3. BUILT AND NATURAL ENVIRONMENTAL CONDITIONS

3.1 INTRODUCTION

In support of the Woodland Transportation Infrastructure Strategic Plan (TISP, this chapter focuses on collecting information about current land use plans and policies, documenting existing socio-economic and neighborhood conditions, and establishing an inventory of built and natural environmental resources that are relevant to the development of transportation improvements in the City of Woodland. Collectively, the materials assembled and evaluated here will provide context so that key non-transportation issues affecting the development and evaluation of improvement recommendations can be flagged for further, in-depth evaluation during future stages of work. The assessments conducted in this report were largely carried out with a city-wide, planing level focus. However, some data collection and/or field reconnaissance was conducted within a focused geographic area along several of the major existing or potential future transportation corridors. These focused areas are illustrated in several of the figures in this chapter and are identified as the "Area of Potential Effect" (APE).

3.2 METHODOLOGY AND OVERVIEW

Information contained in this chapter includes the following:

1. *Existing Land Use and Future Plans*

A search and review was conducted for existing and future lane use plans, neighborhood plans, recreational plans, infrastructure development plans, and other relevant plans and policies that may influence the development and evaluation of transportation improvements in the study area. Some of this information was included as part of GIS data files. This information will form a foundation for assessing expectations with respect to land use growth and development that will be incorporated into the estimation of future traffic volumes and the analysis of likely future transportation system needs. This information will also inform the evaluation and discussion of neighborhood compatibility with various transportation improvement options as these are developed and considered.

2. *Existing Natural Features and Permitting Requirements*

This effort was conducted to document existing natural features in the study area and to determine what types of environmental permits will likely be required for proposed roadway improvements and under what conditions.

Information was collected from various City, County, COG and State resources (including the GIS database) and from communications with various governmental agencies to identify the required permits, and to document the level of effort necessary to address agency issues. This effort follows the protocol required for National Environmental Policy Act (NEPA) permitting procedures for conducting environmental assessments. Specific work elements for each potential environmental issue include the following:

- **Biology:** Potential sensitive, threatened, and endangered species in the Study Area were identified by contacting agencies (U.S. Fish & Wildlife Service, National Marine Fisheries Service, Washington Department of Fish & Wildlife) and the reviewing the Washington Department of Fish and Wildlife Priority Habitats and Species database and the Washington Natural Heritage Program species database (Washington Department of Natural Resources). Biologists also reviewed available

reports on threatened and endangered species and their habitats, and conducted field reconnaissance throughout the APE.

- **Hazardous Materials:** Ascertainable state and federal public agency computer databases were reviewed to identify pertinent environmental information about properties within the identified study area. Hazardous material experts: Identified any documented releases of hazardous materials recorded in the regulatory agency files.
    - Determined the past operating practices in handling hazardous materials and wastes related to site operations.
    - To the extent possible given project information, identified sites that may require additional analysis during preliminary and final design of a potential improvement project.

Water Quality: The water quality section identifies the approximate location of surface water bodies and the 100-year floodplain based on review of Flood Insurance Rate Map (FIRM) and other existing mapping and information. Local water quality/stormwater regulations relevant to the corridor were also identified. The team conducted field reconnaissance in the project APE to verify the assembled information and to document other information for future study.

Wetlands and Waters of the U.S. and State: The presence and approximate boundaries of any wetlands in the study area were identified based on a review of National Wetlands Inventory (NWI) mapping. Waters of the U.S. and Waters of the State are regulated by the U.S. Army Corps of Engineers and/or the Washington State Department of Ecology. Field work was used to make wetland determinations as appropriate, although no wetland delineations were undertaken for this determination.

No research on air quality, historic and archaeological resources, or noise was conducted.

3.3 SUMMARY OF FINDINGS AND REQUIREMENTS

3.3.1 Land Use

Local land use plans, policies and ordinances, as found in the Woodland *Comprehensive Plan* and the *Woodland Municipal Code*, support additional residential, commercial, and industrial development inside the City's Urban Growth Area (UGA). It is anticipated that most, if not all, economic and population-induced development will likely occur where vacant or redevelopable land is available within the UGA. However, it should be noted that Cowlitz County and its incorporated cities will be initiating an update to their existing Comprehensive Plans beginning within the next year, and this update may expand the UGA boundaries an/or modify the currently proposed land use patterns in the broader study area. Along with more urban infill development and higher densities, land use changes from today's existing patterns within the UGA would most likely include new large retail development in the northwestern portion of the study area, and new industrial and residential developments in the southwestern portion of the study area in the place of current agricultural uses.

The City of Woodland would likely consider new streets and expansions of existing streets to be outright permitted uses in all current land use zones. Within the UGA, but outside of the city limits, most land is zoned Agricultural-Industrial (AG-1) according to the Cowlitz County *Comprehensive Plan*. This zone allows a wide variety of agricultural and industrial uses. Generally, larger development within this area would occur after annexation to the city and would be subject to the City of Woodland zoning and permitting requirements.

Buildings and Construction Regulations are found in Title 12 of the Woodland Municipal Code (WMC) and contain detailed standards and requirements for streets and sidewalks in Chapter 12.14. All new transportation infrastructure must comply with Title 12.

Critical Area Regulations are found in Chapter 15.08 of the WMC. If any new roadways were to be proposed within a critical area as defined in this chapter, a critical area permit, including submission of a critical area report, would be required. Critical areas include frequently flooded areas, wetlands, aquifer recharge areas, geologically hazardous areas, and fish and wildlife habitat areas. Where improvements to roadways or other transportation facilities will be entirely contained within the existing, previously disturbed rights-of-way, a critical area permit may not be required.

Other required or potentially required permits would include a SEPA Environmental Checklist, a Fill/Grade Permit, right-of-way connections permits and other public works approvals.

3.3.2 Biological Resources

Listed species within the project area include salmonids found within the Lewis River and Robinson Creek. Direct and indirect impacts, such as in-water work to build transportation facilities, clearing of riparian vegetation, and an increase in impervious surface area resulting in increased stormwater runoff to the Lewis River or its tributaries will trigger Section 7 of the Endangered Species Act (ESA). Section 7 requirements include the development of avoidance and mitigation measures, usually in the form of a Biological Assessment, for impacts to, or near, the Lewis River or its tributaries prior to proposed construction activities.

Particularly within Lewis River riparian areas, removal of stands of trees used by migratory birds would require Migratory Bird Treaty Act Permit authorization. Prior to finalizing transportation improvement recommendations that may include the acquisition of private property, it is recommended that there be coordination with local Washington Department of Fish and Wildlife (WDFW) biologists to identify stands of trees on private property that could potentially be used by migratory birds.

During later design stages, potential impacts to natural resources will be identified and assessed in greater detail. Where practicable, impacts should be avoided or minimized. If impacts are unavoidable, more specific permitting requirements and mitigation measures will need to be identified.

3.3.3 Hazardous Materials

This screening level hazardous material site assessment identified 34 sites within or bordering the APE with the potential to impact potential transportation system improvement recommendations. Out of all the databases reviewed, sites where a release has been confirmed (CSCSL and LUST sites) pose the greatest concern and have the highest likelihood of adverse impacts. Additional information regarding these sites and their relationship to potential transportation system improvement alternatives would need to be collected during preliminary and/or final design to determine how current site conditions may influence any identified project. It may be determined that with additional site information, the hazardous material sites are not a threat to project development due to a site cleanup or *de minimus* conditions. The level of additional data collection should be dependent on the types of project activities proposed at or near hazardous material sites.

3.3.4 Water Quality

Activities that may impact water quality conditions within the Lewis River, Robinson Creek, floodplain areas, or wetlands, such as increase impervious surface areas, will require compliance with the local Critical Areas Ordinance, a Hydraulic Project Approval (HPA) from the Washington Department of Wildlife (WDFW), a joint 404/401 permit from the U.S. Army Corps of Engineers (Corps) and the Washington State Department of Ecology (DOE), and a National Pollution Discharge Elimination System (NPDES) permit from the DOE.

Work within the floodplain of the Lewis River will require a FEMA floodplain permit.

3.3.5 Wetlands and Waters of the U.S. and State

Within the Woodland TISP project area, the presence of riverine wetlands alongside the Lewis River and a large palustrine emergent wetland between I-5 and the Old Pacific Highway within the Belmont Loop area were identified through review of National Wetlands Inventory (NWI) data and were verified through field reconnaissance. These areas will need to be delineated to determine the precise boundaries of the wetland(s) and specific jurisdictional regulation. Also, five smaller areas of potential wetlands within drainage/irrigation ditches were located on private property and will need to be field verified and delineated if wetland conditions are present. If there are any impacts to jurisdictional wetlands or drainage ditches then a Joint Aquatic Resources Permit Application (JARPA) would need to be submitted to the DOE and Corps to fulfill Section 404/401 requirements.

3.4 LAND USE

This section examines the land use context for the City of Woodland, Washington for the Woodland Transportation Strategic Infrastructure Plan (TISP) project and includes:

- Existing land uses and socioeconomic conditions within Woodland.
- Macro-level growth trends for the City of Woodland.
- Existing land use policies.
- Probable future development scenario over the life of the City of Woodland's *Comprehensive Plan*.

3.4.1 Study Area Description

The City of Woodland is approximately 22 miles north of the City of Portland, Oregon, and approximately 19 miles south of the Longview-Kelso urban area. The city is primarily within Cowlitz County, and has a small area of land within Clark County.

3.4.1.1 Socioeconomics and Population

Incorporated in 1906, the City of Woodland has recently been experiencing significant growth in both population and employment. The 1990 U.S. Census reported a population of 2,500, which grew to a reported population of 4,785 by November 30, 2006 as reported by the State of Washington Office of Financial Management (OFM). This represents a total population growth over 90 percent or an annualized rate of approximately 4.1 percent over the past 16 years.

Although the Woodland corporate limits are situated within two counties, the majority of its land is located in Cowlitz County, and its rural character is more consistent with Cowlitz County than with Clark County. For these reasons, growth comparisons are provided for Cowlitz County, but not for Clark County. In 2006, the OFM estimated a population of

96,800 in Cowlitz County, which, compared to the 1990 population of 82,119, represents an average growth of approximately 0.97 percent growth per year. Woodland's growth far outpaces the overall county growth and is expected to create increasing development pressures for the city.

Some of this rapid population growth has been attracted by the 32 percent increase in local jobs (1994 to 2004). Other factors influencing growth include the city's convenient location between two growing metropolitan areas (Longview/Kelso and Portland/Vancouver), lower housing costs, and small town atmosphere which have combined to make Woodland an attractive home for commuters. Over the past several years, most new residential development in the city has occurred on the east side and there is some potential for additional such development within the Urban Growth Boundary.

The city's employment includes a strong base in retail, service and industrial sectors which grew by roughly 32 percent between 1990 and 2000. As of 2004, total employment in the city is estimated at over 3,000 jobs. The industrial sector has increased substantially over the past 5 years with several new and expanded businesses. Much of the industrial land identified for future growth within the city and the UGB lies to the west of I-5. Land is flat and there are large parcels available for development that have good access to I-5 and the BNSF mainline with relatively few environmental constraints or conflicting land uses. The city expects to see significant growth in industrial jobs.

The city also has a strong retail employment base as the market area for these services covers a sizeable area of southern Cowlitz and northern Clark County, in addition to I-5-related retail demand. There are four major commercial areas within the city – Downtown, east side (vicinity of SR-503 and Atlantic Avenue), a strip along Pacific Avenue, and in the vicinity of I-5/Dike road interchange where a recent rezoning provides the opportunity for a variety of commercial uses to be developed. The latter three locations all have high growth potential, particularly for high traffic generating uses including big box retail. Downtown is expected to see some infill development, and there is currently an active Downtown Revitalization Committee. Jobs in the retail and service sectors are expected to increase as the city's industrial base increases.

The Woodland *Comprehensive Plan* relies on a projected growth rate of 3.5 percent per year based on the Woodland *Urban Growth Management Program*, adopted in 2002. This rate is slightly lower than the more currently experienced growth rate of 4.1 percent. Applying this growth rate to the 2004 population of 4,140, the City of Woodland had projected a population of 8,526 by the 2025. This represents nearly a doubling of the current population. Employment is expected to more than double from 2,908 to 6,238 jobs with the bulk of this growth occurring in the northwest portion of the city (over 1,500 new jobs) and the central city along the east side of I-5 (with over 1,000 new jobs). Coupled with this growth are significant increases in traffic volumes ranging from a 50 percent increase to a tripling over existing levels. Critical areas of future congestion are expected to be located along SR 503 in the vicinity of the I-5 interchanges.

The *Regional Population Forecast* for Woodland indicates that the proportion of the population over age 65 will decrease over the next 20 years while the proportions of those between 0 and 44 year of age will increase as more young families move to Woodland to benefit from its lower cost of living, rural character, and proximity to larger urban areas. This growth pattern indicates an increasing need for education and day care facilities in the future. Along with the shift in age demographics, the household size in Woodland is expected to increase, rather than decrease which is the norm in many other communities. According to the U.S. Census, the median income in Woodland was $40,742 in 2000, eighteen percent

lower than the State of Washington median income. Woodland expects the median to rise as the demographics shift over the next 20 years.

3.4.1.2 Existing Land Use

Approximately 24 percent of the total land area within the City of Woodland is occupied by residential uses. The majority of the residential use is low density, concentrated in three identifiable neighborhoods, West Woodland, Central Woodland, and East Woodland. Only five percent of all the residential land is considered high-density, which has historically been concentrated to the west of I-5. Starting approximately 20 years ago, the eastern side of Woodland began to see several high density residential developments as well. Figure 3-1 shows a land use inventory from 2005.

While historically Woodland's economy was based on the timber industry and agriculture, today its major employers are in light industry, retail and service-based business. The four main commercial areas within Woodland comprise approximately 7 percent of the land area. The downtown area was the historical center of commerce for the city, but the east side commercial area, near the intersection of SR-503 and Atlantic Avenue has become the current commercial center of activity. The third commercial area is along Pacific Avenue between Goerig Street and Scott Avenue. The fourth is adjacent to and southeast of the Dike Road/I-5 Interchange between I-5 and Old Pacific Highway. The *Comprehensive Plan* indicates that there are no plans to designate additional lands as commercial, or to expand the Urban Growth Area (UGA) to create more available commercial land. There is ample area for infill commercial development.

Industrial development is somewhat scattered throughout the city, but with concentrations in the northwestern portion along the railroad tracks and Schurman Way. There are substantial lands within the UGA, west of the city limits, designated for future industrial use. This land is attractive for industry because it is located near I-5, is adjacent to the railroad, and is flat with relatively few environmental constraints.

The City of Woodland manages four publicly owned parks within city boundaries. Horseshoe Lake Park and Hoffmann Park are the largest parks and are located near downtown. Hoffmann Park provides a community center, tennis courts, and grassy areas, while Horseshoe Lake Park provides open space, swimming area, and picnic facilities. Eagle Park and Kenneth Bjur Park are referred to as Mini-Parks in the January 2007 *Woodland Park and Recreation Plan*. They are both located within the newer residential developments on the east side of Woodland, north of SR 503. They provide play structures for younger children, as well as benches and picnic tables. The *Woodland Park and Recreation Plan* notes that residents also heavily use the public school grounds in Woodland as recreation resources, although they are not managed for this purpose.

3.4.2 Regulatory Context

3.4.2.1 City of Woodland Comprehensive Plan

The *Comprehensive Plan* establishes policy direction for future land development within Woodland's UGA. The City of Woodland is in the somewhat unusual situation of being partially located in Clark County, which is completely subject to the State of Washington's Growth Management Act (GMA, Section 36.70A.070 RCW), and primarily located in Cowlitz County, which is *not* completely subject to the GMA, caused some initial uncertainty about the applicable requirements for the City must write its *Comprehensive Plan* in

Figure 3-1. Land Use Inventory

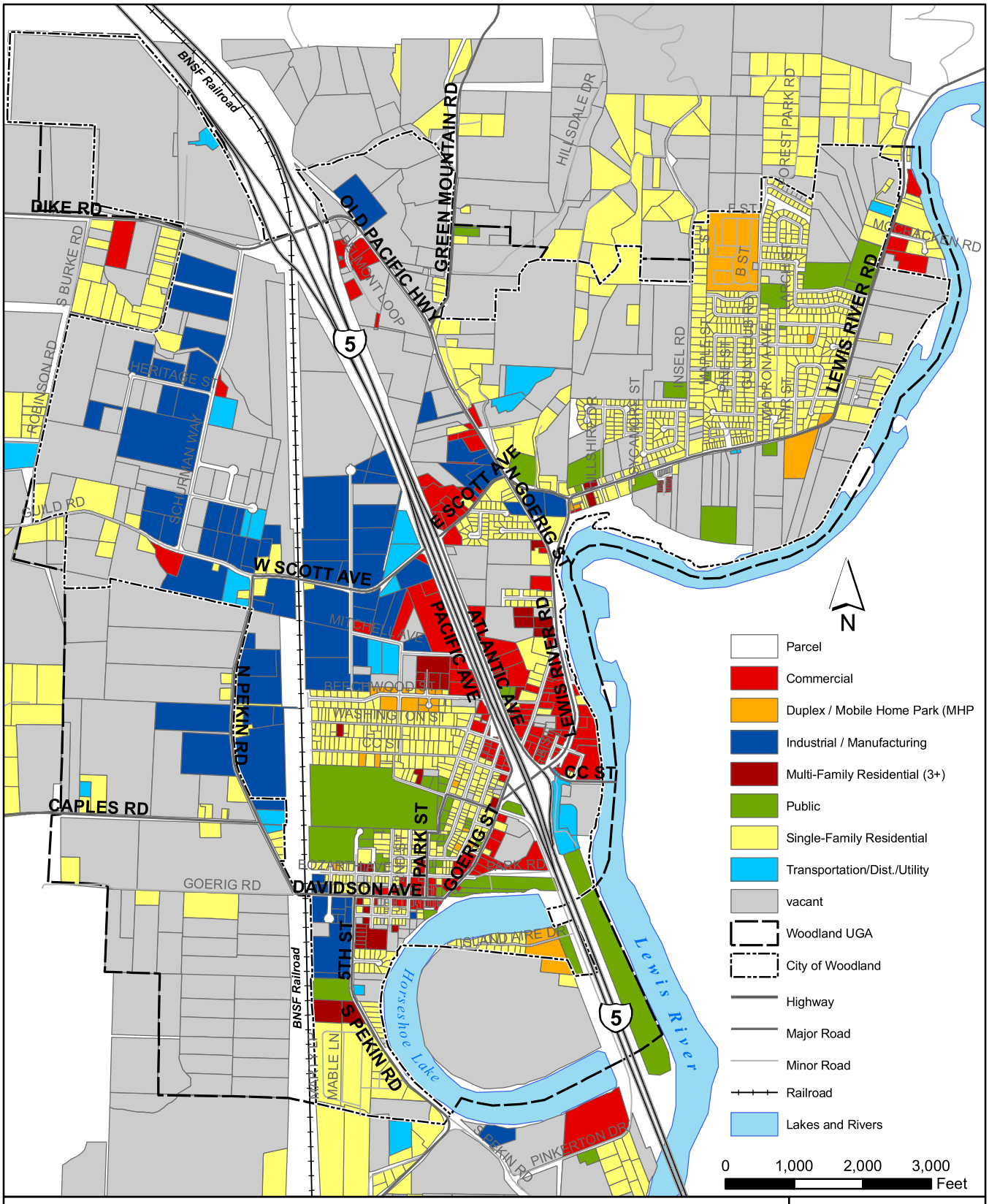

Figure 3-1: Land Use Inventory

Parametrix

The Transpo Group

Woodland Transportation Strategic Infrastructure Plan

Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-1_LU_Inventory.mxd

Figure 3-2. Comprehensive Plan

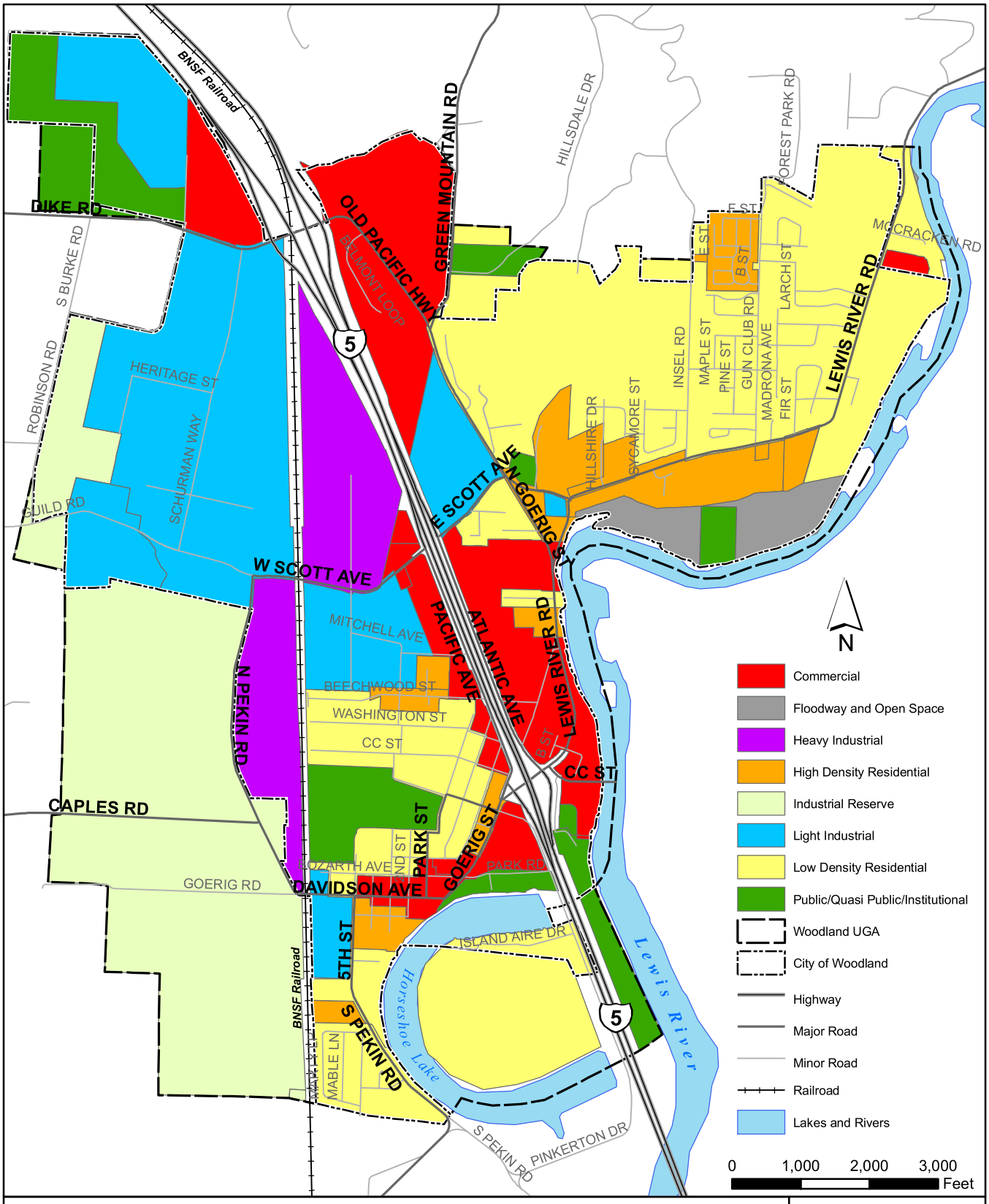

Figure 3-2: Comprehensive Plan

Parametrix

The Transpo Group

Woodland Transportation Strategic Infrastructure Plan

Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-2_CompPlan.mxd

accordance with the requirements of GMA and coordinate with Clark County's *Comprehensive Plan* and countywide planning policies.

Taken as a whole, Woodland's *Comprehensive Plan's* goals and policies strongly suggest continued residential, commercial and industrial development within the current Woodland UGA. For example, goals to "Diversify and balance the local economy to ensure sustained growth and varied employment opportunities" include "*Encouraging expansion and redevelopment of existing industries and business in the community; Ensuring that the public facilities and services necessary to attract and support economic development are available and adequate; and Using the advantage of freeway visibility to establish the city as a traveler/tourist service center.*" The *Comprehensive Plan's* main Transportation Goal is to "*provide a convenient, safe, and efficient multi-modal transportation system that promotes the mobility of people and goods within and through the city*." Another Transportation Goal in support of the activities being studied in this project is to "*Develop and improve the city's arterial and collector road system to link residential, commercial, and industrial areas of the city with each other and with the regional highway system.*"

3.4.2.2 Woodland Zoning and Comprehensive Plan Designations

Woodland *Comprehensive Plan* Designations as shown in Figure 3-2 include:

- *High Density Residential*: Residential development density between 7 and 35 units per acre. Includes apartments and other multi-family dwellings, as well as some manufactured housing developments.
- *Low Density Residential*: Residential development density of less than 7 units per acre. Includes conventional single-family residences, large-lot or estate housing, manufactured housing on individual lots and duplexes.
- *Downtown Commercial*: This is a high intensity land use including the central business district and other dense arrangements of professional offices and retail stores. This designation discourages land consumptive uses (i.e., warehouses) and uses that generate high traffic (i.e., drive-through businesses or gas stations). This designation encourages high floor area ratios (1.5 to 1.0) and also residential use on upper floors.
- *Highway Commercial*: This is moderate intensity land use including commercial nodes and strip commercial areas that are served by access roads linked to major arterials to accommodate automobiles. This designation encourages moderate floor area ratios (<0.5).
- *Neighborhood Commercial*: This is low intensity land use including scattered neighborhood businesses such as convenience stores and service stations. This designation encourages low floor area ratios (<0.25).
- *Industrial Land Use*: This category includes land used for light and heavy manufacturing, processing, warehousing, storage and transportation/distribution. In all cases, industrial land use has been defined as intensive and often has a significant influence on the environmental quality and economic strength of the community. In addition to light and heavy industrial land designations, Woodland has created an Industrial Reserve designation that is applied to land west of the city limits within the UGA.
- *Public Facilities and Services:* This category includes public facilities, public services, and transportation facilities. These require land throughout the city.

3.4.2.3 Woodland Zoning Designations

Woodland Zoning Designations as shown on Figure 3-3 include:

- *LDR* – Low Density Residential Districts (LDR-6, LDR-7.2, LDR-8.5, LDR-10): The purpose of this district is to stabilize and preserve low density residential neighborhoods, to create a stable and satisfying environment for family life and to prevent intrusions by incompatible land uses.
- *MDR and HDR* – Medium and High Density Multifamily Residential District: The following multifamily residential districts are established: 1. MDR, medium density multifamily residential district; and 2. HDR, high density multifamily residential district. The multifamily residential districts are intended to reserve appropriately located areas for multifamily living at a broad range of dwelling unit densities consistent with the *Comprehensive Plan*.
- *FW* – Floodway Use District: The floodway use district (FW) is a zoning classification providing for uses in floodway hazard areas. Floodways are extremely hazardous areas due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential. Due to the physical restrictions to building in the floodway, the intent of this district is to provide for land uses with a low impact on the floodway, but still allow for an economic use of the land.
- *C-1* – Central Business District: The central business district (C-1) is a zoning classification providing for a wide range of retail and professional business uses and services compatible to the central business district of Woodland and providing a focal point of commerce in a setting conducive to safe, convenient, and attractive pedestrian use. The intent of the district is to insure that the downtown business district is preserved and has the capability for growth, expansion, and enhancement.
- *C-2* – Highway Commercial Use District: The highway commercial district (C-2) is a zoning classification providing for commercial services which are accessible by automobiles and trucks, require extensive outdoor storage or display areas as well as off-street parking and loading areas. This classification is intended to minimize any undesirable impacts of these uses on other nearby uses and zoning districts.
- *C-3* – Neighborhood Commercial Use District: The neighborhood commercial district is a zoning classification providing for commercial services which, by necessity or convenience, must locate in or near residential areas while minimizing any undesirable impacts of such uses on surrounding neighborhoods.
- *I-1* – Light Industrial Use District: The light industrial use district (I-1) is a zoning classification providing for light manufacturing and fabrication, warehousing and storage, construction and contracting operations, wholesale distribution operations, and related activities which normally require ready access by various transportation modes for the movement of materials, goods, and the area work force. This classification is intended to minimize any undesirable impacts of these uses on other nearby uses and zoning districts.
- *I-2* – Heavy Industrial Use District: The heavy industrial use district (I-2) is a zoning classification providing a use district for the establishment of heavy industrial and manufacturing uses and activities not otherwise prohibited by law and satisfying the criteria of the zoning code. This classification is intended to minimize any undesirable impacts of the permitted uses on other nearby uses and zoning districts,

Figure 3-3. Existing Zoning

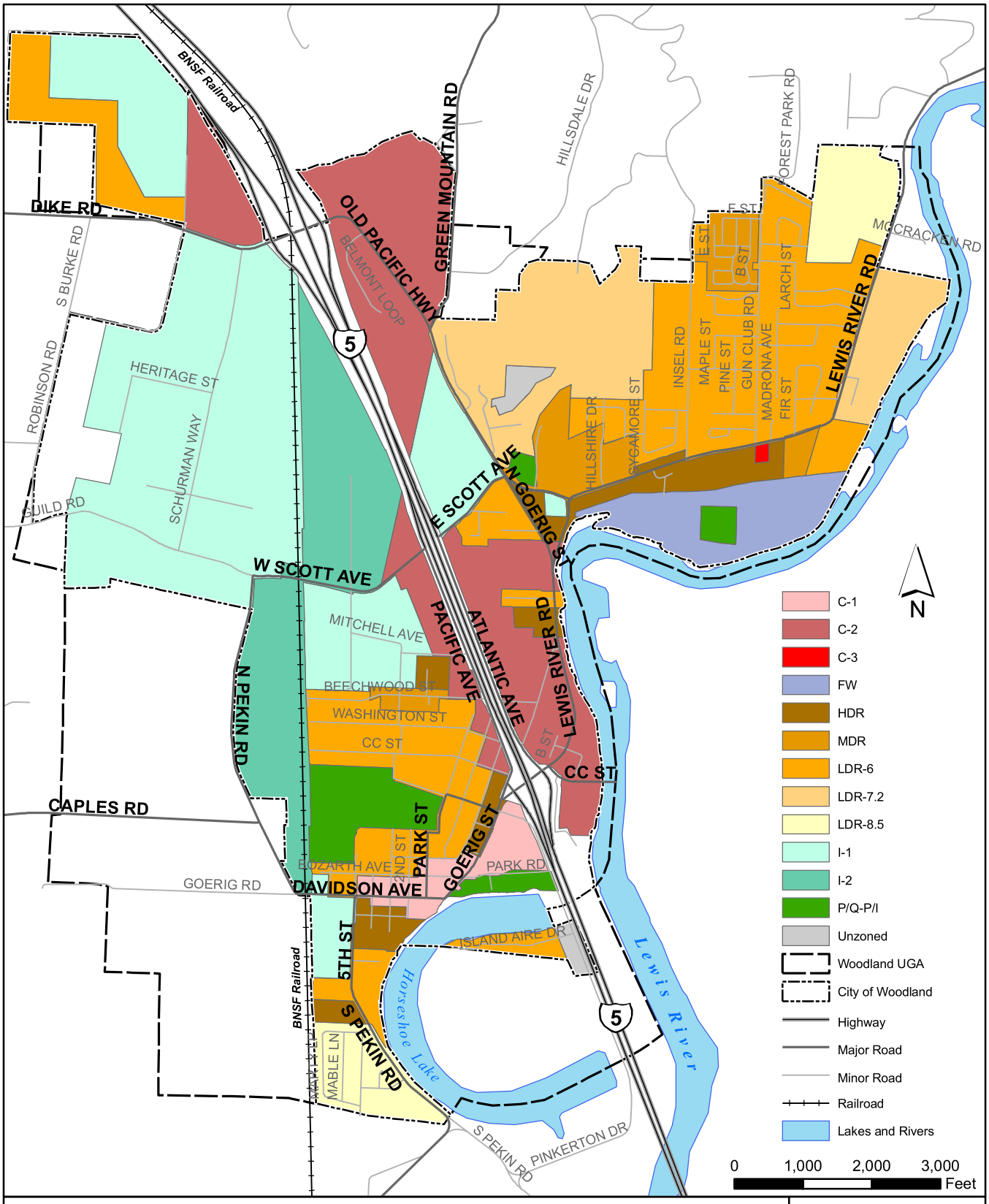

Figure 3-3: Existing Zoning

Parametrix

The Transpo Group

Woodland Transportation Strategic Infrastructure Plan

Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-3_ExistingZoning.mxd

Figure 3-4. Households and Employment by Districts

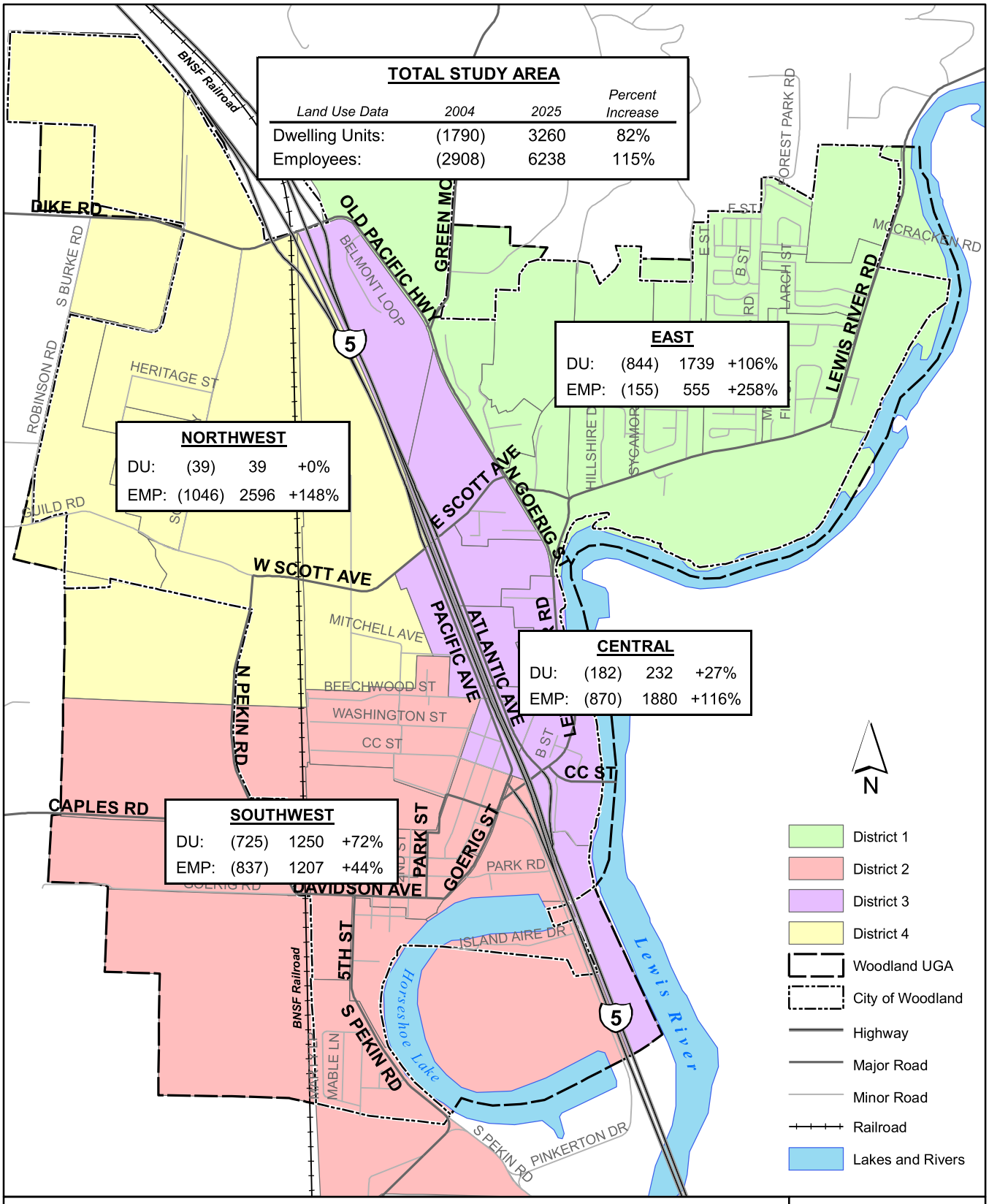

Figure 3-4: Households and Employment by District

Parametrix

The Transpo Group

Woodland Transportation Strategic Infrastructure Plan

Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-4_HouseholdsAndEmployment.mxd

3.4.3 Potential Permitting Needs

Zoning regulations are found in Title 17 of the Woodland Municipal Code (WMC). Within residential zones, streets are a permitted use outright. Within all other zones in Woodland, streets are not identified as permitted, accessory, or conditional uses. Justin Erickson of the Cowlitz-Wahkiakum Council of Governments (CWCOG) confirmed that the City of Woodland would likely consider new streets and expansions of existing streets outright permitted uses in all zones.

Within the area in UGA, but outside of the city limits, the land is primarily zoned Agricultural-Industrial (AG-1) by Cowlitz County which allows a wide variety of agricultural and industrial uses. Generally, larger development within this area would occur after annexation to the city and would be subject to the City of Woodland zoning and permitting requirements.

Buildings and Construction Regulations are found in Title 12 of the WMC and contain detailed standards and requirements for streets and sidewalks in Chapter 12.14. All new transportation infrastructure must comply with Title 12.

Critical Area Regulations are found in Chapter 15.08 of the WMC. If any new roadways were to be proposed within a critical area defined in this chapter, a critical area permit, including submission of a critical area report, would be required. Critical areas include frequently flooded areas, wetlands, aquifer recharge areas, geologically hazardous areas, and fish and wildlife habitat areas. Where improvements to roadways or other transportation facilities will be entirely contained within the existing, previously disturbed right-of-way, a critical area permit may not be required.

Other required permits would include a SEPA Environmental Checklist, a Fill/Grade Permit, and potentially right-of-way connections permits and other public works approvals.

3.4.4 Conclusions

The City of Woodland's population is predicted to grow significantly by 2025. Local land use plans, policies and ordinances, as found in the Woodland *Comprehensive Plan* and the *Woodland Municipal Code*, support additional residential, commercial, and industrial development inside the Urban Growth Area (UGA). It is anticipated that most, if not all, economic and population-induced development will likely occur where vacant or redevelopable land is available within the UGA. However, it should be noted that Cowlitz County and its incorporated cities will be initiating an update to their existing Comprehensive Plans beginning within the next year, and this update may expand the UGA boundaries an/or modify the currently proposed land use patterns in the broader study area. Along with more urban infill development and higher densities, land use changes from today's existing patterns within the UGA would most likely include new large retail development in the northwestern portion of the study area, and new industrial and residential developments in the southwestern portion of the study area in the place of current agricultural uses.

3.5 BIOLOGICAL RESOURCES

3.5.1 Purpose and Approach

The following section discusses existing natural resources relevant to the development of the Woodland Transportation Infrastructure Strategic Plan (TISP). Included is an assessment of natural areas, protected wildlife, fish, and botanical species, and designated sensitive species

and their habitat present within the project area. Information and documents collected and evaluated provide a baseline context within which future study can be conducted emphasizing the presence of any natural resource issues that may affect the identification of specific transportation system improvement recommendations.

On June 13, 2007, representatives from Parametrix visited the proposed study area to evaluate the existing natural resources, habitat features, and potential sensitive lands that may be present within the a focused study area (defined as an Area of Potential Effect or APE). The APE was identified to facilitate field reconnaissance within specific geographic areas where transportation system improvement alternatives and/or recommendations would most likely be identified. Below is a brief description of methodologies used for data gathering:

Prior to the field investigation, Parametrix staff reviewed available environmental data for the proposed study area. This included, but was not limited to, an examination of topographic maps, aerial photographs, StreamNet maps, as well as data from the Washington Natural Heritage Program.

3.5.2 Existing Biological Resources

This section describes habitat and vegetation cover types, water resources, and habitat for protected terrestrial, botanical, and aquatic species.

3.5.2.1 Habitat & Vegetation Cover Type

A majority of the study area is comprised of low to medium-density urban development, as well as commercial and light industrial development. These developed areas generally include small patches of manicured shrubs, grasses and ornamental vegetation (see Photographs 1 and 2 in Appendix C). Agricultural lands (i.e., strawberries) and open fields (many of which are either for sale, or have been sold for development) are also scattered within the study area (Photograph 3). The areas of open fields within the project area are dominated by grasses. These grasslands/meadows contain habitat features that provide forbs for deer and are important to nesting and brooding birds and rodent populations – which in turn provide food for hawks and owls.

Woodland habitats provide cover, roosting, and nest sites for birds, bats, and small mammals. Woodland habitats are limited within the project area and are present only in small, fragmented stands.

Few green spaces occur within the project area, with the most substantial in size being Horseshoe Lake Park. The park contains manicured grass and shrubs, and trees consisting of big leaf maple (*Acer macrophyllum*), Douglas-fir (*Pseudotsuga menziesii*), and pine trees (*Pinus* sp.) (Photograph 4).

Natural vegetation within the project area consists of disconnected narrow strips of riparian habitat found along the Lewis River. These riparian areas are dominated by willows (*Salix* sp.), red alder (*Alnus rubra*), big leaf maple, and black cottonwood (*Populus balsamifera*) as well as reed canary-grass (*Phalaris arundinacea*) and Himalayan blackberry (*Rubus discolor*) (Photograph 5). The riparian areas contain some of the most productive habitats in the project area. Functions provided by riparian habitat include the production of abundant food sources for wildlife and a diverse strata of vegetation that can be used by wildlife for nest and den sites, refugia, thermal cover, and a migration corridor for birds, deer, and small mammals. Riparian areas also help in sustaining good water quality (temperature) and act as natural flood control structures.

Open water habitats within the project area include Horseshoe Lake (Photograph 6) and the Lewis River (Photograph 7). Open areas of water provide many functions for multiple

species, including areas for breeding, forage habitat, and refugia habitat for water birds, raptors, fish, and amphibians. The Lewis River not only provides breeding, forage, and refugia habitat for a variety of wildlife species but also provides important migration, rearing, and spawning habitat to listed salmonids found within the region, including Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch)*, chum salmon (*O. keta*), and steelhead (*O. mykiss*). Robinson Creek, a tributary to the Lewis River, is located near the northeast boundary of the proposed project area (see Section 3.8).

3.5.2.2 Listed Species

The presence and/or absence of terrestrial and aquatic listed species and designated critical habitats under local and federal jurisdictions were obtained from the following web sites:

- USFWS Listed Species for Cowlitz County - http://www.fws.gov/westwafwo/se/SE_List/COWLITZ.htm
- USFWS Critical Habitat Map - http://crithab.fws.gov/
- StreamNet – http://map.streamnet.org/snetmapper/viewer.htm
- NMFS Salmon Listings - http://www.nwr.noaa.gov/ESA-Salmon-Listings/Index.cfm
- Washington Natural Heritage Program Rare Plants for Cowlitz County - http://www.dnr.wa.gov/nhp/refdesk/lists/plantsxco/cowlitz.html
- WDFW Listed Species and Critical Habitat - http://www.fws.gov/westwafwo/se/splistdec22.pdf

Based on the information provided by the web sites and habitat presence within the project area, bald eagle (*Haliaeetus leucocephalus*), Chinook salmon, coho salmon, chum salmon, and steelhead may occur within the project area, as outlined in Table 3-2. Table 3-2 includes listed species that may occur within the project area as well as the presence of designated critical habitat. Based on review of aerial photos, a site visit, and a review of the listed species and their habitat requirements, the likelihood of suitable habitat for listed species, except for listed salmonids in the Lewis River, is low (listed fish species were not identified as being present within Horseshoe Lake).

Table 3-2. Species and Critical Habitat within or Adjacent to Project Area

Species DPS/ESU	Listing Status	Critical Habitat
Bald Eagle (*Haliaeetus leucocephalus*)		
	Threatened - 3/11/67; 32 FR 4001	NA
Chinook Salmon (*Oncorhynchus tshawytscha*)		
Lower Columbia River (LCR)	Threatened - 6/28/05; 70 FR 37160	Designated - 9/2/05; 70 FR 52630
Chum Salmon (*O. keta*)		
Columbia River	Threatened - 6/28/05; 70 FR 37160	Designated - 9/2/05; 70 FR 52630
Coho Salmon (*O. kisutch*)		
LCR	Threatened - 6/28/05; 70 FR 37160	Under Development
Steelhead (*O. mykiss*)		
LCR	Threatened - 1/5/06; 71 FR 834	Designated - 9/2/05; 70 FR 52630

Source: USFWS 2007, NMFS 2007.
Note: FR = Federal Register.

No bald eagle (*Haliaeetus leucocephalus*) nests were identified within the proposed project area during a June 13, 2007 field visit. However, bald eagles may use the Lewis River corridor within/near the project area for forage. Temporary impacts from a proposed project to the federally listed bald eagle may include effects from noise. Because no trees were

identified as nesting sites, no permanent impacts to bald eagles or bald eagle habitat should occur.

The Sandhill crane is a state-listed endangered species, which use areas within the Woodland Bottoms for migratory staging areas. The Sandhill cranes may be present witin wetlands and agricultural fields of the study area from late September through April, with a few possibly taking residence all year long (pers. comm.. 10/3/07, Brian Calkins, WDFW Biologist). Depending on the impacts to wetlands and/or agricultural fields and the timing of these impacts, a local WDFW biologist should be contacted for guidelines in conjunction with roadway improvements.

Columbia white tailed deer are state and federally-listed endangered species. Although the study area is within the historic range for Columbia white tailed deer, a population does not currently exist (pers. comm.. 10/3/07, Brian Calkins, WDFW Biologist).

Other species listed as threatened, endangered, or as a candidate for listing that are potentially present within Cowlitz County include:

- Columbia River bull trout (*Salvelinus confluentus*), threatened.
- Northern spotted owl (*Strix occidentalis caurina*), threatened.
- Marbled murrelet (*Brachyramphus marmoratus*), threatened.
- Oregon spotted frog (*Rana pretiosa*), candidate.
- Nelson's checkermallow (*Sidalcea nelsoniana*), threatened.

Habitat for these remaining species is not present in or near the project area, nor have they been identified as occurring within the project area. In addition, no other species are proposed for listing in this portion of the Pacific Northwest.

3.5.3 Conclusions

Listed species within the project area include salmonids found within the Lewis River and Robinson Creek. Direct and indirect impacts, such as in-water work, clearing of riparian vegetation, and an increase in impervious surface area resulting in increased stormwater runoff to the Lewis River, or its tributaries will trigger Section 7 of the ESA. Section 7 requirements include the development of avoidance and mitigation measures, usually in the form of a Biological Assessment, for impacts to, or near, the Lewis River prior to proposed construction activities. Also, work near the Lewis River within the floodplain will require a FEMA floodplain permit (see Section 3.7).

Particularly within Lewis River riparian areas, removal of stands of trees used by migratory birds would require Migratory Bird Treaty Act Permit authorization. Prior to finalizing transportation improvement recommendations that may include the acquisition of private property, it is recommended that there be coordination with local Washington Department of Fish and Wildlife (WDFW) biologists to identify stands of trees on private property that could potentially be used by migratory birds.

During later design stages, potential impacts to natural resources will be identified and assessed in greater detail. Where practicable, impacts should be avoided or minimized. If impacts are unavoidable, more specific permitting requirements and mitigation measures will need to be identified.

3.6 HAZARDOUS MATERIALS

3.6.1 Methodology and Data Resources

This report identifies potential hazardous waste sites that were generally located within or near the Area of Potential Effect (APE) of the Woodland study area as shown in Figure 3-5. The purpose of this screening level assessment for hazardous materials – solid, hazardous, or dangerous waste sites (hazardous material sites)[3] is to identify these sites in the Woodland project area and to assess their possible impacts. This was accomplished by identifying known or suspected hazardous materials sites and evaluating each of these sites to assess potential human health, environmental, and liability risks.

Identification and evaluation allows mitigation measures to be identified. The development of these measures may include changes in the alignment, identification of areas that require additional investigation before right-of-way acquisition, and implementation of other measures that are protective and reduce environmental liability and associated costs. By reviewing information regarding sites of potential contamination, the handling of any hazardous materials can be planned in compliance with the federal and state laws listed below.

3.6.1.1 Relevant Laws and Regulations

Federal Laws

- Clean Air Act (CAA), 42 United States Code (USC) 7401 et seq.
- Clean Water Act (CWA), 33 USC 1251 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601 et seq.
- Federal Highway Administration (FHWA), Technical Advisory T6640.8A.
- Occupational Safety and Health Act (OSHA), 29 USC 651 et seq.
- Resource Conservation and Recovery Act (RCRA), 42 USC 321 et seq.
- Safe Drinking Water Act, 42 USC 300(f) et seq.
- Small Business Liability Relief and Brownfields Revitalization Act.
- Toxic Substances Control Act (TSCA), 15 USC 2601 et seq.

Washington Laws and Rules

- Dangerous Waste Regulations (WAC 173-303).
- Oil and Hazardous Substance Spill Prevention and Response (Chapter 90.56 RCW).
- Underground Storage Tank Regulations (WAC 173-360).

3.6.1.2 Data Reviewed

The identification of hazardous material sites included review of federal and state databases. The databases reviewed provide site information regarding the potential for release or threat

3 The definition of hazardous waste can be found in 40 (CFR) Code of Federal Regulation 261.3. Wastes are defined hazardous if they are: 1) "listed" (specially named), or 2) if they exhibit any of four hazardous waste characteristic (ignitability, corrosivity, reactivity, and toxicity characteristic).

of release of contaminants and concerns of potential hazardous waste sites within or near the APE. The following databases were reviewed:

Federal Databases

- NPL: The *National Priorities List*, a subset of CERCLIS, identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas.
- CERCLIS: The *Comprehensive Environmental Response Compensation and Liability Information System* was created to support the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) as a repository for data on hazardous waste sites from 1983 to present. CERCLIS also contains data on sites which are listed or proposed to be listed on the NPL, and/or sites which are in the screening and assessment phase for possible inclusion on the NPL. The NPL identifies sites that are a priority for cleanup under the Superfund Program.
- RCRIS: The *Resource Conservation and Recovery Information System* was created to support the Resource Conservation and Recovery Act (RCRA) as repository for data on small quantity hazardous waste generators (SQGs) and large quantity hazardous waste generators (LQGs), and waste transporters and storage and disposal facilities (TSDFs)

Washington Databases

- CSCSL: The *Confirmed or Suspected Contaminated Site List* is a repository for information on sites in Washington that may be of environmental interest. The CSCSL is the Washington Department of Ecology's (Ecology) equivalent to the Federal CERCLIS.
- LUST: The *Leaking Underground Storage Tank* database contains an inventory of sites that have a reported release incident.
- UST: The *Underground Storage Tank* database contains information on registered USTs. Registration of a UST does not indicate that a release incident has occurred.
- HWS: The *Hazardous Waste Site* database contains information on sites that generate, treat, store, transport, or dispose of hazardous wastes.

Databases were searched within the APE and within a 1-mile radius of the APE. The selected search radii was based on possible migration of contaminants from a source site to the APE that may impact a potential project recommendation. The database search is intended to be a screening level assessment and does not include all appropriate inquiry required for landowner liability protection under CERCLA law. Further data collection and analysis will be required during preliminary and final design for any recommended improvement project.

3.6.2 Data Summary

This section presents the current environmental database records for hazardous material sites. Eighty sites are identified within the APE and within one-mile of the APE. Thirty-four sites are identified in the database search within or bordering the APE. Forty sites are identified in the database search between the APE and 0.50 mile from the APE. Six sites are identified between 0.5-mile and 1-mile of the APE. Database search results are summarized in Tables 3-3 through 3-5 and approximate locations of the identified sites are included in Figure 3-5. The site identification (ID) numbers included in Figure 3-5 correlate to Site IDs summarized in Tables 3-3 through 3-5.

Figure 3-5. Hazardous Materials Sites

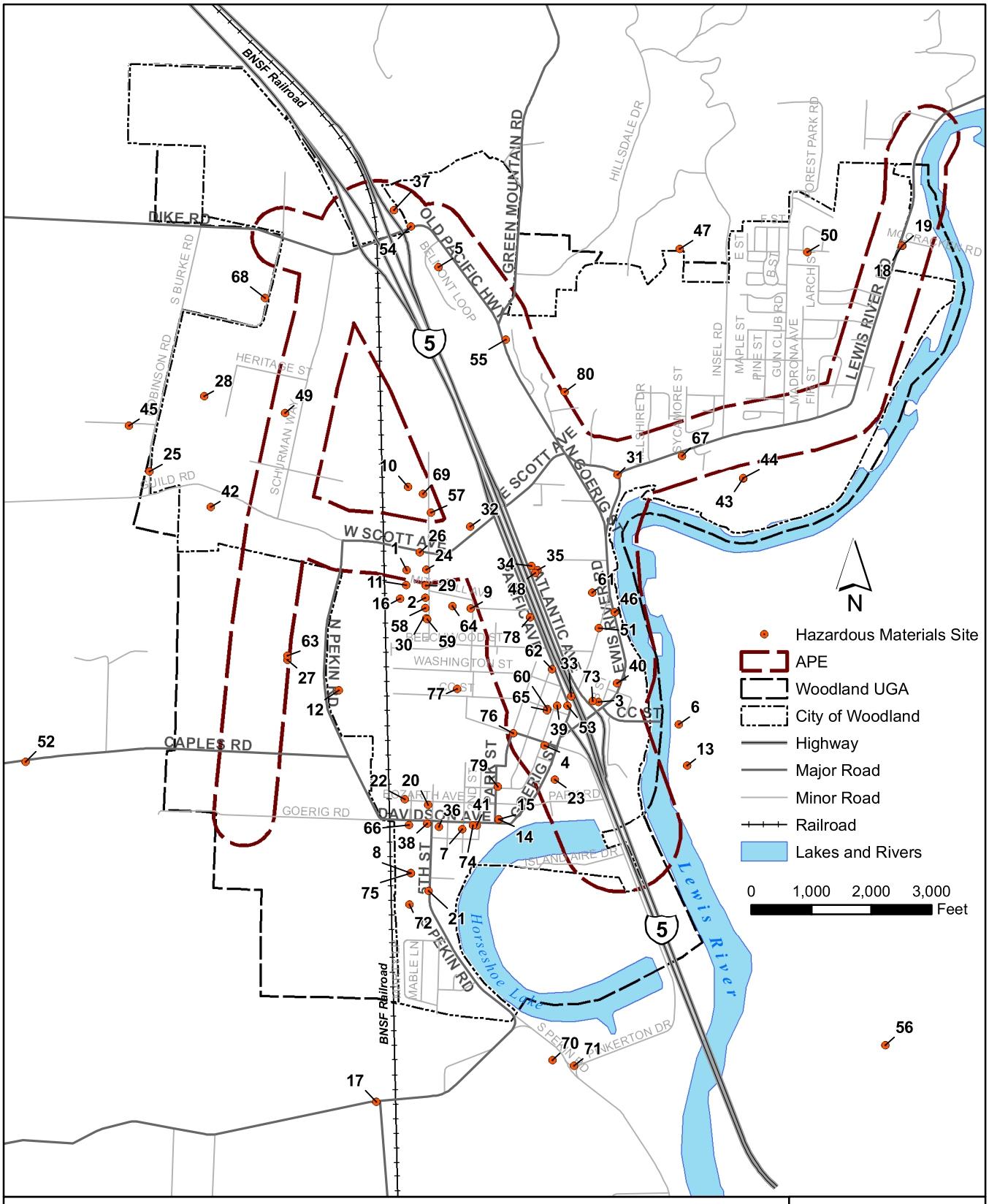

Figure 3-5: Hazardous Materials Sites

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Woodland Transportation Strategic Infrastructure Plan

Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-5_HazMat_Sites.mxd

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3.6.2.1 Listed Sites Bordering or Within the APE

Thirty-four hazardous materials sites are listed within or bordering the APE. Of the 34 sites, 3 are listed in the CSCSL database, six are listed in the LUST database, 18 are listed in the UST database, 26 are listed in the RCRIS database, and 7 are listed in the HWS database. Several sites are included in multiple databases. No NPL or CERCLIS sites are reported within or bordering the APE. These 34 sites are described in Table 3-3.

Table 3-3. Hazardous Materials Sites Bordering or Within the APE

Map ID	Site Address	Database
1	1391 Down River Drive # B	RCRIS
3	1039 Lewis River Road	UST, RCRIS
4		HWS
5	3906 Old Pacific Highway	UST, RCRIS
18	2301 Lewis River Road	UST
19		HWS
23	Hayes Star Rte Box 35B	RCRIS
24	1359 Down River Drive	RCRIS
26	618 W Scott Avenue	CSCSL, UST, RCRIS
27		HWS
31	158 W Scott Avenue	LUST, UST, RCRIS
32	302 W Scott Avenue	UST, RCRIS
33	1030 Atlantic Avenue	UST, RCRIS
34	1650 Atlantic Avenue	CSCSL, RCRIS
35	1400 Atlantic Avenue	RCRIS
37	9579 Old Pacific Highway	RCRIS
39	1061 Dale Street	RCRIS
40	1141 Lewis River Road	LUST, UST, RCRIS
46		HWS
48	1600 Atlantic Avenue	UST, HWS
49		HWS
51	1230 Lewis River Road	UST, RCRIS
53	1675 Pacific Avenue	UST, RCRIS
54	9473 Old Pacific Highway	CSCSL, RCRIS
55	9555 Old Pacific Highway	RCRIS
60	1015 Pacific Avenue	UST, RCRIS
61	1325 Lewis River Road	LUST, UST, RCRIS
62	1155 Hoffman Street	LUST, UST, RCRIS
63		HWS
65	1137 Pacific Avenue	UST, RCRIS
67	558 Robinson Road	RCRIS
73	1010 Atlantic Avenue	LUST, UST, RCRIS
76	1050 Hoffman Street	UST, RCRIS
78	1519 N Pacific Avenue	LUST, UST, RCRIS

The hazardous material sites bordering or within the APE are the most likely to be important for project planning. Sites lying outside of the APE are less likely to be acquired for right-of-

way, redeveloped, or expose existing hazardous materials during project activities. Active or former cleanup sites (CSCSL and LUST) pose greater risk to potential transportation improvement projects because of known contamination issues at these sites.

3.6.2.2 Listed Sites Between the APE and 0.50 Mile of the APE

Forty hazardous materials sites are listed between the APE and 0.5-mile of the APE. Of the 40 sites, 3 are listed in the CSCSL database, one is listed in the LUST database, 11 are listed in the UST database, 24 are listed in the RCRIS database, and 14 are listed in the HWS database. Several sites are included in multiple databases. No NPL or CERCLIS sites are reported between the APE and 0.5-mile of the APE. Data related to sites between the APE and 0.5 miles of the APE are presented in Table 3-4.

Table 3-4. Hazardous Materials Sites Between the APE and 0.5 Miles of the APE

Map ID	Site Address	Database
2		HWS
6	Hayes Rte Box 29AA	UST, RCRIS
7	437 2nd Street	RCRIS
8	300 4th Street	UST
9	1333 Glenwood Street	UST, RCRIS
10		HWS
11	1625 Down River Drive	RCRIS
12	300 N Pekin Road	RCRIS
13		HWS
14	535 Park Street	UST
15		HWS
16		HWS
20	701 B Bozarth Street	RCRIS
21	211 5TH ST PO BOX 250	UST, RCRIS
22	701 Bozarth Street	CSCSL, RCRIS
25	1441 Guild Road	RCRIS
28	1560 Down River Drive	RCRIS
29	660 Mitchell Avenue	RCRIS
30	1550 Down River Drive	RCRIS
36	301 Davidson Street	RCRIS
38	736 Davidson Street	UST, RCRIS
41	233 Davidson Street	CSCSL, LUST, UST, RCRIS
42		HWS
43	T5N R1E S18 SE NE	RCRIS
44		HWS
45	123 Stenerson Road	RCRIS
50		HWS
57		HWS
58		HWS
59	1552 Down River Drive	RCRIS
64	1402 Glenwood Street, PO Box 1007	UST, RCRIS
66	333 6th Avenue	CSCSL, RCRIS
68	1695 Lewis River Road	RCRIS
69		HWS

Table 3-4. Hazardous Materials Sites Between the APE and 0.5 Miles of the APE Cont.

Map ID	Site Address	Database
72	120 S Pekin	UST, RCRIS
74		HWS
75		HWS
77	989 Frazier Lane	UST, RCRIS
79	635 Park Street	UST, RCRIS
80	130 Scott Hill Road	HWS

3.6.2.3 Listed Sites Between 0.50-mile and 1 Mile of the APE

Six hazardous materials sites are listed between the 0.5-mile and 1-mile of the APE. Of the 6 sites, 2 are listed in the RCRIS database and 4 are listed in the HWS database. No CSCSL, LUST, UST, HWS, NPL, or CERCLIS sites are reported between the 0.5-mile and 1-mile of the APE. These sites are summarized in Table 3-5.

Table 3-5. Hazardous Materials Sites Between 0.5 Miles and 1.0 Miles of the APE

Map ID	Site Address	Database
17		HWS
47	701 Bozarth Street	RCRIS
52		HWS
56		HWS
70		HWS
71	275 Pinkerton Road	RCRIS

3.6.2.4 Data Gaps

The exact locations of sites identified in the regulatory database could not be confirmed. Site locations in Figure 3-5 are approximate and based on location information provided with the database record. The current status of each site could not be confirmed. Database records may be out-of-date and/or inaccurate. The facility may have relocated, discontinued operations, or increased operations that may not be reflected in the regulatory records. Facilities that would be considered a hazardous material site may exist within the project area that have not been entered into any regulatory record and, therefore, are not identified in this assessment.

To adequately address the impacts associated with hazardous material sites that may affect the development and permitting of transportation improvement recommendations, locations where property acquisition or construction activities where excavation may occur will first need to be determined. Additional detailed information about select hazardous material sites near these areas can then be collected and evaluated efficiently. The level of additional site information may vary depending on the proposed activities near the hazardous material site. If the hazardous material site is planned for acquisition, a Phase I Environmental Site Assessment (ESA) may be necessary as a part of preliminary design for a legally defensible document allowing for liability protections under CERCLA. If construction is planned near a hazardous material site but the site itself would not be impacted, additional information may consist of a file review with DEQ to determine the extent, if any, of contamination at the nearby hazardous material site.

Additionally, a site reconnaissance of the project area should be conducted by a qualified environmental professional to identify hazardous material sites not identified during the

database search and confirm the location of sites identified in the database search. A site reconnaissance was not conducted for this assessment. Historical information should be reviewed, such as historical aerial photographs and Sanborn® Fire Insurance Maps, to establish site history related to industrial, commercial, or agricultural operations that may impact the project area.

Data gaps can be addressed with the following methods:

- Determine the location of property acquisitions.
- Define the project alternatives.
- Determine the location and extent of construction activities.
- Determine hazardous material sites that may be affected by proposed projects and obtain additional site information.
    - Conduct ASTM E 1527-05 Phase I Environmental Site Assessments where property acquisitions may be necessary.
    - Conduct Phase II Environmental Site Assessments where hazardous material sites are in close proximity to construction activities.

3.6.3 Conclusions

Construction and operation of highways involves land disturbances that may increase the risks and liability associated with exposure and/or mobilization of hazardous materials. The impacts due to exposure to hazardous materials and liability associated with the acquisition of contaminated property must be considered when comparing and contrasting design options and project alternatives. Those hazardous material sites that are in or near the proposed right-of-way were assessed as having a greater risk potential than those outside or farther from the proposed right-of-way. The concern is that a release or threat of release of contaminants prior to construction could impact project goals with regard to human health, the environment, environmental property liability, and schedules.

This screening level hazardous material site assessment identified 34 sites within or bordering the APE with the potential to impact potential transportation system improvement recommendations. Out of all the databases reviewed, sites where a release has been confirmed (CSCSL and LUST sites) pose the greatest concern and have the highest likelihood of adverse impacts. Additional information regarding these sites and their relationship to potential transportation system improvement alternatives would need to be collected during preliminary and/or final design to determine how current site conditions may influence any identified project. It may be determined that with additional site information, the hazardous material sites are not a threat to project development due to a site cleanup or *de minimus* conditions. The level of additional data collection should be dependent on the types of project activities proposed at or near hazardous material sites.

3.7 WATER QUALITY AND FLOODPLAINS

Two main water features are partially located within the proposed project area: the Lewis River and Horseshoe Lake. These water bodies are illustrated in Figure 1-1 at the beginning of this report and in Figure 3-6 presented later in this section.

The Lewis River flows approximately 95 miles from the Cascade Range, through (adjacent to) the city of Woodland, and discharges into the Columbia River. Near the confluence with the Columbia River, the Lewis River is joined by the East Fork Lewis River, thus, the main

Lewis River is sometimes referred to as the North Fork Lewis River. Robinson Creek, a tributary to the Lewis River, is located near the northeast boundary of the proposed project area.

Horseshoe Lake is located on the Cowlitz-Clark County line. A small portion of the lake is located within the proposed project area. The lake was formed when US 99 (now I-5) was built in 1940, isolating a bend in the Lewis River (DOE 1995). The acreage of the lake varies during flood seasons but averages 85 acres with 3 miles of shoreline. Horseshoe Lake is a shallow oxbow lake that drains to the North Fork of the Lewis River.

3.7.1 Water Quality

Upstream from the project area, dams have created three reservoirs within the Lewis River: Lake Merwin, Yale Lake, and Swift Reservoir. Dams within the river influence sedimentation, flows, temperatures, and water quality. Releases from dams cause water temperatures that are cooler than historic conditions in spring and summer and warmer than historic conditions in fall and winter and also disrupt the natural sediment transport of the river system. Despite the upstream dams, the Lewis River and Robinson Creek, within the proposed project area, are not included on the 303(d) List of Water Quality Limited Streams. However, within upstream locations, such as above the Swift Reservoir (in Skamania County), there is a section of the Lewis River listed for temperature. Also, segments in between the Swift Reservoir and Lake Merwin are 303(d) listed for total dissolved gas.

Horseshoe Lake is a shallow lake with a mean depth of 6 feet and a maximum depth of approximately 16 feet. The lake can contain high nutrients which contribute to high chlorophyll concentrations, thus, the lake is classified as eutrophic (DOE 1995). Horseshoe Lake is not 303(d) listed.

3.7.2 Floodplains

The FIRM floodplain map is included as Figure 3-6. Most of the city east of Goerig Avenue is within the 100-year floodplain. Areas to the west of Goerig are within the 500-year floodplain. Proposed project work to occur within the area outlined in Figure 3-6 will require a FEMA floodplain permit.

3.7.3 Conclusions

Activities that may impact water quality conditions within the Lewis River, Robinson Creek, floodplain areas (Figure 3-6), or wetlands (Figure 3-7), such as increase impervious surface areas, will require adherence to the Cowlitz County Critical Areas Ordinance, a Hydraulic Project Approval (HPA) from the Washington Department of Wildlife (WDFW), a joint 404/401 permit from the Corps and DOE, and a National Pollution Discharge Elimination System (NPDES) permit from the DOE, as described in Table 3-6 (located in Section 3.8 of this document).

Work within the floodplain of the Lewis River will require a FEMA floodplain permit.

3.8 WETLANDS AND WATERS OF THE U.S. AND STATE

The following section assesses jurisdictional wetlands and other waters of the State and/or U.S. within the project area.

On June 13, 2007, representatives from Parametrix visited the proposed study area to evaluate the existing potential wetlands and waters of the U.S. and State that may be present within the proposed project action areas. Prior to the field investigation, Parametrix staff reviewed

available environmental data for the proposed project area. This included an examination of topographic maps, aerial photographs, and National Wetland Inventory (NWI) maps.

3.8.1 Wetland Resources

Potential wetland resources and locations were based on a review of U.S. Fish and Wildlife Service (USFWS) and NWI mapping and field observations (wetland delineations were not conducted) (See Figure 3-7). Wetland habitat is limited within the project area with the largest area of wetlands occurring between I-5 and the Belmont Loop area within the northern portion of the project area (Photographs 8 and 9 in Appendix C). The dominant wetland habitat within this area is classified as Palustrine, Emergent, Temporarily Flooded (PEMA). Wetlands are also distributed within the riparian area of the Lewis River adjacent to Lewis River Road within the southern portion of the APE and within the northeast corner of the APE (Photograph 10). These areas contain riverine tidal, palustrine scrub-shrub, and riverine upper perennial wetlands. NWI mapping also depicts small pockets of forested and scrub-shrub wetlands that may be found within drainages/irrigation ditches throughout the project area, these potential wetlands are located on private property and thus were not field verified.

Wetlands are important habitat types because they provide seasonal and/or permanent free-standing water for wildlife, vegetation for game and bird species, habitat for insects, which in turn supports bats and insectivorous birds; and habitat relied upon by amphibians to meet their life history requirements. Wetlands also provide flood control and act as sediment traps and pollution filtration systems.

The presence of wetlands is also critical to both breeding and migratory needs of many species of migratory birds. Wetlands may produce abundant populations of macro invertebrates that are the basis of food chains upon which hundreds of thousands of migrating shorebirds are dependent on to restore the fat reserves critical to reaching their breeding and wintering destinations.

Wetland delineations will determine the exact location of wetlands in relation to potential project activities and any potential impacts. If wetlands will be impacted, the resource would likely be regulated under Section 404 of the Clean Water Act, and would require a joint permit application to the U.S. Army Corps of Engineers (Corps) and Washington Department of Ecology (DOE) including a mitigation plan to offset impacts.

3.8.2 Waters of the U.S. and State

Within the project area, three waters of the U.S. and state occur: Horseshoe Lake, Lewis River, and Robinson Creek, a tributary to the Lewis River located at the northeast boundary of the APE. Horseshoe Lake is an approximately 85 acre lake which was formed when US 99 (now I-5) was built in 1940, isolating a bend in the Lewis River. Horseshoe Lake drains to the Lewis River. Robinson Creek is a tributary of the Lewis River that flows through the APE and underneath Lewis River Road via a box culvert. Robinson Creek at its confluence with the Lewis River contains a fish ladder extending from the river into the box culvert (Photographs 11 and 12 of Appendix C). According to StreamNet, Robinson Creek contains listed coho salmon.

3.8.3 Conclusions

Within the Woodland TISP project area, riverine wetlands alongside the Lewis River and a large palustrine emergent wetland between I-5 and the Old Pacific Highway within the Belmont Loop area were identified by NWI and field verified. These areas will need to be delineated to determine boundaries of the wetland(s) and jurisdictional regulation. Also, five

Figure 3-6. Floodplains and Other Water

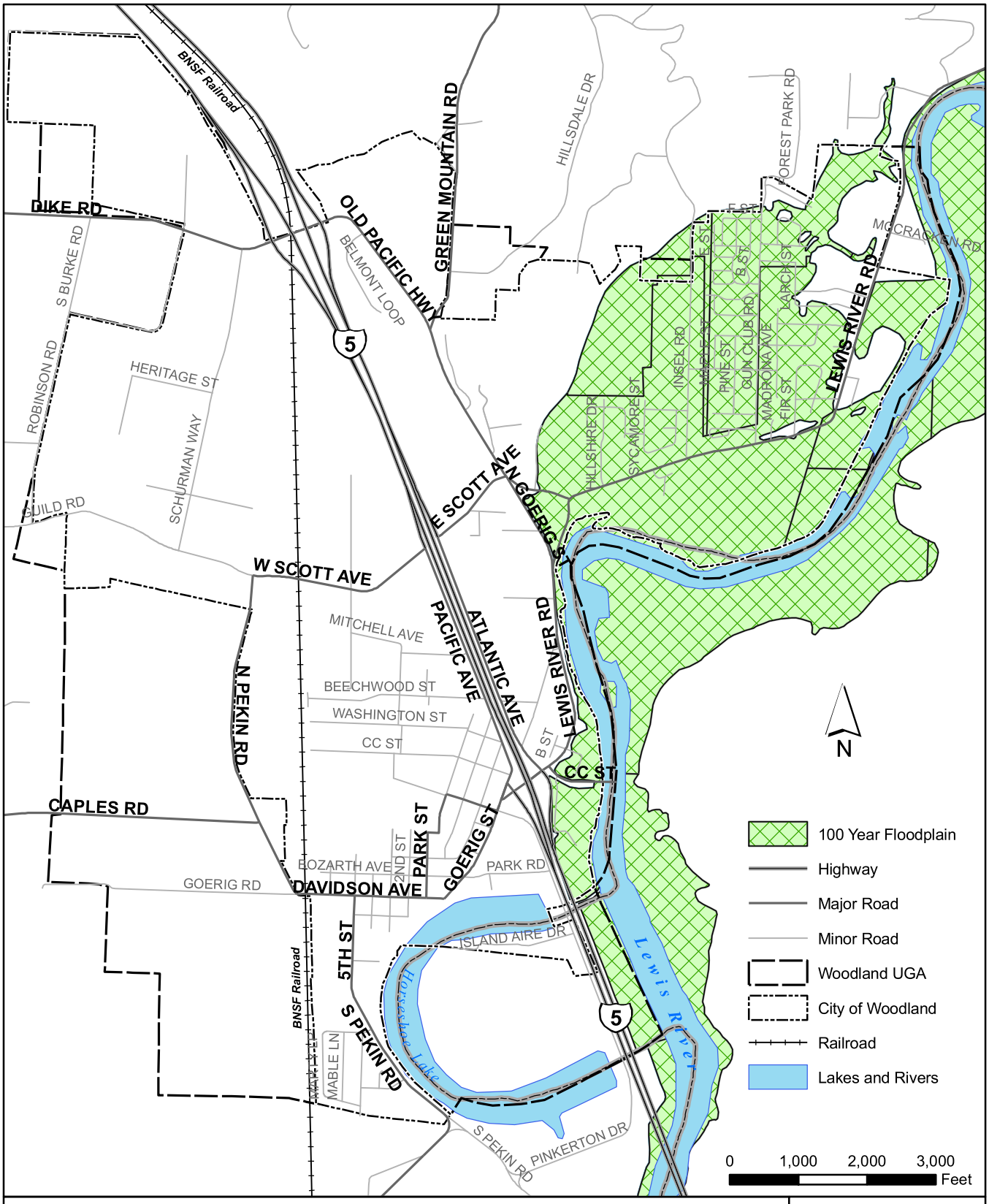

Figure 3-6: Floodplains

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Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-6_Floodplain_Water.mxd

Figure 3-7. Mapped and Known Wetlands

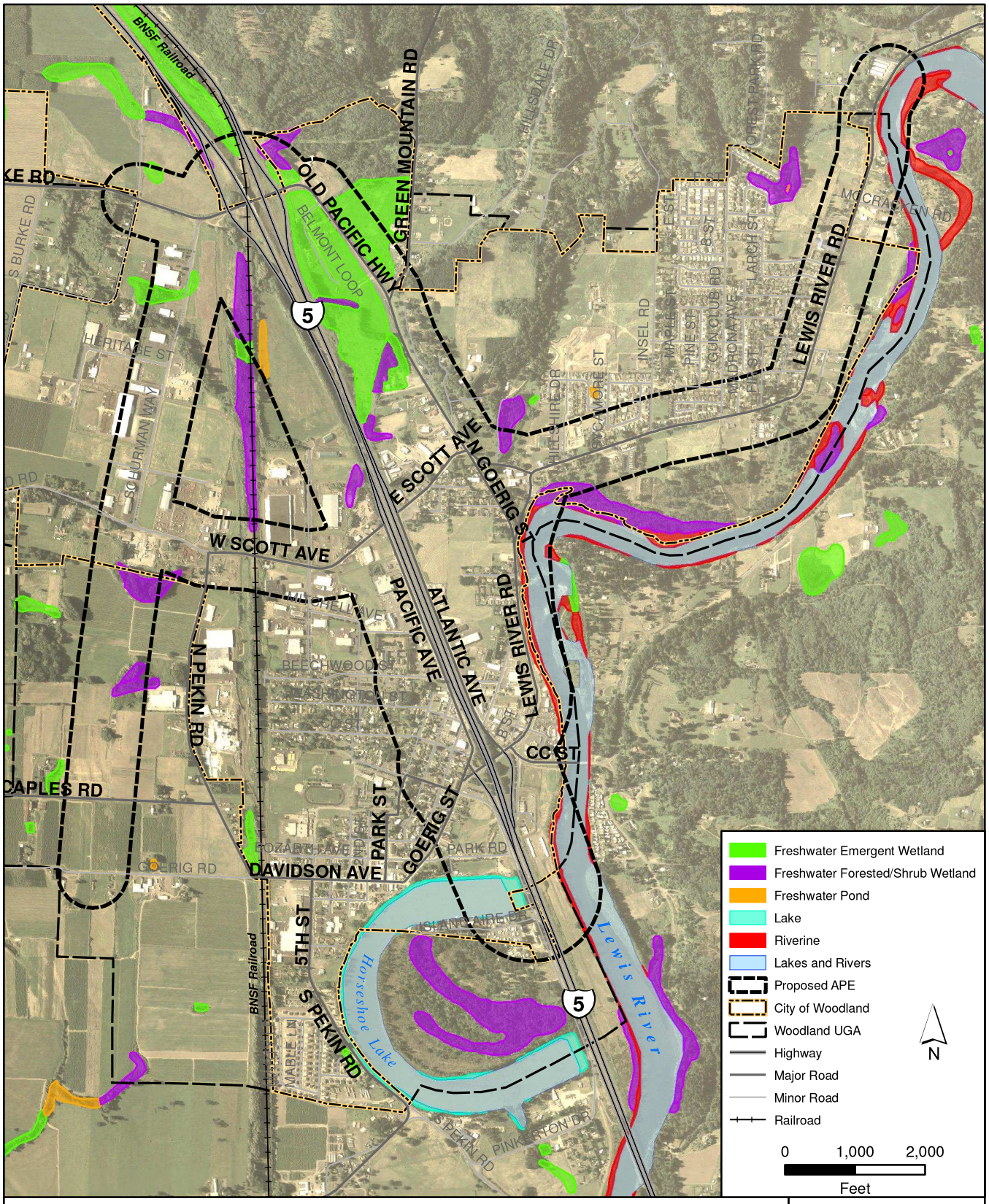

Figure 3-7: Mapped and Known Wetlands

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Analysis by C. Hainey; Analysis Date: July 2007; Plot Date: July 2007; File Name: 3-7_Wetlands.mxd

other smaller areas of potential wetlands within drainage/irrigation ditches were located on private property and will need to be field verified and, if present, delineated. If there are any impacts to jurisdictional wetlands or ditches then a Joint Aquatic Resources Permit Application (JARPA) would need to be submitted to the DOE and Corps to fulfill Section 404/401 requirements.

3.9 RELEVANT ENVIRONMENTAL LAWS, REGULATIONS, AND PERMIT REQUIREMENTS

Several federal, state, and local environmental laws and regulations may be relevant to the Woodland TISP project. The level of permitting efforts will depend on impacts to jurisdictional wetlands or other waters of the State and/or U.S., and listed fish, wildlife, and botanical species present in the project area, as well as to impacts to the built environment and areas zoned in the critical area ordinance. Table 3-6 outlines potential permits/approvals needed depending on project activities:

Table 3-6. Potential Permits/Approvals Required

Permit	Issuing Agency	Requirement
Hydraulic Project Approval	Washington Department of Fish and Wildlife	Required for projects that will use, divert, obstruct, or change the natural flow or bed of any fresh or salt water of the state.
Critical Area Ordinances	City of Woodland (Chapter 15.08 of the WMC) and Cowlitz County	If any new roadways were to be proposed within a critical area, a critical area permit, including submission of a critical area report, would be required. Critical areas include frequently flooded areas, wetlands, aquifer recharge areas, geologically hazardous areas, and fish and wildlife habitat areas. Where improvements to roadways or other transportation facilities will be entirely contained within the existing, previously disturbed right-of-way, a critical area permit may not be required.
Floodplain permit	Federal Emergency Management Agency	Required for work within the floodplain of the Lewis River
Clean Water Act Section 404 Permit	U.S. Army Corps of Engineers	Required if project includes placement of dredged or fill material waterward of the ordinary high water mark, or the mean higher high tide line in tidal areas, in waters of the U.S., including wetlands; mechanized land clearing and sidecasting in waters of the U.S., including wetlands; and endangered species act consultation.
Clean Water Act Section 401 Water Quality Certification	Washington Department of Ecology	Needed when a federal approval is required for a project, including the following: Corps of Engineers section 404 Permit and FERC hydropower license.
Aquatic Resources Use Authorization Notification	Washington Department of Natural Resources	Required if project is on, crosses, or impacts bedlands, tidelands, or shorelands of a navigable water.
Rivers and Harbors Act, Section 10	U.S. Army Corps of Engineers	Required for any work in or affecting navigable waters of the U.S.
Endangered Species Act Section 7 consultation	U.S. Fish and Wildlife Service, National Marine Fisheries Service	Required to ensure that proposed actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat areas.

Table 3-6. Potential Permits/Approvals Required

Permit	Issuing Agency	Requirement
National Pollution Discharge Elimination System 1200-CA	Washington Department of Ecology	Required for any ground disturbance greater than 1.0 acre for construction projects.
National Pollution Discharge Elimination System Waste Discharge Permit	Washington Department of Ecology	Required to discharge waste water into a waterbody.
Migratory Bird Treaty Act	U.S. Fish and Wildlife Service	Required for any destruction of active nests and disturbances that lead to the abandonment of active nests. Stands of trees used by migratory birds for nesting will not be cut during the breeding season (approximately April 15 to August 1). A Migratory Bird Treaty Act Permit authorization may be required if suitable nesting trees are removed within the project area.

Other required permits and documentation could include a SEPA Environmental Checklist, a Fill/Grade Permit, and potentially right-of-way connections permits and other public works approvals.

3.10 REFERENCES

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APPENDIX A

Traffic Volume Counts

APPENDIX B

2007 Intersection Analysis Worksheets

APPENDIX C

Photolog of Biological Resources