

Vader Comprehensive Plan, August 2005

CITY OF VADER COMPREHENSIVE PLAN

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**City of Vader
Comprehensive Plan**

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PART I: INTRODUCTION AND PLANNING HISTORY

The City of Vader is located in Southwest Washington, at the southern end of Lewis County near Interstate 5. The small city has a rich history of natural resource industries, but in more recent years has been home to a smaller population of residents who value the natural beauty of its setting, its affordability, and small town atmosphere.

Once a thriving center of commerce and culture, then a ghost town, Vader is now in the midst of a community-wide renaissance. An active Main Street, renovated Victorian homes, and tree-lined sidewalks and roadways combine to create a comfortable turn-of-the-century feel.

New employment opportunities and an ever growing range of cultural, educational and recreational activities have increased the community's sense of pride. Welcoming signs have been placed at all entrances to the community, alerting the passerby and resident alike that they've just entered somewhere special. The community's identity has also been strengthened through the creation of new events and festivals, and increased visibility in regional marketing and tourism efforts. A well-planned business recruitment and retention strategy has helped to ensure a diversified economy and a business base to match the strengths of Vader's workforce.

Historic Settlement

The City of Vader was formed originally as "Little Falls" and grew up as a result of the railroad built in the 1870's. While timber and agriculture were the regional economic mainstay, the Vader area owes its continued existence to its clay soil material. Local clay was used at a factory in Vader for many years to make bricks out of which many of the buildings throughout the northwest were built. The brick plant was west of the railroad tracks adjacent to Olequa Creek. At one time Vader is reported to have had a population of over 40,000 persons and was the largest community in the Northwest. The eventual closure of the town's major industries, the brick factory and the Stillwater Logging Company mill, precipitated a decline in the town's population. About 600 people now live in Vader and only a few of the original buildings remain. Those still standing include the old jailhouse, the county-style Methodist church, and several Victorian-style houses. One of these houses is listed on the National Register of Historic Places; this house, built by lumber baron Ben Olson, has been beautifully restored by its present owners. Vader, once considered a "ghost town", is emerging from this image and is now known for its small town character.

Why Plan?

Retaining this character, and providing new opportunities for current and future residents of Vader, is one of the central purposes of this Comprehensive Plan. This Plan for the City of Vader and its Urban Growth Area (UGA) is provided to meet the requirements of the Washington State Growth Management Act (GMA). The GMA was adopted by the Washington State legislature in 1990. It provided that cities and counties within certain growth areas must plan for anticipated growth. The GMA requires an inventory of the community, its facilities and needed services. The requirements of other state laws and regulatory requirements, including the Highway Act of 1991, requiring transportation

management programs, the State Environmental Policy Act (SEPA) requiring environmental review of plans and permit actions, and various other statutes relating to urban growth and development are addressed by this Plan and its associated development regulations.

The Comprehensive Plan provides information on the existing conditions of the City and provides a policy framework for decisions about the development and growth of the City and its UGA. It is divided into several sections, as follows:

PART I: Introduction and Planning History- providing background information on the City and how the planning process works.

PART II: Citizen Participation- highlighting how citizen involvement is a critical part of the planning process.

PART III: Population and Land Use Element- describing the City and UGA's current conditions, population growth forecasts, land use plan and growth management policies;

PART IV: Housing Element- addressing housing conditions, needs and affordability issues;

PART V: Capital Facilities Element- linking land use information to capital improvement and public facility needs;

PART IV: Transportation Element- describing city transportation needs and plans as related to land use;

PART VI: Utilities Element- inventorying the major utility providers in Vader and their capacities or expansion plans;

PART VII: Economic Development Element- providing strategies to retain and attract employers to the city;

PART VIII: Parks and Open Space Element- addressing needs for public recreation.

B. Planning History

The Comprehensive Plan was first adopted in 1996 in an integrated format with an environmental impact statement. The Plan was amended in 1998. Out of these plans the city developed a preferred land use plan, "Alternative 2", based upon growth projections from the Office of Financial Management and coordinated with Lewis County and other regional jurisdictions. The City worked with citizens to review alternatives and developed goals, policies and objectives for the management of its growth and development and for protecting its resources and critical areas as well as providing for its housing and commercial/industrial service needs. Its plan was consistent with regional plans of the

county and other communities in the region. Most of those goals, policies, and objectives are still relevant today, and are incorporated into this updated Plan. Alternative 2 identified in the 1998 EIS remains the basis for this current Plan, although population and land use numbers have been updated.

In 2005, the Plan underwent a review and update in compliance with the Growth Management Act (the “seven-year update”). The Plan was reorganized to provide easier reference for citizens and decision-makers.

C. How the Plan and Growth Management Act are Implemented

The Comprehensive Plan is implemented through a series of goals and policy statements that direct the development of the city's land development. City goals and the above vision statements are intended to state what is desired by the citizens of the City as well as implementing the goals of GMA. The plan polices are intended to indicate how the city's goals and those of the GMA are to be implemented including how and where to apply identified decision criteria. How much regulation is appropriate to carry out the goals and polices for appropriate development of the various land uses is set out in the city's land use and zoning maps and development regulations. Development regulations include city zoning codes, critical areas ordinance, subdivision and other ordinances.

D. Relationship to the Lewis County Countywide Planning Policies

The City of Vader Comprehensive Plan integrates the Lewis County Countywide Planning Policies by specific reference throughout the Plan, as well as incorporating the entire set of Countywide Planning Policies, as amended, by reference. Plan updates must be consistent with the Countywide Planning Policies.

PART II: CITIZEN PARTICIPATION

A. Citizen Visioning and Participation Citizen participation is an important goal of the GMA, Lewis County Countywide Planning Policies and the City of Vader. The City encourages and provides for early and continuous citizen participation throughout its planning process

In 1994 the City initiated the development of its first Comprehensive Plan with the adoption of a Citizen Participation Process that included a visioning process. The City of Vader Planning committee held a series of monthly public meetings beginning on October 17, 1994 as part of the regularly scheduled and continued public planning committee meetings. These meetings considered the condition of all of the city's public facilities and the impact of trends identified in population, housing and economic analysis available to the city. The Committee began this process of review of the city's existing and projected conditions by identifying what the community of Vader should be like in twenty years. The result of this process, called a visioning process, is a series of statements that establishes the intent of this plan and identifies the vision of the community held by the members of the Planning Committee and the people who attended the several planning committee meetings. These visions were evaluated and modified several times at various points in the process to determine if those statements identified early in the process continued to be the statements that should be the city's guide for its future. The result of this process is shown below. These statements are sometimes modified to better reflect the context but their various forms will be repeated as necessary to form the heart of the City of Vader Comprehensive Plan.

City of Vader Vision Statements:

- I The City of Vader desires to maintain the image of "The City in the Forest" in keeping with its historic character and with its promotion of the areas scenic natural resources.
- II The City of Vader desires to build and improve on its community base of facilities including commercial areas, public and private transportation, recreation, and other development opportunities in order to become a self-supporting community.
- III The City of Vader desires to support the provision of community facilities for children's activities such as quality schools for public education.
- IV The City of Vader desires to preserve its natural resources that provide for the historical and natural resource recreational opportunities upon which the is based.

B. Plan Amendments

The Planning Committee and City Council follow the mandates of State law in holding public hearings and obtaining public comments prior to making final determinations. At each of the open public planning committee meetings decision-makers and all attending

the meeting are provided the opportunity to participate in each phase of the Planning Commission recommendations. Phases include identification of problems, concerns, and solutions; suggesting alternatives, providing additional information, suggesting goals and policies, and suggesting objectives for action. Priorities are identified and appropriate goals, policies, objectives and regulatory programs selected.

As a major step in development of the city community development program the City Council has directed the Planning Committee to consider, develop and recommend adoption of all or portions of a Comprehensive Plan. The committee has agreed to operate by consensus in open public meetings until a complete draft text is available for citywide public review and comment at which time public hearings are provided and formal recommendations made to the City Council.

Several portions of the city's community development program have been considered and adopted in previous years by the City Council through its open public meetings and are included in the city's planning considerations. These include: Critical and Resource Areas Analysis (1992), The City of Vader Water System Improvements (1989), City of Vader Sewer System Improvements (1979), and the City of Vader Six-Year Transportation Plan (1996).

In 1998, each of the City of Vader public facilities was reviewed at public meetings individual subject area projects were rated for their priority and recommendation. The recommendations were provided to the City Council for consideration.

In 2005, the City adopted a public participation program for the seven-year update of the Comprehensive Plan that included identification of key stakeholders, notification of upcoming meetings in the media and at local bulletin boards, and public hearings to discuss amendments. Amendments to the Comprehensive Plan and associated development regulations were made to bring it into full compliance with the Growth Management Act.

C. Citizen Participation Goals and Policies

Statewide Goals

As part of the City Planning process the City Planning Committee reviewed all thirteen of the GMA Goals (see Appendix). Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goals are considered accomplished by this portion of the city planning process.

Statewide Goal #11: Citizen Participation and Coordination
Encourage the involvement of citizen in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.

Statewide Goal #6: 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.

Statewide Goal #7: Permits

Application for both state and local government permits should be processed in a timely and fair manner to ensure predictability.

Vader Citizen Involvement Goals and Policies

Goal CI-1: Improve opportunities for citizen education about the city government.

Policy CI-1.1 The City shall hold public forums identifying community visions, identifying the expected plan development process and requesting public's active participation throughout the process, and establishing a method for keeping track of written and oral comments.

Goal CI-2: Involve more people in improving the city such as volunteers where possible.

Policy CI-2.1 The City will encourage the formation of community groups and special committees to work on projects to improve the City.

Goal CI-3: Involve citizens in city planning, development criteria and selection of objectives and review of city actions.

Policy CI-3.1 The City Council and Planning Commission shall involve the public in updating and development of the City of Vader Comprehensive Plan, planning matters and development regulations. The Plan will be updated at least once every seven years, according to a schedule established by the Washington State Growth Management Act.

Policy CI-3.2 The City shall review citizen' comments as contained in community surveys, and written comments received by the City during the process of review and development.

Policy CI-3.3The City shall provide opportunities for questions and answers at specific times during planning meetings.

Policy CI-3.4 The City shall provide opportunities for public comment and request public comments at regularly scheduled public meetings and at advertised public hearings.

Policy CI-3.5 Plan amendments shall only be initiated by the City Council or Planning Commission. Amendments should be considered no more often than once per year.

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Policy CI-3.6 The City will work with Lewis County and its citizens to coordinate planning in the Vader Urban Area according to the Lewis County County-wide Planning Policies mutually adopted by this reference.

Policy CI-3.7 The City shall review development regulations as necessary and revise procedures to insure that permits are processed in a timely and fair manner to ensure predictability.

Policy CI-3.8 In City actions involving acquisition of land, 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.

Part III: POPULATION AND LAND USE

A. Existing Conditions and Present Land Use

The City of Vader lies south of the original plat of Little Falls (now vacated). In 2005 there were 208 households sheltering 610 people in the City of Vader, and additional residences in the Urban Growth Area (UGA). The UGA contains a 1970's era mobile home park subdivision called "Enchanted Valley", located south- southeast of the city limits. The remainder of the UGA is made up of larger, undivided residential and agricultural lots. The Burlington Northern Railroad runs along the west side of the city, and its freight crew still make the Vader siding a regular stop. The Crew eat at the diner near the tracks, while the mainline passenger and through freight trains pass by as many as 54 times each day. Development of commercial and retail uses west of the railroad tracks shows promise of a developing commercial area. The city center lies just east of the railroad tracks astride SR 506. Local services include a small convenience market, auto repair services, fruit stand, a church, an elementary school, post office, and city hall/fire district hall. The old city jail (circa 1870's) is across the street from the church building of sixties design. The surrounding community is made up of a mixture of historic homes of Victorian design, and newer homes and mobile or manufactured homes built upon the old town of Vader plat that extends easterly from Olequa Creek across the railroad tracks and up the gentle slope to the water treatment plant. The city sewer lagoons are adjacent to the railroad tracks south of the city near Olequa Creek. The city water treatment plant and storage tank is on the top of the hill near the intersection of SR 506 and Military Road. It over looks the city and the Enchanted Valley, a planned mobile home community that lies to the east between the city and the Cowlitz River. The river is the source of the city's water. The City is surrounded by forested hillsides in various stages of active commercial forestry. And the surrounding flatlands such as the Cowlitz and Olequa floodplains are in agricultural use.

The City's population grew by 18% between 1990 and 2000,¹ The city is growing at a slow but steady rate and is looking forward to additional development and job opportunities while retaining its small town character.

Urban Growth Area

Based upon the determinations and required considerations in WAC 365-195-335, the Urban Growth Area for Vader encompasses 403 acres outside the city limits, including riparian areas along the west side of Olequa Creek. The urban area also includes areas characterized by urban growth including the existing developed areas served by city water within the Enchanted Valley and the area along SR 506 up to and including the intersection at the Winlock cutoff road. Olequa Creek also forms an open space area along the south boundary. The properties west of Winlock Cutoff enable the city to loop water lines and form the west boundary. In addition to areas of urban development, the Urban Growth Area is characterized by larger, undeveloped parcels in current agricultural use, as well as some large lot development. .

¹ Office of Financial Management, as reported on the Lewis County GIS web site.

Growth Concerns

Concerns about growth were identified as a part of the identification of visions for the city in 1996 and its discussion of future problems. These items were identified and a priority suggested to assist the city in establishing work programs, identifying important projects and the relationship of concerns that may be identified either later in the planning process or after the plan is developed. Future similar concerns may be ranked with the existing concerns to assist the city meet the city's needs. Concerns are identified and in rank order with the proportion of highest priority shown to the left and actual votes in parenthesis.

Vader Growth Concerns (from 1996)

High priority

- 100 Growth faster than expected (30)
- 66 City finances (20)
- 50 School capacities (15)

Medium priority

- 36 Understanding city role and capacity (11)
- 33 Availability of skills and labor to diversify (10)
- 20 Senior services (city and county) (6)
- 16 Managing growth impacts (5)

Lower priority

- 3 Improving water and sewer capacities (1)
- 3 County and city impacts (1)

These growth concerns remain relevant today, and the land use element and other sections of the Comprehensive Plan work to mitigate these concerns by providing information about city policies to manage expected growth.

Current land use

According to Lewis County Assessor’s Office records, the predominant uses of the City and its UGA are single family residential, mining/forestry, and transportation/utility. Table 1 summarizes the current land uses.

TABLE 1: CURRENT LAND USE

Current Land Use	City plus UGA (acres)	Percent
Agriculture	149	8.7
Commercial/Retail	12	.7
Mining/forestry	516	30.2
Multifamily Residential	3	.1
Single Family Residential	378	22.1
Public/quasi-public	28	1.6
Transportation/Utility	207	12.1
Undeveloped/Vacant	415	24.2
Total	1708	100 (rounded)

Source: Lewis County GIS Department, March 2005.

Table 1, above shows that the City continues to retain some natural resource-based industries, including forestry and agriculture within the urban area. There is also a significant amount of undeveloped and vacant land appropriate for new or infill development. Over time, these uses are anticipated to slowly transition to urban uses, and have been designated by this Plan to achieve urban densities and urban uses over time.

Historic sites

The City has one site on the national historic register, the Ben Olson House, one of the early homes in Vader restored to its Victorian architecture. The Old City Jail located near the Post Office on Main Street is another historic location that the City intends to rehabilitate .

B. Future Land Use

The City and UGA are designated for future land uses consistent with a small city. Land use designations are shown on Map A, the Future Land Use Map, and summarized in the table below.

TABLE 2: LAND USE DESIGNATIONS

Designation (same as zoning)	City plus UGA (acres)	Uses and zoned densities	Percent of total designated land
Commercial/Mixed Use	108.59	Commercial and retail uses, plus some residential use at 4 –7 units per acre	11
Industrial	32	Industrial development	3.3
R-1: Single Family Residential	428.67	Single family residential at the following densities: <i>Without public water or sewer:</i> 1 unit per 5 acres <i>With public water only:</i> 1 unit per 2 acres <i>With water and sewer:</i> 4-7 units/acre	44
R-2: Single Family and Two-Family Residential	295.45	Single and two-family residential development at 4-7 units per acre	30
R-3: Multifamily Residential	61.22	Single, two-family and multifamily development at 4 units per acre to 9 + units per acre	6.2
Community Services	56.53	Government services, utilities, and parks	5.8
Total zoned land	982.46	--	100 (rounded)

Source: Lewis County GIS Department, March 2005. Excludes roadways and rights-of-way.

Commercial and Industrial Lands

The City currently designates 14.3% of its lands as commercial or industrial, which is within the target of 15% for commercial and industrial development set by the City in 1998 through a Comprehensive Plan update. Industrial sites should be large enough to accommodate the space needs of industry, including larger warehouse and manufacturing structures, should be able to be served by public sewer and water, and have access to major transportation corridors, including rail. The only site meeting all of these criteria, a 32-acre parcel just west of the railroad tracks and south of SR 506, was redesignated from commercial/RV zoning to an industrial district in 2005 to recognize a unique development opportunity for the City. Performance criteria in the City’s zoning code and riparian buffers under the Critical Areas Ordinance, as well as permitting conditions to be placed on projects developing in this area, serve to protect Olequa Creek from adverse impacts of this site’s development.

Commercial development in Vader generally follows the SR 506 corridor, with most commercial uses located west of the railroad tracks. Several commercial establishments are located in the UGA, and are likely candidates for extension of sewer service and annexation to the City. Due to the historic use of the Commercial district for residential

development, some residential development is expected to continue within commercially-designated areas. The City anticipates that a mix of uses will continue in this area, with small business and cottage industries integrating with residential uses.

Residential lands

The City is divided into three residential zoning districts, all three of which permit single family residential housing, the predominant current land use in the Vader area. Two-family residential is also allowed throughout the city center and multi-family residential is permitted in an area of the city located north of the Enchanted Valley subdivision. The City permits manufactured homes to be sited throughout its residential zoning districts, subject to applicable federal and state siting requirements and local health and safety regulations. Manufactured housing remains an important source of affordable housing for the City. The City's minimum densities work to achieve a minimum of four dwelling units per acre, although some areas are constrained by critical areas, are enrolled in current use tax programs for agriculture, or are otherwise utilized at lower densities due to the unavailability of public water and sewer (see below for an explanation of land use capacity).

Community Services

Government services, parks, utilities and transportation lands are zoned as community service. Additional park lands may be acquired and developed as the City's population grows.

Essential public facilities

Essential public facilities are those facilities that are typically difficult to site, such as airports, state education facilities, state and regional transportation facilities, correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse, mental health facilities and group homes. The GMA requires each city and county to include a process for identifying and siting these facilities, and precludes the city from prohibiting these facilities. Although the City of Vader currently has no facilities that would, under the Growth Management Act, be considered "essential public facilities", the land use goals and policies below, and the city's development regulations, address the siting of such facilities.

C. Population Forecasts

A 20-year population forecast is required by GMA in order to determine whether the City has enough land capacity to provide for its coming population growth. The City of Vader population as of April 1, 2004 was 595, and estimated at 610 in 2005². The estimated population of the Urban Growth Area is 288 people, based on estimates of the Enchanted Valley subdivision population provided by city engineers, and use of Lewis County Assessor parcel data to determine the number of residentially-developed lots in the UGA. The Lewis County Planned Growth Committee allocates a forecast population of 885 through the year 2025 for the City and the UGA. However, this estimate appears to be conservative based on different data produced by the city engineering firm Gray and Osborne, Inc., who use population estimates to plan for sewer projects. The City of Vader

² Office of Financial Management.

General Sewer Plan is incorporated into this Comprehensive Plan by reference, and the population forecasting done by Gray and Osborne for the Sewer Plan is used as a basis for forecast assumptions for this plan. The Sewer Plan uses a 2.5% rate of growth to estimate future population, and that growth rate is assumed for purposes of land use planning. Table 3 shows the estimated population for the City and its UGA in the year 2025 based on this growth rate.

Table 3: POPULATION FORECAST

Current City Population <i>(OFM estimate, April 1, 2004)</i>	Estimated UGA Population³	Total City and UGA Population in 2005 (est)	Population allocation in 2025 (Lewis County estimate)	Population in 2025 @ 2.5% growth rate
595	288	853	885	1,406

If the Lewis County Planned Growth Committee population allocation for the City and UGA is assumed to be accurate, then the City will experience only 4% growth in the coming 20 years. Given that the City experienced 45% growth between 1980 and 2000, and is now seeing economic development opportunities occurring within and near the city, the 4% estimated by Lewis County appears to be low. Therefore, a 2.5% growth rate is assumed for purposes of land use planning.

D. Estimated Densities and Land Needs

In the 1996 Plan, four different densities were considered by the Planning Committee including the approximate existing density of .5 units per acre, a density of 5.8 units per acre for single family residential districts, and the multi-family density of 10 units per acre. Four units per acre was determined as an average city density for the city. Based upon the regional analysis of actual land use in an area of Lewis County similar to Vader's projected growth the area. Commercial / Industrial Land needs were estimated at 15%. As shown in Table 3, above, the City has designated close to 15% for Commercial and Industrial land, although the Commercial/Mixed use district has some existing residential development. Public land, parks and facility needs were estimated at 36%. The City is well short of this goal, and future park development and expansion of public sewer facilities is anticipated to meet community needs. The Capital Facilities Plan further elaborates community facility needs and plans to provide them.

A market availability factor of 2x (need times two) was considered in 1995, as suggested by the Lewis County Planned Growth Committee for establishment of the UGA. Land needs based upon the densities, land allocations and 2015 growth figures for a 800 population were considered. (See Appendix) Growth figures were updated in 2005 with current population allocation from the Planned Growth Committee (885 people in 2025),

³ The UGA population is estimated at 223 persons in Enchanted Valley subdivision (City of Vader General Sewer Plan/Facilities Plan, Gray and Osborne), plus an estimated 65 additional UGA residents. The latter estimate is derived from multiplying the number of developed residential lots in the UGA based on Assessor data times the household size average of 2.84 for the City (2000 Census).

growth figures from more current facilities planning done by city engineers, and an estimate of land capacity for new residential growth.

Residential densities are designed to be urban in nature, concurrent with the provision of public services. The Capital Facilities element shows planned projects to extend sewer service to some areas of the UGA based on the City of Vader Comprehensive Sewage and Wastewater Facilities General Plan (Sewer Plan). In areas where there is no current plan to extend service, residential densities are expected to remain low in order to protect public health and safety. However, zoning regulations require that any development of lands without public services be oriented so that future redevelopment is possible. In this way, the City paces urban growth with the provision of service, as provided in its concurrency policies (see discussion under Capital Facilities section).

Residential land capacity

For purposes of this Comprehensive Plan, an estimate of Vader's residential land capacity was performed based on the need to accommodate the 2025 population forecast. Lewis County does not routinely track buildable lands information for its cities, however, by using aerial photos, zoning, assessor data, and GIS analysis, a picture of Vader's capacity to accommodate future residential growth was performed. Table 4 shows that there is adequate land capacity for the allocated population forecast for Vader through 2025. Additional capacity will be possible in areas of the UGA and city that are currently unserved by public sewer

TABLE 4: RESIDENTIAL LAND CAPACITY ANALYSIS

Density Category	R-1 (Low single family density) .2 – 4 unit/acre	R-2 and some CM (Moderate density) 4-7 units/acre	R-3 (High density) 4 - 9+ units/acre	TOTAL
A. Total acreage available for housing development 2005 ⁴	182	55	15	252
B. Assumed net density (average)	.2 du/acre ⁵	4 du/acre	6 du/acre ⁶	
C. Estimated capacity in dwelling units (A * B)	36	220	90	346
D. Population capacity of undeveloped land (based on 2.84 people per household)	102	624	255	981
E. 20-year projected increase in population				553
F. Remaining residential land capacity in 2025				44%

As Table 4 shows, Vader and its UGA would provide more than the required land capacity for residential development at urban densities in 2025, even considering the recommended “cushion” of 25% excess capacity (market factor) recommended by CTED. However, Vader plans to attract new employment to the city that may affect its growth rate and population forecast within the coming 20-year period. A rezone in 2005 of a site for Industrial use is anticipated to attract new employment, and Vader may grow as a bedroom community to employment centers in Napavine, Chehalis, and Clark County. Improvements to the I-5 interchange at Vader and long-term plans to improve the rail corridor through town (see Transportation Chapter) may also bring additional growth to the City.

⁴ Includes currently undeveloped lands or underdeveloped lands. Estimate derived from comparing Assessor’s parcel data, lot size data provided by Lewis County GIS, mapped critical area locations and aerial photos, and reduced by 15% to account for roadways and other infrastructure requirements.

⁵ The R-1 District lies outside of current planned sewer service areas. The zoning regulations prohibit development of these areas to less than 1 unit per 5 acres until sewer is available (1 unit per 2 acres if public water is available). However, in order to reserve future urban densities in this district, new development must be platted to allow for future additional units once public services become available.

⁶ Assumes that only part of the existing undeveloped lots will be subdivided to multifamily residential. Single family residential is permitted in this district at urban densities.

E. Limitations on land development

Designating land for growth does not automatically mean that growth will occur on that land within the 20-year planning period required by the GMA. Limitations including current use of land for agriculture or other natural resource industry, the unavailability of public water and sewer, sensitive aquifers, wetlands and other critical areas, and other factors work to limit growth on some lands within the City and the UGA. The inability for many soils in the Vader area to obtain septic tank approval requirements set by state law is the current restricting factor on lands in the county area which will not change with the urban growth area designation. However, the City's zoning and development regulations allow for this land not currently developed to eventually transition to urban uses in keeping with the small town character of Vader. The pace of growth is dependent on other factors including economic opportunities.

F. Natural resources and critical areas

Natural Resource Lands

Natural resources are as defined in the GMA including: commercial forestlands, agricultural lands and mineral resource lands. There is no natural resource land designated in the City or the UGA, and none is required to be designated under GMA, although ongoing agriculture is an active land use on 149 acres of land. About 21% of this agricultural land is enrolled in a current use tax program and is not expected to transition to residential development in the near future. However, this land remains zoned for eventual residential use.

Critical Areas

Maps B and C show the mapped critical areas in Vader and its UGA. The floodway of Olequa Creek and wetlands and floodplain associated with McMurphy Creek, as well as limited other critical areas (see below) serve to limit residential development in some areas of the City and UGA. The City's Critical Areas Ordinance was updated in 2005 to provide protection of critical areas using Best Available Science.

In the city, Critical Areas are allowed to transfer development rights such that these areas will be preserved, as will the property rights of the owners if developed under adopted city standards. Critical areas, as defined under GMA, include wetlands, frequently flooded areas, critical aquifer recharge areas, geologically hazardous areas, and fish and wildlife conservation areas. The City of Vader's Critical Areas Ordinance provides protections for these areas using best available science. Maps B and C depict the major critical areas within the City and its UGA. These maps are for informational and planning purposes only, and are intended to alert potential developers and property owners to possible constraints to development or environmental hazards. The presence of a mapped critical area on a potential development site is sufficient information for the City to require an applicant for additional environmental information as part of the permitting process under the City's development regulations.

Wetlands: Wetlands are transitional areas between upland and aquatic environments where water is present long enough to form distinct soils where wetland plants grow. Some wetlands are obvious, with standing water or seasonal wet areas. Others are less

easily observed. The National Wetlands Inventory shows several small, mainly isolated wetlands throughout the City of Vader, and a larger set of wetlands associated with McMurphy Creek and its floodplain, just east of the railroad tracks between First and Fifth Streets. The City does not delineate or classify these wetlands, but relies on wetland professionals to make such determinations with guidance from the State of Washington. See Map B.

Geologically Hazardous Areas: These areas are not suitable for development due to risk to public safety from volcano eruption, earthquake, landslides, or other geologic events. The City of Vader lies 60 miles south of the epicenter of the Nisqually earthquake of February 28, 2001. The United States Geologic Survey geohazards website indicated that about 80 percent of Lewis County experienced strong to moderate vibrations from the Nisqually earthquake, but only light damage occurred.⁷ There are hazardous slopes within the City or UGA, although Map C indicates areas of steeper (30% or more) slopes that would be unsuitable for development. Slopes vary from 15 - 30 percent in the northeastern area of the city to 0 - 5 percent in the south along Olequa Creek. Soils in the city and surrounding area of Vader are predominantly Klaber silt loam and Olequa silt loam (0-5%) according to the Soils Survey of Lewis County. These areas noted as Class III Soils with small terraces of Galvin silt loam and Salkum silt clay loam. The City is a participant in the Lewis County Hazard Mitigation Plan, which as of 2005 is undergoing review and amendment. The Draft Plan (2005) does not show any landslide or wildfire hazard areas within the City or UGA, although the City is within an area of potential ash fall from a volcanic eruption.⁸

Fish and Wildlife Conservation Areas: These areas include priority habitats determined by the Washington State Department of Fish and Wildlife and other habitats for species of local importance. Olequa Creek, along the western boundary of the City, is a Type 1, fish-bearing stream with depressed populations of fall Chinook and Coho, and a winter steelhead population of unknown status.⁹ Olequa Creek flows from the north to the south adjacent to the western City limits and then flows west to east to the Cowlitz River, located south of the UGA. Stillwater Creek, also a Type I stream, is a small tributary to Olequa creek and lies just outside the southwestern boundary of the UGA. McMurphy Creek is an unconfined small tributary that flows from the northeast of Vader and enters Olequa Creek along the westerly boundary of the City, listed as a Type 3 stream. Other than fish populations in Olequa and Stillwater Creeks, no threatened or endangered species are known to be on or near the affected geographical area according to information from the Washington State Department of Fish and Wildlife.

Frequently Flooded Areas: The Federal Emergency Management Agency (FEMA) derived 100-year floodplains in order to establish actuarial insurance rates and promote sound floodplain management. Olequa Creek is well channelized and has only minimal 100-year floodplains associated with it, near the confluence of Stillwater Creek. McMurphy Creek

⁷ Sewer Plan, Gray and Osborne, Chapter 2

⁸ Lewis County Draft Hazard Mitigation Plan, Figure 2.9.

⁹ DNR Forest Practices. G/O Sewer Plan. 1992 *Washington State Salmon and Steelhead Stock Inventory, Appendix Three, Columbia River Stocks* and Washington State Department of Fish and Wildlife SaSI database.

does have a more extensive 100-year floodplain located just east of the railroad tracks on land currently used for agriculture and large-lot single-family residential development. The City's development regulations limit development in the 100-year floodplain.

Aquifer Recharge Areas: These are areas identified as having critical recharge effect for aquifers used for potable water in community water systems. The City of Vader gets its water from the Cowlitz River, so public water supplies are not affected by the sensitivity of the aquifer. However, for individual wells, aquifer contamination is a concern. Most of the City and UGA is classified by Lewis County as having moderate to slight aquifer sensitivity, although the Olequa Creek corridor is classified as having severe aquifer sensitivity.

Green Belt Areas and Open Space Corridors

Critical areas have previously been identified and considered in the city's Critical Areas Ordinance such that any densities assigned to them may be transferred to adjacent lands without harm to property values. The floodplain, wetlands, and fish and wildlife habitats along the Olequa, Stillwater and McMurphy Creeks and their tributaries, may be considered green belt areas and serve as open space corridors for wildlife. Olequa Creek, and Stillwater Creek to its west, form natural greenbelts along the City and UGA's southern border. Surrounding agriculture and forestry uses in keeping with the Lewis County Comprehensive Plan, serve as open space areas buffering Vader from nearby communities and the I-5 corridor.

Public Lands, Facilities and Parks Need

The Planning Committee considered that city streets make up the bulk of public lands needs and that well sites, and other public facilities including parks generate another small proportion such that 36% is a reasonable estimate of such needs for a City of Vader's size and expected population. Park needs are discussed in the Parks, Recreation and Open Space Section of this Plan.

G. LAND USE GOALS AND POLICIES

Statewide Goals

As part of the City Planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goals are considered accomplished by this portion of the city planning process.

Statewide Goals #1: Urban Growth

Encourage development in urban areas where adequate public facilities and service exist or can be provided in an efficient manner.

Statewide Goals #10: Environment

Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

Statewide Goals #13: Historic Preservation

Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.

In its regularly scheduled meetings the Planning Commission compared the above statewide goal with concerns identified from city surveys, and public meetings, vision statements and suggested goals and policies. After considering information on the city's growth, housing needs, urban growth areas public facility capacities and other concerns, the Planning Commission determined that the State Goal may be implemented by following the direction identified in the City Vision statements and developed the following City Goals and Policies:

City of Vader Land Use Goals and Policies

Goal LU-1: The City of Vader desires to maintain the image of "The City in the Forest" in keeping with its historic "Little Falls" character and with its promotion of the areas scenic natural resources.

Goal LU-2: The City of Vader desires to build and improve on its community base of facilities including commercial areas, public and private transportation, recreation, and other development opportunities in order to become a self-supporting community.

Policy LU-2.1 The City shall maintain the designation of Commercial/Industrial areas adequate to provide for community needs up to 15% of the urban area consistent with its existing small town character and its effort to become self sustaining.

Goal LU-3: The City of Vader desires to support the provision of community facilities for children's activities such as quality schools for public education.

Goal LU-4: The City of Vader desires to preserve its natural resources that provide for the historical and natural resource recreational opportunities upon which the city's future is based.

Goal LU-5: To manage expected growth within city capacities, controlling impacts and maintaining a high quality of life.

Policy LU-5.1 The City shall work toward and overall density of four residential units per acre in the city and urban growth area over 20 years.

Policy LU 5.2 The City shall require that subdivision of parcels not served by public sewer must reserve capacity for future development at urban densities (at least 4 units/acre).

Policy LU-5.3 The City shall adopt the International Building Code and encourage use of energy conservation methods in building construction.

Policy LU-5.4 The City shall require identified public facility improvements for water, sewer, and transportation as a condition of development in unplatted areas of the city and urban growth area.

Policy LU-5.5 The City shall require capital facilities, landscaping and park improvements to be phased such that improvements are in place prior to occupancy.

Goal LU-6: To provide for and endeavor to improve its community economic base and facilities for commerce and transportation.

Policy LU-6.1 Commercial/Industrial areas shall have adequate water, sewer, and fire protection and be located adjacent to a city collectors.

Policy LU-6.2 The city shall continue to coordinate solid waste management with Lewis County and other jurisdictions.

Policy LU-6.3 The City shall review proposals for essential public facilities and except where preempted by state law shall require conditions to ensure the protection of its aquifer and the provision of appropriate buffers to ensure compatibility of uses. Such conditions and buffers shall not preclude the siting of the proposed facility.

Policy LU-6.4 The City shall permit facilities within commercial and industrial zones for the treatment of hazardous materials where such substance providers meeting the requirements of state law are provided for within the zone.

Goal LU-7: To encourage development that restores the community's historic qualities that made "Little Falls" a gateway to the forest and its activities.

Policy LU-7.1 The City shall encourage historic preservation through individual effort. It will locate historical structures in appropriate zoning designations and encourage development of a historical recreational theme.

Goal LU-8: To restore Salmon habitat through conservation and preservation. (Olequa Creek and its tributaries have been listed as Salmon habitat for threatened or endangered species by the National Marine Fisheries Service. The following policies are intended to maximize efforts for preservation within the area identified by the National Marine Fisheries Service.

Policy LU-8.1 The City shall maintain critical areas regulations using best available science for avoiding adverse impacts to critical areas and public safety and providing for transfers of density to adjacent area where possible.

Policy LU-8.2 The City shall endeavor to manage its Storm Water according to the Best Available Science as found in the Department of Ecology Storm Water Manual (2000).

Policy LU-8.3 The City shall rely upon its Shoreline Master Program permit requirements for jurisdictional review of Salmon Habitat impacts.

Policy LU-8.4 For regulated uses within the Shorelines Master Program, within identified Salmon habitat areas the City shall establish a priority for riparian vegetation management as follows:

Priority 1: Salmon habitat riparian vegetation identified as within 175 feet of creeks and tributaries should be retained in natural state as much as is reasonably possible.

Priority 2: In development Salmon habitat vegetation modification shall require a City Permit as per the City Critical Areas Ordinance and include a habitat management plan by a qualified biologist acceptable to the City.

Priority 3. If Salmon habitat vegetation requires removal, methods nontoxic to Salmon species shall be preferred such as mechanical weed control without chemicals, or retaining tree canopy over lawn area for temperature control and or innovative approaches consistent with the City's goal.

Priority 4. Upon City owned land (parks, public facilities, ditches) only mechanical vegetation control or non-toxic pesticides may be applied within 175 feet of creeks and tributaries.

Priority 5. The City shall encourage restoration and enhancement when proposed and monitored by a certified habitat biologist.

City of Vader Urban Growth Area Goals

These goals and policies are specific to the Urban Growth Area, although the UGA is subject to the above land use policies, as well.

Goal UGA-1: To preserve the City's role as a historic gateway to the forest.

Policy UGA-1.1 The City shall exclude natural resource industry areas from its urban growth area and rely on Lewis County for preservation of the resource base consistent with the Countywide Planning Policies mutually adopted by Lewis County and the city by reference.

Goal UGA-2: To manage expected growth within city capacities, controlling impacts and maintaining a high quality of life.

Policy UGA-2.1 The City shall identify as open space areas geologically unstable and critical areas encouraging building densities to be transferred to adjacent lands through the City Planned Unit Development provisions.

Policy UGA-3.1 To insure adequate public facilities capacities within the urban growth area the city shall design and engineer identified services for growth over a 20-year period. The proportion of service for existing users will be identified in design hearings. Each six-year capital facility plan may consider improvements in

the urban area by service area. Four service areas shall include north of the highway, south of the Highway, west of the railroad tracks and Enchanted Valley.

Policy UGA 4.1 The City shall establish hook up and services fees and reserves the right to require annexation for its services.

Goals UGA-3: To provide for orderly annexation consistent with Lewis County Countywide Planning Policies.

Policy UGA-3.1 The City shall share financial support and construction cost with new development. New development shall pay the full cost of expansion in presently undeveloped areas. Existing city and areas with urban characteristics shall only pay their proportionate share of enlargement required for water, sewer and other services.

Policy UGA 3.2 To reduce sprawl the city shall discourage expansion of its urban growth area unless it is for the public health, safety, and welfare and services requested meet the requirements of the Lewis County Comprehensive Plan.

PART IV. HOUSING ELEMENT

The *Lewis County Housing Needs Assessment*, done in 1995, provided baseline housing need data for the City of Vader when the Comprehensive Plan was first adopted. Although this assessment has not been updated, in 2005 data from the most recent U.S. Census and other sources is integrated into this chapter to provide an inventory and analysis of existing and projected housing needs. Planning for housing needs requires an understanding of current housing stock, affordability issues, and forecasting of future housing needs.

A. Housing Profile

Housing in the City of Vader and its urban growth area is primarily made up of single-family residences and mobile homes on a variety of lot sizes, from less than .25 acres in the city core to more than 20 acres in the Urban Growth Area. The City of Vader maintains a relatively old housing stock in varying condition that is occupied primarily by families. The average household size is 2.8 persons. According to 2000 U.S. Census data, there are 230 total housing units in the City of Vader, and 81% are owner-occupied. Water billing records collected by city engineers show a slight difference in the number of households.

TABLE 5: City of Vader Housing Summary

Source	Total Households	Vacant Households	Occupied Households	Total Population	Persons per Household
2000 Census	230	21	209	590	2.8
2000 Water Billing Records	249	28	221	590	2.7
2001 Water Billing Records	262	64	198	605	3.0
Average	247	38	209	595	2.8

Source: Table is from the City of Vader Sewer Plan, Gray and Osborne, Inc.

Two thirds of this housing stock is single-family, detached stick built or manufactured homes. Another third is mobile homes (built before 1980), and there are only a few attached and multi-unit structures located in the City. There are no large apartment complexes. One third of Vader's housing was built in 1939 or earlier. One of these homes, the Ben Olson house, is listed on the state historic register. The city's housing stock has a median value of \$92,600, compared with \$114, 200 for Lewis County. More than 62% of the City's housing stock is valued at less than \$100,000.

Table 6: Housing Values (Owner-Occupied)

Jurisdiction	Value (%)				Median
	Less than \$50,000	\$50,000 to \$99,999	\$100,000 to \$149,000	\$150,000 or greater	
City of Vader	10.9	51.8	21.8	15.5	\$92,600
Lewis County	10.6	30	30.7	28.6	\$114,200

Source: 2000 Census.

A 1995 survey of housing conditions in Vader revealed approximately 28% of the housing stock to be in marginal or substandard conditions. This data was supported by a windshield survey conducted in March 2005 that showed several areas of the city dominated by housing in some disrepair.

Table 7: City of Vader and Lewis County Comparison Housing Conditions

Condition	Lewis County	Vader
Standard (%)	2674 (43.2%)	23 (71.9%)
Marginal (%)	2640 (42.6%)	7 (21.9%)
Substandard (%)	676 (14.2%)	2 (6.3%)
Total Percent Below Standard	56.8%	28.1%

Source: Lewis County Housing Needs Analysis, 12/95, The Phoenix Group, Inc

B. Housing Affordability and Housing Assistance

The Lewis County housing market continues to boom, partly due to the relative affordability of housing and the influx of new residents from employment centers to the north and south. However, there are proportionately more low-income people in Lewis County when compared to Washington State as a whole.¹⁰ Housing affordability is therefore a serious issue in Lewis County, where housing costs continue to outstrip household incomes. The city of Vader is no exception. U.S. Housing and Urban Development (HUD) guidelines define affordable housing as housing costs, including utilities, at no more than 30% of gross household income. Census data from 1999 showed that 30% of Vader homeowners and over 34% of renters exceeded this threshold, placing them in danger of homelessness if a financial emergency should occur. Over 55% of people in the City of Vader are considered low to moderate income by HUD (making 80% of the area median income). These statistics show that maintaining a provision of affordable housing for Vader residents is crucial.

¹⁰ 2003 study by John Epler and Associates, Lewis County.

TABLE 8: Annual Median Income Levels for Families

State of Washington	\$64,171 (National Low Income Housing Coalition, 2004)
Lewis County	\$47,400 (National Low Income Housing Coalition, 2004)
City of Vader	\$32,188 (US Bureau of Census, Census 2000)

A network of non-profit organizations in Lewis County and the state work to fill the gap and meet the housing needs of low-income families, but there is no formal housing authority serving the County. Section 8 vouchers are processed by Mason County, and there is a waiting list of over 500 for vouchers in Lewis County. The Community Action Council of Lewis, Mason, and Thurston Counties provides a housing repair and rehabilitation program and a weatherization program for low-income households. The Council also provides for utilities assistance. While there is no subsidized housing in the City of Vader¹¹, the city does provide for relatively affordable housing through its existing housing stock, zoning and other development regulations. Indeed, the real estate surveys show that the city's housing prices and property values are below average for Lewis County.

Group Homes / Shelters

The Lewis County Housing Network is an organization of churches and social service agencies that co-operate to provide, under the auspices of the Red Cross, wintertime emergency shelter in are churches on a rotating basis. The network operates countywide to provide case management for shelter residents, transportation between the shelter and case management facilities, and meal vouchers. The separate agencies, the American Red Cross, the Salvation Army, the Human Response Network, the Lewis/Mason/Thurston County Community Action Council and the Church Emergency Relief Network provide homeless shelter, domestic violence shelter, short-term rent assistance, and various counseling services to low income families and individuals. The agencies serving the homeless provide a variety of other services including food, clothing, vouchers for medical services and referral to other service providers.

Manufactured Housing

Effective July 1, 2005, [SB 6593](#) (Chapter 256, Laws of 2004) requires that, to protect "consumers' choices in housing," cities and counties must regulate manufactured homes built to federal manufactured housing construction standards no differently than they regulate other types of homes. Cities and counties may require that that these manufactured homes: (1) be new manufactured homes; (2) be set on a permanent foundation; (3) comply with any local design standards that may apply to all other homes in the neighborhood in which the manufactured home is to be located; (4) are thermally

¹¹ HUD, 2005

equivalent to the state energy code; and/or (5) otherwise meet requirements for a "designated manufactured home" in [RCW 35.63.160](#) (as amended by Section 5 of [SB 6593](#)). (Because a "designated manufactured home" under that definition is one that includes at least two sections, cities and counties may still regulate "single-wide" manufactured homes differently than other types of homes.) Vader implements these new standards through its development regulations.

C. Projected future housing needs

Land use data from Part III of this Plan show that there is an adequate supply of land for new housing development in the city limits and in the UGA. Zoning densities provide for larger lot development where sewer is unavailable, and small lot and infill development for more affordable and multi-family housing in the city core. A variety of housing types is needed to accommodate lower income residents. Land use designations and zoning regulations allow manufactured housing to be located wherever stick-built housing may be located. Two-family and multi-family housing is possible throughout the city.

TABLE 9: TOTAL HOUSING UNITS NEEDED (CITY)

Year	Population	Number of Housing Units ¹²
2000	595	209
2010	691	243
2020	888	312
2025	1,006	354

Table 9 above uses the population forecast growth rate of 2.5%, as is used in the City's Sewer Plan, and bases the number of units needed at 2.84 persons per household, the average according to the 2000 Census. About 50% of the expected number of units should be priced for low to moderate-income residents, based on the current population demographics.

D. Housing Goals and Policies

Statewide Goals

As part of the city planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following State goal is considered accomplished by this portion of the city planning process.

Statewide Goals #4: Housing

¹² For the years following 2000, which uses 2000 Census data, the number of housing units is calculated based on the forecast population (using 2.5% growth rate) divided by 2.84 persons per household.

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.

In its regularly scheduled meetings the Planning Committee compared the above Statewide goal with concerns identified from public meetings, city vision statements and suggested goals and policies. After considering information on the city's growth, housing needs, urban growth areas public facility capacities and other concerns. The planning committee determined that the State Goal may be implemented by the following City Goals and policies:

City of Vader Housing Goals

Goal H-1: To provide housing for community residents of all income groups.

Policy H-1.1 The City of Vader shall work with private sector providers through the comprehensive plan and development regulations designating sufficient land for affordable housing.

Policy H-1.2 The City of Vader will identify and designate sufficient land for low and moderate income persons primarily by providing areas for multifamily housing, single family attached housing, and manufactured homes. Market-rate single family housing areas will primarily provide housing for persons above 80% of median family income.

Policy H-1.3 To provide for all income segments the City provides for stick built, modular and manufactured homes as well as multifamily units. Manufactured homes and stick built homes may be provided in any residential area provided modular and manufactured home foundations are built on permanent foundations to retain the historic character of the community.

Policy H-1.4 The City of Vader should consider alternatives to the use of Lewis County for building official services such as part time or a circuit rider planning services shared with another nearby community.

Policy H-1.5 The City of Vader should work with other jurisdictions to provide for housing such as a county-wide housing authority, Federal, State and local organizations for the provision of housing resources for low income residents.

Housing objectives:

- 1) Work with a regional housing authority to develop a Vader housing rehabilitation program.
- 2) Work with other cities to develop a joint housing authority.
- 3) Review agreements for building official services annually.

V. CAPITAL FACILITIES ELEMENT

This section provides information about the City's capital facilities, including water and sewer systems, city buildings, parks and recreation facilities as well as a financial plan showing how new and improved capital facilities will be funded. Transportation facilities are discussed in Part V.

A. Inventory of public Facilities

Water facilities

The City's water plant is located in the UGA near the intersection of Military Road and SR 506. Intake is from the Cowlitz River. The City recently improved its water intake structure as directed by the state, and a 6-year update of its water plan is underway as of 2005. City engineers Gray and Osborne report no limit on water availability, but note that there may be a lack of pressure to serve some customers. In addition, water lines have not all been located, and some are in need of repair (to be part of the Water Plan). The dense subdivision of Enchanted Valley is a wholesale customer of the City and has its own water meter, serving an area beyond UGA.

Sewer facilities

Vader's sewage collection system consists of approximately 19,300 feet of gravity sewers, 520 feet of force main, and one lift station.¹³ Maps of the existing collection system can be found in the City's Comprehensive Wastewater Facilities and Sewer Plan (Gray and Osborne, Inc). The City's wastewater treatment plant is located south of the City core, bordered by the railroad tracks to the west and Olequa Creek to the south. Three treatment lagoons and a chlorination system provide water treatment, with an outfall to Olequa creek.

TABLE 10: YEAR 2000/2001 SEWER CONNECTIONS AND POPULATION

Location	Service Connections	Population Connected to Sewers
In City	222	605

Although the residential area of Enchanted Valley has density supportable of sewage collection and treatment and is served by city water, the septic systems in this subdivision have not been determined by the Lewis County Health Department to be failing. The County still issues new permits for septic systems in this area.

Several problems with the treatment plant have been identified, including raw sewage overflows, lack of ability to measure flows, damaged lagoon liner, and lagoon erosion. The sewage collection system has blocked and damaged pipes in need of repair.

¹³ Data on the City's sewer system and wastewater treatment facility provided by Gray and Osborne, Inc., the city engineers.

As the City grows and seeks to attract new industry and employment, maintenance and correction of its sewage system problems will be necessary. In addition, to keep pace with population growth, the City will need to adjust its wastewater treatment capacity. These issues are addressed in the City's Sewer Plan, completed in 2004. Projects are summarized below.

Table 11: CITY OF VADER SEWER SYSTEM CAPITAL IMPROVEMENTS FOR THE YEARS 2004 THROUGH 2008

Collection System Projects	Project Description	Estimated Project Costs ⁽²⁾ (2003 Dollars)
CIP S-1 ⁽¹⁾	In-Street Sewers for E, F and Park Streets	\$ 677,400
CIP S-2 ⁽¹⁾	East Interceptor Replacement	\$ 201,740
CIP S-3 ⁽¹⁾	Main Street Interceptor Replacement	\$ 615,900
CIP S-4 ⁽¹⁾	Manhole Repairs	\$ 18,510
CIP S-5	Connection to Little Falls Park	\$ 390,100
Subtotals for Collection System Projects		\$1,903,650
Treatment System Projects		
Biosolids Disposal	Contract Disposal of Biosolids in the Lagoons	\$ 263,000
Oxidation Ditch	Mechanical Secondary Treatment Plant with Nitrification and Outfall Improvements	\$4,335,700
Subtotal for Treatment		\$4,598,700
Total Project Costs		\$ 6,502,350

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- (1) Projects S-1 through S-4 are required under the terms of the Department of Ecology Order
- (2) Project costs including engineering, administration, and construction.

The City will need to increase their sewer service rates in order to fund operation and maintenance of its improved facilities. Given that 55% of the population is classified as low or moderate income, these rates could be unaffordable for much of the population. Funding sources identified in the Sewer Plan will help to mitigate these costs.

Parks and recreation facilities

The Planning Committee has identified city parks and recreation as having potential to improve both the quality of life and as an economic development resource in the region.. Lack of funding and the need for a parks plan to enable any grant resources were major stumbling blocks to park improvement.

School

Vader School District 018 operates Vader Elementary School, serving Grades K-6, located at 704 D. St. No additional schools are anticipated to serve the projected population through 2025, although improvements and expansion of the existing school may be necessary.

City Hall, Fire Department, and Police Headquarters

The City Hall building houses the City Clerk, Public Works Superintendent, and police and fire services. It is located at 317 8th St. As the city grows, improvements to this building, or possible relocation of some services, may be needed.

B. City's Finances and Facility Improvements

The City of Vader has built capacity to service its existing community the additional capability is possible. Over the next twenty years the city will build and continue to have the capacity to finance or to require new development to finance a reasonable portion of new development sufficient for needed public facilities and services for at least the anticipated 553 additional persons.

Vader Public Facility Concerns

In 1996, the Committee used community surveys and a SWOT analysis to prioritize public facilities and services. The proportion that each priority is of the highest priority is shown to the left. Actual votes are shown in parenthesis.

Vader Public Facility Concerns (1996)

High priority

- 100 Better Quality Streets (35)
- 85 A Self supporting community (30)
- 71 Facilities for children (25)

Medium priority

- 57 More business services (20)
- 42 Improved sidewalks (15)
- 28 Quality of life (10)

Lower priority

- 17 Increase the tax base (6)
- 14 Improve sewer treatment plant (5)
- 8 Increase housing stock (3)
- 5 Family oriented community (2)

Public Facility Improvements

After considerable discussion by the Planning Committee the following improvement priorities were suggested:

High priority

- 100 Complete a new Comprehensive Water plan (75) – underway in 2005
- 86 Complete a review Water Source Study (65)
- 50 Consider additional storage for improved fire flows in the Park Road area (38)
- 33 Consider fire flow needs in urban growth and Enchanted Valley areas (25)

Medium priority

- 26 Update the sewerage treatment plant (20)- underway, dependent on grant funding
- 20 Consider County/City water source (15)
- 18 Improve the City Park accessing and solving risk concerns (14)

Lower priority

- 8 Consider improved water services west of railroad and south of SR 506 (6)
- 5 Consider improved water service north of 6th (4)
- 4 Landscape the city sewer plant to protect from vandalism (3)

Capital Improvement Plan

The City's Capital Improvement Plan is maintained as a separate document, and is incorporated here by reference. Table 12 presents a summary of current capital projects, costs, and funding sources.

TABLE 12: SUMMARY OF CAPITAL IMPROVEMENT PROJECTS¹⁴

PROJECT DESCRIPTION	BEGINNING YEAR	ESTIMATED COST	FUNDING SOURCE
<i>STREETS-</i>			<i>See Transportation Element, Part VIII.</i>
<i>PUBLIC SERVICE FACILITIES</i>			
Sewer system improvements			See Table 11, above
Old City Jail maintenance/improvement	2000	1,000	Special projects fund
<i>PARKS AND RECREATION</i>			
Park Feasibility Analysis	2006	200	Park Fund/ Grants
Park Plan	2008	1,300	Park Fund/ Grants
Park Improvements	2000	?	Park Fund/ Grants
<i>PEDESTRIAN, BIKE, OPEN SPACE</i>			
Olequa Creek path analysis	2006	?	Street Fund/Impact fees/donations
City Sidewalks analysis	2005	?	Street Fund/Impact Fees/State pedestrian fund

The Capital Improvement Plan, which should be updated every two years, is the most current source of information on facility projects.

¹⁴ Excludes sewer and wastewater treatment projects, summarized separately in Table 11.

C. Concurrency

City regulations require concurrency review for all projects to ensure that the adopted levels of service (LOS) for City facilities are maintained. Impact or mitigation fees may be collected for to expand facilities if needed, based on an engineering analysis required for new industrial uses, subdivisions, and conditional use proposals. The following table summarizes the city's adopted LOS.

TABLE 13: LEVELS OF SERVICE FOR CITY FACILITIES¹⁵

FACILITY	UNIT PER POPULATION	EXISTING LOS	PROJECTED LOS NEED IN 2025
<i>Water Facilities</i>			
Water treatment plant	1	1 (adequate)	1/1,406
Storage tank	Capacity in gallons	250,000 (exceeds)	253,000 (storage expansion may be needed)
Distribution lines	Lineal feet	31,300 (adequate)	Additional units may be required
<i>Sewer Facilities</i>			
Treatment plant	1	1/610 (adequate)	Treatment capacity expansion may be required
Collection lines	Lineal feet	16,400 (adequate)	Expansion concurrent with new hookups
<i>Stormwater facility</i>	Lineal feet	6,250 (adequate)	6,250
<i>City and Park Facilities</i>			
City Hall	#	1 (Adequate)	May need expansion
Police Headquarters	#	1 (Improvements needed)	May need expansion to house additional officer to serve population
City storage facility	#	1 (Adequate)	1
City Parks	6.25 acres – 10 acres per 1,000 pop (NRPA)	Existing parks are undeveloped	10 acres of developed parks needed
Schools	#	1 elementary school	School may need expansion

¹⁵ Excludes streets, which are addressed in the Transportation Element. This table adapted from Concurrency Ordinance No. 99-01 and updated with current population projections.

D. Capital Facility Goals and Policies

Statewide Goals

As part of the City Planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goal is considered accomplished by this portion of the city planning process

Statewide Goals #12: 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 services levels below locally established minimum standards.

In its regularly scheduled meetings the Planning Committee compared the above statewide goal with concerns identified from public meetings, city vision statements and suggested goals and policies. After considering information on the city's growth, housing needs, urban growth areas public facility capacities and other concerns. The Planning Committee determined that the State Goal may be implemented by the following City Goals and policies.

City of Vader Capital Facilities Goals and Policies

Goal CF-1: To manage expected growth within city capacities, controlling impacts and maintaining a high quality of life.

Policy CF 1.1 The City of Vader shall work with the Department of Health to update its water plan to meet state standards.

Policy CF 1.2 The City of Vader shall continue to evaluate its existing water source and consider alternatives if necessary to protect public health.

Policy CF 1.3 The City of Vader shall work cooperatively with new development to provide improved water services, storage and to meet needs for fire flow.

Policy CF 1.4 The City of Vader shall work with areas in the Vader urban growth area over a twenty-year period to provide services similar to those within the city upon request subject to condition of annexation.

Policy CF 1.5 The City shall work to upgrade the City of Vader sewerage treatment system to meet Department of Ecology Standards and identified city needs.

Policy CF 1.6 The City of Vader shall work to improve its City parks and transportation system as an integral part of needed economy and quality of life public works improvements.

Objectives:

- 1) Develop an updated water system plan by 2006 to include identification of alternative water sources, and a five year plan for water system needs to serve the city and identified Vader urban growth.
- 2) Update the Capital Improvement Plan every two years.

VI. UTILITIES ELEMENT

This section of the Comprehensive Plan provides information on the major utilities serving the City of Vader.

A. Natural Gas Services

Residents of the City of Vader are not served by natural gas. Puget Sound Energy serves northern Lewis County, but does not currently have plans to expand to the Vader area. Cascade Natural Gas operates out of Longview, and does not have plans to expand service to Vader.

B. Electricity

Power Services are provided by Lewis County Public Utilities District, which owns and operates the Cowlitz Falls Project producing an average 260,000-megawatt hours of electricity per year, or 33% of the electric energy used by District customers. Another hydroelectric project, Mill Creek, provides additional energy. The District also buys additional power from the Bonneville Power Administration. The District began a 10-year contract with BPA in 2000 to guarantee the citizens of Lewis County a dependable firm source of electric power.

The District offers low interest loans and incentive rebates under its energy conservation programs, and offers "green power" through its agreement to purchase 2% of its power from the Energy Northwest Nine Canyon Wind Project. The conservation effort was expanded in October 2001 as a result of BPA's Conservation and Renewables Discount Program. The District operates a low-income energy assistance program known and provides agency referral information for customers needing payment assistance. There are concerns that costs for BPA-provided energy will rise throughout the Northwest.

Power services are provided on demand. A power substation is located a on the Winlock cutoff for the City of Vader. The existing substation and power easements have adequate capacity and or space for additional capacity for the growth anticipated for the Vader area.

C. Telephone and Internet Services

Local telephone and dial-up Internet services for businesses and residential customers are provided by CenturyTel or Toledo Telephone. Toledo Telephone Company plans to offer DSL service to Vader in the future for higher speed connections. Several wireless companies provide service to the area, as well. There is a cellular tower located just northeast of Vader near I-5 and atop the city's water tower. Cell service is reliable. Television is provided by satellite operators.

D. Sewer, water, and solid waste service

Sewer and water service is provided by the City of Vader. This service is discussed in the Capital Facilities Element, Part V. The City contracts out garbage collection.

E. Utility Goals and Policies

Goals U-1: Facilitate private and city utility services at the appropriate levels to accommodate the demand associated with current and future land uses.

Vader Comprehensive Plan, August 2005

Policy U-1.1 Ensure utilities are provided in a cost efficient manner, and are affordable to City of Vader residents.

Policy U-1.2 Update information on utility providers in the Comprehensive Plan as needed.

VII. PARKS, RECREATION AND OPEN SPACE

A. Current Park Sites and Open Space

The City of Vader does not currently have developed parks. However, the City owns land suitable for future park development, which is a major goal of the community. In 2005 the City rezoned a donated 10.69 acre site on the banks of Olequa Creek for park purposes. Another City park is a small area of land on the south side of the city along Olequa Creek. The park is presently in a natural state and is sometimes used by children who create impromptu trails and find ways to wade in the creek unsupervised. Historically, residents tell of an "old swimming hole" north of the park adjacent to private land. Near by residents complain that there is no parking and that those who choose to use the park block the narrow roadway and that there are steep slopes within the park that may need to be fenced. It was suggested that a group of volunteers could develop the park's trail system and that fencing material and labor may be available by donation if the city could identify and measure areas needing such treatment or if a specific plan were developed. Near by residents were concerned that without parking the use and users of the park would continue to abuse the privileges of the adjacent residents.

Other open space possibilities included the city water intake and the adjacent area of geologically unstable slopes. It was considered best left in a natural state or augmented with improved drainage to reduce the aspect of the geologic slope sloughing that is occurring.

The floodplain areas along McMurphy creek and riparian areas along Olequa Creek and associated tributaries are protected by the City floodplain and Critical Areas Ordinances and serve as open space corridors and habitat areas

More active areas that may be important to the cities desire to improve the quality of life have been discussed by the City. Active areas included the development of a restoration plan for the former city jail, and restoring the 1948 fire truck and using it for display.. While grants are available to the city for park development, grant programs require development of an inventory of park facilities, a survey and the development of a City Parks Plan for application. The Growth Management Act allows inclusion of recreation as an optional element in required comprehensive planning. There is no current level of service since volume of use over no capacity is none, however, to enable the city to apply for park improvement the city considered recreational needs and demands using generally accepted 1980 park standards based upon population.

B. City Recreational Needs Analysis

Typically during the inventory of city facilities, park and recreation facilities and open spaces are identified. The City of Vader's inventory is no exception. The city's existing facilities once identified may be compared with standards in use for recreation. The most widely used standards for comparison in Washington State are provided in the 1982 Statewide Comprehensive Outdoor Recreation Plan (SCORP) as noted in the following tables, 14 and 15. The SCORP standards are noted in two ways, by types of facilities and

by activities. The types of facilities noted include parks by the types of area to be served such as regional parks and miniparks. The standard used for example provides for one mini park per quarter mile of about one acre in size providing three quarters of park space per thousand of population. By multiplying the existing and projected population in Vader times the standard we may determine the existing need according to the standard and the projected need in the year 2015. Activities are defined in a similar manner. Tables 14, 15, and 16, identify the Vader need according to the existing supply and these standards by types of facility and activities respectively. The city may choose to vary the standard since there are no regulatory provisions and many cities have chosen different standards. Since the standards are statewide the inventory of available facilities does not require that identified facilities be only within the city limits or be publicly-owned. Privately held swimming pools, trails or tennis courts provide for recreation of their owners just as well as public facilities. The City Planning Committee considered these needs and identified city concerns and priorities in the next section.

Table 14: SCORP Recommended Park Standards

Type of Park	Service Area	Desirable Area	Minimum Units per 1,000
Mini-Park	< 1/4 mile	1 acre	.75 acre
Neighborhood Park	1/4-1/2 mile	1-10 acres	2 .0 acres
Community Park	1/2 - 25 mile	10 + acres	8.0 acres
Natural Park	1/2 mile	1-10 Acres	2.0 acres
Parkways/Trails	1/2 mile	.5 - 4 + miles	1.5 miles

Source: 1980 Washington State-wide Comprehensive Outdoor Recreation and Open-Space Plan (SCORP)

Table 15: Recreation Standards

Recreational Facility/Activity	Service Area	Desirable Size	Facilities per 1,000
Type of Facility			
Baseball Diamonds	1/4 to 1/2 mile	Base line 90'; field 400'	1/5,000
Soft ball Diamonds	1/4 to 1/2 mile	Base line 60'; field 275'	1/5,000
Tennis Courts	1/4 to 1/2 mile	36' x 78'	1/5,000
Volleyball Courts	1/4 to 1/2 mile	30' to 60'; 6" clearance	1/5,000
Swimming Pools	5 to 10 miles	25m x 16m or 25yd x 45'	1/20,000
Football Fields	5 to 10 miles	160' x 320'	1/20,000
Soccer Field	1 to 2 miles	225'x 360'	1/5,000
Track	1 to 2 miles	1/4 mile length/10' wide	1/5,000
Gymnasium	3 to 5 miles	Undefined	1/5,000
Community Center	5 to 10 miles	Undefined	1/10,000
Boat Launch	5 to 10 miles	14' width/10% slope max	1/3,000

Source: 1980 Washington Statewide Comprehensive Outdoor Recreation and Open Space Plan.

City of Vader Recreation Demand

Table 16: City of Vader Parks, Recreation and Open Space Facilities Need Comparison

Type of Park (STD/1000)	Existing Supply Potential areas	Projected Year 2015 Demand Low (.643 x STD)	Projected Year 2015 Demand High (.800 x STD)
Mini-Park (.75 acre)		0.48	0.60
Old City Jail	0.11		
Water Plant Site	7.53		
Neighborhood Park (2.0 acres)		1.28	1.60
Enchanted Valley Commons (Residents only)	1.00		
Community Park (- 8.0 acres)		5.14	6.40
City of Vader City Park	2.96		
Natural Areas (2.0 acres)		1.28	1.60
Olequa Creek Flood plain	25.20		
Cowlitz River Flood plain	6.19		
Total Need	43.99 acres+	8.18 acres	10.20 acres
Plus Trail Miles (1.5 miles)		0.96 miles	1.2 miles
State Bike Route (Share Road)	2.65 miles		
Excess Supply (Shortage)			
Parks and Open space	43.99 acres	35.81 acres	33.79 acres
Trails	2.65 miles	1.69 miles	1.45 miles

Community Priorities

The Planning Committee discussed priorities and suggested objectives for consideration in the development of a City parks plan for future funding as follows:

Vader Community Open Space and Recreation concerns and priorities

High priorities

- 100 City Park Improvements (35)

- 91 Restore former city jail (32)
- 85 Keep the city's water intake natural (30)
- 45 Develop a city hall fire truck display (16)

Medium priority

- 31 Surround sewer plant with natural open space (11)
- 20 Maintain flood plain as open space (7)

Lower priority

- Designate state bike route
- Use water storage reservoir area as open space
- Use geologic hazardous areas as open space

Table 17: City of Vader Parks, Recreation and Open Space Facilities Need Comparison

Type of Park	Minimum Units per 1,000	Existing Supply Potential areas	Existing Need (.488 x STD)	Supply Estimated
Mini-Park	.75 acre	Old City Jail Water Plant Site	0.36 acres	.11 7.53
Neighborhood Park	2 .0 acres	Enchanted Valley Commons (residents only)	0.97	1.00
Community Park	8 .0 acres	City of Vader City Park	3.90	2.96
Natural Areas	2.0 acres	Olequa Creek Flood plain Cowlitz River Flood plain	----- -----	0.97 25.20 6.19
Total Need			6.2 acres+	43.99 acres+
Excess Supply (Shortage)				37.79 acres
Trails				
Trail miles	1.5 miles	.73 miles State Bike Route (Share Road)		2.65 miles
Excess Supply (Shortage)				1.92 miles

Table 18: City of Vader Recreational Facility by Activity Need

Type of Facility	Facilities per 1000	Available Supply	Existing Projected Need (.8 x Std)

Vader Comprehensive Plan, August 2005

Baseball Diamonds	1/5,000	1 - Castle Rock High School	None
Softball Diamonds	1/5,000	1 - Vader Elementary	None
Tennis Courts	1/5000	1 - Castle Rock High School	None
Volleyball Courts	1/2,500	1 - Vader Elementary (Multi-use)	None
Swimming Pools	1/20,000	1 - Enchanted Valley (Residents)	None
Football Fields	1/20,000	1 - Castle Rock High School	None
Soccer Fields	1/10,000	1 - Castle Rock High School	None
Track	1/5,000	1 - Castle Rock High School	None
Gymnasium	1/5,000	1 - Vader Elementary (Multi-use)	None
Community Center	1/10,000	2 - City Hall, Lions Club	None
Boat Launches	1/3,000	Cowlitz River Launch (State)	None

C. City of Vader Parks, Open Space and Recreation Goals

Statewide Goals

As part of the city planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goals are considered accomplished by this portion of the city planning process.

Statewide Goals #9: Open Space and Recreation

Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

In its regularly scheduled meetings the Planning Committee compared the above Statewide Goal with concerns identified from public meetings, city vision statements, community priorities, and suggested goals and policies. After considering information on the city's growth, parks and recreation needs and demand, housing needs, urban growth areas public facility capacities and other concerns, the Planning Committee determined that community concerns and the State goal may be implemented by the following city goals and policies.

Goal P-1: To maintain and restore the community's role as a historic gateway to the forest.

Policy P-1.1 The City Of Vader Critical Area Ordinance shall encourage the retention of floodplain, wetlands and fish and wildlife areas as natural open space through transfers of development to adjacent areas.

Goal P-2: To improve city parks as opportunities for recreation for children and adults.

Policy P-2.1 The City should develop an updated park and recreation plan and apply for parks funding for improvement.

Policy P-2.2 The City shall develop a parks improvement program that encourages community efforts such as volunteers from schools, church, civic, and other groups.

Policy P-2.3 The City shall develop and update its recreation plan and strive to meet the state recommended (SCORP) standards for recreational facilities.

Objective

Acquire funding to develop a City Parks and Restoration Plan by 2008.

VIII. TRANSPORTATION ELEMENT

The Transportation Element addresses transportation needs of the City of Vader, including the City's plan to maintain and provide specified levels of transportation service concurrently with new development as it occurs. It also provides an inventory of the transportation network serving the City, traffic forecasts, level of service standards, and a financial plan for transportation improvements. The Lewis County Countywide Planning Policies call for integration of the City's transportation projects with regional priorities and projects.

A. Regional, County, and City Transportation Responsibilities

The Southwest Washington Regional Transportation Planning Organization (SWRTPO) covers Lewis and four other southwest Washington Counties, conducting long range planning for the region. The SWRTPO meets quarterly and invites participation from local cities. The City of Vader participates in the SWRTPO and its formation of the Regional Transportation plan. City and regional policies and projects are reviewed by the city. Policies suggested and similar to those provided to the RTPO for review by Lewis County for inclusion in the Regional / County and City Plans. Vader works with the Regional Transportation Planning Agency and submits projects each year for consideration for Transportation Improvement Account and other funding. Projects must be included in the Regional Transportation Plan if they are to be funded as part of the regional transportation plan improvements. The SWRTPO Regional Transportation Plan, adopted September 2003, does not include any projects for the coming 20 year planning period that would directly affect Vader. There is a possibility that this plan will be amended to include future rail improvements through Vader. In addition, the I-5 corridor will be widened and the interchange at Vader improved.

Lewis County maintains streets in the UGA and implements projects through its six-year transportation improvement plan. The City and Lewis County coordinate on local projects affecting the city. There are no current projects for the Vader area listed in the 2005-2010 County six-year Transportation Improvement Program. (TIP).

The City itself is responsible for ongoing street maintenance and projects under its own Six-Year Plan. To follow is a summary of the City's projects and funding:

TABLE 19: CITY TRANSPORTATION IMPROVEMENT PROJECTS AND FINANCIAL PLAN

PROJECT	LOCATION	EST. COST	PROJECT START	FUNDING SOURCE
A Street Improvements-Phase I	From A street from 7 th Street to 8 th Street	\$286,000	7/30/05	State and local funds
8 th Street Improvements	From A Street to B Street	\$284,000	7/30/2005	State and local funds
Miscl. Street Repairs	Varies	\$10,000	5/1/2005	Local funds
D Street Sidewalk	From 7 th Street to 8 th Street	\$105,000	7/30/2005	State and local funds
A Street Improvements-Phase II	From 6 th Street to 7 th Street	\$400,000	7/30/2006	State and local funds
6 th Street Improvements	From Main Street to D Street	\$520,000	7/30/2007	State and local funds
		\$1,605,000 (TOTAL)		

A project approved for the 2005-2010 Six Year Plan includes widening and paving A street, 6th Street and D Street forming a Commercial loop from 8th Street across SR 506 to 6th Street and back down D street across SR 506 to Vader Elementary School at 8th. This project has been submitted for the last several years and has not been funded.

B. Concurrency and Transportation Demand Management

The Growth Management Act provides that the City must plan for anticipated growth. Implementation of the Comprehensive Plan's Transportation Element is to be through the Six Year Plan, which is maintained as a separate document. The Act further provides that after adoption of the comprehensive plan by jurisdictions required to plan local jurisdictions must adopt and enforce ordinances which prohibit development approval if the development causes the level of service on a transportation facility to decline below the standards adopted in the transportation element of the comprehensive plan, unless transportation improvements or strategies to accommodate the impacts of development are made concurrent with the development. These strategies may include increased public transportation service, ride sharing programs, demand management, and other transportation systems management strategies. Concurrent with the development means that improvements or strategies are to be in place to complete the improvements or strategies within six years.

Concurrency

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The Growth Management Act requires that adequate transportation facilities be available when the impacts of development occur, or that a financial plan is in place to assure that needed facilities are in place within six years of the development.

Jurisdictions are required to adopt and enforce ordinances that prohibit development approval if the development causes the level of service on a transportation facility to drop below adopted standards outlined in the transportation chapter of the comprehensive plan. The City has adopted a Concurrency Ordinance and will monitor the impact of approving development on the capacity of transportation facilities. City of Vader has adopted a concurrency management system for reviewing new development, and the authority of the City to collect impact fees to mitigate impacts on city roadways and other facilities.

Trip Reduction Law

In addition to the Growth Management Act requirements for local planning the Washington State Legislature adopted the Trip Reduction Law of 1991 (SSHB 1671). It requires jurisdictions to develop Transportation Demand Management (TDM) programs, to work toward improved air quality and to be consistent with the Federal Clean Air Act. Further, it requires certification of consistency with the Regional Transportation Plan. Federal planning requirements overlap those of the GMA including: 1) general policy standards; 2) planning; 3) service standards; and 4) project specific review procedures for consistency. Regional planning organizations must review local plans and insure that they include:

- 1) General policies that address federal and state air quality retardation, regional air quality objectives and endeavor to conserve energy;
- 2) Planning policies that address mobility needs of business and industry, promoting efficient movement of people, goods and freight, and alternative travel options to the automobile developing mode-split goals for non-single occupancy vehicle travel;
- 3) Levels of service standards identification, guidelines and incentives for center development related to transportation and develop transportation connections to centers; and,
- 4) Project specific standards that coordinate the phasing of development with the provision of transportation facilities, services and mitigation of impact associated with regional transportation facilities.

C. Inventory of the Transportation Network

Major roads and their classifications are shown on Map D.

Public Transit

The nearest transit operation is Twin City Transit, which provides services to the Chehalis and Centralia Area through their locally adopted Public Transportation Benefit Area (PTBA). The City of Vader is not included in the PTBA. According to the 1993 update of its Development Plan the surrounding areas, "may not as yet provide a sufficient base for

public transit." Voters turned down a proposal for countywide transit services in 1980. Para transit services are provided by Twin Transit and by the Lewis County Senior Services Division of the Parks and Recreation Department. Ridership in 1992 included 231,750 passengers. Its plan is to provide for 13 buses that are 100% ADA accessible. As of 2005, Twin City Transit had no plans to extend service to the Vader area. However, a Southwest Washington Area-Wide Rural Service (STARS) route was proposed in 1999 to operate through Vader.

Collectors and State Route 506

The City of Vader's primary through-route is State Route 506, classified by Lewis County has a collector. SR 506 is not a "highway of statewide significance." It connects Vader to Interstate 5 located 3 miles to the East. It also connects Vader to Ryderwood located about 3 miles to the West. SR 506 has a truck route classification of 3. The West Side Highway (State Route 411) is another collector located along Vader's east edge connects Vader to Castle Rock and to the Kelso/ Longview Area, but this route is outside the planning area. The Winlock-Vader Road is a collector that connects Vader to Winlock located about six miles North. There are no County arterials located in the City or its UGA.

Local Access Streets

All other streets within the city are local access streets. The City Planning Committee reviewed standards in the interim subdivision ordinance and those in use in several jurisdictions throughout the State.

Rail

The Burlington Northern Santa Fe railway runs north-south along the western edge of the City. The City will pay close attention to planned improvements to this rail corridor, including possible future high speed rail service.

Pedestrians, Bicycles, and Sidewalks

The City's small size promotes walking and use of bicycles. Low traffic keeps this activity relatively safe. However, there are no sidewalks and no bike lanes in the City. Improvements to pedestrian and bicycle facilities will be dependent on grant funding.

D. Traffic Counts and Levels of Service

Traffic congestion is not a problem for the City of Vader due to its small population size and the fact that the City lies about three miles from I-5. However, the City tracks traffic count data taken by the Lewis County Road Department and by the Washington State Department of Transportation for peak travel times. The following Table list identified counts from these two sources.

Lewis County Roads	Most Recent Count Date	Location of Count	Count	Classification	Adopted LOS	V/C
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Vader Comprehensive Plan, August 2005

Anonnen Rd.	4/17/98	Winlock-Vader Rd.	61	Local Access	B	na
	2/12/03	Milepost .470	78	Local Access	nr	na
Awmiller Rd.	2/12/03	W. Winlock-Vader Rd.	141	Local Access	nr	na
S. Military Rd.	1/16/87	NW Westside Hwy	167	Local Access	nr	na
West Side Highway	3/26/93	Milepost .010	1,259	(not w/in jurisdiction)	nr	na
Enchanted Valley Drive	4/22/04	Milepost .010	146	Local Access	nr	na
Winlock Vader Rd.	4/01/04	Milepost 6.6	707	Collector	B	na
State Route						
SR506	2003	After junction at Winlock-Vader Road	1700	Collector	E	.12
All City Streets	Unavail-able (na)		na	Local Access	nr	na

Source: Lewis County Road Department 3/05 and Washington Department of Transportation 2003 Annual Traffic Report.

Level of service (LOS) standards are established to measure the adequacy of roadway service for collectors, arterials, and highways. A LOS is not typically established a local access road. As the City grows, impacts to established LOS must be evaluated. The City has adopted an LOS of "B" for its collectors, and an LOS of "E" for SR 506. A description of these LOS is as follows:

LOS B: Average travel speeds of 55 mph or higher. Flow rates may reach 27 percent of capacity with continuous passing sight distance. Flow rates of 750 passenger cars per hour, total two-way, can be carried under ideal conditions.

LOS E: Average travel speeds in neighborhood of 45 mph. Flow rate under ideal conditions, total two-way, equal to 2800 passenger cars per hour. Level E may never be attained. Operation may go directly from Level D to Level F.¹⁶

New developments that cause a street to fall below its designated LOS must mitigate for these traffic impacts. Impacts to LOS will be based on a calculation of how much traffic

¹⁶ Source: AASHTO, 1990. A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, Washington, DC.

volume the route is carrying, or is projected to carry, versus how much the route is actually carrying. This is known as the volume-to-capacity ration or "V/C". The closer the volume is to the number 1, the more congestion a driver will experience during peak travel hours. V/C ratios have not been done for the City's collectors. The capacity of the existing collectors and SR 506 is sufficient to accommodate current and expected demand for many years, and no widening or improvement projects are designed to increase the capacity of these roadways.

E. Transportation Goals and Policies

Statewide Goals

As part of the City planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goal is considered accomplished by this portion of the Comprehensive Plan:

Statewide Goals #3: Transportation

Encourage efficient multi-modal transportation systems that area based on regional priorities and coordinated with county and city comprehensive plans.

The City Planning Committee rated local access street concerns as one of its highest priorities. And community streets improvements are listed as a city goal. After reviewing the above Statewide Goal, regional goals and city concerns, the Planning Committee combined the cities goals with the applicable regional policies for inclusion in the city's plan as follows:

City of Vader Transportation Goals and Policies

Goal T-1: Vader desires to be more self reliant and self-supporting by improving its economic base and facilities for commerce and transportation.

Policy T-1.1 The City of Vader should coordinate plans, programs and projects with regional, state and federal agencies to ensure consistency between land use development and transportation facilities, including gathering traffic volume forecast data from the SWRTPO.

Policy T-1.2 The City of Vader and state agencies should investigate a full range of actions when improving regional transportation facilities, including transportation system and demand management programs to improve efficiency and lessen environmental impacts.

Policy T-1.3 The City of Vader should strive to provide adequate access to the transportation system for persons with disabilities.

Policy T-1.4 The City of Vader and state governments should ensure adequate road access to scenic and recreational areas, to accommodate local and tourist traffic.

Policy T-1.5 The City of Vader and state government should work to reduce conflicts between rail and vehicular traffic, wherever possible and support enhancement of passenger rail and high speed rail planning efforts in the region.

Policy T-1.6 The City of Vader and state agencies should strive to construct safer and more convenient bicycle facilities in all future improvements projects that are constructed on the designated regional bicycle system.

Policy T-1.7 The City of Vader shall work with state agencies to designate arterial access points to ensure safety while maintaining acceptable level of service "E" standards designated by the state for SR 506.

Objectives:

- 1) Identify and adopt City Road Standards as funding permits.
- 2) Seek other sources of funding for city road improvements.

IX. ECONOMIC DEVELOPMENT ELEMENT

A. City-wide Priority

The City has ranked economic development as its number one priority.

Economic Strategies

The Planning Committee considered citizen suggestions for improving the local economy and ideas for a local economic development strategy. Quality of life in the south Lewis County region and the need for economic development were tied together in many participants' comments. A study by Eric Hovee for the Department of Trade and Community Development accomplished a Strengths, Weaknesses, Threats and Opportunities (SWOT) analysis for the south Lewis County area. The SWOT analysis is available through the Lewis County Economic Development Council.

Population Growth Trends (1996 Plan)

Population characteristics were compared from the 1980, 1990 and 1995 census data. The Census is the most complete survey available for the area. In addition to the Census information, detailed analysis has been compiled from a number of studies of Lewis County including The Lewis County Housing Needs Assessment, 12/1995, by The Phoenix Group, Inc. and Community Assessment: Strengths, Weaknesses, Threats and Opportunities (SWOT), by E.D. Hovee & Company, 1991. These studies are available for more detailed review at the City of Vader City Hall. The following paragraphs summarize these studies for easy reference.

Countywide Trends

In 1980 the Lewis County population was 56,025. Since then the population has grown to an estimated 62,900 persons in 1993 according to the U.S. Census and the Washington State Office of Financial Management 1993 Population Trends. Population increased in the unincorporated areas from 22,705 to 24,312 during the 1980-1990 period and increased in the City of Napavine from 745 to 1020 persons from 1990 to 1995.

Several trends can be seen in the population data. First and most obvious is that growth was faster than anticipated. The Washington State Office Financial Management (OFM) projections made in 1990 and still in use in 1992 for 20 years or 2010 were exceeded by 1995. The growth rate went from an estimated one-half of one percent (.5%) to seven percent (7.0%) per year between 1990 and 1995.

The Office Financial Management indicates that 79% of the new growth in Lewis County from 1990-93 may be attributed to in migration while 99% of growth in the 80's was due to higher births over deaths. Staff from the OFM speculate that this change may reflect a growing trend toward a desire of many people to live in rural areas and small towns.

The second trend is that households grew faster than population. This trend has provided a drop in the average household size from 2.72 persons to 2.64 persons per household. If this trend continues it will rapidly consume the existing housing supply according to the Lewis County Housing Needs Analysis.

A comparison within the Lewis County Housing Needs Assessment indicates that Lewis County has a higher percentage of persons under 18 and a higher percent of persons over 75 than the whole state. In Lewis County 28.4% of the population are under 18 compared to 25.9% for the State. For seniors 7.0% of the population are over 75 in Lewis County compared to 4.9% for the state. Higher proportions of seniors are also found in cities such as in Vader. Countywide seniors were 9.4% of the incorporated population while seniors were only 5.4% of the unincorporated population, indicating a definite preference among seniors for cities.

The following sections discuss specific population characteristics identified and provides census information for the Vader and regional areas for comparison.

Employment

The Planning Commission considered employment information developed in the Strategic Assessment of Strengths, Weaknesses, Opportunities and Threats (SWOT) for Napavine, Toledo, Vader, and Winlock, Eric D. Hovee 1992. This information indicated that while Vader has a low labor force participation rate of 52% compared to 67% for the State average. The study indicates that there are people with skills that are directly applicable to the existing and projected labor markets such as in the services industry (15.7%), and manufacturing industries including production (craft and repair 15%) as well as operations (labor and fabrication 32%). These proportions were well over the state averages by 2.5%, 3.4%, and 19.1% respectively. Such skills were considered transferable to those areas identified as most needed which included service and the wholesale /retail industries which were below state averages by 15.3% and 1.4% respectively.

The above figures are matched with information in the same report that retail sales in the City of Vader are at \$1,672 per capita or approximately 1/5th of those in Winlock and Toledo at \$7,519 per capita and \$8,387 per capita respectfully. All of these figures were well below the statewide average of \$ 10,064 per capita. The Planning Commission determined that there may be a large unmet market for services in the Vader area and its associated employment opportunities as well. The Planning Committee identified opportunities for the city in the following categories and suggested goals for inclusion in the city's plan as the preferred mechanism for implementation.

Opportunities

Several discussions surrounded the identification of opportunities that are available to the city. Vision statements focus upon self-reliance and the improvement of the city's quality of life. Those who attended public meeting found many opportunities that may be useful as the city works with its facilities, with other local and state agencies and with the community at large to meet its desired goals. The identified opportunities were not ranked or placed in priority and are shown below.

Location

The city is centrally located. Within ten to fifteen minutes there is access to regional shopping areas such as Longview/Kelso area and the Centralia/Chehalis area. The metropolitan areas of Portland, Oregon and Vancouver, Washington are an hour away to the south. The Olympia area is only about an hour away to the north.

Natural resources

- The area is surrounded by forestry activities.
- There are abundant fishing and housing resources.
- The area has natural scenic beauty.
- The Cowlitz River provides water, fish and wildlife resources.
- Olequa Creek provides, scenic, recreational, fish and wildlife resources.
- The City contains vacant land for development.
- There is a natural clay once used for fire brick.

Man-made Resources

- Vader has existing excellent water quality.
- Vader has existing sewer treatment capability and excess capacity.
- It is on the Seattle to Portland main rail line with a well used siding.
- City has a qualified police and city administrative staff.
- There are housing resources in the city.

Historic Resources

- Former Vader city jail building (needs restoration)
- Ben Olson house (first electricity in city)
- Several older homes of Victorian era
- Vader was listed an official "Ghost Town" as of 1995- but is no longer
- Fire department bell at city hall
- 1948 Fire truck (not currently in use)

B. Economic Development Goals and Policies

Statewide Goals

As part of the city planning process the City Planning Committee reviewed all thirteen of the State Goals. Each time a portion of the city planning program was determined to accomplish an applicable goal the state goal is identified along with the implementing City Goals and Policies. The following goal is considered accomplished by this portion of the city planning process.

Statewide Goals # 5: 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, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

In its regularly scheduled meetings the Planning Committee compared the above statewide goal with concerns identified from public meetings, city vision statements and suggested goals and policies. After considering information on the city's growth, housing needs, urban growth areas public facility capacities and other concerns. The Planning Committee determined that the State Goal may be implemented by the following City Goals and Policies.

City of Vader Economic Development Goals

Goal ED-1: To preserve the city's role as an historic gateway to the forest.

Goal ED-2: To be more self reliant and self-supporting by improving its community economic base and facilities for commerce and transportation.

Policy ED-2.1 The city shall identify criteria for industrial and commercial development and designate sites for use consistent with its comprehensive plan and economic development strategy.

Policy ED-2.2 The city shall consider regional forestry and tourism related to forestry and natural resources primary targets for its economic development strategy.

Policy ED-2.3 The City of Vader shall work with the Lewis County Economic Development Council to develop a south Lewis County development strategy.

Objectives:

- 1) Work with the Lewis County Economic Development Council to develop a local economic development strategy by as funding permits.
- 2) Revise the City's permit system to provide clear process and fee information to potential developers by 2006.
- 3) Create an industrial lands database and conduct a business feasibility study as funding permits.

Bibliography

The following source materials are available and have been used in the development of the City of Vader Comprehensive Plan. As additional materials were developed during the plan development process the list has been updated.

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- Strategic Assessment of Strengths. Weaknesses. Opportunities and Threats (SWOT) for the Southwest Lewis County Area. Eric D. Hovee, Vancouver, WA, December, 1992.

Resident Fish Summary: Anadromous, Planted and Naturally reproducing Resident Fish Presence, Fish Distribution Maps. Washington Rivers Information System, Department of Natural Resources, 1992.

Technical Report No. DOE 77-6, Effects on Receiving Waters Discharged from Three Sewage Treatment Plants in Southwest Washington, Dept. of Ecology
Twin Transit Development Plan.1990-1995. Centralia, WA, 1990.

Washington State County Population Projections by Age and Sex: 1990-2020, 1995 projections.

Water Supply Bulletin No. 17. Geology and Ground Water Resources of West-Central Lewis County, Washington, J.M. Weigle and B.L. Foxworthy, U.S. Geological Survey, 1962.

Appendix

1998 Environmental Impact Statement and Supplements

Title and Description of Proposed Action

The proposed action is adoption of the City of Vader draft Comprehensive Plan including the proposed land use map by the City of Vader. The Comprehensive Plan consists of goals, policies and recommended actions that provide a framework for population growth forecast for the next 20 years. It establishes how land located in the City of Vader will be regulated and developed within the planning period. The Plan was prepared to comply with requirements of Washington's Growth Management Act (GMA) enacted by the legislature in 1990 and amended in 1991 and 1992.

The proposed action provides for growth management based on the availability of adequate public services and facilities, with growth concentrated in the urban area. Residential growth is centered around the existing city.

The Draft Plan/EIS considers five alternatives; the required No Action alternative assumes no change in City policies regarding the overall distribution of future land uses, employment or residential growth. Since the GMA requires that cities and the county adopt a comprehensive plan, no action would be in violation of the GMA. Consequently, the No Action alternative is considered only generally in this Draft Plan/EIS.

The first alternative, referred to as Alternative 1, is adoption of the Draft Comprehensive Plan within only the City limits. Alternative 1, is intended to meet GMA requirements without any land use designations outside of the City. Certain sections within the Draft Comprehensive Plan will be reworded to incorporate this alternative should it be selected by the City Council.

The second alternative and the proposed action, referred to as Alternative 2, is adoption of the Draft Comprehensive Plan with the proposed land use map. Alternate 2 proposes a land use map that encompasses the City and urban area and is intended to accommodate growth in the next 20 years. This alternative will be discussed as Alternative 2 throughout the Draft Plan/EIS.

Two other alternatives were also considered. Alternative 3 is more dense on the west side of city area with lower densities in the urban area than Alternative 2. Alternative 4 is more dense in the urbanizing area and provides lower densities in the city area.

Proponent

City of Vader

Tentative Implementation Date

The adoption of the Draft Comprehensive Plan/EIS by the City Council is tentatively scheduled for June 1996.

Lead Agency

City of Vader

Responsible Official

Vickie Brady, City Clerk

Author and Principal Contributors

Clyde W. Stricklin, AICP, City Planning Consultant

Subsequent Environmental Review

The City of Vader intends to use a phased-review process for non-projects actions required by Washington's Growth Management Act, including the Development Regulations that implement the plan. SEPA determination and environmental review for the development regulations will be addressed at an appropriate future date.

Location of Background Material and Document Incorporated by Reference

Background material and documents used to support development of the Draft Plan/EIS are available for inspection at the city of Vader City Hall. A list of documents incorporated by reference is included in Appendix A of the Draft plan/EIS. These documents are also available for inspection at City Hall. EIS cost to the Public

A limited number of copies of the Draft Plan/EIS are available at no charge from the City of Vader.

Summary of Environmental Conditions

The following Environmental Summary is provided as authorized in WAC 197-111-235-(2)(b).

1. EARTH

a. General description of the affected geographical area (check one):

Flat ___; Rolling X; Hilly ___; Steep Slopes ___; Mountainous___; Other ___.

b. What is the steepest slope on the affected geographical area (approximate percent slope)?

The City of Vader is located upon a gently rolling slope that falls from northeast to southwest. Slopes vary from 15 - 30 percent in the northeastern area of the city to 0 - 5 percent in the south along Olequa Creek.

c. What general types of soils are found on the affected geographical area (for example, clay sand, gravel peat muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soils in the city and surrounding Area of Vader are predominantly Klaber silt loam and Olequa silt loam (0-5%) according to the Soils Survey of Lewis County. These areas noted as Class III Soils with small terraces of Galvin silt loam and Salkum silt clay loam. Where slopes are less than 8% in slopes soils are noted as prime agricultural soils.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Not within the city and urban area. Unstable slopes have been identified along the Cowlitz River north and east of the existing city limits in a geological investigation by a professional engineer and geologist and are discussed in the critical lands analysis.

e. Describe the purpose, type, and approximate quantities or any filling or grading proposed. Indicate source of fill.

Grading and filling may occur as the result of residential construction, and road building for access in the north, eastern and western parts of the community. Quantities may not be estimated accurately, however it is estimated that between 70 and 105 homes may be needed for expected growth over the twenty-year period

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion may occur on individual building sites as the result of individual home construction, services and road building.

g. About what percent of the affected geographical area will be covered with impervious surfaces after project construction (for example, asphalt or building)?

Less than 1.5% of the affected geographical area will be covered with impervious surfaces due to housing construction based upon the assumption that most lots area 7500 square feet and less than 105 new homes are expected in the next twenty years. The city coverage standard limits housing and lot coverage to 50% such that at a maximum new housing construction could only cover 1.45% of the total land area. New streets and road construction will have a similar effect with a 28-foot standard equaling only 46% of the Right of Way. Uses with 85% coverage include new commercial, industrial and utility uses that together may make up only 42% of land use.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

New construction will meet city standards and uniform building code requirements for siltation and erosion control.

2. AIR

a. What types of emissions to the air would result from the proposal i.e., dust, automobile odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Emissions of dust to the air would result from housing and building construction and the addition of between 50 and 75 new homes and associated commercial and industrial land uses. Auto emissions from additional vehicle use associated with these uses will also occur.

b. Are there any off-site sources of emissions or odor that may affect this proposal? If so, generally describe.

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None known.

- c. Proposal measures to reduce or control emissions or other impacts to air, if any.
Dust control during construction according to industry practices as required in the uniform building code and as per standard engineering practice for road construction as required in city standards.

3. WATER

a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the affected geographical area (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate state what stream or river it flows into.
Yes. Olequa Creek flows north to south through the city limits area and the Cowlitz River flows along the eastern edge of the urban growth area. A small tributary, McMurphy Creek, flows from the northeast part of the community southwest into Olequa Creek.
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) of the described waters? If yes, please describe and attach available plans.
Work within 200 feet of Olequa Creek and within and adjacent to the Cowlitz River will be required. The city water source is presently located adjacent to the Cowlitz River. The city is considering relocation of its water source to a location downstream utilizing a similar well field. Commercial, industrial and recreational uses may occur along Olequa Creek.
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
Filling and dredging is not anticipated although small amounts may be required for access and utility construction.
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
The City of Vader has an existing water right on the Cowlitz River no addition rights will be required although the location of the withdrawal may be moved due to identified soil instability in the present location.
- 5) Does the proposal lie within a 100-year flood plain? If so, note location on the plan.
Flood plains have been identified along McMurphy Creek, Olequa Creek and the Cowlitz River and have been shown on maps in the city's critical areas report.
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
The city operates a three-stage sewerage lagoon treatment plant which discharges to Olequa Creek. The city plant provides secondary treatment and has a hydraulic capacity for 1000 persons. More than the estimated 800 projected for the year 2015. Improvements to efficiency will be required prior to 2008.

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.
Yes, ground water will be withdrawn from the Cowlitz River. Consistent with the city's water right the City water treatment plant has a capacity for 244,800 gallons per day.
- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any for example domestic sewage; industrial, agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
The City has an NPDES permit for its sewerage treatment plant. No other waste materials are anticipated. The plant is designed to handle domestic municipal sewerage for 675 persons. Industrial Plants, if any, will require pretreatment if not suitable for the city's system. Vader is a participant with other cities and the county in the Lewis County Solid Waste Master Plan.

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
Most surface water flows through ditches and culverts to Olequa Creek. McMurphy Creek drains into Olequa Creek from the northern part of the city and both are tributaries of the Cowlitz River.
- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

- d. Proposed measures to reduce or control surface, ground and runoff water impacts, if any:
City standards will require silt and erosion control in construction and use of best engineering practices in construction of public roads, water, sewer, and utilities.

4. PLANTS

- a. Check types of vegetation found in the affected geographical area::

Deciduous tree: alder, maple, aspen, other
 Evergreen tree: fir, cedar, pine, other shrubs
 Grass
 Pasture
 Crop or grain
 Wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
 Water plant: water lily eelgrass, milfoil, other
 Other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

Vegetation will be removed for the construction of between 70 and 105 additional homes over the 20-year period as well as for associated commercial, industrial and public uses. Vegetation consists of mostly cleared pastureland with occasional deciduous trees and evergreen trees.

- c. List threatened or endangered species known to be on or near the affected geographical area.

No threatened or endangered species are known to be on or near the affected geographical area according to information from the Washington State Department of Fish and Wildlife.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation of the affected geographical area, if any.

The City of Vader Critical Areas Ordinance is intended to preserve most vegetated areas within the flood plain of Olequa and McMurphy Creek. The Cowlitz River flood plain is in Lewis County and the city is relying on the county's Flood Plain and Critical Areas programs for their preservation. Landscaping of 15% is required in commercial and industrial areas.

5. ANIMALS

- a. Check any birds and animals that have been observed on or near the site or are known to be on or near the affected geographical area:

Birds: hawk ___; heron ___; eagle ___; songbirds ___; other ___.
Mammals: deer ___; bear ___; elk ___; beaver ___; other ___.
Fish: bass ___; salmon ; trout ___; herring ___; shellfish ___; other ___.

- b. List any threatened or endangered species known to be on or near the affected geographical area.

None, according to Washington State Department of Fish and Wildlife as noted in the City's critical areas report.

- c. Is the site part of a migration route? If so, explain.

The area is not known to be on a migration route.

- d. Proposed measure to preserve or enhance wildlife, if any.

Areas along the creeks identified floodway are the only known wildlife habitats such that preservation of a majority of these areas with the existing critical area ordinance adopted in 1992 will preserve access to stream resources for wildlife.

6. ENERGY AND NATURAL RESOURCES

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

All forms of energy (electric, natural gas, oil, wood stove, solar) may be used in commercial, industrial residential uses anticipated in the 20-year period. Energy will be used primarily for heating and lighting. Energy amounts sufficient for between 70 and 105 homes are anticipated to be needed. Some local-service commercial and light manufacturing is also anticipated.

- b. Would this project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

The City of Vader and Lewis County participate in the conservation programs of the Bonneville Power Administration and require energy conserving construction standards in all new construction.

7. ENVIRONMENTAL HEALTH

a. Are there any environmental health hazards, including exposure to toxic chemical, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

None known. Future commercial or industrial activities that do involve significant risk will require additional environmental analysis however normal service-commercial activities and light manufacturing uses do incur limited risk of spills.

1) Describe special emergency service that might be required.

Fire department hazardous material training normally associated with modern fire fighting.

2) Proposed measures to reduce or control environmental health hazards, if any:

Provide standards that require the identification and designation of any hazardous material storage as required by state law.

b. Noise

1) What types of noise exist in the area which may effect this proposal (for example: traffic, equipment, operation, other)?

The community is presently divided by the Burlington Northern main rail line from Seattle, Washington to Portland, Oregon. High-speed rail service has been proposed for this rail route by the State DOT and is undergoing further site and environmental review. Other normal community noises will also occur consistent with traffic for a community of 800 persons.

2) What types and levels of noise would be created by or associated with this proposal on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the affected geographical area.

Additional noise will occur primarily during daytime as the result of up to 312 more persons and associated living activities such as automobile traffic, mowing lawns, stereos, and other daily activities.

3) Proposed measures to reduce or control noise impacts, if any:

Energy efficient homes will provide greater noise reduction as well as heat and energy savings.

8. LAND AND SHORELINE USE

a. What is the current use of the affected geographical area and adjacent properties?

The City of Vader is presently home for 488 persons. It provides residential uses, public services, commercial services and recreational activities. The area surrounding the city within the urban growth area is either vacant, previously developed or is in agricultural or forestry use.

b. Has the affected geographical area been used for agriculture? If so, describe.

Some agriculture is occurring both within the existing city limits and within the urban growth area. The largest farm (160 acres) is within the existing city limits. Adjacent areas are in small lot or "hobby farms" predominantly five acres and smaller in size.

c. Describe any structures on the affected geographical area.

There are 228 houses within the city limits according to a 1995 census count. Within the urban growth area there are existing homes on most of the existing parcels in Enchanted Village and commercial activities at the intersection of Winlock cutoff and SR 506.

d. Will any structures be demolished? If so, what?

No structures are known to require demolition although some housing is known to be in substandard and may be rehabilitated or may even be demolished by their owners.

e. What is the current zoning classification of the affected geographical area?

The City of Vader presently has no established zoning. An interim ordinance has included the whole city in a planned development classification that requires review of all development by the Planning Commission during plan development. Areas within the county and urban growth area are designated "Rural Resources" with lot sizes as yet undefined by Lewis County but expected to be 1 to 5 acres due to septic limitations in the area.

f. What is the current comprehensive plan designation of the affected geographical area?

The city currently does not have a plan. The Lewis County Plan designation is "Rural Resource."

g. If applicable, what is the current shoreline master program designation of the affected geographical area?

The Shoreline designation along Olequa Creek within the City of Vader is believed to be "Urban".

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- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
Environmentally sensitive areas have been identified in the City of Vader's Critical Area Ordinance including wetlands area and fish and wildlife habitats along Olequa and McMurphy Creek and the Cowlitz River.
- i. Approximately how many people would reside or work in the completed project?
Population estimates based upon Office of Financial Management suggest 800 population by the year 2015.
- j. Approximately how many people would the completed project displace?
None.
- k. Proposed measure to avoid or reduce displacement impacts, if any.
The city plan is to provide for housing areas for all income segments.
1. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The City of Vader Comprehensive Plan has been coordinated with existing city services, and with the Urban Area Policies of Lewis County.

9. HOUSING

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Presently 228 housing units are provided in the City of Vader. According to the Lewis County Housing Needs Analysis, 1994, by the year 2015 up to 53 additional low-income housing units may be required. Total growth is expected to require between 70 and 105 new housing units such that 52 new housing units would need to be middle or higher income housing units. Areas suitable for all income segments are to be provided.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
None.
- c. Proposed measure to reduce or control housing impacts, if any:
The City of Vader is adopting a comprehensive plan and growth policies implemented by coordinated zoning and implementation standards. The city also intends to work with any countywide efforts to ensure provision of low income housing throughout the county including the City of Vader. The city intends to rely on fair market practices to provide market rate housing.

10. AESTHETICS

- a. What is the tallest height of any proposed structure(s), not including antennas and what is the principal exterior building material(s) proposed?
Structures within the City of Vader will be limited by the performance standard to 50 feet using standard construction practices and wood framing, although other materials are expected in commercial and industrial construction such as concrete and or steel.
- b. What views in the immediate vicinity would be altered or obstructed?
As additional housing is built and commercial and industrial structures are built some views will be altered.
- c. Proposed measures to reduce or control aesthetic impacts, if any:
Residential uses will not require controls for aesthetic impacts. Commercial and industrial uses will require use of the "Planned Development" portion of the zoning ordinance to provide design flexibility to include required 15% landscaping and aesthetic controls.

11. LIGHT AND GLARE

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Light and glare will be limited to individual properties under the proposed City of Vader Zoning Ordinance.
- b. Could light or glare from finished projects be a safety hazard or interfere with views?
No. The zoning ordinance contains performance standard prohibiting such impacts
- c. What existing off-site sources of light or glare may affect your proposal?
None.
- d. Proposed measures to reduce or control light and glare impacts, if any:
Performance standards in the City of Vader Zoning Ordinance prohibiting light and glare off-site.

12. RECREATION

- a. What designated and informal recreational opportunities are in the immediate vicinity?

The City of Vader has a city park adjacent to Olequa Creek. Forested area in the surrounding county areas provides informal joint use for hiking, fishing, and hunting with permission of the owners.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

- c. Proposed measures to reduce or control impact on recreation, including recreation opportunities to be provided by the proposal or proposer, if any.

The city is developing and updated city recreation plan by December of 1996.

13. HISTORIC AND CULTURAL PRESERVATION

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the affected geographical area? If so, generally describe.

Yes, the Ben Olson house and the old city jail.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the affected geographical area.

Two sites are listed on the National Register of Historic Places including the Ben Olson House, and the former city jail.

- c. Proposed measures to reduce or control impacts, if any.

The city jail is owned by the city. Funds for restoration will be sought as part of the city parks and recreation plan. The Ben Olson house is privately owned and within a residential district as appropriate protection.

14. TRANSPORTATION

- a. Identify public streets and highways serving the affected geographical area, and describe proposed access to the existing street system. Show on affected geographical area plans, if any.

The City of Vader map identifies the existing public streets within the city.

- b. Is affected geographical area currently served by public transit? If no, what is the approximate distance to the nearest transit stop?

The city is not currently serviced by transit. Twin transit and Greyhound and Amtrak services are available in the Chehalis/Centralia area, 22 miles north.

- c. How many parking spaces would the completed proposal have? How many would the proposal eliminate?

Parking requirements will be included in the Zoning Ordinance performance standards providing for two spaces per home and spaces for commercial uses dependent upon size and use. No parking will be eliminated.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The Plan does not require new roads or streets. Housing commercial and industrial uses could be built within the exiting street system. Streets and roads may be permitted according to city standards for property subdivision, street design construction and engineering standards.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The city is adjacent to the main Seattle to Portland rail line and a freight siding presently exists. There are no air or water transportation services in the area.

- f. How many vehicular trips per day would be generated by the completed project if known, indicated when peak volumes would occur.

The additional residences will generate between 4 and 10 vehicle trips per day each according to the 1985 Civil Engineering Handbook of Design Standards. The actual number of trips will depend upon the type of structure. Single- family housing areas typically produce up to four trips per day and multi-family area up to 10 trips per day. Using an average of seven trips per day per unit the 70 to 105 additional units could generate between 490 to 735 vehicle trips per day.

- g. Proposed measures to reduce or control transportation impacts, if any:

Land use criteria include expected traffic and locate commercial, industrial and multi-family designated areas closer to arterial and collector routes. The city may provide for impact fees for new construction.

15. PUBLIC SERVICES

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so generally describe.

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Additional public services including, fire protection, police, health care, and school will be required. If county-wide population age characteristics remain constant over the 20 year period, of the 312 persons added to Vader, 27.5% will be under 18, 13.8% between 20 and 29, 18.1% will be 65 and over and 9.4% over 75.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

None, the largest single impact of 85 persons over a 20 year period to schools will be spread across twelve years of schooling such that an average of .35 person per year impact may be estimated but not identified as to age or class. Impacts to other services per year would be proportionately less such that no specific measures area required.

16. UTILITIES

- a. Check utilities currently available in the affected geographical area.

Electricity X : natural gas ___; water X : refuse service X ; telephone X ; sanitary sewer X : septic system ___; other___.

Non-Project Actions

Non-project question are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

These questions, consider the extent of the proposal, or the types of activities likely to result from the proposal, they consider the items at a greater intensity or at a faster rate than if the proposal were not implemented. Responses are brief and in general terms.

- 1) How would the proposal be likely to increase discharges to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The addition of between 70 and 105 housing units and service/commercial and industry to the Vader community may increase the production, treatment and discharge of wastewater from the City of Vader Treatment plant.

Increases of emission to the air from vehicles used by the addition of 70 to 105 new homes may also occur. Toxic substances harmful to the city treatment plant area not permitted by city ordinances. State and federal regulations applicable to the City of Vader sewerage treatment plant require that uses that may create toxic waste to pre-treat prior to any use of the city plant.

Additional noise from additional residential activities associated with 70 to 105 more homes may also occur.

- 2) How would the proposal be likely to affect plants, animals, fish, or marine life?

No marine life is located in the planning area since it is above the head of tide of the Cowlitz River. Pasture areas and trees will be cleared for residential construction and replaced with lawn areas and shrubs. Fish and other animals would not be affected.

Proposed measures to protect or conserve plants, animals, fish, or marine life area:

Flood ways of the Olequa and McMurphy Creeks and the Cowlitz River are the only fish and wildlife habitat area identified in the city critical areas report. These areas will be retained in a natural state to the largest extent possible through the city critical areas ordinance. Adjacent areas of rural forestry and agriculture would continue to provide habitats for other animals in the area. There are no threatened or endangered species in the city or urban growth area.

- 3) How would the proposal be likely to deplete energy or natural resources?

The use of natural resources and energy in 70-105 new residential units, service-commercial and light industrial use construction and for heating, lighting and other uses is the most likely use.

Proposed measures to protect or conserve energy and natural resources are:

The city subscribes to the provision of the Bonneville power company for energy conservation in new construction to save energy produced and used in home heating, and lighting. Resource areas are

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excluded from the urban growth area where possible as noted in the city's critical areas ordinance adopted 1992.

- 4) How would the proposal be likely to use or affect environmentally sensitive areas or areas designated or eligible or under study) for government protection, such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, flood plains, or prime farmlands?

The plan proposes not to affect environmentally sensitive area such as flood-ways, wetlands, threatened or endangered species habitat, prime farmlands, or historic values.

Proposed measures to protect such resources or to avoid or reduce impacts are:

The City of Vader park would receive more use and may be improved as the result of a larger tax base to support city improvements. Environmentally sensitive areas such as wetlands, flood-ways, and habitats have been identified and preserved by the City Critical Areas ordinance. Historic sites have been identified and appropriate designations applied to retain their historic resource value such as including the Ben Olson House in a single-family area. Plans identify the old jail as a rehabilitation project. Prime agricultural soils have been identified and areas considered prime farmlands have not been included in the urban growth area.

- 5) How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Land uses are expected to be compatible with existing shoreline plans on file for the City of Vader. There are no other plans since the city has not previously had a comprehensive plan.

Proposed measures to avoid or reduce shoreline and land use impacts area:

To avoid negative land use impacts the city proposes the development of a comprehensive plan and adoption of development regulation for implementation, meeting Growth Management Act requirements.

- 6) How would the proposal be likely to increase demands on transportation or public service and utilities?

The addition of between 70 and 105 new homes will increase the need for road maintenance by about 46%, the increase in water usage, and sewer plant usage will also increase by a similar amount due to the population increase from 488 to 800.

Proposed measures to reduce or respond to such demands are:

The city is updating its water services plan; its water treatment plant has capacity. The city sewer plant has sufficient hydraulic capacity for 1,000. Efficiency improvements for treatment capacity will be made before the year 2008. Electrical, and telephone services react on demand sufficiently for 70 to 105 additional services.

- 7) Identify, if possible, whether the proposal may conflict with local, state or federal laws or requirements for the protection of the environment.

This proposal is intended to comply with the mandates of Washington State Growth Management Act and is not intended to conflict in any known way with local, state or federal law or requirements for the protection of the environment.

.....
Alternative Plans

During the process of considering information on the city's growth, housing needs, urban growth areas public facility capacities and environmental concerns, the Planning Committee considered a total five alternatives. Two of those alternatives, the "no action" alternative and the "Vader Sprawl" Alternatives, "0" and "5" were considered and rejected. The No Action Alternative would violate state law that requires the city to plan. The "Vader Sprawl" Alternative, which originally considered a service area encompassing the surrounding Fire District, was determined well beyond the City's capacity for services. Only four alternatives

were seriously considered and area described as Alternatives 1, "No Growth"; Alternative 2, "the Proposed Plan"; and two variations ("3" and "4") on the proposed plan. Alternative 3 considered "Higher Growth" on the West side. Alternative 4 considered higher growth in the Urban Area and "Lower Growth" in the City.

Alternative Mitigation Evaluation

As part of the evaluation of the environmental impact of the city plan, mitigation measures were identified and suggested when environmental impacts were identified. Impacts were identified in the Environmental Checklist and again in the environmental summary included as part of this combined comprehensive plan/Draft EIS. The State Environmental Policy Act (SEPA) requires the identification of mitigation measures and alternatives to the proposed plan. The analysis in Table IV.3 shows the mitigation measures the city has determined it will require for identified impacts as well as those impacts that it has chosen not to mitigate. The following table evaluates the alternatives, by the mitigation measures as to how well each alternative implements the desired level mitigation compared with the Proposed Alternative based upon a 100 point scale.

Alternative Mitigation Evaluation

Impact of the impacts was evaluated using the following scale:

- High 10 points Effective in minimizing impact
- Medium 5 points Moderately effective in minimizing impact
- Low 1 point Less effective in minimizing impact

Table IV.3
City of Vader Alternative Mitigation Evaluation

Issue	Impact Identified	Alternatives				
		I	II	III	IV	V
Soil	Erosion	Med	High	Med	Low	Low
Air	Emission	Med	High	Med	Low	Low
Water	Erosion	Low	High	Low	Low	Low
Energy	Use	Low	High	Med	Low	Low
Land Use	Use	Med	High	Low	Low	Low
Housing	New Units	High	High	High	High	Low
Recreation	Use	Low	High	High	Low	Low
Transportation	Traffic	Low	High	Low	Low	Low
Public Services	Use	Low	High	High	Low	Low
Utilities	Use	Low	High	High	Low	Low
Score		30	100	58	19	10

Relationship to GMA/SEPA

As part of the evaluation of the Environmental impact of the city planning process mitigation measures were identified and suggested when environmental impact were identified. Impacts were identified in the Environmental Checklist and again in the environmental summary included as part of this combined Comprehensive Plan/Draft EIS. The State Environmental Policy Act (SEPA) requires the identification mitigation measures and alternatives to the proposed plan. The Table III.3 briefly identifies the mitigation measures the city has determined it will require for identified significant impacts as well as those impacts that it has chosen not to mitigate. The type of mitigation includes the following general types:

Types of Mitigation:

- I Avoid Impact
- II Minimize
- III Rectify Impact
- IV Reduce Impact
- IV Compensate for Impact
- V Monitor and Control Impact

Table III.3

City of Vader

Identified Impacts and Mitigation Measures

Issue	Impact	Mitigation	Type	Unmitigated
Soil	Erosion	Zoning Code	II	None
Air	Dust/Vehicle Emissions	Best Eng. Practices	II	None
Water				
Surface	Erosion	Erosion Control Ordinance	II	None
Ground	None	None	II	None
Plants	None	None		
Fish and Wildlife	None	Critical Areas Ordinance	II	None
Energy	Consumption	UBC Ordinance	II	None
Natural Resources	None	None	I	None
Environmental	None	NPDES	II	None
Health				
Land	Increased Use	GMA Plan	II	None
Use/Shoreline				
Housing	New Houses	GMA Plan	II	None
Aesthetics				
View	None	Zoning Ordinance	II	None
Light/Glare	None	Zoning Ordinance	II	None
Recreation	Increased Use	Recreation Plan	IV	None
Historic	None	None/UBC	II	None
Preservation				
Transportation	Traffic Increase	Six-Year Plan	IV	None
Public Services	Increased Use	GMA Plan Objectives	IV	None
Utilities	Increased Use	GMA Plan Objectives	IV	None
....				

Alternative Plan Selection

City Planning Committee and Citizen participating in the meeting rated plan alternatives at a regularly scheduled meeting of the Planning Committee. The alternatives and the community priority are shown in the following table. The Proposed Plan Alternative 2 "Moderate Growth" allows for the growth of the city incrementally with existing services and facilities. Both alternatives, "3" and "4", although meeting identified criteria and technically feasible were rejected because a major revision of public facilities would be required and Environmental impacts were more effectively mitigated in Alternative 2.

In its regularly scheduled meetings the Planning Committee compared the above State Wide goals with concerns identified from public meetings, city vision statements and suggested goals and policies. After considering information on the city's growth, housing needs, urban growth areas public facility capacities, environmental impacts, proposed mitigation measures and other concerns. The Planning Committee determined that City Concerns and the State Goals may best be implemented by Alternative 2 "Moderate Growth". The Priority of Alternative 2 is as shown in Table IV.4. Land allocations are shown in Table IV.5. Alternative 2 "Moderate Growth Plan" became the Proposed Plan and is implemented by the following City Goals and Policies.

City of Vader Plan Alternatives and Community Priorities from the 1996 Plan

Table IV.4

High Priority

Proposed Plan Alternative 2, "Moderate City Growth"

100% The city should include the adjacent urban areas of Enchanted Valley and the area along Winlock Cutoff, solve water service problems and provide sewer service to the urban area over a 20 year period (60).

Medium Priority

Alternative 1, "No Growth"

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20% Retaining only the area within the city limits resolving water service problems and providing sewer services only to the existing city (12).

Low Priority

Alternative 3, "West Side - High Growth"

16% The Planning committee considered more growth on the West side of the Railroad tracts along with lower densities of up to one unit per five acres within the Urban growth area. (10)

Alternative 4, "Low City Growth - High in UGA"

16% More growth in the urban area surrounding the city with less growth inside the city. (10)

Alternative 5, "Vader Sprawl"

16% Service a large urban area identified as the fire district boundary including satellite (water and sewer) services near Interstate 5 (10).

Alternative 0, "No Action"

NR The "No Action" alternative. The City has no existing plan and only minimal development regulations, which the city has reviewed and determined the City would not meet the requirements of GMA. An interim measure was adopted by the City Council providing for City review of all development during the planning process to ensure that any development approved was consistent with City Plans as they were developed.

PLANNING HISTORY

The order and scheduled date of consideration:

1. Resource and critical areas, 1992
2. Community vision, 10/17/94
3. Social and economic trends, 11/7/94
4. Utilities and capital facilities plan, 12/5/94
5. Parks, recreation and open space, 1/9/95
6. Interim urban growth areas, 2/6/95 - 4/1/95
7. City/County coordination policies, 2/6/95 - 4/1/95
8. Housing needs and strategies, 2/6/95 & 12/1/95
9. Land use needs and alternative scenarios, 3/6/95 - 4/1/95
10. Preferred alternative and transportation services, 4/1/95
11. Draft Plan concept & map, 5/1 /95 - 8/7/95
12. Consideration of statewide goals, 9/4/95 - 11/6/95
13. Environmental impact consideration, 12/4/96 - 2/5/96
14. Draft Plan Policies, 2/5/96 - 3/4/96.
15. Seven Year Update of Plan, 2005

CITY OF VADER

GROWTH MANAGEMENT REPORT

1992

City of Vader Growth Management Report.

1992

***NOTE: THIS REPORT PROVIDED AS
HISTORIC REFERENCE ONLY. IT HAS
BEEN SUPERCEDED BY THE MOST
RECENTLY AMENDED VERSION OF THE
COMPREHENSIVE PLAN AND CRITICAL
AREAS ORDINANCE.***

Prepared for:

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City of Vader City Council

Gerald Brooks

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Darrel McMurphy

Charlie Vermilyea

Vader Comprehensive Plan, August 2005

Prepared by:

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(206)623-8141 in cooperation with other cities within Lewis County by interlocal agreement and the Washington State Department of Community Development with funding authorized by the Growth Management Act.

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A: Ordinance

B: Guidelines (by reference)

CITY OF VADER GROWTH

MANAGEMENT REPORT

EXECUTIVE SUMMARY

This report titled The City of Vader Growth Management Report, 1992 contains the review of identified resource and critical areas, maps and the consideration of the Growth Management Guidelines as required by the Growth Management Act of 1990.

An analysis of the Resource and Critical areas was accomplished by the Phoenix Group Inc. and presented for review by a committee of City and community representatives of the City of Vader. The following preferred alternative recommendations were selected for consideration by the City Council:

Resource Lands

Agricultural Lands: Agricultural soils do exist within the city and the surrounding valleys. Within the City such soils have existing urban characteristics, which preclude their use for agricultural purposes.

Forest Lands: A review of the Forestland ownership and tax classification records of Lewis County indicates that the soils in the Vader area are productive soils for Forestry. Lands within the city limits have urban Characteristics including water and sewer services such that their use for forestry is not an appropriate designation.

Mineral Resource lands: Although there were no known mineral, sand or aggregate resources identified in the City or surrounding area if such resource areas are considered for use or inclusion the City shall adopt the resource plans of the Department of Natural Resources for any existing quarry activities and shall rely on their provisions for consideration of such quarry activities in the future except where the City determines more strict considerations are necessary and may attach additional conditions regarding buffering and monitoring of resources identified through the State Environmental Policy Act (SEPA) process.

Critical areas

Wetland areas: Along Olequa Creek are wetland areas. City and County provisions for protecting the Flood Way prohibit construction and filling. The City shall rely upon these to protect wetland resources where they have been identified as within the floodway boundary. For other identified areas the City shall require the use of the Planned Unit Development (PUD) technique in the consideration of any development proposals adjacent to wetland areas. If such innovative techniques cannot enable the property owner to utilize his property outside of identified wetlands such that it has similar value to that of other adjacent property in the vicinity the City shall consider a variance providing that the variance will be for the minimum necessary to provide for such use. Detailed mapping by a qualified wetlands biologist of resource areas will be required for any development consideration.

Aquifer recharge areas: Water resources in the Vader area are not potable. Water resources upon which the City shall rely for its water are outside of the City limits within the Rural Resources area of Lewis County, a designation with which the City agrees to be appropriate.

Frequently Flooded areas: The City has adopted an ordinance and shall rely on its programs and the maps of the Flood Emergency Management Agency.

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Geologically Hazardous Areas: The City has adopted the Uniform Building Code and shall rely on Chapter 70, and shall utilize its provisions for requiring additional engineering of structures where slopes are in excess of 30%. And may require such engineering where slopes of 15%-30% may be or have been modified by man.

Fish and Wildlife Habitat Conservation Area: While no priority habitats and species were found within the City, Olequa Creek does contain waters of the State including fish. The riparian corridors therefore provide fish rearing and food resources becoming Habitat Conservation areas. The City shall rely on its Flood-way permit review and prohibitions to protect those areas within the identified flood-way and shall require use of the planned unit development technique along such corridors to ensure their protection. A Management plan developed in cooperation with the Washington State Department of Game or Fisheries shall be required for consideration for any development on lands adjacent to Olequa Creek proposing to remove riparian vegetation.

THE CITY OF VADER

GROWTH MANAGEMENT REPORT, 1992

Purpose: To meet the requirements of the Growth Management Act of 1990 as amended

Introduction: The Washington State Legislature in the Growth Management Act of 1990 determined that uncoordinated and unplanned growth, together with a lack of common goals expressing the public's interest in the conservation and the wise use of our lands, pose a threat to the environment, sustainable economic development, and the health, safety, and high quality of life enjoyed by residents of this state. It further required that all cities and counties designate where appropriate agricultural lands, forestlands, mineral resource lands and critical areas.

History

The City was formed and grew up as a result of the Railroad. While timber and agriculture were the regional economic mainstays, The Vader area owes its existence to its clay soil materials. It was used for many years to make bricks out of which many of the buildings throughout the northwest were built. At one time Vader is reported to have had a population of over 40,000 persons and was the largest community in the Northwest. As other communities developed Vader became a stop over and its residents moved to other areas especially after the brick plant closed.

The present City has 148 households and supports 395 people. The heart of the City is actually south of what was the main part of the original City of Little Falls. The railroad and its freight crew still make the siding not far from the original brick plant site a regular stop and eat at the diner near the tracks. While the mainline passenger trains pass by several times each day.

Local workers either work in the timber industry or commute to the Chehalis-Centralia and to Kelso-Longview areas, which remain the primary employment centers. Local services include two restaurants, and small convenience markets, a church and elementary school.

Definitions

Definitions of forest lands, agricultural lands, mineral Resource lands and Critical Areas are as contained in the Growth Management Act and as authorized in the Growth Management Guidelines developed by the Washington State Department of Community Development. The Appendix includes the full definition and guidelines for future reference in the interest of readability the summaries of the definitions are used in this text however; the full definition was used in making all determinations and should be relied upon for future more detailed determinations.

Public Participation

The City established a public participation process when it began the consideration of Resource and Critical areas as required under the Growth Management Act. The City Council reviewed alternative methods for achieving citizen participation and developed an appropriate program for the community.

A series of open-public Workshops were developed. The first workshop was for presentation of growth management requirements under the act, definitions, questions and answers and notification of the development of the workshop schedule. The second presentation was for consideration of information identified and for review of areas meeting the requirements for consideration under the Growth Management Act. Areas were identified using existing information, local knowledge, previous studies, and windshield surveys. The third workshop was for consideration of alternatives provided from the review of the information identified and from language within the Growth Management Act as well as that available from existing programs of local, state and federal agencies. The City Council considered all information presented.

Public hearings were also held. The City Council held two public hearings for consideration and public comments and questions were invited and alternatives discussed. Notices were posted with in the community. Legal notice was provided for all public hearings and city council

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meetings. Additional meetings were held as necessary for full discussion of alternatives and selection of preferred options. Finally when provisions for consideration by the City were determined appropriate to meet the Growth Management Act requirements as well as the city's desires they are considered and adopted by the City Council by ordinance.

RESOURCE LANDS

AGRICULTURAL LANDS

Findings:

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Agricultural lands are lands that have long-term significance for the commercial production of food or other agricultural products and that are not already characterized by urban growth.

Land classification system

The soils within the City of Vader are listed and classified in the Soils Survey for Lewis County and include the soils shown in table 1. About 90% of the City is located upon Klaber and Olequa silt loams soils with the remainder about equally divided between the other soils.

Growing capacity/productivity:

These soils, according to the soils survey, have good growing capacity where drained and managed for production and provided with irrigation. Several soils are rated as prime farmland soils as shown by the asterisk in table 1. Soils capability has been rated by the soils survey and has the following rated capability classification: Class I soils have few limitation that restrict their use. Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Class III and IV have severe limitations. Class V soils have severe limitation that are impractical to remove. Class VI, VII, and VIII are considered unsuitable for cultivation due to severe limitations. Limitations noted are mostly erosion potential (e) of soils as well as excessive wetness (w).

Table 1: Agricultural soils capability

	27 Buckpeat silt loam, 30-65%	VI e
	*61 Cloquato silt loam	II w
	*89 Galvin silt loam 0-8%	III w
	90 Galvin silt loam 8-15%	III e
+	*116 Klaber silt loam	III w
	*118 Lacamas silt loam 0-3%	III w
+	*152 Olequa silt loam 0-5%	II e
	153 Olequa silt loam 5-15%	III e
	159 Pheeneey gravelly loam 8-30%	IV e
	*187 Salkum silty clay loam, 0-5%	LI e
	188 Salkum silty clay loam, 5-15%	III e
	189 Salkum silty clay loam, 15-30%	IV e

Note: * Prime farmland agricultural soils
+ Majority of soils

Soil composition

The two major soils, Klaber silt loam and Olequa silt loam are both very deep soils. The Klaber soils follow the base of Finn Hill north and east of the city and along McMurphy Creek and are poorly drained with water perched above the clay subsoil in winter and early spring. The soil layers are mottled being very dark grayish brown silt loam to about 3 inches then a darker gray to about 5 inches. Below these surface soils the sub soils are mixed with clay to a depth of about 60 inches.

The Olequa soil is also very deep but is well drained and lies on the stream terrace between the Klaber soils area and Olequa Creek with some Lacamas soil and steeper Olequa soils along small swales within these terraces. Olequa soil is a dark brown to about 10 inches with an additional 10 inches of dark brown silt loam in the sub soil before hitting a dark brown, silty clay for a depth of about 31 inches. A dark brown silt loam is then found to a depth of 60 inches. The steeper Olequa (5-15% slopes) has the same composition. The Lacamas soil has more clay at higher depths in the soil and subsoils. These clay layers impede water flow from area to area creating the perched water noted in the soil survey in both the Olequa and in the Klaber soils descriptions.

Tax Status

A review by the Lewis County Assessors office in June 1992 indicated no lands in agricultural tax deferral within the City limits of the City of Vader.

Proximity of Population, Public facilities, Public services

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The Population of Vader is 395. The immediately surrounding rural areas have difficulty with septic drain fields such that the rural landscape is sparsely settled. The nearest incorporated communities areas are The City of Winlock (1,045 pop.) about six miles to the north and the City of Toledo (560 pop.) which is eight miles to west. The City of Castle Rock (2,100 pop.) is 11 miles south and Ryder a small unincorporated community is about five miles to the south and west both within neighboring Cowlitz County.. The 1-5 Interstate is about 3 miles east of the City of Vader. The cities of Centralia and Chehalis are about 19-20 miles north along 1-5.

The City of Vader public facilities include its own sewerage treatment plant located at the south end of the city near Olequa Creek and a water supply and distribution system from the Cowlitz River east of the City. The City is the only large provider of water services in the immediate vicinity. The City also provides police and fire services.

Urban growth area

Growth trends in both the Centralia/Chehalis area and the Longview/Kelso area are effected primarily by timber industry expansion and contraction. Rural communities such as Vader can only follow such a pattern unless there is a major change in the economic base of the region. The population of Vader has dropped slightly from 1980 from 406 to its 1991 population of 395. The areas surrounding the city are designated Rural Mixed Use in the County Plan. The City primarily provides services only within the City limits and requires consent to annexation to obtain City services.

Markets Proximity

The major markets are the population centers of the County, Centralia and Chehalis, which contain 76% of all employment within the County. Centralia and Chehalis contain 18,770 persons (1991) comprising the largest percentage (32%) of the regional market. Access to the state wide markets and more metropolitan areas such as the Olympia, Tacoma, and Seattle as well as Kelso, Longview and Portland is via SR 506 which provides direct access to 1-5.

Predominant parcel size

The existing city is developed at various parcel sizes and densities. Lots sizes vary, although the city was formed in one large plat called Little Falls based on a pattern of 25 by 120' in 14 lot blocks most houses are several lots of three or more or about 9,00-43,000 square feet within the Community center. Larger plated lots and parcels along the edges of the community range from 2 - 4 0 acres.

Settlement pattern

The historic pattern of development in the City of Vader followed the railroad and is a grid that overlays the topography. The commercial area is a two block deep area north and south at the intersection of 7th Street (SR 506) and "A" Street. Older commercial uses exist near the Burlington-Northern rail tracks and at the intersection west of the city at the Winlock-Vader Road. Residential areas then fill in the remainder of the grid pattern. A rail siding is used daily by the Burlington-Northern freight trains that may have served the former brick plant of which there is little remaining evidence. Streets dead end at the railroad tracks. Along the south and western edge of the community is Olequa creek and low scale agricultural uses occupy the creeks steep banks and larger 10-30 acre parcels between the Railroad right of way and creek. Finn Hills forested hillsides form the north and eastern edges of the city.

Near by land use intensity

Larger lots are needed in the rural areas to the north, west, and east in order to accommodate larger septic drain fields because of the slow percolation of its soils and the clay layers. Olequa Creek runs along the west and to the south side. Within the city smaller lots are served by the city sewer system.

History of permits

With the city's population remaining essentially stable over the past 10 years from 406 in 1980 to 395 in 1990 the number of new building permits has been low around three to four per year most permits are for remodeling or replacement of existing homes with mobile homes.

Land Value of alternative uses

Irrigation would be required in summer for maximum production of most crops and although the soil is suited to hay, pasture and field crops the soil is subject to erosion. The Olequa silt loam soil has moderate permeability. The Klaber soil has slow permeability and has a sub soil of silty clay so is subject to flooding due to perched water. These characteristics make agriculture difficult.

The soil limitations inhibit the proper operation of septic tank absorption fields. Since the community has sewer services they have corrected and may be able to avoid future threats to ground water contamination that has a high potential due to the very rapid and moderate permeability.

Use of the land for city uses over agricultural uses is the more logical use given the availability of water and sewer services and the need for support services for the adjacent timber industry even in its present and future projected employment levels. While regional and national markets have effected such industries the investment in public facilities that service the city and in turn the City's ability to provide food, shelter and education services to those industries serves the needs of local timber industry employees and their families which remains important to city residents and the region.

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Tourism is a growing market within the region due to the Mount St. Helens eruption. The City of Vader's water and sewer capability and proximity to the rural resources may make it an ideal location for expansion of the recreational activities presently developing along the highway near its primary interstate access and upstream from its water source.

Additional agricultural lands

The Conservation District and local A.S.C.S. committee when contacted in June 1992 for identification of Prime Farm lands and any additional lands suggested the use of the Lewis County Soils Survey used in this report.

Conclusions:

Agricultural soils exist within the City of Vader but have been converted to urban uses by the presence of water and sewer facilities that have the capacity or may be expanded to provide for the housing needs of the surrounding rural community.

Alternatives:

The City considered development of an agricultural program to encourage agricultural uses of land in the outer edges of the community. The city also considered designating lands for agricultural purposes. These alternatives were rejected since the area within the city presently has the urban characteristics of sewer and water supply systems. Any existing available land was seen as providing a supply of land with sewer services available thus discouraging development in more rural areas, which may impact ground water sources.

Preference

Agricultural soils do exist within the city and the surrounding valleys. Within the City such soils have existing urban characteristics, which preclude their use for agricultural purposes.

Forest Lands

Findings:

Forestlands are lands that have long-term significance for the commercial production of timber and that are not already characterized by urban growth.

Growing capacity / productivity

The Soils Survey of Lewis County rates the forest site class of the City's soils according to the 50-year growing cycle of Douglas fir as shown in table 2. This provides a general indication of the growing capacity and productivity of the soils for forestry uses. The Table indicates average height of merchantable timber in feet.

Table 2: Forest site index

27	Buckpeat silt loam, 30-90%	133
61	Cloquato silt loam, 0-3%	130
89	Galvin silt loam 0-8%	120
90	Galvin silt loam 8-15%	120
116	Klaber silt loam	90/red alder
118	Lacamas silt loam 0-3%	108
152	Olequa silt loam 0-5%	124
153	Olequa silt loam 5-15%	124
159	Pheeney gravelly loam 8-30%	101
187	Salkum silty clay loam, 0-5%	119
188	Salkum silty clay loam, 5-15%	126
189	Salkum silty clay loam, 1 5-30%	126

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Private forestland grades

The Department of Natural Resources has mapped the Private Forest Land Grades on a countywide map, which also uses the soils as a base for the mapping and indicates that the City of Vader includes # 2 and # 7 forest grades. The majority of the city is #2 forest grade with the Lacamas soils being the # 7 Forest Grade. The better grades have lower numbers.

Growing capacity / productivity

The area surrounding Vader has significant growing capacity and productivity as shown in table 2. When managed for commercial purposes and with best management practices according to Forest Practice Act the lands outside of the City of Vader that are of sufficient size have provided long term commercial forestry.

Presently these lands are used for either forestry or Agriculture. Lands within the city however have urban characteristics including water services, present or available sewer services and roads, which preclude their use for forestry.

Predominance of high grades / significant forest grades

According to the Department of Natural Resources, within the City there is a combination of areas, Forest Grade #7, and some Forest Grade #2. In the surrounding countryside the forestland grades are consistently forest grade #2 such that the predominantly high grades and significant forest grade areas are outside of the city in the surrounding hillsides. Finn Hill and the Grand Prairie North of the City is also rated as #2 forest grade while much of Lacamas Prairie farther to the east is forest Grade #7.

Commercial significance

The lands surrounding the city do have some commercial significance for forestry. Lands within the city do not have forestry characteristics and parcels are generally of small size or have water and sewer available to them such that they are needed for urban purposes and not appropriate for forestry uses. Lands within the city have little if any commercial significance for forestry.

Tax status / classification

A review by Lewis County Tax Assessor's office in June 1992 indicted no parcels in forest or timber classification within the City.

Predominant parcel size

Parcels within the City of Toledo range from very small 25 by 120' lots, a median size of 9,000 to 43,000 square feet to a larger parcel size range of 2 to 40 acres.- The predominant size is in the median size range. Outside of the city parcels sizes are similar in size to the 10-40 acre sizes.

Considerations:

Physical factors / biological factors

The predominant physical and biological factor that dominates the area is the presence of perched water and the shrink swell potential of the soil. These are the primary physical and biological limitations on the use of all of the soils within the City of Vader for agricultural, forestry or for land development purposes. Biologically the seasonal perched water table reduces root respiration and results in a low survival rate of seedlings. Those seedlings that do survive have shallow roots, which result in wind throw in Klaber and Lacamas soils. In Olequa soils it is difficult to establish seedlings unless planted with Douglas fir however, Red Alder invades rapidly and wetness of the seasonal water is a problem for equipment.

Economics; local / regional

The location of the city provides shelter and service for employees of the forest industry and their families. According to the projections of the Employment Securities Department employment losses of about 7% are anticipated in agriculture, forestry, mining, and fishing between 1990-1995. This is due to the regional and national economic trends rather than local difficulties. An overall employment increase by 1995 to 22,411 Countywide is anticipated with the 17.5% gains in employment expected in the services industry. Tables 3 and 4 provide a limited comparison of the Vader/Toledo/Winlock area to the regional and Washington State economy. Due to non-disclosure requirements of Employment Securities Department information for the three zip codes for the southern portion of Lewis County including Vader, Toledo, and Winlock have been combined in order to provide a local economic comparison.

Table 3: Employment in Vader/ Toledo/ Winlock Area compared to Lewis County and State

Industry	Vader/Toledo/	%	Chehalis /	%	Lewis County	%	Washington	%

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	Winlock Area		Centralia				St.	
Ag/Forestry /Fish/Mine	129	(19)	970	(6)	1,684	(8)	82,640	(4)
Construct.	33	(4)	460	(3)	690	(3)	112,484	(5)
Manufac.	189	(25)	2,649	(16)	4,238	(20)	366,442	(17)
Trans/Comm PU Util	28	(4)	947	(6)	1,016	(5)	105,913	(5)
Wholesale	47	(6)	767	(5)	992	(5)	125,155	(6)
Retail	111	(15)	3,654	(23)	4,371	(21)	387,041	(18)
Finance /Ins Real Estate	16	(2)	472	(3)	506	(2)	114,150	(5)
Services	166	(23)	4,824	(30)	3,409	(16)	472,264	(22)
Government	15	(2)	1,393	(9)	4,117	(20)	374,600	(18)
Total	734	(100)	15,817	(100)	21,023	(100)	2,143,957	(100)
Percent	(3%) ³		(75%) ⁴		(1%) ⁵			

Notes:

¹Source: Washington State Employment Securities, 1991-1990

²na : Not available due to non-disclosure requirements

³ and ⁴: Percent of County Employment

⁶ : Percent of State Employment

TABLE 4: VADER/TOLEDO/WINLOCK AREA TO COUNTY EMPLOYMENT COMPARISON 1991

Industry	Lewis County							Washington St*.
	Vader/Toledo/ Winlock Area ¹		East ²		Central ³			
Ag/Forestry Fish/Mining	129	(19)	41	(2)	220	(21)	82,640	(4)
Construction	33	(4)	185	(9)	65	(6)	112,484	(5)
Manufacturing	189	(25)	750	(38)	118	(11)	366,442	(17)
Trans/Com PU Utilities	28	(4)	36	(2)	42	(4)	105,913	(5)
Wholesale	47	(6)	66	(3)	30	(3)	125,155	(6)
Retail	111	(15)	363	(18)	142	(14)	387,041	(18)
Finance /Ins Real Estate	16	(2)	29	(1)	3	(--)	114,150	(5)
Services	166	(23)	499	(25)	386	(37)	472,264	(22)

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Government	15	(2)	31	(2)	41	(4)	374,600	(18)
Total	734	(100)	2,000	(100)	1,047	(100)	2,143,957	(100)
Percent:	3%		9%		4%			

Notes:

West is the PeEll zip code with total employment of 85 (.4%).

¹Includes Toledo, Winlock and Vader zip codes.

²Includes Glenoma, Mineral, Morton, Packwood, and Randle zip codes.

³Includes Cinebar, Curtis, Ethel, Mossyrock, Napavine, Onalaska, Silver Creek, and Salkum zip codes.

⁴Source: Washington State Employment Securities, 1992.

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Proximity to population

This topic and the following areas are as described in the agricultural findings: population, public facilities and public services, markets, urban growth areas and nearby land use, intensity/capability, urban/suburban area, history of permits, and settlement pattern.

Conclusions:

Forestry has been the basis for the local economy and will continue to provide the basis of the regional economy. Lands within the city and adjacent to city facilities have been converted to urban characteristics such that lands within the city would not be appropriate for forest designation.

Alternatives:

The City considered development of an urban forestry program and designating forestlands on steep slope areas. Both were rejected since the steeper slopes area that are within the city presently have houses that are served by water and sewer services and the city does not have resources sufficient to support an urban forestry program.

Preference:

A review of the forestland ownership and tax classification records of Lewis County indicates that the soils in the Vader area are productive soils for Forestry. Lands within the city limits have urban characteristics available including water and sewer services such that their use for forestry is not an appropriate designation.

Mineral Resources

Findings:

Mineral resource lands are lands that have long-term significance for the extraction of minerals, including gravel, sand and valuable metals and that are not already characterized by urban growth.

Geology, Environmental and Economic factors

Information on the geology and mineral resources of Lewis County available from the Department of Natural Resources was obtained and reviewed. The geology of the region has been extensively studied. The Vader lies along the base of Finn Hill, which forms the southern portion of the Grand Prairie. It lies mostly on Alluvium which is flood plain deposits of gravel, sand and silt (Qal) which may be 150 feet thick; but is intermixed with sedimentary and igneous rocks (Tu) of shale, siltstone, sandstone, pyroplastic rocks, conglomerate, and undifferentiated materials of the Pliocene era more than 10,000 feet thick. It is presumed in the studies of the area that basalt flows that are present and visible north of Vader are part of, and connected to, those of the Columbia River basalt flows of the middle Miocene age. These basalt flows are exposed in several areas within the county and may be visible at the west end of Coma Road about four miles north of the city. The basalt flow is usually 40-90 feet deep but varies to 125-600 feet in areas according to the Geology and Ground-water Resources of West-Central Lewis County, Washington, by J.M. Weigle and B.L. Foxworthy, U.S. Geological Survey, 1962.

Minerals

No specific reference to mineral resources was found in the geologic information reviewed.

Sands/Gravel

The Soils Survey for Lewis County does not describe the soils in the City of Vader as having probable gravel or sand resources due to excessive fines in the soils. No quarries are presently operating in the City of Vader. A pit is noted in the soils survey two miles east of the city limits in the area across the Cowlitz River from the City's water source along the south side of the river.

Conclusions:

No mineral, aggregate or sand operations are presently located within the city limits and there is little potential for such operation as noted in the Soil Survey. Those areas, which have been built upon, or that are serviced by city water and sewer services are committed by those services to non-mineral resource uses. The area adjacent to the Cowlitz River is located within 200 feet as is within the jurisdiction of the county's shore lands management program, which requires a permit for any such activity. The County's Federal Emergency Management Agency Flood Plain program also requires a review and permit for any activity that may impact the flood way or flood plain. The Department of Natural Resources also regulates quarrying activities and establishes conditions for reclamation and closure.

Alternatives:

The City considered the adoption of regulation for quarrying activities, and considered development of a program to map and identify gravel resources. The alternative of identifying in more detail than is available in the soils survey was rejected since the city presently does not have

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resources to commit to such a project and it was felt that such research would be better accomplished by the private sector. City regulations were rejected since the Department of Natural Resources presently regulates such resource activities.

Preferences:

Although there were no known mineral, sand or aggregate resources identified in the City or surrounding area if such resource areas are considered for use or inclusion the City shall adopt the resource plans of the Department of Natural Resources for any existing quarry activities and shall rely on their provisions for consideration of such quarry activities in the future except where the City determines more strict consideration are necessary and may attach additional conditions regarding buffering and monitoring of resources identified through the State Environmental Policy Act (SEPA) process.

CRITICAL AREAS

WETLANDS

Findings

Wetlands are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetlands have been identified in the National Wetlands Inventory developed by the U.S. Department of Interior Fish and Wildlife Service on maps available at city hall. Wetlands identified which meet the Growth Management Guidelines are those along both sides of the well defined channel of Olequa Creek; wetlands in the northern portion of the City along McMurphy Creek and their tributaries. There are a number of smaller isolated wetlands along the base of Finn Hill and a wetland predominantly within the vacated "C" street right-of-way in the southern portion of town in the middle of a block bounded by "B" and "D" Streets and between 9th and 10th Streets. These smaller wetlands are temporarily flooded during periods of high ground water because of the perched water in the soils. The absence of priority habitats and species according to the Department of Wildlife would rate all of the wetlands along McMurphy Creek and the isolated wetlands as type three wetlands according to the Washington State four tier rating system.

Identified wetlands not meeting the Growth Management Definition include the City of Vader sewerage treatment ponds located south of 12th street and north and east of the Burlington-Northern right-of-way.

Wetlands functional values

Wetlands along Olequa Creek provide fish habitat. All of the wetlands contribute to storage for floodwaters.

Degree of sensitivity to disturbance / rarity

Wetlands along McMurphy Creek and those isolated wetlands such as within the vacated "C" Street if disturbed would not impact priority habitats and species as identified by the Washington State Department of Game. Fish habitats where wetlands provide water storage and over winter habitat for fish primarily are within the Olequa Creek channel which is separated from the residential and commercial area of the City by the 20-30 foot elevation of its banks. While those wetlands along the Olequa may be sensitive their relative inaccessibility has provided a measure of protection. The City has also adopted the Flood Emergency Management Agency program for its wetlands ordinance that prohibits development activities within the flood way such that wetlands along the Olequa and McMurphy Creek are not susceptible to disturbance.

Ability to compensate for destruction or degradation

Wetland areas within the city could be compensated for destruction and degradation by enhancing other wetlands adjacent to wetland areas along the same creek area or stream reach. Areas along both the Olequa and McMurphy Creeks are protected by the flood plain ordinance, which prohibits filling or dredging such that no compensation should be necessary.

Methodology

Wetlands inventory mapping is available at city hall and provides present identification of known areas but as the resource changes over time the actual location of such wetlands will change. The use of the definition of wetlands as provided in state law will provide for consistency with the law as the wetlands change over time. Any development near identified wetland areas required to map wetlands at the time of development would provide more detailed mapping which would be more current for consideration.

Cooperation with the U.S. Corps of Engineers

The Corps of Army Engineers requires a permit for actions affecting the navigable waters of the United States. As new court decisions have expanded this definition to include hydraulically affected lands the determination of the Corps jurisdiction has become difficult. Cooperation with the Corps of Engineers when development proposes to alter areas that meet wetlands definitions allows the Corps of Engineers to make determinations as to their own jurisdiction at the time of development consideration.

The City notifies federal and state agencies for comment when there is a request for variance from flood plain regulations.

Conclusions:

Wetlands do exist within the City along the Olequa and McMurphy Creek tributaries. As well as other isolated wetlands at the base of Finn Hill and the vacated "C" street right-of-way.

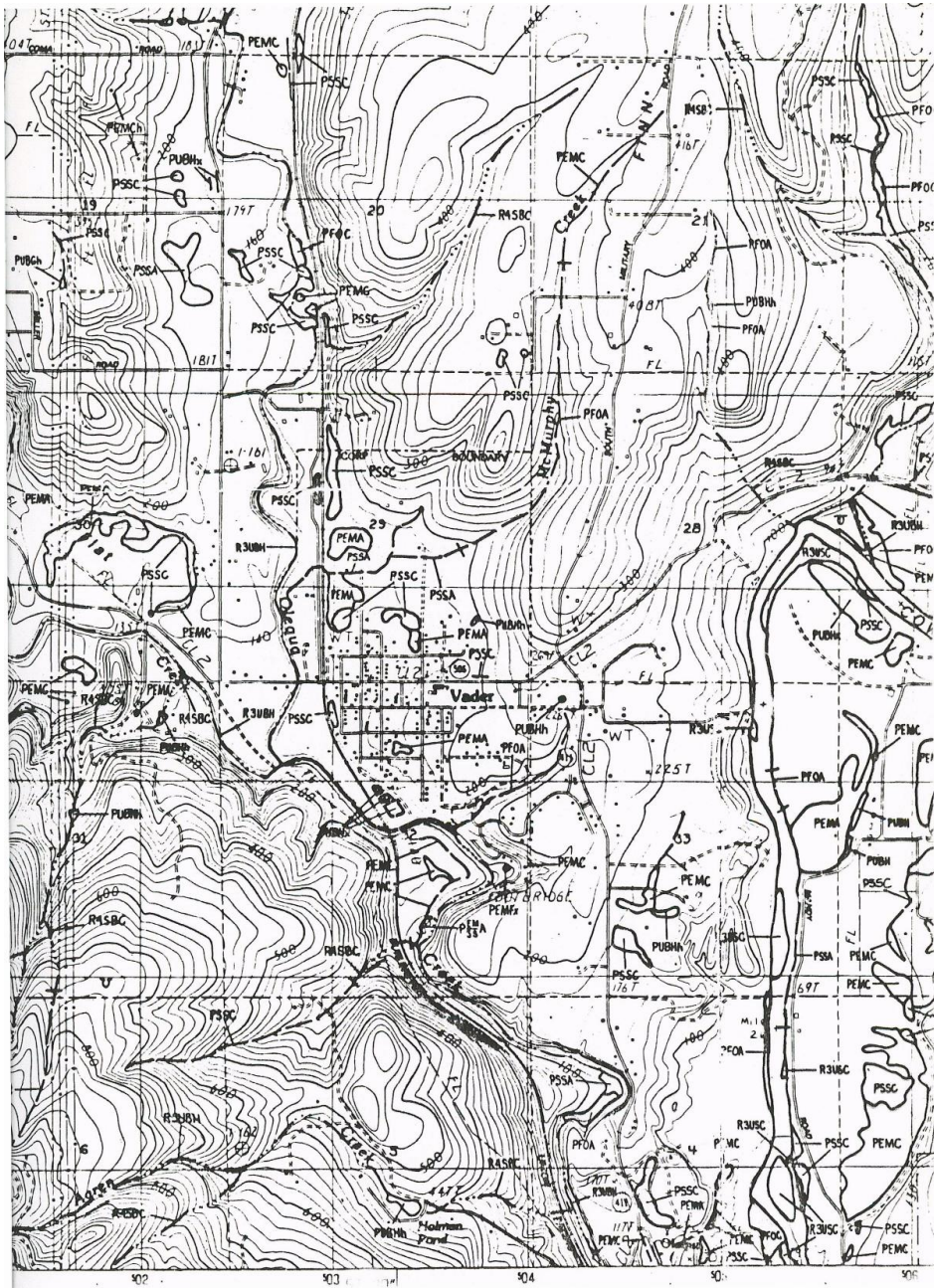
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Alternatives:

The City considered development of a wetlands program for identification and consideration. An alternative program that would be more restrictive than those activities considered within flood plain was also considered. These alternatives were rejected due to the legal situation concerning a more precise definition of wetlands that may subject the city to litigation. Funding is not available for more detailed identification or a wetlands mapping program. Both of these alternatives were rejected because of the changing nature of wetlands that should be identified at the time of development consideration to accurately determine wetlands location.

Preference

Along Olequa Creek are wetland areas. City and County provisions for protecting the Flood Way prohibit construction and filling. The City shall rely upon these to protect wetland resources where they have been identified as within the floodway boundary. For other identified areas the City shall require the use of the Planned Unit Development (PUD) technique in the consideration of any development proposals adjacent to wetland areas. If such innovative techniques cannot enable the property owner to utilize his property outside of identified wetlands such that it has similar value to that of other adjacent property in the vicinity the City shall consider a variance providing that the variance will be for the minimum necessary to provide for such use. Detailed mapping by a qualified wetlands biologist of resource areas will be required for any development consideration.



Aquifer Recharge

Findings:

Aquifer recharge is defined as areas with a critical recharging effect on aquifers used for potable water.

Availability of adequate information

Detailed hydro-geological analysis to determine the location of any recharge area has not been accomplished within the City of Vader. However, the geology and ground water resources of the area have been studied generally. The City of Vader is located upon soils of the Winston-Olequa association and Salkum-Prather-Lacamas associations. Both are very deep, well drained soils on level to moderately steep soils on high terraces and terrace escarpments, the later also occur on till plains, uplands and bottoms lands and include some poorly drained soils, as noted from Water Supply Bulletin No. 17 Geology and Ground-water Resources of West-Central Lewis County, Washington, by J.M. Weigle and B.L. Foxworthy, U.S. Geological Survey, 1962

Area not used for potable water

The City does not rely on the ground water resources within the city for potable water resources and has developed a source on the Cowlitz River outside the city limits on a parcel of City owned land

Vulnerability to public health hazard

Depth of groundwater as noted from the Water Supply bulletin No. 17 varies but many wells are reported as between 18-220 feet. Most vary around 30-60 feet. Iron in the water is reported in many of the well logs for the area. The shallow depth of the well water would indicate that some vulnerability would exist for use of the water within the city for potable water. Since the city does not use this as its source it has minimized such risk. Since the permeability of soils varies from moderate to very slow the risk would need to be determined on site for any particular location for the use of on site water resources.

Macro and micro permeability of soils by type

The Vader area has two general soils types the Winston-Olequa and Salkum-Prather-Lacamas. Within these general types the soils vary from being well drained to very poorly drained. More detailed soil characteristics are shown in table 5 from information contained in the Soils Survey of Lewis County. Permeability is shown in inches per hour, which is the rate of downward movement of water when the soil is saturated. The available water capacity of the soil for use by plants is shown in inches of water per inch of soil.

Table 5:	Permeability/capacity	in/hr	in/in
27	Buckpeat silt loam, 30-65%, moderate	0.6—2.0	0.19-0.21
61	Cloquato silt loam, 0-3%, moderate	0.6—2.0	0.21-0.22
89	Galvin silt loam, 0-8%, slow	0.06-2.0	0.19-0.21
90	Galvin silt loam, 8-15%, slow	0.06-2.0	0.19-0.21
16	Klaber silt loam, slow	0.6—2.0	0.19-0.21
18	Lacamas silt loam, 0-3%, very slow	<0.06-2.0	0.19-0.21
52	Olequa silt loam, 0-5%, moderately slow	0.2—2.0	0.19-0.21
53	Olequa silt loam, 5-15%, moderately slow	0.2—2.0	0.19-0.21
59	Pheeneey gravelly loam, 8-30%, moderate	0.6—2.0	0.07-0.16
87	Salkum silty clay loam, 0-5%, moderately slow	0.2—2.0	0.15-0.21
88	Salkum silty clay loam, 5-15%, moderately slow	0.2—2.0	0.15-0.21
89	Salkum silty clay loam, 15-30%, moderately slow	0.2—2.0	0.15-0.21

Presence of potential sources of contamination

For the major soils within the city the soils survey notes that septic tanks absorption fields do not function properly because Olequa soils have moderately slow permeability and the Klaber soils have slow permeability and a perched water table. The potential is there for contamination of surface or ground water from the use of septic tanks or other types of pollutants due to

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the soils, which make up the majority of the city. The City of Vader has a sewerage treatment plant such that contamination can be kept to a minimum.

The city's source of water is presently a surface source upon the Cowlitz River east of and outside of the City near the confluence of Lacamas Creek. Rural land uses including, small-scale agriculture and forest activities comprise watershed uses. Water supply bulletin #17 indicates that ground water infiltration that provides the source of area ground water supplies follows surface topography. The closest more dense residential area is down stream and to the south and would not affect the city's potable water supply. If intensive development were to occur upstream near the Interstate 1-5 Vader interchange care should be taken to ensure no impacts occur to the Cowlitz River water quality. State law presently prohibits contamination and the law is actively enforced by the Washington State Department of Ecology.

The City of Vader monitors the quality of its water as required under State Law and The Safe Drinking Water provisions of the Clean Water Act.

Conclusion:

Water resources generally within the City of Vader are not used for potable purposes. The City does rely on water outside of the city for water that is not threatened by known or potential sources of pollution.

Alternatives:

The City considered several alternatives including an alternative of obtaining water rights from existing domestic wells that may presently exist within the city for future resource use. The City has a sewerage treatment plant such that contamination of such waters from human waste could be kept to a minimum and could provide a future resource as the city grows. Since the water within the city is not potable due to its high iron content this did not appear to be reasonable. The city is also considering moving its upstream supply to another location because of the landside potential identified near its present site and consultants have been hired for this analysis and consideration by the city. A city program was not determined to be necessary. City water resources are presently adequate to serve the city and monitoring has not indicated contamination.

Preferences:

Water resources in the Vader City limits are not potable. Water resources upon which the City shall rely for its water are outside of the City limits within the Rural Resources area of Lewis County, a designation with which the City agrees to be appropriate. The City owns a small area surrounding its river source and retains it for protection purposes. The City monitors water quality as required by law.

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Flood Prone Area:

Findings:

Frequently flooded areas are lands in the floodplain within a community subject to a one percent or greater chance of flooding in any given year.

Consistent with FEMA/NFIP

Flood plain and flood ways have been mapped under the Federal Emergency Management Agency program. The City has adopted the maps and ordinance as provided in the program. A permit is required for any development activity within the flood plain. No development is permitted in the flood way.

Considerations

Impacts to human health, safety, welfare or public facilities have been taken into consideration within the existing mapping and ordinance provisions. Under the program new development is required to be elevated or be flood proof to one foot above the base flood elevation according to the documentation provided in the flood plain mapping for the 100-year and 500-year flood frequency occurrence. The City also authorizes the use of other available documentation from a qualified engineering source. A permit may be granted if an applicant chooses to provide more detailed information which can indicate that the mapping of the flood insurance program is in error or that their activities can be accomplished and will not raise the flood elevation more than one foot.

Conclusions:

The City's program is consistent with the Federal Emergency Management Agency program. The City provides for additional available information for use in its permit review process and has adopted the program for the preservation of health, safety, and welfare of its residents.

Alternatives:

The city considered the ramifications of adopting more or less restrictive programs and rejected each of these alternatives as potential sources of litigation.

Preference:

The City has adopted an ordinance and shall rely on its programs and maps of the Federal Emergency Management Agency.

Geologically Hazardous Areas

Findings:

Geologically hazardous areas because of their susceptibility to erosion, sliding, earthquake, or other geological events are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.

Classify areas:

The Geology and Ground-water Resources of West-Central Lewis County, Washington. Water Supply Bulletin No. 17, by J.M. Weigle and B.L. Foxworthy, U.S. Geological Survey, 1962 identifies the underlying geology as predominantly sedimentary and igneous rock more than 10,000 feet deep as well as some recent flood-plain deposits of gravel, sand and silt along Olequa creek and its tributaries. Older landslide deposits are identified east of the city along the slopes that form the east side of the Grand Prairie and extend up the Lacamas Creek valley within Drews Prairie near where the city has its water supply source upon the Cowlitz River.

In a slope stability study by Fiksdal, 1978, for the Centralia-Chehalis area, it was recommended that engineering of structures be accomplished on construction considered on the landslide topography and steep slopes over 30% and be considered for slopes between 15-30% if it had been or were proposed to be modified by man.

Adequate information

These studies indicate no significant hazard present or likely within the city limits. Some of the topography along the east side of the city does contain slopes in excess of 15 percent. The city's water supply could be impacted by land clearing activity above its water supply if slopes are modified by man or become too steep.

Considerations:

Potential impacts on economy, health, safety

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Building of residential, commercial or industrial structures without proper engineering in geologically hazardous areas could upset presently stable slopes and slides could affect the safety and health of adjacent properties owners and the city water supply. Adjacent property presently includes forestry and low density residential uses.

Soil type, slope vegetation cover, and climate

There is no available documentation of any historic, mass wastage, or rapid stream intrusions. There is a normal amount of stream bank erosion that occurs along the banks of Olequa Creek, McMurphy creek and toward the East along the Cowlitz River. While soils in the Vader area are alluvial soils the area is not in an area of known risk due to alluvial fan activity.

Risk

If developed the community would be at low risk due to geologic factors since the majority of slopes are slight to moderate slopes are not subject to slide or liquefaction when soils are saturated. In the more steep slope, 15-30% and greater, areas that border the city to the west engineering is recommended by the soils survey and available geologic information.

Erosion hazard and landslide hazard

The USDA soils survey indicates that although the soils within the area are subject to some erosion they generally have low factors for sheet or rill erosion shown by factor "K" in the Soils Survey of Lewis County which varies from .002-0.69 with higher values being the more susceptible. The Klaber soils are subject to high shrink or swell potential but it effects may be minimized by using proper engineering designs and by back filling with materials that have low shrink swell potential. The soils survey further indicates as follows:

1) Areas with:

- a) Most 15 % slope or greater are generally along the edges or out side of the City. The largest area is in an area of larger parcels of 10-40 acres. Adequate parcel sizes enables developers to avoid steep slope problems through innovative design of any new developments such as planned unit development technique.
- b) Impermeable soils are a factor in this area most of the soils have a slow or moderately slow permeability according to the soils survey. In steeper slope areas proper engineering of structures is recommended in the soils survey.
- c) Springs or groundwater seepage have not been identified in the information available.

2) Holocene Epoch movement (within 10,000 yrs) has not been identified in the information available.

3) Rapid stream erosion instability due to the well defined channel of the Olequa Creek is normally not a factor. During flood events some erosion is present and areas of flood hazard have been mapped under the FEMA program.

4) Severe avalanche area have not been identified for the area.

5) Alluvial fans subject to inundation by debris have not been identified for the area

6) 40% slopes with 10' vertical relief do occur along a portion of the Olequa Creek channel which forms the cities westerly boarder but do not occur within the residential or commercial areas of the city. These steeper slope areas are within the flood way such that development is prohibited.

Not a Seismic hazard area

The available studies do not indicate the presence of seismic hazard due to liquefaction. The area is not within a volcanic hazard area (based upon the Electron mud flow) for mud or lava.

Existing City programs

The City has adopted the uniform Building code, which includes chapter 70. Chapter 70 provides for engineering of structures where necessary.

Conclusions:

While there are few steep slopes within the City future growth may desire to develop in lands that have slopes of 15-30%. The City's existing building code provisions provide the ability for the city to require engineering of structures in area of steep slopes and where land has been or is proposed to be modified.

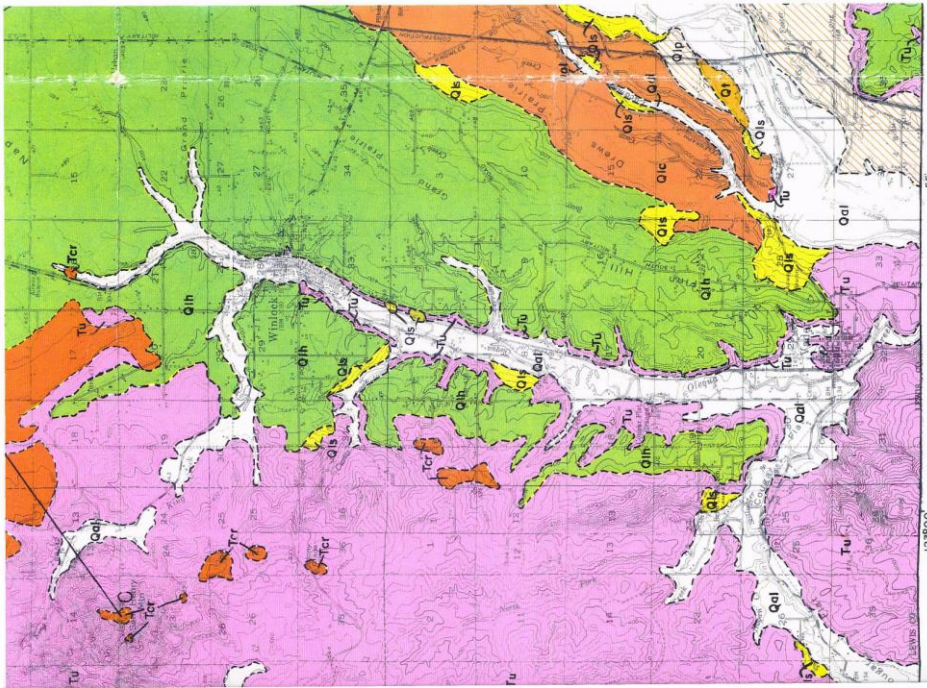
Alternatives:

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The City considered more restrictive programs requiring an engineering geologist review of steep slopes as well as an alternative that would be less restrictive such as not requiring engineering. Both alternatives could leave the city open to litigation.

Preference:

The City has adopted the Uniform Building Code, Chapter 70, and shall utilize its provisions for requiring additional engineering of structures where slopes are in excess of 30%. And may require such engineering where slopes of 15%-30% may be or have been modified by man.



Fish and Wildlife Habitat Conservation Areas

Findings:

Conservation area lands are managed for maintaining species in a wild state in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created.

The resource maps of the Department of Game indicate that the Olequa Creek has fish resources of substantial value and are within the anadromous range. Fish are both resident and planted fish. Fish are dependant upon the riparian vegetation for food and shelter. Riparian means vegetation upon the banks of a natural waterway. McMurphy Creek is not indicated as providing fish habitat. Other than riparian corridors there were no priority habitats or species identified by the Department of Wildlife within the city. Habitat areas have been identified east of the City within identified wetlands along the Cowlitz River across from the Cities water source. This site is outside of the City.

The City has adopted the Federal Emergency Management Program which has documented and mapped the location of the flood way and flood plain. The City also has an adopted Shorelines Management Plan. The predominance of riparian vegetation is within these boundaries. These programs require a permit for activities within the flood plain, and prohibits any development or filling of the floodway.

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Conclusions:

Fish and Wildlife habitat conservation areas do exist within the city and surrounding areas of the county. These habitats are confined to the riparian corridors along the Olequa Creek. McMurphy Creek is not noted as a fish habitat. There were no priority habitats or species identified within the city. There are provisions in existing programs for review.

Alternatives:

The City considered alternatives such as establishing special designations and mapping for habitat corridors. An alternative considered prohibiting any activity within the riparian corridors. Both alternatives require more extensive knowledge of the habitats than is reasonably available since mapping of the riparian corridors ignores the natural change of such habitats becoming of little value after a period of time. The preferred alternative would provide protection from riparian habitat modification for most uses and require review by Department of Game representatives if modification was required. The city's review process for flood plain provides such opportunities.

Preference:

While no priority habitats and species were found within the City, The Olequa Creek does contain waters of the State and include fish. The riparian corridors therefore provide fish rearing and food resources becoming habitat conservation areas. The City shall rely on its flood-way permit review and prohibitions to protect those areas within the identified flood-way and shall require use of the planned unit development technique along such corridors to ensure their protection. A Management plan developed in cooperation with the Washington State Department of Game or Fisheries shall be required for consideration for any development on lands adjacent to the Olequa Creek proposing to remove riparian vegetation.

CONCLUSIONS

Identification

The Growth Management Act requires communities to identify, designate and protect resource and critical areas where appropriate. Within this report the location of resource lands and critical areas have been identified according to the information that is presently available. The report is based primarily upon the mapping of resources and documentation from state, federal and local agencies. Those reports are referenced within the text and in the bibliography. Use of mapping in its original form provides additional information pertaining to the resources and the reports original purpose that may be useful in making determinations on proposed land use activities. Resources identified by definition have an advantage over mapping and adoption of the maps in that where ever the resource occurs the regulation may be applied. Within this report the location and mapping of resources is reported. Copies of which are on file at City hall.

Designation

Resource and critical areas that have been mapped and should be designated are those determined to be appropriate for the city including flood prone areas, wetlands areas, fish and wildlife conservation areas, and geologic hazardous areas. Copies of the resource mapping are available at city hall. Forestland, Agricultural lands, and Mineral resource lands do not presently exist within the city limits. Aquifer recharge areas have not been identified within the city and ground water resources within the city limits are not presently used for potable purposes.

Protection

This report recommends the adoption of the Preferred Alternative for each of the resource and critical areas identified. The adoption of an ordinance (see appendix) documenting the city's considerations and providing for the protection of the identified resources and critical areas will enable the City to meet the requirements of the Growth Management Act. More important the ordinance provides a local procedure for consideration of the Preferred Alternative for each of those resources and critical areas and provides for a local determination with the support of the community. The ordinance establishes an appeals procedure such that if an appeal is necessary from strict application of the standards then it may be considered by the City. A record of the determination may be made and subsequent decisions should be based upon the city's consideration of the facts of a particular case.

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