been included in Appendix 1A.2 of the Environmental Report.

At the conclusion of the 9-week study period the CAP met on August 2, 2007, to evaluate the conclusions to Phase 2a of the Sustainable Development Study and to discuss options for the Planning Commission to consider prior to their public hearing. Overall conclusions were framed in the context of potential map amendments affecting the City’s zoning map and programmatic or development regulation amendments. The latter were further divided into those programmatic or development regulation amendments that could be accomplished in the Phase 2a timeframe and those that should take place as part of the 2008 Annual Docket.

Since the August 2, 2007 CAP meeting, the City Council decided to allow some additional time for consideration of the conclusions of Phase 2a of the Sustainable Development Study through an extension of the interim zoning ordinance. Therefore, the ideas discussed at the August 2, 2007 CAP meeting and subsequent Planning Commission meetings are outlined below as options for consideration by the Planning Commission and City Council.

Map Amendments

The CAP and Planning Commission discussed several map amendment options at study sessions in August and September 2007. Bookends of zoning map options considered range from a “no action” alternative that retains existing zoning within the study area at R-1 to a zoning map option that divides the area into R-1 and some type of transition zone (discussed as R-4 Transition, or R-4T, below). An option considered at the August 8th Planning Commission Study Session that would divide the study area into R-1, R-4T, and R-4 was considered somewhat impractical because it appeared to result in small pockets of R-4 and R-4T scattered through the western third of the study area. However, this option is still mentioned briefly below to show the range of options the CAP and Planning Commission considered in this study.

The Planning Commission can consider any of the options mentioned below, or a completely different option based upon their findings from the Sustainable Development Study Phase 2a.

Bookend Zoning Map Option 1: No Action, Existing Zoning of R-1

The CAP and Planning Commission have discussed the possibility of retaining the entire study area in R-1 zoning. This option could still result in programmatic amendments to zoning purpose statements to clarify the differences in zones and location of zones.

Bookend Zoning Map Option 2: R-1 and R-4 T (Transition) Only

Based upon the conclusions presented to the CAP that showed critical areas within the Daniels Creek, Leota, and School Basins meeting the *Litowitz* criteria, and a convergence of factors that included presence of CC&Rs, and neighborhood subareas with recognized character within the same area, the Daniels Creek, Leota, and School Basins be recognized as areas most likely appropriate for retention in R-1 zoning. Under Zoning Map Option 2 a zoning boundary was drawn on the western edge of the Leota Basin to encompass these areas. Figure ES-8 shows the Option 2 R-1 zoning boundary in relation to the features mapped on the Sustainable Development base map.

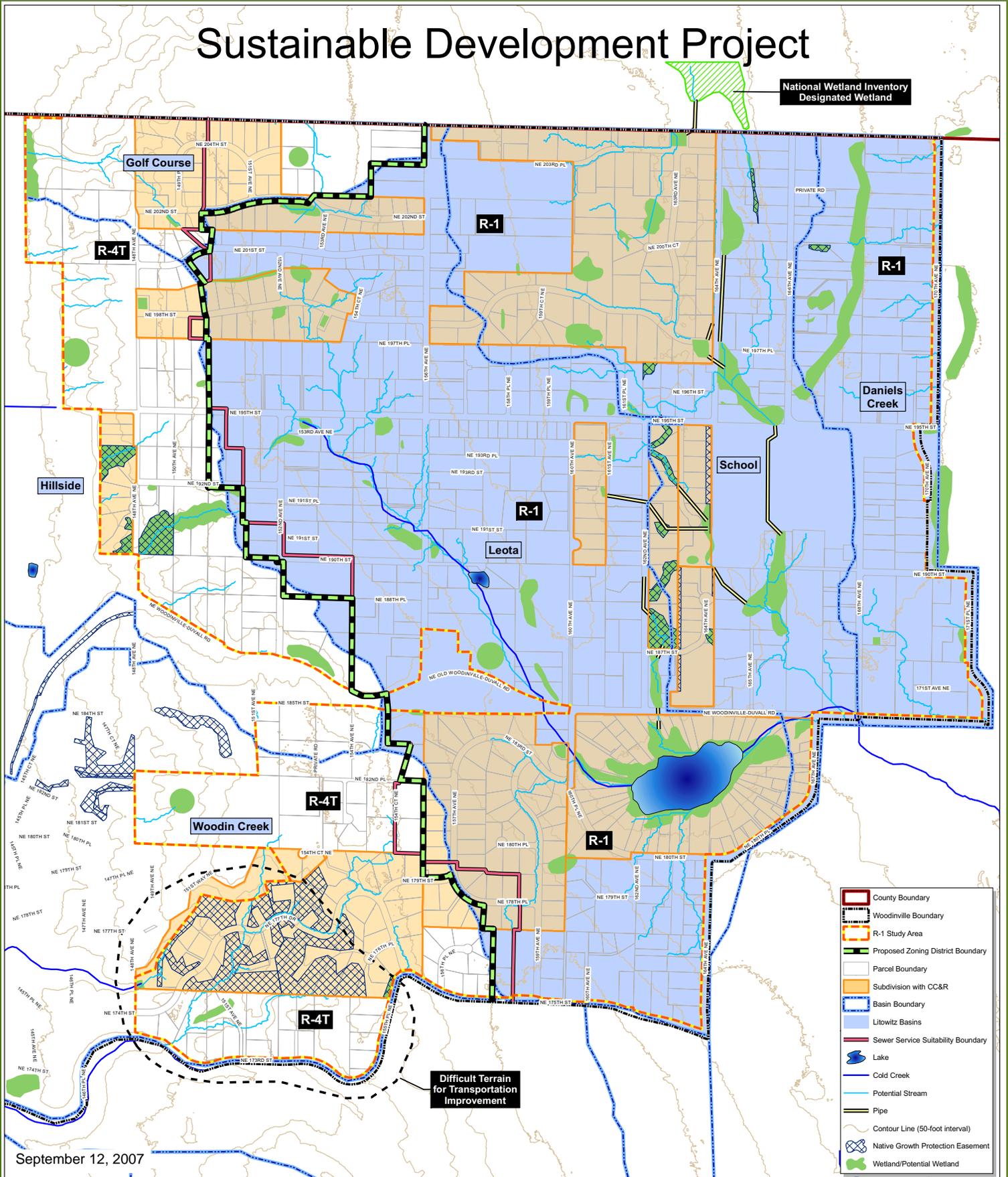
As part of this Zoning Map Option 2, a new programmatic amendment would be required. This amendment would develop a transition zone, called the R-4 Transition (R-4T) zone for the area in the study area outside of the R-1 zoning boundary. The R-4T development regulations are discussed in more detail below. However, their intent is to provide a gradual transition from an area that is zoned R-1 and more intensively zoned areas of the City, and to provide additional protection for landslide hazards.

This zoning map option is reflected in the attached zoning map (Figure ES-9).

Figure ES-9a presents an illustration of the zoning option map with an overlay of mapped landslide hazard areas.

City of Woodinville

Sustainable Development Project



National Wetland Inventory Designated Wetland

Golf Course

R-4T

R-1

R-1

Daniels Creek

School

Leota

Hillside

Woodin Creek

R-4T

R-1

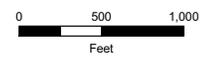
R-4T

Difficult Terrain for Transportation Improvement

- County Boundary
- Woodinville Boundary
- R-1 Study Area
- Proposed Zoning District Boundary
- Parcel Boundary
- Subdivision with CC&R
- Basin Boundary
- Litowitz Basins
- Sewer Service Suitability Boundary
- Lake
- Cold Creek
- Potential Stream
- Pipe
- Contour Line (50-foot interval)
- Native Growth Protection Easement
- Wetland/Potential Wetland

September 12, 2007

Figure ES-8
Draft Transitional Zone Option on the Sustainable Development Basemap

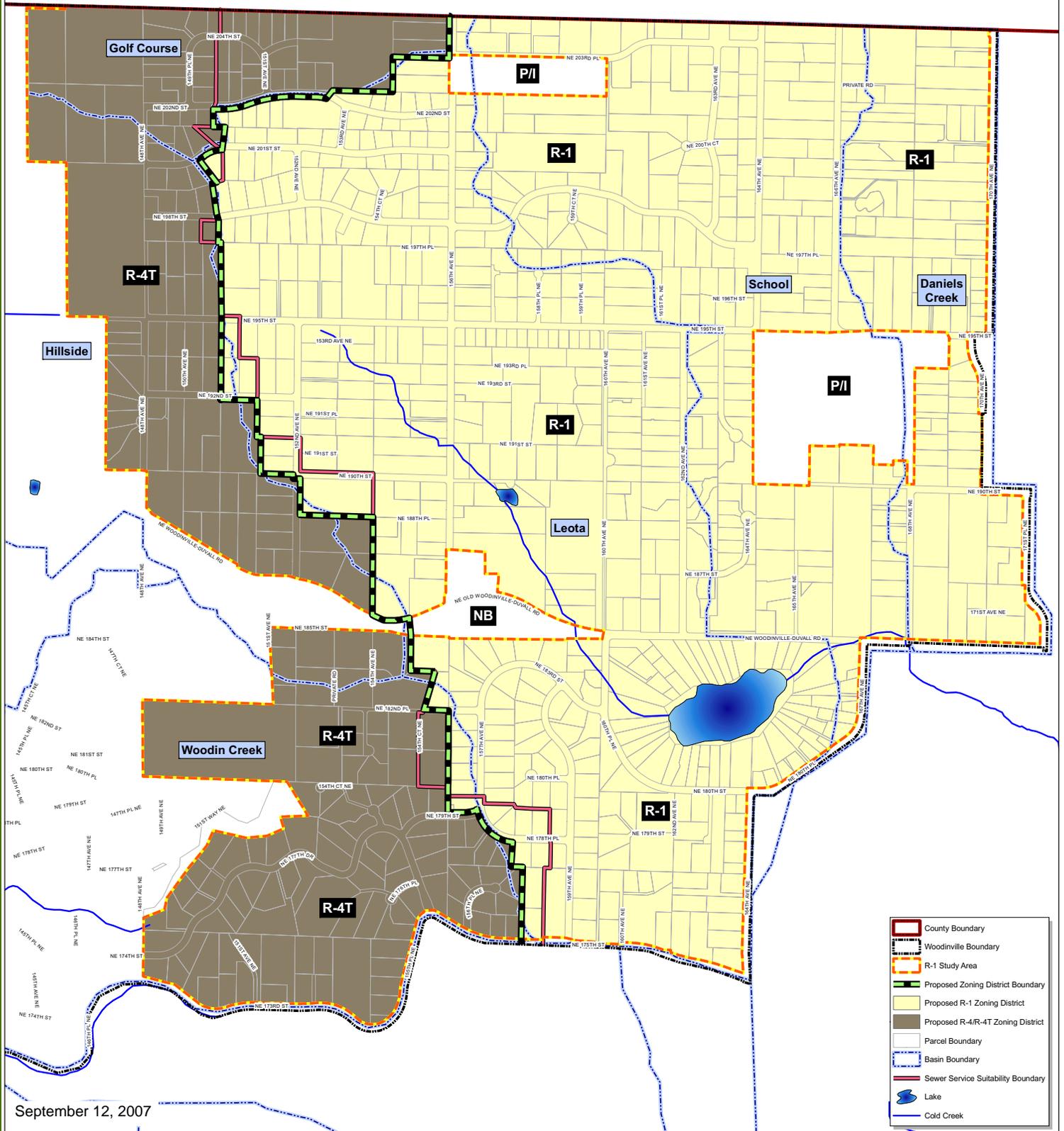


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Woodinville, WA 98074
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September 12, 2007

Figure ES-9
Draft Transitional Zone Option

0 500 1,000
Feet



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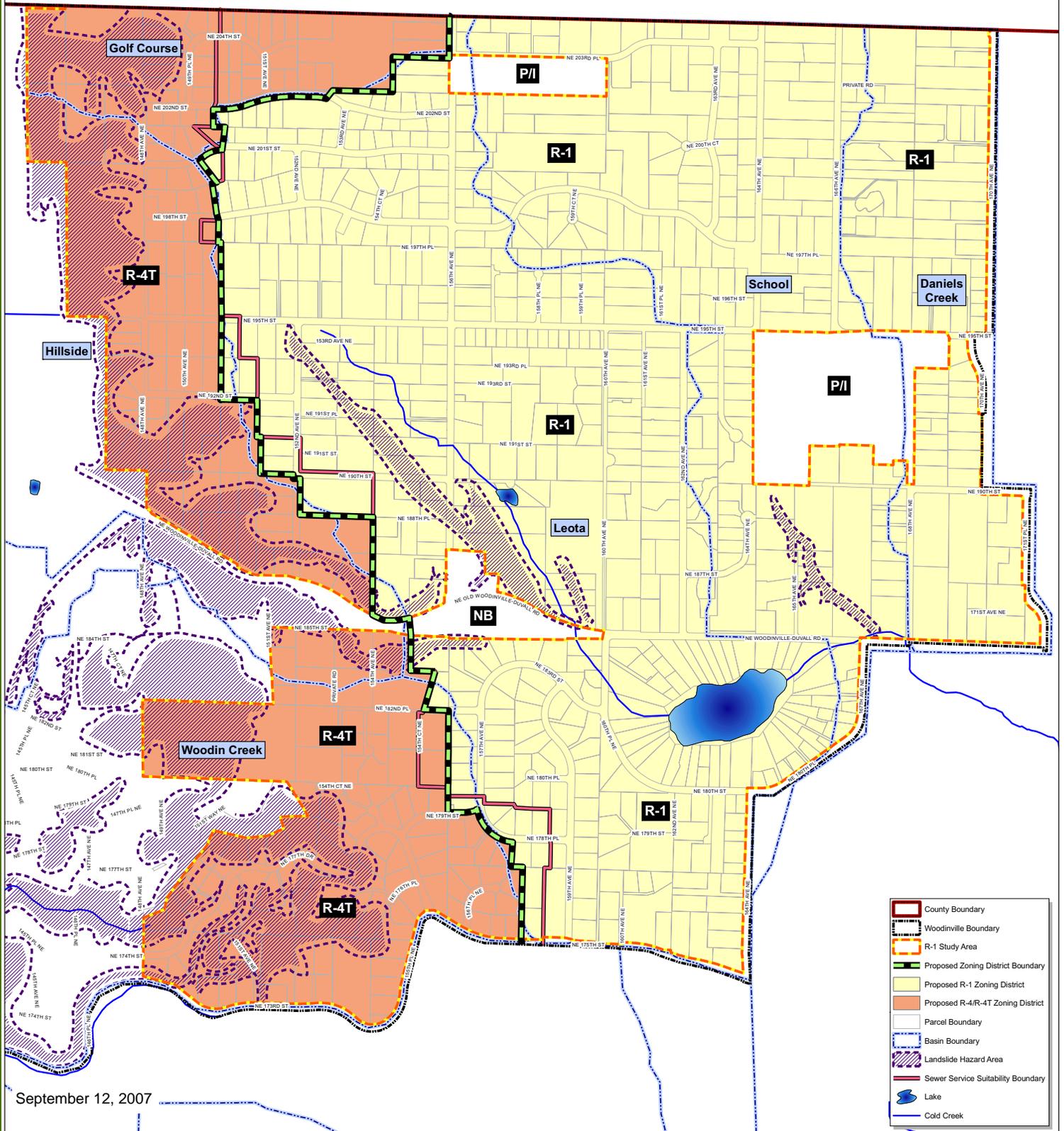


Figure ES-9a
Draft Transitional Zone Option
and Landslide Hazard Areas

0 500 1,000
 Feet



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R-1, R-4T (Transition) and R-4 Option Discussed

In early August 2007, another option was discussed by the CAP and Planning Commission which retained zoning boundary that is mentioned in Option 2 for the area remaining R-1. However, the area to the west would be further divided into the R-4T transition zone and R-4 zoning. The R-4 Transition (R-4T) zone would be mapped in the area adjacent to the R-1 zoning boundary, and included for any mapped landslide hazard areas within the remaining study area. Under this option, areas within the study area not encompassed by R-1 or R-4T zoning would be zoned R-4. This option received unfavorable comment from CAP and Planning Commission due to the small pockets of R-4 and R-4T that would be scattered through the western third of the study area.

Options for Programmatic or Development Regulation Amendments

Options for programmatic or development regulation amendments are divided into amendments that can be accomplished as part of Phase 2a and those that would need to be included in the 2008 Annual Docket.

Phase 2a Proposed Amendments

The CAP discussed several programmatic amendments that could be implemented as part of Phase 2a of the Sustainable Development Study. These include:

R-4T Zoning and Development Standards

Inclusion of the R-4T zone (transition zone) as part of the map amendment necessitates development of R-4T zoning and development standards that will be applied to the area mapped with that designation. In addition, each of the two zoning map options above (Option 1 and Option 2) creates a need for development of a separate location criteria statement. The goal of the R-4T designation would be to create a smooth transition between the R-1 and R-4 areas, and to recognize and enhance protection for known landslide hazard areas.

Under Zoning Map Option 1, the R-4T designation is applied to areas that are adjacent to (within 300 feet of) the area remaining R-1 and/or to areas of mapped landslide hazards.

Under Zoning Map Option 2, the R-4T designation would be applied to a broad transition area between the R-1 area and more intensively zoned areas of the City, including areas of mapped landslide hazards.

These proposed zoning purpose statements and development regulations are discussed in more detail in Chapter 6, *Potential Code Amendments*. Generally, the development standards proposed for the new R-4T zone include the following additional features:

- Density limited to four dwelling units per acre without opportunity for density bonus.

- Minimum lot width of 50 feet, along with an amended R-1 lot width of 70 feet, the greater widths intended to provide gradual change between the zones.
- All setbacks set as 80% of the average setback for adjacent existing development.
- Developers required to follow the recommendations of the Golder hydrogeologic study found in Appendix 1A of the Environmental report.

Residential Zone Purpose Statement Amendments

As part of Phase 2a, the CAP reviewed low-density residential zone purpose statements and location criteria for a number of other local jurisdictions. The CAP provided feedback for amendments to these residential zone purpose statements in addition to the creation of the R-4T designation mentioned above. These draft amendments generally provide greater detail as to what an R-1 zone is and what an R-4 zone is, as well as greater detail on where these zones can be mapped. Details of the draft residential zone purpose statement amendments are found in Chapter 6, *Potential Code Amendments*.

Interim Transfer of Development Rights (TDR) Regulations

The CAP reviewed use of transfer of development rights as a tool for preserving environmentally critical areas and neighborhood character in the R-1 study area. Use of this program has the ancillary benefits of providing possible additional density bonuses to areas where the City is seeking to add attached and mixed-use housing, such as the Central Business District (CBD), and of increasing the opportunity for affordable housing in those areas.

A two-prong approach for TDR was considered. First, potential code amendments were drafted that could serve as an interim TDR program update. Details of these potential code amendments are found in Chapter 6, *Potential Code Amendments*. These interim TDR program updates include designating the study area (R-1 zone) as a sending area (i.e., areas where development rights can be bought up and transferred to other areas); while allowing TDR receiving sites in all other areas (zones) of the City (i.e., areas where development rights are transferred to). The proposed code amendments also include proposals that development rights be valued at a higher rate if removed from the study area (R-1 zone). An alternative approach to the interim TDR program update would be to suspend receiving TDR's for any zone below an R-8. Currently, only the R-1 zone is not allowed as a receiving site for TDR's. This second option would allow the Planning Commission time to study TDR while preventing single-family zones from being receiving sites in the interim. The second part is that a more comprehensive update to the City's TDR program occurs as part of the 2008 Annual Docket. This more comprehensive review is discussed below.

Update All City Critical Areas Ordinance Maps

The CAP discussed the need to update all City critical areas ordinance maps with the new information from Phase 2a of the Sustainable Development Report. In some cases, information

provided was only for purposes of flagging a parcel to show a potential critical area. However, in other cases, presence of a critical area was confirmed and should be noted on the maps for delineation once a development application is received.

Amendments Proposed for 2008 Annual Docket

The CAP discussed a number of measures to be considered as part of the 2008 Annual Docket. Generally, the subjects included below are considered to be more time-intensive and would require additional Planning Commission study sessions and review in order to develop well reasoned code amendments. These amendments include:

- Updates to the City’s critical areas regulations for:
 - Critical aquifer recharge areas.
 - Wildlife corridors.
 - Geologic/landslide hazards.
 - Earthquake fault regulations.
- Creation of a comprehensive LID standards ordinance similar to the one found in Appendix 1D.2 of the Environmental Report (Chapter 1).
- Updates, functional and operational improvements in the City’s TDR program, such as establishing a “bank.”

Conclusion

The CAP has met 11 times in a 9-week period to review materials and develop conclusions for Phase 2a of the Sustainable Development Study. The conclusions and options presented in this report are based on additional information found to be lacking in Phase 1 of this study. These proposed options are submitted for the Planning Commission to consider in its September 19th public hearing and in future deliberations.