

Draft Environmental Impact Statement

COMPREHENSIVE PLAN AND ZONING CODE AMENDMENTS - INDUSTRIAL PARK AT TRANSALTA



September 28, 2010

Prepared for:
Lewis County, Washington
2025 NE Kresky Ave.
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Fact Sheet

Title:	Draft Environmental Impact Statement - Comprehensive Plan and Zoning Code Amendments - Industrial Park at TransAlta
Description of Proposal and Alternatives:	<p>The proposal is a non-project action involving amendment of the Lewis County Comprehensive Plan and Chapter 17.20 of the Lewis County Code to implement the provisions of RCW 36.70A.368 of the Growth Management Act and designate a portion of the TransAlta Centralia Mine site as an Industrial Land Bank. Approximately 4,400 acres of land would be zoned Industrial in aggregations of 1,000 acres for manufacturing, industrial, or commercial businesses that require building sites of at least 100 acres.</p> <p>The alternatives evaluated in detail include the proposed action and “No Action.” Under the No Action alternative, the County would not adopt the proposed comprehensive plan and zoning code amendments and would not designate lands at the Centralia Mine site as an Industrial Land Bank. TransAlta would complete reclamation of the site as provided in its federal mine permit and the lands would be used for commercial forestry, agriculture, and wildlife habitat.</p>
Proponent and Proposed Date for Implementation:	<p>Industrial Park at TransAlta, LLC (IPAT)</p> <p>The date of implementation depends on the schedule for County review, scheduling of public hearings related to the proposal, and adoption of the proposed Comprehensive Plan and Zoning Code amendments.</p>
Lead Agency and Responsible Official:	<p>Lewis County Department of Community Development Phillip Rupp, Principal Planner – Environmental Review Officer 2025 NE Kresky Ave. Chehalis, Washington 98532-2626 360-740-2773</p>
Permits and Approvals Required:	Amendment of the Comprehensive Plan and County Code as proposed would require adoption of the amendments by Lewis County.
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Date of Issuance of DEIS:	October 13, 2010
Date Comments are Due:	November 12, 2010
Public Meeting Date, Time, and Place:	October 26, 2010, 7:00 PM and December 13, 2010, 10:00 AM, or as soon thereafter as the matter may be heard, County Commission Meeting Rm., Chehalis, WA
Date of Final Action:	Not known at this time.
Subsequent Environmental Review:	A Final Environmental Impact Statement must be completed and adopted before the proposal can be implemented.
Locations of Copies of DEIS and Technical Reports for Public Review:	<p>Lewis County Department of Community Development 2025 NE Kresky Ave. Chehalis, Washington 98532-2626</p>
Location of Copies of DEIS for Purchase and Cost of Copy to Public:	<p>Lewis County Department of Community Development 2025 NE Kresky Ave. Chehalis, Washington 98532-2626 Cost of a hard copy is \$50; CD copies are \$2 each.</p>

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Acronyms and Abbreviations

AFM	Acid-forming Materials
AKART	All Known, Available and Reasonable Methods of Treatment
AMSL	Above mean sea level
BACT	Best Available Control Technology
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe Railroad
CC&Rs	Conditions, Covenants, and Restrictions
CFR	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
DEIS	Draft Environmental Impact Statement
DOT	U.S. Department of Transportation
DS	Determination of Significance
Ecology	Washington Department of Ecology
EFSEC	Energy Facility Site Evaluation Council
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
F	Fahrenheit
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
ft	Feet
GMA	Growth Management Act
gpm	Gallons per minute
HAP	Hazardous Air Pollutant
I-5	Interstate 5
ILB	Industrial Land Bank
IPAT	Industrial Park at TransAlta, LLC
IRA	Industrial Reserve Area
LCC	Lewis County Code
LID	Low impact development
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O ₃	Ozone
OSM	Office of Surface Mining
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter less than 10 microns in diameter
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RFA	Riverside Fire Authority
SEPA	Washington State Environmental Policy Act
SO ₂	Sulfur dioxide

SO ₄	Sulfate
SPCC	Spill Prevention, Control, and Countermeasures
SR	State Route
SWCAA	Southwest Washington Clean Air Agency
SWPPP	Stormwater Pollution Prevention Plan
TAP	Toxic Air Pollutant
TDS	Total Dissolved Solids
TFM	Toxic-forming Materials
tpy	tons per year
TSP	Total Suspended Particulates
UGA	Urban Growth Area
VOC	Volatile Organic Compound
vph	vehicles per hour
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington Department of Transportation

Summary

The Industrial Park at TransAlta, LLC (IPAT) is a non-profit organization whose mission is to establish an industrial park on a portion of the TransAlta Centralia Mine site that would create an employment center for the region. IPAT proposes amendments to the Lewis County Comprehensive Plan and County Code and designation of up to 4,400 acres of former coal mining land as an Industrial Land Bank (ILB) under provisions of the Washington State Growth Management Act (GMA; RCW 36.70A.368).

The GMA allows a county meeting certain criteria to establish a process for designating a master planned location for major industrial activity on former coal mine lands outside existing urban growth areas. The provisions adopted under RCW 36.70A.368 apply to a county that, at the time the designation process is established, had a surface coal mining operation in excess of 3,000 acres that ceased operation after July 1, 2006 and that is located within 15 miles of the Interstate 5 (I-5) corridor. Lewis County meets both these criteria.

IPAT proposes two categories of amendments. The first category involves amendments to the Lewis County Comprehensive Plan that would establish policies for allowing and reviewing ILBs under RCW 36.70A.368. The second category involves amendments to Chapter 17.20 of the Lewis County Code (LCC) that would implement the new Comprehensive Plan provisions and establish specific application and review procedures for ILBs.

Lastly, designation of the ILB is proposed. The proposed site meets all the designation requirements of RCW 36.70A.368. Specifically, the site is on lands (a) formerly used or designated for surface coal mining and supporting uses; (b) that consist of an aggregation of land of one thousand (1,000) or more acres, which is not required to be contiguous; and (c) that are suitable for manufacturing, industrial, or commercial businesses.

The primary purpose of the proposal is to implement the provisions of RCW 36.70A.368 and to provide a framework for Lewis County to evaluate future proposals for industrial development projects on the site. Designation of the ILB would address the need for large industrial development sites in the northwest and in Lewis County in particular. Designation and development of the site for industrial use would also help to reverse Lewis County's loss of economic ground over the last 30 years as compared to Washington State as a whole.

The Washington State Environmental Policy Act (SEPA, RCW 43.21C) directs local and state agency decision-makers to consider the environmental consequences of their actions. For this proposal, Lewis County is the SEPA lead agency and has the primary responsibility for complying with SEPA procedural requirements. This Draft Environmental Impact Statement (DEIS) has been prepared in accordance with the SEPA Rules, Washington Administrative Code (WAC) 197-11 and the Lewis County Code Chapter 17.110.

Because adoption of the proposed Comprehensive Plan and Code amendments would not, in itself, directly create any impact on the environment, the analyses in this document focus on potential impacts that would be associated with development of an industrial park on the site and operation of industrial facilities

that may locate there. Because the proposal does not involve specific industrial development projects at the site, this DEIS contains a broad analysis of potential environmental impacts that can be reasonably predicted at this time.

The potential environmental impacts associated with development of the site as an industrial park are summarized below, as are measures that could be employed to mitigate potential impacts. No significant environmental impacts that cannot be mitigated have been identified by this analysis. If the proposal is adopted, additional SEPA review would be conducted for specific development projects as they are defined and readied for construction and detailed information becomes available to fully evaluate their environmental impacts.

Earth

The area potentially subject to earth impacts from development would not be expected to exceed 1,200 acres. Additional land offsite may be disturbed as part of the extension of utilities to the site. The offsite acreage affected would not be known until final decisions are made regarding provision of utilities. Reclamation of the site is currently underway and filling, grading, and other earth-moving activities on the site would continue while reclamation is completed and developable areas are prepared for future industrial use. Construction of buildings, parking areas, and other facilities associated with development of the industrial park could involve cutting and filling of some of the previously re-graded areas. It is likely that some structural fill material would need to be imported to the site, but cut and fill volumes and structural fill needs would not be known until specific development projects are designed.

Measures that may be employed to mitigate impacts to earth include:

- Preparing and following a Stormwater Pollution Prevention Plan for each project
- Employing Best Management Practices (BMPs) for erosion control and stormwater management
- Maintaining required buffer widths between construction sites and regulated wetlands and streams
- Regularly monitoring replanted sites and repairing areas of erosion
- Adhering to structural seismic design requirements current at the time of project construction
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate conditions, covenants, and restrictions (CC&Rs) for development

Air

Air emissions associated with reclamation activities (primarily particulate matter from earthmoving and engine exhaust from heavy equipment) would continue intermittently until reclamation of the site is complete and developable areas prepared for future industrial use. Earthmoving associated with construction of roadways, parking areas, buildings, and other facilities at the proposed industrial park would generate particulate matter. Effects on ambient air quality would not

be expected to be significant, but care would be needed during dry or windy periods to ensure that fugitive dust was not carried off site. Heavy equipment used for construction would emit engine exhaust.

Measures that may be implemented to control construction-related air emissions include:

- Watering exposed earth surfaces, especially during windy or dry periods
- Using erosion control matting, mulching, or plastic covering to control windblown dust from exposed soils
- Maintaining a stabilized site entrance during construction
- Installing tire washes at the project site access to minimize tracking of soil onto public roadways
- Establishing vegetation on areas that are not covered by buildings or pavement as soon as practicable following construction
- Requiring contractors to use only properly maintained construction equipment fitted with approved emissions control devices
- Requiring contractors to avoid unnecessary idling of motorized equipment
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

Industrial operations would produce air pollutants. Details on the types and quantities of air emissions would not be known until specific projects are proposed. Typical emissions from both heavy and light manufacturing operations include particulate matter, carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), volatile organic compounds, and various substances classified as hazardous air pollutants. A variety of control technologies could be required to ensure that emissions from industrial operations at the site do not cause exceedances of regulatory limits on air pollutants. The specific control technologies used would depend on the type and quantity of air emissions associated with each development project.

Diesel-powered trucks and railway locomotives used to transport goods to and from the site and employee and visitor automobile trips would release particulate matter, CO, SO₂, and NO_x. These emissions are regulated by federal emissions standards for motor vehicles and locomotives.

Water

Stormwater runoff from the site would continue to be collected and diverted into the existing stormwater management system while reclamation and preparation of the site for industrial use is underway. Development of the industrial park would involve construction of impervious surfaces such as roadways, parking areas, and building rooftops that would decrease infiltration and increase the rate and volume of stormwater runoff from the site. The magnitude of these increases is not known at this time and would depend on the total areal coverage of impervious surfaces when the site is fully developed. TransAlta has committed to investigating with IPAT the potential for providing ongoing stormwater management to the industrial park. If this option proves to be feasible from an

engineering and regulatory standpoint, TransAlta would maintain the existing drainage collection and treatment system around the perimeter of the industrial site, and tenants of the industrial park would develop internal collection and treatment systems that deliver flows to the TransAlta system at specific locations.

Areas on the developed site that could contribute pollutants to stormwater would include internal roadways and parking areas, which could become contaminated with oil, grease, and other petroleum products from vehicles. Impacts on the quality of ground or surface water could occur from spills of fuel or other chemical products.

It is expected that, at least initially, domestic wastewater would be discharged to individual on-site septic systems. Adverse changes in water quality could occur as a result of on-site disposal of domestic or process wastewater. Any operation that proposes to discharge wastewater from commercial or industrial processes into “waters of the state” would be required to obtain a discharge permit.

Measures that may be implemented to reduce impacts on surface water and water quality include:

- Adhering to the requirements of the Stormwater Management Manual for Western Washington
- Maintaining required buffer widths between construction sites and regulated wetlands and streams
- Regularly monitoring replanted sites and repairing areas of erosion
- Preparing and following Stormwater Pollution Prevention Plans for each development project
- Preparing and following Spill Prevention, Control, and Countermeasures plans for any construction project or operation that uses, stores, or disposes of fuel or chemical products
- Adhering to all discharge limitations specified in National Pollutant Discharge Elimination System (NPDES) permits for construction and operations
- Adhering to design, operation, maintenance and monitoring requirements for on-site septic systems
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

Construction of impervious surfaces such as roadways, parking areas, and building rooftops would reduce infiltration of stormwater on a portion of the site and could reduce local groundwater recharge. To mitigate potential impacts on groundwater recharge, a variety of Low Impact Development (LID) practices could be used.

Plants and Animals

Industrial development would involve removal of grasses and recently planted trees in some reclaimed areas. This would reduce the availability of habitat for animals such as black-tailed deer that use recently reclaimed sites. Animals

inhabiting these areas would be displaced and likely move into nearby pasture and forest habitats.

Over the development period, construction of buildings and other site features may alter the diurnal and/or seasonal movement of elk, deer, and other animals that move through the area. The site's extensive undeveloped acreage would provide ample area for movement of animals during construction.

The noise, light, and human presence that would result from construction and operation of industrial facilities and infrastructure would disturb animals and could reduce the value of nearby habitats for wildlife. Some species that use the site, including elk and black-tailed deer, are habituated to disturbance associated with mining and site reclamation.

There would be an increase in vehicle traffic on interior roads and along Big Hanaford Road that would likely result in increased injury to and mortality of wildlife as a result of animal-vehicle collisions. The species most affected would be black-tailed deer, although elk, squirrels, raccoons, skunks, and other animals would also be at risk.

Fish and other aquatic species could be affected by changes in water quality from the introduction of pollutants in stormwater, on-site septic system failures, or spills of fuel or chemicals. Potential water quality impacts and mitigation measures are discussed above.

It is possible that there would be some impacts on wetlands or wetland buffers from construction of a new rail spur and/or on-site septic facilities, as these facilities are typically constructed on low-lying ground. Construction that could affect wetlands would be subject to the review and permitting requirements of the relevant sections of the Clean Water Act (CWA) and the Lewis County critical areas regulations. This would include compliance with requirements for maintaining setbacks and vegetated buffer zones, implementing BMPs to reduce or eliminate water quality impacts, mitigating unavoidable effects, and other measures.

Mitigation measures that could be implemented to reduce impacts to wildlife and wildlife habitat include:

- Installing deer/elk crossing signs or other warning signs along roadways in locations where animals are known to travel
- Minimizing the use of fencing and other structures that create barriers to animal movements
- Establishing and maintaining vegetated buffers between development sites and high value habitat areas
- Installing signs to educate workers and visitors about the importance of wildlife habitats on the site and ways to minimize wildlife disturbance
- Adopting a formal fish and wildlife management plan for the industrial park, with the goal of increasing habitat values across the site
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

Environmental Health

Noise associated with reclamation would continue until reclamation of the site is completed and developable areas are prepared for future industrial use. During construction of industrial facilities, there would be temporary increases in noise from operation of heavy equipment and power tools. These increases in noise would occur intermittently over the 20-year development period and would likely be less than noise that was produced from the site during active mining.

Mitigation measures employed to reduce the impacts of construction noise may at times include:

- Requiring construction contractors to maintain all motorized equipment with properly sized mufflers, engine intake silencers, and engine enclosures
- Prohibiting the idling of motorized equipment for long periods
- Requiring stationary construction equipment such as generators and compressors to be located away from sensitive receiving properties, or requiring portable noise barriers to be placed around the equipment
- Limiting or prohibiting outdoor construction during nighttime hours
- Adhering to all applicable laws, regulations, and ordinance
- Adopting appropriate CC&Rs

Because the current proposal does not include specific development projects, the types and levels of operational noise that could be produced at the site are not known at this time. In general, the major categories of noise sources associated with industrial facilities are: (1) fixed equipment or process operations; (2) mobile equipment or process operations; and (3) transport of raw materials, products, or waste, and transport of workers and visitors to and from the site.

Measures that may be implemented to reduce operations noise impacts include:

- Establishing setbacks from sensitive noise receptors
- Establishing and maintaining vegetative buffers
- Erecting portable noise barriers
- Requiring that noise-producing activities be conducted indoors or in enclosed areas
- Staggering work shifts to reduce traffic noise
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

While reclamation is being completed and the site prepared for industrial use, there would be the potential for fire, explosion, or spills of diesel fuel or other petroleum products associated with the use of heavy construction equipment. Construction and operation of industrial facilities would entail the potential for accidental fire, explosion, or spills that could result in releases of toxic or hazardous materials. If such an event were to occur, effects would most likely be

contained within the immediate area; however, depending on the magnitude of the event, impacts could extend offsite.

Although the potential is low, there is the possibility that sparks could ignite fires along the rail spur during dry summer weather. In the event of a collision or other accident, toxic materials could be released from rail cars using the rail spur.

Fires in coal seams and waste deposits can result from spontaneous combustion or by accidental ignition from forest fires or other means. Smoldering coal seams can result in subsidence of surface infrastructure, reignite grass, brush, or forest fires, and present a respiratory health hazard for those nearby. TransAlta's reclamation plan includes provisions for covering all exposed coal seams with a minimum of four feet of earthen material to reduce the potential for oxidation reactions that could result in coal combustion.

Other measures that may be implemented to reduce the potential for fire, explosion, and other environmental health impacts include:

- Preparing and following Spill Prevention, Control, and Countermeasures plans for any construction project or operation that uses, stores, or disposes of fuel or chemical products
- Following all applicable guidelines established under the Hazardous Materials Transportation Act (HMTA) for railroads and other carriers of hazardous materials
- Following all applicable local, state, and federal regulations pertaining to shipment, handling, storage, use, and disposal of hazardous materials
- Adhering to all other applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

Land Use

The proposal would create a new Urban Growth Area. The Comprehensive Plan designation of the site would be changed from Mineral Resource Land, Forest Resource Land and a small amount of Rural Residential to an ILB and the site would be rezoned to industrial. An estimated 914 to 1,000 acres of the new ILB would be developed for industrial purposes over a period of about 20 years. Another 200 acres would be developed as infrastructure corridors. The remainder of the site would be largely open space and buffer areas. All or a portion of the site's upland forests could be managed for commercial timber production.

The proposal is consistent with applicable laws, policies, plans, and regulations, including the GMA, the Lewis County Countywide Planning Policies, the Lewis County Comprehensive Plan, and County development regulations applicable to major industrial development.

To a large extent residences in the area would be buffered from activities at the site by distance and the nearest local topography, although views of the site would be altered from some vantage points on nearby roadways. The visual elements on the site could range from those typically associated with heavy industry such as silos, exhaust stacks, exposed piping, and materials stockpiles to fully-enclosed buildings in which light manufacturing activities occur. Effects on

visual aesthetics would be softened by the large portion of the site that would remain undeveloped and be maintained as a visual buffer. Nighttime lighting required for safety and security would likely be visible from some locations.

Mitigation measures that may be implemented to reduce impacts on visual aesthetics include:

- Requiring outdoor lights to be shielded or recessed and directed downward or toward the interior of the site
- Establishing design standards for landscaping and signage to achieve a consistent appearance among developments
- Requiring the exterior of buildings and other structures to be finished in non-reflective, natural-toned materials
- Requiring storage and service areas to be shielded from view by walls, fencing, or vegetation
- Maintaining a vegetative buffer along the perimeter of the site
- Adopting appropriate CC&Rs

The potential for the presence of or impacts on previously-unidentified historical or archaeological artifacts or sites is considered remote owing to the position of the proposed ILB site in the landscape and the ground disturbance associated with past mining, logging, and agricultural activities. Therefore, a standard mitigation approach would likely be sufficient to avoid impacts on historical, archaeological, or cultural resources. In the event that artifacts or other indications of a historical or archaeological nature were to be discovered on the site at any time, activity in the area of the find would immediately cease until it could be evaluated by a qualified archaeologist in consultation with the Department of Archaeology and Historic Preservation and the Chehalis Tribe, depending on the artifacts or indications found. Additional mitigation measures, if needed, would be based on the nature and significance of the find.

Transportation

The key roadways in the area that serve the site and could be affected by development of the industrial park are Big Hanaford Road, SR 507, Reynolds Avenue, and Harrison Avenue. Traffic increases would be a function of employee density and the specific industrial and manufacturing uses at the site. Based on the types of businesses targeted by IPAT, an estimated employee density of 2.2 employees per acre was used to analyze traffic impacts. At full build-out of the industrial park, there would be an estimated 6,717 daily trips to and from the site. Approximately 537 of those trips would be truck traffic; the remainder would be passenger vehicles. During the PM peak commute hour (from 4:00 to 5:00 PM), analysis indicates that there would be 185 vehicles entering the site and 740 leaving the site. Trip generation would be higher if a higher employee density is achieved. Nearly all trips to the site would use SR 507 and Big Hanaford Road, with most trips converging at the Reynolds Avenue/SR 507 intersection.

Analysis indicates that by 2030, several local roadway segments would be over capacity and may experience congestion; in some cases, this is predicted to occur whether the industrial park is developed or not.

For future development proposals at the industrial park site, Lewis County would determine the specific environmental analysis requirements for each proposal. Detailed Traffic Impact Analysis reports may be required of future proposals and mitigation measures may be required as part of specific development permits to address traffic impacts.

There are a number of measures that could be employed to reduce the number of vehicle trips to and from the industrial park. These include:

- Requiring employers to implement strategies to encourage their employees to carpool. This could include assistance in matching interested employees within their organization or with nearby industrial uses, arranging rideshare formation meetings, offering financial subsidies for not commuting to work alone, or offering a guaranteed ride home for carpoolers.
- Requiring employers to encourage employees to vanpool
- Moving trips outside of peak commute times by shifting work start times
- Operating a van or bus to shuttle employees from park-n-ride lots in Centralia and Chehalis
- Adopting appropriate CC&Rs

Public Services

During construction at the industrial park, there would be the potential for an increase in the number of calls to the Sheriff's Office related to trespassing, theft of construction materials, and vandalism. As tenants locate at the industrial park, there would be the potential for increased demand for police services related to trespassing, theft, and vandalism and the increase in traffic on local roads would likely lead to additional needs for traffic patrols and calls related to motor vehicle accidents.

To mitigate the increased needs for police protection, individual tenants could require their contractors to implement a full-time security plan during construction and operation. In addition, IPAT could include a comprehensive safety and security component in its site management plan.

During construction, there could be an increase in the need for fire protection and/or emergency response related to equipment fires, on-the-job injuries, or spills of fuel or chemicals used in construction.

Plans for development projects would require review for compliance with local and state fire safety regulations, and there would be additional demand for plan reviews and building inspections.

Any industrial operation involves the potential for fire, spills, or accidents. Industrial operations also often involve transportation, storage, use, and disposal of hazardous materials. The local fire district may need additional capacity to respond to industrial emergencies involving hazardous materials. The presence

of multi-story buildings at the industrial park could require additional equipment and potentially additional firefighter training to respond to incidents involving such structures.

Measures that may be implemented to mitigate fire risks include:

- Complying with Department of Natural Resources (DNR) equipment rules and regulations for work in forested lands.
- Contracting with the local fire authority for additional or specialized protection services during construction
- Providing training to fire authority personnel on how to respond to fires related to their specific industry
- Coordinating with the DNR and local fire district when fire danger is high
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs

Construction and operation of industrial facilities at the site would generate solid waste that would be collected and transported off-site by a franchised local solid waste hauler for ultimate disposal at the Roosevelt Regional Landfill in Klickitat County. Industrial processes could also produce dangerous or hazardous wastes. Handling, storage, transportation, and disposal of such wastes would be subject to Washington State's Dangerous Waste Regulations and applicable provisions of the federal Resource Recovery and Conservation Act.

Puget Sound Energy has indicated willingness to supply natural gas service to tenants of the industrial park, and has enough capacity on its pipeline system to provide this service. Providing natural gas to the proposed industrial park would require extension of Puget Sound Energy's intermediate pressure system from a point approximately four miles from the site.

The proposed industrial park is located within the service area of the Lewis County Public Utility District #1. Electrical service for the industrial park could be provided by a new connection to the existing power line that runs through the site. This would likely require one or more new electrical substations.

It is expected that, at least initially, domestic wastewater would be discharged to individual on-site septic systems. Other options include expansion of TransAlta's existing domestic wastewater treatment system to accommodate domestic wastewater flows from the industrial park, constructing an on-site treatment plant, or connecting to the City of Centralia's wastewater collection and treatment system. The proposed ILB site is not within the City of Centralia's current service area for sewer, so connecting to the municipal sewer system would require amendment of the City's comprehensive sewer/wastewater plan and construction of a new main from the site to the City's system.

Tenants at the site would also produce industrial process wastewater. Wastewater volumes vary widely among industries; however, it is estimated that at full build-out the industrial park could produce between 1.2 million to 2.5 million gallons per day (GPD) of process wastewater. Based on the target industries identified by IPAT, 1.5 million gpd of process wastewater is considered a

reasonable planning-level estimate for the site. Depending on the type and quality of wastewater produced and the pre-treatment applied to it, process wastewater could be reused, discharged through on-site drainfields or underground injection, or conveyed to the City of Centralia's wastewater treatment plant. As with domestic wastewater, the latter option would require amendment of the City's comprehensive sewer/wastewater plan and construction of a new main from the site to the City's system.

It is estimated that domestic water needs could range from approximately 30,000 gpd to 120,000 gpd; based on the expected employment density, domestic water needs would likely be on the scale of 30,000 to 33,000 gpd. Process water needs are estimated at 1.2 million gpd to 2.5 million gpd depending on the needs of specific tenants. Based on the identified target industries, process water needs would likely be approximately 1.5 million gpd. The volume of water needed for industrial processes could be reduced by various water conservation measures including re-use of treated wastewater. A planning-level estimate of fire flow needs indicates that a total of one million gallons of water would need to be stored on site to ensure adequate fire flows. Potential water sources include new on-site groundwater wells, transferring some of TransAlta's existing water rights for use by the industrial park, and connecting to the City of Centralia's municipal water system. Because the proposed ILB site is not within the City of Centralia's current service area for water supply, connecting to the municipal water system would require amendment of the City's comprehensive water plan and construction of a new water main.

1.0 Introduction

1.1 Background

The Centralia Mine, located northeast of the city of Centralia in Lewis County, began coal mining operations in 1967 and produced up to six million tons of coal per year until mining was curtailed in late 2006. The mine site, which is owned or controlled by TransAlta Centralia Mining, LLC, covers more than 14,000 acres and includes mined areas as well as accessory buildings, roadways, waste disposal areas, and utility corridors. TransAlta is currently conducting reclamation of the mine site and continues to operate the Centralia Power Plant, which has both gas-fired and coal-fired generating units. Since suspension of mining at the Centralia Mine, the power plant has been supplied with coal delivered by rail.

Reclamation of lands formerly used for coal mining creates an opportunity for beneficial re-use of the lands for economic revitalization. In recognition of this opportunity, the Washington State legislature adopted provisions under the Growth Management Act (GMA, RCW 36.70A) that allow a county meeting certain criteria to establish a process for designating a master planned location for major industrial activity on former coal mine lands outside existing urban growth areas. The provisions adopted under RCW 36.70A.368 apply to a county that, at the time the designation process is established, had a surface coal mining operation in excess of 3,000 acres that ceased operation after July 1, 2006 and that is located within 15 miles of the Interstate 5 (I-5) corridor. Lewis County meets both these criteria.

1.2 Description of the Proposal and Alternatives

The Industrial Park at TransAlta, LLC (IPAT) is a non-profit organization whose mission is to establish an industrial park on a portion of the TransAlta Centralia Mine site that would create an employment center for the region. IPAT proposes amendments to the Lewis County Comprehensive Plan and County Code and designation of up to 4,400 acres of former coal mining land as an Industrial Land Bank (ILB) under the provisions of RCW 36.70A.368. A vicinity map and site map of the proposed ILB are shown on Figure 1 and a full legal description of the site is included in Appendix A.

Two categories of amendments are proposed. First, amendments to the Lewis County Comprehensive Plan are proposed to establish the policies for allowing and reviewing ILBs under RCW 36.70A.368. Proposed amendments to the Comprehensive Plan include amendments to the Economic Development Element, the Land Use Element, and the Capital Facilities/Utilities Element. The complete text of the proposed Comprehensive Plan amendments is provided in Appendix B.

Second, amendments to Chapter 17.20 of the Lewis County Code (LCC) are proposed to implement the new Comprehensive Plan provisions and establish specific application and review procedures for ILBs. The

proposed amendments to LCC 17.20 include amendments adding ILBs established under RCW 36.70A.368 to general provisions of that chapter, a new section setting out ILB designation requirements, and application requirements for specific projects that seek to locate in an ILB. The complete text of the proposed Code amendments is provided in Appendix C.

Last, designation of the ILB is proposed. The proposed site meets all the designation requirements of RCW 36.70A.368. Specifically, the site is on lands (a) formerly used or designated for surface coal mining and supporting uses; (b) that consist of an aggregation of land of one thousand (1,000) or more acres, which is not required to be contiguous; and (c) that are suitable for manufacturing, industrial, or commercial businesses.

The proposal does not involve specific industrial development projects at the site. If the proposed Comprehensive Plan and Code amendments are adopted and the ILB is designated by Lewis County, IPAT will then prepare specific plans for infrastructure needed to facilitate development of an industrial park on the site, clarify target industries, and market the site to potential tenants.

IPAT has identified seven development areas as potential sites for future tenants (Figure 2). The developable portions of these areas cover between 914 to 1,000 acres. An additional 200 acres would be needed for on-site infrastructure. The remainder of the 4,400-acre site includes wetlands, ponds, steep slopes and buffer areas.

If the proposal is adopted, TransAlta would seek approval to modify its reclamation plan such that disturbed areas slated for future industrial development would be prepared to support industrial use. Modification of the existing reclamation plan would require review and approval by the federal Office of Surface Mining (OSM). The development areas would, at a minimum, need to be stabilized using measures such as construction of rock drainageways or gradient terraces, mulching, and seeding with grasses for erosion control. Disturbed areas not slated for future development would be reclaimed according to the approved reclamation plan.

It is planned that the site would be developed in three phases to ensure orderly development of infrastructure. Infrastructure needed for the site is expected to include interior roadways, utilities, and extension of the existing Burlington Northern Santa Fe (BNSF) rail spur from the north side of Big Hanaford Road onto the site. Phase 1 comprises Areas 1, 2, and 3, which would likely be developed in years 2 through 8 after designation of the ILB. During Phase 2, Area 4 would be developed over years 7 through 10. Phase 3 comprises Areas 5, 6, and 7 and would likely be developed over years 10 through 20. The exact timing of development for each phase would depend on TransAlta's approved reclamation plan, market conditions, local economic needs, and the needs of specific tenants.

The businesses that would develop facilities at the site are not known at this time, but could include large regional, national, and international firms in the established and emerging manufacturing sectors. Established sectors include lumber and wood products, transportation equipment, rubber and plastics, stone, clay, glass and concrete products, metal fabrication, and industrial and commercial machinery. Emerging sectors include manufacturing of “green” building products and power equipment such as batteries, wind turbines, and solar panels. Target industries would include those that have the potential to create synergies with the TransAlta Centralia operations through re-use of power plant byproducts; examples include manufacturing of concrete, drywall, and shingles. IPAT has determined that uses such as warehousing and distribution centers would not be allowed to locate at the site because those businesses do not typically provide high-wage jobs and would have significant impacts on local traffic patterns. This prohibition would be formalized in conditions, covenants, and restrictions (CC&Rs) that would be adopted and recorded for the ILB site.

Based on inventories of industrial employment in southwest Washington, it is estimated that the industrial park would have an employment density of 2 to 8 employees per developed acre (Huitt-Zollars 2009). Capital-intensive manufacturing uses located on large, rural lots typically employ fewer workers per acre than do urban industrial uses. Therefore, it is expected that employment at the site would likely be at the lower end of this range.

The alternative to the proposal is “No Action.” Under the No Action alternative, the Comprehensive Plan and Code amendments proposed by IPAT would not be adopted, and an ILB would not be designated at the Centralia Mine site. The site would not be developed as an industrial park, but would continue to undergo reclamation in compliance with TransAlta’s existing federal mine permit (Permit No. WA-0001E). Reclamation of areas disturbed by mining involves a number of activities including re-grading, application of soil materials, and revegetation. The primary goal of TransAlta’s reclamation plan is to restore disturbed areas to the pre-mining land uses of upland forestry, lowland forestry, and pastureland. Over the long term, the forested areas would be managed for commercial timber production. An existing permitted limited purpose landfill used for disposal of industrial waste and coal-combustion byproduct from the power plant would continue to be used for that purpose. Existing haul roads would be maintained to access this area.

Reclamation has been completed on a portion of the proposed ILB site, although monitoring and any necessary remedial actions will continue for several years. Under the No Action alternative, reclamation of the remainder of the proposed ILB site would be substantially complete by 2019 (T. Briggs, pers. com. 2010).

1.3 Purpose of and Need for the Proposal

The primary purpose of the proposed Comprehensive Plan and Code amendments and ILB designation is to implement the provisions of RCW

36.70A.368 and to provide a framework for Lewis County to evaluate future proposals for industrial development projects on the site.

Designation of the ILB would address the need for large industrial development sites in the northwest and in Lewis County in particular. The 1997 *Lewis County Industrial Land Need Analysis* (E.D. Hovee 1997) found that the lack of large industrial development sites would have a negative impact on the County's ability to attract and support businesses that provide family wage jobs. The *Lewis County Prime Industrial Lands Study* (Batch 1999) focused on identifying lands for potential designation as industrial land banks. The Centralia Mine site was selected as the top alternative. An updated land needs analysis (*Lewis County Industrial Lands Analysis Update*; E.D. Hovee 2005) was prepared as part of the County's revision of the economic development element of its Comprehensive Plan. The updated study confirmed that more than 2,400 acres of industrial-zoned land would be needed to support industrial growth in the County over the next 20 years.

Large tracts of land close to major transportation corridors that can be served by utilities and that do not contain significant acreages of critical areas such as floodplains are in high demand. However, the 2005 study found that there were no vacant sites in Lewis County greater than 100 acres and only two smaller sites that did not have significant environmental constraints (E.D. Hovee 2005). The lack of sizeable and readily developable industrial sites hampers Lewis County's competitive position with other counties along the I-5 corridor and limits the County's ability to attract large, capital-intensive industry.

Lewis County has lost economic ground over the last 30 years as compared to Washington State as a whole. During the early 1970s, Lewis County's labor force participation was on par with statewide levels; however, since 1977, the proportion of County residents age 15 and over that are employed or actively seeking employment has declined. For the past two decades Lewis County's unemployment rate has been one of the highest in the region, mainly as a result of the loss of jobs in natural resource-based industry. Between 1990 and October 2008, the County's unemployment rate averaged 50 percent higher than the statewide average and was never less than 30 percent above the statewide average. During the current national economic downturn, unemployment in the County rose to 15 percent in February 2010, whereas the statewide unemployment rate rose to 10.4 percent in the same period (Washington State Employment Security Department 2010).

Wage and income growth in the County have also lagged and household income in Lewis County is substantially lower than in the state as a whole. In 2008 the median household income in Lewis County was \$38,982, approximately 72 percent of the statewide median of \$54,086 (Washington State Office of Financial Management 2010).

The high unemployment rate and comparatively low wage rate in Lewis County results in a significant number of workers commuting outside the County for work. Based on the 2000 national Census data (the most

recent available), more than 20 percent of Lewis County workers hold jobs outside the County. This represents a dramatic increase over data from the 1990 census.

Adoption of the proposed Comprehensive Plan and Code amendments and designation of the ILB at the Centralia Mine site would allow development of the site as an industrial park to proceed. Industrial development of the site would help to:

- Increase personal income in Lewis County by increasing the availability of manufacturing jobs that typically pay relatively high wages;
- Broaden, diversify, and increase the tax base in the County;
- Provide employment opportunities for those with moderate to high skill levels and encourage increased worker skills training to reduce student drop-out rates and improve wage prospects;
- Replace high-wage jobs that have been lost in other sectors such as natural resources and mining;
- Maximize the “multiplier” effect through the creation of other jobs and business opportunities in the community to support manufacturers and employees at the industrial park; and
- Provide “in-County” job options for the growing labor force and reduce the increasingly large number of new job entrants forced to leave the area and workers that commute to other counties.

1.4 Requirements for Environmental Review

The Washington State Environmental Policy Act (SEPA, RCW 43.21C) directs agency decision-makers to consider the environmental consequences of their actions. For this proposal, Lewis County is the SEPA lead agency and has the primary responsibility for complying with SEPA procedural requirements. The County issued a Determination of Significance (DS) on February 3, 2010, stating that an Environmental Impact Statement (EIS) would be prepared to evaluate the effects of the proposal on the environment. An EIS scoping notice was published in the *East County Journal* and *The Chronicle* and mailed to interested agencies and nearby property owners.

The SEPA Rules (WAC 197-11) require lead agencies to narrow the scope of every EIS to the probable significant adverse impacts of a proposal and reasonable alternatives, including mitigation measures. Following issuance of the scoping notice, a public meeting was held on February 24, 2010 and oral comments were received on issues and topics to be addressed in the EIS. Written comments from the public were also solicited and accepted through March 29, 2010. The scope of this Draft EIS (DEIS) was determined through discussions with County staff and the County’s SEPA consultant and public response to the scoping notice. The following topics were identified for discussion in the EIS:

- Earth
- Air quality

-
- Water
 - Wildlife and wildlife habitat
 - Environmental health
 - Land and shoreline use
 - Transportation
 - Public services

A copy of the scoping notice is included in Appendix D.

Under SEPA, this is a “non-project” proposal. Non-project actions are defined as those “which are different or broader than a single site specific project, such as plans, policies, and programs” (WAC 197-11-774). The SEPA Rules allow proposals to be phased so that SEPA compliance can be done for each phase. Phased review allows agencies and the public to focus on issues that are ready for decision and excludes issues already decided or not yet ready for consideration [WAC 197-11-060(5)(b)].

The sequence of phased review is from a broad scope to a narrow scope. Therefore, the EIS for this proposal consists of a broad analysis of significant environmental impacts that can be reasonably predicted at this time. Where possible, it establishes an environmental “envelope” by defining what is considered likely to be the greatest level of impact on each element of the environment resulting from designation of the ILB and development of the site as an industrial park. For some environmental elements, the potential greatest level of impact would not be known until build-out of the industrial park is approached and the final mix of tenants is defined. If the proposal is adopted, additional SEPA review would be conducted for specific development projects as they are defined and readied for construction and detailed information becomes available to fully evaluate their environmental impacts.

This DEIS was prepared in accordance with the SEPA Rules and LCC 17.110. After the DEIS public review period, a Final EIS (FEIS) will be prepared and issued. The FEIS will include responses to comments received on the DEIS and may include, as appropriate, further analyses or discussion of additional measures that may be employed to mitigate the proposal’s environmental impacts.

1.5 Permits and Approvals

Preparation of an EIS and approval of permits for a proposal are related but separate processes. This DEIS and the FEIS to follow are planning-level documents designed to evaluate the probable impacts of the proposed Comprehensive Plan and Code amendments and designation of the ILB at the Centralia Mine site. The plan and code amendments and ILB designation require adoption by Lewis County before they can be implemented. No other permits or approvals are needed for the proposal.

Future development projects at the site would likely require a variety of local, state, and federal permits. The specific permits required would not be known until each project was defined and would depend on the nature

of the development project proposed. Permits and approvals that could be needed include, but may not be limited to:

- Grading permit – Lewis County
- Building permit – Lewis County
- Stormwater Management Permit - Lewis County
- Road Approach Permit - Lewis County
- Right-of-Way Access Agreement - Lewis County
- Right-of-Way Franchise Agreement -Lewis County
- Water Supply Source Approval - Lewis County
- Notice of Construction and Air Operating Permit - Southwest Clean Air Agency
- On-site Sewage System Operating Permit – Lewis County or Washington Department of Health
- National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities - Washington Department of Ecology
- NPDES and State Waste Discharge Permit for Process Wastewater Discharges - Washington Department of Ecology
- NPDES and State Waste Discharge Permit for Stormwater Discharges Associated with Industrial Activities – Washington Department of Ecology

2.0 Affected Environment, Impacts of the Alternatives, and Mitigation Measures

2.1 Introduction

This chapter describes the existing environmental conditions on the proposed ILB site and in the general vicinity and analyzes the potential impacts of the proposal and No Action alternative. Because adoption of the proposed Comprehensive Plan and Code amendments would not, in itself, directly create any impact on the environment, this chapter focuses on impacts generally associated with development of an industrial park on the site and operation of industrial facilities that may locate there. Because reclamation of areas not slated for future development would proceed as outlined in TransAlta's approved reclamation plan, some of the impacts described for the No Action alternative would also apply to the proposed alternative.

This section also describes management and mitigation measures that could be employed to avoid or reduce potential adverse environmental impacts. Additional requirements for mitigation could be imposed on future development projects as a result of project-specific SEPA review or as part of permits required for construction or operation.

This chapter is organized by environmental component such as air, water, and biological resources, and includes discussion of the built environment, including land use and transportation. The discussion focuses on the potential significant adverse impacts identified during the public scoping process as issues of concern. It also discusses some impacts that would not be significant, as well as potential benefits of the alternatives.

2.2 Earth

2.2.1 Existing Conditions

The topography of the proposed ILB site and surrounding areas is a result of uplift, faulting and folding during episodes of mountain building and subsequent erosion. In some areas, the topography has been modified by glacial action or by deposition of Quaternary (recent) glaciofluvial material. On the ILB site and surrounding mine lands, the topography has been significantly altered by mining.

The area is generally characterized by moderate topographic relief with benches, plains, and low rounded hills. The topography of the ILB site and adjacent areas consists of low-gradient valleys lying between a series of low, northwest-trending hills. Elevations range from about 200 feet above mean seal level (AMSL) along Packwood Creek to about 700 feet AMSL near the western boundary of the site.

Rocks exposed in the area range in age from Eocene (about 55 to 34 million years) to Quaternary and consist of marine and non-marine sedimentary rock with interbedded volcanic ash. The bedrock is overlain

by poorly consolidated Quaternary outwash material in many locations and by Quaternary alluvium in stream valleys. In areas adjacent to the Centralia Mine, the Eocene strata are intruded by dikes and sills of volcanic rock of Oligocene age (about 34 to 24 million years).

The coal deposits mined at the site are a part of the Skookumchuck Formation, which is composed of sedimentary rocks of Eocene age. The coal seams are near the surface and coal was recovered using open cast mining techniques. This involved removing overlying materials, drilling and fracturing the seam, and mining in strips.

Landslides in the area are generally either major slides of Pleistocene age (about 1.8 million to 10,000 years) or minor recent slides superimposed on Pleistocene slides. During the Pleistocene, large volumes of meltwater from receding glaciers cut channels in the fine-grained Tertiary rocks and deepened and undercut the pre-existing drainages in the Skookumchuck, Newaukum and Chehalis river valleys. Landslides later modified the steepened side valleys.

Recent landslides are most common along principal stream drainages. High rainfall and rapid runoff has resulted in accelerated erosion of the poorly consolidated Tertiary and Quaternary rocks, producing oversteepened slopes. Subsequent failures along these slopes have modified the topography and contributed large volumes of debris to the drainage systems, masking and distorting bedrock structure. Undisturbed bedrock typically is found only along ridge tops or along drainages that have cut below the landslide material.

Three principal faults occur in the area. These are the Kopiah, Newaukum and Coal Creek faults, which trend northwest-southeast and are generally down-thrown to the southwest. The proposed ILB site is bordered on the southwest by the Kopiah fault and on the northeast by the Newaukum fault. The Coal Creek fault is a high angle fault located northeast of the site.

The proposed ILB site and surrounding area are located in a seismically active zone, as demonstrated by the magnitude 6.8 earthquake that occurred in the Olympia/Seattle region on February 27, 2001. A search of the USGS database identified a total of 844 earthquakes with a magnitude greater than 1.0 occurring within 125 miles of the Centralia Mine since 1976 (TransAlta 2010).

Soils across the majority of the site were removed to expose the coal resources, and then stockpiled. In upland areas that have not been disturbed by mining, soils of the Buck Peak and Centralia series dominate. The Buck Peak silt loam is a very deep, well-drained soil that occurs on hillsides and ridge tops. It formed in residuum and colluvium derived primarily from siltstone and fine-grained sandstone. The native vegetation on this soil is mainly coniferous trees. Permeability is moderate. Runoff is rapid, and the hazard of water erosion is high, making exposed areas subject to rilling and gullying.

The Centralia loam is a very deep, well-drained soil that occurs on uplands. It formed in residuum derived from high weathered marine sandstone. The native vegetation on this soil is mainly coniferous trees. Permeability is moderate. Runoff is medium, and the hazard of water erosion is moderate. This soil is subject to seasonal wetness. This unit is limited for development mainly by steepness of slope. Its moderate permeability limits the proper operation of septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption field.

Soils of the Alvor and Reed series dominate along stream drainages that have not been disturbed by mining. The Alvor silty clay loam is a very deep, poorly drained soil that occurs on low stream terraces. It formed in mixed alluvium derived from siltstone, sandstone, and basalt. The native vegetation on this soil is deciduous trees and few mixed conifers. Where this soil has not been drained by tiling, it has a seasonal high water table near the surface in winter and early spring. Permeability is moderately slow. Runoff is very slow, and the hazard of water erosion is slight. The main limitations for development are flooding hazard, the seasonal high water table, and the potential for shrinking and swelling. Septic system absorption fields must be evaluated with caution because of the wetness and moderately slow permeability of this soil.

The Reed silty loam is a very deep, poorly drained soil that occurs on flood plains. It formed in mixed alluvium. The native vegetation on this soil is mainly deciduous trees, a few mixed conifers, grasses, and sedges. Permeability is slow. Runoff is very slow, and the hazard of water erosion is slight. Where this soil has not been drained by tiling, it has a seasonal high water table above the surface or within 6 inches of the surface in winter and early spring. This unit is limited for development mainly by the hazard of flooding, a seasonal high water table, ponding, and the potential for shrinking and swelling. Septic tank absorption fields in this soil do not function properly during the part of the year when the water table is high.

2.2.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Filling, grading, and other earth-moving activities on the site would continue as reclamation is completed and developable areas are prepared for future industrial use. As part of TransAlta's approved reclamation plan, areas on the proposed ILB site disturbed by mining would be re-graded to a slope such that a static safety factor of 1.3 would be achieved. Stockpiled topsoil or overburden (the material removed during mining to expose coal seams) that is suitable to support plant growth would be distributed on re-graded areas scheduled for replanting. Topsoil or overburden placement and permanent replanting would not occur on areas slated for industrial development. Stormwater runoff from disturbed areas would continue to be collected and diverted into existing sediment ponds before being discharged to local streams.

Construction of buildings, parking areas, interior roadways and other facilities associated with development of the industrial park could involve cutting and filling of some of the previously re-graded areas. In addition, it is likely that some structural fill material such as crushed rock would need to be imported to the site. Cut and fill volumes and structural fill needs would not be known until specific development projects are designed. Each project would be required to obtain a grading permit from Lewis County for most types of work involving more than 5,000 cubic yards of material. Application for a grading permit would need to include a grading plan that identifies the locations of drainages and streams, existing structures, existing septic systems and wells; specifies areas and volume of cutting and filling; and contains an erosion control plan and soils report.

The estimated developable acreage for each development area is summarized below in Table 1. The developable areas are also shown on Figure 2. In addition to the acreages shown in the table, approximately 200 acres would be developed for infrastructure corridors. The actual acreage developed could vary somewhat from these estimates. However, the area potentially subject to earth impacts from development would not be expected to exceed 1,200 acres. Additional land offsite may be disturbed as part of the extension of utilities to the site. The offsite acreage affected would not be known until final decisions are made regarding provision of utilities.

The developable acreage estimates were based on avoidance of critical areas, including steep slopes prone to erosion or landslides. Designating flatter areas for development would help to minimize erosion potential, but erosion could still occur as a result of grading and filling.

Table 1. Estimated Developable Acreage by Development Area

Area ID	Estimated Developable Acreage
1	102
2	94
3	55
4	159
5	183
6	193
7	128
Total	914

Proper management measures would need to be employed to avoid soil erosion and transportation of silt-laden runoff to local surface waters. Best Management Practices (BMPs) for erosion control and stormwater management listed in the *Stormwater Management Manual for Western Washington* would need to be followed during construction. Such BMPs may include, but would not be limited to:

- Minimizing the area of soil disturbance to the extent practicable
- Retaining vegetation where possible

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- Routing surface water through temporary drainage channels or piping around and away from exposed soil
 - Using silt fences, straw bale dikes, check dams, or similar features to retain material on the construction site
 - Using erosion control matting, mulching, or plastic covering on exposed soils as needed
 - Maintaining a stabilized site entrance during construction
 - Conducting construction during the dry summer months to the extent feasible
 - Seeding or planting appropriate vegetation on exposed areas as soon as work is completed

The *Stormwater Management Manual* is periodically updated and each development project would need to adhere to the requirements of the *Manual* in place at the time of construction. In addition to the BMPs outlined in the *Stormwater Management Manual*, projects would need to maintain at least minimum buffer widths between the construction area and regulated wetlands and streams. Required buffer widths are set out in Lewis County's critical areas regulations (LCC 17.35).

Construction of buildings and other facilities would require coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activities. This would include preparation of a Construction Stormwater Pollution Prevention Plan (SWPPP) for each project. A SWPPP describes how a project will control pollution during the construction phase, and includes procedures for:

- Marking clearing limits
- Establishing construction access
- Controlling runoff flow rates
- Installing sediment controls
- Stabilizing soils
- Protecting slopes
- Protecting drain inlets
- Stabilizing channels and outlets
- Controlling pollutants
- Controlling de-watering of excavations
- Maintaining BMPs

Permanent control of stormwater is covered below in Section 2.4. Additional information on the NPDES permit program is also provided in that section.

Maintaining the stability of temporary excavations would be the responsibility of the contractor in charge of each construction project. All temporary excavations in excess of four feet in depth would either need to be sloped in accordance with Part N of Chapter 296-155 WAC, or be shored.

There could be erosion of undeveloped areas replanted as part of the mine reclamation process. Erosion hazard would be expected to decrease as vegetation becomes established and coverage density increases. Periodic monitoring of replanted sites would be needed to identify any areas where rilling or gullyng was occurring and steps would need to be taken to repair areas of erosion.

Seismic risks would be addressed through facilities design, which is intended to protect the integrity of structures and address containment of manufacturing materials and wastes in the event of an earthquake. Specific design requirements would depend on the nature of the various buildings proposed for construction, but all projects would need to meet the seismic design criteria of the building code in force at the time. The 2006 International Building Code was adopted by Washington State and became effective statewide in 2007. Scientific understanding of seismic hazard is rapidly expanding, and it is expected that continued review and update of seismic design requirements parameters would occur during build-out of the industrial park.

Mitigation measures that could be employed to reduce impacts to earth include:

- Employing all necessary BMPs for erosion control and stormwater management during construction
- Maintaining required buffer widths between construction sites and regulated wetlands and streams
- Preparing and following SWPPPs for each development project to prevent stormwater pollution
- Regularly monitoring replanted sites and repairing areas of erosion
- Adhering to seismic design requirements current at the time of construction
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs for development

All or portions of the site's upland forests in areas not slated for development could be managed for commercial timber production. Potential earth impacts of logging and associated operations are discussed below in Section 2.2.2.2.

No Action

Under the No Action alternative, site reclamation would proceed as currently planned. As described in the previous section, areas on the proposed ILB site that were disturbed by mining would be re-graded to a slope such that a static safety factor of 1.3 would be achieved. Topsoil or overburden suitable to support plant growth would be removed from stockpiles and distributed on re-graded areas scheduled for replanting. Stormwater runoff from disturbed areas would continue to be collected and diverted into sediment ponds before being discharged to streams. Permanent drainage channels would be constructed and located to

minimize erosion (TransAlta 2010). Some existing haul roads would be retained to provide access to the limited purpose landfill that would be maintained in the central portion of the site. This is a permitted landfill used for disposal of industrial waste and coal-combustion byproduct from the power plant. At the completion of reclamation, the site would have a diverse topography, including uplands, valleys, and low areas where water would be permanently impounded.

Development Areas 1 and 2 have been reclaimed and reclamation of the remainder of the proposed ILB site is scheduled to be substantially complete by 2019. Until reclamation is complete, the site would continue to undergo earthwork including filling, grading, and redistribution of overburden and topsoil.

All of the disturbed area could experience some erosion until replanting is done and vegetation becomes established, although certain areas would be more erosion-prone. These include backfilled areas with steep or relatively long slopes that are unavoidable owing to topographic constraints. Soil erosion could occur during high runoff events in the areas of higher slope angle and long, uninterrupted slopes could experience accelerated rill and gully erosion. Under the approved reclamation plan, TransAlta would mitigate potential erosion impacts in these areas by constructing closely spaced gradient terraces or other engineered structures to limit overland flow and runoff velocity. TransAlta would conduct regular monitoring of all replanted sites to identify any areas where erosion was occurring and would take steps to repair those areas.

Most of the site would be replanted to forest and be managed for commercial timber production on a 45-year rotation period. At age 45, stands would be clearcut and the logged tract prepared for the next crop. Clearcut logging and road building associated with timber harvesting cause soil disturbance, increase stormwater runoff rates, and can result in impacts such as increased stream sedimentation. Logging of the forest plantations would be governed by the Washington State Forest Practices Rules (WAC 222), which include measures to mitigate these effects.

2.3 Air

2.3.1 Existing Conditions

Factors Affecting Air Quality

The proposed ILB site and surrounding area have a predominantly maritime climate characterized by mild temperatures year-round. Extreme temperatures do not occur frequently because prevailing westerly winds bring maritime air over the region and provide a moderating influence throughout the year.

High-pressure centers predominate during spring and summer, and precipitation during those seasons is generally limited to a few light showers. July is historically the driest month of the year. Average

summer temperatures are in the 50s and 60s (°F), although hot, dry easterly winds that occasionally cross the Cascade Mountains can raise daytime temperatures into the 90s.

Wind speeds in the region range between zero and 15 mph about 90 percent of the time. Higher wind speeds usually occur only during fall and winter in conjunction with storms that pass through the area. Approximately 10 percent of the winds between November and February have speeds between 15 and 30 mph; during the remainder of the year, only 2 percent of winds attain these speeds. Wind speeds have been measured in excess of 70 mph during the winter months. Winds with the highest speeds tend to originate from the south or southwest.

In fall and winter, heavy precipitation occurs throughout the region. Storms are frequent and may continue for several days. Successive secondary fronts may move onshore daily or more often. Heavy rainfall is produced by these storms when warm, saturated air rises over the coastal range and west slopes of the Cascades. Normal annual precipitation at Centralia is 41.6 inches, with 77 percent falling during the October through March period (U.S. Army Corps of Engineers 2003). Between storms in late fall and winter, much of the region is often blanketed with a relatively stable air mass that inhibits the dispersion effects of atmospheric mixing.

Air pollution levels in the region vary on a daily and annual basis. Short-term changes are primarily related to variations in weather and the amount of various pollutants emitted. Long-term changes are associated with changes in population, pollution sources, and economic trends. Air pollution levels also reflect seasonal patterns. Emissions from wood stoves and automobiles during colder weather, combined with stable air masses that limit mixing and dilution, contribute to higher levels of carbon monoxide (CO) and particulates during the winter (SWCAA 2008). The highest levels of ozone (O₃) generally occur during the summer because ozone formation depends on chemical reactions that occur at high temperatures and under sunlight.

Air Quality Regulations

The Clean Air Act of 1970 (42 USC §7401 et seq.) established the National Ambient Air Quality Standards (NAAQS; 40 CFR Part 50). The NAAQS include primary and secondary standards for various air pollutants that are termed “criteria” pollutants. Primary NAAQS define levels of air quality that the U.S. Environmental Protection Agency (EPA) judges are necessary, with an adequate margin of safety, to protect public health. Secondary NAAQS define levels of air quality that EPA judges necessary to protect the public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings, from any known or anticipated adverse effects of a pollutant. A state may adopt standards that are more stringent than the NAAQS. Washington State has adopted standards (WAC 173-474) for sulfur dioxide (SO₂) that are more stringent than the national requirements.

An Air Operating Permit is a federally-enforceable permit that is required for any facility that has the potential to emit more than 100 tons per year (tpy) of any criteria pollutant, more than 10 tpy of a single hazardous air pollutant (HAP), or more than 25 tpy of a combination of HAPs. HAPs emissions are subject to more stringent requirements than other air emissions. The Southwest Clean Air Agency (SWCAA) received delegation of the Air Operating Permit Program from the EPA in 1994. SWCAA is responsible for air quality in Lewis County, as well as Cowlitz, Skamania, Clark, and Wahkiakum counties. Smaller facilities (those having a potential for emissions exceeding 1 tpy but less than 100 tpy) are carried on a registration tracking system by SWCAA.

The Washington Department of Ecology (Ecology) has permitting jurisdiction over primary aluminum plants and pulp mills. The Energy Facility Site Evaluation Council (EFSEC) regulates large new energy sources such as thermal/nuclear power plants, oil refineries, and pipelines.

Large new industrial sources of air pollutants (those emitting more than 100 tpy of 28 specified pollutants or 250 tpy of all other pollutants) are regulated through the Prevention of Significant Deterioration (PSD) permit program. In Washington State, this permit program has been delegated to Ecology by EPA. PSD permits are developed in accordance with regulations set forth in Title 40, Code of Federal Regulations (CFR), Part 52 and in WAC 173-400-141.

New sources of criteria air pollutants are not allowed to cause or contribute to a predicted exceedance of any applicable NAAQS or PSD increment. A PSD increment is the maximum increase in concentration that is allowed to occur for a pollutant. PSD increments are established for a system of area classifications that differ in terms of the amount of growth that will be permitted before significant air quality deterioration would occur. Class I areas have the smallest increments and allow only a small degree of air quality deterioration. Class II areas can accommodate normal, well-managed industrial growth. Class III areas have the largest increments and provide for the largest amount of development. Congress established wilderness areas and national parks as Class I areas. The proposed ILB site is in a Class II area.

Potential Receptors in the Area

The area surrounding the proposed industrial park includes mostly forest resource and mineral resource lands, but there are several rural residences within one mile of the site. Receptors that could potentially be affected by air pollutants emitted from various industrial operations at the site include humans, pets, livestock, and vegetation. Of the human population, those considered most sensitive to the effects of air pollutants include children, the elderly, and individuals with respiratory conditions such as asthma. The nearest facilities with sensitive populations include schools located in Centralia about four miles to the west and Providence Centralia Hospital approximately seven miles from the site.

Regional and Local Air Quality Conditions

Areas that persistently exceed the NAAQS for one or more pollutants are termed “non-attainment” areas. Currently there are no non-attainment areas in Lewis County. Around the region, industrial facilities, commercial businesses, construction and logging activities, and transportation produce a variety of air emissions. Residential and agricultural land uses in the vicinity of the proposed industrial park produce air pollutants from motor vehicles, woodstoves, lawn and garden equipment, farm machinery, and other activities. The Centralia Power Plant is the largest single source of greenhouse gases in the region. The plant’s Air Operating Permit indicates that it has the potential to emit more than 100 tpy of SO₂, nitrogen oxides (NO_x), particulate matter less than 10 microns in diameter (PM₁₀), and CO, more than 100 tpy of volatile organic compounds (VOCs) and more than 25 tpy of HAPs. Since TransAlta acquired the plant, use of scrubbers, low NO_x burners, and low sulfur coal have reduced 93% of SO₂ and 20% of NO_x emissions (T. Briggs, pers.com. 2010). On the proposed industrial park site, heavy equipment operation associated with reclamation currently causes emissions of fugitive dust as well as engine exhaust.

The annual emissions inventory from SWCAA for Lewis County for the year 2005 (the most recent comprehensive data set available) is shown in Table 2.

Table 2. 2000 Lewis County Annual Emissions¹

Source	CO	SO ₂	VOC	NO _x	PM _{2.5} ⁴	PM ₁₀
Industry	4,620	3,417	352	17,819	1,399	2,798
On-Road Vehicles	26,282	57	2,059	2,953	50	69
Non-Road Mobile Sources ²	5,079	45	598	411	45	47
Area Sources ³	8,237	54	25,037	761	396	963
Total	44,218	3,573	8,046	21,944	1,890	3,877

¹Expressed in tons per year

²Non-road mobile sources include aircraft, trains, lawn and garden equipment, construction equipment, agricultural equipment, logging equipment, and other sources.

³Area sources include gasoline storage and dispensing, woodstoves, outdoor burning, and other sources.

⁴Particulate matter less than 2.5 microns in diameter

Source: Washington Dept. of Ecology

2.3.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Air emissions associated with reclamation activities would continue intermittently until reclamation of the site is complete and developable areas prepared for future industrial use. Reclamation air emissions are described below in Section 2.3.2.2.

Earthmoving associated with construction of roadways, parking areas, buildings, and other facilities at the proposed industrial park would

generate particulate matter. Dust particles generally constitute the largest source of fine particulates (PM₁₀ and PM_{2.5}) during construction. Most dust particles tend to settle out immediately adjacent to the areas where construction is occurring, but a fraction would become airborne and temporarily contribute to the area's ambient particulate levels. Effects on ambient air quality would not be expected to be significant, but care would be needed during dry or windy periods to ensure that fugitive dust was not carried off site. Heavy equipment used for construction would emit engine exhaust. Construction-related air emissions from mobile sources such as construction vehicles and equipment are regulated by federal standards. These standards are intended to protect public health and the environment by regulating air pollution from motor vehicles, engines, and the fuels used to operate them.

Table 3 below lists construction tasks, emissions sources, and the types of emissions typically associated with each task. These emissions would occur intermittently until build-out of the industrial park is complete.

Table 3. Construction Tasks and Typical Air Emissions

Construction Task	Emissions Sources	Typical Emissions
Land clearing and site preparation	Bulldozers, front-end loaders, scrapers, backhoes, dump trucks	TSP ¹ , PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOCs, HAPs
Rail line installation	Graders, backhoes, dump trucks	TSP ¹ , PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOCs, HAPs
Interior road construction	Graders, backhoes, dump trucks, asphalt pavers	TSP ¹ , PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOCs, HAPs
Temporary lighting and other power needs	Diesel generators, small reciprocating engines	PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOCs
Fuel storage and dispensing	Storage tanks, dispensers	VOCs, HAPs

¹ Total suspended particulate

Measures that could be implemented to control construction-related air emissions include, but would not be limited to:

- Watering exposed earth surfaces, including roadways, especially during windy or dry periods
- Using erosion control matting, mulching, or plastic covering to control windblown dust from exposed soils
- Maintaining a stabilized site entrance during construction
- Installing tire washes at the project site access to minimize tracking of soil onto public roadways
- Establishing vegetation on areas that are not covered by buildings or pavement as soon as practicable following construction

-
- Requiring contractors to use only properly maintained construction equipment fitted with approved emissions control devices
 - Requiring contractors to avoid unnecessary idling of motorized equipment
 - Adhering to all applicable laws, regulations, and ordinances
 - Adopting appropriate CC&Rs for development

Industrial operations would release air pollutants. Specific details on the types and quantities of air emissions would not be known until a Notice of Construction was submitted to SWCAA for each proposed project. However, typical emissions from both heavy and light manufacturing facilities include particulate matter, CO, NO_x, SO₂, VOCs, and HAPs. Cement plants, aggregate processing operations, ceramic plants, and other factories producing building products can emit large amounts of particulate matter. Wood products manufacturing produces particulates as well as CO, NO_x, VOCs, and HAPs including acetaldehyde, acrolein, formaldehyde, phenol, and benzene. Machine works that use metal plating or varnishing processes emit heavy metals and VOCs. The chemical industry emits a wide variety of air pollutants, the types dependent on the chemicals being manufactured. The potential highest level of impact would depend on the ultimate mix of businesses that locate at the site and the technologies available to control various types of air emissions. In any case, there would be increased emissions that would be distributed over a large area, although adjacent properties would likely be most affected. Management and mitigation measures would be needed to ensure that these changes in air emissions do not cause exceedances of the NAAQS.

All new sources of air pollution would be required to register with SWCAA. Registration of emissions sources makes it possible to maintain an accurate record of emissions, evaluate the effectiveness of pollution control strategies, and allows SWCAA to verify that emissions sources are in compliance with applicable regulations. Proposed projects would be subject to New Source Review, which would include regulatory review of industrial processes and proposed emissions controls, emissions calculations, and an assessment of public health risks from air contaminants. Any development project that has the potential to significantly increase air pollutant emissions would be required to obtain a PSD permit. PSD permit requirements include a demonstration that the permit applicant will employ Best Available Control Technology (BACT) to minimize pollutant emissions and that the pollutant emissions will not have a significant impact on the environment.

Diesel-powered trucks and railway locomotives used to transport goods to and from the site and employee and visitor automobile trips would release particulate matter, CO, SO₂, and NO_x. Emissions from motor vehicles and train operations are not addressed in air quality permits issued by SWCAA. As noted above, these emissions are regulated separately by federal emissions standards.

For the new motor vehicle traffic, CO would be the air pollutant with the greatest emissions. Federal standards for motor vehicle CO emissions are intended to ensure that concentrations near roads remain below the NAAQS. For new train traffic, NO_x would be the air pollutant with the greatest emissions. As with motor vehicles, federal standards for locomotive NO_x emissions are generally sufficient to ensure that concentrations near railroad tracks remain well below the NAAQS.

On the portion of the site that remains undeveloped, upland forests could be managed for commercial timber production. Potential air impacts from timber operations are discussed below in Section 2.3.2.2.

No Action

If no action is taken, air emissions associated with reclamation would continue intermittently until reclamation of the site is complete. These emissions would primarily consist of particulate matter created by earthmoving, wind erosion of disturbed soils, and engine exhaust from heavy equipment. Airborne particulates created by wind erosion would decrease as vegetation becomes established and vegetative cover increases. TransAlta operates under an air quality permit issued by SWCAA, which includes requirements for regular monitoring and reporting of air emissions (TransAlta 2010). These requirements would remain in place until reclamation of the site is complete.

Over the long term, particulate matter would continue to be emitted from vehicles traveling on unpaved roads used to access the existing limited purpose landfill that would be maintained for disposal of waste and byproduct from the power plant. TransAlta currently has a program to suppress road dust by wetting down roadways and by regular grading to maintain a smooth road surface. This program would continue to be used to control dust on the landfill access road for the life of that facility. Periodic thinning and commercial harvesting of timber would occur on lands reclaimed to forest. Those operations would involve construction and use of unpaved roads, land clearing, and soil disturbance that would generate particulates. Heavy equipment used for timber operations would emit engine exhaust.

2.4 Water

2.4.1 Existing Conditions

Surface Water

Streamflows within the proposed ILB site and adjacent areas originate primarily from rainfall, although snowmelt from higher elevations sometimes augments runoff during the late fall to winter. Streamflows exhibit a seasonal variation characterized by sharp rises of relatively short duration from October to March, corresponding to storms that travel across the region during that time. After March, flows tend to gradually decrease to a relatively stable base flow from July to October. Flooding occurs with some frequency during the winter and can be either widespread throughout the area or localized.

The surface water drainage basins and sub-basins on the proposed ILB site are shown on Figure 3. The site is drained by Packwood, South Hanaford, and Big Hanaford creeks. Packwood and South Hanaford creeks are perennial tributaries to Big Hanaford Creek, which forms the site's northeastern boundary and then flows westerly to meet the Skookumchuck River near Centralia.

Stream Descriptions

Packwood Creek flows northwesterly, bisecting the proposed ILB site and more or less paralleling Big Hanaford Creek until Big Hanaford Creek turns west. Packwood Creek joins Big Hanaford Creek just to the north of the site. The total mainstem length of Packwood Creek is slightly less than four miles from its headwaters to its confluence with Big Hanaford Creek. The drainage area of the basin is approximately 7.9 square miles. The gradient of the stream is low, averaging approximately 0.01 (TransAlta 2010).

The main channel of Packwood Creek is only slightly sinuous, and some reaches have been channelized and straightened. A portion of the original stream was moved to accommodate a railway, the bed of which is evident in the valley bottom. Approximately one-half mile of upper Packwood Creek currently is diverted around a sedimentation pond through an open diversion channel. As is typical of most streams in the area, the main channel of Packwood Creek is narrow, ranging from U-shaped to trapezoidal. The channel materials are generally fine-grained silty to clayey, cohesive sediments. Riparian vegetation has been removed in locations along the stream.

South Hanaford Creek drains the southwestern fringe of the proposed ILB site. The total mainstem length of South Hanaford Creek is slightly more than seven miles. The drainage area of the creek basin is approximately 14.4 square miles. Like Packwood Creek, the gradient of South Hanaford Creek is low at 0.01.

The channel of South Hanaford Creek is typically U-shaped to trapezoidal. South Hanaford Creek exhibits slight sinuosity, having been channelized along much of its middle and lower reaches by early settlers. Runoff to South Hanaford Creek originates primarily from forested and undeveloped lands.

Big Hanaford Creek flows along the northeastern boundary of the proposed ILB and then turns westerly and flows adjacent to the site's northern boundary. It receives tributary flows from North and South Hanaford Creeks, Packwood Creek, and other tributary streams.

Big Hanaford Creek has been straightened and channelized. The channel has been modified between its confluence with Packwood Creek and about three miles downstream, in an attempt to improve drainage of the extremely marshy valley bottom areas. Despite the channelization, the stream gradient in this reach is relatively low, about 0.002. As a result, the valley bottom areas of Big Hanaford Creek are poorly drained and marshy and prone to flooding, especially during the late fall and

winter. Where unaffected by channelization, the stream channel is typically U-shaped and trapezoidal and with densely grass-vegetated banks.

Stormwater Runoff

The federal NPDES permit program protects waters from polluted discharges. Wastewater and stormwater releases are regulated primarily by wastewater discharge permits, which stipulate specific limits and conditions of allowable discharge. TransAlta discharges stormwater runoff to Big Hanaford Creek and its tributaries under an NPDES permit issued in 2005 and modified in 2007. Runoff from haul roads and mined areas is diverted through a series of ditches and captured in sedimentation ponds where it can be treated by flocculation before being discharged to streams. In the area encompassing the proposed ILB, stormwater is managed through a series of seven ponds and four outfalls. The system is illustrated on Figure 4 and described below.

- Stormwater draining from development Area 1 is split between two pond series. Drainage from the west half flows to the Pond 5 series and discharges to Packwood Creek through outfall #001. The east half drains to the Pond 6 series and discharges to Big Hanaford Creek through outfall #002.
- Drainage from Area 2 flows into the 5C sump, flowing through the Pond 5 series before discharging to Packwood Creek. A Portion of the surface runoff is routed by diversion ditches to the Pond 36 system which discharges to Big Hanaford Creek through outfall #008.
- Stormwater from Area 3 drains to Pond 36 and discharges to Big Hanaford Creek through outfall #008.
- Drainage from Area 4 flows to the Pond 38 series and discharges to Big Hanaford Creek through outfall #010.
- Drainage from Area 5 flows to the Pond 19 series, which drains to the Pond 5 series and then discharges to Packwood Creek through outfall #001.
- Stormwater from Area 6 drains to Pond 44, which drains to the Pond 5 series and then discharges to Packwood Creek through outfall #001
- Drainage from Area 7 flows to the Pond 6 series and discharges to Big Hanaford Creek through outfall #002.

The stormwater control and treatment system was designed to handle runoff from the 10-year, 24-hour precipitation event. The sedimentation ponds are typically equipped with principal and emergency spillways to control discharge from the structure. Many of the structures utilize a broad-crested weir spillway that allows the level of the spillway to be regulated and control the volume of water to be retained.

Manmade Waterbodies

In addition to the sedimentation ponds described above, there are existing coal mine waste impoundments on the site that have begun to support wetland vegetation and exhibit other wetland characteristics. One such impoundment is located in the central portion of development Area 7; another is located in the central portion of development Area 6.

Water Quality

Surface water quality is governed by the Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A). The standards implement portions of the Clean Water Act (CWA; 33 USC §1251 et seq.) by specifying the designated and potential uses of waterbodies in the state and establishing numeric criteria. Hanaford Creek and its tributaries are designated as Class A, with the following designated uses:

- Primary Contact
- Domestic Water
- Industrial Water
- Agricultural Water
- Stock Water
- Wildlife Habitat
- Commerce/Navigation
- Boating
- Aesthetics

In addition to the numeric standards, all surface waters of the state are subject to the antidegradation policy, which was promulgated to restore and maintain the highest possible water quality of Washington's surface waters.

As a condition of its mining permit, TransAlta conducts regular monitoring of surface water quality within the mine permit area. There are three designated monitoring stations on Big Hanaford Creek, two stations on Packwood Creek, and three on South Hanaford Creek.

According to baseline data collected for stream characterization prior to issuance of the mining permit, the hydrochemical characteristics of Big Hanaford Creek vary with location. Above the confluence with Packwood Creek, the predominant cations are calcium and sodium, while the predominant anion is bicarbonate. Below the confluence, the surface water chemical type changes; while calcium and sodium are still the dominant cations, sulfate (SO₄) becomes the dominant anion. The waters of Packwood Creek are of a calcium-sulfate type, and as such, may contribute via mixing to a sulfate water type in Big Hanaford Creek below the confluence. In general, the hydrochemical type for the upper reaches of Big Hanaford Creek is not significantly different from most western Washington streams (TransAlta 2010).

The baseline monitoring results indicate that naturally-occurring water quality in Big Hanaford Creek has occasionally failed to meet the water quality standards (TransAlta 2010). The maximum field measured water temperature has exceeded the standard at the most downstream monitoring station. Minimum and maximum pH, and minimum dissolved oxygen levels have also failed to meet the standards. These exceedances have occurred during the summer when TransAlta was not discharging stormwater runoff to Big Hanaford Creek, so other factors likely contribute to these results. Mean fecal coliform levels at the most downstream station has exceeded the standards and may reflect the effects of grazing and other agricultural use of the land bordering the creek. Concentrations of all metals have been below their respective standards.

Packwood Creek receives runoff from a combination of undisturbed lands and mined areas. Therefore, water quality in Packwood Creek represents a variety of watershed conditions. Baseline water quality monitoring indicates that the chemical makeup of water in the upper portion of the stream differs from that in the lower portion (TransAlta 2010).

As is the case with Big Hanaford Creek, baseline monitoring indicates that there have been naturally-occurring exceedances of the water quality standards in Packwood Creek. The maximum field measured water temperature has exceeded the standard at both monitoring stations on Packwood Creek and minimum pH, minimum dissolved oxygen, and fecal coliform have exceeded the standards at one or both stations. These exceedances have occurred during summer when TransAlta was not discharging stormwater runoff from the site.

South Hanaford Creek drains a relatively small portion on the southwestern side of the mine permit area. Like the other streams on the site, the baseline hydrochemistry of South Hanaford Creek varies by location. At the most upstream monitoring station, the water is a calcium-bicarbonate type. Moving downstream, there is change from a bicarbonate type to a mixed chemical type with sulfate dominating. Further downstream, the anion type remains mixed, but with bicarbonate again being predominant. Baseline monitoring indicates that there have occasionally been naturally-occurring exceedances of the temperature, minimum pH, and fecal coliform standards.

Ground Water

Baseline field testing activities prior to issuance of the mining permit were conducted at several locations in the Big Hanaford, Little Hanaford (South Hanaford) and Packwood valleys and elsewhere within the Centralia Mine permit area to define the local ground water regime.

In Big Hanaford Valley, basal sand and gravel units represent the primary ground water bearing zone within the valley sediments of Big Hanaford Creek. Monitoring wells completed in the water-bearing units produced two to ten gallons per minute (gpm) when air-lift pumped. Single borehole slug tests conducted on each monitoring well indicate that

hydraulic conductivity values ranged from 0.31 ft/day to 9.2 ft/day. Monitoring of static water levels in the monitoring wells showed an upward vertical gradient typical of ground water discharge areas; that is, the ground water flow potential is from deeper to shallower zones.

Groundwater recharge to the alluvium of Big Hanaford Creek is believed to come from three sources (TransAlta 2010). These include infiltration of precipitation and runoff through the colluvium and slope wash deposits that intertongue with the alluvial deposits of Big Hanaford Creek along the valley sides, infiltration of runoff in the headwaters and upper reaches of the watershed where the basal unit is thicker and less hydraulically confined by overlying fine-grained units, and ground water discharge from the alluvium of tributary drainages such as Packwood Creek.

The overall baseline quality of ground water in the Big Hanaford Valley alluvium is poor. Comparison of analytical results from monitoring wells in Big Hanaford Valley with the federal drinking water standards (40 CFR Part 143) shows manganese, total dissolved solids (TDS), and iron in excess of the established standards. These findings are consistent with published data for the general area, which also indicate variable alluvial ground water quality in the region and typically high iron and manganese concentrations (TransAlta 2010). Monitoring of wells located upstream of any mining disturbance also shows constituent levels in excess of the standards (T. Briggs pers. com. 2010), so it is likely that these results reflect natural conditions attributable to the parent material of the aquifer.

Baseline field drilling in the valley sediments of Packwood Creek encountered sediments similar to those observed in the Big Hanaford Valley, with basal sands and gravels being the primary ground water bearing units in the Packwood Valley sediments. Overlying silts and clays generally confine the sands and gravels and artesian pressures are present in the basal units (TransAlta 2010). A monitoring well completed in the water-bearing strata produced approximately 1 to 5 gpm during air-lift pumping. Single borehole slug tests yielded a hydraulic conductivity of 0.15 ft/day.

Recharge to the Packwood Valley sediments is similar to those of Big Hanaford Creek, including direct infiltration of precipitation and runoff in the upper reaches of the valley and shallow subsurface inflow from the steep upland areas and associated toe slope deposits. Infiltration of surface runoff in the lower reaches of Packwood Valley may also represent a minor source of recharge. As noted above, the Packwood Valley sediments discharge groundwater to Big Hanaford Creek.

The overall baseline quality of ground water in the Packwood Valley alluvium is poor. Comparison of average baseline water quality analyses from wells completed in the Packwood Valley alluvium with the drinking water standards indicate elevated concentrations of TDS, chloride, iron and manganese.

South Hanaford Creek runs through the Little Hanaford Valley. Two baseline groundwater monitoring wells were established in the Little

Hanaford Valley alluvium. Flow rates in these wells were reported to be from 1 to 1.2 gpm.

High baseline concentrations of sodium and chloride were found in the Little Hanaford monitoring wells. These high concentrations are thought to be naturally occurring and localized in nature (TransAlta 2010). Baseline monitoring in both wells also showed concentrations of iron, manganese and total dissolved solids that were higher than the drinking water standards. Some measured parameters for which there are no quality standards, such as calcium, magnesium and hardness, had concentrations that were higher than generally observed in other alluvium wells in the region. Other unregulated parameters, such as pH, potassium, bicarbonate and sulfate had concentrations that were similar to other alluvium wells in the area.

Groundwater quality within areas backfilled after mining is monitored at various locations within the Centralia Mine permit area. In most instances, the concentrations of the major ions and trace metals in wells completed in the backfill materials are comparable to concentrations in wells completed in undisturbed overburden or alluvium (TransAlta 2010). However, concentrations of dissolved manganese, dissolved iron, total dissolved solids, and sulfate are elevated during the mining process. In some areas, concentrations of bicarbonate, dissolved calcium, and dissolved magnesium in backfill monitoring wells are elevated compared to concentrations in undisturbed overburden. The presence of high concentrations of major ions and trace metals in groundwater within the backfill materials is thought to occur because the process of excavating the overburden, reworking it, and replacing it as backfill breaks up the material and exposes more surface area to the effects of dissolution and chemical and biological weathering. As the material re-saturates with groundwater, constituent minerals in the backfill dissolve at a rate that is generally greater than in undisturbed material. The dissolution of soluble minerals likely causes ion and trace metal concentrations that are initially present at relatively high concentrations. It is expected that over time, and as more groundwater migrates through the backfill material, these parameter concentrations will stabilize, then slowly decrease until they approach that of groundwater in undisturbed overburden (TransAlta 2010).

Within the area encompassing the proposed ILB there are five abandoned mines from the late 1800s and early 1900s. These are the K&K and Victory surface mines and the Black Prince & Victory, Belle Slope, and Freeburn underground mines. Of these, only the Belle Slope mine is known to discharge mine drainage. Abandoned underground workings that are currently discharging represent a source of continual drawdown to the adjacent water-bearing units. Field measurements at the Belle Slope Mine indicate a seasonal discharge rate between 0.0 and 22.4 gpm. The low rate of discharge from this mine and relatively low concentrations of dissolved solids (compared to other discharging mines in the vicinity) suggest that the potential influence of the Belle Slope Mine discharge on Packwood Creek is not significant (TransAlta 2010).

Ground water use in the general area is primarily restricted to the valley fill deposits of the Skookumchuck River, Big Hanaford Creek, and South Hanaford Creek. Many of the wells closest to the mine permit area are located at shallow depths in the alluvial valleys of the nearby streams. Groundwater from wells in the area supplies domestic, agricultural, and industrial uses.

2.4.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Stormwater Runoff

Runoff from disturbed areas would continue to be collected and diverted into the existing stormwater management system while reclamation and preparation of the site for industrial use is completed. Within the area encompassing the proposed ILB, construction of permanent drainageways and water impoundments would generally proceed as described below in Section 2.4.2.2.

Development of the industrial park would involve construction of impervious surfaces such as roadways, parking areas, and building rooftops that would decrease infiltration and increase the rate and volume of stormwater runoff from the site. The magnitude of these increases is not known at this time and would depend on the total areal coverage of impervious surfaces when the site is fully developed. The potential highest level of impact would occur if all or most of the site's buildable area (an estimated maximum of 1,200 acres) was to be covered by impervious materials. This could only occur at full build-out of the industrial park and such complete coverage is not considered likely.

Stormwater management for the site could, to a large extent, be provided by the existing stormwater collection and treatment system. TransAlta has committed to investigating with IPAT the potential for providing ongoing stormwater management to the industrial park. If this option proves to be feasible from an engineering and regulatory standpoint, TransAlta would maintain the existing drainage collection and treatment system around the perimeter of the industrial site, and tenants of the industrial park would develop internal collection and treatment systems that deliver flows to the TransAlta system at specific locations. Leaving the existing stormwater system in place around the park's perimeter would require amendment of TransAlta's approved reclamation plan. Flow volumes into the TransAlta system from the industrial park would need to be maintained at levels that do not exceed the capacity of the existing system. Metering would be required to ensure that the system retains sufficient capacity for handling flows from the site.

As specific projects are proposed, each developer would be responsible for defining the quantity and quality of runoff generated by the development and to ensure that adequate storage and treatment is provided on-site before flows are released to the TransAlta system and ultimately to outfalls on Packwood or Big Hanaford creeks. As described earlier in Section 2.2.2.1, construction of buildings and other facilities

would require coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activities. In addition, on-site stormwater management systems would need to meet Lewis County's drainage standards and the County's stormwater management ordinance, LCC 15.45. Following construction, industrial operations that fall within certain Standard Industrial Classifications would be required to obtain coverage under the NPDES General Permit for Stormwater Discharges Associated with Industrial Activities. Each development project would need to adhere to the requirements of the *Stormwater Management Manual for Western Washington* in place at the time of construction.

Water Quality

As part of preparing the site for industrial use, the limited purpose landfill located in the central portion of the site would be decommissioned. This would entail capping the area with compacted backfill and then covering it with topsoil (T. Briggs, pers. com. 2010). Decommissioning of the facility would ensure that it would have no long-term effects on water quality.

During installation of infrastructure and construction of buildings and other facilities, erosion of exposed soils could result in the introduction of sediment-laden runoff into nearby streams or wetlands. As described in Section 2.2.2.1, BMPs would need to be implemented for to ensure that erosion is minimized and to prevent the introduction of sediments into surface waters. Such BMP requirements would apply to all construction related to the industrial park, including off-site installation of infrastructure. Construction projects covered under the NPDES General Permit would be required to have in place a SWPPP to ensure that stormwater does not become polluted and that any stormwater that may become polluted does not reach streams or wetlands.

During construction, impacts on the quality of ground or surface water could occur from spills of fuel or other chemical products. To minimize potential water contamination by spills, each project would be required to have in place a Spill Prevention, Control, and Countermeasures (SPCC) Plan. An SPCC Plan describes actions to be taken to assess, control, contain, and clean up a spill or release of petroleum or other chemical products used during construction or operations. Each plan would identify potential sources of spills; drainage pathways; staging, fueling, and decontamination areas; measures to be taken to prevent spills; response actions in the event of a spill; reporting procedures; inspection and security measures; and personnel training.

Areas on the developed site that could contribute pollutants to stormwater would include internal roadways and parking areas, which could become contaminated with oil, grease, and other petroleum products from vehicles. Rail cars and outdoor chemical storage areas and could also introduce pollutants to stormwater in the event of a leak or spill. Surfaces such as building rooftops are not likely to contribute pollutants to stormwater. Operations covered under the NPDES General Permit for Stormwater Discharges Associated with Industrial Activities would be required to have in place a SWPPP to ensure that stormwater does not

become polluted by industrial operations. SPCC plans would be required for any operation that uses, stores, or disposes of fuel or chemical products.

Shipment of chemicals and other hazardous materials would be required to comply with the provisions of the Hazardous Materials Transportation Act (40 CFR 171 – 177 Subchapter C) and other relevant regulations intended to reduce environmental damage from spills. These regulations are discussed in more detail in Section 2.6.2.1.

Adverse changes in water quality could occur as a result of on-site disposal of domestic or process wastewater. Any operation that proposes to discharge wastewater from commercial or industrial processes into “waters of the state” would be required to obtain a discharge permit. “Waters of the state” include rivers, lakes, streams, and all underground waters. The Washington Department of Ecology issues NPDES permits to facilities that discharge to surface waters and a State Waste Discharge permit to facilities that discharge to groundwater or to municipal wastewater treatment plants. Permits are tailored to regulate specific constituents of the waste discharge and place limits on the quantity and concentrations of contaminants that may be discharged. When necessary, permits require treatment of wastewater or impose other operating conditions on dischargers to ensure that permit limits are met. Permits require dischargers to use “all known, available and reasonable methods of treatment” (AKART) prior to discharge regardless of the quality of the receiving waters.

It is expected that, at least initially, domestic wastewater would be discharged to individual on-site septic systems. On-site septic systems are regulated under WAC 246-272A, 246-272B, and 246-272C, which specify design criteria as well as operation, maintenance and monitoring requirements. These regulations are intended to reduce the potential for leakage of septic tanks or other system failures that could introduce contaminants into ground or surface waters. The Washington Departments of Ecology and Health maintain permitting authority for large on-site sewage systems. The Department of Ecology oversees systems with a design capacity exceeding 100,000 gpd and the Department of Health has jurisdiction over those with design flows between 3,500-100,000 gpd. Smaller systems are permitted by local health districts. The capacities of the systems that would be installed on the proposed industrial park site would not be known until specific developments are proposed.

In summary, mitigation measures for reducing impacts on surface water and water quality include:

- Adhering to the requirements of the *Stormwater Management Manual*, including employing all necessary BMPs for erosion control and stormwater management during construction and operations
- Maintaining required buffer widths between construction sites and regulated wetlands and streams

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- Regularly monitoring replanted sites and repairing areas of erosion
 - Preparing and following SWPPPs for each development project to prevent stormwater pollution
 - Preparing and following SPCC plans for any construction project or operation that uses, stores, or disposes of fuel or chemical products
 - Adhering to all discharge limitations specified in NPDES permits for construction and operations
 - Adhering to design, operation, maintenance and monitoring requirements for on-site septic systems
 - Adhering to all applicable laws, regulations, and ordinances
 - Adopting appropriate CC&Rs for development

Groundwater

Construction of impervious surfaces such as roadways, parking areas, and building rooftops would reduce infiltration of stormwater on a portion of the proposed ILB site and could reduce local groundwater recharge. To mitigate potential impacts on groundwater recharge, runoff could be collected and conveyed to structures such as swales, ponds, or sumps that would detain flows and allow a portion of the flow volume to infiltrate into the ground.

Other Low Impact Development (LID) practices that could be used to mitigate impacts on groundwater recharge include:

- Preserving and/or recreating natural landscape features such as wetlands, riparian areas, and meadows
- Requiring project developers to reduce runoff by re-vegetating disturbed areas as soon as possible after construction
- Minimizing, to the extent possible, the size of parking areas
- Using water-permeable paving materials
- Installing infiltration islands in parking lots
- Incorporating vegetated roof covers into building designs

All or portions of the site's upland forests in areas not slated for development could be managed for commercial timber production. Potential earth impacts of logging and associated operations are discussed below in Section 2.4.2.2. Water supply for the proposed industrial park is discussed in Section 2.9.

No Action

While reclamation is underway, runoff from the site would continue to be collected, treated, and discharged through the existing stormwater management system. As part of reclamation, permanent drainage channels would be constructed to duplicate the general pre-mine drainage patterns as much as possible. The permanent drainage channels would have natural, dendritic patterns and would be located and

designed to mimic the dynamic variability and self-healing capability of natural drainage systems (TransAlta 2010). Regular inspection and maintenance after major storm events would be required until the drainage system matures and is capable of carrying flood flows without excessive erosion. Sedimentation ponds would continue to be used until the permanent drainage system stabilizes; once reclamation is complete, the existing sediment and drainage control structures would be decommissioned and reclaimed.

Permanent drainageways would be constructed to channel runoff into the final Central Packwood mine pit (located southeast of proposed development Areas 2 and 3), which would be reclaimed as a permanent lake. The lake would take approximately 5 years to fill (TransAlta 2010). When full, Central Packwood Lake would cover approximately 217 acres and its maximum depth would be approximately 117 feet. The lake would discharge to Big Hanaford Creek through a drainage channel constructed on the lake's north side. Central Packwood Lake is expected to exhibit temperature and dissolved oxygen characteristics similar to comparable natural lakes in Western Washington and its overall water quality is expected to be suitable to support fish and other aquatic species.

The existing coal mine waste impoundment located in the central portion of development Area 7 would be reclaimed as a wetland according to the currently proposed reclamation plan. The existing coal mine waste impoundment located in development Area 6 would be dredged to expose the original land contours and the planted with Douglas fir. The earth dam that creates the impoundment would be partially removed to allow positive drainage to resume.

The design of post-mining slopes, including slope heights, slope lengths, and materials used for backfill, is intended to reduce the potential for erosion. Nevertheless, there will likely be some erosion of exposed soils until vegetation becomes established and sediment-laden runoff could enter nearby streams or wetlands. Until reclamation of the site is completed, water quality would continue to be maintained through the existing stormwater treatment system. If additional sediment control is needed, methods such as gradient terracing and placement of straw bale dikes, riprap, rock drainageways, check dams, sediment filters, sediment traps, and water bars would be employed. TransAlta would continue to monitor water quality as required by its NPDES permit.

While heavy equipment is in use on the site, impacts on the quality of ground or surface water could occur from spills of fuel or other petroleum products. TransAlta maintains an SPCC Plan that addresses prevention and management of spills on the site.

Upward leaching of acid-forming materials (AFM) or toxic-forming materials (TFM) to the surface is not expected given the large amounts of rainfall and relatively mild temperatures in the area. The amount of groundwater in the mine spoils is limited, so contamination of groundwater is not considered likely. No significant downward leaching of AFM/TFM through the spoils is expected owing to the effectiveness of

surface drainage and the relatively low transmissivity of spoil materials. Chemical analyses of select parent materials do not indicate that mine spoils, when placed on or near the surface of reclaimed lands, would contain AFM or TFM that could potentially degrade local ground or surface waters (TransAlta 2010).

TransAlta has obtained an NPDES permit for collection, treatment, and discharge of water from the limited purpose landfill. Surface water that comes into contact with the landfill area is collected through a leachate toe drain system in the landfill foundation and collects in a series of treatment cells. This system would remain in place for the life of the landfill. The treated water is required to meet standards set by the NPDES permit before being discharged into the downstream sedimentation pond system. Surface water monitoring data collected upstream and downstream of the limited purpose landfill do not indicate that the facility has had any adverse effects on water quality (TransAlta 2010) and future impacts would not be expected.

Reclamation of the site would likely cause some changes in local groundwater recharge rates. In backfilled areas, the magnitude of the changes would depend primarily on the hydraulic properties of the material used for backfill and the differences between the backfill and the surrounding material. Hydraulic testing in wells completed within the backfill indicates that the material has low permeability, much like the native, undisturbed rock (TransAlta 2010). Because of the low permeabilities, the majority of precipitation would be expected to run off on the surface. Therefore, changes in infiltration would primarily be a function of slope and vegetation conditions after reclamation. Compared to existing conditions, establishment of vegetation on reclaimed slopes would likely retard runoff and increase groundwater recharge.

The permanent water impoundments that would be left after reclamation would also contribute to increase in local groundwater recharge. Mounding of groundwater would occur beneath Central Packwood Lake and other impoundments; however, because of the low transmissivity of the aquifer materials, the rise would be slight and limited in areal extent (TransAlta 2010).

As described in Section 2.2.2.2, most of the site would be replanted to forest and be managed for commercial timber production on a 45-year rotation period. This would involve road building, pre-commercial thinning, and then clearcutting of stands. The logged tracts would then be prepared for the next crop. Clearcut logging and road building associated with logging causes soil disturbance, increases stormwater runoff rates, and can result in impacts such as increased stream sedimentation, increased in-stream water temperatures, and decreases in dissolved oxygen levels. To avoid impacts on water quality, logging operations would be required to follow the provisions of the Forest Practices Rules, which include measures such as limitations on harvest in riparian zones to mitigate these effects.

2.5 Plants and Animals

2.5.1 Existing Conditions

Wildlife Habitat

Wildlife habitat in most of the proposed ILB has been affected by removal of vegetation and soil disturbance as part of mining (see Figure 2). The few areas not disturbed by mining provide habitat typical of those on the western side of the Cascade Mountains. Douglas fir plantations or unmanaged forest lands dominate the uplands in these areas, and pasturelands and riparian vegetation occupy valley bottoms (TransAlta 2010).

In areas that have not been mined, the primary habitat types that have been identified on the proposed ILB site and surrounding mine area are: upland coniferous forest, upland hardwood forest, riparian forest, sedge meadows and pasturelands, and wetlands and ponds.

Upland coniferous forest consists largely of unmanaged second- and third-growth Douglas fir (*Pseudotsuga menziesii*) stands. This forest represents a sub-climax stage of the former climax forest dominated by western hemlock (*Tsuga heterophylla*) and western red cedar (*Thuja plicata*) that existed before European settlement of the area. In general, mature and near-mature stands of upland coniferous forest do not support as wide a variety of wildlife as do other habitat types in the area.

Upland hardwood forest is dominated by red alder (*Alnus rubra*). The diverse plant community of this habitat supports a greater variety and higher density of wildlife than does the mature upland coniferous forest. The red alder forests in the area vary from five year old stands to those in the 40- to 50-year age class. As is the case with upland coniferous forest, the earliest successional stages of upland hardwood forest are typically more productive for wildlife than are mature stands.

Riparian forest occupies the wettest sites, usually along streams, and is dominated by Oregon ash (*Fraxinus latifolia*). A variety of trees, shrubs, grasses and forbs in this habitat provide a relatively diverse plant community capable of supporting the greatest density of wildlife in the area. This habitat type has typically not been logged except for occasional harvesting of mature cottonwood (*Populus trichocarpa*), red alder, Oregon ash and bigleaf maple (*Acer macrophyllum*) trees found on the margins of these forests. In addition to providing habitat diversity, bottomland riparian areas also serve as islands of undisturbed habitat for cover, forage and escape for wildlife displaced from logged areas.

Lowlands are typically dominated by sedge meadows and pasturelands. These habitats are good sources of forage for wildlife. Along with the cover provided by neighboring forests, these areas create an “edge effect” that tends to increase biodiversity. Like the riparian areas, sedge meadows and pasturelands serve as a food source for wildlife displaced from logged areas.

Wetlands and ponds consist of two main components, the rush-cattail vegetation association and open water. Sedimentation ponds (that is, manmade structures used to control runoff from areas disturbed by mining) and wetlands are typically found adjacent to sedge meadow and riparian habitats. Several sedimentation ponds are located within the proposed ILB site. Plants adapted to wet soils have begun naturally to colonize these areas and the shorelines of the sedimentation ponds are dominated by cattails (*Typha latifolia*). These habitats are important to both terrestrial and aquatic wildlife for food production and cover and add to the overall diversity of habitats in the area.

Mined lands that have been reclaimed, including proposed development Areas 1 and 2, consist of recently planted areas that currently provide some habitat value, including cover and forage. Most reclaimed areas have been planted with Douglas fir seedlings (TransAlta 2010).

Wildlife Species Present

The proposed ILB site and the surrounding area are inhabited by a number of wildlife species, including large and small mammals, songbirds, waterfowl, upland gamebirds and raptors, and amphibians and reptiles.

Mammal species that use the site and surrounding areas include black-tailed deer (*Odocoileus hemionus* ssp. *columbianus*), Roosevelt elk (*Cervus elaphus*), black bear (*Ursus americanus*), and coyote (*Canis latrans*). Bobcat (*Felis rufus*), raccoon (*Procyon lotor*), mink (*Mustela vison*), otter (*Lutra canadensis*), skunk (*Mephitis mephitis*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), snowshoe hare (*Lepus americanus*), deer mouse (*Peromyscus maniculatus*) and several vole species (*Microtus townsendii*, *M. longicaudus*, *M. oregoni* and *Phenacomys intermedius*) are also found in the area. Black-tailed deer are the most numerous species observed and are commonly seen in open habitats such as meadows and recently reclaimed areas as well as at forest edges.

Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species maps show Roosevelt elk winter range occurring on a large part of the Centralia Mine site. Roosevelt elk that inhabit the area are part of the South Rainier elk herd, which is currently estimated to contain approximately 2,100 animals. Elk appeared in the Skookumchuck River drainage in the 1970s when a small number were found on the mine site (WDFW 2002). The Skookumchuck sub-herd currently numbers approximately 400 and animals are commonly seen feeding in the portion of the proposed ILB site that has been planted to grass (TransAlta 2010).

A few black bears inhabit the mature upland forests in the area. The cougar (*Felis concolor*) is a reclusive animal that has not been observed on the site, but is believed to be present in undisturbed habitats adjacent to the mine site. Beavers are found in Big Hanaford Creek and its tributary drainages and in sedimentation ponds within the proposed ILB. Beaver populations in the area are controlled to allow the mine's sedimentation pond system to function properly (TransAlta 2010).

Of the mammal species known to occur on or adjacent to the Centralia Mine site, none is listed under the federal Endangered Species Act (ESA; 16 USC §1531 et seq.) or by Washington State as threatened or endangered.

More than 40 bird species have been documented as occurring within the mine site (TransAlta 2010). These include several species of waterfowl that use sedimentation ponds and the surrounding marshy habitat for resting, nesting, and rearing of young. Upland game birds, including blue and ruffed grouse (*Dendragapus obscurus* and *Bonasa umbellus*) and mountain and California quail (*Oreotyx pictus* and *Callipepla californica*) use the riparian and upland forest habitats on the site. Raptor species in the area include red-tailed hawk (*Buteo jamaicensis*), marsh hawk (*Circus cyaneus*) and American kestrel (*Falco sparverius*). Many songbird species are common in the area.

Bird species listed as threatened or endangered under the ESA that may occur in the vicinity include the Northern spotted owl (*Strix occidentalis*) and marbled murrelet (*Brachyramphus marmoratus*). However, there is little suitable habitat for either species within the proposed ILB or surrounding mine site lands and there are no records of the birds occurring within these areas.

A number of amphibian and reptile species are known to occur on the mine site and may occur within the proposed ILB. Common garter snakes (*Thamnophis sirtalis*) are the most abundant reptile; other reptiles observed within the mine site include rubber boas (*Charina bottae*), northwestern garter snakes (*T. ordinoides*) and northern alligator lizards (*Elgaria coerulea*) (TransAlta 2010). The most abundant amphibian is the dusky (Oregon) salamander (*Desmognathus auriculatus*); bullfrogs (*Rana catesbeiana*), western toads (*Bufo boreas*), rough-skinned newts (*Taricha granulosa*), northwestern salamanders (*Ambystoma gracile*) and long-toed salamanders (*A. macrodactylum*) have also been observed.

The Oregon spotted frog (*Rana pretiosa*) is a State-listed endangered species believed to have been historically widespread within the region. At present, the spotted frog is known to occur at sites on tributaries to the Black River in Thurston County northwest of the proposed ILB (Jones & Stokes 2004). Owing to the level of disturbance that has occurred on the site and the absence of spotted frog sightings, it is considered unlikely that this species occurs within the proposed ILB. However, the shallow water wetlands and wet meadows associated with lower Packwood Creek provide low quality spotted frog habitat and the frogs could potentially be present in these areas.

Fish

The proposed ILB site and surrounding land drain to South Hanford Creek, Packwood Creek, and Big Hanford Creek. Portions of Big Hanford Creek and its tributaries were channelized by early settlers attempting to drain the wetlands of the valley bottoms, and only the upper half of the 60 miles of total available stream that occur in the drainage are accessible to fish. Fish habitat quality has been significantly reduced by agricultural and

forest practices that have caused elevated water temperatures, turbidity, and decreases in dissolved oxygen and the abundance of large woody debris. There is a complex road network on the site that contains a number of culvert and bridge crossings that may present migration barriers to fish at high and low flows (Beak 2000).

Despite these alterations, both Packwood and Big Hanaford creeks still provide habitat for anadromous and resident fish. Coho salmon (*Oncorhynchus kisutch*) use these streams to obtain access to headwater spawning areas and winter steelhead (*Salmo gairdneri*) and coastal cutthroat trout (*Oncorhynchus clarki clarki*) are present in Big Hanaford Creek. Other fish identified in area streams include stickleback (*Gasterosteus aculeatus*), Olympic mudminnow (*Novumbra hubbsi*), dace (*Rhinichthys* sp.) and sculpins (*Cottus* spp.).

There are no federally-listed threatened or endangered fish species present in stream on the proposed ILB site or surrounding areas. The Olympic mudminnow is listed by Washington State as a sensitive species. The WDFW Priority Habitats and Species database lists three occurrences of mudminnow in the South Hanaford Creek basin, all in small streams adjacent to the main creek channel. Mudminnows have also been observed in small pools adjacent to upper Packwood Creek and in stagnant pools and roadside ditches along Big Hanford Creek (TransAlta 2010).

Critical Areas

The proposed ILB sites contains several types of critical areas, including slopes greater than 30 percent, floodplain areas, and wetlands. The floodplains and wetlands occur along Packwood and Big Hanaford creeks and steep slopes occur in several locations throughout the site. Regulations pertaining to critical areas are codified at LCC 17.35A. These regulations define critical areas in the County and identify allowed activities, permitting requirements and protective measures. Activities affecting certain wetlands are also subject to the requirements of Sections 401 and 404 of the CWA. The Department of Ecology has been delegated the authority to administer the requirements of Section 401 and Section 404 requirements are administered by the U.S. Army Corps of Engineers.

2.5.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Of the 4,400 acres comprising the proposed ILB, an estimated 1,114 to 1,200 acres have been identified as suitable for development of industrial facilities and infrastructure. The exact acreage that would be developed would depend on the specifics of each project and the tenants' needs.

The majority of the acreage that would be developed has been disturbed by mining. Some of this acreage has been re-graded and replanted (primarily development Areas 1 and 2), but most of the site has not yet been fully reclaimed. Industrial development of Areas 1 and 2 would

involve removal of grasses and recently planted Douglas fir as well as some recently planted alder. The trees to be removed are not merchantable and would likely be disposed of or chipped for use as mulch on the site. Animals such as black-tailed deer tend to use recently reclaimed sites (TransAlta 2010) and removal of vegetation from Areas 1 and 2 would reduce the availability of habitat for these species. Animals inhabiting these areas would be displaced and likely move into nearby pasture and forest habitats.

Over the development period, construction of buildings, parking areas, roadways, and other site features may alter the diurnal and/or seasonal movement of elk, deer, and other animals that move through the area. This effect would be similar to existing conditions, under which alterations in animal movements have been caused by mining (TransAlta 2010). The extensive undeveloped acreage would provide ample area for movement of animals during the development period. As vegetation matures in the undeveloped areas and site development is completed, it is expected that animals would establish preferred routes of movement across the site.

The noise, light, and human presence that would result from construction and operation of industrial facilities and infrastructure would disturb animals and could reduce the value of nearby habitats for wildlife. However, some species that use the proposed ILB site are already habituated to disturbance associated with mining and site reclamation. These animals include elk and black-tailed deer, some of which have reportedly become accustomed to mine personnel (TransAlta 2010).

Although the ultimate mix of tenants at the site is not currently known, the greatest potential impact on wildlife would likely occur if the majority of tenants were industries that routinely involve high levels of noise and outdoor activity, as these activities cause sensory disturbance and result in displacement of animals to other locations. For example, sawmills and other wood products manufacturers require large outdoor storage areas, conduct a number of outdoor operations, and typically use equipment that can generate high levels of noise. Industries that use rail transportation on a routine basis would generate noise from rail operations including coupling, de-coupling and rail car queuing. Displacement of animals is a concern because it can cause degradation of adjacent habitats as heavier concentrations of wildlife move into those areas. The ability of adjacent habitats to absorb displaced wildlife is limited if the habitats are already at a high level of use. In general, the carrying capacities of habitats in western Washington are at a maximum level of use (TransAlta 2010). Therefore, habitats could either be overloaded, resulting in habitat degradation, or the “excess” wildlife could be lost.

The increase in vehicle traffic on interior roads and along Big Hanaford Road would likely result in increased injury to and mortality of wildlife as a result of animal-vehicle collisions. The species most affected would be black-tailed deer, although elk, squirrels, raccoons, skunks, and other animals would also be at risk.

Fish and other aquatic species could be affected by changes in water quality from the introduction of pollutants in stormwater, on-site septic system failures, or spills of fuel or chemicals. Potential water quality impacts and mitigation measures are discussed in detail in Section 2.4.

The areas that would remain undeveloped include steep slopes, ponds, wetlands, and streams that are designated as critical areas. It is possible that there may be some impacts on wetlands or wetland buffers from construction of the rail spur and/or on-site septic facilities. Rail corridors typically follow low-lying topography and septic drain fields generally need to be located on low-lying ground. Construction of these facilities and other infrastructure that could affect wetlands would be subject to the review and permitting requirements of the relevant sections of the CWA as well as Lewis County's critical areas regulations. This would include compliance with requirements for maintaining setbacks and vegetated buffer zones, implementing BMPs to reduce or eliminate water quality impacts, mitigating unavoidable effects, and other applicable requirements. Critical areas review would be addressed when infrastructure improvements are designed and when tenants propose developments within the site.

Some of the land that would remain undeveloped has been disturbed by mining and some contains relatively intact habitat. The latter areas include older second and third growth forests found along the perimeter of the site as well as wetland and riparian areas along Packwood and Big Hanaford creeks. Wetland and riparian vegetation has also established around several sedimentation ponds located on the site. These areas would continue to provide substantial habitat value for a variety of aquatic and semi-aquatic species as well as for waterfowl and terrestrial wildlife.

Most of the undeveloped acreage would be replanted with Douglas fir. Douglas fir plantations typically offer low quality habitat as extensive single units. However, there would be interspersions of other vegetation types across the site that would increase the diversity of wildlife habitat. Overall, the undeveloped areas could provide significant habitat for a variety of terrestrial and aquatic species. Plans for management of the site's undeveloped areas have not yet been established. IPAT could manage the forest areas primarily for commercial timber production; this would entail the benefits and impacts to wildlife described below in Section 2.5.2.2. Alternatively, IPAT could develop a fish and wildlife management plan for its undeveloped acreage that may substantially increase the habitat value of these lands. For example, by balancing commercial timber production with habitat productivity, the site could ultimately support a mosaic of habitats that would include both mature forests and earlier successional stage forests. Such a fish and wildlife management plan would identify target species and habitats, establish specific goals and objectives for habitat productivity, and establish metrics for determining success in meeting the established goals.

Mitigation measures that could be employed to reduce impacts to wildlife and wildlife habitat include:

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- Installing deer/elk crossing signs or other warning signs along roadways in locations where animals are known to travel
 - Minimizing the use of fencing and other structures that create barriers to animal movements
 - Establishing and maintaining vegetated buffers between development sites and high value habitat areas
 - Installing signs to educate workers and visitors about the importance of wildlife habitats on the site and ways to minimize wildlife disturbance
 - Adopting a formal fish and wildlife management plan for the industrial park, with the goal of increasing habitat values across the site
 - Adhering to all applicable laws, regulations, and ordinances
 - Adopting appropriate CC&Rs for development

No Action

Under the No Action alternative, site reclamation would proceed as currently planned. As described earlier, development Areas 1 and 2 have been reclaimed and reclamation of the remainder of the proposed ILB site is scheduled to be substantially complete by 2019. Until this work is complete, the noise, light, and human presence associated with reclamation activities would disturb animals and could reduce the value of adjacent habitats for wildlife. As noted above, some species that use the proposed ILB site are already habituated to disturbance associated with mining and site reclamation.

Approximately 57 acres in the central portion of the site is and would continue to be used as a limited purpose landfill for disposal of industrial waste and coal-combustion byproduct from the power plant. Existing haul roads would be maintained to access this area. Human presence and activity on and around the landfill area would be a periodic source of disturbance to local wildlife for the duration of the landfill life.

After re-grading, construction of drainageways, and application of soil materials, most of the site would be replanted with Douglas fir. Managed Douglas fir plantations typically offer low quality habitat as extensive single units. However, there would be interspersions of forest age classes and inclusions of other vegetation types that would increase the diversity of wildlife habitat on the site. As the replanted areas progress through various stages of vegetation succession, they would provide cover and forage for a wide variety of wildlife and would serve as corridors for movement of animals.

The fir plantations would be managed on a 45-year rotation period. This rotation would be spatial as well as temporal owing to the progression of reclamation across the area. At any given time, reforested areas could vary between the ages of 5 and 45 years. At age 45, stands would be clearcut and the tract prepared for the next crop. In addition to removal of food and cover of vegetation, clearcut logging causes disturbance and

displacement of animals as a result of equipment use and human activity. Disturbance may continue long after logging operations cease if logging roads were to be kept in place for public access. Logging can result in both short-term and long-term effects on watersheds (e.g., Salo and Cundy 1987, Meehan 1991, Naiman 1992). Logging and construction of roads disturbs soils, increases stormwater runoff rates, and can result in impacts such as changes in the composition of stream substrates, changes in nutrient inputs into streams, changes in discharge, and effects on invertebrate insect communities as well as fish and other aquatic organisms. These effects may not be localized to the area of cutting, but can extend downstream into the drainage network. Logging of forest areas would be governed by the Washington state Forest Practices Rules, which include measures to mitigate these impacts.

Several of the existing sedimentation ponds, a coal fine refuse pond, and lowlands would be reclaimed as wetlands, creating over 500 acres of this habitat type (TransAlta 2010). The Central Packwood Pit, located in the eastern portion of the site, is proposed to be reclaimed as a permanent lake. The lake would provide habitat for a variety of wildlife species including waterfowl, songbirds, amphibians, and insects. It is planned that the lake would be stocked with game fish such as rainbow and cutthroat trout and managed in consultation with WDFW (TransAlta 2010).

The wetland and riparian areas along Packwood Creek and the floodplain of Big Hanaford Creek would continue to provide value for a variety of aquatic and semi-aquatic species as well as for waterfowl and terrestrial wildlife. Replanted riparian areas and newly created riparian areas such as rock drainageways would offer early successional stages of this habitat type.

As the density of vegetation increases, there would be benefits to fish through improved water quality and streambed conditions, primarily through a reduction in sediment inputs. Instream water temperatures could be reduced by reestablishment of streamside cover in locations where this vegetation had been removed for mining. Over the long term, reestablishment of trees along streambanks could provide a source of large woody debris that would improve stream structure. The removal of culverts and bridges for haul road crossings could improve passage conditions, as these features currently may create barriers to fish migration at some flows.

2.6 Environmental Health

2.6.1 Existing Conditions

Noise

Existing environmental health hazards in the vicinity of the proposed ILB include noise from various sources. Residences in the vicinity of the proposed ILB site currently receive noise from traffic on Big Hanaford Road, trains traveling to and from the Centralia Power Plant, power plant

operations, heavy equipment used in site reclamation, and logging operations in the vicinity. Other sources of noise include motorized farm equipment, lawnmowers, and other motorized home maintenance equipment typically used in residential areas. Until mining operations were curtailed, noise was produced by drilling, blasting, and use of heavy equipment on the site.

Noise is generally defined as unwanted, disturbing sound. The impact of a sound source depends on the levels and characteristics of the background sound, as well as the characteristics of the noise source. Humans can detect and respond to a wide range of sound intensities and frequencies.

The logarithmic decibel (dB) scale is used to indicate the intensity of sound. To measure sound on a scale that approximates the sound frequencies that humans are most sensitive to, the “A-weighted” decibel (dBA) scale is used.

Washington State regulations (WAC 173-60-040) set the maximum permissible environmental noise levels that a source may cause at its property line. The standards are expressed in dBA. The maximum allowable noise levels vary based on the type of the noise source, the land use on adjacent property, and the time of day. The proposed ILB site and most of the surrounding area is currently considered Class C (industrial). The standards for residential (Class A) and non-residential (Class B) receiving property for an industrial (Class C) noise source are shown in Table 4. Lewis County has adopted the State standards by reference.

Table 4. Maximum Permissible Noise Levels at Class A and Class B Receiving Property for a Class C Sound Source

Sound Duration	Allowable Levels (dBA) 7 AM to 10 PM	Allowable Levels (dBA) 10 PM to 7 AM
	60 (Class A) 65 (Class B)	50 (Class A) 65 (Class B)
No more than 15 minutes per hour	65 (Class A) 70 (Class B)	55 (Class A) 70 (Class B)
No more than 5 minutes per hour	70 (Class A) 75 (Class B)	60 (Class A) 75 (Class B)
No more than 1.5 minutes per hour	75 (Class A) 80 (Class B)	65 (Class A) 80 (Class B)

Source: WAC 173-60-040

The State noise rule allows the limits in the upper portion of Table 4 to be exceeded for brief periods during any 1 hour without violating the limits.

Temporary construction activities and timber harvesting are exempt from State daytime noise limits, but are subject to the nighttime limits. Sounds from electrical substations and equipment used for the conveyance of water, wastewater, and natural gas are exempt from the nighttime 10-dBA reduction in the limit. Warning devices (such as vehicle backup alarms) are exempt from both the daytime and nighttime limits if they are operated

for less than 5 consecutive minutes. Motor vehicles operating on public roads and trains operating on interstate tracks are also exempt from both the daytime and nighttime limits.

The Federal Railroad Administration has promulgated noise regulations for rail traffic (49 CFR Part 200). Noise standards for rail equipment are summarized in Table 5.

Table 5. Federal Maximum Allowable Noise Levels for Rail Equipment

Equipment Type	Conditions	Maximum Allowable Noise Level (dBA)
Locomotive, manufactured before 12/31/79	Stationary idle, slow throttle settings	73
	Stationary, all other throttle settings	93
	Moving	96
Locomotive, manufactured after 12/31/79	Stationary idle, slow throttle settings	70
	Station, all other throttle settings	87
	Moving	90
Rail car	Moving, speeds ≤ 45 mph	88
	Moving, speeds > 45 mph	93

Source: 49 CFR Part 201

Releases of Toxic or Hazardous Substances

In addition to noise, existing potential environmental health hazards include industrial accidents at the power plant; reclamation activities such as blasting; spontaneous combustion or accidental ignition of coal seams or waste piles; accidental fires or releases of toxic materials from trains traveling along the BNSF mainline and spur; improper storage, use, or disposal of agricultural chemicals; and spills of petroleum products. Although there are only a few residences located nearby, improper disposal of household hazardous wastes also pose some possible health hazards.

Regulations and standards relating to health and safety at industrial operations include the federal Occupational Health and Safety Act (29 CFR 1910), the Washington State Industrial Safety and Health Act (RCW 49.17), and the Hazardous Materials Transportation Act (HMTA; 49 USC §1501 et seq.). The Superfund Amendments and Reauthorization Act of 1986 created the Emergency Planning and Community Right to Know Act (EPCRA; 42 USC §11011 et seq.), a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state and local governments. EPCRA requires manufacturing facilities to submit an annual toxic chemical release report if they have 10 or more employees and if they manufacture, process, or use specified chemicals in amounts greater than threshold quantities. It also requires facilities to notify state and local authorities in the event of any unintentional release that exceeds a specified quantity of any “extremely hazardous substance” listed in 40 CFR Part 355.

2.6.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Noise

Noise associated with reclamation activities would continue until reclamation of the site is completed and developable areas are prepared for future industrial use.

During construction of interior roadways, installation of utilities, and construction of industrial facilities, there would be temporary increases in noise from operation of heavy equipment and power tools. These increases in noise would occur intermittently over the 20-year development period and would likely be less than noise that was produced from the site during active mining. Noise levels would likely vary throughout a construction phase; for example, multiple pieces of equipment such as dozers and scrapers may operate simultaneously during site clearing and grading, causing noise levels at the high end of the range. There would also be periods where equipment may not operate or may idle, causing relatively little change from existing noise levels. A typical construction schedule is a 6-day work week (Monday through Saturday) from approximately 7:00 AM to 5:00 PM, but it is possible that some construction activity could occur during nighttime hours. As noted above, construction activities are exempt from the Washington State daytime noise standards but are subject to the nighttime standards.

Typical noise levels from construction equipment are shown in Table 6.

Table 6. Typical Noise Levels from Construction Equipment

Sound Source	Sound Levels (dBA) at 50 feet
Bulldozer	80
Front-end loader	72-84
Jackhammer or rock drill	81-98
Backhoe	72-93
Scraper, grader	80-93
Concrete pump	81-83
Dump truck	83-90
Roller	73-75
Air compressor	74-87
Pneumatic tools	81-98

Source: U.S. Environmental Protection Agency

Controlling construction noise can pose special problems for contractors. Unlike general industry, construction activities typically are not stationary and they take place outdoors where noise levels can be affected by weather, topography, atmosphere and vegetation. A variety of mitigation requirements could be employed to reduce the impacts of construction noise. These measures may at times include, but would not be limited to:

-
- Requiring construction contractors to maintain all motorized equipment with properly sized mufflers, engine intake silencers, and engine enclosures
 - Prohibiting the idling of motorized equipment for long periods and requiring such equipment to be turned off when not in use
 - Requiring stationary construction equipment such as generators and compressors to be located away from sensitive receiving properties, or requiring portable noise barriers to be placed around the equipment with the opening directed away from sensitive receiving properties
 - Limiting or prohibiting outdoor construction during nighttime
 - Adhering to all applicable laws, regulations, and ordinances

The specific mitigation measures that would need to be employed would depend on the type of development being proposed and its potential construction noise impacts. It is expected that such mitigation measures would be made conditions of governmental approvals and permits as appropriate for each project.

Because the current proposal does not include specific development projects, the types and levels of operational noise that could be produced at the site are not known at this time. In general, there are three major categories of noise sources associated with industrial facilities: (1) fixed equipment or process operations; (2) mobile equipment or process operations; and (3) transport of raw materials, products, or waste, and transport of workers and visitors to and from the site.

Industrial machinery can produce intense sound levels, not uncommonly in the 75 to 85 dB range (Barron and Barron 2002). Fixed equipment may include a wide range of such machinery, including generators, pumps, compressors, crushers of plastic, stone or metal, grinders, screens, conveyors, exhaust fans, and electrical equipment. Mobile operations may include pug mills, crushers, grinders, and screening operations, and a variety of service operations. Transport movements would include vehicles entering and leaving the site as well as traffic within the site, and loading and unloading trucks. Compared to current conditions, there would be a noticeable increase in vehicle noise along Big Hanaford Road as a result of the additional traffic generated by site development. It should be noted that since cessation of mining, worker vehicle and truck traffic has fallen. New vehicle traffic (and resulting noise) would be expected to approach its previous historic levels during the second or third phase of the industrial park's development. Truck traffic noise would not be known until specific projects are proposed for consideration. However, IPAT has indicated that certain uses such as solely warehousing, with its heavy truck impacts, have been ruled out as acceptable tenants.

Train traffic would generate noise from switching operations and the movement of rail cars on and off and within the site. Trains would travel at low speeds (5 to 10 mph) along the rail spur, so most train traffic noise

would likely be associated with switching operations. Switching operations include the movement and coupling/decoupling of rail cars.

Typical noise levels from switching operations are shown in Table 7.

Table 7. Typical Noise Levels from Train Switching Operations

Sound Source	Operation	Sound Levels (dBA) at 100 feet
Switcher and road engines	Idle	68-72
	Uniform pull or shove	80-85
	Braking, unloaded	78-82
	Accelerating, unloaded	78-82
Rail car operation	Single or multiple coupling	88-92
	Chain reaction (slack action) impact	88-93

Source: Pacific International Engineering 2004

As with construction noise, the specific measures that would be required to mitigate operations noise would depend on the type of development being proposed. Mitigation measures used to reduce operations noise impacts may include:

- Establishing setbacks from sensitive noise receptors
- Establishing and maintaining vegetative buffers
- Erecting portable noise barriers
- Requiring that noise-producing activities be conducted indoors or in enclosed areas
- Staggering work shifts to reduce traffic noise
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs for development

All or portions of the site's upland forests could be managed for commercial timber production. Noise from timber operations is discussed below in Section 2.6.2.2.

Releases of Toxic or Hazardous Substances

While reclamation of the site is being completed and developable areas prepared for future industrial use, there would be the potential for fire, explosion, or spills of diesel fuel or other petroleum products associated with the use of heavy construction equipment.

Construction and operation of industrial facilities would entail the potential for accidental fire, explosion, or spills that could result in releases of toxic or hazardous materials. If such an event were to occur, effects would most likely be contained within the immediate area; however, depending on the magnitude of the event, impacts could extend offsite.

Although the potential is low, there is the possibility that sparks could ignite fires along the rail spur during dry summer weather. In the event of

a collision or other accident, toxic materials could be released from rail cars using the rail spur.

The HMTA sets extensive guidelines for railroads and other carriers of hazardous materials. They must classify, package, and label materials appropriately, use specific hazardous material placards for shipments, and have suitable shipping papers at all times. They must follow Department of Transportation (DOT) rules, maintain rapid response plans for emergencies, undergo safety training programs, and comply with packaging standards. In addition, shipment of chemical products or other potentially hazardous materials would need to comply with the federal Hazardous Material Regulations (49 USC 100-185 Subtitle B).

As described in Section 2.4.2.1, an SPCC plan would be required for construction and operation of each project to ensure that measures are taken to prevent accidental spills and to ensure that any spills that do occur are properly contained, cleaned up, and reported. In addition to SPCC planning requirements, shipment, handling, storage, use, and disposal of potentially hazardous materials would be subject to all applicable local, state, and federal regulations. These regulations include requirements for safety training, housekeeping, fire protection and prevention, personal protective equipment, emergency action plans, and other provisions designed to prevent accidents and control the effects of accidental releases of hazardous or toxic materials.

Fires in coal seams and waste deposits can result from spontaneous combustion or by accidental ignition from forest fires or other means. Smoldering coal seams can result in subsidence of surface infrastructure, reignite grass, brush, or forest fires, and present a respiratory health hazard for those nearby (Finkelman 2004, Stracher et al. 2009). This potential exists for any alternative. It should be noted that no fires have occurred on the site to date. Additional detail is provided below in Section 2.6.2.2.

Potential health concerns related to air emissions from development of the proposed ILB are addressed in Section 2.3.

No Action

The heavy machinery used for land grading and other reclamation activities produces engine noise and noise from backup alarms, as well as impact noise, squealing, and screeching. As reclamation proceeds, there would from time to time be noise associated with rock blasting as well as dismantling of buildings and removal of equipment. Noise from these sources would continue to be audible during daylight hours intermittently throughout the reclamation period.

For reclamation activities that require blasting, TransAlta uses blasting practices that are intended to protect the public and meet applicable federal standards for flyrock, airblast, and ground vibration (TransAlta 2010). These practices include using “non-EI” initiation methods, observing proper blasthole loading, and using firing delay patterns combined with low velocity explosives. Blasts are signaled by warnings

audible within a half-mile of the blast and access to blasting areas subject to flyrock is controlled to ensure safety of employees and the public.

Once reclamation is complete, industrial noise from the site would mostly be limited to truck traffic transporting power plant wastes to the limited purpose landfill. Over the long term, management of lands reclaimed as Douglas fir plantations would involve activities including construction of logging roads, pre-commercial thinning operations, and timber harvesting that would intermittently produce noise.

Typical noise levels from various types of logging equipment are shown in Table 8.

Table 8. Measured Noise Levels from Logging Equipment

Sound Source	Operation	Sound Levels (dBA) at 10 feet
Chainsaws	Idle	76-82
	Full Throttle	100-106
Skidders	Idle	74-82
	Full Throttle	92-100
Cutters	Idle	80-82
	Full Throttle	92-96
Loaders	Idle	74-88
	Full Throttle	92-104
Bulldozers	Idle	82-84
	Full Throttle	92-104

Source: deHoop and Lalonde 2003

Until reclamation is completed on the site, there would be the potential for fire, explosion, or spills of diesel fuel or other petroleum products associated with the use of heavy construction equipment.

As noted in the previous section, coal seams or dumps on the site could combust spontaneously or be ignited by wildfires, deliberate burning of materials on the surface in the vicinity of coal seams, or other means. When large volumes of coal are at or near the surface and brought into contact with oxygen and moisture, the heat generated by oxidation can generate temperatures high enough for the coal to spontaneously ignite (Finkelman 2004). Coal fires have also been ignited by lighting, wildfires, and burning of trash in a landfill near coal fields. Coal fires can be extremely difficult to extinguish, and many have burned for decades or centuries. Coal fires can release CO₂, methane and other toxic gases (Kim 2004, Stracher et al. 2009).

TransAlta's reclamation plan includes provisions for covering all exposed coal seams with a minimum of four feet of select earthen material (TransAlta 2010) to reduce the potential for oxidation reactions that could result in coal combustion.

2.7 Land Use

2.7.1 Existing Conditions

Land Uses and Land Use Designations

The proposed ILB is located in unincorporated Lewis County approximately five miles east of the City of Centralia's Urban Growth Area (UGA) boundary. The site was previously used for surface and underground coal mining and is currently undergoing surface reclamation in accordance with TransAlta's existing federal mine permit.

The current Comprehensive Plan and zoning designations for the site are Mineral Resource Lands (approximately 3,700 acres), Forest Resource Lands (approximately 650 acres) and Rural Residential (approximately 50 acres) (Figure 5). The Lewis County Comprehensive Plan Existing Land Use Map shows most of the area as *Undeveloped*, and the northeastern portion of the site as *Rural-Open* (Lewis County 2010).

Existing land uses adjacent to the proposed ILB are as follows: to the west and east are TransAlta Centralia operations and undeveloped forest lands; to the north are TransAlta Centralia operations; to the northeast are agricultural lands (pasture); to the south are TransAlta mining operations and a small area of undeveloped forest lands. There are approximately four residences within a half-mile of the site to the northwest and 10-12 residences within one mile.

Applicable Laws, Policies, Plans and Regulations

State Growth Management Act (1990, as amended)

The State GMA sets forth planning requirements for local governments. Lewis County is required to plan under the GMA.

As discussed in Chapter 1 of this DEIS, RCW 36.70A.368 allows major industrial developments that are master planned locations on reclaimed surface coal mine sites to be sited outside existing UGAs when certain criteria are met. Such master planned locations for major industrial development may be designated and specific major industrial activities within the master planned location may be approved if the statutory criteria (together with County requirements) are met. The statutory criteria for designating such master planned locations are:

- (a) The master planned location must be located on lands: Formerly used or designated for surface coal mining and supporting uses; that consist of an aggregation of land of one thousand or more acres, which is not required to be contiguous; and that are suitable for manufacturing, industrial, or commercial businesses;
- (b) New infrastructure is provided for; and
- (c) Environmental review of a proposed designation of a master planned location must be at the programmatic level, as long as the environmental review of a proposed designation that is being

reviewed concurrent with a proposed major industrial activity is at the project level.

A designated master planned location becomes a UGA: “Once a master planned location is designated, it shall be considered an urban growth area retained for purposes of promoting major industrial activity. RCW 36.70A.368(1)

The statutory criteria for approving specific major industrial activities within a designated master planned location are:

- (a) The site consists of one hundred or more acres of land formerly used or designated for surface coal mining and supporting uses that has been or will be reclaimed as land suitable for industrial development;
- (b) Urban growth will not occur in adjacent nonurban areas;
- (c) Environmental review of a specific proposed major industrial activity must be conducted as required in chapter 43.21C RCW. Environmental review may be processed as a planned action, as long as it meets the requirements of RCW 43.21C.031; and
- (d) Commercial development within a master planned location must be directly related to manufacturing or industrial uses. Commercial uses shall not exceed ten percent of the total gross floor area of buildings or facilities in the development.

Lewis County Countywide Planning Policies (2009)

The Lewis County Countywide Planning Policies serve as the foundation for the Lewis County Comprehensive Plan, and as a framework to assure consistency between the County’s and local Cities’ comprehensive plans.

Policy 1.8 provides that “[r]ural areas will only be approved for designation as master planned development locations, appropriate for urban growth outside of incorporated urban growth areas, consistent with RCW 36.70A.350, .365, .367 and .368.

Goal 5 of the Countywide Planning Policies seeks to “[e]ncourage economic development throughout Lewis County that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens, especially for unemployed and for disadvantaged persons, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the [sic] Lewis County’s natural resources, public services and public facilities.”

Policy 5.0 implements this goal by providing: “[t]he development of industries should be encouraged within the cities, urban growth areas, designated Limited Areas of More Intense Rural Development (LAMIRDs), and within those unincorporated areas of Lewis County that satisfy the requirements set forth in RCW 36.70A.350, 365, .367, and 368.”

Policy 5.2 provides that “[a] diversified economic base should be encouraged to minimize the vulnerability of the local economy to economic fluctuations.”

Lewis County GMA Comprehensive Plan (2009)

The Lewis County Comprehensive Plan establishes a framework of goals, objectives, and policies guiding growth in the unincorporated County over the next 20 years. The Comprehensive Plan was developed to meet planning requirements under the GMA. Under the GMA, Lewis County’s Comprehensive Plan must be internally consistent, coordinated and consistent with plans of adjacent jurisdictions.

The Comprehensive Plan designations for the project site are Mineral Resource Land, Forest Resource Land, and RDD-20.

Two sections of the Comprehensive Plan contain goals, objectives, and policies that are relevant to the proposed project.

Land Use. The Land Use element of the Comprehensive Plan contains the following goals, objectives, and policies relevant to the proposal:

LU GOAL - Retain Lewis County’s existing and traditional industrial development as well as expand and diversify its industrial base.

Objective LU 7 - Encourage industrial development of all types while mitigating negative impacts on surrounding areas.

Policy LU 7.6 Industrial development should occur with minimal environmental impacts.

Objective LU 8 - Assure an adequate supply of prime industrial sites to meet market demands for industrial development over the planning horizon.

Policy LU 8.1 Designate and preserve sites for industrial use at locations that will be accessible from roadways of arterial classification or higher, potentially served with utilities, and free of major environmental constraints such as unsuitable soils, floodplains and wetlands.

Policy LU 8.3 Allow for the designation of Major Industrial Developments/Major Industrial Developments – Master Planned Locations at certain specified locations outside of designated Urban Growth Areas pursuant with RCW 36.70A.365 and RCW 36.70A.367. (Note – the proposal would revise this policy to include a specific reference to RCW 36.70A.368.)

Another related policy is LU 2.4, which recognizes that urban growth should occur only within areas the GMA recognizes as appropriate for urban growth. The proposal would revise this policy to clarify that RCW 36.70A.368 is among the GMA provisions included in this policy.

Policy LU 2.4 Urban growth should occur within urban growth areas only and not be permitted outside of an adopted urban

growth area except for new fully contained communities; master planned resorts, industrial reserve areas (IRAs), crossroads communities and rural town centers.

Economic Development. The Economic Development element of the Comprehensive Plan contains the following goals, objectives, and policies relevant to the proposal:

Policy 2.2 The County will work with other economic development organizations to attract industries paying wages equal to or greater than low income household income levels and those that require skilled workers that are underemployed.

Policy 2.3 The County will support the development of diversified industrial facilities throughout the county.

Policy 6.8 The County will designate new sites for industrial use at locations that are accessible, served by utilities, and free of major environmental constraints.

Lewis County Development Regulations Applicable to Major Industrial Development

Although the County has development regulations for certain types of major industrial developments, the LCC currently contains no regulations specific to the proposal. The proposal includes development regulations that specifically implement RCW 36.70A.368. Existing code provisions related to master plan approval and industrial land banks are found in LCC 17.20.

Visual Aesthetics

Views of the site from adjacent areas are limited by the local topography and vegetation. The most dominant visual feature in the area is the Centralia Power Plant, which includes tall exhaust stacks and other mechanical equipment. The power plant is equipped with outdoor lighting on and around the perimeter of the property for 24-hour operations. Visually the facility contrasts with adjacent agricultural areas and densely forested hills. The existing visual elements of the proposed ILB site include service buildings, haul roads and other support structures, cleared ground and sparsely vegetated areas, and ponds created by mining, interspersed with areas of more dense vegetation. In addition to the lighting at the power plant, there is nighttime lighting from buildings and equipment on the proposed ILB sites as well as from vehicles traveling along Big Hanaford Road.

Historical, Archaeological, and Cultural Resources

Archaeological artifacts found in the region suggest that the archaeological record of the area spans approximately 8,000 to 10,000 years (U.S. Army Corps of Engineers 2003). The proposed ILB site and surrounding area lie within the territory traditionally inhabited by groups of Salishan-speaking people, collectively referred to as the Chehalis Indians. The Chehalis Indians were divided into two distinct tribes, the Lower Chehalis Indians and the Upper Chehalis Indians, according to their respective positions on the river. The Lower Chehalis group occupied the

area around Grays Harbor and the lower reaches of the Chehalis River from the Satsop River to the mouth of the Chehalis River and the Upper Chehalis inhabited the remainder of the Chehalis River drainage (Jermann 1983).

Important food and trade resources in the native economy included camas, berries, acorns, deer, elk, and waterfowl, but the single most important resource was probably the abundant resident and anadromous fish occurring in the Chehalis River and its tributaries. Partly because of the abundance and availability of fish, aboriginal and later European habitation was concentrated in the low-lying areas around major rivers.

In the early historic period, there was no agricultural activity in the Hanaford Valley because of the large, impassible swamps created by the numerous beaver dams along Hanaford Creek and its tributaries. Once land in the Chehalis and Skookumchuck River valleys was no longer available, the less desirable lands in the Hanaford Valley were gradually opened for settlement and drained.

Coal was first discovered in the Hanaford Valley by fur trappers of the Hudson's Bay Company (Jermann 1983). By the 1880s, mining of local coal resources became economically viable owing to demand by railroad operations. At the same time, the timber industry grew, supplying regional and national markets. Timber was cleared from the forested areas within the proposed ILB site and surrounding lands. Some coal mining and logging continued until the 1960s. In the late 1960s coal mining took prominence with the construction of the Centralia Power Plant and associated opening of the Centralia Mine.

Detailed surveys of the area conducted between 1983 and 2003 did not identify any archaeological or historical sites of significance or that would be eligible for listing in the National Register of Historic Places (NRHP) (TransAlta 2010). Field surveys of the area encompassing the proposed ILB site conducted in 2001 and 2003 revealed two historic period archaeological sites (the Hanaford Valley Home Site and the Packwood Creek Home Site) and two isolated surface scatters of historic period artifacts (Larson Anthropological Archaeological Services 2001 and 2003). None of these finds was considered to be eligible for listing in the NRHP. Mining and/or reclamation activities on the site have since removed evidence of these finds.

2.7.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Land Uses and Land Use Designations

The proposal would create a new UGA. The Comprehensive Plan designation of the site would be changed from Mineral Resource Land, Forest Resource Land and a small amount of Rural Residential to an ILB and the site would be rezoned to industrial.

An estimated 914 to 1,000 acres of the new ILB would be developed for industrial purposes over a period of about 20 years. Another 200 acres would be developed as infrastructure corridors. The remainder of the site would be largely open space and buffer areas. All or a portion of the site's upland forests could be managed for commercial timber production.

Industrial development of the site would not be expected to conflict with adjacent forestry or agricultural land uses, or with operations at the Centralia Power Plant. To a large extent residences in the area would be buffered from activities at the site by distance and the nearest local topography. However, views of the site would be altered from some vantage points on nearby roadways. The potential effects of the proposal on visual aesthetics are discussed later in this section.

Consistency with Applicable Laws, Policies, Plans and Regulations

State Growth Management Act (1990, as amended)

The Industrial Park at TransAlta is proposed as a master planned location for major industrial development under RCW 36.70A.368 of the GMA. The proposal is to designate land and to adopt amendments to Comprehensive Plan policies and development regulations to implement RCW 36.70A.368.

The proposal does not involve any specific major industrial activity. Applications for specific major industrial activities would be evaluated pursuant to the policies and regulations adopted as part of the current proposal. The proposal includes amending the County Code to include the specific designation criteria set out in the GMA. The proposal meets the necessary statutory designation criteria as follows:

- (a) The master planned location must be located on lands: Formerly used or designated for surface coal mining and supporting uses; that consist of an aggregation of land of one thousand or more acres, which is not required to be contiguous; and that are suitable for manufacturing, industrial, or commercial businesses.

As described in Section 1.2 of this document, the site proposed for designation is approximately 4,400 acres of the TransAlta surface coal mining site. Portions of the site have been reclaimed and the remainder of the site will be reclaimed as required by the mine's government approvals. Therefore, it is suitable for manufacturing, industrial, or commercial businesses.

New infrastructure is provided for.

As described in Section 2.9.2.1, electrical power can be provided by Lewis County PUD #1. Natural gas can be provided by Puget Sound Energy. Wastewater treatment and disposal can be provided by on-site and off-site options. Water for domestic and industrial use also can be provided by on-site and off-site options. Stormwater collection and treatment can be provided by new on-site systems that would connect to the existing TransAlta system. Although there are various options for

providing new infrastructure, the specific options selected will depend on the needs of individual users that locate in the ILB.

- (b) Environmental review of a proposed designation of a master planned location must be at the programmatic level, as long as the environmental review of a proposed designation that is being reviewed concurrent with a proposed major industrial activity is at the project level.

This programmatic EIS has been prepared in response to this requirement. As each specific major industrial activity seeks approval to locate within the industrial park, project-level environmental review would occur.

In addition to the designation criteria above, the proposal addresses the GMA criteria for approving specific major industrial activities proposed for the master planned location as follows:

- (a) The site consists of one hundred or more acres of land formerly used or designated for surface coal mining and supporting uses that has been or will be reclaimed as land suitable for industrial development.

The proposal includes a County Code amendment that reproduces this language, ensuring that this requirement is applied. Proposed LCC 17.20.060(5)(a).

- (b) Urban growth will not occur in adjacent nonurban areas.

The proposal includes a County Code amendment that provides: “Urban growth will not occur in adjacent nonurban areas.” Proposed LCC 17.20.060(5)(h). The proposed amendments also state that “The master plan shall identify and develop buffers to separate the master planned industrial development from potentially incompatible but lawful rural area uses, and from adjoining urban areas, if any.” Proposed LCC 17.20.060(5)(c). Also, the proposed Code amendments provide that “water and wastewater facilities developed for the master planned facility shall not be used or available outside the boundaries of the master planned industrial development, to assure that the new development will not foster urban growth outside the boundaries of approved urban growth areas.” Proposed LCC 17.20.060(5)(f). These Code provisions would ensure that no urban growth would occur adjacent to the designated industrial area.

- (c) Environmental review of a specific proposed major industrial activity must be conducted as required in chapter 43.21C RCW. Environmental review may be processed as a planned action, as long as it meets the requirements of RCW 43.21C.031.

The proposal includes a County Code amendment that provides: “Environmental review must be conducted as required in Chapter 17.110 LCC and chapter 43.21C RCW. Environmental review may be processed

as a planned action, as long as it meets the requirements of RCW 43.21C.031 and as long as the County has adopted a planned action ordinance.” Proposed LCC 17.20.060(5)(d). This provision ensures that the required environmental review will occur.

- (d) Commercial development within a master planned location must be directly related to manufacturing or industrial uses. Commercial uses shall not exceed ten percent of the total gross floor area of buildings or facilities in the development.

The proposal includes a County Code amendment that allows commercial uses “provided commercial uses are directly related to manufacturing or industrial uses. Commercial uses shall not exceed ten (10) percent of the total gross floor area of buildings and facilities.” Proposed LCC 17.20.060(5)(i)(iii). This provision implements the statutory criteria.

Lewis County Countywide Planning Policies (2009)

The proposal would directly implement Goal 5 and Policies 5.0 and 5.2 of the Countywide Planning Policies and, therefore, is consistent with those policies.

Lewis County GMA Comprehensive Plan (2009)

The site is currently designated Mineral Resource Land and Forest Resource Land, with a small amount of Rural Residential land. With the approval of the proposal, the site would be redesignated as industrial. See RCW 36.70A.368 and LCC 17.20.

The proposal is consistent with the goals, objectives and policies of the Comprehensive Plan. In particular, the proposed ILB would further the County’s economic development policy, which the Comprehensive Plan highlights as a matter of overarching County concern. Increasing industrial employment in Lewis County supports the County’s Economic Development Policy.

Lewis County Development Regulations Applicable to Major Industrial Development

Although the proposal includes lands that are designated as mineral and forest resource lands, a majority of the site has been used for surface mining operations. The mineral resources that can be economically recovered from the lands proposed for industrial use have been exhausted and only limited commercial timber exists on the designated Forest Resource lands. As to the critical areas standards, development proposals within the designated master planned location would be subject to the County’s critical areas regulations. The proposal includes amendments to the County Code to implement both the designation requirements and the requirements for approval of specific industrial activities pursuant to RCW 36.70A.368.

Visual Aesthetics

Because the proposed ILB site is screened by topography and vegetation, it is not highly visible from public view points; views of the developed site would mostly be limited to some locations on Big Hanaford

Road. Depending on the location and orientation of site entrances and structures, it is likely that portions of these features would be visible from points along the public roadway. The visual elements of the site could range from those typically associated with heavy industry such as silos, conveyor belts, exhaust stacks, exposed piping, and materials stockpiles to fully-enclosed buildings in which light manufacturing activities occur. Buildings, parking and storage areas, industrial equipment, and other features of the developed site would present a visual contrast to the surrounding agricultural areas and forested hills. This contrast would be softened by the large portion of the site (approximately 3,200 acres) that would remain undeveloped and be maintained as a visual buffer. Nighttime lighting required for safety and security would likely be visible from some locations. The additional traffic generated by the development would increase lighting from vehicles traveling along Big Hanaford Road to and from the site.

Mitigation measures used to reduce impacts on visual aesthetics may include:

- Requiring outdoor lights to be shielded or recessed and directed downward or toward the interior of the site
- Establishing design standards for landscaping and signage to achieve a consistent appearance among developments
- Requiring the exterior of buildings and other structures to be finished in non-reflective, natural-toned materials
- Requiring storage and service areas to be shielded from view by walls, fencing, or vegetation
- Maintaining a vegetative buffer along the perimeter of the site

These measures could be incorporated into a comprehensive set of design standards adopted for the industrial park as a whole and incorporated into the site's CC&Rs.

Historical, Archaeological, and Cultural Resources

The potential for the presence of previously-unidentified historical or archaeological artifacts or sites is considered remote owing to the position of the proposed ILB site in the landscape and the ground disturbance associated with past mining, logging, and agricultural activities.

Therefore, a standard mitigation approach would likely be sufficient to avoid impacts on historical, archaeological, or cultural resources. In the event that artifacts or other indications of a historical or archaeological nature were to be discovered on the site at any time, activity in the area of the find would immediately cease until it could be evaluated by a qualified archaeologist in consultation with Department of Archaeology and Historic Preservation and the Chehalis Tribe, depending on the artifacts or

indications found. Additional mitigation measures, if needed, would be based on the nature and significance of the find.

No Action

Under the No Action alternative, the existing Comprehensive Plan and zoning designations of the site would remain in place. A new UGA would not be created and the site would not be designated as an ILB. TransAlta would continue reclamation of the site in conformance with its federal mine permit. Once decommissioning of the mine and reclamation were complete, site land uses would primarily be forestry and agriculture, with undeveloped open space in the valley bottoms. These land uses are consistent with the pre-mining land uses of the site.

While reclamation is underway, the site would continue to be visually characterized by cleared ground and sparsely vegetated areas interspersed with areas of more dense vegetation. As reclamation proceeds, the areas of cleared ground would be converted to sparse vegetation and would become more densely vegetated over time. Nighttime lighting would continue to be emitted from existing buildings and equipment on the site until these features were removed.

The potential for the presence of previously-unidentified historical or archaeological artifacts or sites is considered remote, it is possible that evidence of a historical or archeological nature could be discovered during reclamation. In such an instance, TransAlta would adhere to the conditions set forth in a Memorandum of Agreement between Washington Irrigation and Development Company (TransAlta's predecessor) and the Washington State Department of Archaeology and Historic Preservation. Those conditions include testing any finds and evaluating their eligibility for listing on the NRHP.

After reclamation, areas to be used for forestry would be managed in accordance with standard forestry practices for western Washington State (TransAlta 2010). Following revegetation, forestry activities on the site would include pre-commercial thinning, commercial thinning, and timber harvesting. Harvesting would occur approximately 45 years after planting. Lowland forest areas, wetlands, and permanent water impoundments would be maintained as fish and wildlife habitat. The existing 57-acre limited purpose landfill located in the central portion of the mine site would remain in use.

2.8 Transportation

2.8.1 Existing Conditions

Roadway System

The primary roadways serving the proposed industrial park are Big Hanaford Road, State Route (SR) 507, Reynolds Avenue, and Harrison Avenue. These routes are shown on Figure 6.

Interstate 5

I-5 is the major north-south highway that provides a high speed route in the vicinity of the proposed ILB and is located approximately six miles west of the site. The mainline speed limit is 70 miles per hour (mph) for passenger cars and 60 mph for trucks. I-5 is under the jurisdiction of the Washington State Department of Transportation (WSDOT) and is classified as a Rural Principal Arterial.

Big Hanaford Road

Big Hanaford Road runs east-west between SR 507 and ends near the eastern edge of the proposed ILB site. It provides one travel lane in each direction with paved shoulders. The roadway primarily provides access to the Centralia Power Plant and the Centralia Mine site. It also serves a limited number of residences that are mostly located near SR 507. Big Hanaford Road was constructed and is maintained to support truck traffic in the area and is classified as a collector by Lewis County.

Harrison Avenue

Immediately adjacent to I-5, Harrison Avenue is an east-west, five-lane collector with two through lanes in each direction and a two-way left-turn lane. The City of Centralia has identified Harrison Avenue as a truck route and it provides a direct route from the interchange to Centralia's downtown and major residential areas. On the west side of I-5, Harrison Avenue turns to the north and becomes Highway 99, which continues on to Grand Mound.

SR 507

SR 507 extends from I-5 at Mellen Street in Centralia to SR 510 in Yelm. Pearl Street and Tower Avenue form a one-way couplet through Centralia's downtown. Pearl Street operates as the southbound roadway, and Tower Avenue as the northbound roadway. South of Main Street, Pearl Street and Tower Avenue are classified as principal arterials. North of 6th Street, these roads combine as Pearl Street, which operates as a two-way route. Pearl Street then continues north to Downing Road/Big Hanaford Road. SR 507 is the main connector to and from the proposed ILB site. In the City of Centralia, SR 507 is a designated truck route.

Reynolds Avenue/Galvin Road

Reynolds Avenue is an east-west minor arterial located north of the Harrison Avenue interchange from Pearl Street to Harrison Avenue/Old Highway 99. At Harrison Avenue, it becomes Galvin Road and continues to the west ending at Lincoln Creek Road. Reynolds Avenue/Galvin Road provides access to existing industrial facilities and the Port of Centralia property west of Harrison Avenue.

Existing Traffic Volumes and Roadway Capacity

The WSDOT 2008 *Annual Traffic Report* indicates that the annual average day traffic volume on I-5 in the vicinity of Centralia and Chehalis is slightly over 58,000, with 29,035 trips in the northbound direction and 29,125 trips in the southbound direction.

The existing evening peak hour traffic volumes and capacities for selected local roadway segments in the vicinity of the proposed ILB site are shown in Table 9:

Table 9. 2010 PM Peak Hour Directional Traffic Volumes for Selected Roadway Segments

Direction	Location	PM Peak Hour (4:00-5:00) Traffic Volume	Directional Roadway Capacity (vph)
SB	SR 507 north of Big Hanaford Road	145	900
NB	SR 507 north of Big Hanaford Road	136	900
SB	SR 507 north of SR 507 (6 th St.)	507	640
NB	SR 507 north of SR 507 (6 th St.)	475	640
SB	SR 507 south of First St.	596	2030
NB	SR 507 south of First St.	661	2030
WB	Big Hanaford Rd east of SR 507	116	900
EB	Big Hanaford Rd east of SR 507	56	900
WB	SR 507 west of Big Hanaford Rd	214	900
EB	SR 507 west of Big Hanaford Rd	229	900
WB	Reynolds Ave west of River Rd	366	640
EB	Reynolds Ave west of River Rd	328	640
WB	Harrison Ave west of I-5 Ramps	1065	1600
EB	Harrison Ave west of I-5 Ramps	1039	1600

Source: Shea-Carr-Jewell 2010

Public Transit

Twin Transit is the public transportation provider in the cities of Centralia and Chehalis in Lewis County, operating bus routes between and around these cities and the County. At present, the bus stops nearest the proposed industrial park are located several miles from the site on the east side of Centralia. These stops are the Waunch Prairie stop, near Downing Avenue and Pearl Street, and the Logan Area stop, near the Logan Community Park.

Rail Transportation

The Puget Sound and Pacific and the Curtis, Melburn and Eastern rail lines serve industrial development in Lewis County. BNSF and Union Pacific operate on the main north-south line in the County. AMTRAK also operates along the BNSF main line and serves the area with a depot in downtown Centralia. Currently there are three daily passenger trains in each direction on this line.

Freight trains switch cars and transfer loads at Blakeslee Junction in Centralia. Vehicle traffic on nearby surface roadways can experience delays up to 15 minutes because of switching and load transfer operations at Blakeslee Junction (City of Centralia 2007).

A dedicated spur off of the BNSF rail line adjacent to Big Hanaford Road serves the Centralia Power plant and is used to deliver coal to the plant. Currently, there is an average of 1 ½ trains arriving and being unloaded daily. Unloading of each coal train takes approximately four hours.

Planned Roadway Improvements

A number of roadways, street and interchange improvements are being planned by the City of Centralia and WSDOT. The Lewis County amended 2010-2015 Six-Year Transportation Improvement Program does not list any projects in the vicinity of the proposed industrial park.

The City of Centralia's Six-Year Transportation Improvement Program lists one project in the vicinity of the site. That project is the Harrison to West Reynolds Connection (Eckerson Road Improvements), which would involve construction of a connector clearing both sets of railroad tracks. Construction start on this project has not yet been planned.

The City's Comprehensive Plan includes construction of a new signal at W. First Street and Harrison Avenue. Construction start on this project has not yet been planned.

In June 2009, WSDOT completed a new interchange at I-5 and LaBree Road. This project was the first of several with the goal of improving freight mobility, economic development and safety through the I-5 corridor between the Toutle River Safety Rest Area in Cowlitz County and Grand Mound Road in Thurston County. Widening of I-5 from Rush Road to 13th Street in Lewis County was also completed in June 2009.

WSDOT plans a series of projects to widen I-5 in both directions in Lewis and Thurston Counties:

- *Grand Mound to Maytown Stage One* – This project adds an additional lane in each direction, upgrades the existing freeway on- and off-ramps, and realigns the curve south of the Grand Mound interchange. Construction is underway and is scheduled to be complete in fall 2010.
- *Blakeslee Junction to Grand Mound* – This project will widen four miles of I-5 from two lanes to three lanes in each direction between the Blakeslee Railroad Junction in Lewis County (milepost 83.5) and just south of the Grand Mound interchange (Exit 88) in Thurston County. Construction is scheduled to be completed in 2012.
- *Grand Mound to Maytown Stage Two* – The I-5/US 12 interchange will be rebuilt as a diamond interchange configuration. Both loop ramps will be eliminated and traffic signals will be installed at both ramp intersections. This project is under construction.
- *Mellen Street to Blakeslee Junction* – Collector distributor lanes will be constructed between the Mellen Street (Exit 81) and Harrison Avenue (Exit 82) interchanges, safety improvements will be made to these interchanges, and the I-5 curve at Blakeslee

Junction will be widened and realigned. Construction is scheduled to be completed in 2014.

I-5/North Lewis County Interchange Feasibility Study

In 2009, WSDOT conducted a feasibility study for a new interchange between the existing Harrison Avenue interchange and the Grand Mound interchange. The study focused on gathering data and considerations surrounding a new interchange, and concluded that there appears to be sufficient need to warrant further evaluation. The study notes that commercial and residential traffic will use the interstate system if adequate local transportation infrastructure is not available. These trips congest the interstate system and affect the movement of goods and services. The Federal Highway Administration (FHWA) considers that these trips should be served by non-interstate, local improvements. However, traffic associated with industrial operations is associated with movement of goods and services from region to region. These uses introduce traffic onto the interstate highway system, but this type of trip aligns with the federal priority of promoting national economic interests.

FHWA has sole approval authority for any new interchange, and critical considerations are enhancing safety, preserving mobility and promoting/protecting national economic interests. Any proposed interchange or access to the interstate system would have a higher probability of being approved by FHWA and WSDOT if local jurisdictions incorporate substantial industrial-zoned land in their comprehensive plans.

The study concluded that a new interchange located between the Harrison Avenue and Grand Mound interchanges could act to pull freight or industrial trips from the existing interchanges. With freight mobility focused at a new interchange, the existing Harrison Avenue and Grand Mound interchanges would experience improved safety and reduced congestion. Funds were approved during the 2010 State Legislative session to conduct a Phase II study of the proposed interchange.

There are currently no connecting arterial roadways on the east side of I-5 that could support the traffic volumes of a new interchange. To serve the east side of Interstate 5, a new or extended roadway would need to be constructed. The nearest arterial or collector roadways are SR 507 to the east/southeast and Reynolds Avenue to the south. Potential alignments could include extending a roadway due east from I-5 to SR 507 (approximately 3 miles), southeast to Downing Road (approximately 2.2 to 2.7 miles) or south, roughly parallel to I-5, intersecting Reynolds Avenue (approximately 2.2 miles). Although no specific alignment has been chosen, for purposes of analysis later in this report, we have assumed the 507 connector to intersect at Big Hanaford Road.

As part of a new interchange project, significant work would be required to identify and construct an appropriate new connector roadway. Some of the important factors to be considered are listed below:

- Vertical and horizontal alignment

-
- Wetlands and other natural environmental factors
 - Impacts to the built environment
 - Benefits and impacts to existing roadways
 - Construction cost and identifying funding sources

The process of identifying an appropriate route, designing the roadway, obtaining the appropriate permits, securing funding, acquiring right-of-way and constructing the roadway will be costly and may take years to accomplish. Because of the time frames required to construct a new roadway it is important that momentum developed by previous feasibility/planning work on the interchange continues. Proactive planning efforts can help ensure that if a new interchange and connector are eventually warranted, they will be constructed at the appropriate time.

2.8.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Vehicle Traffic

An analysis was made of the proposed action's potential effects on traffic compared to existing conditions and trends. The results of the analysis are summarized here; a full report on the traffic analysis is provided in Appendix E.

Traffic increases would be a function of employee density and the specific industrial and manufacturing uses at the site. The proposed industrial park is expected to achieve an employment density of approximately 2 to 8 employees per acre (Huitt-Zollars 2009). Because the lower end of this range is considered more likely based on the identified target industries, a weighted average of 2.2 employees per acre was used to estimate future traffic potential of the site. Future traffic volume scenarios were prepared using the Lewis County Transportation Demand Model to estimate background traffic growth in the area. The traffic volume projections were based on the most current counts available, provided by Lewis County, the City of Centralia and WSDOT.

A generalized roadway link capacity analysis was done for Big Hanaford Road, SR 507, Reynolds Avenue, and Harrison Avenue. These are the key roadways in the area that serve the site and could be affected by development of the industrial park. The analysis was based on the PM peak commute hour (4:00 to 5:00 PM) on local roadways. The peak hour represents the time of day when traffic volumes are highest and when traffic congestion would be most likely to occur.

Based on the estimated buildable acreage on the site and the projected employment density, the industrial park the overall development could be expected to have 2,011 employees at full occupancy. As a comparison, when mining operations were underway, the site had a peak employment of approximately 1,000. That number transitioned from 900 employees in 2006 to approximately 300 in 2009.

The traffic potential of the developed site was calculated using vehicle trip generation rates contained in the current edition of the *Trip Generation* report by the Institute of Transportation Engineers. The “Industrial Park” land-use was selected for the analysis. The trip generation study was based on a 34-site sample of existing industrial parks across the United States. It is not known if these industrial parks are in urban or rural locations. However, the most significant variable affecting traffic generation is employment density, not location. This is because large industrial parks are typically self-contained and employees do not generally make many short trips off-site during the workday.

The calculated trip generation for the proposed action is shown in Table 10.

Table 10. Trip Generation by Development Area

Development Area	Size	Daily Trips	PM Peak Hour Trips		
			Total	Enter	Exit
Area 1	224	748	103	21	82
Area 2	207	691	95	19	76
Area 3	121	404	56	11	45
Area 4	350	1169	161	32	129
Area 5	403	1346	185	37	148
Area 6	425	1420	196	39	156
Area 7	281	939	129	26	103
Total	2011	6717	925	185	740

Project trips shown in the table above are broken down by type as shown below.

Table 11. Trip Types

Type of Trip	Daily Trips	PM Peak Hour Trips		
		Total	Enter	Exit
Passenger vehicles	6,180	856	171	685
Trucks	537	69	14	55

The directional distribution of employee traffic to and from the proposed project was estimated using the residential distribution of current (2009) TransAlta Centralia operation employees. Nearly 60 percent of the employees live in Centralia or Chehalis, approximately 12 percent live in Olympia, approximately 7 percent live in Rochester, and a number of communities have smaller percentages. The primary destination of truck traffic was assumed to be northbound or southbound on I-5. Based on existing truck traffic flows on I-5, it was assumed that 50 percent of the trucks would be using I-5 to/from the north and 50 percent to/from the south.

Nearly all trips to the site would use SR 507 and Big Hanaford Road, with most trips converging at the Reynolds Avenue/SR 507 intersection; however, there are a number of options for drivers to get from the site to the north Centralia area. Traveling from Big Hanaford Road to SR 507, drivers could then take Reynolds Ave to Johnson Road to the Harrison Ave interchange, 1st Avenue to Harrison Avenue to the Harrison Ave interchange, or the Mellen Street interchange.

For the analysis it was assumed that all trucks would use I-5 to haul goods in or out of the area. It was assumed that all trucks traveling to or from the north would use Reynolds Avenue to Harrison Avenue to the Harrison Avenue interchange and that trucks traveling to or from the south would use the Mellen Street interchange. The site traffic distribution and total site-generated trips are shown on Figure 7.

A roadway capacity analysis was performed to identify potential capacity deficiencies within the study area for the base year (2010) and at full build-out (2030). If a roadway section is shown to be over capacity, it is an indication that intersections along the roadway may experience congestion. This analysis identifies emerging potential congestion points and highlights the value of trip reduction measures.

The following table illustrates the PM peak hour directional traffic volumes and the corresponding directional peak hour capacity of the roadway under existing conditions, 2030 conditions without development of the industrial park and 2030 conditions with development of the industrial park. The figures in the table were derived assuming an annual growth rate of 3 percent.

Table 12. Roadway Link Capacity

Direction	Location	2010 PM Peak Hour 4:00-5:00	2030 PM Peak Hour without Industrial Park	2030 PM Peak Hour Industrial Park Traffic	2030 PM Peak Hour with Industrial Park	Directional Roadway Capacity (vph)	Capacity Used
SB	SR507 N/O Big Hanaford Road	145	232	17	249	900	28%
NB	SR507 N/O Big Hanaford Road	136	218	69	287	900	32%
SB	SR 507 N/O SR 507 (6 th St.)	507	811	417	1228	640	192%
NB	SR 507 N/O SR 507 (6 th St.)	475	760	105	865	640	135%
SB	SR 507 S/O First St.	596	954	179	1133	2030	56%
NB	SR 507 S/O First St.	661	1058	44	1102	2030	54%
WB	Big Hanaford Rd E/O SR 507	116	185	739	924	900	103%
EB	Big Hanaford Rd E/O SR 507	56	90	186	276	900	31%
WB	SR 507 W/O Big Hanaford Rd	214	343	670	1013	900	113%
EB	SR 507 W/O Big Hanaford Rd	229	366	169	535	900	59%
WB	Reynolds Ave W/O River Rd	366	586	253	839	640	131%
EB	Reynolds Ave W/O River Rd	328	525	64	589	640	92%
WB	Harrison Ave W/O I-5 Ramps	1065	1704	54	1758	1600	110%
EB	Harrison Ave W/O I-5 Ramps	1039	1663	212	1875	1600	117%

Figure 8 illustrates roadway link volumes for existing 2010, future 2030 without development of the industrial park, and future 2030 volumes with development of the industrial park.

Based on this analysis, the following roadway segments may experience congestion by the 2030 horizon:

- **Harrison Avenue at I-5 Interchange**
Harrison Avenue in the vicinity of the interchange is one of the highest traffic volume areas in Centralia and periodic congestion is currently experienced there. By 2030 the traffic demand will likely exceed the capacity of the roadway even without development of the industrial park. By 2030, this roadway is predicted to have a PM peak hour traffic demand of approximately 3,650 vehicles. By 2030 the industrial park would add approximately 260 trips. The volume of traffic using this facility generated by the industrial park would not create conditions on Harrison Avenue that would change the scale of improvements that could be needed by the 2030 horizon.

If a new north Lewis County interchange were constructed, it would allow a significant reduction in traffic at the Harrison Avenue interchange.

- **SR 507 between Big Hanaford Road and the One-Way Couplet**
This roadway provides a single lane in each direction between the Tower/Pearl couplet and Big Hanaford Road. There is a traffic signal at Reynolds Avenue but all other intersections along SR 507 are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway would experience congestion by 2030 even without development of the industrial park.

SR 507 between the One-Way Couplet and Reynolds Avenue

By 2030 this segment is predicted to have a PM peak hour demand of approximately 2,100 vehicles. By 2030 the industrial park traffic would contribute approximately 500 vehicles of the total PM peak hour traffic load.

SR 507 between Reynolds Avenue and Big Hanaford Road

By 2030 this segment is predicted to have a PM peak hour demand of 1,550 vehicles. By 2030, the industrial park traffic would contribute approximately 850 vehicles of the total PM peak hour traffic load.

Traffic congestion along SR 507 primarily results from vehicles stopping occasionally to turn left onto driveways or side streets. If congestion does develop along this corridor, the roadway capacity could be improved by implementing access control for driveways or intersections along SR 507 and/or constructing left-turn lanes at key locations.

- **Reynolds Avenue between Harrison Avenue and SR 507**
This roadway provides a single lane in each direction between Harrison Avenue and SR 507. There are traffic signals at

Harrison Avenue and SR 507, but all other intersections are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway would experience congestion by 2030. By 2030 the roadway is predicted to have a peak hour traffic demand of approximately 1,450 vehicles with the industrial park traffic contributing approximately 300 of the total.

As is the case for SR 507, traffic congestion along Reynolds Avenue primarily results from vehicles stopping to turn left onto driveways or side streets. If congestion does develop along this corridor, the capacity of the roadway could be improved by implementing access control for driveways or intersections along Reynolds Avenue and/or constructing left-turn lanes at key locations.

- **Big Hanaford Road between SR 507 and the Proposed ILB Site**
This roadway provides a single lane in each direction but is designed to handle relatively high volumes of passenger vehicle and truck traffic. Intersections along Big Hanaford Road are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway would experience congestion by 2030. By 2030 the roadway is predicted to have a peak hour traffic demand of approximately 1,200 vehicles, with the industrial park traffic contributing approximately 900 of the total.

Based on the design and function of this roadway, it could be expected to accommodate approximately 900 vehicles per lane per hour. Based on the traffic volume projections, the roadway is predicted to experience approximately 925 peak hour trips in the westbound direction in the PM peak hour by 2030. Most of this traffic would be associated with the industrial park and would proceed on Big Hanaford Road to and from the site without being required to stop. The potential congestion would mostly be related to small volumes of traffic entering and exiting from driveways or side streets. As noted for other roadways, if congestion does develop along this corridor, the capacity could be improved by implementing access control for driveways or intersections and/or constructing left-turn lanes at key locations.

Big Hanaford Road/SR 507 Intersection

This intersection currently operates under stop sign-control for the westbound approach of Big Hanaford Road. Each approach has a single shared lane with turns made from the through lane. Based on the projected traffic potential of the industrial park, it is likely that this intersection would require improvements before 2030. Improvements could include turn lanes on SR 507 and Big Hanaford Road and may also include a traffic signal system. The intersection would need to be monitored as individual tenants locate within the industrial park.

To assist Lewis County in monitoring future transportation needs in the area, IPAT and/or tenants of the industrial park could contribute to ongoing traffic studies and County traffic model updates.

For future development proposals at the industrial park site, Lewis County would determine the specific environmental analysis requirements for each proposal. Detailed Traffic Impact Analysis reports may be required of future proposals. Those reports would provide site-specific traffic generation estimates and intersection operation analysis to allow accurate assessment of each project's impact on local roadways. Mitigation measures may be required as part of specific development permits to address traffic impacts. This would help to ensure that sufficient capacity is left available on the affected County road network.

There are a number of measures that could be employed to reduce the number of vehicle trips to and from the industrial park. These include:

- Requiring employers to implement strategies to encourage their employees to carpool. This could include assistance in matching interested employees within their organization or with nearby industrial uses, arranging rideshare formation meetings, offering financial subsidies for not commuting to work alone, or offering a guaranteed ride home for carpoolers.
- Requiring employers to encourage employees to vanpool
- Moving trips outside of peak commute times by shifting work start times
- Operating a van or bus to shuttle employees from park-n-ride lots in Centralia and Chehalis

The traffic predictions discussed above are based on expected County-wide traffic growth trends as exhibited in the Lewis County Transportation Demand Model and the estimated traffic potential of the proposed industrial park. Both of these could occur at levels higher or lower than currently predicted. If the industrial park were to experience employment levels significantly denser than anticipated by IPAT, it would most likely result in higher traffic volumes. For example, if the industrial park experienced an employment density of 4.4 employees per acre (double that predicted) the site would employ approximately 4,000, generating approximately 1,850 PM peak hour trips. This traffic volume would potentially trigger the need to widen Big Hanaford Road to provide two lanes in each direction, or provide a second outlet from the site to SR 507 and/or implement significant trip reduction initiatives. Traffic congestion along SR 507 and Reynolds Avenue would also potentially require additional travel lanes. However, based on typical employment rates of the targeted industries, this is not considered to be a likely scenario.

Rail

Development Areas 1, 2, and 3 could most easily be served by rail; because of the site's topography, extending rail to the remaining development sites would involve major grading. Options for providing freight rail service to the Areas 1-3 include extending the existing spur that serves the power plant, constructing a bypass spur north of the existing coal unloading loop, or connecting directly to the BNSF rail line by rehabilitating an existing, abandoned rail bed that runs north of the industrial park site.

Extending the existing spur would involve constructing approximately 1,800 feet of rail line from the easternmost point of the coal unloading loop to the northern edge of development Area 1. Operations on the spur extension would be limited to the times that coal was not being unloaded at the power plant.

Alternatives for a bypass spur include constructing approximately 7,800 feet of rail line that would separate from the existing spur and then run more or less parallel to the coal unloading loop before turning southeast to the northern edge of development Area 1. Alternatively, a longer bypass spur (approximately 11,700 feet in length) could be extended along the northern edge of the site to serve development Areas 1, 2 and 3.

Approximately 19,000 linear feet of rail would be required to connect directly to the BNSF rail line via the abandoned rail bed. This alternative would have the least potential to conflict with TransAlta's rail operations, but it is possible that construction would involve impacts on wetlands that may have formed on or around the rail bed. No wetland delineation has been conducted in this area and additional investigation would be needed to determine the feasibility of this option. If this option was to be selected and wetlands affected, it is likely that a CWA Section 404 permit and Section 401 Water Quality Certification would be required. Construction would need to adhere to requirements for avoiding, minimizing, and mitigating for wetland impacts.

No Action

Under the No Action alternative, the number of vehicle trips in the vicinity of the site would diminish when reclamation of the Centralia Mine site is completed. This decline would be relatively small, as approximately 90 workers are employed for site reclamation. County-wide traffic growth trends would be expected to follow the projections of the Lewis County Transportation Demand Model. Table 12 shows the 2010 and 2030 PM peak hour traffic projections for local roadways without development of the industrial park. As described above, by 2030 Harrison Avenue at the I-5 Interchange and SR 507 between Big Hanaford Road and the one-way couplet would experience congestion even if the proposed Comprehensive Plan and code amendments are not adopted and the industrial park is not developed.

2.9 Public Services and Utilities

2.9.1 Existing Conditions

Police Protection

Police protection for unincorporated areas of Lewis County, including the area encompassed by the proposed ILB, is provided by the Lewis County Sheriff's Office. The Sheriff's Office includes an Investigations Division, Patrol Division, and the Services Bureau.

The Investigations Division is responsible for major crime investigation and analysis; the Patrol Division is responsible for general law enforcement including responding to emergencies, conducting traffic enforcement, investigating motor vehicle collisions, and other duties. Specialty areas of the Patrol Division include Commercial Vehicle Enforcement, the Sheriff's Emergency Response Team, and the Community Impact Team. The Patrol Division has approximately 30 uniformed personnel who respond to over 16,000 calls for service each year. Law enforcement officers are typically assigned patrol duty near their homes.

The Services Bureau includes the following divisions: Civil, Records, Property and Evidence, and Division of Emergency Management. The Emergency Management Division provides training for emergency responders and information on community preparedness.

Fire Protection and Emergency Services

Fire and emergency services are provided by the Riverside Fire Authority (RFA). The RFA is a municipal corporation established in 2008 that joins the resources from the Centralia Fire Department and Lewis County Fire District 12. It provides services to approximately 26,000 citizens who reside in Centralia as well as the Hanaford Valley, Seminary Hill, Cooks Hill, Lincoln Creek Valley, Independence Valley and Garrard Creek areas.

The Operations Division provides fire protection, suppression, and investigation, as well as emergency medical aid, advanced life support, hazardous materials response, fire and safety inspections, and construction fire code plan review. The Operations Division is staffed by four platoons of professional firefighters supplemented by community-based volunteers. The RFA's operating equipment includes nine structural engines, five water tenders, two mini pumper/rescue trucks, five ambulances, two brush pick ups, and one 93-foot platform truck.

The nearest fire station is Station No. 3, located at 161 Big Hanaford Road, approximately five minutes from the proposed industrial park site. Station 3 is a volunteer station staffed by six volunteer personnel. It has one structural fire engine with capabilities for fighting structure fires.

Lewis County has adopted the 2006 *International Fire Code* along with additions and amendments to reduce the potential for fires and fire damage. The code includes requirements for adequate fire flow for fighting fires and installation and maintenance of automatic fire suppression and alarm systems.

Schools

The proposed ILB site is located within the Centralia School District. The District has an enrollment of approximately 3,500 students in grades K-12 housed at six elementary/middle schools and one high school.

Solid Waste Disposal

Management of solid waste in Lewis County is the responsibility of the Solid Waste Division of the Department of Community Development. The Solid Waste Division conducts solid and hazardous waste planning and education in the County. Solid waste collection services in Lewis County are provided by three private, franchised haulers regulated by the Washington Utilities and Transportation Commission. Customers may also haul their solid waste to a transfer station or drop box. Transfer stations are located at Centralia and Morton and are operated by the Lewis County Public Works Department. From the transfer stations, waste is trucked to a rail transfer facility in Centralia and then shipped to the Roosevelt Regional Landfill in Klickitat County for final disposal.

Utilities

Natural Gas

Puget Sound Energy provides natural gas service in the area. The proposed ILB site is not currently served by available natural gas connections, although gas lines traverse the site. A lateral pipeline crosses through the site and continues south across the state line to Oregon. A lateral connects from the Bonneville Power Administration (BPA) Ignacio to Sumas main to the Centralia power plant. Existing easements protect these lines and address surface development that may occur along the alignment.

Electrical Power

The proposed ILB site is located within the service area of the Lewis County Public Utility District #1. Electricity is generated at the Centralia Power Plant adjacent to the site; however, electricity produced by the plant is transferred into the BPA regional power grid and cannot be used to directly supply proposed industrial park. However, TransAlta does have the ability to sell power to the local Public Utility District.

Sewer

The proposed ILB site is not currently served by sanitary sewer facilities. TransAlta has a wastewater treatment plant that serves the power plant and has a capacity of 20,000 gpd (Huitt-Zollars 2009), of which TransAlta currently uses about 8,000 gpd (T. Briggs, pers.com. 2010). The City of Centralia has a new treatment plant located northwest of the City's UGA that provides primary and secondary wastewater treatment for the City's service area and North Port District. The City's wastewater collection system consists of a network of mains, trunks, force mains, and 24 pump stations that collect wastewater and transport it to the treatment plant.

Water Supply

TransAlta has rights for use of approximately 142,189,714 gpd of water from the Skookumchuck River for use at the power plant and mine site. Approximately 64 percent of these water rights is for non-consumptive power generation (Huitt-Zollars 2009). Water withdrawn from the

Skookumchuck River by TransAlta is conveyed to a water treatment plant that can supply 90 gpm of potable water; of this capacity, TransAlta currently uses an average of 35 gpm. In addition, TransAlta's water treatment plant produces 400 gpm of "ultrapure" water that is used as makeup water in the power plant (T. Briggs, pers. com. 2010).

The City of Centralia operates the nearest municipal water system. The system includes nine groundwater wells, four reservoirs, two treatment facilities, and seven booster pump stations that deliver water to higher elevations within the City's service area (City of Centralia 2010). The City's Comprehensive Plan recognizes that the majority of growth is expected to occur outside the city limits and within higher elevation zones and that pump station upgrades and transmission main extensions will be needed to support future demand. To meet projected long-term supply needs, the City has applied for a surface water right for 26 cubic feet per second of supply from the Skookumchuck River.

2.9.2 Impacts of the Alternatives and Mitigation Measures

The Proposed Action

Police Protection

During construction at the industrial park, there would be the potential for an increase in the number of calls to the Sheriff's Office related to trespassing, theft of construction materials, and vandalism. It is expected that there is existing adequate capacity to serve a potential increase in calls for police protection over the duration of any construction phase.

As tenants locate at the industrial park, there would be the potential for increased demand for police services related to trespassing, theft, and vandalism and the increase in traffic on local roads would likely lead to additional needs for traffic patrols and calls related to motor vehicle accidents.

To mitigate the increased needs for police protection, individual tenants could require their contractors to implement a full-time security plan during construction and operation. This would include measures for secure storage of tools, equipment, and fuel; provisions for locking and immobilizing motorized equipment during non-working hours; installing anti-theft devices; and installing alarm systems on all major pieces of equipment and storage containers. In addition, IPAT could include a comprehensive safety and security component in its site management plan.

Because the majority of the site's workforce would likely be hired from the local area, the increase in the permanent population directly associated with development of the industrial would be relatively small. Therefore, over the long term, additional demand for police services resulting from population increases associated with the industrial park would be limited.

Fire Protection and Emergency Services

During construction at the industrial park, there could be an increase in the need for fire protection and/or emergency response related to equipment fires, on-the-job injuries, or spills of fuel or chemicals used in construction. It is expected that there is existing adequate capacity to serve a potential increase in calls for fire protection and emergency services over the duration of any construction phase.

Plans for development projects would require review for compliance with local and state fire safety regulations, and there would be additional demand for plan reviews and building inspections.

Any industrial operation involves the potential for fire, spills, or accidents. Industrial operations also often involve transportation, storage, use, and disposal of hazardous materials. The RFA may need additional capacity in terms of staffing, training, and equipment to respond to industrial emergencies involving hazardous materials. Similarly, the potential presence of multi-story buildings at the industrial park could require additional equipment and potentially additional firefighter training to respond to incidents involving such structures.

During construction, contractors would need to comply with Department of Natural Resources (DNR) equipment rules and regulations for work in forested lands.

To further mitigate fire risks, tenants could implement measures such as:

- Developing and following project-specific hazard management plans
- Contracting with the local fire authority for additional or specialized protection services during construction
- Providing training to fire authority personnel on how to respond to fires related to their specific industry
- Coordinating with the DNR and RFA when fire danger is high
- Adhering to all applicable laws, regulations, and ordinances
- Adopting appropriate CC&Rs for development

Alternatively, IPAT could take responsibility for monitoring fire conditions at the site, coordinating with the DNR and RFA, and implementing necessary fire precautions. IPAT could incorporate a comprehensive fire prevention and protection component in its site management plan.

Schools

Because the majority of the site's workforce would likely be hired from the local area, the increase in the permanent population directly associated with development of the industrial park would be relatively small. Therefore, over the long term, additional enrollment in local schools resulting from population increases associated with the industrial park would be limited.

Solid Waste Disposal

Solid waste associated with site reclamation, such as unsalvageable material from demolition of mine support buildings, would be either hauled off site to an approved disposal site or buried in the mine backfill. Asphalt paving, gravel, or other material that might hinder revegetation would be removed and disposed of in a mine backfill area or other approved disposal site within the mine permit area.

Construction and operation of industrial facilities at the site would generate solid waste that would be collected and transported off-site by a franchised local solid waste hauler for ultimate disposal at the Roosevelt Regional Landfill in Klickitat County.

Industrial processes could also produce dangerous or hazardous wastes (e.g., wastes that are ignitable, corrosive, reactive, or toxic). Handling, storage, transportation, and disposal of such wastes would be subject to Washington State's Dangerous Waste Regulations (WAC 173-303) and applicable provisions of the federal Resource Recovery and Conservation Act (RCRA; 42 USC §6901 et seq.). These requirements include obtaining a RCRA site identification number, filing annual reports summarizing the wastes generated and quantities accumulated on site as well as recycling and disposal activities.

Utilities

Natural Gas. Puget Sound Energy has indicated willingness to supply natural gas service to tenants of the industrial park, and has stated that it controls enough capacity on its pipeline system to provide this service (Huitt-Zollars 2009). Providing natural gas to the proposed industrial park would require extension of Puget Sound Energy's intermediate pressure system from a point approximately four miles from the site (J. Campion, pers. com 2009). Such a pipeline extension would involve multiple stream crossings and two railroad crossings. In addition, gas pressure reducing stations could be needed to serve the needs of particular tenants. It is expected that Puget Sound Energy would be responsible for obtaining construction permits and extending its pipeline facilities to the site.

Electrical Power. The proposed industrial park is located within the service area of the Lewis County Public Utility District #1. Electrical service for the industrial park could be provided by a new connection to the existing power line that runs through the site. This would likely require one or more new electrical substations (D. Kay, pers. com. 2009).

Domestic Wastewater. Based on an employment rate range of 2 to 8 employees per acre and assuming a typical generation rate of 15 gpd per employee, the site could generate approximately 30,000 to 120,000 gpd of domestic wastewater each day at full build-out. Because employment density is expected to be at the lower end of the range (Huitt-Zollars 2009), domestic wastewater volumes would likely be on the scale of 30,000 to 33,000 gpd.

As discussed in Section 2.4.2.1, it is expected that, at least initially, domestic wastewater would be discharged to individual on-site septic

systems. Other options include expansion of TransAlta's existing domestic wastewater treatment system to accommodate domestic wastewater flows from the industrial park, constructing an on-site treatment plant, or connecting to the City of Centralia's wastewater collection and treatment system.

Expansion and use of TransAlta's domestic wastewater treatment system would require mutual agreement with TransAlta and obtaining a new or revised NPDES permit for discharge of additional treated wastewater into the environment. State regulations require that permits for domestic wastewater treatment systems be issued only to public entities or holders of existing NPDES/State Waste Discharge permits. Entities such as the City of Centralia or the East Lewis County Public Development Authority (ELCPDA) could take over responsibility for this collection and treatment system by acting as a satellite system manager. The ELCPDA Board of Directors has adopted a resolution in support of assisting the industrial park with provision of utilities (see Appendix F).

A "package" treatment plant could be constructed on-site to provide wastewater treatment for the entire industrial park. The Department of Ecology has identified wastewater reclamation and reuse as a priority for new treatment facilities. Package treatment plants often combine two or three stages of treatment into one stage and may treat wastewater to a standard that allows for reuse rather than discharge. An on-site plant could be constructed in phases, with the first phase having capacity to treat wastewater flows from development Areas 1, 2, 3, and 4. The plant could later be expanded to provide treatment for wastewater flows from the remaining development areas. In order to be permitted, such a plant would need to be managed by a public entity.

Because the proposed ILB site is not within the City of Centralia's current service area for sewer, connecting to the municipal sewer system would require amendment of the City's comprehensive sewer/wastewater plan. To serve the site, a new 18-inch gravity sewer main would need to be extended from the site then along Big Hanaford Road to Downing Road (Figure 9). This extension would involve a rail crossing and multiple stream crossings. From Downing Road, a gravity main could be extended to the City's collection system at Pearl Street near Carson Street. During construction there would be temporary disruption of rail traffic, temporary disruption of vehicle traffic along Big Hanaford Road, and potentially water quality and aquatic habitat impacts from construction along and across streams.

Alternatively, a dedicated force main (i.e., a line serving only the industrial park) could be constructed from Downing Road to the City's wastewater treatment plant. That alternative would have a number of severe environmental constraints, including multiple stream crossings, a rail crossing, and crossing of I-5.

Industrial Process Wastewater. Tenants at the site would also produce industrial process wastewater. Process wastewater volumes vary widely among industries. For example, the City of Camas Wastewater Plan

estimates that wastewater volumes range from 1,500 gallons per acre per day for “dry” industries such as assembly plants to 2,500 gallons per acre per day for “wet” industries involving complex fabrication processes (Huitt-Zollars 2009). The recently-developed Cardinal Glass float glass plant near Napavine produces approximately 1,200 gallons per acre per day. Therefore, it is estimated that the new industrial park could produce between 1.2 million gpd to 2.5 million gpd of process wastewater. Based on the target industries identified by IPAT, 1.5 million gpd of process wastewater is considered a reasonable planning-level estimate for the site (Huitt-Zollars 2009).

Treatment of process wastewater could be provided by a new, on-site package treatment plant managed by a public entity. Depending on the type and quality of wastewater produced and the pre-treatment applied to it, process wastewater could be reused or discharged through on-site drainfields or underground injection.

Alternatively, process wastewater could be conveyed to the City of Centralia’s wastewater treatment plant. As with domestic wastewater, the latter option would require amendment of the City’s comprehensive sewer/wastewater plan and extension of a new 18-inch gravity main from the site to the City’s collection system at Pearl Street or construction of a new dedicated force main along Downing road to the wastewater treatment plant.

Water Supply. Water would be needed for domestic use, industrial processes, and fire flow on the site. Rates of water use would likely vary widely from tenant to tenant; however, it is estimated that domestic water needs would range from approximately 30,000 – 120,000 gpd; based on the expected employment density, domestic water needs would likely be on the scale of 30,000 to 33,000 gpd. It is estimated that process water needs would range from 1.2 million gpd to 2.5 million gpd; based on the identified target industries, process water needs would likely be approximately 1.5 million gpd. The volume of water needed for industrial processes could be reduced by various water conservation measures including reuse of treated wastewater. A planning-level estimate of fire flow needs indicates that a total of one million gallons of water would need to be stored on site to ensure adequate fire flows (Huitt-Zollars 2009).

Potential water sources include new on-site groundwater wells, transferring some of TransAlta’s existing water rights for use by the industrial park, and connecting to the City of Centralia’s municipal water system.

Use of new on-site wells to supply some or all of the industrial park’s needs would require hydrogeological investigation to evaluate the quality and quantity of groundwater available. New wells would also require permits for water withdrawal from the Department of Ecology. Any new water right must pass the following four-part test in order to be issued: (1) water must be found to be available for allocation; (2) it must be demonstrated that the water will be put to beneficial use; (3) the new

withdrawal must not impair existing water rights; and (4) issuance of the new right must not be detrimental to the public welfare. Groundwater withdrawal of 5,000 gpd or less for industrial use is exempt from state water right permitting requirements. All wells for a given project apply toward the limits of the exemption.

Use of new wells would involve on-site disturbance associated with establishing wellheads and installing water conveyance systems. The effects of earth disturbance, equipment noise, dust, and engine emissions associated with well drilling and construction of conveyance lines would be expected to be relatively small and localized.

It could be feasible to transfer some of TransAlta's existing water rights to the industrial park. Transfer of an existing water right involves obtaining approval to change the use of the water, its point of withdrawal, or both. In this case, the transfer would involve a change in water use. Water right transfers are subject to the same four-part test that is applied to new water rights. TransAlta has indicated a willingness to work with IPAT to explore the potential for providing water to the industrial park (see Appendix F).

It is possible that the industrial park could obtain its full water needs by transferring some of TransAlta's water rights and connecting directly to TransAlta's water treatment system (Huitt-Zollars 2009). Under this option, TransAlta's water treatment plant would likely need to be expanded and the existing conveyance system would need to be extended to the industrial park's boundary. From that point, an on-site conveyance system would be constructed concurrent with the various development phases.

Because the proposed ILB site is not within the City of Centralia's current service area for water supply, connecting to the municipal water system would require amendment of the City's comprehensive water plan. The City is scheduled to update its comprehensive water plan in 2011. As noted above, the City has applied for a surface water right for 26 cubic feet per second of supply from the Skookumchuck River. City representatives have indicated that the amended comprehensive water plan will include this new source and an expanded service area, pending Ecology's issuance of the requested water right. With the new water right, the City could be in a position to become the water purveyor for the area that includes the proposed ILB site. To provide this service, a new 18-inch water main would need to be extended from the site to the City's water supply system. Options for connection include extending a new main approximately 28,000 feet from the site along Big Hanaford Road and connecting to the City's system near Downing Road and Pearl Street (Figure 10). Because that connection point is currently a 6-inch line, major upgrades to existing City water mains would likely be needed. This alternative would involve a rail crossing and multiple stream crossings. During construction there would be temporary disruption of rail traffic, temporary disruption of vehicle traffic along Big Hanaford Road, and potentially water quality and aquatic habitat impacts from construction along and across streams.

Another alternative for connecting to the City's system would involve extending a new water main approximately 15,500 feet from the southwestern boundary of the proposed ILB site along an existing utility corridor and connecting to an existing 18-inch line that is adjacent to Little Hanaford Road (Figure 10). This is an older line that may need additional maintenance or upgrading. A new pump station would likely be needed to convey water to the industrial park. This line extension would likely involve fewer construction impacts than the previous alternative, but there would be temporary disruption of vehicle traffic along Grimes Road and potentially new ground disturbance associated with construction of the pump station.

If the City's application for a new surface water right from the Skookumchuck River is approved, a connection could be made near the point of diversion. A new water main would need to be extended approximately 15,000 feet from the point of diversion to the northern boundary of the industrial park. This alternative would involve crossing Big Hanaford Creek and Big Hanaford Road. During construction there would be some disruption of traffic on Big Hanaford Road in the vicinity of the crossing and potentially water quality and aquatic habitat impacts from the stream crossing.

No Action

Under the No Action alternative, there would be no change in existing needs for police and fire protection, schools, and solid waste disposal. Until reclamation is completed on the site, there may be calls to the Sheriff's Office related to trespassing, theft of construction equipment, and vandalism. There could be calls for fire protection and/or emergency response related to equipment fires, on-the-job injuries, or spills of fuel.

Solid waste associated with site reclamation, such as unsalvageable material from demolition of mine support buildings, would be either hauled off site to an approved disposal site or buried in the mine backfill. Asphalt paving, gravel, or other material that might hinder revegetation would be removed and disposed of in a mine backfill area or other approved disposal site within the mine permit area.

Utilities needed for reclamation are available and there would be no change in existing needs for electrical power, wastewater disposal, or water supply.

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Figures

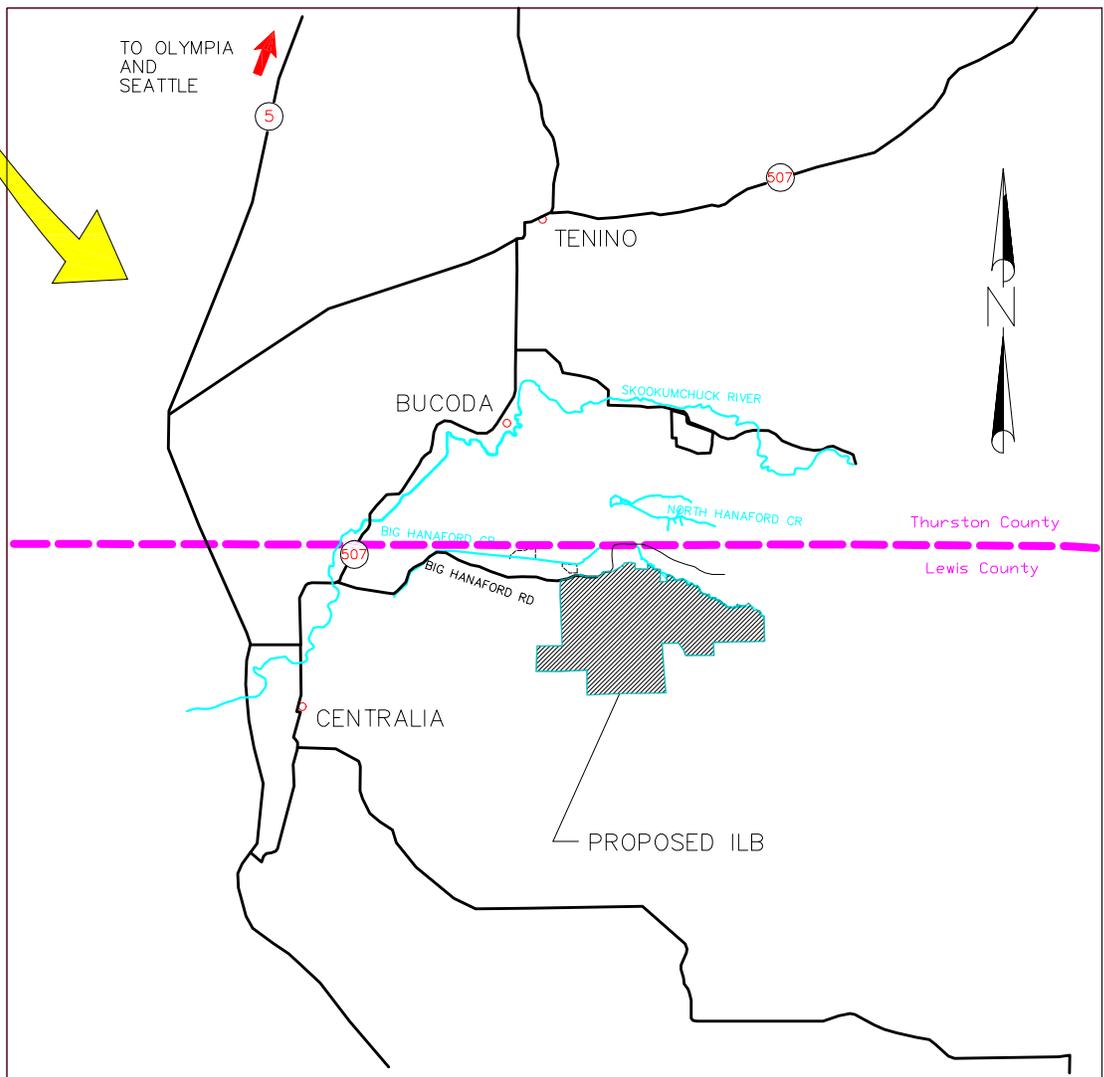
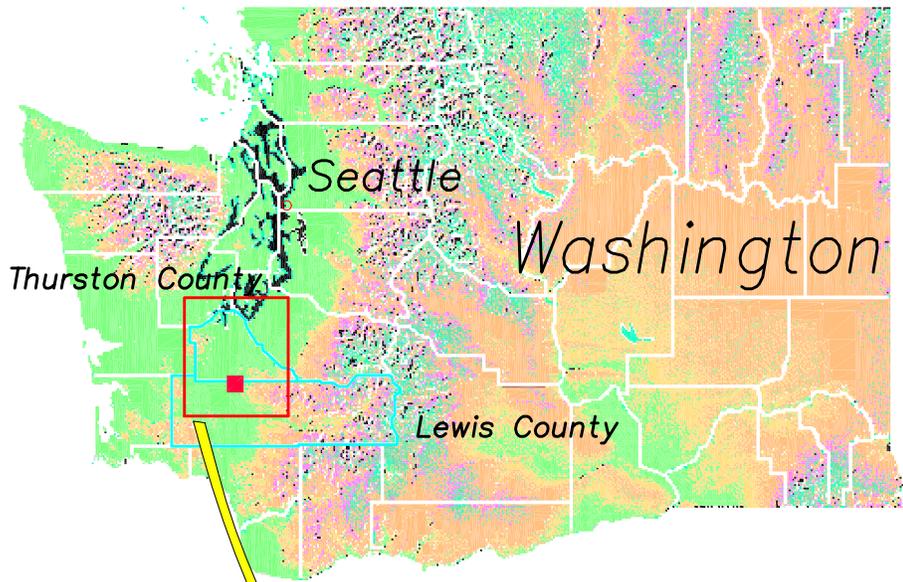
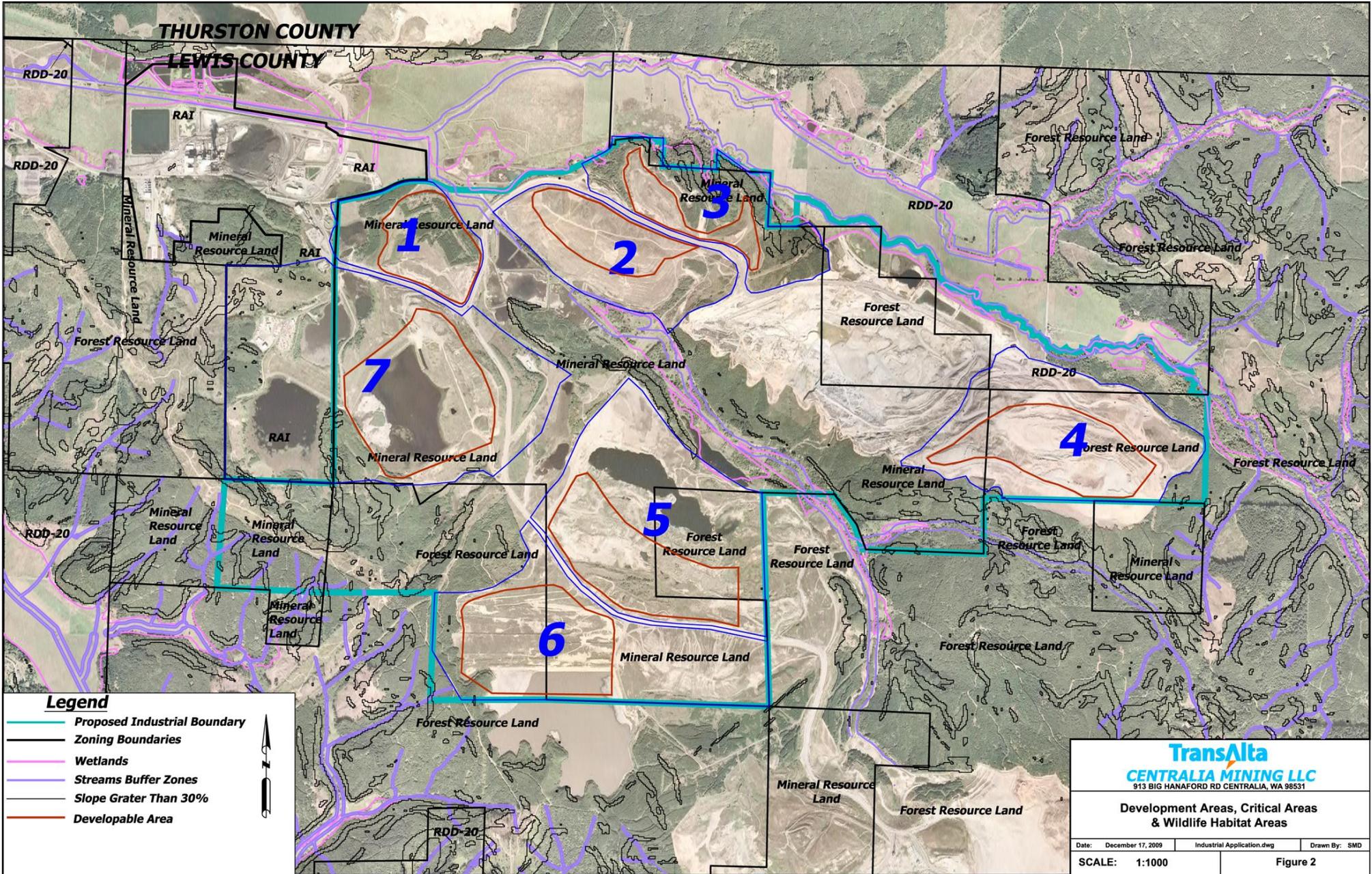


FIGURE 1
VICINITY MAP

Date: November 3, 2003	C03026_flg1-1-1.dwg	Drawn By: SMD
SCALE: N.T.S.	REVISED BY: W.N. PIE 7/13/10	



THURSTON COUNTY

LEWIS COUNTY

RDD-20

RAI

RAI

Mineral Resource Land

1

Mineral Resource Land

3

RDD-20

Forest Resource Land

Forest Resource Land

Forest Resource Land

RDD-20

4

Forest Resource Land

Forest Resource Land

Mineral Resource Land

Mineral Resource Land

7

Forest Resource Land

5

Forest Resource Land

Forest Resource Land

Forest Resource Land

Mineral Resource Land

Forest Resource Land

Mineral Resource Land

Mineral Resource Land

6

Mineral Resource Land

Forest Resource Land

Mineral Resource Land

Forest Resource Land

Legend

- Proposed Industrial Boundary
- Zoning Boundaries
- Wetlands
- Streams Buffer Zones
- Slope Grater Than 30%
- Developable Area



TransAlta

CENTRALIA MINING LLC

913 BIG HANAFORD RD CENTRALIA, WA 98531

Development Areas, Critical Areas
& Wildlife Habitat Areas

Date: December 17, 2009 Industrial Application.dwg Drawn By: SMD

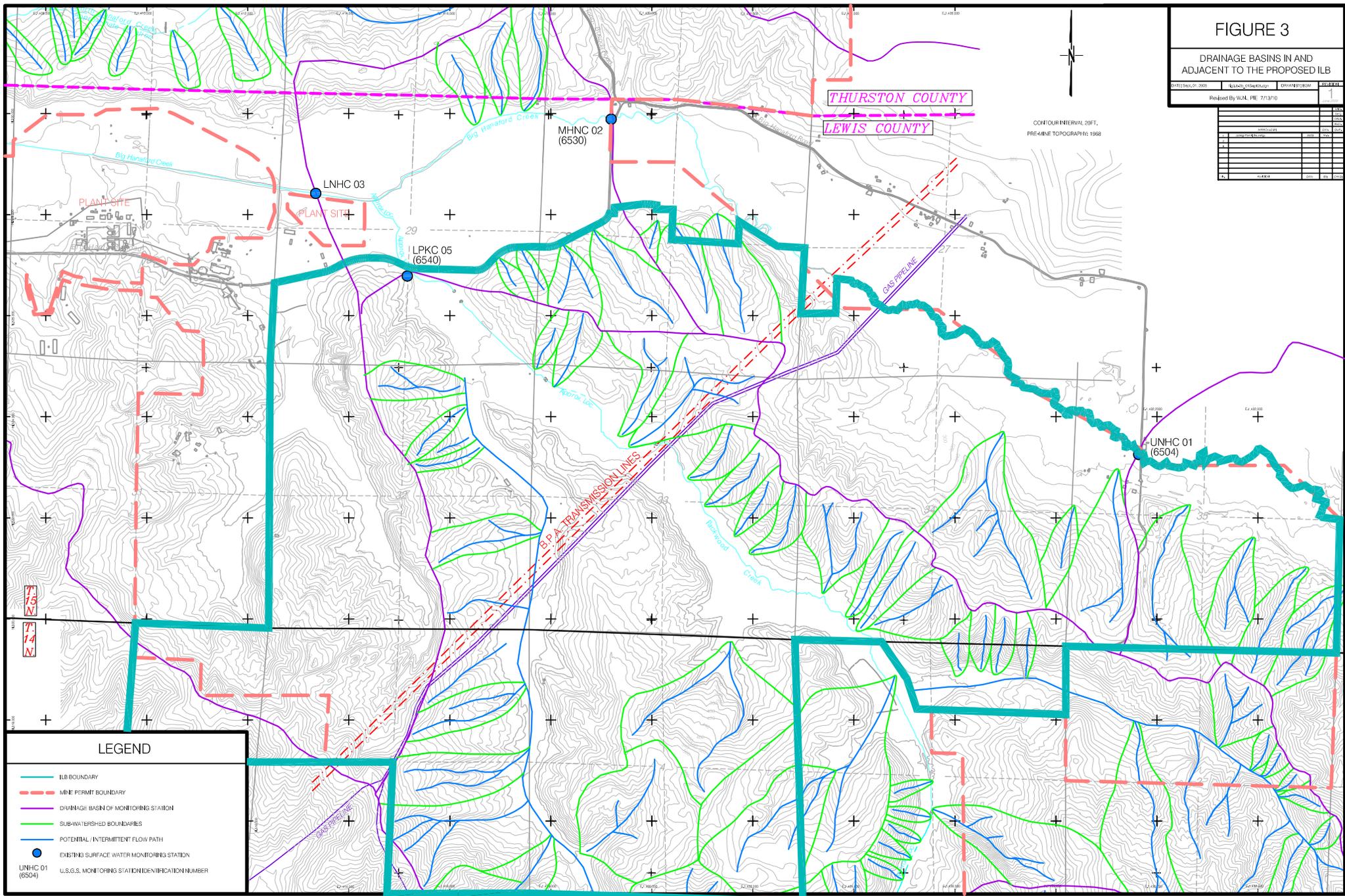
SCALE: 1:1000

Figure 2

FIGURE 3

DRAINAGE BASINS IN AND ADJACENT TO THE PROPOSED ILB

DATE: 05/01/2005	SCALE: AS SHOWN	DRAWN BY: BDM	REVISION:
Revised By: W.A.L. P.E. 7/7/07			1
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMITTING	05/01/05	BDM
2	REVISED TO ADD MONITORING STATIONS	07/07/07	WAL
3	REVISED TO ADD MONITORING STATIONS	07/07/07	WAL
4	REVISED TO ADD MONITORING STATIONS	07/07/07	WAL



LEGEND

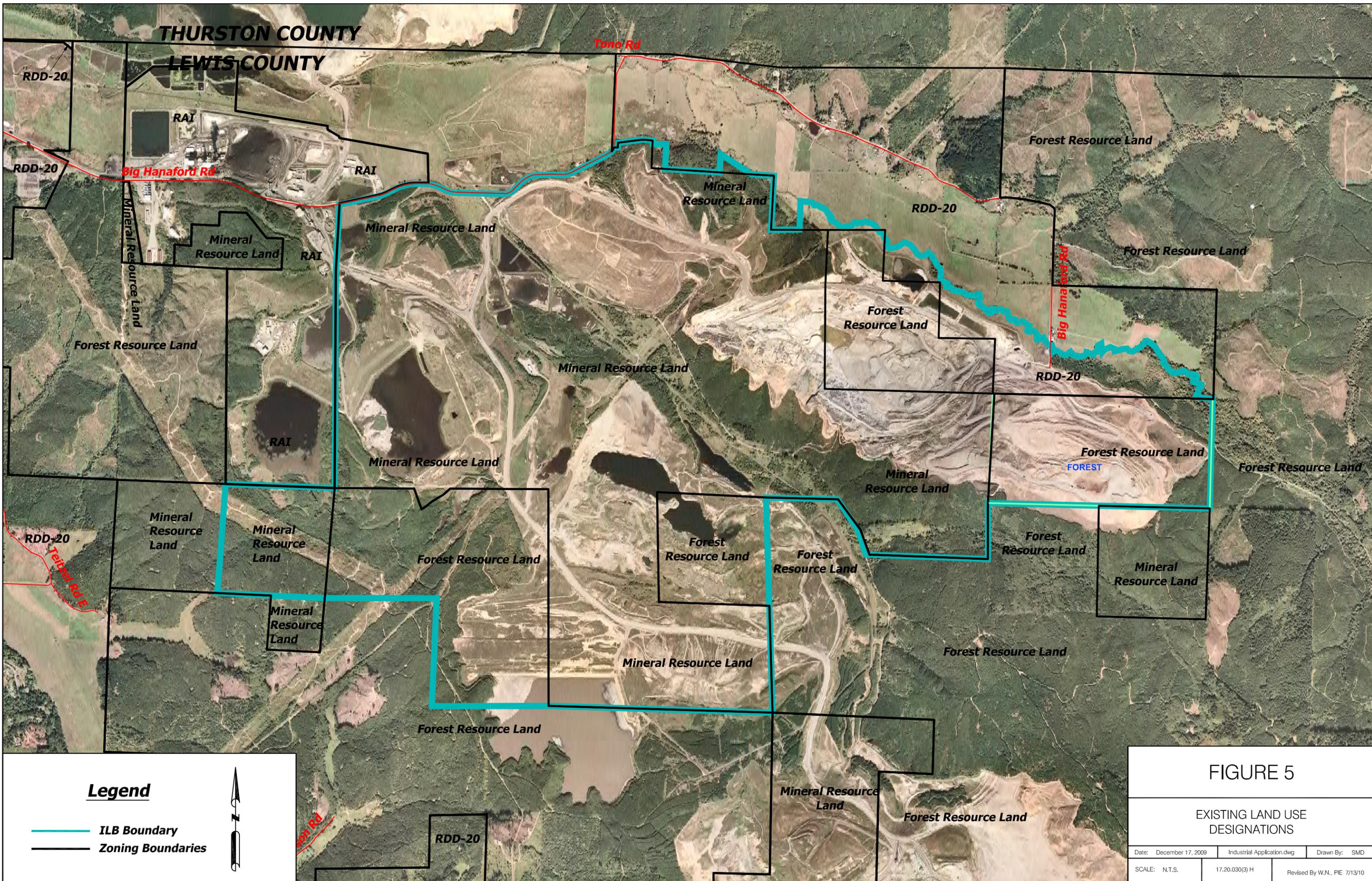
- ILB BOUNDARY
- - - MINE PERMIT BOUNDARY
- DRAINAGE BASIN OF MONITORING STATION
- SUB-WATERSHED BOUNDARIES
- POTENTIAL / INTERMITTENT FLOW PATH
- EXISTING SURFACE WATER MONITORING STATION
- U.S.G.S. MONITORING STATION IDENTIFICATION NUMBER

UNHC 01 (6504)

SOURCE: Google Earth (2005)

THURSTON COUNTY

LEWIS COUNTY



Legend

- ILB Boundary
- Zoning Boundaries



FIGURE 5

EXISTING LAND USE DESIGNATIONS

Date: December 17, 2009	Industrial Application.dwg	Drawn By: SMD
SCALE: N.T.S.	17.20.030(3) H	Revised By W.N., PIE 7/13/10

FIGURE 6

ROAD NETWORK

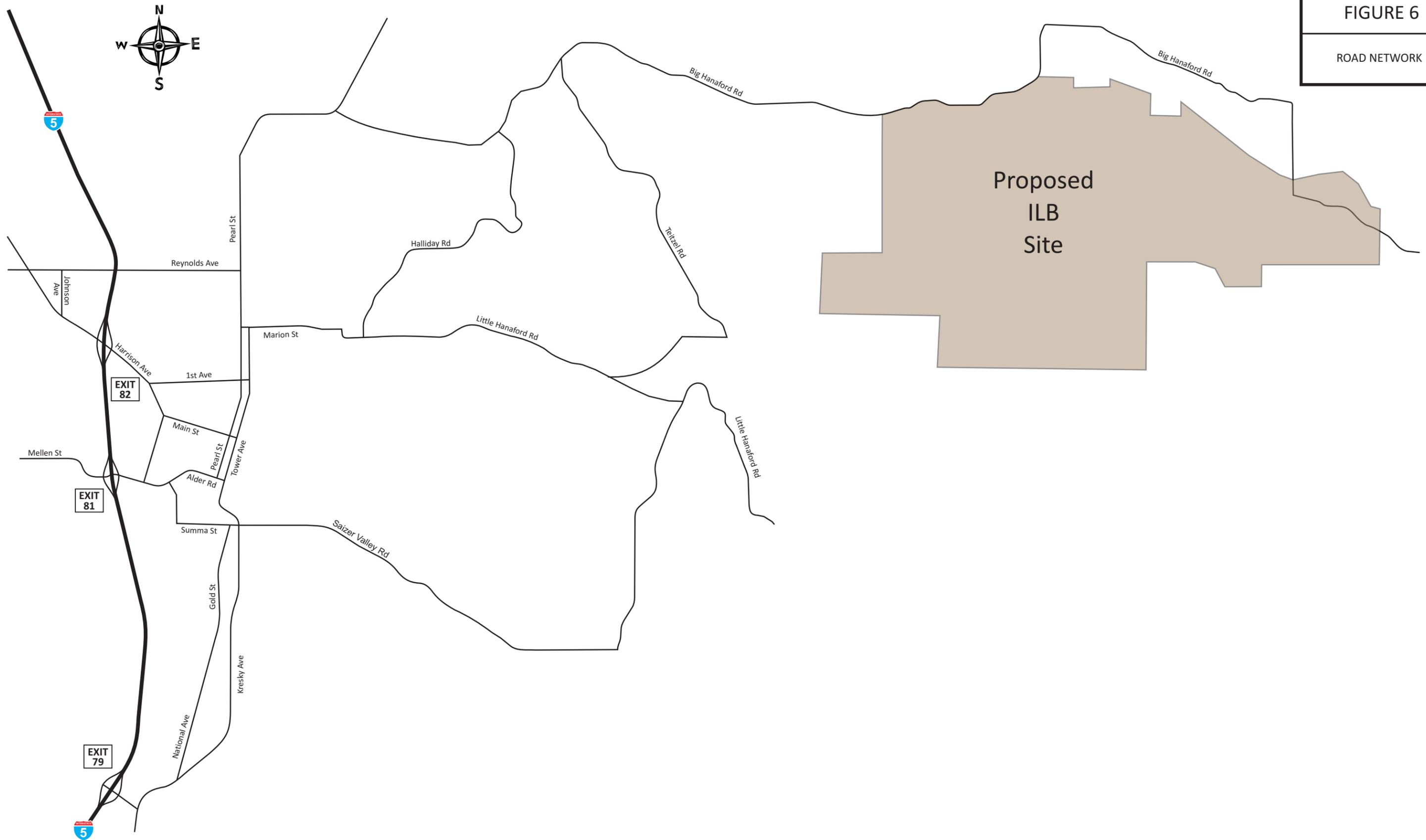


FIGURE 7

PROJECT TRIP DISTRIBUTION

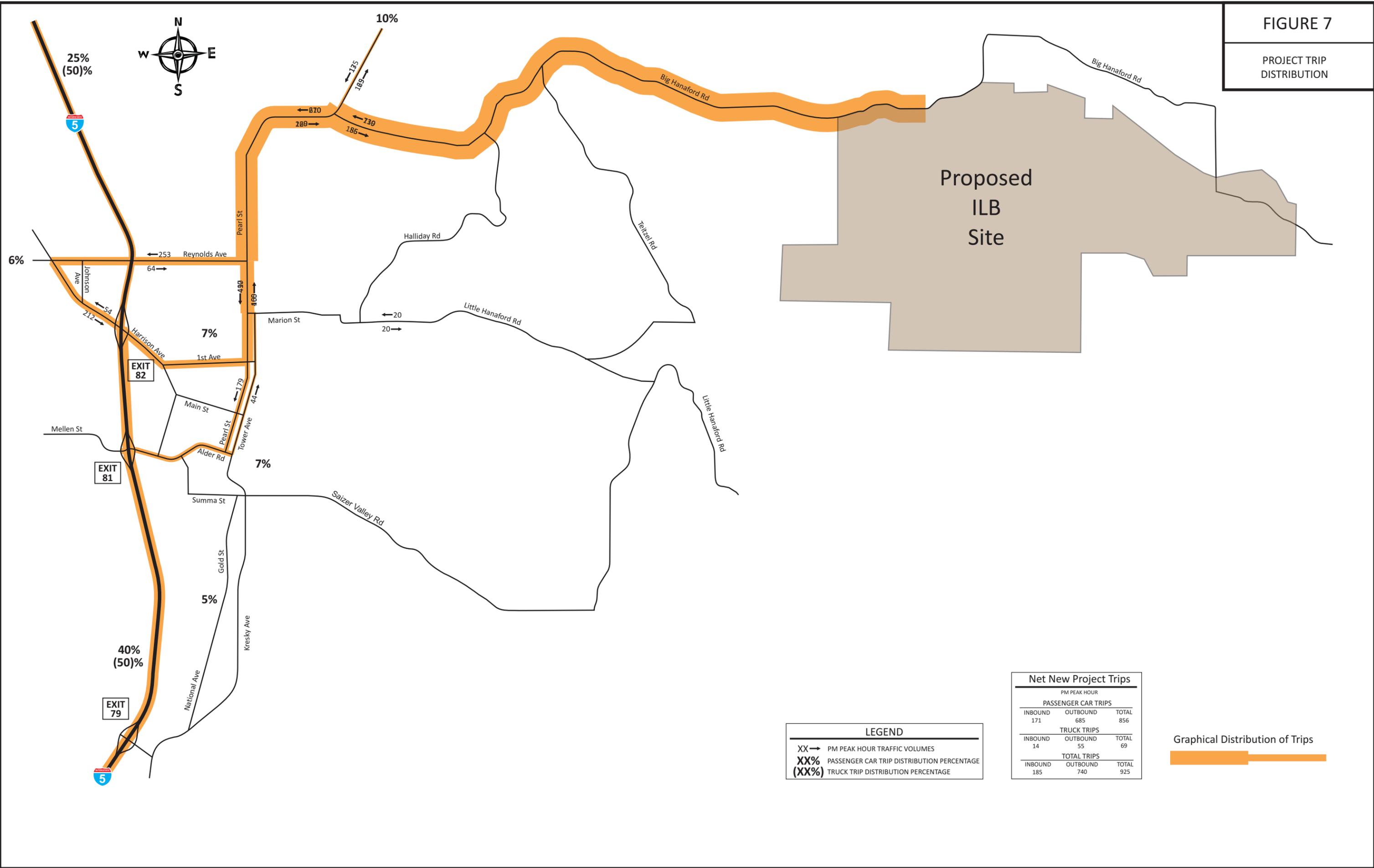
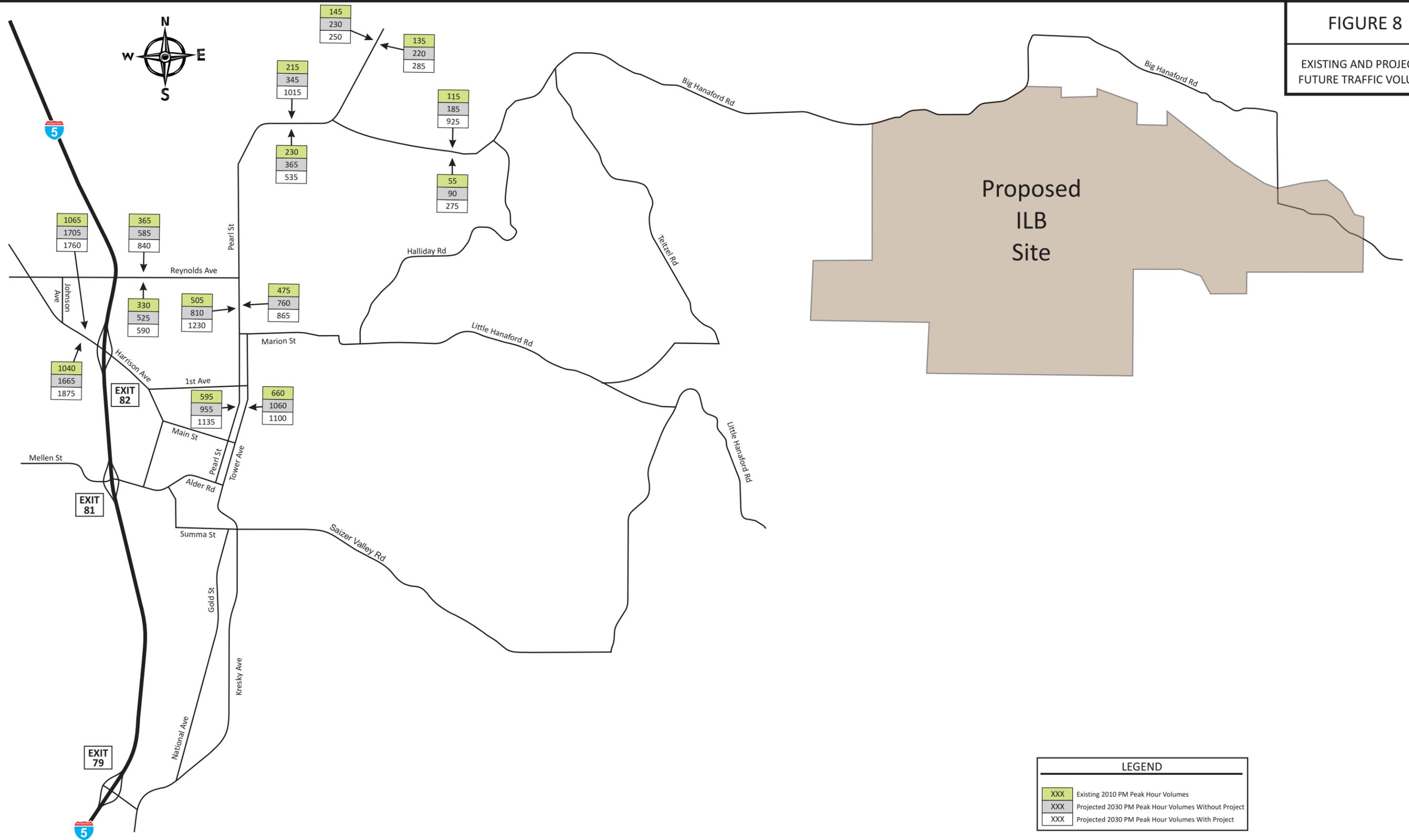


FIGURE 8

EXISTING AND PROJECTED FUTURE TRAFFIC VOLUMES

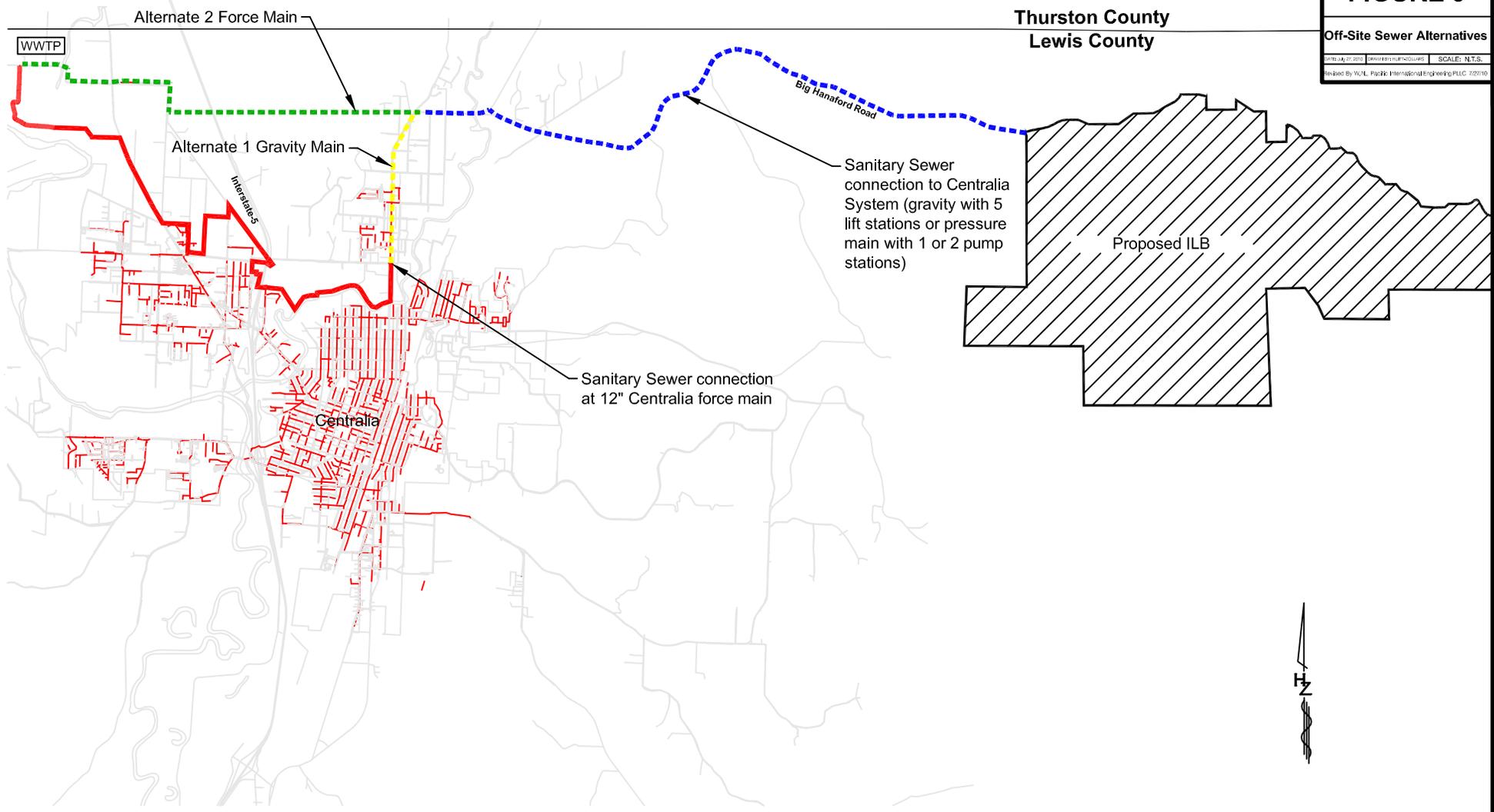


SOURCE: Shea Carr Jewell, Inc.

FIGURE 9

Off-Site Sewer Alternatives
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 SCALE: N.T.S.
 DESIGNED BY: N.L. Pacific International Engineering, P.L.L.C. 7/27/10

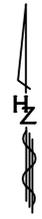
**Thurston County
 Lewis County**



LEGEND

- - - - - POTENTIAL GRAVITY MAIN
- - - - - GRAVITY MAIN ALTERNATE 1
- - - - - FORCE MAIN ALTERNATE 2
- - - - - EXISTING FORCE MAIN
- - - - - EXISTING CITY SANITARY SEWER MAINS
- WWTP EXISTING WASTWATER TREATMENT PLANT

SS Segment	Linear Feet
Potential Gravity Main (Big Hanaford Line)	29,100
Gravity Main Alternate 1	7,000
Force Main Alternate 2	19,100

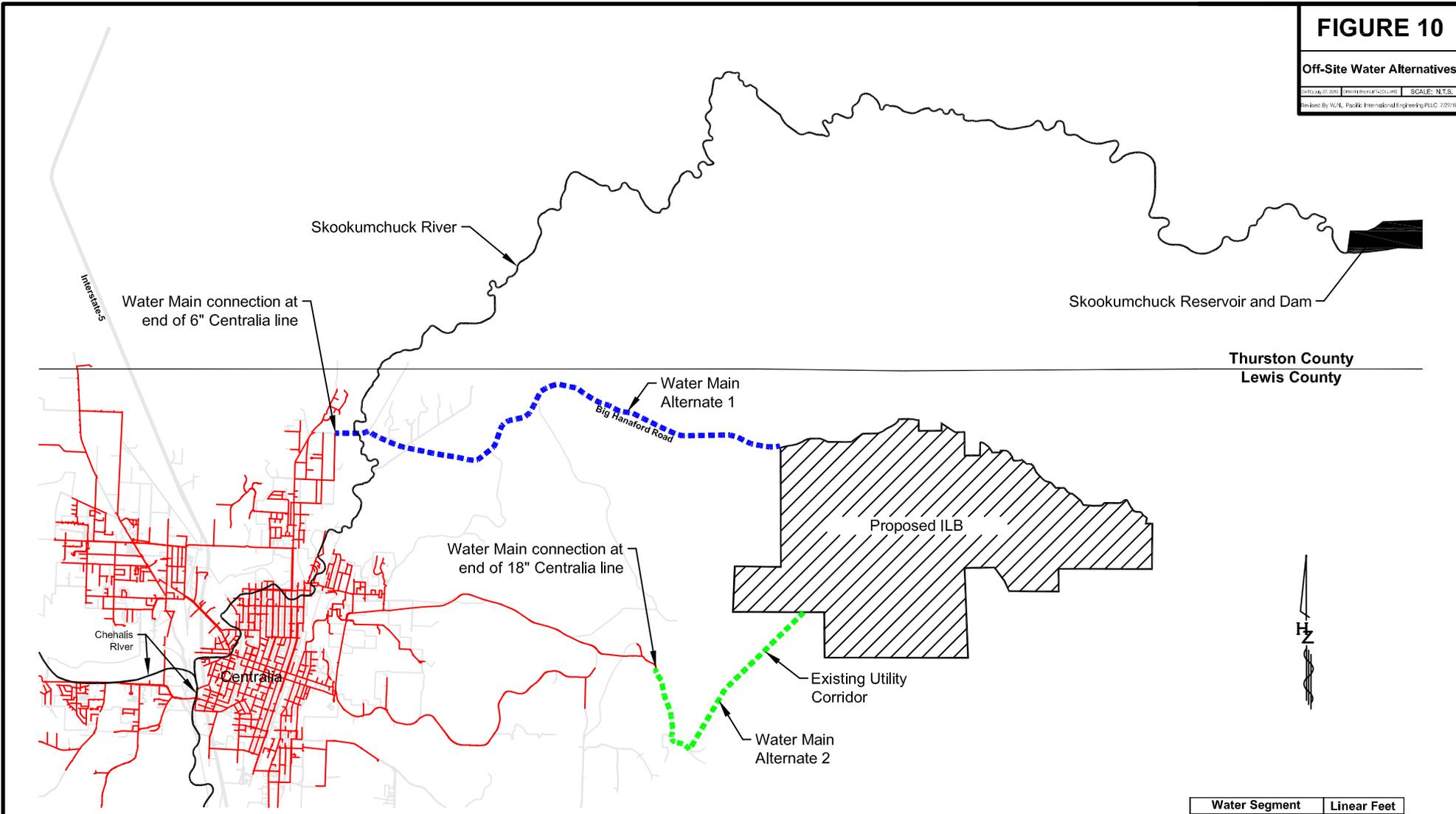


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FIGURE 10

Off-Site Water Alternatives

DATE: 01/20/2016 10:53:45 AM SCALE: N.T.S.
 DRAWN BY: J. BROWN
 CHECKED BY: W. H. PETERSON
 PROJECT: I-5 CORRIDOR WATER MAINS
 SHEET: I-5 CORRIDOR WATER MAINS SHEET 10.10



Thurston County
 Lewis County

Proposed ILB

Existing Utility Corridor

Water Main Alternate 1

Water Main Alternate 2

Water Main connection at end of 18" Centralia line

Water Main connection at end of 6" Centralia line

LEGEND

- WATER MAIN EXTENSION ALTERNATE 1
- WATER MAIN EXTENSION ALTERNATE 2
- EXISTING CITY WATER MAINS
- EXISTING ROADS

Water Segment	Linear Feet
Water Main Extension Alternate 1	28,200
Water Main Extension Alternate 2	15,500

DATE: 01/20/2016 10:53:45 AM
 DRAWN BY: J. BROWN
 CHECKED BY: W. H. PETERSON
 PROJECT: I-5 CORRIDOR WATER MAINS
 SHEET: I-5 CORRIDOR WATER MAINS SHEET 10.10

Appendix A

Legal Description of the Proposed ILB Site

**INDUSTRIAL LAND BANK
LEGAL DESCRIPTION**

SITUATE IN LEWIS COUNTY, WASHINGTON

AS TO TOWNSHIP 14 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN

THE NORTH HALF OF THE NORTH HALF OF SECTION 3 LYING EASTERLY OF THE CENTERLINE OF VACATED MENDOTA COUNTY ROAD;

ALL OF SECTION 4;

THE NORTH HALF AND THE SOUTHEAST QUARTER OF SECTION 5;

THE NORTHEAST QUARTER OF SECTION 6;

AS TO TOWNSHIP 15 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN

THAT PORTION OF THE SOUTH HALF OF SECTION 27 LYING SOUTHERLY OF BIG HANAFORD CREEK, ALSO KNOWN AS SNYDER CREEK, EXCEPTING THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AS DESCRIBED IN A CERTAIN DEED TO RICHARD AND TAMMI FROST DATED JULY 01, 2004, AND RECORDED UNDER AUDITOR FILE NUMBER 3700666.

THE SOUTHEAST QUARTER OF SECTION 28;

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 28 LYING SOUTHERLY OF BIG HANAFORD ROAD, EXCEPTING BIG HANAFORD ROAD;

THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 28 LYING SOUTHERLY AND EASTERLY OF BIG HANAFORD ROAD, EXCEPTING BIG HANAFORD ROAD;

THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 28 LYING SOUTHERLY AND EASTERLY OF BIG HANAFORD ROAD, EXCEPTING BIG HANAFORD ROAD;

THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 28 LYING SOUTHERLY OF THE FOLLOWING DESCRIBED LINE: BEGINNING AT THE SOUTHEAST CORNER OF THAT

CERTAIN PROPERTY DESCRIBED IN WARRANTLY DEED FROM GEORGE W. BLOSE, A SINGLE MAN, TO BYRON WESLEY MILLER AND LEONA ALMA MILLER, HUSBAND AND WIFE, RECORDED OCTOBER 09, 1979, UNDER AUDITOR'S FILE NUMBER 869424 (HEREINAFTER REFERED TO THE MILLER PROPERTY); THENCE WESTERLY ALONG THE SOUTHERN BOUNDARY OF SAID MILLER PROPERTY TO THE EAST LINE OF BIG HANAFORD ROAD AND THE TERMINUS OF SAID LINE. EXCEPTING THEREFROM THE VICTORY MINE ROAD;

THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 28 LYING SOUTHWESTERLY OF THE NORTHEASTERLY LINE OF THE HANAFORD CREEK LOGGING COMPANY RAILROAD GRADE, SAID NORTHEASTERLY LINE BEING DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE WEST LINE OF SAID SUBDIVISION 454.44 FEET NORTH OF THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 53°11'14" EAST 191.69 FEET; THENCE SOUTH 55°33'09" EAST, 163.58 FEET; THENCE SOUTH 54°47'22" EAST 93.84 FEET TO THE SOUTH LINE OF SAID SUBDIVISION AND THE TERMINUS OF SAID LINE;

THAT PORTION OF THE SOUTH HALF OF SECTION 29 LYING SOUTHERLY OF THE SOUTHERLY MARGIN OF BIG HANAFORD ROAD;

ALL OF SECTION 32;

ALL OF SECTION 33;

ALL OF SECTION 34 EXCEPTING THAT PORTION OF THE NORTHEAST QUARTER LYING NORTHERLY OF BIG HANAFORD CREEK, ALSO KNOWN AS SNYDER CREEK;

THE SOUTH HALF OF SECTION 35;

THAT PORTION OF THE NORTHEAST QUARTER AND THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 35, LYING SOUTHERLY OF BIG HANAFORD CREEK, ALSO KNOWN AS SNYDER CREEK, AS RECORDED JULY 20, 2001, UNDER AUDITOR'S FILE NUMBER 3117710 IN VOLUME 20 OF SURVEYS, PAGE 235. EXCEPT BIG HANAFORD ROAD.

PARCEL NUMBERS

AS TO TOWNSHIP 14 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN

Section 3: 020411002000
Section 4: 020422000000, 020421000000, 020425000000, 020426000000,
020420000000, 020427000000
Section 5: 020428004000, 020428003000, 020428002000, 020428000000
Section 6: Portion of 020445000000

AS TO TOWNSHIP 15 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN

Section 27: 023299000000, 023297002001, 023297006003, 023303003000
Section 28: 023307001000, 023314000000, 023311000000, 023310001000,
Portion of 023312000000
Section 29: Portion of 023325002000
Section 32: 023373000000
Section 33: 023387001000
Section 34: 023406001000, 023405000000, 023402000000, 023303004000
Section 35: 023420000000, 023419003000, 023418002002

Appendix B

Proposed Comprehensive Plan Amendments

Proposed Comprehensive Plan Amendments

Economic Development Element

p. 3-2 [The original language is a copy of a CPP adopted in the Comprehensive Plan; amended language reflects recent amendments to CPP]

5.0 *The development of industries should be encouraged within the cities, urban growth areas, designated Limited Areas of More Intense Rural Development (LAMIRDs), and within those unincorporated areas of Lewis County which satisfy the requirements set forth in RCW 36.70A.350, 365, ~~and~~ .367, and .368.*

p. 3-8, 3-9, 3-10 – Goals and Policies

New Policy 1.x

The County will implement Growth Management Act provisions that facilitate industrial development of former surface coal mining land as provided in RCW 36.70A.368.

Land Use Element

4-5

Major Industrial Developments

Lewis County has designated two Major Industrial Development areas that are not associated with the UGAs of the incorporated cities and towns. The Centralia Steam Plant 1000-acre site is designated a Major Industrial Development Area pursuant to RCW 36.70A.367. The second designated Industrial Development Area is a thousand acre site located at the intersection of I-5 and US-12, between Meier Road and Military Road. Development regulations shall provide an appropriate master planning process to address development criteria, preservation of large industrial sites, adequate public facilities (including sewer, water, and transportation), and adequate buffers and environmental protection. See Figures 4.14 and 4.15.

In addition to the Centralia Steam Plant Industrial Urban Growth Area, 2000 adjoining acres have been designated as an Industrial Land Bank Reserve, pursuant to HB 3099, to meet projected 50-year needs.¹

The county should provide specific language in connection with the I-5/Highway 12 intersection area to assure coordination with and protection of agricultural activities. The site does contain agricultural lands and agricultural and industrial uses are both compatible and good neighbors.

¹ See Lewis County Industrial Needs Analysis prepared for the Lewis County Economic Development Council, November 1997, by E.D. Hovee and Company and the Prime Industrial Lands Analysis, Donna Batch, February 1999.

The Major Industrial Development areas require significant up-front planning, addressing an entire thousand acre site. As an alternative, property owners may use the provisions of RCW 36.70A.365 to locate a new industrial development consistent with those standards within such proposed Major Industrial Development area. The major industrial facility siting may be more appropriate to the size, scale, and pace of anticipated industrial development for those areas.

In addition, to industrial development pursuant to RCW 36.70A.365 and RCW 36.70A.365, Lewis County may designate a master planned location for major industrial activity subject to the provisions of RCW 36.70A.368.

LU 2.4

Urban growth should occur within urban growth areas only and not be permitted outside of an adopted urban growth area except for new fully contained communities; master planned resorts, industrial reserve areas (IRAs), major industrial developments, crossroads communities and rural town centers.

New policy LU 7.x

A Major Industrial Development – Master Planned Location designated pursuant to RCW 36.70A.368 must satisfy the following criteria:

- (a) Must be located on lands formerly used or designated for surface coal mining and supporting uses; that consist of an aggregation of land of one thousand or more acres, which is not required to be contiguous; and that are suitable for manufacturing, industrial, or commercial businesses;
- (b) New infrastructure is provided for; and
- (c) Environmental review of a proposed designation of a master planned location must be at the programmatic level, as long as the environmental review of a proposed designation that is being reviewed concurrent with a proposed major industrial activity is at the project level.

LU 8.3

Allow for the designation of Major Industrial Developments/Major Industrial Developments – Master Planned Locations at certain specified locations outside of designated Urban Growth Areas pursuant with RCW 36.70A.365, ~~and~~ RCW 36.70A.367, and RCW 36.70A.368.

p. 4-31

6. New large-scale activities in the rural areas shall be reviewed through provisions for fully contained communities, major industrial projects, master planned resorts, and industrial land banks, including the identification of both criteria and potential locations for such uses. RCW 36.70A.360, 362, 365, 367, 368.

Capital Facilities/Utilities Element

p. 4-13 (should be 13-4)

- Developments authorized under RCW 36.70A.350, 360, 362, 365, ~~and 367~~, and 368 may be served by urban sewer and water systems consistent with state law. However, no additional connections may be allowed at urban levels of service in the land between adopted UGAs. (CPP 2.6)

Note – For clarity, CPP 2.6 also should be amended (overlooked when County amended all other CPPs to address 368):

2.6 Developments authorized under RCW 36.70A.350, .360, .362, .365, ~~and .367~~, and .368 may be served by urban sewer and water systems consistent with state law. However, no additional connections may be allowed at urban levels of service in the land between adopted UGAs.

Appendix C

Proposed County Code Amendments

Proposed County Code Amendments

Chapter 17.20 URBAN GROWTH AREAS - COUNTY

Sections:

17.20.010 Purpose.

17.20.015 Designation of industrial land bank other than reclaimed surface coal mine sites.

New - 17.20.xxx Designation of industrial land bank - reclaimed surface coal mine sites.

17.20.020 Permitted uses.

17.20.030 Application.

17.20.040 Complete application vesting.

17.20.050 Process - Master plan approval for major industrial development – other than reclaimed surface coal mine sites.

17.20.051 Process - Master plan approval for fully contained community.

17.20.052 Repealed.

New - 17.20.xxx Process – Master plan approval for major industrial development – reclaimed surface coal mine sites.

17.20.060 Special criteria for approval.

17.20.010 Purpose.

The purpose of this section is to provide guidelines for the planning and development of the urban growth areas in the county which are or may be designated as urban growth areas, but which are not associated with a specific city. Included in this section are all uses identified as new fully contained communities, RCW 36.70A.350; master planned resorts, RCW 36.70A.360; major industrial developments, RCW 36.70A.365; ~~or major industrial developments - master planned developments, RCW 36.70A.367; or~~ major industrial developments – master planned locations – reclaimed surface coal mine sites, RCW 36.70A.368.

17.20.015 Designation of industrial land bank other than reclaimed surface coal mine sites.

Consistent with the requirements of RCW 36.70A.367, a bank of up to two master planned locations for major industrial activity outside an urban growth area may be designated within Lewis County. Prior to such designation and consistent with the Lewis County comprehensive plan, the county finds that the following specific criteria shall be used in reviewing any application for any master planned location/industrial land bank designation:

(1) Only two sites shall be designated as consistent with RCW 36.70A.367.

(2) In addition to meeting the requirements of RCW 36.70A.367(2) and (8), any site proposed for designation under that section shall:

(a) Be located adjacent to or within 10 miles of a city or urban growth area;

(b) Contain large, developable lots or parcels of a size not readily available within cities or urban growth areas, consistent with RCW 36.70A.367(8);

(c) Require that at least 50 percent of the industries locating within the industrial land bank be either rail-dependent or dependent on an interstate highway for transportation needs.

(d) Locate in an area with sufficient infrastructure or in an area where necessary infrastructure can be readily and efficiently provided;

(e) Locate in an area not overly constrained by resource land or critical area constraints.

(3) No master planned location shall be mapped or otherwise designated until such time as all the requirements of this chapter have been met and approval has been granted by the board of county commissioners.

~~(4) The county has identified two potentially suitable areas: The TransAlta Steam Plant area, and the area at the intersection of I-5 and Highway 12/rail corridor area. This identification does not preclude consideration of alternative locations meeting the criteria; provided, however, that no more than two master planned major industrial sites shall be designated under provisions of this section.~~

New - 17.20.xxx Designation of industrial land bank - reclaimed surface coal mine sites.

This section is intended to implement the provisions of RCW 36.70A.368(3). Consistent with the requirements of RCW 36.70A.368, a master planned location for major industrial activity outside an urban growth area on lands formerly used or designated for surface coal mining and supporting uses may be designated within Lewis County. Prior to such designation and consistent with the Lewis County comprehensive plan, the county finds that the following specific criteria shall be used in reviewing any application for designation of a master planned location/industrial land bank under this section:

(1) Designation of a master planned location/industrial land bank under this section are not subject to the requirements of RCW 36.70A.130(2) and may be considered at any time.

(2) Any site proposed for designation under RCW 36.70A.368 shall be located on lands:

(a) formerly used or designated for surface coal mining and supporting uses;

(b) that consist of an aggregation of land of one thousand (1,000) or more acres, which is not required to be contiguous; and

(c) that are suitable for manufacturing, industrial, or commercial businesses.

(3) New infrastructure is provided for. Provision for new infrastructure may be demonstrated by a plan for extending or otherwise supplying needed infrastructure; actual construction of new infrastructure is not required.

(4) Environmental review must be at the programmatic level, unless the designation is being reviewed concurrent with a proposed major industrial activity, in which case environmental review must be at the project level.

17.20.020 Permitted uses.

(1) A property designated in the comprehensive plan for one of the specific uses identified above may only be used for the purposes listed in the specific applicable

section of the Act, as listed above. Only one section shall apply to any designated property, unless otherwise detailed in the master plan.

(2) Specific permitted uses on the property shall be detailed through the applicable master plan process described below and, except for master plans approved under the provisions of RCW 36.70A.368, the master plan shall become the subarea plan and development code for the property, identifying uses, standards and procedures for approval, consistent with the intent and purpose of the GMA section under which it is approved. For master plans approved under the provisions of RCW 36.70A.368, the permitted uses, standards, and procedures for approval are set out in the applicable provisions of this Chapter 17.20 LCC.

17.20.030 Application.

The proponent of any specific proposal shall submit an application with the information required below. The application must be signed by the owners of at least 50 percent of the property subject to the plan. The application shall identify:

(1) The owner or owners of the property to be planned, which shall be the entire parcel designated in the comprehensive plan.

(2) The legal description of the property to be planned, the entire designated parcel, together with each separate ownership within the development area.

(3) A map or series of maps at a scale of one inch equals 500 feet or as approved by the administrator which shows:

(a) Boundaries of the designated area.

(b) Boundaries of individual ownerships.

(c) Dedicated rights-of-way or easements over, across, or under the property.

(d) Existing roads, highways, and driveways abutting the site and within one-half mile of the site.

(e) Property ownerships within one-half mile of the site.

(f) Wells within the development area or within 1,000 feet of the boundary of the site, which are used for domestic use or identified through well log or water right records.

(g) A general identification and location of all critical areas on the site or within 1,000 feet of the site and the specific identification of all Type 1, 2, and 3 streams under WDF&W criteria, and any streams or water bodies subject to jurisdiction under Chapter 90.58 RCW, the State Shoreline Management Act.

(h) A land use plan map showing planned land use categories and areas, circulation, critical area buffers and open space.

(4) A phasing plan which shows the proposed phases for development and how the phases are designed to assure the overall coordinated development of the site and its integration into the surrounding community.

(5) An environmental checklist (programmatic) or a request to proceed directly to scoping under SEPA. Any environmental review shall provide special studies, which address:

(a) On-site and off-site critical areas, issues, protection, and mitigation.

(b) Transportation. Present facilities and upgrades if required, new facilities and phasing, on-site and off-site impact and mitigation required.

(c) Water, wastewater, stormwater facilities in place, facilities necessary to serve the new development by phase, and potential impact on off-site facilities, critical areas, or water resources.

(6) An inventory of land meeting the requirements of RCW 36.70A.365(2)(h) and 36.70A.367(2)(c). Provided that an inventory is not required for projects proposed within an industrial land bank designated under RCW 36.70A.368.

17.20.040 Complete application vesting.

Upon receipt of a master plan application under this chapter, and the payment of the prescribed fee in the county fee schedule, the county shall, within 28 days, issue a letter of completeness or identify the specific information required for a complete application. If no letter is sent, the application shall be deemed complete upon the 29th day after receipt of the application. If a letter is sent, the application shall be deemed complete upon receipt of the information identified in the letter. If the applicant does not submit the necessary information in writing to complete an application within a 90-day period, the county shall make findings and issue a decision that the application is rejected. If the county rejects an application, all vesting rights are lost.

17.20.050 Process - Master plan approval for major industrial development - other than reclaimed surface coal mine sites.

(1) Environmental review shall be noticed and processed in accordance with Chapter 17.110 LCC, and address applicable items for hearing examiner consideration pursuant to LCC 17.20.060(3) and (4). An open record appeals hearing before the hearing examiner arising from such environmental review shall be consolidated with the public hearings, described below; except, that public participation in the appellate portion of the hearings shall be limited to parties and issues to the appeal, in accordance with Chapter 17.110 LCC.

(2) Once environmental review is complete, the application shall be processed as one consolidated public hearing before the hearing examiner as an application for a master plan, and before the planning commission as an application for amendments to the comprehensive plan and development regulations. This process shall incorporate specific public participation procedures pursuant to RCW 36.70A.140.

(3) Once the application is complete, including the presentation by the plan proponent of an inventory of developable land, and the environmental documents are completed, the planning commission, in anticipation of the consolidated hearing, shall hold one background workshop (or more workshops, as the commission deems appropriate) identifying the legal bases for the application to be considered, the nature of the environmental review and master plan proposal to be considered by the hearing examiner, and the draft proposals for specific changes to the comprehensive plan and development regulations, as authorized in RCW 36.70A.365 and 36.70A.367. The workshop shall include an introduction to matters for commission consideration under RCW 36.70A.365(2) and 36.70A.367(2), including the presentation by the plan proponent of an inventory of developable land.

(4) Once the planning commission has completed the workshop portion of its consideration, it will publish a notice of public hearing and circulate the draft proposals for comment and public hearing.

(a) The draft proposal shall be made available to the public at least 15 days prior to the scheduled hearings. To facilitate public review, copies of the proposals with related materials and information shall be available at the Lewis County planning department and on-line at its web page, and at locations in the affected area. Such locations may include:

(i) Timberland Regional libraries (five) located at: Chehalis, Centralia, Salkum, Randle, and Winlock.

(ii) Lewis County Senior Centers (five) located at: Morton, Toledo, Twin Cities (Chehalis), Packwood, and Winlock.

(b) Copies of the proposals shall also be sent to the state Office of Community Development for their 60-day review. Materials shall also be sent to all incorporated cities and recognized tribes in the county and to state, local, and federal agencies which have requested in writing that they receive copies of all notice materials.

(5) Notice of the consolidated public hearing shall be by publishing notice of the hearing not less than 10 days prior to the hearing and mailing notice to all property owners of record within 1,000 feet of the site. The county staff report and supporting materials shall be available to the public at the time of publication and mailing of the notice.

(6) In the consolidated hearing, the hearing examiner shall hold an open record hearing with respect to the master plan. In the consolidated public hearing, the planning commission shall hold a hearing with respect to amendments to the comprehensive plan and development regulations. Following the consolidated public hearing, the hearing examiner and planning commission shall deliberate and make their recommendations to the board of county commissioners with respect to the master plan and amendments to the comprehensive plan and development regulations. The planning commission may hold one or more workshops, as the commission deems appropriate and in the public interest, to consider matters raised during the hearings, and shall take such final action at a public meeting. The planning commission will retain a running copy of all materials received or submitted during its workshops and the consolidated public hearing.

(7) The final decision on the master plan and on the amendments to the comprehensive plan and development regulations shall be made by the board of county commissioners after the receipt of the written recommendations from both the planning commission and the hearing examiner.

(a) The board of county commissioners shall publish a notice of public hearing on the written recommendations received from the hearing examiner and the planning commission, and make those recommendations available to the public in advance of hearing. Such materials shall be made available to the public in the same manner as the planning commission materials are made available under LCC 17.12.050 (2)(b), and public notice of the hearing will be provided in the same manner as LCC 17.12.050 (2)(d).

(b) The board of county commissioners will follow the hearing process format set forth for the planning commission in LCC 17.12.050(2)(e) through (g). All written

comments must be received by the board of county commissioners by the close of the public participation portion of the public hearing to be considered. The county shall consider both substantive and environmental issues. The board may accept, modify, or reject the recommendation of the hearing examiner and planning commission. Once adopted, the comprehensive plan and development regulations shall identify the zoning map and development regulations for the master plan area. A master plan may be amended through the same process as the original adoption. Any adopted development regulation shall become a map and separate chapter of the county zoning ordinance.

(8) Amendment to the comprehensive plan and development regulations to support a master plan is a legislative process with appeal pursuant to Chapter 36.70A RCW. Adoption of the site plan approval evidenced in the master plan is adjudicative under Chapter 36.70B RCW, with appeal pursuant to Chapter 36.70C RCW.

(9) Phasing of development, expansion, future use of land, abandonment of site and reversion to previous land use zoning shall be addressed as follows:

(a) The county recognizes that economic and other considerations may necessitate that business plans for a major industrial development be characterized by phasing of development. The major industrial development urban growth area established in the original application process will delineate the overall site plan. For phasing of development to be approvable, the overall project plan, including general timelines for construction, but illustrating building footprints and projected uses in lieu of design details to be submitted with future building permit applications, must be presented in the original application. The applicant must file for the building permits or other necessary permits associated with the first phase of the development within three years of the effective date of the master plan approval, unless the permit approval provides for a greater period of time.

(b) Expansion or amendment of the major industrial development:

(i) Beyond the boundaries of the original site plan and established urban growth area shall require a new master plan application and hearings as described in LCC 17.20.030 et seq.; or

(ii) Within the boundaries of the original site plan and established urban growth area shall require master plan approval amendment before the hearing examiner, as described in LCC 17.20.030 et seq.

(c) Future use of the land is determined and bound by the original application and/or development agreement, and no other use is allowed without approvals required under subsection (7) of this section. A future application for a major industrial development that utilizes the same land area within the previously established urban growth area is approvable if the required code and statutory criteria are met. Final legislative approval following master plan approval would be unnecessary in this case, as the urban growth area is already established on the comprehensive plan maps noted in Chapter 17.200 LCC.

(d) The owners of land zoned and used for major industrial development shall be responsible for appropriate and suitable environmental remediation and/or restoration of the site in the case of abandonment of the industrial or commercial operation. The responsible party shall be identified in the development agreement and/or master plan approval. The responsibility for appropriate and suitable environmental remediation and/or restoration will be determined through environmental review of the application

and commensurate with the impacts of the specific use permitted. An environmental remediation and/or restoration plan shall be established in the development agreement and master plan approval.

(e) Under certain circumstances, it may be deemed appropriate by the county that the major industrial development urban growth area, or a portion thereof, revert to the previous land use district, or in rare cases change to another land use district. A change to the comprehensive plan maps, noted in Chapter 17.200 LCC, shall be considered as a comprehensive plan amendment application during the annual amendment cycle as governed in Chapter 17.165 LCC.

(10) Proximity to a major industrial development urban growth area or development or extension of infrastructure shall not provide a basis for a comprehensive plan amendment to change the land use zone for property adjacent to a major industrial development to a land use district with greater development density or more intensive uses.

(11) For purposes of RCW 36.70A.367, designation of a master plan location shall be an amendment to the comprehensive plan for purposes of RCW 36.70A.130(2). Consolidated master plan location and major industrial development application reviews and hearings before the planning commission and the board of commissioners may be coordinated with such designations.

17.20.051 Process - Master permit approval for fully contained community.

(1) An application for a fully contained community (FCC) permit shall be processed in accordance with the county's population allocations outside of established UGAs, reserved in accordance with RCW 36.70A.350(2). No FCC can be approved unless there has been such an allocation on a project-by-project basis. FCC application reviews and hearings before the hearing examiner, planning commission and the board of commissioners shall be coordinated with the annual comprehensive plan and development regulation review under Chapter 17.165 LCC for purposes of such processing.

(2) Environmental review shall be noticed and processed in accordance with Chapter 17.110 LCC, and address applicable items for hearing examiner consideration pursuant to LCC 17.20.060(1), as applicable. An open record appeals hearing before the hearing examiner arising from such environmental review shall be consolidated with the public hearings, described below; except, that public participation in the appellate portion of the hearings shall be limited to parties and issues to the appeal, in accordance with Chapter 17.110 LCC.

(3) Once environmental review is complete, the application shall be processed as a coordinated public hearing before the hearing examiner as an application for a master project permit, and before the planning commission as an application for an annual amendment to the comprehensive plan and development regulations. This process shall incorporate the following specific public participation procedures, in addition to Chapter 17.12 LCC.

(4) Once the application is complete and the environmental documents are completed, the planning commission shall, in anticipation of a coordinated hearing, hold one background workshop (in coordination with workshops appropriate to annual review) identifying the legal bases for the application to be considered, the nature of the

environmental review and FCC permit application proposal to be considered by the hearing examiner, and the draft proposals for specific changes to the comprehensive plan and development regulations, as authorized in RCW 36.70A.350. The workshop shall include an introduction to matters for planning commission consideration under RCW 36.70A.350.

(5) Once the planning commission has completed the background workshop portion of its consideration, it will publish a notice of public hearing and circulate the draft proposals for comment and public hearing.

(a) The draft proposal shall be made available to the public at least 15 days prior to the scheduled, coordinated hearing. To facilitate public review, copies of the proposals with related materials and information shall be available at the Lewis County planning department and on-line at its web page, and at locations in the affected area. Such locations may include:

(i) Timberland Regional libraries (five) located at: Chehalis, Centralia, Salkum, Randle, and Winlock.

(ii) Lewis County Senior Centers (five) located at: Morton, Toledo, Twin Cities (Chehalis), Packwood, and Winlock.

(b) Copies of the proposals shall also be sent to the state Office of Community Development for their 60-day review. Materials shall also be sent to all incorporated cities and recognized tribes in the county; and to state, local, and federal agencies which have requested in writing that they receive copies of all notice materials.

(6) Notice of the coordinated hearing shall be by publishing notice of the hearing not less than 10 days prior to the hearing and mailing notice to all property owners of record within 1,000 feet of the site. The county staff report and supporting materials shall be available to the public at the time of publication and mailing of the notice.

(7) In the coordinated public hearings, the hearing examiner shall hold an open record hearing with respect to the FCC permit application. In the coordinated public hearings, the planning commission shall conduct a portion of its annual review hearing with respect to FCC amendments to the comprehensive plan and development regulations. Following the coordinated public hearing, the hearing examiner shall deliberate and make recommendations to the board of county commissioners with respect to the FCC permit application. The planning commission shall deliberate in conjunction with its annual review of amendments to the comprehensive plan and development regulations, and make its recommendations to the board of county commissioners with respect to such amendments. The planning commission may hold one or more workshops as provided for in Chapter 17.12 LCC to consider matters raised during the hearings, and shall take such final action at a public meeting. The planning commission will retain a running copy of all materials received or submitted during its workshops and the coordinated public hearing.

(8) The final decision on the FCC permit application and the amendments to the comprehensive plan and development regulations shall be made by the board of county commissioners after the receipt of the written recommendation from the hearing examiner and the planning commission recommendations from its annual review of amendments to the comprehensive plan and development regulations.

(a) The board of county commissioners shall publish a notice of public hearing on the written recommendations received from the hearing examiner and planning

commission, and make such recommendations available to the public in advance of hearing as set forth in Chapter 17.12 LCC, Public Participation Program. Such materials shall be made available to the public in the same manner as the planning commission materials are made available under LCC 17.12.050(2)(b), and public notice of the closed-record hearing examiner hearing will be provided in the same manner as LCC 17.12.050(2)(d).

(b) The board of county commissioners will follow the notice of hearing process format set forth for the planning commission in LCC 17.12.050(2)(d) for the hearing examiner recommendations. The county shall consider both substantive and environmental issues. The board may accept, modify, or reject the recommendations of the hearing examiner. Once adopted, the comprehensive plan and development regulations shall identify the zoning map and development regulations for the FCC area. An FCC plan may be amended through the same process as the original adoption. Any adopted development regulation shall become a map and separate chapter of the county zoning ordinance.

(9) Amendment to the comprehensive plan and development regulations to support the FCC is a legislative process with appeal pursuant to Chapter 36.70A RCW. FCC permit application approval is an adjudicative decision under Chapter 36.70B RCW, with appeal pursuant to Chapter 36.70C RCW.

17.20.052 Process - Master plan approval for master planned resort.

Repealed. [Ord. 1179L §1, 2006]

New - 17.20.xxx Process - Master plan approval for major industrial development - reclaimed surface coal mine sites.

(1) This section applies to specific projects proposed within sites designated pursuant to RCW 36.70A.368 and LCC 17.20.xxx (Designation of industrial land bank - reclaimed surface coal mine sites).

(2) Environmental review shall be noticed and processed in accordance with Chapter 17.110 LCC, and address applicable items for hearing examiner consideration pursuant to LCC 17.20.060(5). An open record appeals hearing before the hearing examiner arising from such environmental review shall be consolidated with the public hearings, described below; except, that public participation in the appellate portion of the hearings shall be limited to parties and issues to the appeal, in accordance with Chapter 17.110 LCC.

(3) Once environmental review is complete, the application shall be processed as one consolidated public hearing before the hearing examiner as an application for a master plan.

(4) The hearing examiner shall hold an open record public hearing.

(5) Following the public hearing, the hearing examiner shall deliberate and make a recommendation to the board of county commissioners with respect to the master plan and amendments to the comprehensive plan and development regulations.

(6) The final decision on the master plan shall be made by the board of county commissioners after the receipt of the written recommendation from the hearing examiner. The decision of the board of county commissioners shall be based on the

record developed during the open record public hearing before the hearing examiner. The board of county commissioners shall not conduct an open record public hearing.

(7) The final decision on the master plan is a land use decision appealable pursuant to Chapter 36.70C RCW.

(8) Except for permits and approvals to be issued by agencies other than the county, final approval of a master plan under this section authorizes the application for building permits, subject to the terms and conditions of master plan approval.

(9) Phasing of development, expansion, future use of land, abandonment of site and reversion to previous land use zoning shall be addressed as follows:

(a) The county recognizes that economic and other considerations may necessitate that business plans for a major industrial development be characterized by phasing of development. The major industrial development urban growth area established in the original application process will delineate the overall site plan. For phasing of development to be approvable, the overall project plan, including general timelines for construction, but illustrating building footprints and projected uses in lieu of design details to be submitted with future building permit applications, must be presented in the original application. The applicant must file for the building permits or other necessary permits associated with the first phase of the development within three years of the effective date of the master plan approval, unless the permit approval provides for a greater period of time.

(b) Expansion or amendment of the major industrial development beyond the boundaries of the original site plan shall require master plan approval amendment before the hearing examiner, as described in LCC 17.20.030 et seq.

(c) Future use of the land is determined and bound by the original application and/or development agreement, and no other use is allowed without approvals required under subsection (5) of this section. A future application for a major industrial development that utilizes the same land area within the previously established urban growth area is approvable if the required code and statutory criteria are met.

17.20.060 Special criteria for approval.

The hearing examiner shall, in addition to any other findings required by law, make specific written findings on each of the following items:

(1) For new fully contained communities as outlined in RCW 36.70A.350:

(a) Infrastructure, including transportation, wastewater disposal, water service, school, fire and public safety must be capable of meeting demand, as it occurs in the planned community. A voluntary agreement may substitute for construction of necessary improvements to meet adequacy requirements, if local service providers approve in writing and the program is adopted into the approved FCC as a condition of approval.

(b) The FCC identifies and provides for internal and external links to implement transit-oriented site planning and traffic demand management programs. The FCC shall identify how such programs are implemented and conform with regional transportation plans.

(c) The FCC shall identify and develop buffers to separate the FCC from potentially incompatible but lawful rural area uses, and from adjoining urban areas, if any, or rural area residential development.

(d) The FCC shall provide a phasing plan to include a mix of uses within the community to provide jobs, housing, and services to the residents of the new community. The phasing plan shall provide assurance that the community will develop with a balance of residential, commercial, and other uses.

(e) The FCC shall provide for a mix of residential uses, which may include attached and detached single-family units, duplexes, triplexes and fourplexes, apartments, flats, and cottages, as well as senior housing, including assisted living, congregate and intense care facilities. A fully contained community should address at least four different types of housing in a variety of markets.

(f) The environmental documents shall identify and designate on site, and off site to the extent necessary, all environmental considerations, and specifically but not limited to all critical areas which may be affected by the proposed development, and the steps taken to avoid, or minimize the impact to the extent possible, and to mitigate the potential impacts where such impacts are unavoidable. The FCC shall contain a specific section addressing critical areas and shall provide covenants within the community assuring the critical area protection as required by the county critical area regulations, Chapter 17.35 LCC.

(g) Development regulations shall be adopted to ensure that rural levels of service are maintained and urban growth will not occur in adjacent nonurban areas. The county may establish other specific limitations through the FCC review process to assure that such urban development does not occur.

(h) The FCC shall identify resource lands in the vicinity of the community which may be affected by the community and identify mechanisms by which such resource lands, and the activities thereon, are to be protected so as not to diminish the productivity of the resource land, nor render more difficult or expensive the resource activity, including planting, maintaining, harvesting, extraction, processing and transportation, as appropriate on designated resource lands.

(i) Development in proposed fully planned communities shall be limited to uses permitted in remote rural lands until the master plan is approved as provided in this section.

(2) For master planned resorts as outlined in RCW 36.70A.360. [Reserved]

(3) For new major industrial developments as outlined in RCW 36.70A.365:

(a) New infrastructure is provided directly or by agreement.

(b) Transit-oriented site planning and traffic demand management programs are implemented consistent with regional transportation and transit plans.

(c) Buffers are provided between the major industrial development and adjacent nonurban areas used or potentially used for residential or noncommercial purposes.

(d) Environmental protection including critical area protection and air and water quantity and quality and mitigation has been addressed and provided for.

(e) Covenants are approved to ensure that urban growth will not occur in adjacent nonurban areas, including but not limited to a prohibition against extension of public facilities to nonsite use, or creation of needed additional commercial service areas to serve the site.

(f) Provision is made to mitigate adverse impacts on designated agricultural lands, forest lands, and mineral resource lands.

(g) The plan for the major industrial development is consistent with the county's development regulations established for protection of critical areas.

(h) An inventory of developable land has been conducted and the county has determined and entered findings that land suitable to site the major industrial development is unavailable within the urban growth area.

(4) For major industrial developments in master planned locations as outlined in RCW 36.70A.367:

(a) New infrastructure, including transportation, wastewater disposal, water service, school, fire and public safety must be capable of meeting demand, as it occurs in the planned industrial development. The facilities may be provided directly or by agreement.

(b) The master plan identifies and provides for internal and external links to implement transit-oriented site planning and traffic demand management programs. The master plan shall identify how such programs are implemented consistent with regional transportation and transit plans.

(c) The master plan shall identify and develop buffers to separate the master planned industrial development from potentially incompatible but lawful rural area uses, and from adjoining urban areas, if any.

(d) The environmental documents shall identify and designate on site, and off site to the extent necessary, all environmental considerations, and specifically but not limited to all critical areas which may be affected by the proposed development, and the steps taken to avoid or minimize the impact to the extent possible, and to mitigate the potential impacts where such impacts are unavoidable. The master plan shall contain a specific section addressing critical areas and shall provide covenants within the community assuring the critical area protection as required by the county critical area regulations, Chapter 17.35 LCC. The master plan shall provide for both air shed and noise shed analysis for industries choosing to locate within the master planned area. The environmental documents shall identify background noise levels and potential areas of noise sensitivity. Washington state noise standards, Chapter 173-60 WAC, shall be applicable to the master plan and the point of compliance for residential noise levels shall be the boundary of the master plan and any land designated rural development district or other adjoining zone under the county code. The point of compliance for industrial to industrial shall be the boundary of the master plan and any area designated long-term commercially significant resource lands. Washington air pollution guidelines and regulations, as adopted or enforced by the Southwest Washington Air Pollution Control Authority,* shall be specifically incorporated into the master plan.

(e) The water and wastewater facilities developed for the master planned facility shall not be used or available outside the boundaries of the master planned industrial development, to assure that the new development will not foster urban growth outside the boundaries of the approved site. The county may establish other specific requirements so that such urban development does not occur.

(f) The county shall, as part of the master plan approval process, identify specific uses identified as primary uses within the master planned area, and shall require an inventory of developable lands within the county and data to support a written finding that land suitable to serving the target uses for the proposed major industrial

development is not available within the urban growth area of any city in the county. Priority in processing applications shall be given to sites in proximity to urban areas, or areas which have access to urban levels of service in the form of water and wastewater treatment.

(g) Master plans shall identify and set aside 50 percent of the land area in planning blocks designed to serve primary and accessory and necessary support to the major users targeted to the site which cannot be facilitated in city UGAs due to size, noise, traffic, or other identified conditions and for which other land is not available within the urban area. The master plan shall also identify other uses which are compatible with and necessary to assure full development of the site, including accessory and support uses which may require significantly less land, and which shall be sited or located to assure protection of the primary purpose of the master plan. A small commercial services area may be developed in connection with such master plan, including fueling, convenience retail, and business office needs, but such facilities shall not exceed five percent of the overall land available in the master planned area and shall not begin development until at least targeted major use or user has commenced construction.

(h) Development within the designated master planned location shall mitigate adverse impacts and shall be limited to uses permitted on resource lands until a master plan is approved as provided in this section.

(5) For specific projects proposed within sites designated pursuant to RCW 36.70A.368 and LCC 17.20 xxx (Designation of industrial land bank – reclaimed surface coal mine sites):

(a) The site must consist of one hundred (100) or more acres of land formerly used or designated for surface coal mining and supporting uses that has been or will be reclaimed as land suitable for industrial development.

(b) New infrastructure, including transportation, wastewater disposal, water service, school, fire and public safety must be capable of meeting demand, as it occurs in the planned industrial development. The facilities may be provided directly or by agreement.

(c) The master plan shall identify and develop buffers to separate the master planned industrial development from potentially incompatible but lawful rural area uses, and from adjoining urban areas, if any.

(d) Environmental review must be conducted as required in Chapter 17.110 LCC and chapter 43.21C RCW. Environmental review may be processed as a planned action, as long as it meets the requirements of RCW 43.21C.031 and as long as the County has adopted a planned action ordinance.

(e) The master plan shall be consistent with county regulations established for the protection of critical areas.

(f) The water and wastewater facilities developed for the master planned facility shall not be used or available outside the boundaries of the master planned industrial development, to assure that the new development will not foster urban growth outside the boundaries of approved urban growth areas.

(g) Facilities, including water and wastewater facilities, may be provided to the master planned facility by outside service providers, including municipalities and special purpose districts.

(h) Urban growth will not occur in adjacent nonurban areas;

(i) The following uses are permitted:

(i) Industrial.

(ii) Manufacturing.

(iii) Commercial, provided commercial uses are directly related to manufacturing or industrial uses. Commercial uses shall not exceed ten (10) percent of the total gross floor area of buildings and facilities.

(iv) Resource related, including resource uses defined in the county's resource lands ordinance chapter 17.30 LCC and renewable resources as provided in RCW 19.280.020.

(v) Uses not specifically listed may be approved by the board of county commissioners upon recommendation of the hearing examiner if a finding is made that the use meets the intent of RCW 36.70A.368.

(j) Development within the designated master planned location shall mitigate adverse impacts.

(6) Once the master plan is approved, the master plan provides the new development regulations for the industrial site. Uses within the industrial land bank shall be consistent with the proposed industrial development. Interim, nonindustrial uses may be approved; provided, that such uses do not preclude industrial development or redevelopment; and provided, that such uses are generally harmonious with anticipated industrial development. Such regulations shall make provision to assure the long-term protection of agricultural activities on both permanent open spaces, as well as properties held for noise sheds, air sheds, and long-range future development. Provided that this subsection (6) does not apply to master plans approved under RCW 36.70A.368 and LCC 17.20.xxx (Designation of industrial land bank - reclaimed surface coal mine sites).

*[Note: redesignated as the Southwest Washington Clean Air Authority (SWCAA)]

Appendix D
EIS Scoping Notice

**LEWIS COUNTY – STATE ENVIRONMENTAL POLICY ACT
DETERMINATION OF SIGNIFICANCE
AND REQUEST FOR COMMENTS ON SCOPE OF
ENVIRONMENTAL IMPACT STATEMENT**

Description of Proposal: Amend the Lewis County Comprehensive Plan and chapter 17.20 of the Lewis County Code to implement the Major Industrial Development provisions of RCW 36.70A.368 of the Growth Management Act and designate a portion of the TransAlta reclaimed surface coal mine site as an Industrial Land Bank (ILB) under the provisions of RCW 36.70A.368. The proposal would designate up to 4,400-acres of industrial zoned land in aggregates of 1,000-acres for manufacturing, industrial, or commercial businesses that require building sites of at least 100-acres. Environmental review of the proposal will be at the programmatic level as required by RCW 36.70A.368.

Proponent: Industrial Park at Transalta (IPAT)
William Lotto, General Manager
1611 North National Avenue
Chehalis, WA 98532

Location of Proposal: The project site is located at the TransAlta mine site along Big Hanaford Road near the city of Centralia in Lewis County, Washington Townships 14 North, Range 1 West in all of section 4 and portions of sections 3, 5, and 6 and Township 15 North, Range 1 West in all of sections 32, 33 and portions of Sections 27, 28, 29, 34, and 35.

EIS Required: Lewis County, acting as the SEPA lead agency for this proposal, has determined that an Environmental Impact Statement (EIS) is required under RCW 43.21C.030 (2)(c) and will be prepared.

Lewis County has identified the following areas for discussion in the EIS:

- Impact to wildlife
- Land use
- Infrastructure including transportation
- Air Quality
- Water Quality
- Economic impacts
- Biological impacts
- Impacts that may be determined in scoping or review process

Scoping: Agencies, affected tribes and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts and licenses or other approvals that may be required. You may submit your comments in writing addressed to the Responsible Official or you may present your comments at a public scoping meeting to be held on February 24, 2010 from 3-5pm at:

Lewis County Courthouse
Commissioner's Meeting Room, Second Floor
351 N.W. North Street
Chehalis, WA. 98532

The issues identified in the scoping process will be taken into account during the preparation of the Environmental Impact Statement for this proposal.

Written comments on the scope of the Environmental Impact Statement for the amendments to the Comprehensive Plan and County Code proposed by the Industrial Park at Transalta can be submitted to the responsible official listed below and must be received by March 8, 2010.

Responsible Official: Phillip Rupp
Principal Planner – Environmental Review Officer
Lewis County Community Development
2025 NE Kresky Ave
Chehalis, Washington 98532-2626
360-740-2773

This meeting site is barrier free.

People needing special assistance or accommodations should contact The Planning Division 72 hours in advance of the meeting. Phone: (360) 740-1146.

Lewis County does not discriminate on the basis of race, color, national origin, sex, religion or age.

Appendix E
Traffic Analysis

1. INTRODUCTION

1.1 Project Overview

Planning studies focused on economic development in Lewis County have determined that the County should place an emphasis on attracting capital intensive industry, not only to create jobs, but to combat declining wages and loss of personal income within the County. Capital intensive industries generally require large acreages and access to regional transportation facilities. The TransAlta site was identified as an optimum location for this purpose and a portion of the site has been selected for designation as an Industrial Land Bank (ILB).

The site is located in unincorporated Lewis County, approximately five miles east of the City of Centralia's Urban Growth Area. Approximately 3,700 acres of the site are currently zoned as Mineral Resource Lands, approximately 650 acres are zoned Forest Resource Lands, and approximately 50 are zoned Rural Residential.

1.2 Study Context

In order to designate the TransAlta site for industrial use, Lewis County would need to amend its comprehensive plan and zoning code. The *Industrial Park at TransAlta (IPAT)* entity was created to oversee development of the ILB and is participating in the preparation of a programmatic Environmental Impact Statement (EIS) for the site.

This transportation analysis provides an evaluation of existing conditions and general conditions expected by the 2030 horizon with full build-out of the *IPAT* project. However, no specific developments are being proposed at this time within the *IPAT*, therefore this analysis provides a generalized look at the development potential of the site. This transportation analysis provides the following information for consideration in approving the proposed comprehensive plan and zoning code amendments:

- A general summary of the existing traffic conditions in the project vicinity
- An estimate of the volume of traffic that could be generated by development of the *IPAT* property based on the types of industrial uses targeted for the area
- An estimate of future traffic (2030) volumes with current zoning and with the proposed *IPAT* property rezone to Industrial
- A comparison of transportation infrastructure needs required to accommodate 2030 traffic volumes with and without the *IPAT* rezone
- A list of potential roadway improvement strategies to be considered for implementation over the 20-year planning horizon
- A description of appropriate steps to ensure that the infrastructure improvements to accommodate future traffic volumes in the area will be constructed concurrently with new developments that generate the need for the improvements.

The primary purpose is to identify if the proposed *IPAT* rezone will create conditions that are significantly different than what would occur with the existing zoning and that are already being planned for by Lewis County, WSDOT and the City of Centralia and identify potential strategies to mitigate additional traffic impacts.

1.3 Analysis Approach

The proposed *IPAT* project is anticipated to achieve a density of employment of approximately 2.2 employees per acre. The employment density was used to estimate future traffic potential of the *IPAT* site. Future (2030) traffic volume scenarios were prepared using the Lewis County Transportation Demand Model to estimate background traffic growth in the area. The traffic volume projections were based on the most current counts available, provided by Lewis County, City of Centralia and WSDOT.

A generalized roadway link capacity analysis was prepared for the following key facilities in the area. These roadways represent the primary routes serving the TransAlta site:

- Big Hanaford Road
- SR 507
 - Bucoda Highway
 - Downing Road
 - N Pearl Street
 - N Tower Avenue
- Reynolds Avenue
- Harrison Avenue

The analysis is based on the PM peak commute hour (4:00 to 5:00 PM) on local roadways which represents the time of day when traffic volumes are highest and when traffic congestion is most likely to occur.

1.4 Additional Future Traffic Analysis

If the property is re-zoned, any specific development proposal at the *IPAT* site will be required to submit appropriate SEPA documentation. As lead review agency Lewis County will determine the specific environmental analysis requirements for each individual development proposal. It is likely that detailed Traffic Impact Analysis (TIA) reports will be required of future *IPAT* proposals. When specific end-users are identified, future TIA reports would provide site-specific traffic generation estimates and intersection operation analysis to allow accurate assessment of the project's impact to the local roadways.

2. BACKGROUND INFORMATION

2.1 Land Use Planning

Earlier studies conducted on the economics of Lewis County determined that the County should place an emphasis on attracting capital intensive industry, not only to create jobs, but to combat declining wages and loss of personal income within the County. Capital intensive industries require larger acreages, and an additional study (Batch 1999 Study) was commissioned to look for areas that would be suitable for an industrial park. TransAlta was the site that rated highest in that study.

TransAlta would provide 4,400 acres of land to help the Lewis County Economic Development Council (EDC) begin the industrial park project. The TransAlta Mining Site Industrial Park Feasibility Analysis (Feasibility Study) was completed in 2009 for the EDC. The feasibility study concluded that development of an industrial park focused on large capital intensive industrial uses with minimum-sized 100-acre lots is feasible and will have long term benefits to both Lewis County and the State. In December 2009 a proposal was submitted to the County to develop a major Industrial Land Bank for large scale industrial uses and to amend its comprehensive plan and development regulations to facilitate development of the project.

The site is located in unincorporated Lewis County, approximately five miles east of the City of Centralia's Urban Growth Area. Approximately 3,700 acres of the site are currently zoned as Mineral Resource Lands, approximately 650 acres are zoned Forest Resource Lands, and approximately 50 are zoned Rural Residential.

2.2 Area Land Uses

The project site contains approximately 4,400 acres of land that was previously used for coal mining activities and on which reclamation activities are currently underway. There currently are approximately 18 sediment ponds on the site, most of which are to be reclaimed as wetlands. Big Hanaford Creek flows along the north edge of the site. A lake is currently being designed as part of reclamation and will be constructed west of Area 4 (Central Packwood Lake).

Most of the project site is adjacent to TransAlta coal mining lands or undeveloped lands zoned Forest Resource. Some pastureland is located to the northeast. Approximately fifteen residential units are located a mile north of the site along the northeastern boundary.

2.3 Roadway Inventory

A comprehensive roadway survey was conducted to identify existing conditions of the primary traffic facilities serving the proposed IPAT. A description of these facilities is provided below.

2.3.1 Interstate 5

Interstate 5 is a federal Interstate Highway that runs north-south through Lewis County. The project site is approximately six miles east of I-5. Three interchanges on I-5 are in the vicinity of the project site: The Grand Mound (SR 12) Interchange/Exit 88, the Harrison Avenue Interchange/Exit 82 and the Mellen Street (SR 507) Interchange/Exit 81. The diamond interchange at Harrison Avenue is under traffic signal control where the ramp terminals intersect with the City of Centralia's arterial network. WSDOT has

plans to replace the interchange at Grand Mound, realigning and lengthening the on/off ramps and providing traffic signals at both ramp intersections.

2.3.2 Big Hanaford Road

Big Hanaford Road is classified as a collector by Lewis County. It runs east-west between SR 507 and ends near the east edge of the *IPAT* property. The roadway provides one travel lane in each direction with paved shoulders. The roadway primarily provides access to the TransAlta property and also serves a limited number of residences, primarily located near SR 507. This roadway was constructed and is maintained to support truck traffic in the area.

2.3.3 Harrison Avenue

The Harrison Avenue interchange (Exit 82) is a diamond-type interchange with single lane on- and off-ramps and up to three lanes at the signalized ramp terminals. Immediately adjacent to I-5, Harrison Avenue is an east-west five-lane collector, with two through lanes in each direction and a two-way left-turn lane. The City of Centralia has identified Harrison Avenue as a truck route and it provides a direct route from the interchange to Centralia's downtown and major residential areas. It also provides the most viable access to I-5 for Port of Centralia properties and the BNSF rail yard. On the west side of I-5, Harrison Avenue turns to the north and becomes Highway 99, which continues on to Grand Mound.

2.3.4 SR 507

SR 507 extends from Interstate 5 at Mellen Street to SR 510 in Yelm. Pearl Street and Tower Avenue form a one-way couplet through Centralia's downtown. Pearl Street operates as the southbound roadway, and Tower Avenue as the northbound roadway. South of Main Street, Pearl Street and Tower Avenue are classified as principal arterials. North of 6th Street, these roads combine as Pearl Street, which operates as a two-way facility. Pearl Street then continues north to Downing Road/Big Hanaford Road. SR 507 is the main connector to and from the TransAlta area. In the City of Centralia, SR 507 is a designated truck route.

2.3.5 Reynolds Avenue/Galvin Road

Reynolds Avenue is an east-west minor arterial located north of the Harrison Avenue interchange from Pearl Street to Harrison Avenue/Old Highway 99. At Harrison Avenue, it becomes Galvin Road and continues to the west ending at Lincoln Creek Road. Reynolds Avenue/Galvin Road provides access to existing industrial facilities and the Port of Centralia property west of Harrison Avenue.

2.4 Traffic Volume Counts

Existing and historical traffic volume counts were collected for area roadways from Lewis County, the City of Centralia and WSDOT. The counts used in this analysis were conducted in 2006 through 2009. Counts were increased by a factor of 3% per year (uncompounded) to update them to a 2010 base. The traffic counts are provided in **Appendix A**.

2.5 Public Transit

Twin Transit operates bus service in Lewis County and in Centralia and Chehalis; however, the closest transit stops are in Centralia, several miles from the project site.

2.6 Rail Transportation

The Puget Sound and Pacific (PS&P) and the Curtis, Melburn and Eastern (CM&E) rail lines serve industrial development in Lewis County. The Burlington Northern and Santa Fe Railway (BNSF) and

Union Pacific operate on the main north-south line in the County, providing both freight and passenger service. A spur off of the BNSF rail lines adjacent to Big Hanaford Road serves the TransAlta Centralia operations.

3. PLANNED ROADWAY IMPROVEMENTS

A number of roadways, street and interchange improvements are being planned by the City of Centralia, Lewis County and the Washington State Department of Transportation (WSDOT). Several of these planned transportation improvements are in different phases of development and may or may not be in place by the completion of the *IPAT* project. Following is a list of the anticipated projects and current schedule of implementation.

3.1 Lewis County Planned Improvements

The Lewis County amended 2010-2015 Six-Year Transportation Improvement Program does not list any projects in the project vicinity.

3.2 City of Centralia Planned Improvements

The City of Centralia's Six-Year Transportation Improvement Program lists the following project in the site vicinity:

- *Harrison to W. Reynolds Connection (Eckerson Road Improvements)* – Construct connector clearing both sets of railroad tracks. Preliminary planning indicates a bridge with a span of approximately 325 feet and a new signal where the alignment meets W. Reynolds Avenue. (Construction start not yet planned)

The City's Comprehensive Plan includes the following improvement:

- *W. First Street/Harrison Avenue* – Construct new signal. (No estimated construction start date)

3.3 Washington State Department of Transportation

In June 2009, WSDOT completed the LaBree Road interchange at I-5 and LaBree Road to help improve the economic viability of the Port of Chehalis. This project was the first of several with the goal of improving freight mobility, economic development and safety through the I-5 corridor between the Toutle River Safety Rest Area in Cowlitz County and Grand Mound Road in Thurston County. WSDOT also completed an I-5 widening project from Rush Road to 13th Street in Lewis County in June 2009.

WSDOT also plans a series of projects to widen I-5 in both directions in Lewis and Thurston Counties:

- *Grand Mound to Maytown Stage One* – This project adds an additional lane in each direction, upgrades the existing freeway on- and off-ramps, and realigns the curve south of the Grand Mound interchange. The end result of the project is a barrier-divided freeway with three general-purpose lanes in each direction. Construction is underway and is scheduled to be complete in fall 2010.
- *Blakeslee Junction to Grand Mound* – This project will widen four miles of I-5 from two lanes to three lanes in each direction between the Blakeslee Railroad Junction in Lewis County (milepost 83.5) and just south of the Grand Mound interchange (Exit 88) in Thurston County. Construction is scheduled to begin in Spring 2010 and be completed in 2012.

- *Grand Mound to Maytown Stage Two – Replace Interchange* –The I-5/US 12 interchange will be rebuilt as a “diamond” interchange configuration. Both loop ramps will be eliminated and traffic signals will be installed at both ramp intersections. This project is currently under construction.
- *Mellen Street to Blakeslee Junction* – WSDOT will construct Collector Distributor lanes between Mellen Street (Exit 81) and Harrison Avenue (Exit 82) interchanges, make safety improvements to the Mellen Street and Harrison Avenue interchanges, and widen and realign the I-5 curve at Blakeslee Junction. Construction is scheduled to begin in 2010 and be completed in 2014.

3.3.1 I-5/North Lewis County Interchange Feasibility Study

In 2009, WSDOT conducted a feasibility study for a new interchange between the existing Harrison Avenue Interchange (Exit 82) and Grand Mound Interchange (Exit 88). The study focused on gathering data and considerations surrounding a new interchange, and concluded that there appears to be sufficient need to warrant further consideration.

The study notes that commercial and residential trips will utilize the interstate system if adequate local transportation infrastructure is not available. These trips congest the interstate system and affect the movement of goods and services; however, FHWA considers that these trips should be served by non-interstate local improvements. Trips associated with industrial zoning, on the other hand, generate trips associated with movement of goods and services from region to region. These uses introduce traffic onto the interstate highway system, but this type of trip aligns with the Federal priority of promoting national economic interests.

FHWA has sole approval authority for any new interchange, and critical considerations are enhancing safety, preserving mobility and promoting/protecting national economic interests. Any proposed interchange or access to the interstate system would have a higher probability of being approved by FHWA and WSDOT if local jurisdictions incorporate substantial industrial-zoned land in their comprehensive plans.

The study concluded that a new interchange located between the Harrison Avenue Interchange and the Grand Mound Interchange could act to pull freight or industrial trips from the existing interchanges. With freight mobility focused at a new interchange, the existing Harrison Avenue and Grand Mound interchanges would experience improved safety and reduced congestion. It should also be noted that funds were approved the 2010 State Legislative session to conduct a Phase II study of the proposed interchange.

4. Future Traffic Volumes

4.1 Methodology

The planning horizon for this study is the year 2030. The future traffic volumes analyzed in this study include the following components:

- Existing traffic volumes
- Future “background” traffic growth
- Future traffic generated by the *IPAT* development

4.2 Background Traffic Growth

We have prepared 2030 traffic volume projections for the study roadways using the Lewis County Transportation Demand Model. This model was prepared by Lewis County using the Emme/2 traffic modeling software. The computer model provides a representation of the roadway network in Lewis County and calculates traffic volume estimates for the roadways based on existing household and employment data. Factors within the model are adjusted until the model-generated traffic volumes match the existing counted traffic volumes. At this point the model is considered “calibrated” and can be used for testing future land-use and roadway connection scenarios. Lewis County has recently updated the model to a 2008 base year and a 2035 planning horizon.

The 2035 model scenario includes the household and employment growth planned for in the County’s Comprehensive Plan. The employment increase projected for the *IPAT* project is not included in the 2035 employment in the model, so the *IPAT* traffic was estimated and added to the network independently of the traffic model.

For this study, the transportation model was used to identify traffic growth trends predicted in the study area. A review of the major roadways in the study area indicated a 3% annual traffic growth rate (uncompounded).

4.3 Development Proposal

As currently envisioned, full development of the *IPAT* project will include build-out of approximately 914 acres of the total site acreage of the ILB. The types of development targeted are industrial and manufacturing uses that are space-intensive. The *IPAT* predicts an overall employment density of 2.2 employees per acre. The site is divided into seven development areas with differing buildable land totals based on the amount of relatively flat, upland acres. The table below shows the estimated buildable acreage for each development area. Based on this projected employment density the overall development could be expected to have 2,011 employees at full occupancy.

As a comparison, when mining operations were underway the TransAlta site had a peak employment of approximately 1,000 employees. The peak number transitioned from 900 employees in 2006 to approximately 300 in 2009.

The following table shows the proposed development plan that was analyzed for this report.

Table 1. Estimated Employment by IPAT Development Area ¹

IPAT Development Area	Size	Unit	Employees per Unit	Number of Employees
Area 1	102	Acres	2.2	224
Area 2	94	Acres	2.2	207
Area 3	55	Acres	2.2	121
Area 4	159	Acres	2.2	350
Area 5	183	Acres	2.2	403
Area 6	193	Acres	2.2	425
Area 7	128	Acres	2.2	281
Total	914	Acres	2.2	2011

4.4 Project Traffic Characteristics

The proposed zoning for the IPAT project will allow a variety of industrial uses. At the present time, no specific users have been identified for location at the site. We have calculated the traffic potential of the site with the proposed *IPAT* development using vehicle trip generation rates contained in the current (8th) Edition of the *Trip Generation* report by the *Institute of Transportation Engineers (ITE)*. The “Industrial Park” land-use (ITE Land-use code #130) was selected for this analysis. The trip rates per employee were used to estimate the traffic potential of the IPAT development. The trip generation rates used are shown in **Table 2**.

Table 2. Trip Generation Characteristics

Land Use (LU)	Unit	Daily Trip Rate	PM Peak Hour		
			Trip Rate	Enter	Exit
Industrial Park (LU code 130)	Employees	3.34	0.46	20%	80%

The total trip generation expected from the *IPAT* project is calculated by applying the unit measure for each land use category to the appropriate trip generation rate. The trip generation for the proposal is shown in **Table 3**.

¹ Traffic analysis is based on a previous acreage estimate that has been superseded. Therefore, the analysis is conservatively high compared to the current buildable acreage estimate.

Table 3. Project Trip Generation

Development Area	Size	Daily Trips	PM Peak Hour Trips		
			Total	Enter	Exit
Area 1	224	748	103	21	82
Area 2	207	691	95	19	76
Area 3	121	404	56	11	45
Area 4	350	1169	161	32	129
Area 5	403	1346	185	37	148
Area 6	425	1420	196	39	156
Area 7	281	939	129	26	103
Total	2011	6717	925	185	740

Project trips shown in **Table 3** above are broken down by type as shown below.

Table 4. Project Trip Type

Type of trip	Daily Trips	PM Peak Hour Trips		
		Total	Enter	Exit
Passenger vehicles	6,180	856	171	685
Trucks	537	69	14	55

4.5 Site Traffic Distribution and Assignment

For this study, the directional distribution of employee traffic to and from the proposed project was estimated using the residential distribution of current (2009) TransAlta Centralia operation employees. The 2009 distribution of TransAlta employees was presented in Table 49 of the Feasibility Study. The study indicates that nearly 60% of the employees live in Centralia or Chehalis, approximately 12% live in Olympia and 7% in Rochester with a number of communities having smaller percentages.

The primary destination of truck traffic was assumed to be northbound or southbound on Interstate 5. Based on existing truck traffic flows on Interstate 5, it was assumed that 50% of the trucks would be using I-5 to/from the north and 50% to/from the south.

4.5.1 Route Selection

Nearly all trips to the IPAT site will use SR 507 and Big Hanaford Road, with most routes converging at the Reynolds Avenue/SR 507 intersection; however, there are a number of options for drivers to get to the north Centralia area. The primary routes from the site are described below:

- Big Hanaford Road to SR 507, then:
 - Reynolds Ave to Johnson Road to the Harrison Ave interchange
 - 1st Avenue to Harrison Avenue to the Harrison Ave interchange
 - the Mellen Street interchange

For this analysis it was assumed that all trucks would use Interstate 5 to haul goods in or out of the area. All trucks destined to/from the north were assumed to use Reynolds Avenue to Harrison Avenue to the

Harrison Avenue interchange. Trucks to/from the south were assumed to use the Mellen Street interchange.

The site traffic distribution and total project-generated trips are shown on **Figure 1**.

4.5.2 Trip Reduction Strategies

The *IPAT* project is located in a remote area that isn't currently serviced by transit; however, the *IPAT* developers are dedicated to implementing strategies to reduce the number of vehicle trips on the area roads and make the transportation system work more efficiently. The 2000 census indicated that 12% of Lewis County workers carpooled and 18% of Centralia workers commuted by carpool.

As industrial users locate at the park, *IPAT* can require employers to implement strategies to encourage their employees to carpool, including offering assistance to match interested employees within their organization or with nearby industrial uses, arranging rideshare formation meetings, offering financial subsidies for not commuting to work alone, or offering a guaranteed ride home for carpoolers. Employers can encourage employees to vanpool, or move trips outside of peak commute times by shifting work start times. Consideration can also be given to operating a van or bus to shuttle employees from park-n-ride lots in Centralia and Chehalis.

To provide a more conservative analysis, no specific reduction in site-generated traffic has been assumed to account for successful commute trip reduction strategies.

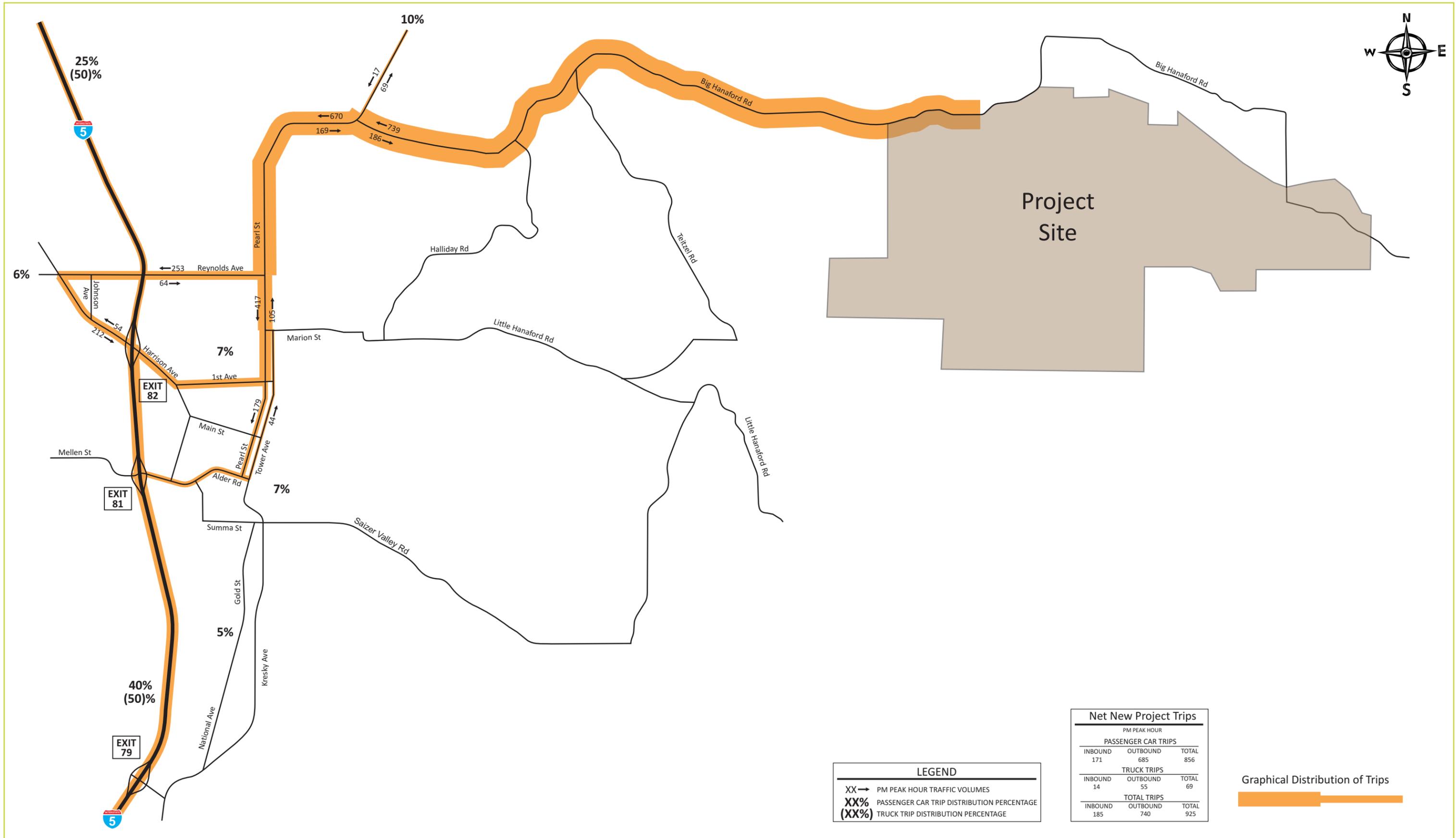


Figure 1
Project Trip Distribution

5. ROADWAY CAPACITY ANALYSIS

Traffic analyses were conducted to identify potential capacity deficiencies within the study area for the 2010 base year and 2030 horizon.

5.1 Concurrency

Lewis County measures concurrency on a corridor average and not on a single facility within a corridor. The level of service deficiency is when the overall average for the entire corridor falls below LOS D. When a project that meets County objectives for economic development will affect a corridor which is at or below LOS D, but will pay toward facility improvements or fund a pro-rata share of a planned alternate, the project would be consistent with goals and may be approved. Projects within the *IPAT* development will be tested for traffic concurrency as individual tenants submit SEPA materials and building permit applications.

5.2 Level of Service

Level of service has been assessed using a “link capacity” analysis. Each roadway in Lewis County has a theoretical vehicle-carrying capacity for a given time frame. The functional classification, number of lanes, and presence of traffic signals or turn lanes are examples of features that affect the volume of traffic a particular roadway segment can handle.

The level of service criteria used in this analysis are based on Federal Highway Administration methodologies described in the Highway Capacity Manual. The 2009 Florida Department of Transportation (FDOT) Level of Service Handbook provides tables of generalized roadway level of service criteria using the methodologies outlined in the Highway Capacity Manual. (The State of Washington does not provide a comparable handbook, so the Florida handbook is typically used.) The level of service tables used are provided in **Appendix B**.

5.3 Roadway Capacity Analysis

The link-based analysis provides a generalized view of the function of a particular stretch of roadway. If in this analysis a roadway section is shown to be over capacity, it is an indication that intersections along the roadway may experience congestion. The analysis tends to be conservative in nature to identify emerging potential congestion points and to highlight the value of industrial trip reduction initiatives.

The following tables illustrate the PM peak hour directional traffic volumes and the corresponding directional peak hour capacity of the roadway. **Table 5** then show the percent of available capacity used. The tables show the operation of the roadway for existing conditions, 2030 conditions without the *IPAT* project and 2030 conditions with the *IPAT* project. **Table 6** illustrates the same information for 2020 conditions.

Table 5. Roadway Link Capacity 2030

Direction	Location	2010 PM	2030 PM	2030	2030 PM	Directional Roadway Capacity (vph)	Capacity Used
		Peak Hour 4:00-5:00	Peak Hour Without Project	Project Traffic	Peak Hour With Project		
SB	SR507 N/O Big Hanaford Road	145	232	17	249	900	28%
NB	SR507 N/O Big Hanaford Road	136	218	69	287	900	32%
SB	SR 507 N/O SR 507 (6 th St.)	507	811	417	1228	640	192%
NB	SR 507 N/O SR 507 (6 th St.)	475	760	105	865	640	135%
SB	SR 507 S/O First St.	596	954	179	1133	2030	56%
NB	SR 507 S/O First St.	661	1058	44	1102	2030	54%
WB	Big Hanaford Rd E/O SR 507	116	185	739	924	900	103%
EB	Big Hanaford Rd E/O SR 507	56	90	186	276	900	31%
WB	SR 507 W/O Big Hanaford Rd	214	343	670	1013	900	113%
EB	SR 507 W/O Big Hanaford Rd	229	366	169	535	900	59%
WB	Reynolds Ave W/O River Rd	366	586	253	839	640	131%
EB	Reynolds Ave W/O River Rd	328	525	64	589	640	92%
WB	Harrison Ave W/O I-5 Ramps	1065	1704	54	1758	1600	110%
EB	Harrison Ave W/O I-5 Ramps	1039	1663	212	1875	1600	117%

Note: Assumes 3% annual growth rate

Table 6. Roadway Link Capacity 2020

Direction	Location	2010 PM	2020 PM	2020	2020 PM	Directional Roadway Capacity (vph)	Capacity Used
		Peak Hour 4:00-5:00	Peak Hour Without Project	Project Traffic	Peak Hour With Project		
SB	SR507 N/O Big Hanaford Road	145	188	6	194	900	22%
NB	SR507 N/O Big Hanaford Road	136	177	24	201	900	22%
SB	SR 507 N/O SR 507 (6 th St.)	507	659	146	805	640	126%
NB	SR 507 N/O SR 507 (6 th St.)	475	618	36	654	640	102%
SB	SR 507 S/O First St.	596	775	63	838	2030	41%
NB	SR 507 S/O First St.	661	860	15	875	2030	43%
WB	Big Hanaford Rd E/O SR 507	116	151	258	409	900	45%
EB	Big Hanaford Rd E/O SR 507	56	74	65	138	900	15%
WB	SR 507 W/O Big Hanaford Rd	214	279	234	513	900	57%
EB	SR 507 W/O Big Hanaford Rd	229	297	59	356	900	40%
WB	Reynolds Ave W/O River Rd	366	477	88	565	640	88%
EB	Reynolds Ave W/O River Rd	328	427	22	449	640	70%
WB	Harrison Ave W/O I-5 Ramps	1065	1385	18	1403	1600	88%
EB	Harrison Ave W/O I-5 Ramps	1039	1351	74	1425	1600	89%

Table 7 shows the link volumes and available capacity in 2030 with the new interchange.

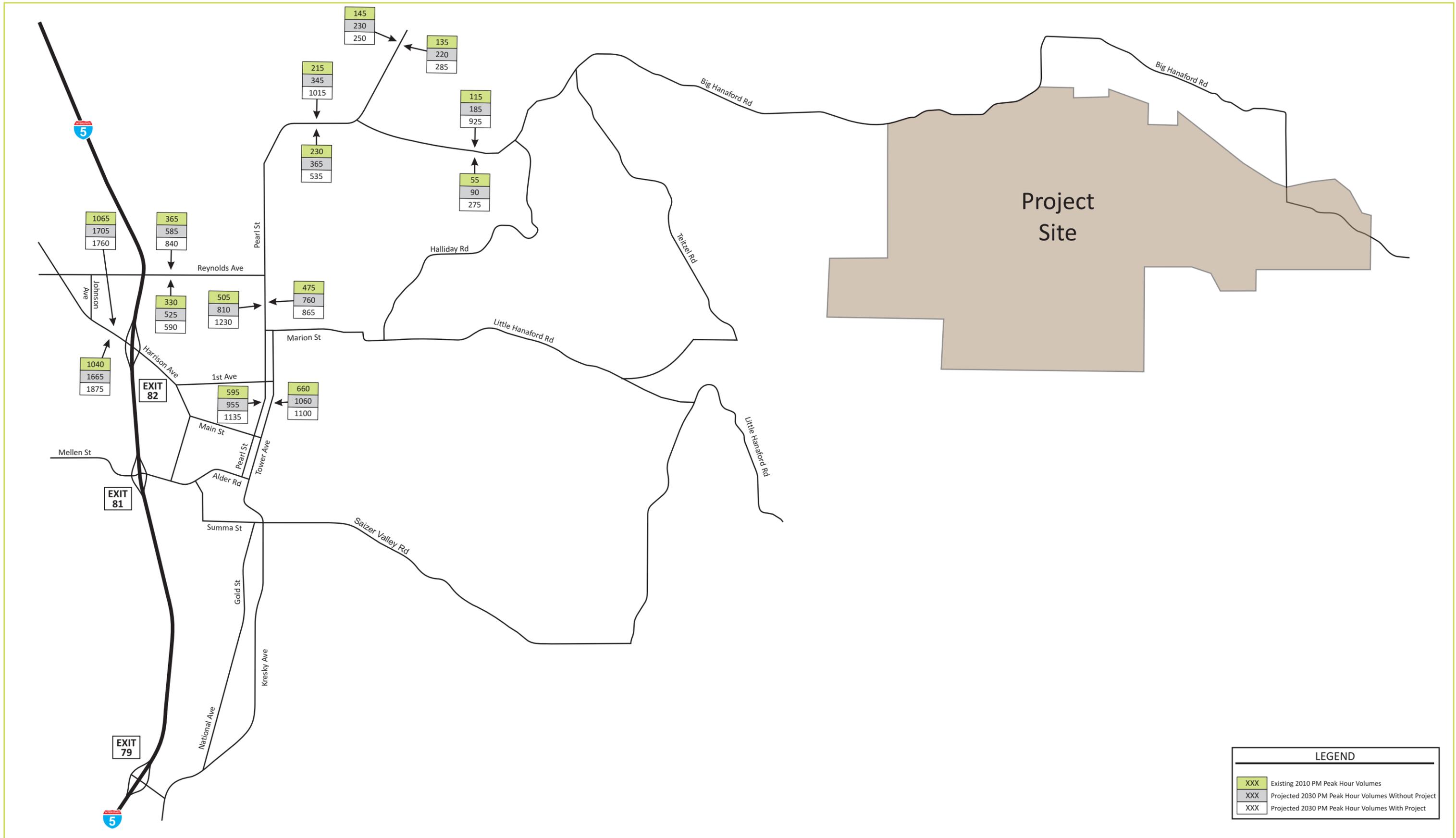


Figure 2
Existing and Projected Future Traffic Volumes

Table 7. Roadway Capacity 2030 with New Interchange

Direction	Location	2030 PM	Site-	New	Directional	Capacity
		Peak Hour	Generated	Interchange		
		Without	Traffic with	Peak Hour	Capacity	Used
		Project	New	With	(vph)	
		Project	Interchange	Project		
SB	SR507 N/O Big Hanaford Road	232	17	249	900	28%
NB	SR507 N/O Big Hanaford Road	218	69	287	900	32%
SB	SR 507 N/O SR 507 (6 th St.)	811	127	938	640	147%
NB	SR 507 N/O SR 507 (6 th St.)	760	32	792	640	124%
SB	SR 507 S/O First St.	954	81	1035	2030	51%
NB	SR 507 S/O First St.	1058	20	1078	2030	53%
WB	Big Hanaford Rd E/O SR 507	185	739	924	900	103%
EB	Big Hanaford Rd E/O SR 507	90	186	276	900	31%
WB	SR 507 W/O Big Hanaford Rd	343	670	1013	900	113%
EB	SR 507 W/O Big Hanaford Rd	366	169	535	900	59%
WB	Reynolds Ave W/O River Rd	586	41	627	640	98%
EB	Reynolds Ave W/O River Rd	525	10	535	640	84%
WB	Harrison Ave W/O I-5 Ramps	1704	0	1704	1600	107%
EB	Harrison Ave W/O I-5 Ramps	1663	0	1663	1600	104%

Note: The 2030 traffic volumes reflect adjustments to the IPAT traffic only.

Figure 2 illustrates link volumes for existing 2010, future 2030 without project, and future 2030 volumes with project.

5.4 Future Horizon (2030) Capacity Concerns

Within the study area a number of roadway segments have been identified that may experience congestion by the 2030 horizon:

5.4.1 Harrison Avenue at I-5 Interchange

Harrison Avenue in the vicinity of the interchange is one of the highest traffic volume areas in the City. Currently, periodic congestion is experienced here. By the 2030 horizon the traffic demand will likely exceed the capacity of the roadway which will extend the duration of commute congestion and cause drivers to re-route to other facilities.

By the 2030 horizon, this roadway is predicted to have a PM peak hour traffic demand of approximately 3,650 vehicles. By 2030 the *IPAT* project would add approximately 260 trips on Harrison Avenue. The volume of traffic using this facility generated by the *IPAT* project does not create conditions on Harrison Avenue that change the scale of improvements that could be needed by the 2030 horizon.

The City of Centralia has identified a plan to construct the Eckerson Extension between Harrison Avenue and Reynolds Avenue. This extension would provide a more direct route to the industrial areas on Reynolds Avenue and would reduce traffic on Harrison Avenue east and west of the interchange. However, Harrison Avenue between the interchange ramps and Eckerson may still experience congestion.

Additional analysis has been prepared by WSDOT evaluating the feasibility of constructing a new interchange to Interstate 5 in the vicinity of the Thurston/Lewis County line. The North Lewis County Interchange Feasibility Study indicated sufficient need and supporting data to warrant further consideration of this improvement. In recognition of the Feasibility Study finding the 2010 Legislature appropriated funds to conduct a Phase II Study. If a new interchange were constructed it would allow a significant reduction in traffic at the Harrison Avenue interchange.

5.4.2 SR 507 between Big Hanaford Road and the One-Way Couplet (Tower/Pearl)

This roadway provides a single lane in each direction between the Tower/Pearl couplet and Big Hanaford Road. There is a traffic signal at Reynolds Avenue but all other intersections along SR 507 are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway are projected to experience congestion by the 2030 horizon.

SR 507 between the One-Way Couplet and Reynolds Avenue

By 2030 this segment of roadway is predicted to experience approximately 2,100 vehicles in the PM peak hour. By 2030 the *IPAT* project would represent approximately 500 of the total PM peak hour traffic on this roadway.

SR 507 between Reynolds Avenue and Big Hanaford Road

By the 2030 horizon this roadway is predicted to have a PM peak hour traffic demand of 1,550 vehicles. At full build-out in 2030, the *IPAT* project would represent approximately 850 vehicles of the total PM peak hour traffic loading.

Traffic congestion along SR 507 primarily results from the occasional car stopping to turn left onto a driveway or side street. If congestion does develop along this corridor, the capacity of the roadway

could be improved by implementing access control for driveways or intersections along SR 507 and/or constructing left-turn lanes at key locations.

5.4.3 Reynolds Avenue between Harrison Avenue and SR 507

This roadway provides a single lane in each direction between Harrison Avenue and SR 507. There are traffic signals at Harrison Avenue and SR 507, but all other intersections are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway are projected to experience congestion by the 2030 horizon. By the 2030 horizon the roadway is expected to experience a peak hour traffic demand of approximately 1,450 vehicles with the *IPAT* project representing approximately 300 of that total.

As described for SR 507, traffic congestion along Reynolds Avenue primarily results from vehicles stopping to turn left onto a driveway or side street. If congestion does develop along this corridor, the capacity of the roadway could be improved by implementing access control for driveways or intersections along Reynolds Avenue and/or constructing left-turn lanes at key locations.

5.4.4 Big Hanaford Road between SR 507 and the Project Site

This roadway provides a single lane in each direction. The roadway is designed to handle relatively high volumes of passenger vehicle and truck traffic. Intersections along Big Hanaford Road are under stop sign-control for the minor streets. Based on the analysis, portions of this roadway are projected to experience congestion by the 2030 horizon with the *IPAT* project. By the 2030 horizon the roadway is expected to experience a peak hour traffic demand of approximately 1,200 vehicles with the *IPAT* project representing approximately 900 of that total.

Based on the design and function of this roadway, it could be expected to accommodate approximately 900 vehicles per lane per hour. Based on the traffic volume projections, the site is predicted to experience approximately 925 peak hour trips in the westbound direction in the PM peak hour by the 2030 horizon. Most of this traffic would be associated with the *IPAT* project and would proceed on Big Hanaford Road to/from the site without being required to stop. The potential congestion would mostly be related to small volumes of traffic entering and exiting from driveways or side streets. As noted for other roadways, if congestion does develop along this corridor, the capacity could be improved by implementing access control for driveways or intersections and/or constructing left-turn lanes at key locations.

Big Hanaford Road/SR 507 Intersection

This intersection currently operates under stop sign-control for the westbound approach of Big Hanaford Road. Each approach has a single shared lane with turns made from the through lane. Based on the projected traffic potential of the *IPAT* development it is likely that this intersection will require improvements prior to the 2030 horizon. Improvements could include turn lanes on SR 507 and Big Hanaford Road and may also include a traffic signal system. The intersection should be monitored as individual developments locate within the *IPAT* development.

5.5 Higher Traffic Potential Scenario

The 2030 horizon analysis included in this report is based on 1) anticipated county-wide traffic growth trends (as exhibited in the Lewis County transportation Demand Model) and 2) the estimated traffic potential of the proposed *IPAT* project. Both of these could occur at levels higher or lower than currently predicted. If the *IPAT* development were to experience employment levels significantly denser

than anticipated by the project developer it would most likely result in higher traffic volumes. Although not part of this development proposal, we have prepared a hypothetical scenario depicting a higher density build-out for comparison purposes.

If the *IPAT* development experienced an employment density of 4.4 employees per acre (double what is predicted based on the targeted industries) the site would then employ approximately 4,000, generating approximately 1,850 PM peak hour trips. This volume of traffic would potentially trigger the need to widen Big Hanaford Road to provide two lanes in each direction, or provide a second outlet from the site to SR 507 and/or implement significant trip reduction initiatives. Traffic congestion along SR 507 and Reynolds Avenue would also potentially require additional travel lanes..

Under this scenario, the benefit of a new Interstate 5 access between Exit 88 and Exit 82 would be more pronounced. While no potential layout has been presented for a new interchange configuration, it is presumed that it would be designed with sufficient capacity to accommodate regional commute and freight hauling demands in the area, including the Port of Centralia and industrial areas on the west side of I-5 and the *IPAT* development on the east side. The construction of a new North County interchange would most likely eliminate the need for significant widening on SR 507 and Reynolds Avenue; however, Big Hanaford Road would still require widening.

6. SUMMARY AND CONCLUSION

This transportation analysis provides an evaluation of existing conditions and general conditions expected by the 2030 horizon with full build-out of the *IPAT* project. The analysis indicates that by the 2030 horizon some roadways in the study area may experience congestion. Some of these roadways (Harrison Avenue, Pearl Street) may exceed capacity with or without the *IPAT* development, and some potential congestion would be caused by the *IPAT* development (Reynolds Avenue, Big Hanaford Road).

The *IPAT* development plans to implement strategies to reduce off-site traffic generated by the site and to increase the efficiency of the existing roadways. Also, previous planning work by Lewis County, City of Centralia and WSDOT has identified a number of transportation improvements that will improve the roadway capacity and efficiency in the study area. The following is a summary of the strategies that should be considered for implementation by the project developer and local agencies to allow the area roadway system to accommodate anticipated household and employment increase in the area, including the *IPAT* project.

6.1 Commute Trip Reduction Strategies

As industrial users locate at the park, *IPAT* can require employers to implement strategies to encourage their employees to carpool, including offering assistance to match interested employees within their organization or with nearby industrial uses, arranging rideshare formation meetings, offering financial subsidies for not commuting to work alone, or offering a guaranteed ride home for carpoolers. Employers can encourage employees to vanpool, or move trips outside of peak commute times by shifting work start times. Consideration can also be given to operating a van or bus to shuttle employees from park-n-ride lots in Centralia and Chehalis. Twin Transit could participate in park-n-ride shuttle service and, if warranted, potentially add a transit route serving the *IPAT* facilities.

6.2 Previously Identified Roadway Capacity Improvements

Harrison Avenue to W. Reynolds Avenue Connection (Eckerson Road Improvements) – Preliminary planning indicates a bridge with a span of approximately 325 feet and a new signal where the alignment meets W. Reynolds Avenue. This would provide benefit by supplying a direct route between Harrison Avenue and Reynolds Avenue that would remove industrial and commute traffic from the retail core area. (Construction start not yet planned)

W. First Street/Harrison Avenue – Construct new signal. (No estimated construction start date)

Washington State Department of Transportation (WSDOT) projects -

- *Grand Mound to Maytown Stage One* – This project adds an additional lane in each direction, upgrades the existing freeway on- and off-ramps, and realigns the curve south of the Grand Mound interchange. The end result of the project is a barrier-divided freeway with three general-purpose lanes in each direction. Construction is underway and is scheduled to be complete in fall 2010.
- *Blakeslee Junction to Grand Mound* – This project will widen four miles of I-5 from two lanes to three lanes in each direction between the Blakeslee Railroad Junction in Lewis County (milepost

83.5) and just south of the Grand Mound interchange (Exit 88) in Thurston County. Construction is scheduled to begin in Spring 2010 and be completed in 2012.

- *Grand Mound to Maytown Stage Two – Replace Interchange* –The I-5/US 12 interchange will be rebuilt as a “diamond” interchange configuration. Both loop ramps will be eliminated and traffic signals will be installed at both ramp intersections. This project is currently under construction.
- *Mellen Street to Blakeslee Junction* – WSDOT will construct Collector Distributor lanes between Mellen Street (Exit 81) and Harrison Avenue (Exit 82) interchanges, make safety improvements to the Mellen Street and Harrison Avenue interchanges, and widen and realign the I-5 curve at Blakeslee Junction. Construction is scheduled to begin in 2010 and be completed in 2014.
- In 2009, WSDOT conducted a feasibility study for a new interchange between the existing Harrison Avenue Interchange (Exit 82) and Grand Mound Interchange (Exit 88). The study concluded that a new interchange located between the Harrison Avenue Interchange and the Grand Mound Interchange could act to pull freight or industrial trips from the existing interchanges. With freight mobility focused at a new interchange, the existing Harrison Avenue and Grand Mound interchanges would experience improved safety and reduced congestion.
- In 2010 the State Legislature appropriated resources to fund Phase II of the North Interchange Study

6.3 Additional Strategies to Minimize Off-Site Impacts

Implement access control strategies or left-turn lanes on SR 507, Reynolds Avenue and Big Hanaford Road – Over time these roadways may develop congestion caused by friction with vehicles turning onto and off of minor side streets. If this congestion occurs, the capacity and function of these roadways would be enhanced by implementing access control or by constructing left-turn lanes at strategic locations to reduce the impact on the mainline traffic flows.

Monitor the Big Hanaford Road/SR 507 intersection for future channelization or signalization improvements- as traffic in the area increase and the IPAT project develops, the intersection should be monitored to determine if improvements are needed.

6.4 Additional Future Traffic Analysis

If the property is re-zoned, any specific development proposal at the IPAT site may be required to submit appropriate supplemental SEPA documentation. As lead review agency Lewis County will determine the specific environmental analysis requirements for each individual development proposal. It is likely that any major project creating significant jobs and truck traffic would be required to complete a detailed Traffic Impact Analysis (TIA) report, particularly if traffic generation estimates exceed what this analysis addresses for programmatic projected IPAT impacts. When specific end-users are identified, future TIA reports would provide site-specific traffic generation estimates and intersection operation analysis to allow accurate assessment of the project’s impact to the local roadways.

N:\Projects\0950 Pacific International Engineering\0950.02 IPAT DEIS Traffic Analysis\Report\Current version\R.2010-0716 Industrial Park at TransAlta text.docx

APPENDIX A

TRAFFIC COUNTS

APPENDIX B

FLORIDA DOT LEVEL OF SERVICE TABLES

**TABLE 4 - 9
GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S
RURAL UNDEVELOPED AREAS AND CITIES OR
DEVELOPED AREAS LESS THAN 5,000 POPULATION***

RURAL UNDEVELOPED AREAS						CITIES OR RURAL DEVELOPED AREAS LESS THAN 5000					
FREEWAYS						FREEWAYS					
Level of Service						Level of Service					
Lanes	A	B	C	D	E	Lanes	A	B	C	D	E
2	1,220	2,020	2,740	3,240	3,600	2	1,220	2,020	2,740	3,240	3,600
3	1,890	3,110	4,230	5,000	5,560	3	1,890	3,110	4,230	5,000	5,560
4	2,560	4,210	5,720	6,770	7,520	4	2,560	4,210	5,720	6,770	7,520
UNINTERRUPTED FLOW HIGHWAYS						UNINTERRUPTED FLOW HIGHWAYS					
Level of Service						Level of Service					
Lanes Divided	A	B	C	D	E	Lanes Divided	A	B	C	D	E
1 Undivided	120	250	410	650	1,060	1 Undivided	120	350	600	820	1,120
2 Divided	940	1,540	2,200	2,830	3,140	2 Divided	950	1,540	2,230	2,890	3,280
3 Divided	1,410	2,310	3,330	4,240	4,710	3 Divided	1,430	2,310	3,350	4,330	4,920
PASSING LANE ADJUSTMENTS (alter corresponding two-lane LOS A-D volumes indicated percent)						INTERRUPTED FLOW ARTERIALS					
Level of Service						Level of Service					
Passing Lane Spacing					Adjustment Factors	Lanes Divided	A	B	C	D	E
5 mi.					+25%	1 Undivided	**	120	590	740	800
10 mi.					+10%	2 Divided	**	290	1,360	1,570	1,660
						3 Divided	**	450	2,100	2,360	2,500
ISOLATED SIGNALIZED INTERSECTIONS						NON-STATE SIGNALIZED ROADWAYS (signalized intersection analysis)					
Level of Service						Level of Service					
Lanes	A	B	C	D	E	Lanes	A	B	C	D	E
1	**	100	430	580	650	1	**	**	100	410	540
2	**	160	940	1,240	1,360	BICYCLE MODE					
3	**	240	1,460	1,910	2,320	(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 45 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)					
BICYCLE MODE						PEDESTRIAN MODE					
(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 55 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by directional roadway lanes to determine maximum service volume.)						(Note: Level of service for the pedestrian mode in this table is based on roadway geometric at 45 mph posted speed and traffic conditions, not number of pedestrian using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine maximum service volumes.)					
Level of Service						Level of Service					
Paved Shoulder/ Bicycle Lane	A	B	C	D	E	Paved Shoulder/ Bicycle Lane	A	B	C	D	E
Coverage						Coverage					
0-49%	**	**	**	**	340	0-49%	**	**	**	240	760
50-84%	**	**	**	**	950	50-84%	**	**	**	430	960
85-100%	**	**	210	>210	***	85-100%	**	**	500	>500	***
NON-FREEWAY AND SIGNALIZED INTERSECTION ANALYSES DIVIDED/UNDIVIDED ADJUSTMENTS (alter corresponding volumes by the indicated percent)						NON-FREEWAY AND SIGNALIZED INTERSECTION ANALYSES DIVIDED/UNDIVIDED ADJUSTMENTS (alter corresponding volumes by the indicated percent)					
Level of Service						Level of Service					
Lanes	Median		Left Turn Lanes		Adjustment Factors	Lanes	Median		Left Turn Lanes		Adjustment Factors
1	Divided		Yes		+5%	1	Divided		Yes		+5%
1	Undivided		No		-20%	1	Undivided		No		-20%
Multi	Undivided		Yes		-5%	Multi	Undivided		Yes		-5%
Multi	Undivided		No		-25%	Multi	Undivided		No		-25%

02/22/02
Source: Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
<http://www11.myflorida.com/planning/systems/sm/los/default.htm>

*This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on K₁₀₀ factors) for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, and Pedestrian LOS Model, respectively for the automobile/truck, bicycle and pedestrian modes.
**Cannot be achieved using table input value defaults.
***Not applicable for the level of service letter grade. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 9 (continued)
 GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S
 RURAL UNDEVELOPED AREAS AND CITIES OR DEVELOPED AREAS LESS THAN 5,000 POPULATION
 INPUT VALUE ASSUMPTIONS

ROADWAY CHARACTERISTICS	UNINTERRUPTED FLOW FACILITIES						
	Freeways Class I	Highways		Arterials		Bicycle	
Area type (ft/ft)	2-4	ru	ru	ru	rd	rd	rd
Number of directional through lanes	70	55	55	55	50	50	50
Posted speed (mph)	75	60	60	60	55	55	55
Free flow speed (mph)	7						
Facility length (mi)	6						
Basic segment length (mi)	7						
Interchange spacing per mile		n	n	n	n	n	n
Median (ft)		Y	Y	Y	Y	Y	Y
Left turn lanes (ft)		Y	Y	Y	Y	Y	Y
Terrain (ft)		1	1	1	1	1	1
% no passing zone		20	20	20	40	40	40
Passing lanes (ft)		n	n	n	n	n	n
TRAFFIC CHARACTERISTICS							
Planning analysis hour factor (K)	0.104	0.098	0.098	0.098	0.097	0.097	0.097
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Peak hour factor (PHF)	0.95	0.88	0.88	0.88	0.895	0.895	0.895
Base capacity (veh/h)	1700	1700	2200	1700	1700	2100	2100
Heavy vehicle percent	9.0	5.0	9.0	9.0	4.0	4.0	4.0
Local adjustment factor	0.90	0.90	0.90	0.90	0.92	0.92	0.92

ROADWAY CHARACTERISTICS	Isolated Signalized Intersections		Arterials		Non-State Signalized		Bicycle		Pedestrian	
	ru	rd	ru	rd	ru	rd	ru	rd	ru	rd
Area type (ft/ft)	ru	rd	ru	rd	ru	rd	ru	rd	ru	rd
Number of directional through lanes	1-3	45	2-3	45	1	1	1	1	1	1
Posted speed (mph)		45	45	50	55	55	55	45	45	45
Free flow speed (mph)		50	50	50	60	60	60	50	50	50
Median type (ft/ft)		n	T	T	n	n	n	n	n	n
Left turn lanes (ft)		Y	Y	Y	Y	Y	Y	Y	Y	Y
Parade shoulder/bicycle lane (ft)							n.50%Y	n.50%Y	n	n
Outside lane width (ft)							1	1	1	1
Pavement condition (ft/ft)							1	1	1	1
Sidewalk (ft)							1	1	1	1
Sidewalk roadway separation (ft/ft)							1	1	1	1
Sidewalk roadway protective barrier (ft)							1	1	1	1
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.098	0.097	0.097	0.097	0.097	0.097	0.098	0.097	0.097	0.097
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Peak hour factor (PHF)	0.88	0.895	0.895	0.895	0.895	0.895	0.88	0.895	0.895	0.895
Base saturation flow rate (veh/h)	1900	1900	1900	1900	1900	1900	1700	1900	1900	1900
Heavy vehicle percent	5.0	3.0	3.0	3.0	1.3	6.0	3.0	3.0	3.0	3.0
Local adjustment factor	0.90	0.92	0.92	0.92	0.92	0.90	0.92	0.92	0.92	0.92
% turns from exclusive turn lanes	12	12	12	12	25	0	12	12	12	12
CONTROL CHARACTERISTICS										
Specialized intersections per mile		2.0	2.0	2.0	3	0.5	2.0	2.0	2.0	2.0
Arrival type (1-6)		3	3	3	3	3	3	3	3	3
Signal type (A-S)		3	3	3	3	3	3	3	3	3
Cycle length (C)		60	90	90	60	60	60	90	90	90
Effective green ratio (e/C)		0.44	0.44	0.44	0.31	0.44	0.44	0.44	0.44	0.44

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways		Highways		Isolated Intersections		Arterials		Non-State Signalized Roadways		Bicycle		Pedestrian	
	Class I	Two-Lane rd	Multilane ru	Multilane rd	Control Delay	ATS	Control Delay	ATS	Control Delay	Score	Control Delay	Score	Control Delay	Score
A	< 0.34	< 0.12	< 0.30	< 11	< 5 sec	> 42 mph	< 5 sec	> 34 mph	< 5 sec	< 1.5	< 5 sec	< 1.5	< 5 sec	< 1.5
B	< 0.36	< 0.18	< 0.49	> 0.47	> 18	> 34 mph	> 10 sec	> 27 mph	> 10 sec	< 2.5	> 10 sec	< 2.5	> 10 sec	< 2.5
C	< 0.76	< 0.39	< 0.70	< 26	< 15 sec	> 21 mph	< 15 sec	> 16 mph	< 15 sec	< 3.5	< 15 sec	< 3.5	< 15 sec	< 3.5
D	< 0.90	< 0.67	< 0.90	< 35	< 20 sec	> 16 mph	< 20 sec	> 16 mph	< 20 sec	< 4.5	< 20 sec	< 4.5	< 20 sec	< 4.5
E	< 1.00	< 0.83	< 1.00	< 40	< 40 sec	> 16 mph	< 40 sec	> 16 mph	< 40 sec	< 5.5	< 40 sec	< 5.5	< 40 sec	< 5.5
F	> 1.00	> 0.45	> 1.00	> 40	> 40 sec	> 16 mph	> 40 sec	> 16 mph	> 40 sec	> 5.5	> 40 sec	> 5.5	> 40 sec	> 5.5

v/c = Demand to Capacity Ratio % FFS = Percent Free Flow Speed ATS = Average Travel Speed ru = Rural Undeveloped rd = Rural Developed 02/22/02

Appendix F

Correspondence Regarding Utilities



TransAlta Centralia Mining LLC

913 Big Hanaford Road
Centralia, Washington
USA 98531

(360) 736-9901

www.transalta.com

July 28, 2010

Bill Lotto, General Manager
Industrial Park at TransAlta
1611 North National Avenue
Chehalis, WA 98532

Re: Letter of support and commitment – Industrial Park at TransAlta

Dear Mr. Lotto

This letter is prepared to acknowledge that TransAlta Centralia Mining LLC (TransAlta) and the Industrial Park at TransAlta (IPAT) have been in discussions for some time regarding the opportunity to utilize a portion of lands owned by TransAlta in connection with its surface coal mining operations for designation as a master planned location for a major industrial development outside of the existing urban growth areas presently identified within Lewis County.

TransAlta is supportive of the efforts of IPAT to establish such a master planned location to the extent of identifying a portion of TransAlta lands to be committed to the IPAT development subject to review and approval of that proposed land use by Lewis County.

Further TransAlta agrees to coordinate with IPAT to evaluate the potential of potable and industrial water supply by TransAlta's current surface water supply source as well as evaluating the potential connection to TransAlta's stormwater collection and treatment system provided that all legal, permitting, engineering, water rights, and cost issues can be met.

This letter commits TransAlta to enter into an agreement with IPAT to complete the above noted evaluations in a timely manner.

TransAlta Centralia Mining LLC


By: Lou Florence
Its: President

cc.

**RESOLUTION TO AUTHORIZE DISCUSSIONS
TO NEGOTIATE POSSIBLE OPERATING AGREEMENTS
FOR THE EAST LEWIS COUNTY PUBLIC DEVELOPMENT AUTHORITY TO ALLOW FOR
POSSIBLE OPERATION OF CERTAIN PUBLIC FACILITIES AT THE INDUSTRIAL PARK AT TRANSALTA**

Resolution #07-06-10-4

Whereas, the Industrial Park at TransAlta is currently working to gain necessary zoning for certain properties located near the TransAlta Steam Plant; and,

Whereas, the successful completion of that process can mark a significant move ahead in the ability of our County to gain valuable new industry, family wage jobs, and improved tax base; and,

Whereas, a key factor in this success will be identification and construction of certain public utilities critical to location of new private sector investment; and,

Whereas, the East Lewis County Public Development Authority has the charter and legal rights to construct and operate various public facilities in order to promote job opportunity in Lewis County; NOW THEREFORE,

BE IT RESOLVED that the Board of Directors of the East Lewis County Public Development Authority, meeting in session this 6th day of July, 2010 do hereby indicate its support for the efforts of the Industrial Park at TransAlta in their work to gain necessary zoning; and futher,

Do hereby authorize its President and/or Vice-President to negotiate with the Industrial Park at TransAlta to identify possible infrastructure needs, seek necessary funding for provision of those public utilities, and move forward towards necessary construction.

Further, it is understood that prior to any final commitments regarding the ELCPDA serving in the aforementioned capacity, said proposed agreements will be brought back to the PDA Board for final discussion and possible action.

Approved by Board Action and Signed this 6th day of July, 2010 by:

Paul Kane

President

Blaine Griffith

Vice-President

Abstained

Secretary-Treasurer

Bill Skanes

Board Member

Absent

Board Member