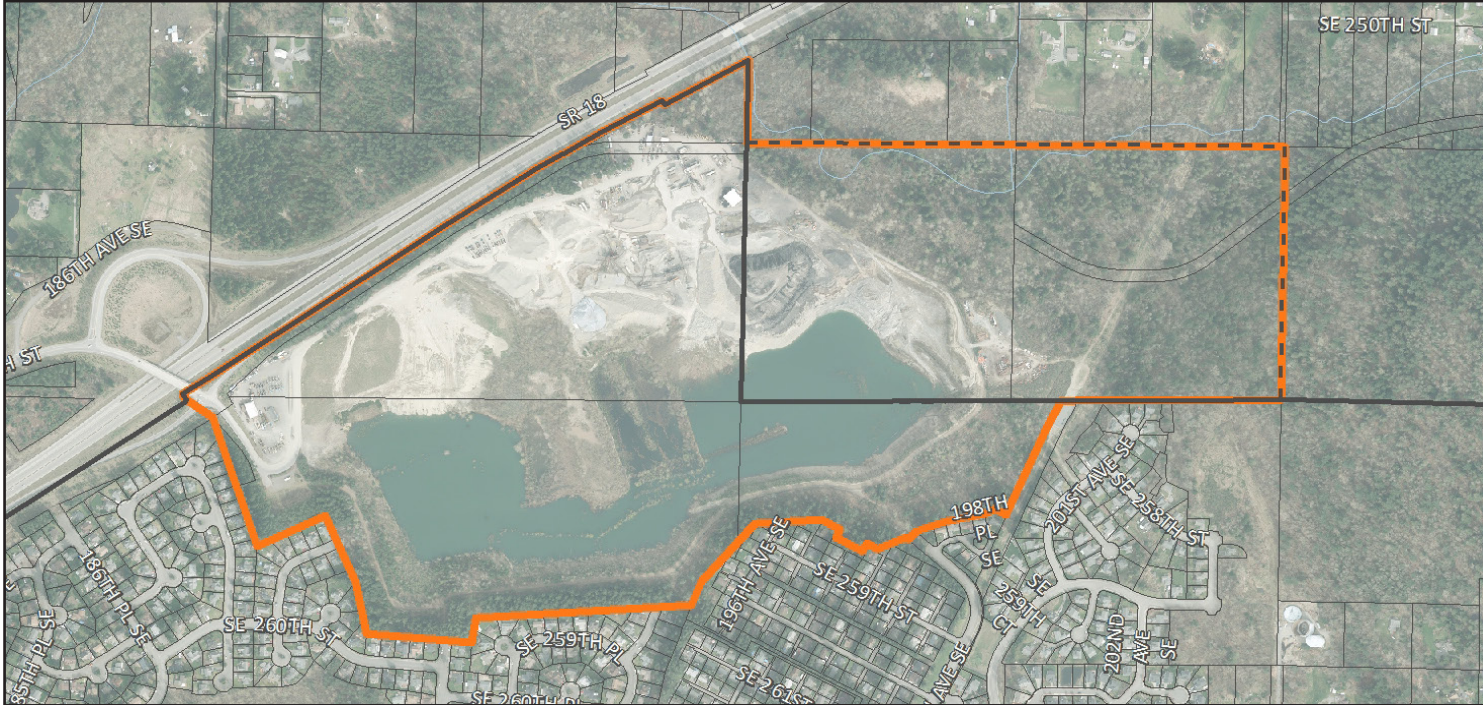


Hawk Property Planned Action Draft Environmental Impact Statement

July 2013



CITY OF
Covington
WASHINGTON



City of Covington

16720 SE 271st St. #100

Covington, WA 98042

City Hall 253-480-2400

Fax 253-480-2401

July 26, 2013

Subject: Draft Hawk Property Subarea Plan and Draft Planned Action Environmental Impact Statement (EIS)

Dear Reader:

The City of Covington proposes adoption of the Hawk Property Subarea Plan and associated comprehensive plan, zoning, and development regulation amendments that would allow for future urban development in the Hawk Property Subarea of Covington's Northern Gateway area. The Hawk Property Subarea includes land within the boundary of the city limits and land in unincorporated King County, but all of the subarea is located within the City's Urban Growth Area. In addition, the City proposes to provide for streamlined environmental review of future development proposals through a Planned Action Ordinance.

The Draft EIS evaluates three alternatives that establish a range of land use patterns and development types within the Hawk Property Subarea:

- **Alternative 1: No Action** – The Hawk Property Subarea Plan is not implemented, and current comprehensive plan land use designations and zoning focusing on mineral resource activities remain in effect on the site.
- **Alternative 2: Minimum Urban Village Proposal** – The Hawk Property Subarea is developed as an urban village featuring regional and local commercial space and a mixture of housing types and densities.
- **Alternative 3: Maximum Urban Village Proposal** – The Hawk Property Subarea is developed as an urban village featuring additional regional and local commercial space and residential units, compared with Alternative 2.

This Draft EIS analyzes, at a programmatic level, the potential impacts on the following elements of the environment identified through the scoping process: earth, surface water resources, groundwater resources, air quality, plants and animals, noise, transportation, public services, and utilities.

Adoption of Alternative 2 or 3 would provide additional employment and housing options in an urban village layout with added roadway circulation and connections, as well as parks, open space, and trail features. Development under Alternative 2 or 3 would change the study area from the current asphalt batch plant and mine reclamation operation to an urban character with commercial, residential, and parks and open space uses. There would be improvement of stormwater quality, increased access to parks and open spaces, and improved emergency service response times. The key environmental issues facing decision-makers are potential increased impervious surfaces,

traffic congestion, noise, air emissions, demand for public services and utilities, and reduction of wildlife habitat space.

The City is requesting comments from citizens, agencies, tribes, and all interested parties on the Draft EIS **from July 26 to 5:00 pm on August 26, 2013**. Written comments should be sent to:


Ann Mueller, AICP
Senior Planner
City of Covington
Department of Community Development
16720 SE 271st Street
Covington, WA 98042-4964
amueller@covingtonwa.gov

During the public comment period, a public meeting will be held by the Planning Commission on Thursday, August 15, 2013 at Covington City Hall located at 16720 SE 271st Street, Covington, WA 98043. An open house will be held from 6:00 to 7:00 pm, followed by a regular Planning Commission meeting beginning at 7:00 pm. The purpose of the open house and meeting will be to provide information, respond to questions, and accept public comment on the Draft Subarea Plan and Draft EIS.

Responses to comments on the Draft EIS will be presented in a Final EIS together with clarifications and corrections to the Draft EIS. It is anticipated the Final EIS will be issued in the fall 2013.

More information can be found on the City's website at http://www.covingtonwa.gov/city_departments/communitydevelopment/northern_gateway_study.html. If you desire clarification or have questions, please contact Ann Mueller, AICP, Senior Planner at 253-480-2444.

Sincerely,



Richard Hart, AICP, SEPA Official
City of Covington Community Development Director

FACT SHEET

Project Title

Hawk Property Subarea Plan and Planned Action Environmental Impact Statement

Proposed Action and Alternatives

The City of Covington proposes adoption of the Hawk Property Subarea Plan and associated comprehensive plan, zoning, and development regulation amendments that would allow for future urban development in the Hawk Property Subarea of Covington's Northern Gateway area. The Hawk Property Subarea includes land within the boundary of the city limits and land in unincorporated King County, but all of the subarea is located within the City's Urban Growth Area. In addition, the City proposes to provide for streamlined environmental review of future development proposals. The Draft EIS evaluates three alternatives that establish a range of land use patterns and development types within the Hawk Property Subarea:

- Alternative 1: No Action – The Hawk Property Subarea Plan is not implemented, and current comprehensive plan land use designations and zoning focusing on mineral resource activities remain in effect on the site.
- Alternative 2: Minimum Urban Village Proposal – The Hawk Property Subarea is developed as an urban village featuring regional and local commercial space and a mixture of housing types and densities.
- Alternative 3: Maximum Urban Village Proposal – The Hawk Property Subarea is developed as an urban village featuring additional regional and local commercial space and residential units, compared with Alternative 2.

Proponent & Lead Agency

The City of Covington

Tentative Date of Implementation

December 2013

Responsible Official

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Licenses or Permits Required

As legislative items, the Planning Commission has authority to make recommendations on comprehensive plan and development regulation amendments. The City Council has authority to approve such amendments.

In addition, the Washington State Department of Commerce reviews proposed comprehensive plan and development regulation amendments during a 60-day review period prior to adoption. The Puget Sound Regional Council reviews comprehensive plans for consistency with regional plans.

Authors and Principal Contributors to the EIS

Key authors of this EIS and their topic areas are listed below:

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Draft EIS Date of Issuance

July 26, 2013

Draft EIS Comment Due Date

August 26, 2013

Public Comment Opportunities

Written Comments

The City is requesting comments on the Draft EIS and Draft Subarea Plan from citizens, agencies, tribes, and all other interested parties from **July 26, 2013 to 5:00 pm, August 26, 2013**. All written comments should be directed to:

Ann Mueller, AICP
Senior Planner
City of Covington
Department of Community Development
16720 SE 271st Street
Covington, WA 98042-4964
amueller@covingtonwa.gov

Public Meeting on Draft Subarea Plan and Draft EIS

The City will hold a public meeting on the Draft Subarea Plan and Draft EIS on **August 15, 2013**. The purpose of the meeting will be to provide information, respond to questions, and accept public comment on the Draft Subarea Plan and Draft EIS.

Date: August 15, 2013

Location: Covington City Hall, 16720 SE 271st Street, Covington, WA 98043

Time: 6:00 – 7:00 pm Open House followed by a regular Planning Commission meeting beginning at 7:00 pm

Date of Final Action

The City anticipates taking final action on the adoption of the Subarea Plan, Final EIS, and Planned Action Ordinance in December 2013 or early 2014. If approved, annexation of the portion of the Hawk Property Subarea within the City's unincorporated UGA would occur in early 2014.

Type and Timing of Subsequent Environmental Review

After the close of the public comment period, the City will prepare a Final EIS that contains responses to comments received and a Final Subarea Plan, based on analysis of the alternatives and comments received from the public.

Location of Background Data

See Contact Person above.

Purchase of Draft EIS

The document is posted at the City's website at:

http://www.covingtonwa.gov/city_departments/communitydevelopment/northern_gateway_study.html

Copies for purchase are available at Covington Copy It Mail It, LLC, 27111 167th Place SE, Suite 105, Covington, WA; 253-630-6670.

A reference copy of the document is also available at the following locations:

- Covington City Hall, 16720 SE 271st Street, Covington, WA 98043
- Covington Chamber of Commerce, 27116 167th Pl SE #114 Covington, WA 98042

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1.0 SUMMARY

1.1 Purpose of Proposed Action

The purpose of the proposed action is to guide future development in the Hawk Property Subarea and provide for streamlined environmental review of future development proposals through use of a Planned Action Ordinance. The Planned Action Ordinance would define land use options, protect environmentally sensitive areas, foster economic development, and create an urban village for housing and regional commercial development.

1.2 State Environmental Policy Act Process

Planned Action

The City proposes to designate the Hawk Property Subarea as a planned action, pursuant to SEPA and implementing rules. According to WAC 197-11-164, a planned action is defined as a project that is characterized by the following:

- Designated by a Planned Action Ordinance;
- Analyzed through an EIS that addresses any significant impacts;
- Prepared in conjunction with a comprehensive plan, a subarea plan, a master planned development, a phased project, or with subsequent or implementing projects of any of these categories;
- Located within an Urban Growth Area (UGA);
- Not an essential public facility unless they are accessory to or part of a project that otherwise qualifies as a Planned Action; and
- Consistent with an adopted comprehensive plan.

Projects meeting these requirements qualify as planned action projects and do not require a subsequent SEPA threshold determination, but still require a completed environmental checklist to be submitted. Future planned action projects must be reviewed for consistency with the City's zoning and development regulations, the proposed subarea plan, conceptual site plan, and development agreement where applicable. Planned actions must also acquire all necessary permits, and satisfy all necessary public notice requirements of said permits.

The proposed action specifies a maximum level of growth allowed within the Hawk Property Subarea. Consistency with this limit would be ensured through the execution of a development agreement with the property owner and developer, Oakpointe LLC, and/or through approval of a final conceptual site plan consistent with the Subarea Plan, Planned Action Ordinance, and Covington Municipal Code (CMC).

Prior Environmental Review

No other recent SEPA analysis has been conducted in the vicinity of the Hawk Property Subarea, but the Northern Gateway Area Study (2012) collected information on conditions in the subarea and surrounding areas and analyzed suitability for future development.

1.3 Organization of this Document

This Draft Planned Action EIS is organized into chapters with the following purpose:

- **Chapter 1 – Summary:** This chapter provides a brief discussion of the proposed action, the environmental review process, and the public involvement process, as well as a summary of the potential environmental impacts and recommended mitigations measures associated with each EIS alternative.

- **Chapter 2 – Alternatives:** This chapter describes proposal objectives, the proposed actions and alternatives for the Hawk Property Subarea, and summarizes public review opportunities.
- **Chapter 3 – Affected Environment, Significant Impacts, and Mitigation Measures:** This chapter describes the existing conditions for each environmental topic area and includes an analysis of the potential impacts associated with each EIS alternative. Recommended mitigation measures to reduce impacts to less than significant levels are also discussed.
- **Chapter 4 – References:** This chapter contains a list of all documents and personal communications referenced in the analyses contained in Chapter 3.
- **Chapter 5 – Distribution List:** This chapter contains a list of all government agencies and community groups who will receive notices of availability or copies of the Draft EIS.

1.4 Public Involvement

The City of Covington has created opportunities for public and agency review and comment throughout the planning and environmental review process. Key efforts are described below:

- **Project Website.** The City has created a website for the subarea plan and EIS, located at http://www.covingtonwa.gov/city_departments/communitydevelopment/northern_gateway_study.html. The website provides background information on the subarea plan and EIS, describes the schedule, and provides links to relevant documents as they are released for public review. Contact information for City staff is also provided to allow the public to submit comments or ask questions about the subarea plan and EIS.
- **Scoping Comment Period.** Public and agency comment was solicited in a 21-day scoping period from March 9 to March 29, 2013. During this period, the general public, as well as public agencies and stakeholders, were invited to submit written comments on the scope of the EIS and offer written suggestions. The scoping notice, SEPA Checklist, and comments are provided in Appendix A. As a result of public and agency comments, the topic of groundwater resources was added. In addition, the potential transportation and emergency access implications of providing a local access connection or emergency access connection to the southern neighborhoods is also addressed; as described later in the presentation of alternatives, access via 191st Place SE is studied.
- **Community Workshop.** During the scoping period, the City also hosted a public workshop on March 25, 2013, attended by approximately 37 members of the public. In addition to taking comments from the public, the City answered questions about the subarea plan and EIS and engaged attendees in a planning exercise to graphically illustrate their preferred vision for the future of the Hawk Property Subarea. See Appendix B.
- **Draft EIS Comment Period.** This Draft EIS was released for public review on July 26, 2013, initiating a 30-day comment period, during which the general public, as well as public agencies and stakeholders are invited to submit comments on the alternatives, identified environmental impacts, and mitigation measures. See the Fact Sheet for more information. The City will issue a Final EIS anticipated in late 2013/early 2014, providing responses to comments.
- **Legislative Meetings.** The Planning Commission and City Council have held and will hold study sessions, hearings, and deliberations on the subarea plan development and design standards and planned action, and ultimately a development agreement, as applicable. Please see the City's website for a schedule of meetings.

1.5 Proposed Action, Alternatives, and Objectives

Objectives

SEPA requires a statement of objectives that address the purpose and need for the proposal and around which reasonable alternatives can be evaluated. Objectives of the Hawk Property Subarea planning effort include:

- To plan for future development of the Hawk Property Subarea in Covington's Northern Gateway area by defining land use options;
- To protect environmentally sensitive areas while fostering economic development;
- To create an urban village for regional and local commercial uses and related employment, a mix of housing types, as well as community gathering and recreation spaces that is unique from and secondary to Covington's downtown;
- To plan for an orderly transition of the Hawk Property Subarea from mineral extraction to urban uses appropriate for its location as Covington's Northern Gateway;
- To improve transportation mobility in the area with a new arterial connection between SR 18 and 204th Avenue SE through the subarea and the connection to SE 272nd Street;
- To provide housing options, such as multifamily, townhomes, and small lot single family homes, that are not widely available in Covington; and
- To provide unique open space amenities such as an on-site pond and parks, and provide access to the regional trail system such as the Tri-City/Covington Highlands Trail.

Proposed Action and Alternatives

The Draft EIS evaluates three alternatives that establish a range of land use patterns and development types within the Hawk Property Subarea:

Alternative 1: No Action

Under the No Action Alternative, the Hawk Property Subarea Plan would not be adopted, and the existing mining reclamation and asphalt batch plant activities would continue. In this analysis, due to the Mineral zoning, it is assumed that employment at the on-site asphalt batch plants would increase, and additional building square footage would be added (from roughly 3,750 square feet of structure to 11,250 square feet of structure, an approximately 7,500 square foot increase).

Alternative 2: Minimum Urban Village Proposal

Under Alternative 2, the Hawk Property Subarea would transition from its current mineral resource uses to an urban village featuring both commercial development and a variety of housing types across a range of densities. Approximately 5.5 acres of parks, open space, and trails would also be provided to serve the needs of local residents and be accessible to the Covington community.

204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve citywide circulation. A local street would connect to the southern neighborhood to allow local access for nearby residents and improve emergency vehicle access and response times.

A planned action would be adopted to facilitate future environment permitting as the subarea develops in phases over time, and would provide consistent application of mitigation measures based on this EIS. The minimum urban village proposal would contain approximately 680,000 square feet of regional, iconic, and local retail uses and about 1,000 dwelling units with a mix of single family, townhome, and multifamily residences.

Alternative 3: Maximum Urban Village Proposal

Under Alternative 3, the Hawk Property Subarea would transition from its current mineral extraction use to an urban village similar to the minimum urban village proposal under Alternative 2, though featuring an additional 170,000 square feet of commercial space and an additional 500 residential units. Approximately 8.3 acres of parks, open space, and trails would also be provided to serve the needs of local residents and be accessible to the Covington community. Transportation and trail connections would be provided. A park and ride would support transit service.

Similar to Alternative 2, 204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve city circulation. Consistent with Alternative 2, a local street would connect to the southern neighborhood to allow local circulation and improve emergency vehicle access and response times. A park and ride would be developed onsite at about 125 spaces, similar in size to a facility in Maple Valley currently.

A planned action would be adopted to facilitate future environment permitting as the subarea develops in phases over time, and would provide consistent application of mitigation measures based on this EIS. The maximum urban village proposal would contain approximately 850,000 square feet of regional, iconic, and local retail uses and about 1,500 dwelling units with a mix of single family, townhome, and multifamily residences.

1.6 Major Issues, Significant Areas of Controversy and Uncertainty, and Issues to be Resolved

Adoption of the Proposal would provide additional employment and housing options in an urban village format with added roadway circulation connections and parks, open space, and trail features. The Proposal would change the study area from the current asphalt batch plant and mine reclamation operation to an urban character with commercial, residential, and parks and open space uses. Major issues associated with the proposal include the transition of the subarea from mineral extraction to urban land uses, including commercial and multifamily uses, as well as the associated increases in impervious area, traffic, air quality emissions, noise, and demand for public services and utilities, and reduction of wildlife habitat space. Issues to be resolved include selection of a preferred alternative and development of a final subarea plan.

1.7 Summary of Impacts and Mitigation Measures

Impacts Common to All Alternatives

This section describes impacts that could occur under all of the studied alternatives, organized by topic area.

Earth

While no landslide or erosion hazard areas have been identified within the Hawk Property Subarea, the entire Puget Sound region lies within a seismically active area, and future development under any of the alternatives could be subject to seismic and soil liquefaction hazards, depending on mine reclamation backfill conditions.

Surface Water Resources

Under all alternatives, continued construction and ground disturbance would occur in the subarea, which could affect erosion, sediment transport, and pollutant loading for nearby water bodies. Levels of impervious surface coverage and presence of pollutant-generating uses and activities would vary by alternative.

Groundwater Resources

Under all alternatives, development and use of the subarea would have the potential to affect groundwater availability and quality through infiltration of untreated stormwater, transportation related spills, and on-site spills of hazardous materials. Levels of impervious surface coverage and the presence of stormwater treatment measures and pollutant-generating uses and activities would vary by alternative.

Air Quality

Under all alternatives, construction and vehicle travel within and to the subarea would produce greenhouse gas and dust emissions. The levels of emissions would vary by alternative.

Plants and Animals

Because the approved reclamation plan will be implemented regardless of future zoning, the area of open water on-site will be reduced under all three alternatives, and some incidental degradation of critical area buffers may occur.

Noise

Noise from vehicle traffic and equipment usage would be generated under all alternatives. The levels and sources of such noise impacts would vary by alternative.

Land Use Patterns/Policies

Under all alternatives, the gravel mine in the subarea would be reclaimed, and the subarea would be converted to either an expanded industrial use (asphalt batch plant) or urban growth including residential and commercial uses. Specific land uses and zoning changes would vary by alternative.

Transportation

Under all alternatives, vehicular traffic to and from the subarea will have the potential to affect the surrounding street network and place additional demand on local transportation infrastructure. Specific transportation impacts would vary by alternative.

Public Services

Under all alternatives, future development in the subarea would require police and fire protection services, as well as solid waste service. Demand for parks and recreation facilities, as well as schools, would only occur in response to a population increase associated with residential development in conjunction with both Alternatives 2 and 3. The precise level and nature of demand for public services would vary by alternative.

Utilities

Development under all alternatives would require water, wastewater or sewer, and storm drainage service, though the type of infrastructure necessary and the level of demand for each of these utility services would vary by alternative.

Matrix of Impacts by Alternative

Exhibit 1.7-1 highlights the impacts that would potentially result from the alternatives analyzed in this Draft EIS. This summary table is not intended to be a substitute or replacement for the complete discussion of impacts contained in Chapter 3.

Exhibit 1.7-1. Summary of Impacts by Alternative

Resource	Alternative 1	Alternative 2	Alternative 3
3.1 Earth			
<i>Steep Slope and Landslide Hazard Impacts</i>	<p>The Hawk Property Subarea contains no areas mapped as landslide hazard by the City of Covington. However, mining activities at the site have created steep slopes mostly below the water table. In some areas, these slopes likely present moderate to high steep slope and landslide hazards.</p>	<p>Landslide hazard impacts are similar to Alternative 1. While the likelihood of landslide occurrence will not be substantially affected by development, the consequences of potential landslides would increase due to development in and around the affected zones (i.e., slides occurring in undeveloped areas will have no structures to affect). Stability of post-reclamation steep slopes will need to be assessed during the design phase. Depending on the design details of the proposed extension to 204th Avenue, which ascends a hill in the southeast corner of the site, additional stability assessments may be needed in this area as well.</p>	<p>The impacts would be similar to those described for Alternative 2.</p>
<i>Erosion Hazard Impacts</i>	<p>The Hawk Property Subarea contains no areas mapped as erosion hazard by the City of Covington. Due to the relatively flat topography and permeable near-surface soil at the Hawk Property Subarea, erosion hazards at the site are expected to remain low after reclamation. However, the site should be evaluated for erosion after reclamation as reclamation backfill may contain soil with greater erosion susceptibility.</p>	<p>Erosion hazard impacts for the minimum buildout alternative are similar to Alternative 1. However, site development will inevitably reduce erosion potential in areas surfaced with impervious development (e.g., buildings, concrete, pavement, etc.) and potentially increase in areas where surface runoff is concentrated if not controlled by other means. Erosion potential will likely be highest during construction, particularly on slopes that exceed 15 percent. Construction activities will also tend to increase erosion due to soil disturbance. Soil erosion Best Management Practices should be utilized during construction to manage/minimize these effects.</p>	<p>Impacts under Alternative 3 would be similar to Alternative 2.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Seismic Hazard Impacts</i>	Potential seismically induced settlement and/or liquefaction will not create a significant hazard if the site is not developed.	Potential seismic hazards include soil liquefaction and ground rupture. The liquefaction hazard potential associated with reclamation fill can be substantially reduced by adequately compacting good quality fill (discussed further under “Mitigation Measures”). The Hawk Property Subarea lies about 8½ miles south of the Seattle Fault Zone and 7 miles north of the Tacoma Fault Zone (DNR 2013b). Accordingly, it is the opinion of the EIS author that ground rupture will not be a significant part of the site-specific seismic design for the future site improvements, and mitigation to prevent ground rupture impacts will not be required.	Impacts under Alternative 3 would be similar to Alternative 2.

3.2 Surface Water

<i>Construction</i>	<p>Under Alternative 1, construction impacts would be similar to existing conditions.</p> <ul style="list-style-type: none"> • Sediment transport, erosion, fuel, and other spills would be the main pollution concerns. • Runoff rates may increase. • Sediment control measures would be implemented. • A Spill Prevention Plan would be developed. • Land would be less disturbed than under Alternatives 2 and 3. 	<p>Under Alternative 2, construction impacts would convert from mineral extraction to a mix of residential and commercial uses:</p> <ul style="list-style-type: none"> • Sediment transport, erosion, fuel, and other spills would be the main pollution concerns. • There could be an increase of runoff rates • Sediment control measures would be implemented. • A Spill Prevention Plan would be developed. • There would be larger sediment control facilities. • There may be more potential for sediment transport and higher erosion risk. • There would be more construction equipment. • Alternative 2 is anticipated to generate 75.8 acres of new impervious surface, about 35% of the total study area. 	<p>Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater:</p> <ul style="list-style-type: none"> • Sediment transport, erosion, fuel, and other spills would be the main pollution concerns. • There could be an increase of runoff rates • Sediment control measures would be implemented. • A Spill Prevention Plan would be developed. • There would be larger TESC facilities. • More potential for sediment transport and higher erosion risk • There would be more construction equipment. • Alternative 3 is anticipated to generate 99.6 acres of new impervious surface, about 47% of the total study area.
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Resource	Alternative 1	Alternative 2	Alternative 3
<i>Operations</i>	<p>Under Alternative 1, operations impacts would be similar to existing conditions</p> <ul style="list-style-type: none"> Continue to discharge stormwater runoff to the pond. 	<p>Under Alternative 2, construction impacts would result from the development of the reclaimed mine site to a mix of residential and commercial uses:</p> <ul style="list-style-type: none"> Traffic and transportation and parking facilities would be a significant source of pollutants. There is a possibility of flow rate increases due to the increase of impervious area. Potential water quality concerns from the use of fertilizers and herbicides in parks and lawn areas. 	<p>Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater:</p> <ul style="list-style-type: none"> Traffic and transportation and parking facilities would be a significant source of pollutants. There is a possibility of flow rate increases due to the increase of impervious area. Potential water quality concerns from the use of fertilizers and herbicides in parks and lawn areas.
<i>Cumulative</i>	<p>There could be reduced surface water quality in the immediate vicinity as a result of expanded asphalt batch plant activities.</p>	<p>The current water quality treatment will be upgraded as the site develops.</p>	<p>The current water quality treatment will be upgraded as the site develops.</p>
3.3 Groundwater			
<i>Construction</i>	<p>Under Alternative 1, no appreciable construction impacts occur in association with construction of a new asphalt batch plant facility. Reclamation would also proceed under Alternative 1.</p>	<p>Under Alternative 2, the existing asphalt batch plant would be demolished, reclamation implemented, and a new urban village constructed. Impacts to groundwater may occur during construction due to infiltration of untreated stormwater, transportation-related spills, and National Pollutant Discharge Elimination System (NPDES) permitted discharges.</p>	<p>Impacts would be similar under Alternatives 2 and 3; there would be greater impervious area and level of development under Alternative 3.</p>
<i>Operations</i>	<p>Continuing and additional industrial uses may increase in untreated stormwater infiltration and pose an increased risk of impacts to groundwater quality.</p>	<p>Reductions in groundwater recharge will occur due to 75.8-acres of impervious surface; this is not likely to affect groundwater users.</p>	<p>Reductions in groundwater recharge will occur due to 99.6-acres of impervious surface; this is not likely to affect groundwater users.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Cumulative</i>	Groundwater quality may be impacted over time by the asphalt batch plant use given the current stormwater management.	With implementation of Alternative 2 impacts may include: <ul style="list-style-type: none"> • Improved groundwater quality due to stormwater treatment upgrades. • Reduction of groundwater recharge. • Potential reduction of seasonal baseflow contributions to Jenkins Creek. The site represents less than 2% of the recharge area for this reach of the creek and net effects, if they occurred, would be small. 	<ul style="list-style-type: none"> • Impacts would be similar under Alternatives 2 and 3; there would be greater impervious area and level of development under Alternative 3.
3.4 Air Quality			
<i>Construction</i>	Under Alternative 1 no development would occur, apart from a minor expansion of the asphalt batch plant, so minimal construction-related impacts would occur.	Under Alternative 2, air quality impacts to nearby homes or businesses could occur as a result of fugitive dust or tailpipe emissions from new construction sites.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater.
<i>Operations</i>	Under Alternative 1 the ongoing asphalt batch plant operations would emit air pollutants from stationary industrial equipment, mobile on-site equipment, and tailpipes of haul trucks. It is unlikely those emissions would cause ambient concentrations to approach the National Ambient Air Quality Standards.	Under Alternative 2, air pollutants would be emitted from tailpipes of on-road vehicles and from stationary equipment, parking lots and loading docks at commercial businesses. It is unlikely those emissions would cause ambient concentrations to approach the National Ambient Air Quality Standards.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater.
<i>Indirect</i>	Under Alternative 1 tailpipe emissions from haul trucks serving the ongoing asphalt batch plant operations would slightly affect air quality along public roads outside the study area. It is unlikely those emissions would cause ambient concentrations to approach the National Ambient Air Quality Standards.	Under Alternative 2, tailpipe emissions from new cars and trucks traveling on public roads outside the study area would slightly affect air quality. It is unlikely those emissions would cause ambient concentrations to approach the National Ambient Air Quality Standards.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater.
<i>Cumulative</i>	Under Alternative 1, the annual greenhouse gas emissions would be less than the existing emissions.	Under Alternative 2, greenhouse gas emissions generated from new building construction, space heating, and on-road vehicles would cumulatively contribute to global climate change. However, the increased emissions caused by this proposed action would be small and would not be significant.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater.

Resource	Alternative 1	Alternative 2	Alternative 3
3.5 Plants & Animals			
<i>Construction</i>	<p>It is generally assumed, no new critical area buffer impacts would occur under Alternative 1.</p> <p>Increased runoff, erosion, and transportation-spills may all occur during clearing, grading and construction.</p>	<p>New road construction is likely to require some critical area buffers impacts</p> <p>Increased runoff, erosion, and transportation-spills may all occur during clearing, grading and construction.</p> <p>Existing stands of vegetation, potentially including approximately 9-acres forest, may be cleared.</p>	Impacts under Alternatives 2 and 3 are similar.
<i>Indirect</i>	<p>Some wildlife could be displaced by an increase in adjacent asphalt batch plant industrial land use.</p> <p>Open water area will be reduced as the reclamation plan is implemented, displacing waterfowl.</p>	<p>Higher intensity adjacent land use is likely to increase critical area disturbance by people and pets.</p> <p>Open water area will be reduced as the reclamation plan is implemented, displacing waterfowl.</p>	Impacts under Alternatives 2 and 3 are similar.
<i>Cumulative</i>	<p>Some habitat loss would occur as the reclamation plan is implemented and new facility constructed.</p> <p>Site use by the following priority species is likely to decline: pileated woodpecker, Vaux’s swift, purple martin, and cavity-nesting ducks.</p>	<p>Some habitat loss would occur as the reclamation plan is implemented, additional land is cleared, the urban village is constructed, and land use intensity increases.</p> <p>Site use by the following priority species is likely to decline: pileated woodpecker, Vaux’s swift, purple martin, and cavity-nesting ducks.</p> <p>There may be increased habitat fragmentation, and a reduction or loss of on-site habitat.</p>	Impacts under Alternatives 2 and 3 are similar.

Resource	Alternative 1	Alternative 2	Alternative 3
3.6 Noise			
<i>Construction</i>	Under Alternative 1 (No Action), the mine would not be developed after reclamation is completed, apart from a small asphalt batch plant expansion and therefore, minor construction noise would be produced within the gravel mine area.	Under Alternative 2 construction of new homes and commercial buildings within the study area would generate temporary construction noise at other existing homes and businesses in the vicinity.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater which may increase construction traffic and associated equipment that would generate noise.
<i>Operations</i>	Noise from the mine reclamation will cease, but the asphalt batch plants will continue to operate and potentially expand. Asphalt batch plant noise would be negligible at the residential receivers including the existing residential area south of the mine site.	<p>Under Alternative 2 noise generated by stationary equipment and loading docks at commercial businesses would increase noise levels at nearby dwellings. However, commercial noise sources would be regulated under the City’s noise code, and would be required to be designed to avoid noise impacts to nearby neighbors.</p> <p>Increased population and development could lead to the following types of events, which could result in future traffic noise impacts:</p> <ul style="list-style-type: none"> • Increases in traffic volumes along existing streets, with resulting impacts on existing homes near the streets; and • Construction of new streets through lightly developed land. <p>For example, there would be added noise along both the existing and proposed new segments of 204th Avenue SE.</p>	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater, generating more traffic trips and associated noise.
<i>Indirect</i>	Under Alternative 1 haul trucks associated with the asphalt batch plant operation would generate noise along public roads outside the study area.	Under Alternative 3 additional vehicles traveling on public streets in existing neighborhoods outside the study area would increase traffic noise levels at dwellings near the street.	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater, generating more traffic trips and associated noise.

Resource	Alternative 1	Alternative 2	Alternative 3
3.7 Land Use Patterns/Plans and Policies			
<i>Land Use Patterns</i>	Under Alternative 1, land use patterns would be similar to existing conditions. Employment is anticipated to increase slightly, including development of an additional 7,500 square feet of industrial building space, added to the existing asphalt batch plant. Use of the property would remain unchanged.	Under Alternative 2, land use patterns would convert from mineral extraction to a mix of residential and commercial uses: <ul style="list-style-type: none"> Residential development would increase by approximately 1,000 dwelling units. Commercial development would increase by approximately 680,000 square feet. Impervious surface coverage would increase by approximately 75.8 acres. Allowed building heights would be 35 feet for commercial, single-family, and townhome development. Multifamily residential uses would be allowed up to 60 feet. 	Impacts under Alternative 3 would be similar to Alternative 2, though the overall intensity of development would be greater: <ul style="list-style-type: none"> Residential development would increase by approximately 1,500 dwelling units. Commercial development would increase by approximately 850,000 square feet. Impervious surface coverage would increase by approximately 99.6 acres. Building heights would be similar to Alternative 2.
<i>Land Use Policies</i>	Under Alternative 1, no subarea plan would be adopted, and the site would continue as an asphalt batch plant and reclaimed gravel mine, consistent with current zoning, comprehensive plan land use designations, and issued permits.	Alternative 2 is generally consistent with adopted policy frameworks, including the Growth Management Act, King County Countywide Planning Policies, and the Covington Comprehensive Plan.	Alternative 3 is generally consistent with adopted policy frameworks, including the Growth Management Act, King County Countywide Planning Policies, and the Covington Comprehensive Plan. Because of the inclusion of a Park-and-Ride facility, Alternative 3 provides greater consistency with GMA policies for promotion of carpooling, ridesharing, and transit use.
3.8 Transportation			
<i>Traffic Volumes</i>	Vehicle trips are expected to be similar in magnitude to the number of trips currently generated by the site.	Alternative 2 is projected to generate approximately 28,900 total daily trips, of which about 22,000 are expected to be new trips on the roadway system. Of these, about 2,600 are expected to occur during the PM peak hour, with about 2,000 reflecting new trips on the roadway system.	Alternative 3 is projected to generate approximately 36,500 total daily trips, of which about 28,300 are expected to be new trips on the roadway system. Of these, about 3,300 are expected to occur during the PM peak hour, with about 2,600 reflecting new trips on the roadway system.

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Intersection Operations</i>	<p>Under future 2035 conditions with build-out of local and regional land use plans, 20 intersections defined in the City of Covington’s Concurrency Management Program are projected to operate at level of service (LOS) E or F during the PM peak hour, which exceeds the City’s standard of LOS D. Five intersections defined in the City of Maple Valley’s Concurrency Management Program are projected to operate at LOS E or F, as well as the weighted average delay of the City’s North and South concurrency groups, which exceeds the City’s standard of LOS D.</p>	<p>Alternative 2 is expected to:</p> <ul style="list-style-type: none"> • Add delay to 18 intersections located in Covington and Maple Valley that are projected to operate at LOS E or F during the PM peak hour under Alternative 1. • Reduce trips and/or average delay at seven intersections located in Covington that are projected to operate at LOS E or F during the PM peak hour under Alternative 1, due to shifts in traffic patterns resulting from the proposed 204th Avenue SE connector roadway. Operation at two of the locations is expected to improve to LOS D, eliminating the need for mitigation. • Degrade operations to LOS E or F during the PM peak hour at four locations in Covington that are projected to operate at LOS D or better under Alternative 1. 	<p>Impacts would be similar to Alternative 2. There would be a projected reduction in trips and average delay at seven intersections which would improve operations to LOS D during the PM peak hour; however there would be only one location instead of two that would improve to LOS D, eliminating the need for mitigation at this location.</p>
<i>Arterial Segment Operations</i>	<p>The City’s Transportation Adequacy Measure (TAM) thresholds are only applied to proposed new developments. If the existing asphalt batch plant were to expand, it would be subject to City concurrency regulations, but would be expected to generate a negligible number of PM peak hour trips on citywide arterial segments. Therefore, under Alternative 1, no impacts related to arterial segments are identified.</p>	<p>The 2035 TAM value is projected to be 0.75 for Alternative 2, which is below the City’s 0.89 threshold. No impacts related to arterial segments are identified.</p>	<p>The 2035 TAM value is projected to be 0.78 for Alternative 3, which is below the City’s 0.89 threshold. No impacts related to arterial segments are identified.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Site Access and Circulation</i>	<p>With Alternative 1, the 204th Avenue SE Connector would not be built. Although the subarea would generate a low volume of trips that would not require an additional major access point, this alternative would also not receive the benefit of adding another route option for vehicles traveling between SE 272nd Street and SR 18.</p> <p>With Alternative 1, the 191st Avenue SE Local Connector would not be built. However, since there would be no demand to be served between the site and the residential neighborhood to the south, no adverse impact is identified.</p> <p>No new site access points would be constructed, and a low volume of traffic generated by continuing operation of the asphalt pavement plant would continue to access the site via SE 256th Street. No adverse impact related to site access and circulation is expected to result.</p>	<p>The proposed new 204th Avenue SE Connector, between SE 256th Street and SE 272nd Street, would serve as the spine of the site’s internal roadway circulation system, would provide a second major roadway connection to the site from the east, and would provide an additional emergency vehicle access point. Additionally, it would carry vehicle trips not related to the proposed project, traveling between SE 272nd Street (east of 204th Avenue SE) and the SR 18/SE 256th Street interchange. This would result in a reduction of overall trips using SE 272nd Street between 204th Avenue and SE Wax Road, and also using SE Wax Road/180th Avenue SE between SE 272nd Street and SE 256th Street. This connection is also expected to attract trips currently cutting through residential neighborhoods (e.g. via Timberlane Way SE) to access the SE 256th Street/SR 18 ramps while avoiding the SE 272nd Street/SE Wax Road intersection, reducing volumes on those neighborhood roadways. The additional trips generated on 204th Avenue SE would degrade the stop-controlled intersection at SE 272nd Street to LOS F. However, if mitigation is provided at this intersection, the new roadway connection is expected to result in an overall benefit to the citywide road system, by providing more options for vehicles traveling between SE 272nd Street and SR 18.</p>	<p>Impacts would be similar to Alternative 2.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
		<p>The proposed 191st Avenue SE Local Connector would provide a direct connection between the subarea and residential development located to the south. It would also provide an additional emergency vehicle access point. This connector is expected to have a beneficial effect on city-wide roadway operations because it would allow direct access between the subarea and adjacent residential development. Without this connection, trips generated to and from these neighborhoods would need to use SE 272nd Street and access the site via SE 256th Street or 204th Avenue SE. This would increase overall vehicle miles traveled on the roadway system, and would also increase traffic volumes along these alternate routes. With traffic calming measures such as on-street parking, landscaping, and/or devices such as traffic circles in place to discourage cut-through traffic, no adverse transportation impacts are expected to result from this connection.</p> <p>The internal roadway and walkway system within the subarea would be subject to City design standards provided in the Covington Design Guidelines CMC Chapter 18.50, to ensure that internal mobility and safety objectives are met. With City design standards incorporated into site design, no adverse internal circulation impacts are expected to result.</p>	<p>Impacts would be similar to Alternative 2.</p> <p>Impacts would be similar to Alternative 2.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Traffic Safety</i>	<p>Historical collision data in the site vicinity do not indicate any unusual safety concerns and the addition of future projected traffic is not expect to substantially change overall safety conditions. Projected increases in vehicle traffic on the study area street network resulting from regional land use growth could increase the potential for vehicle conflicts. High average delays at stop-controlled intersections projected to operate at LOS E or F with all three alternatives could also result in drivers on the stop-controlled approaches taking shorter gaps to cross or enter the major street, which could increase the potential for vehicle conflicts. However, mitigation identified to address operational impacts would also address potential safety issues at these locations. None of the three alternatives are expected to result in significant adverse impact to traffic safety.</p>	<p>Impacts would be similar to Alternative 1, although Alternative 2 would add more trips to the roadway system, as compared to Alternative 1.</p>	<p>Impacts would be similar to Alternative 1, although Alternative 3 would add more trips to the roadway system, as compared to Alternative 1</p>
<i>Transit</i>	<p>No residential or retail land uses would be constructed with this alternative, and no transit demand is expected to occur at the site.</p>	<p>Alternative 2 is expected to generate some transit trips. The area is served by two bus routes with stops located within one-half mile of the site. The decision to extend transit service to the site would be at the discretion of King County Metro and/or Sound Transit and could be dependent on funding availability. However, higher density residential and commercial development could encourage extension of transit routes to directly serve the site. Higher density could potentially also encourage private transit services (such as Microsoft’s Connector buses) to stop at the site. No adverse impacts to transit are expected to result.</p>	<p>The potential effects on transit due to Alternative 3 would be similar to those described for Alternative 2. However, the proposed park & ride lot with this alternative, as well as higher density residential and commercial development compared to Alternative 2 would increase the likelihood that public or private transit service would be extended to directly serve the site. No adverse impacts to transit are expected to result from Alternative 3.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Non-Motorized Facilities</i>	No residential or retail land uses would be constructed, and no non-motorized demand is expected to occur at the site.	Alternative 2 is expected to generate pedestrian and bicycle trips. It includes proposed connections to the planned future trails that would be located adjacent to the site, which would encourage non-motorized travel to and from the site. Both major roadways providing access to the subarea (existing SE 256th Street and proposed 204th Avenue SE connector) would have sidewalks that would allow non-motorized traffic to be separated from vehicular traffic. No adverse impacts to non-motorized facilities are expected to result.	Impacts would be similar to Alternative 2, although higher retail and residential density under Alternative 3 would be expected to generate a higher level of non-motorized activity.
<i>Parking</i>	No residential or retail land uses would be constructed, and no parking demand beyond what is needed to support continued operation of the asphalt plant is expected to occur at the site.	The parking supply within the subarea would be subject to City code requirements (CMC Chapter 18.50 Development Standards – Parking and Circulation) to ensure that adequate parking supply is provided to meet demand. With City parking code requirements incorporated into site design, no adverse parking impacts are expected to result.	Impacts would be similar to Alternative 2, although higher retail and residential density under Alternative 3 would be expected to require a greater amount of parking supply.
<i>Freight Mobility and Access</i>	No substantial increase in truck traffic is anticipated and no adverse impact to freight mobility or access is expected to occur.	Alternative 2 would generate delivery trucks typical of retail development, but increases are not anticipated to substantially change the overall percentage of trucks within the project study area. This alternative would increase traffic volumes on roadways that also carry freight and some additional delays are expected. However, this alternative would also include two roadway connectors that are expected to have beneficial effect on citywide roadway operations. New development within the subarea would be subject to City code requirements for loading spaces (CMC Chapter 18.50.070). With City loading space requirements incorporated into site design and mitigation in place to address identified traffic operational impacts, no adverse impacts to freight mobility or access are expected to result.	Impacts would be similar to Alternative 2 although higher retail and residential density under Alternative 3 would be expected to generate a higher traffic volumes and truck trips.

Resource	Alternative 1	Alternative 2	Alternative 3
3.9 Public Services			
<i>Police Protection</i>	No additional population would result under the No Action Alternative, and no additional demand for police protection would be generated.	Approximately 1,838 residents would be added to the City’s population under Alternative 2. At the current LOS standard, this would create demand for approximately 3 additional officers.	Approximately 2,760 residents would be added to the City’s population under Alternative 3. At the current LOS standard, this would create demand for approximately 4.5 additional officers.
<i>Fire Protection</i>	Under the No Action Alternative, no population growth would occur in the Hawk Property Subarea. As a result, no additional demand for fire protection services is anticipated.	<p>Increased residential and commercial development under Alternative 2 would create additional demand for fire protection:</p> <ul style="list-style-type: none"> • 140 additional emergency responses annually from residential development; • 75 additional emergency responses from annually from commercial development; and • Increased workload at KFD Station 78 requiring 2 additional 24-hour staff. <p>Construction of the spine connector street through the subarea would also improve emergency response time from Station 78 to the subarea and surrounding properties.</p>	<p>Increased residential and commercial development under Alternative 3 would create additional demand for fire protection:</p> <ul style="list-style-type: none"> • 210 additional emergency responses annually from residential development; • 92 additional emergency responses from annually from commercial development; and • Increased workload at KFD Station 78 requiring 2-3 additional 24-hour staff. <p>Construction of the spine connector street through the subarea would also improve emergency response time from Station 78 to the subarea and surrounding properties.</p>

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Schools</i>	No additional demand for school services would be generated under the No Action Alternative.	<p>Population growth under Alternative 2 would increase the demand for school services. While currently split between two school districts, it is likely the entire subarea could be annexed to one district or the other.</p> <p>If completely annexed by the Kent School District, the following levels of student demand are anticipated, based on the Kent School District’s adopted student generation rates:</p> <ul style="list-style-type: none"> • 393 elementary students; • 92 middle school students; and • 174 high school students. <p>If completely annexed to the Tahoma School District, the following levels of student demand are anticipated, based on the Tahoma School District’s adopted student generation rates:</p> <ul style="list-style-type: none"> • 268 elementary students; • 81 middle school students; and • 99 high school students. 	<p>Population growth under Alternative 3 would increase the demand for school services. While currently split between two school districts, it is likely the entire subarea could be annexed to one district or the other.</p> <p>If completely annexed by the Kent School District, the following levels of student demand are anticipated:</p> <ul style="list-style-type: none"> • 590 elementary students; • 138 middle school students; and • 262 high school students. <p>If completely annexed to the Tahoma School District, the following levels of student demand are anticipated:</p> <ul style="list-style-type: none"> • 401 elementary students; • 122 middle school students; and • 149 high school students.
<i>Parks and Trails</i>	While no additional demand for park and recreational facilities would be generated by the No Action Alternative, future development after reclamation of the mine would be subject to the on-site recreation standards of the City’s municipal code (CMC 18.35.150). Because the standards of the code do not match the LOS standards of the Comprehensive Plan, such development would have the potential to increase existing deficiencies or reduce existing surpluses of various types of park space. In addition, CMC 18.35.150 does not require provision of trail or bike paths for new development, which creates the potential to increase the City’s current trails deficiency.	Population growth under Alternative 2 would increase demand for park space by 3.3 acres according to code standards. The Minimum Urban Village Alternative would provide 5.5 acres of park space and 1.4 miles of trails, consistent with the LOS standards of the Comprehensive Plan and exceeding City code requirements.	Population growth under Alternative 3 would increase demand for park space by 5.1 acres according to code standards. The Minimum Urban Village Alternative would provide 8.3 acres of park space and 2.1 miles of trails, consistent with the LOS standards of the Comprehensive Plan and exceeding City code requirements.

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Solid Waste</i>	Under the No Action Alternative, continued use and expansion of the asphalt batch plant could generate a small amount of demand for solid waste service, but this increase would not be significant on a regional scale, and no impacts are anticipated.	Alternative 2 would result in population growth in the subarea of approximately 1,838 persons. Based on King County’s projected 2020 waste generation rates of 20.4 pounds per capita per week, Alternative 2 would result in approximately 975 tons of additional solid waste per year. These rates are anticipated to be manageable within the existing capacity of the Cedar Hills landfill.	Alternative 3 would result in population growth in the subarea of approximately 2,760 persons. Based on King County’s projected 2020 waste generation rates of 20.4 pounds per capita per week, Alternative 3 would result in approximately 1,464 tons of additional solid waste per year. These rates are anticipated to be manageable within the existing capacity of the Cedar Hills landfill.
3.10 Utilities			
<i>Storm Drainage</i>	A small expansion of the asphalt batch plant would occur, generating up to approximately 7,500 square feet of additional impervious surface. This would be subject to current City standards in effect at the time of development. It is estimated that the building roof square footage increase will be considered clean runoff and not result in significant adverse impacts to storm drainage facilities.	Additional impervious surface created as a result of development would increase storm drainage flows from the Hawk Property Subarea. Construction of stormwater drainage facilities estimated to be a system of swales, catch basins and pipes up to 24 inches in diameter would be required by current City standards to collect and treat these flows...	Additional impervious surface created as a result of development would increase storm drainage flows from the Hawk Property Subarea. Alternative 3 is anticipated to generate greater stormwater flows than Alternative 2 or the No Action Alternative, due to a greater amount of impervious surface coverage, which could require construction of a correspondingly greater amount of stormwater infrastructure. The elements of the infrastructure would be the same as those in Alternative 2: swales, catch basins, and pipes up to 24 inches in diameter
<i>Water Supply</i>	Under the No Action Alternative, the estimated 7,500 square foot building increase is not anticipated to result in a significant additional demand on water service facilities.	<p>Development of Alternative 2 is anticipated to generate additional demand for water service, proportional to the needs of the future development.</p> <ul style="list-style-type: none"> Water mains along the south side of SR18, in SE 248th Street, and in 208th Street SE will be required to be upgraded to 8-12 inches in diameter, with an estimated length of 1.5 miles, to supply water to the subarea. The proposed water supply network within the subarea is estimated to range between 8 and 16-inch diameter pipes. Water utility infrastructure will be further quantified, at a later date pursuant to District requirements, during the development permit review process. 	Development of Alternative 3 is anticipated to generate a greater demand for water service than Alternative 2; however, the facilities necessary to serve Alternative 2 also will meet the water demands of Alternative 3.

HAWK PROPERTY PLANNED ACTION EIS | SUMMARY

Resource	Alternative 1	Alternative 2	Alternative 3
<i>Sanitary Sewer</i>	Under the No Action Alternative, the estimated 7,500 square foot building increase is not anticipated to result in significant additional demand for sewer service.	Alternative 2 is estimated to generate a demand for sanitary sewer service, proportional to the needs of the future development: The proposed sanitary sewer network within the subarea is estimated to range between 8 and 16 inch diameter pipes. The estimated flow for Alternative 2 is 400,000 gallons per day (gpd).	Alternative 3 is estimated to generate a greater demand for sanitary sewer than Alternative 2, proportional to the overall amount of development in the subarea. The proposed sanitary sewer network within the subarea is estimated to range between 8 and 16 inch diameter pipes. The estimated flow for Alternative 3 is 600,000 gallons per day (gpd).

Summary of Mitigation Measures

Exhibit 1.7-2 summarizes the mitigation measures proposed in Chapter 3 to reduce identified impacts. These measures are in addition to applicable state, federal, and local regulations and commitments described in Chapter 3. Unless otherwise stated, the listed mitigation measures apply to both Action Alternatives.

Exhibit 1.7-2. Summary of Mitigation Measures

Resource	Proposed Mitigation
3.1 Earth	
<i>Incorporated Plan Features</i>	The proposed alternatives do not currently incorporate mitigation measures for soil erosion or seismic impacts to structures.
<i>Applicable Regulations and Commitments</i>	<p>Existing state regulations under the NPDES construction permit program require construction contractors to implement erosion and sedimentation control measures.</p> <p>The City of Covington building permit program requires the foundations for all new occupied buildings to be designed according to stringent design standards. The City uses the International Building Code as adopted by the State of Washington and amended by the City of Covington in the Covington Municipal Code.</p> <p>The City also adopted critical areas regulations in the Covington Municipal Code (Chapter 18.65). These regulations do not preclude development within critical areas, but do require permitting and special design and review to show that the proposed development minimizes impacts to critical areas to a satisfactory degree and manages hazards appropriately.</p>
<i>Other Potential Mitigation Measures</i>	<p>The City would require all new occupied buildings to be constructed with foundations designed under the International Building Code to be suitable for site-specific soil conditions identified at the time of building design.</p> <p>Development adjacent to steep slopes would require site-specific slope stability analyses prior to construction (CMC, Sections 18.65.280 and 18.65.310).</p> <p>During construction, contractors should employ temporary erosion and sedimentation control (TESC) measures and Best Management Practices to control erosion as required under the NPDES construction permit. These measures should be consistent with the City of Covington critical area and grading regulations (CMC, Chapter 18.60 and Section 18.65.220).</p> <p>Ground improvement and foundation support requirements should be determined as part of the design and permit approval process for each future onsite development project. Using a high quality, well-compacted crushed rock or gravel fill material during reclamation would also significantly reduce the potential for soil liquefaction.</p> <p>Although not associated with a specific environmental hazard, structure settlement should be mitigated during the design and permitting for individual future structures.</p>
3.2 Surface Water	
<i>Incorporated Plan Features</i>	<p>Alternatives 2 and 3 would have:</p> <ul style="list-style-type: none"> • Larger development with larger construction management budget; • Larger area for TESC facilities; and • Greater phasing opportunities.

Resource	Proposed Mitigation
<i>Applicable Regulations and Commitments</i>	<ul style="list-style-type: none"> ● Department of Ecology, Stormwater Manual for Western Washington as adopted by the City or as amended in the future ● City of Covington Surface Water Management Program, CMC 13.25 as adopted by the City or as amended in the future ● Washington State Statues ● US Environmental Protection Agency Clean Water Act
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> ● Basic Water Quality Treatment: water quality treatment would be accomplished using the Basic Water Quality menu from 2012 Stormwater Management Manual for Western Washington or the manual in effect at the time of development applications. <ul style="list-style-type: none"> ○ The goal is to removal 80% of total suspended solids (TSS) for influent concentrations that are greater than 100 mg/l, but less than 200 mg/l. ○ Biofiltration swale is the most likely low impact development (LID) option due to its cost effectiveness and aesthetic character. ● Enhanced Basic Water Quality Treatment: for some areas in the Hawk Property where the development is more intensive. <ul style="list-style-type: none"> ○ Applicable to development sites that generate highest concentrations of metals in stormwater runoff such as in the commercial or multifamily areas. ○ Would require stormwater facilities remove 30% dissolved copper and 60% dissolved zinc. ○ Enhanced treatment menu would include: infiltration, large sand filter, stormwater treatment wetland, compost-amended vegetated filter strip, two facility treatment trains, bioretention, media filter drain, and emerging stormwater treatment technologies.

3.3 Groundwater

<i>Incorporated Plan Features</i>	<ul style="list-style-type: none"> ● Alternative 1 maintains stormwater infiltration by retaining forested and vegetated areas beyond the protected critical areas. ● Alternatives 2 and 3 maintain critical area protections and would improve management and treatment of runoff from new impervious surface areas. Stormwater infiltration is projected to maintain groundwater volumes.
<i>Applicable Regulations and Commitments</i>	<p>The following regulations and plans would apply as adopted or as amended at the time of development applications:</p> <ul style="list-style-type: none"> ● 2012 Stormwater Management Manual for Western Washington ● City of Covington Standard Plan Notes and Covington Municipal Code, Chapter 13.37 ● 2012 Stormwater Management Manual for Western Washington Chapter 2.5.2 Element 13: Minimum Requirements for New Development and Redevelopment – Protect Low Impact Development BMPs.

Resource	Proposed Mitigation
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> • A Best Management Practices (BMP) Plan should be developed for the entire property. • Through the Planned Action Ordinance, the City could require compliance with the 2008 City of Kent Draft Water System Plan Chapter 8: Wellhead Protection Program similar to the City’s practice of applying appropriate conditions through the permit and SEPA process. • Design stormwater treatment to maximize infiltration and maintain no net loss of recharge to the aquifer. • Decommission abandoned wells. • Plant native species in landscaped areas to reduce pesticide use and promote water conservation.
3.4 Air Quality	
<i>Incorporated Plan Features</i>	<p>The majority of the Hawk Property Subarea is located within the city limits and all of the subarea is within the city’s UGA. The Land Use and Transportation elements of the City’s Comprehensive Plan include a number of goals and policies that could contribute to reducing vehicle tailpipe emissions and greenhouse gas (GHG) emissions. See Section 3.4.</p>
<i>Applicable Regulations and Commitments</i>	<p>Proposed future developments will be required to comply with these existing regulations:</p> <ul style="list-style-type: none"> • National and State Ambient Air Quality Standards (NAAQS): The US EPA establishes NAAQS and specifies future dates for states to develop and implement plans to achieve these standards. • Puget Sound Clean Air Agency Regulations: All construction sites in the Puget Sound region are required to implement rigorous emission controls to minimize fugitive dust and odors during construction. Commercial facilities with substantial emissions are required to obtain a Notice of Construction air quality permit before construction is allowed to begin. • Prohibition on Outdoor Burning: Burning yard waste and land-clearing debris is not allowed at any time in areas of King County. PSCAA enforces state outdoor burning regulations required by RCW 70.94.743. • State of Washington GHG Laws: As described above in State of Washington Greenhouse Gas Requirements, Washington enacted a new law establishing GHG reduction limits.
<i>Other Potential Mitigation Measures</i>	<p>The City should require all construction contractors to implement air quality control plans for construction activities in the Hawk Property Subarea. See Section 3.4.</p> <p>The City should require developers to design future buildings and developments within the subarea to include greenhouse gas reduction measures to use sustainable construction materials, increase building energy efficiency, and reduce use of single-occupancy vehicles. See Section 3.5 of this EIS.</p>
3.5 Plants & Animals	
<i>Incorporated Plan Features</i>	<ul style="list-style-type: none"> • Alternatives 1, 2 and 3 avoid direct wetland or stream impacts. • Alternatives 1, 2 and 3 maintain intact critical area buffers to the extent feasible. • Alternatives 2 and 3 incorporate parks and open space into the conceptual site plan (Note: These areas may include hardscape; design details have not yet been developed.)

Resource	Proposed Mitigation
<i>Applicable Regulations and Commitments</i>	<ul style="list-style-type: none"> ● Covington Municipal Code (CMC) 18.65, Critical Areas. ● King County Zoning Code (KCC) 21A.24, Critical Areas (only applicable until annexation is complete). ● US Army Corps of Engineers (Corps) regulates wetlands under section 404 of the Clean Water Act. ● Washington State Department of Ecology may require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination for Corps permits. ● U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service, for federally permitted actions that could affect endangered species (i.e. salmon or bull trout). ● No State or federally listed threatened or endangered plant or animal species have been observed on or adjacent to the site. The site does contain habitat that could be used by such species. It is recommended prior to completion of reclamation and upon any amendment to the current reclamation permit (e.g. to resize the lake), the applicant should consult with the lead federal agency regarding compliance with state and federal laws, including the State Hydraulic Code, Sections 401 and 404 of the Clean Water Act, and Section 7 of the Endangered Species Act.
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> ● Place protected critical areas and natural open spaces in a non-buildable tract and dedicate it to the City or a conservation group. ● Develop a long-term stewardship program for natural open spaces and critical areas prior to future redevelopment. Elements such as removing non-native and invasive plants, native vegetation, removing garbage, and trail maintenance could be included. This program could include stewardship goals and objectives for the care of the Jenkins Creek natural corridor as well as overall, long-term goals for the ecological health and habitat value of Jenkins Creek and associated wetland and buffer areas. Long-term goals and allowed maintenance practices for critical areas/non-buildable tract(s) could be incorporated into a vegetation management plan (CMC 18.65.150). ● Educate the public about the surrounding critical area functions and values through the use of an interpretive sign program. ● Mitigate for any unavoidable buffer impacts. This would likely be accomplished through buffer averaging or buffer enhancement. ● Incorporate special habitat features and native plants into landscaping to attract wildlife. ● Reduce habitat fragmentation between the Jenkins Creek corridor and habitat patches to the south and west as feasible, potentially by including a wildlife crossing in the new road design.
3.6 Noise	
<i>Incorporated Plan Features</i>	The proposed alternatives do not currently incorporate mitigation measures for noise.

Resource	Proposed Mitigation
<i>Applicable Regulations and Commitments</i>	<ul style="list-style-type: none"> Chapter 8.20 of the Covington Municipal Code (CMC) establishes regulations to minimize the exposure of citizens to excessive noise. WAC 173-60-040 establishes maximum permissible noise levels for various environments, and construction activities under all alternatives would be subject to these provisions. Federal FHWA funding, distributed WSDOT, may be used for street improvements associated with this project, and as such, the noise criteria established in Title 23, Part 772 of the Code of Federal Regulations (CFR) may apply. WSDOT has adopted the FHWA noise standards for evaluating noise impacts and for determining if such impacts are sufficient to justify funding of noise abatement for new roadway construction and roadway widening projects with state funding.
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> Nighttime construction will not be allowed without a waiver from the City Manager or his/her designee. The CMC does not regulate noise from daytime construction activities. Regardless, based on site-specific considerations at the time of construction permit review, the City may require all construction contractors to implement noise control plans for construction activities in the study area for daytime activities. Construction noise could be reduced by using enclosures or walls to surround noisy stationary equipment, installing mufflers on engines, substituting quieter equipment or construction methods, minimizing time of operation, and locating equipment as far as practical from sensitive receivers. The City should require the developers to consider traffic noise mitigation at new homes along the new segment of 204th Avenue SE within the planned action area. This screening-level traffic noise study indicated the potential for traffic noise impacts at future dwellings to be constructed adjacent to the proposed new section of 204th Avenue SE within the planned action area. Although the CMC does not regulate traffic-related noise, based on site-specific considerations the City may, at its discretion under the planned action ordinance, require the new developments to install noise control measures at the new dwellings along the proposed new section of 204th Avenue SE within the development. Noise control measures could include site-specific noise studies, building insulation, or noise barrier walls.

3.7 Land Use Patterns/Plans and Policies

<i>Incorporated Plan Features</i>	<ul style="list-style-type: none"> On-site stormwater detention and treatment will be provided to compensate for the additional impervious surface coverage generated by the Action Alternatives. The Subarea Plan also includes policy guidance for new development to implement LID practices whenever feasible to offset increases in impervious surface coverage. Both Action Alternatives include sufficient park and open space dedications to adequately offset the need generated by increased population. Alternative 2 would provide approximately 6 acres, and Alternative 3 would provide approximately 8 acres. Both Action Alternatives would be developed under the provisions of the Hawk Property Subarea Plan, which includes development standards and design guidelines intended to minimize incompatibilities between commercial and residential uses within the subarea and to reduce overall visual bulk. Examples of such provisions include lower height limits on commercial buildings than residential buildings and façade articulation requirements. A full description of the proposed development and design standards and design guidelines is contained in the Draft Hawk Property Subarea Plan. Adoption of the Hawk Property Subarea Plan under Alternatives 2 and 3 would include amendments to the City’s municipal code to incorporate these development and design standards.
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HAWK PROPERTY PLANNED ACTION EIS | SUMMARY

Resource	Proposed Mitigation
<i>Applicable Regulations and Commitments</i>	<ul style="list-style-type: none">● All development in the Hawk Property Subarea after annexation would be subject to the provisions of the Covington Municipal Code Title 18 – Zoning, including the following Chapters:<ul style="list-style-type: none">○ 18.25: Permitted Uses○ 18.30: Development Standards – Density and Dimensions○ 18.35: Development Standards – Design Requirements○ 18.40: Development Standards – Landscaping○ 18.50: Development Standards – Parking and Circulation○ 18.55: Development Standards – Signs○ 18.65: Critical Areas● Prior to annexation to the City of Covington, the unincorporated portion of the subarea would be subject to the provisions of King County Code Title 21, including the following Chapters:<ul style="list-style-type: none">○ 21A.08: Permitted Uses○ 21A.12: Development Standards – Density and Dimensions○ 21A.14: Development Standards – Design Requirements○ 21A.16: Development Standards – Landscaping and Water Use○ 21A.18: Development Standards – Parking and Circulation○ 21A.20: Development Standards – Signs○ 21A.22: Development Standards – Mineral Extraction○ 21A.24: Critical Areas
<i>Other Potential Mitigation Measures</i>	None proposed

Resource	Proposed Mitigation
3.8 Transportation	
<i>Incorporated Plan Features</i>	<ul style="list-style-type: none"> ● 204th Avenue SE Connector – Alternatives 2 and 3 include a new roadway connection between the east terminus of SE 256th Street and the north terminus of 204th Avenue SE. This roadway would be a 2- to 3-lane arterial (one general purpose lane in each direction, and a center two-way left-turn lane where needed), and through the city’s street standard deviation process (CMC 12.60) could potentially also have parking lanes on each side. The existing section of 204th Avenue SE between its north terminus and NE 272nd Street would also be improved to this standard, providing a continuous connection between NE 256th Street and NE 272nd Street. ● 191st Avenue SE Local Connector – Alternatives 2 and 3 include a local roadway connection between 191st Avenue SE, and the local internal roadway system at the south end of the subarea. The purpose of this roadway would be to provide a direct connection between the subarea and residential development located to the south. It would also provide an additional emergency vehicle access point. The local access connection should be designed with traffic calming measures such as on-street parking, landscaping, and/or devices such as traffic circles to limit access to the local neighborhood and discourage cut-through traffic. ● Non-Motorized Connections – Alternatives 2 and 3 include connections to existing and planned future non-motorized facilities adjacent to the subarea (see Section 3.9 Public Services). These connections could encourage higher use of non-motorized modes for trips generated by the site, and would improve safety and mobility for pedestrians and bicyclists entering and exiting the site. ● Park & Ride Lot – Alternative 3 proposes to provide a park & ride lot at the subarea. This would increase the likelihood that transit service would be extended to directly serve the site.
<i>Applicable Regulations and Commitments</i>	<ul style="list-style-type: none"> ● City of Covington Design Standards – For Alternatives 2 and 3, internal roadways, and non-motorized facilities are subject to design standards presented in Covington Design Guidelines (City of Covington 2005) and CMC Chapter 18.50 - Development Standards – Parking and Circulation. The proposed new roadway connections would be subject to the City’s Design and Construction Standards for roadways. (City of Covington 2009) ● City of Covington Parking Code – For Alternatives 2 and 3, the amount of parking supply provided as the subarea develops would be subject to parking requirements defined in CMC Chapter 18.50 - Development Standards – Parking and Circulation.
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> ● For Alternative 1, roadway capacity improvements are identified at 15 locations in Covington and five locations in Maple Valley. ● The roadway capacity improvements identified for Alternative 1 would also address Alternative 2 impacts at 11 locations and Alternative 3 impacts at 12 locations in Covington. ● The roadway capacity improvements identified for Alternative 1 would also address Alternative 2 and Alternative 3 impacts at all five impacted intersections in Maple Valley. ● Alternatives 2 and 3 would eliminate the need for mitigation at one location, compared to Alternative 1. Alternative 2 would eliminate the need for mitigation at one additional intersection, and reduce the level of improvement needed at one other intersection, compared to Alternatives 1 and 3. ● Alternatives 2 and 3 would trigger a need for capacity improvement at four additional locations. At two of those locations (SE Wax Road/SE 180th Street and SE 272nd Street/204th Avenue SE), the same projects are identified for both alternatives. At the other two locations (both SE 256th Street/SR 18 Ramp intersections adjacent to the west side of the site), Alternative 3 would require a higher level of improvement than Alternative 2.

Resource	Proposed Mitigation
3.9 Public Services	
<i>Incorporated Plan Features</i>	<p>Fire:</p> <ul style="list-style-type: none"> Both Action Alternatives include construction of a central spine street connecting the west and east ends of the subarea. This street will reduce response times for emergency vehicles throughout the subarea, as well as residential areas to the east, which currently must be accessed by a more circuitous route. <p>Parks & Trails:</p> <ul style="list-style-type: none"> Both Action Alternatives include development of sufficient park space to offset the demand created by additional residential development in the subarea, in compliance with the LOS standard established in the City’s Comprehensive Plan. This is in excess of what is required by the City’s current development regulations for the proposed housing mix. Both Action Alternatives include development of sufficient trails to meet the trails LOS standard established by the City’s Comprehensive plan, thereby maintaining the City’s current level of trail service.
<i>Applicable Regulations and Commitments</i>	<p>Schools:</p> <ul style="list-style-type: none"> After annexation by the City of Covington, development in the Hawk Property Subarea will be subject to assessment of school impact fees, as required by Covington Municipal Code Chapter 18.120. Until annexation by the City of Covington, development in the unincorporated portions of the Hawk Property Subarea will be subject to assessment of school impact fees, as required by King County Code Chapter 27.44.
<i>Other Potential Mitigation Measures</i>	<p>Police Protection:</p> <ul style="list-style-type: none"> The City could adopt a formal LOS standard for police service and coordinate with the King County Sheriff’s Office on monitoring of call responses to incidents by members of the Covington Police Department. The City should contract with the King County Sheriff’s Office for the services of additional police officers commensurate with the level of development ultimately approved for the subarea. <p>Fire Protection</p> <ul style="list-style-type: none"> The City should require a mitigation agreement between the developer and Kent Regional Fire Authority prior to development to address the impacts identified in this Chapter. The mitigation agreement should address impacts to daily and peak hour workload at KFD Station 78 resulting from development of Alternative 2 or Alternative 3. <p>Parks & Trails</p> <ul style="list-style-type: none"> At the time of development application, the City should review submitted conceptual and detailed site plans to ensure that sufficient park space and trails are provided to be consistent with both the LOS standards of the Parks and Recreation Element of the Comprehensive Plan and with the requirements of CMC 18.35.150, as established in the Planned Action Ordinance.

Resource	Proposed Mitigation
3.10 Utilities	
<i>Incorporated Plan Features</i>	None.
<i>Applicable Regulations and Commitments</i>	<p>Plans and regulations adopted at the time development permits are submitted will be applicable, such as:</p> <ul style="list-style-type: none"> • Department of Ecology, Stormwater Manual for Western Washington • City of Covington Surface Water Management Program, CMC 13.25 • CMC Title 13 Public Utilities • Soos Creek Water and Sewer District Comprehensive Plan • Covington Water District Water System Plan
<i>Other Potential Mitigation Measures</i>	<ul style="list-style-type: none"> • Mitigation measures for impacts to stormwater runoff from the proposed development may include incorporating LID best management practices in the developed conceptual site plan. See Section 3.2 for additional potential mitigation measures related to surface water management. • No additional mitigation measures are necessary for the water supply and sanitary sewer utility infrastructure.

1.8 Significant Unavoidable Adverse Impacts

Earth

No significant unavoidable adverse impacts have been determined for the earth elements at the Hawk Property Subarea. Methods are available to build out the Hawk Property Subarea under each EIS alternative without resulting in significant unavoidable adverse impacts.

Surface Water

Alternative 1 would result in some modest changes to the site as reclamation is executed, batch operations continue and new facility construction occurs. Overall, these actions would not significantly change site conditions in terms of surface water quality.

As mitigated, Alternatives 2 and 3 would not create significant adverse environmental impacts.

Groundwater

Increased impervious surface area could reduce groundwater recharge volumes, thereby reducing seasonal baseflows in Jenkins Creek. The site currently has limited stormwater treatment facilities. Under Alternatives 2 and 3, compliance with stormwater design standards in effect at the time of the development application would provide greater stormwater quantity and quality control than under existing conditions, and no significant impacts would be expected to downstream water resources (Jenkins Creek and Big Soos Creek).

As mitigated, Alternatives 2 & 3 would not create significant adverse environmental impacts on groundwater resources.

Air Quality

No significant unavoidable adverse impacts on regional or local air quality are anticipated. Temporary, localized dust and odor impacts could occur during the construction activities. The regulations and mitigation measures described above are adequate to mitigate any adverse impacts anticipated to occur as a result of Hawk Property Subarea growth increases.

Plants and Animals

Alternative 1 would result in some modest changes to the site as reclamation is executed, batch operations continue, and new facility construction occurs. Overall, these actions would not significantly change site conditions in terms of critical areas, plants and animals. The area that is vegetated is expected to increase over time as reclamation is completed. However, the site would still be in industrial use via the asphalt batch plant.

Alternatives 2 and 3 would cause some cumulative and avoidable impacts to critical areas and wildlife. These include increased human activity associated with more dense urban development, which could result in long-term disturbance to sensitive wildlife species in the vicinity of the Jenkins Creek corridor, and an increase in impervious surface area, which may impact the quantity and quality of surface water runoff. These impacts would be mitigated as described in Sections 3.2 and 3.3, Surface Water and Groundwater Resources.

Noise

The screening-level noise study used for this analysis indicated potential traffic noise impacts at future dwellings located adjacent to the proposed new segment of 204th Avenue SE within the development. Depending on the specific configuration of the new street and the future dwelling units, it is possible that conventional traffic noise mitigation measures (e.g., noise barrier walls or window insulation) might not be technically feasible or economically reasonable. In addition, it is uncertain whether traffic noise mitigation would be technically feasible or economically reasonable at the existing homes along 204th Avenue SE south of the planned action area.

Therefore, it is possible that the future traffic noise impacts could not be mitigated. In that case the future traffic noise levels at the proposed new dwellings and the existing dwellings along 204th Avenue SE would constitute a significant and unavoidable impact.

Land Use Patterns/Plans and Policies

Under the Action Alternatives, land reclaimed and revegetated pursuant to the requirements of a Department of Natural Resources Surface Mining permit and reclamation plan would be permanently converted from open area to urban uses. However, much of this area is and historically has been disturbed. With implementation of the identified mitigation measures, no significant unavoidable adverse impacts to land use patterns, plans, or policies are anticipated.

Transportation

For all three alternatives, the roadway capacity improvement mitigation measures are expected to address all impacts in Covington with the exception of impacts at intersections located along SE 272nd Street. For projected 2035 conditions, SE 272nd Street is assumed to be a five-lane section throughout Covington, with additional turn-lanes at high volume intersections. No additional mitigation measures have been identified at these intersections. Additionally, mitigation identified in Maple Valley includes widening of SR 516 (Kent-Kangley Road) to five lanes between 216th Avenue SE and SR 169, which is not included in the City's or WSDOT's current plans.

The projected year 2035 conditions with Alternative 1 (No Action) indicate that traffic volumes on the section of SR 516 (SE 272nd Street) between 156th Place SE and SE Wax Road, and also between 216th Avenue SE and SR 169, would be high enough that most intersections along these sections would operate at LOS E or F. While some spot improvements at these locations may improve conditions slightly, they would not be sufficient to improve operation to meet level of service standards defined by the Cities of Covington and Maple Valley. Improvement to LOS D or better would require widening of the roadway under projected conditions. If 2035 growth occurs to the degree reflected in the Covington model projections (which reflects full build-out of both cities' future land use plans, as well as substantial growth in regional development), it is likely that both Cities would reevaluate their long-term plans for the corridor, and determine if major widening is warranted, or if it would be warranted to reexamine level of service standards and allow the roadway to operate at a lower level of service.

While Alternatives 2 and 3 are projected to add trips to some intersections along SR 516, any capacity or policy solution identified by the Cities to address operational issues for the No Action alternative would also be expected to address Alternatives 2 or 3. Therefore, with recommended mitigation in place at all other locations, no additional significant adverse unavoidable transportation impacts are expected to result from Alternatives 2 or 3.

Public Services

Future population growth and development will continue to increase demand for all public services on both a local and regional level. With implementation of mitigation measures, no significant unavoidable adverse impacts are anticipated.

Utilities

While both proposed Alternatives will generate additional demand for stormwater drainage, water, and sanitary sewer facilities, no significant unavoidable adverse impacts are anticipated. The City's Stormwater standards address the drainage impacts created by the Alternatives. The water supply and sanitary sewer impacts have been anticipated by both the Covington Water District and the Soos Creek Water and Sewer District. The existing water supply and sanitary sewer capacity are adequate to accommodate the demands of the subarea, but additional water and sewer transmission facilities will be needed to and within the subarea.

2.0 ALTERNATIVES

2.1 Introduction

This chapter of the Draft Environmental Impact Statement (EIS) describes proposed actions and alternatives for the Hawk Property Subarea. The City of Covington is planning for the Hawk Property Subarea as it transitions from an asphalt batch plant and reclaimed mine site to an urban village with a mix of commercial and residential development. Specifically, the City is considering land use and zoning alternatives as part of a subarea plan to guide future development within the subarea. In addition, the City is considering designating a SEPA planned action which would allow streamlined environmental review of future development proposals. In the future, based on the analysis of Hawk Property Subarea Plan and Planned Action EIS, the City intends to consider a development agreement with the property developer and to annex the portion of the subarea in its potential annexation area (PAA) within the King County urban growth area (UGA) presently outside current city limits.

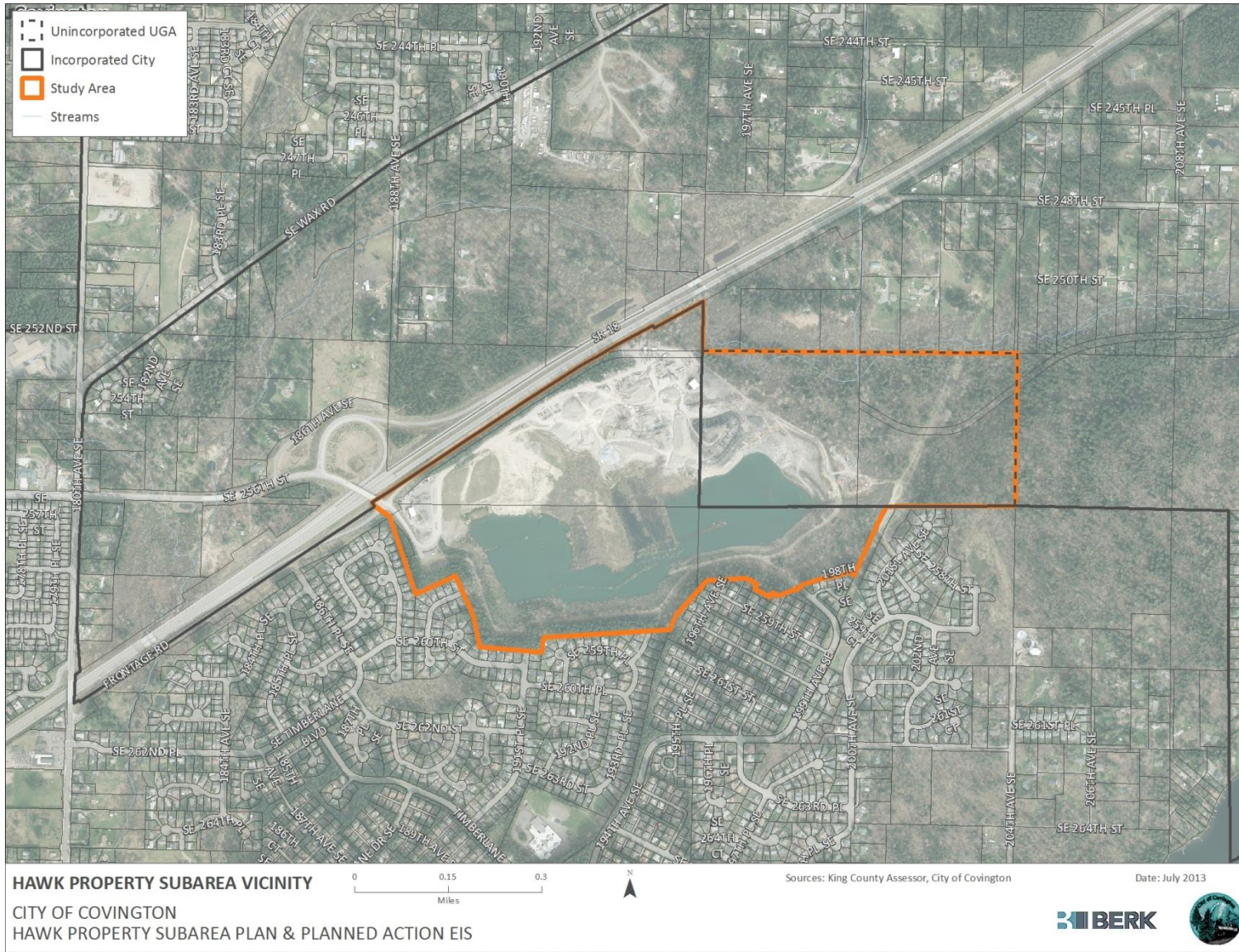
2.2 Background

Subarea

The Hawk Property Subarea Plan and EIS subarea is located in the northern portion of the City, abutting SR18 on its northwest boundary, and contains both land within the Covington city limits and land in unincorporated King County; the entire subarea is located within the city's Urban Growth Area (UGA). The subarea encompasses approximately 212 acres¹ southeast of SR 18. The Hawk Property Subarea primarily consists of the Lakeside gravel mine, an asphalt batch plant, vacant land, and a highway interchange. Approximately 132 acres of this area lies within the city's corporate limits; the remainder lies within the city's assigned Potential Annexation Area (PAA) in the UGA. The subarea comprises the southern portion of the area analyzed in phase one of the Covington Northern Gateway Area Study, published by the City in 2012. See Exhibit 2.2-1. For the purposes of this EIS, the Hawk Property Subarea is also referenced as the study area.

¹ According to Geographic Information System information the property is about 209 acres in size but based on information provided by Oakpointe LLC, the property purchaser and developer, the site size appears to be about 212 acres. For the purposes of this EIS, 212 acres is assumed to be the site size.

Exhibit 2.2-1. Hawk Property Subarea Boundary



Current Conditions

The Hawk Property Subarea is characterized primarily by a gravel extraction operation in use through 2012, but that is now under reclamation. An asphalt batch plant and a concrete batch plant are in active operation. Extraction, reclamation, and the batch plants have modified a majority of the land in the subarea (approximately 112 acres of the total 212 acres). At present, structures in the subarea consist of two maintenance facilities, two offices, one concrete plant, one asphalt plant, one rock crusher, and one wash plant. Approximately 8 acres of land along the southern edge of the property have already been reclaimed in accordance with the standards of a Reclamation Plan approved by the Department of Natural Resources (DNR Reclamation Permit No. 70-011068) and has moderate to heavy vegetative cover. The northern portion of the subarea consists of undeveloped land and is characterized by a series of wetlands associated with Jenkins Creek.

Having been extensively excavated for gravel mining, the topography of the subarea has been substantially altered over time and is currently relatively flat. The southern portion of the subarea is occupied by detention ponds composed of several flooded excavation pits. The entire subarea lies approximately at or slightly below the grade of SR 18, but slopes up sharply along the southern and eastern boundaries. The adjacent residential neighborhoods to the south and southeast are separated from the gravel extraction operation by a grade change of approximately 50-100 feet.

The subarea lies partially within the city limits of Covington (approximately 132 acres) and partially within the City's unincorporated UGA (approximately 80 acres), as illustrated on Exhibit 2.2-1. The City's Comprehensive Plan designates the portion of the subarea within the city limits as Mineral, and King County has designated the portion outside city limits in the PAA as Mining. Both of these designations are applied to sites that are suitable for or have a history of mineral extraction, as well as areas containing mineral resources of long-term commercial significance. Both the City and King County have applied implementing zoning called the "Mineral" district. Similar to the applied comprehensive plan designations, the Mineral zone is intended to allow mineral extraction and processing while protecting adjacent properties and the environment from negative impacts.

The Growth Management Act (GMA) implementing rules at WAC 365-190-070(4)(d) indicates that mining uses may transition to other uses: "In designating mineral resource lands, counties and cities must also consider that mining may be a temporary use at any given mine, depending on the amount of minerals available and the consumption rate, and that other land uses can occur on the mine site after mining is completed, subject to approval." Lakeside Industries Inc. has an approved surface mining permit and reclamation plan on file with the Department of Natural Resources, which was amended in 2009 to bring the operation into compliance with updated DNR mining standards. The current reclamation plan (DNR Reclamation Permit No. 70-011068) would, upon completion of mining operations in the subarea, backfill excavated areas at the west end of the site and replace topsoil on those portions of the site not occupied by the detention ponds. Reclaimed areas will be replanted with a variety of native shrub and tree species.

Subarea Plan

A subarea plan is a visionary and regulatory document tailored for a specific portion of a city or county, which fits within the larger planning framework of the local jurisdiction. Subarea plans allow cities and counties to craft detailed policies and regulations that recognize the unique characteristics of an area while remaining consistent with the overall vision of the jurisdiction's comprehensive plan. Subarea plans are frequently adopted for neighborhoods of a city, rural population centers in a county, or master-planned developments. Subarea plans are considered an optional element of a Comprehensive Plan prepared under the Growth Management Act (RCW 36.70A.080(2)).

Because of the ability to comprehensively plan the city's largest undeveloped site in common ownership for a mix of commercial and residential uses, the City of Covington has identified a subarea plan as an ideal way to achieve

its economic development goals for the Hawk Property, while recognizing the context of the site and ensuring that surrounding neighborhoods and environmental resources are protected.

2.3 Public Review

The City of Covington has created opportunities for public and agency review and comment throughout the planning and environmental review process. Key efforts are described below:

- **Project Website.** The City has created a website for the subarea plan and EIS, located at http://www.covingtonwa.gov/city_departments/communitydevelopment/northern_gateway_study.html. The website provides background information on the subarea plan and EIS, describes the schedule, and provides links to relevant documents as they are released for public review. Contact information for City staff is also provided to allow the public to submit comments or ask questions about the subarea plan and EIS.
- **Scoping Comment Period.** Public and agency comment was solicited in a 21-day scoping period from March 9 to March 29, 2013. During this period, the general public, as well as public agencies and stakeholders, were invited to submit written comments on the scope of the EIS and offer written suggestions. The scoping notice, SEPA Checklist, and comments are provided in Appendix A. As a result of public and agency comments, the topic of groundwater resources was added. In addition, the potential transportation and emergency access implications of providing a local access connection or emergency access connection to the southern neighborhoods is also addressed; as described later in the presentation of alternatives, access via 191st Place SE is studied.
- **Community Workshop.** During the scoping period, the City also hosted a public workshop on March 25, 2013, attended by approximately 37 members of the public. In addition to taking comments from the public, the City answered questions about the subarea plan and EIS and engaged attendees in a planning exercise to graphically illustrate their preferred vision for the future of the Hawk Property Subarea. See Appendix B.
- **Draft EIS Comment Period.** This Draft EIS was released for public review on July 26, 2013, initiating a 30-day comment period, during which the general public, as well as public agencies and stakeholders are invited to submit comments on the alternatives, identified environmental impacts, and mitigation measures. See the Fact Sheet for more information. The City will issue a Final EIS anticipated in late 2013/early 2014, providing responses to comments.
- **Legislative Meetings.** The Planning Commission and City Council have held and will hold study sessions, hearings, and deliberations on the subarea plan development and design standards and planned action, and ultimately a development agreement. Please see the City's website for a schedule of meetings.

2.4 Proposal

Proposal Objectives

SEPA requires a statement of objectives that address the purpose and need for the proposal and around which reasonable alternatives can be evaluated. Objectives of the Hawk Property Subarea planning effort include:

- To plan for future development of the Hawk Property Subarea in Covington's Northern Gateway area by defining land use options;
- To protect environmentally sensitive areas while fostering economic development;
- To create an urban village for regional and local commercial uses and related employment, a mix of housing types, as well as community gathering and recreation spaces that is unique from and secondary to Covington's downtown;
- To plan for an orderly transition of the Hawk Property Subarea from mineral extraction to urban uses appropriate for its location as Covington's Northern Gateway;

- To improve transportation mobility in the area with a new arterial connection between SR 18 and 204th Avenue SE through the subarea and the connection to SE 272nd Street;
- To provide housing options, such as multifamily, townhomes, and small lot single family homes, that are not widely available in Covington; and
- To provide unique open space amenities such as an on-site pond and parks, and provide access to the regional trail system such as the Tri-City/Covington Highlands Trail.

Alternatives Description

Overview

The Draft EIS evaluates three alternatives that establish a range of land use patterns and development types within the Hawk Property Subarea:

- **Alternative 1: No Action** – The Hawk Property Subarea Plan is not implemented, and current comprehensive plan land use designations and zoning remain in effect on the site.
- **Alternative 2: Minimum Urban Village Proposal** – The Hawk Property Subarea is developed as an urban village featuring regional and local commercial space and a mixture of housing types and densities.
- **Alternative 3: Maximum Urban Village Proposal** – The Hawk Property Subarea is developed as an urban village featuring additional regional and local commercial space and mix of residential units, compared with Alternative 2.

Alternative 1: No Action

Under the No Action Alternative, the Hawk Property Subarea Plan would not be adopted, and the existing mining reclamation and asphalt batch plant activities would continue. In this analysis, due to the Mineral zoning, it is assumed that employment at the on-site asphalt batch plants would increase, and additional building square footage would be added (from roughly 3,750 square feet of structure to 11,250 square feet of structure, an approximately 7,500 square foot increase).

Alternative 2: Minimum Urban Village Proposal

Under Alternative 2, the Hawk Property Subarea would transition from its current mineral resource uses to an urban village featuring both commercial development and a variety of housing types across a range of densities. Parks and open space would also be provided to serve the needs of local residents.

The Subarea Plan would include an illustrative land use concept, design guidelines, and zoning for the subarea. The subarea would be designated as Hawk Property Subarea in the Comprehensive Plan and zoned as a combination of R-12, Mixed Residential, and Regional Commercial Mixed Use (see Exhibit 2.4-6 and Exhibit 2.4-7). A planned action ordinance would be adopted to facilitate future environment permitting as the subarea develops in phases over time, and would provide consistent application of mitigation measures based on this EIS. (A draft ordinance is provided in Appendix C.)

The minimum urban village proposal would contain approximately 680,000 square feet of regional, iconic, and local retail uses and about 1,000 dwelling units with a mix of single family, townhome, and multifamily residences (see Exhibit 2.4-1).

Exhibit 2.4-1. Minimum Urban Village Proposal

Use Type	Dwelling Units/Square feet	Anticipated Maximum Building Height (Feet)
Single Family (dwelling units)	130	35
Townhomes (dwelling units)	270	35
Multi-family (dwelling units)	600	60
Residential Total (dwelling units)	1,000	
Large Format Retail (square feet)	600,000	35
Iconic/Local Retail (square feet)	80,000	35
Commercial Retail Total (square feet)	680,000	

Source: Communita, Stalzer and Associates, 2013

Park space meeting City standards (CMC 18.35.150) of approximately 5.5 acres would be provided. A multi-acre pond is planned to serve as a unique open space feature; while the exact size is to be determined based on final reclamation permits, the pond is anticipated to be greater than 15 acres and less than 20 acres. Onsite trails would be located around the pond, along the bluffs where informal trails exist, and along the pipeline easement. Connections to the regional Tri-City trail and to a residential trail system to the south would be made. Critical areas would be protected with buffers consistent with applicable critical area regulations (CMC 18.65).

204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve citywide circulation between SR 18 and SE 272nd Street. A local street would connect to the southern neighborhood of Covington Park to allow local access for nearby residents and improve emergency vehicle access and response times.

A conceptual plan illustrating a possible Minimum Urban Village Alternative layout is provided in Exhibit 2.4-2. The subarea would be designated as Hawk Property Subarea in the Comprehensive Plan and zoned as a combination of R-12, Mixed Residential, and Regional Commercial Mixed Use. It should be noted that the conceptual layout is only one means of implementing the proposed land use designation and zoning classification. There may be other variations of a layout that one could identify. However, any layout would need to meet the Subarea Plan design and development standards as well as the planned action mitigation measures.

Exhibit 2.4-2. Alternative 2 Conceptual Land Use Plan



Source: Communita, 2013

Alternative 3: Maximum Urban Village Proposal

Under Alternative 3, the Hawk Property Subarea would transition from its current mineral extraction use to an urban village similar to the minimum urban village proposal under Alternative 2, though featuring an additional 170,000 square feet of commercial space and an additional 500 residential units. Parks, open space, and trails would also be provided to serve the needs of local residents and the community. Transportation and trail connections would be provided. A park and ride would support transit service.

The Subarea Plan under Alternative 3 would include an illustrative land use concept, design guidelines and zoning for the subarea. The subarea would be designated as Hawk Property Subarea in the Comprehensive Plan and zoned as a combination of R-12, Mixed Residential, and Regional Commercial Mixed Use (see Exhibit 2.4-6 and Exhibit 2.4-7). A planned action would be adopted to facilitate future environment permitting as the subarea develops in phases over time, and would provide consistent application of mitigation measures based on this EIS. (A draft ordinance is provided in Appendix C.)

The maximum urban village proposal would contain approximately 850,000 square feet of regional, iconic, and local retail uses and about 1,500 dwelling units with a mix of single family, townhome, and multifamily residences (see Exhibit 2.4-3).

Exhibit 2.4-3. Maximum Urban Village Proposal

Use Type	Dwelling Units and Square Feet	Anticipated Maximum Building Height (Feet)
Single Family Detached (dwelling units)	200	35
Townhomes (dwelling units)	400	35
Multi-family Flats (dwelling units)	900	60
Residential Total (dwelling units)	1,500	
Large format Retail (square feet)	708,940	35
Iconic/Local Retail (square feet)	141,060	35
Commercial Retail Total (square feet)	850,000	

Source: Communita, Stalzer and Associates, 2013

Park space meeting City standards (CMC 18.35.150) of approximately 8.3 acres would be provided. Similar to Alternative 2, a pond is planned to serve as a unique open space feature (again, size will be determined based on final reclamation plans, but is anticipated to be greater than 15 acres and less than 20 acres). Also similar to Alternative 2, but with greater trail length to meet City standards, onsite trails would be located around the pond, along the southern boundary where informal trails exist, and along the pipeline easement. As with Alternative 2, connections to the regional Tri-City trail and to a residential trail system to the south would be made. Critical areas would be protected with buffers consistent with applicable critical area regulations (CMC 18.65).

Likewise, similar to Alternative 2, 204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve city circulation. Consistent with Alternative 2, a local street would connect to the southern neighborhood of Covington Park to allow local circulation and improve emergency vehicle access and response times. A park and ride would be developed onsite at about 125 spaces, similar in size to a facility in Maple Valley currently.

A conceptual plan illustrating a possible Maximum Urban Village Alternative layout is provided in Exhibit 2.4-5. Again, it should be noted that the layout is only one means of implementing the proposed land use designation and zoning classification. There may be other variations of a layout possible subject to the Subarea Plan design guidelines and development standards as well as the planned action mitigation measures.

Comparisons

Alternatives 2 and 3 would both result in substantially more growth than the No Action Alternative and would introduce commercial and residential uses not currently present in the subarea. Alternatives 2 and 3 are similar to each other except with differences regarding overall intensity of development and commercial and residential mix.

- **Overall Growth:** Compared with Alternative 2, Alternative 3 would result in 25% more commercial space (170,000 square feet) and 50% more residential units (500 units).
- **Residential Mix:** Under both Alternatives 2 and 3, residential growth would be approximately 13% single family, 27% townhomes, and 60% multifamily (apartments/condos).
- **Commercial Mix:** Under Alternative 2, commercial development would be approximately 88% large format retail and approximately 12% local/iconic retail. Alternative 3 would increase the square footage of both categories: iconic/local retail would represent approximately 17% of the mix; the remaining 83% would consist of large format retail.
- **Parks and Trails:** Alternative 2 would provide approximately 5.5 acres of parks and 1.4 miles of trails. Alternative 3 would provide approximately 8.3 acres of parks and 2.1 miles of trails.

Exhibit 2.4-4 summarizes the proposed site development acreages of the two Action Alternatives.

Exhibit 2.4-4. Alternatives 2 and 3 Site Development Comparison

Site Development Category	Alternative 2	Alternative 3
Commercial/Residential Development	110.4 acres	104.6
Parks	5.5 acres	8.3 acres
Spine Road	9 acres	9 acres
Park-and-Ride	0	3 acres
Critical Areas/Open Space	67.2 acres	67.2 acres
Pond	19.9 acres	19.9 acres
Total	212 acres	212 acres

Source: Communita, BERK, 2013

Exhibit 2.4-5. Alternative 3 Conceptual Land Use Plan



Source: Communita, 2013

Exhibit 2.4-6. Proposed Comprehensive Plan Designations

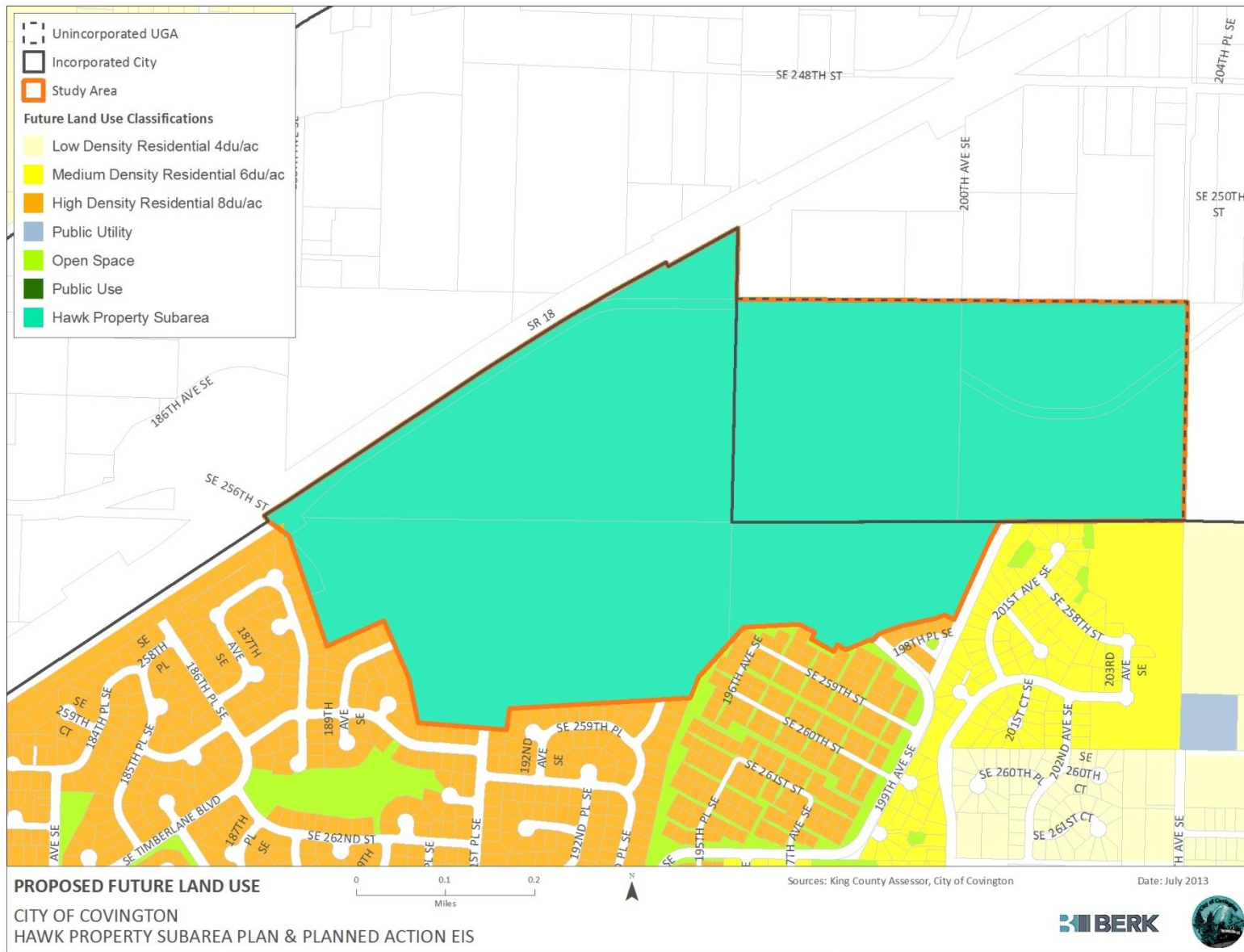
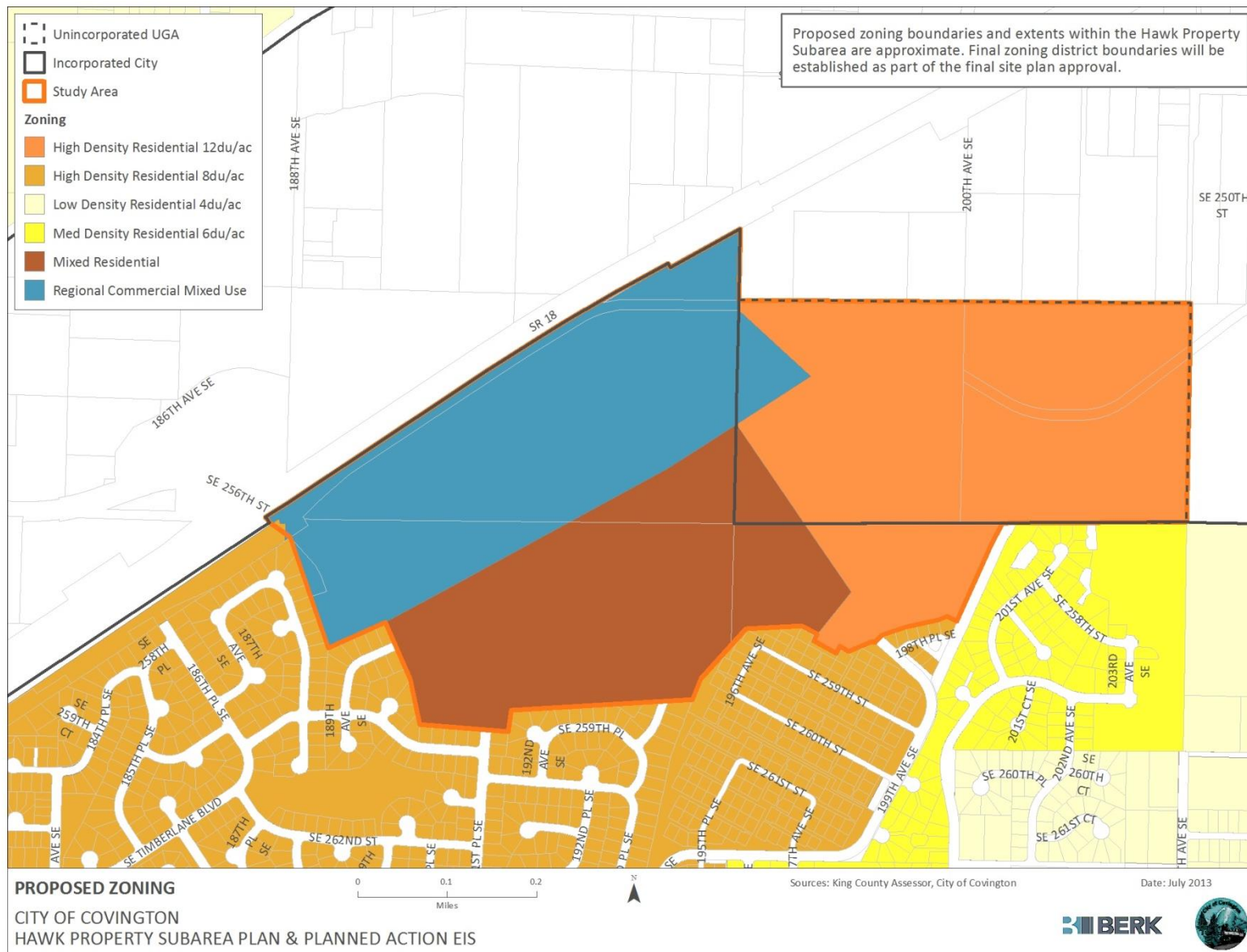


Exhibit 2.4-7. Proposed Zoning



Alternatives Eliminated from Consideration

City policies identify priority areas for employment and residential growth and promote infill development with a focus on the Town Center, a plan completed in 2009.

City policies also reflect a desire for community boundaries that are logical service areas and reflect the character of the of the Covington community. Accordingly, in the fall of 2012, the City considered its capacity for commercial and residential growth in the city limits, the official PAA, and an area immediately abutting in the Northern Gateway “Notch” in a study entitled “Northern Gateway Area Study.” The purpose of the study was to comprehensively review the area in terms of suitability for urban commercial and residential development, inclusion of the north study area in the King County UGA and Covington PAA, and annexation of the southeast study area already assigned as a PAA to Covington.

The market and buildable lands analysis found the City had sufficient residential and employment capacity to meet its growth targets. However, compared to market demand, the City was expected to grow at a greater pace than targeted. Additionally, the City and its southwest PAA had sufficient buildable land capacity to meet low or high commercial market demand, and can meet its low market demand for housing though not quite the high market demand for housing. The analysis also identified potential large commercially zoned sites in the City, its PAA, and unincorporated rural “notch” north of SR 18 across from the Hawk Property Subarea.

Based on the Northern Gateway Area Study, the City supported an application made by a private property owner to expand the King County UGA and the City’s PAA to include the “notch” north of SR 18 as a logical extension of the city limits. The City also coordinated with King County to determine how its growth targets could be increased to reflect the greater growth pace in Covington. However, the UGA and PAA expansion were not approved. Additionally, King County does not expect to revisit growth targets in the near future. As a result the City’s ability to apply urban commercial and residential land use and zoning designations north of SR 18 in the unincorporated “notch” was eliminated as an alternative for consideration in determining the subarea boundaries.

Further, based on the buildable lands analysis, while there are other large commercially zoned properties nearby, most are in the Town Center area, which has recently been planned for the community’s desired level of height, growth, and mix of uses. Some properties are already committed to development. Some have significant constraints, such as power line easements, site contamination, or other factors. None of the other sites are of the same size as the Hawk Property, nor do they have they the potential to be a master planned development under a single owner.

The City considers its Town Center as its “primary” mixed use center in the heart of Covington and it will have greater heights, a finer grained block pattern, greater potential for multimodal transportation services, and serve as an entertainment hub for the community compared to other locations in the City including the Hawk Property.

The proposed mixed use growth planned for the Hawk Property Subarea reflects the unique size and location of the site and its location in the city limits and PAA. Thus it is the focus of land use alternatives for the location of a secondary mixed use village in Covington.

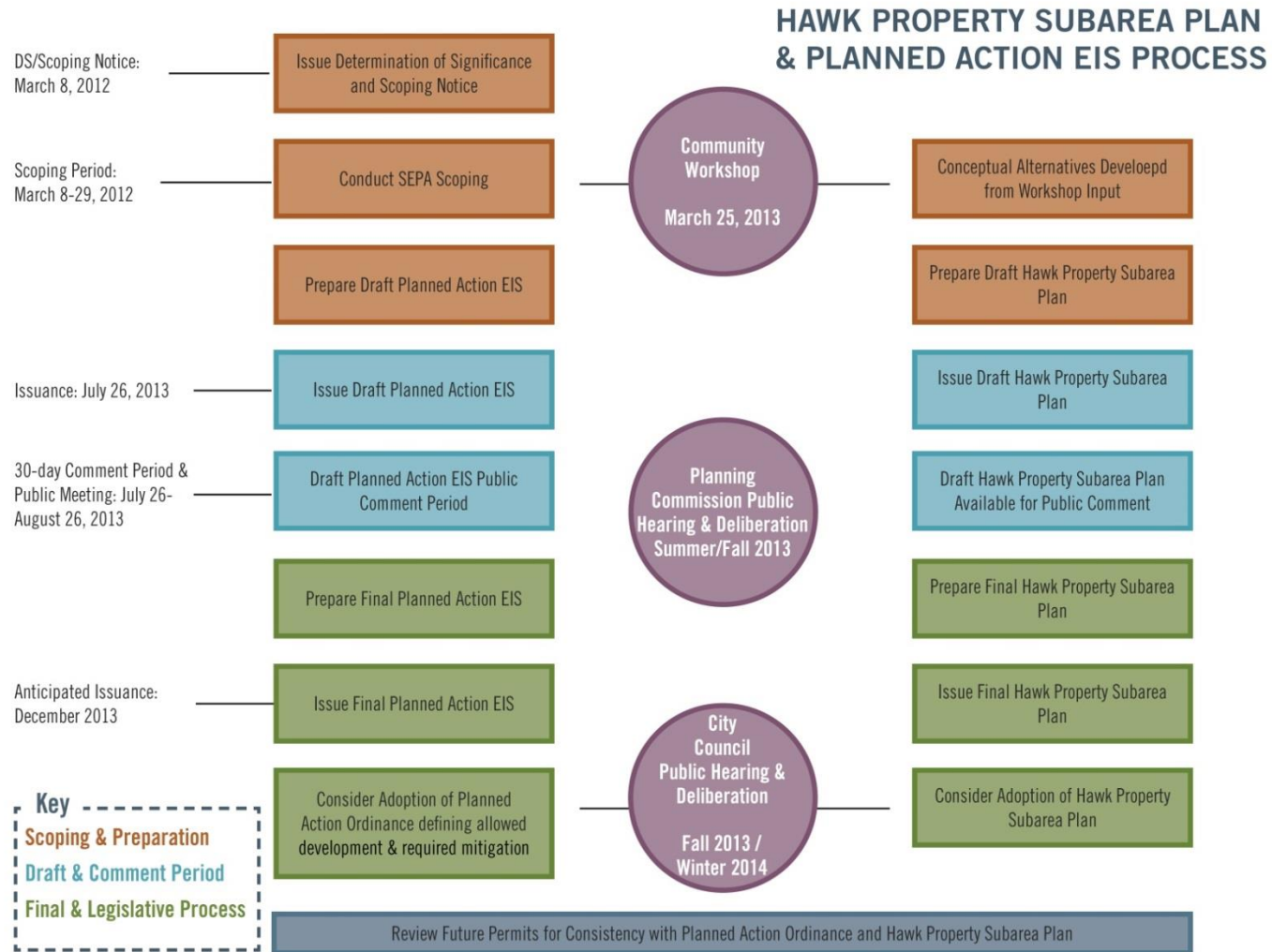
Future Alternatives

The intent of the Draft EIS alternatives is to compare natural and built environment impacts and provide that information to decision makers, citizens, and other agencies. It is anticipated that following the Draft EIS comment period, the City would consider public comment and develop a Preferred Alternative for study in the Final EIS or it may choose to continue with a range of possibilities. If prepared, a Preferred Alternative would likely be a mix and match of different features of each Draft EIS Alternative. The final plan that would ultimately be adopted would not be exactly one of the EIS alternatives, but would fall within the range of the alternatives analyzed in the EIS.

HAWK PROPERTY PLANNED ACTION EIS | ALTERNATIVES

Exhibit 2.4-8 shows a flow chart of the process to prepare the Draft Hawk Property Subarea Plan and Planned Action EIS and the public outreach and legislative review steps to prepare a preferred plan and ultimately consider adoption.

Exhibit 2.4-8. Hawk Property Subarea Plan and Planned Action EIS Process



Source: City of Covington, BERK, 2013

2.5 Benefits and Disadvantages of Delaying a Proposed Action

The proposal includes the adoption of a planned action ordinance for future development in the study area and adoption of a new subarea plan and associated development regulations. Delaying implementation of the proposal would delay potential impacts identified in this Draft EIS, including increased traffic congestion, air emissions, noise, and demand for public services and utilities, and reduction of wildlife habitat space.

If the proposal is not adopted, the Hawk Property site would continue as a mineral extraction and asphalt batch plant operation. The additional economic development and housing choice opportunities offered by the proposed mixed use urban village would not be created, and other positive impacts identified in this Draft EIS, such as improvement of stormwater quality, increased access to parks and open spaces, and improved emergency service response times, would not be realized.

3.0 AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION MEASURES

3.1 Earth

This section describes the affected earth environment and existing geologic conditions in the vicinity of the Hawk Property Subarea, the impacts from existing geologic conditions related to future site development, potential mitigation measures that may be implemented to address these impacts, and significant unavoidable adverse impacts.

The information summarized in this section is based on a review of geotechnical borehole logs and a review of published sensitive/critical area maps and surficial geologic and soil maps. Specifically, sources included US Geological Survey (USGS) maps, Natural Resource Conservation Services (NRCS) maps, borehole logs from the Washington State Department of Natural Resources (DNR) Subsurface Geology Information System, King County Sensitive Areas maps, and the City of Covington Comprehensive Plan. These sources are listed in the references section in Chapter 4.

The subsurface data collected in support of this document varied across the project area in level of detail, depth of exploration, quality, usefulness, and availability. However, the level of information gathered is considered adequate for an EIS-level report and for the purpose of characterizing subsurface conditions in the study area, understanding the potential impacts, and identifying proposed and possible mitigation measures for site development.

Affected Environment

The Hawk Property Subarea, as shown in Exhibit 2.2-1, is bounded on the northwest by SR 18, on the northeast by a wetland (delineated in April 2013 and slated to remain a “natural area”), and on the south by primarily residential development. The western portion of the study area consists of the Lakeside Industries gravel mine. Mining activity is now complete and Lakeside is currently reclaiming the mine site under its DNR reclamation permit (No. 70-011068). The pre-mining topography was flat to gently sloping with elevations ranging from about 380 to 400 feet [all elevation information presented in this section is relative to the Final Reclamation Map (Aspect Consulting 2013)]. Southeast of the property, a ridge rises to a maximum elevation of about 600 feet. The base of this ridge extends onto the property, with a maximum elevation of 560 feet at the southeast corner of the property boundary. Mining excavations currently extend up to 80 feet below the original ground surface over much of the site, with typical slopes of about 1 Horizontal:1 Vertical (1H:1V). Some of these areas will be backfilled during the reclamation process, and some will be left open, forming a pond. The groundwater elevation (and pond elevation) across the site is at about 378 feet.

General Geology and Topography

The Hawk Property Subarea is located in the central portion of the Puget Lowland physiographic province, an elongated north-south trending topographical and bedrock structural depression situated between the Olympic Mountains and the Cascade Range in western Washington. The topography surrounding the project area is dominated by a series of north-south trending elongated ridges and glacial uplands. The uplands are separated by large, glacially carved troughs that are now partially occupied by tidal waters or large lakes that have been modified by fluvial processes, which inherited the troughs following the retreat of the most recent ice sheet. The major troughs are now partially occupied by Puget Sound, Hood Canal, Lake Washington, Lake Sammamish, and the other large water bodies of western Washington (Mullineaux et al. 1965; Booth 1987).

The geology of the Puget Sound region includes a thick sequence of over-consolidated glacial and normally-consolidated non-glacial soils overlying bedrock. Glacial deposits were formed by ice sheets originating in the

mountains of British Columbia and from alpine glaciers that descended from the Olympic and Cascade Mountains. These ice sheets invaded the Puget Lowland at least four times during the early to late Pleistocene Epoch (approximately 150,000 to 10,000 years before present). The southern extent of these glacial advances was near Olympia, Washington. Between these glacial advances and after the last glaciation, portions of the Puget Lowland filled with alluvial sediments deposited by rivers, draining the western slopes of the Cascades and the eastern slopes of the Olympics.

The most recent glacial advance, the Fraser Glaciation, included the Vashon Stade, during which the Puget Lobe of the continental ice sheet advanced and retreated through the Puget Sound Basin. Radiocarbon dates indicate that the Vashon ice sheet occupied the Puget Sound area about 15,000 years ago and retreated to the north approximately 13,000 years ago (Thorson, 1981). Existing topography, surficial geology, and hydrogeology in the project area were heavily influenced by the advance and retreat of the Vashon ice sheet.

The Hawk Property Subarea is situated in a northeast-southwest trending topographic trough. Local elevations in the trough are around 380 to 400 feet. This trough is bounded by glacial uplands (glacial till) to the northwest and southeast. These uplands, locally rising to a maximum elevation of about 600 feet, are generally comprised of very dense and hard glacial soils that were deposited during the advance and retreat of several glaciers. The trough is comprised primarily of recessional outwash, the geologic unit containing the gravel previously mined at the site. Past drilling explorations near the site indicate the recessional deposit extends to about 75 feet below the original ground surface (DNR 2013), and mining activities at the site have extended to this depth in some areas. Filling conducted to restore the mine site will include fill depths of up to 80 feet in some areas.

Surficial Geology

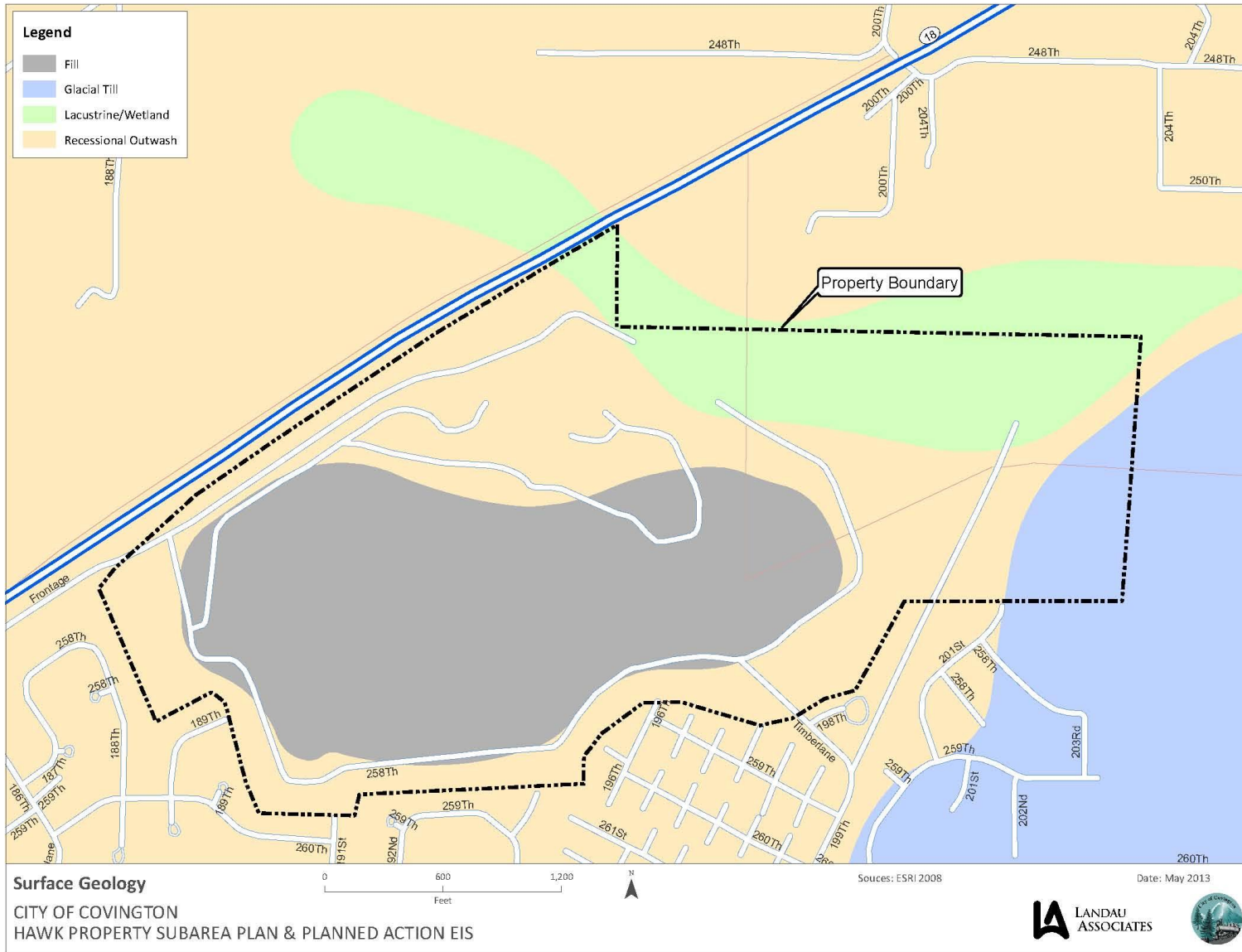
Anticipated post reclamation surficial geology is summarized on Exhibit 3.1-1. An understanding of the surficial geology of the Hawk Property Subarea site was derived from Booth (1995) and Mullineaux (1965). Generally, the surficial geology is mapped as recessional outwash with intermittent lacustrine/wetland deposits in localized depressions. Although not depicted on these geologic maps, much of the surficial geology of the site will consist of fill after reclamation is complete.

Soil types at the Hawk Property Subarea, as mapped by the NRCS (2013), primarily consist of Everett gravelly sandy loam with 0 to 5 percent slopes at the western portion of the site and 5 to 15 percent slopes at the eastern portion of the site. An area mapped as Orcas peat near the center of the site was removed in order to mine the site. The wetland area along the northeast edge of the site is mapped as Seattle muck. The NRCS mapping is consistent with the surficial geology mapping discussed above.

Geologic Units

Very few geologic units have precise boundaries or contacts and the geology of an area can change drastically both horizontally and vertically within a few feet or, in some instances, can remain fairly consistent for hundreds of feet. Typical descriptions of the geologic units reportedly encountered by others at or in the vicinity of the subarea are presented below. In general, the geologic units are ordered from the most recent, or younger deposits, to the oldest. The geologic units that are younger than Vashon-age glacial till have not been glacially over-ridden. The Vashon-age glacial till and the older units have been glacially consolidated and are typically very dense or hard.

Exhibit 3.1-1. Surface Geology



FILL/MODIFIED LAND

The term “modified land” is used to describe surficial geologic conditions that have been “modified” by human activities such as, but not limited to: cutting, filling, grading, leveling, sluicing, shoreline protection, and railroad bed construction. As reclamation is currently underway, backfill material characteristics are unknown. According to the reclamation Backfill Plan signed in November 2008 (narrative associated with DNR Application for Reclamation Permit Form SM-8A), backfill will come from various locations and may consist of clay, silt, sand, and/or gravel. Backfill will consist of inert soils and will not contain construction debris, asphalt, concrete, or contamination. Based on the Backfill Plan, compaction effort applied to backfill soil will consist of construction traffic travelling over fill placed in approximately 12-inch lifts. With a potentially wide range of soil types and minimal compaction requirements, the relative density of the fill could vary widely and specific engineering properties of the fill materials could be very different from location to location. Future development on the site would therefore be constructed on modified land.

LACUSTRINE/WETLAND DEPOSITS

Lacustrine deposits, which typically form in depressions or flat areas, consist of silt, clay, fine-grained sand, and organic matter. Two lacustrine deposits are mapped at the site: one forming the existing wetland along the northeast site boundary and the other historical deposit near the center of the mined area. This latter area was removed during mining operations and no longer exists.

RECESSIONAL OUTWASH

During the last episode of Vashon-era glaciation, meltwater streams emanating from retreating glaciers deposited stratified sand and gravel. Hummocky, unsorted masses of sand and gravel were deposited at the glacial ice margins as the ice retreated. These stratified or unsorted sand and gravel deposits are termed “recessional outwash.” This unit has not been overridden by glacial ice and is usually medium dense, ranging in composition from silty fine sand to coarse gravel with occasional cobbles and boulders. The unit is typically permeable and well drained. The previously mined material at the site was comprised of recessional outwash.

VASHON GLACIAL TILL

Glacial till typically consists of a heterogeneous mix of gravelly sand with scattered cobbles and boulders in a clay/silt matrix deposited beneath glacial ice. This very dense unit is sometimes referred to as “hardpan.” Glacial till typically exhibits high shear strength and low compressibility characteristics. Competent sections of till often form bluffs and uplands in the Puget Sound region.

Geologic Hazards

Washington State’s Growth Management Act (Chapter 36.70A RCW) requires all cities and counties to identify critical areas within their jurisdictions and to formulate development regulations for their protection. Among the critical areas designated by the Growth Management Act are geologically hazardous areas, defined as such because of their potential susceptibility to erosion, sliding, earthquake, or other geologic events, or because of their past use (e.g., mine backfill). These areas may not be suited for development consistent with public health and safety concerns without conducting specific studies during the design and permitting process.

The City of Covington defines and identifies geologic hazard areas in its Comprehensive Plan (City of Covington 2003) and has developed several maps of geologically hazardous areas. In general, before development is allowed in or immediately adjacent to mapped critical areas, detailed geotechnical studies must be conducted to address specific standards relating to site geology and soils, seismic hazards, and facility design.

The following subsections contain discussions of steep slope and landslide, erosion, seismic, flood, and coal mine hazards. Maps contained in the City of Covington Comprehensive Plan were cross-checked against similar maps for King County (King County GIS Center 2013) and found to be consistent. These subsections describe geologic

hazards that may exist after mine reclamation. As reclamation is currently incomplete, actual geologic hazards are unknown. After reclamation is complete and prior to site development, additional geologic and geotechnical review will be necessary as per CMC Sections 18.65.280 and 18.65.310.

Steep Slope and Landslide Hazards

Landslide hazard areas are generally those areas subject to a severe risk of landslide due to a combination of factors, including:

- Any area with a combination of:
 - Slopes 15 percent or greater
 - Impermeable soils (typically silt and clay) frequently interbedded with granular soils (predominantly sand and gravel)
 - Presence of springs or seeping groundwater during the wet season
- Steep slopes of 40 percent or greater
- Any areas located on a landslide feature that has shown movement during the last 10,000 years or which is underlain by mass wastage debris

Slopes with less than 10 feet of elevation change are generally excluded from consideration as a landslide hazard. While the study area contains no areas mapped as steep slope or landslide hazard areas, reclamation backfill conditions and grading will govern the actual hazard potential across the filled portion of the study area.

Erosion Hazards

Erosion hazard areas are those areas containing soils which have historically led to a severe or very severe erosion hazard. Susceptibility to erosion is generally a function of soil type, topography, occurrence of groundwater seepage or surface runoff, and the built environment.

While the study area contains no areas mapped as erosion hazard, erosion mitigation measures should be considered, particularly during construction; regulatory requirements and mitigation measures are addressed further below.

Seismic Hazards

Potential seismic hazards include soil liquefaction and ground rupture. Seismic hazard areas are those areas subject to severe risk of earthquake damage as a result of seismically induced settlement or soil liquefaction. These conditions typically occur in areas underlain by loose to medium dense granular material (sand and gravel with varying amounts of fine-grained soil). Liquefaction requires saturation in addition to these soil conditions. Glacial till and recessional outwash deposits present in the study area are generally too dense to present a liquefaction hazard, and the fine-grained nature of lacustrine deposits generally prevents them from posing a liquefaction risk. However, if granular fill is placed in a loose to medium dense state during mine reclamation, liquefaction will be a concern; this is further discussed in relation to the site in the impacts analysis. The ground rupture hazard is not likely to be affected by soil type.

The entire Puget Sound region lies within a seismically active area, and moderate to high levels of ground shaking should be anticipated at the Hawk Property Subarea. While the site contains no areas mapped as seismic hazard areas, reclamation backfill conditions will govern the actual hazard potential across much of the site. Consequently, the fill soils at the Hawk Property Subarea site could affect the level of earthquake ground shaking felt in the area. Seismic design using current design codes and generally accepted engineering standards and practices should be conducted during the design phase of the future site improvements. This includes use of the current version of the International Building Code (IBC), which contains provisions to address life safety issues and incorporates data obtained from recent seismic events in the seismic design standards.

Earthquake accelerations codified for design in the vicinity of the Hawk Property Subarea have been determined by probabilistic seismic hazard modeling conducted by the U.S. Geological Survey (American Association of State Highway and Transportation Officials 2010; International Code Council 2009). This type of modeling considers the recurrence interval, magnitude, and distance to the subarea for all possible source mechanisms. The seismic recurrence intervals used by the two codes that cover most development in the area are discussed in the Regulatory Context section.

Flood Hazards

The Hawk Property Subarea contains no areas mapped as flood hazard by the City of Covington.

Coal Mine Hazards

While not discussed in the City of Covington Comprehensive Plan, no coal mines are mapped in or adjacent to the project area by the King County GIS Center (2013).

Regulatory Context

This subsection lists and describes potentially applicable design codes and regulations. Future design and construction at the site will be performed in accordance with all applicable regulations, codes, and standards in place at that time.

Federal

The federal government provides seismic information and standards. The 2012 IBC has adopted the seismic recommendations developed by the National Earthquake Hazards Reduction Program (NEHRP) (Federal Emergency Management Agency 2009) using the 2008 probabilistic seismic hazard maps developed by the U.S. Geological Survey for a seismic event with a recurrence interval of 5,000 years. The American Association of State Highway and Transportation Officials (AASHTO) standards rely on the 2002 U.S. Geological Survey probabilistic hazard mapping; however, AASHTO (2012) uses a seismic event with a recurrence interval of 1,000 years as the basis for design.

State

The State of Washington adopted the 2012 edition of the IBC (ICC 2012) on July 1, 2013. The IBC applies to the design of continuously occupied buildings, so would apply to residences and most commercial buildings. The types of buildings that would be developed at the Hawk Property Subarea site will most likely be designed in accordance with the 2012 IBC.

State highway projects in Washington are typically designed in accordance with the Washington State Department of Transportation Design Manual (2010), which generally adopts AASHTO standards, with certain additional requirements or guidance.

Washington State Department of Ecology implements the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit system, which requires construction contractors to implement erosion and sedimentation control systems at all major construction sites.

Local

The City uses the IBC as adopted by the State of Washington and amended by the City of Covington in the Covington Municipal Code. The only critical areas mapped inside the study area (City of Covington 2003) are wetlands along Jenkins Creek, which are discussed in Section 3.4. The City also adopted critical areas regulations in the Covington Municipal Code (Chapter 18.65). These regulations do not preclude development within critical areas, but do require permitting and special design and review to show that the proposed development minimizes impacts to critical areas to a satisfactory degree and manages hazards appropriately.

Impacts

Potential impacts are discussed relative to two alternatives. The “No Action” alternative (Alternative 1) considers the potential impacts after mine reclamation if no further development takes place beyond a small asphalt batch plant expansion. The “Maximum Urban Village” alternative (Alternative 3) considers the potential impacts associated with the maximum buildout alternative. For the purposes of this discussion, potential impacts associated with both the maximum (Alternative 3) and minimum (Alternative 2) proposed buildout alternatives are the same. The specific impacts are dependent upon the details of development design and actual construction contractor performance, and thus the content in this section is qualitative.

Steep Slope and Landslide Hazard Impacts

ALTERNATIVE 1 (NO ACTION)

The Hawk Property Subarea contains no areas mapped as landslide hazard by the City of Covington. However, mining activities at the site have created slopes up to about 75 feet high and as steep as about 1H:1V. The majority of these slopes exist below the water table. In some areas, these slopes likely present moderate to high steep slope and landslide hazards. The degree of potential sloughing and sliding varies with the steepness and height of the slope. Steeper, higher slopes typically present an increased risk for sliding, whereas shorter slopes tend to produce smaller surficial sloughs. Slopes that are susceptible to movement under non-earthquake (static) conditions typically have an even greater hazard under earthquake loading conditions.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Landslide hazard impacts for the minimum build out alternative are similar to Alternative 1. While the likelihood of landslide occurrence will not be substantially affected by development, the consequences of potential landslides would increase due to development in and around the affected zones (i.e., slides occurring in undeveloped areas will have no structures to affect). Stability of post-reclamation steep slopes will need to be assessed during the design phase as outlined in Sections 18.65.280 and 18.65.310 of the Covington Municipal Code. Depending on the design details of the proposed extension to 204th Avenue, which ascends a hill in the southeast corner of the site, additional stability assessments may be needed in this area as well.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The impacts would be similar to those described for Alternative 2.

Erosion Hazard Impacts

ALTERNATIVE 1 (NO ACTION)

The Hawk Property Subarea contains no areas mapped as erosion hazard by the City of Covington. Due to the relatively flat topography and permeable near-surface soil at the Hawk Property Subarea, erosion hazards at the site are expected to remain low after reclamation. However, the site should be evaluated for erosion after reclamation as reclamation backfill may contain soil with greater erosion susceptibility. When unvegetated and/or disturbed, soil surfaces are generally considered severe to very severe erosion hazards on slopes exceeding 15 percent (CMC, Section 18.20.415).

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Erosion hazard impacts for the minimum buildout alternative are similar to Alternative 1. However, site development will inevitably reduce erosion potential in areas surfaced with impervious development (e.g., buildings, concrete, pavement, etc.) and potentially increase in areas where surface runoff is concentrated if not controlled by other means. Erosion potential will likely be highest during construction, particularly on slopes that exceed 15 percent. Construction activities will also tend to increase erosion due to soil disturbance. Soil erosion Best Management Practices should be utilized during construction to manage/minimize these effects.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The impacts would be similar to those described for Alternative 2.

Seismic Hazard Impacts

ALTERNATIVE 1 (NO ACTION)

Potential seismically induced settlement and/or liquefaction will not create a significant hazard if the site is not developed.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Potential seismic hazards include soil liquefaction and ground rupture. There is also potential for loss of soil strength (loss of bearing capacity for shallow foundations or the reduction in lateral and vertical capacities of deep foundations), ground surface settlement, and lateral displacement of soils supporting any future development structures that are established in or over liquefiable soils. The magnitude of settlement, soil movement, and loss of strength is a function of the soil thickness, soil quality, groundwater level, magnitude of the seismic event, and the specific foundation system of the structure. Since mine reclamation is not yet complete and many of these variables are unknown, the degree of likelihood associated with various seismic hazards cannot be predicted.

Liquefaction can result in widespread structural damage if not properly mitigated. Damage caused by liquefaction can include: foundation rotation, slope failure, lateral spreading, and post-liquefaction ground subsidence (settlement).

Soil liquefaction, should it occur, would likely lead to consolidation of loose, saturated soil deposits, resulting in some surface settlement at the site. Loose, saturated soil deposits will likely only be a concern in fill areas as native soil deposits tend to be sufficiently dense to greatly reduce the risk of liquefaction. The liquefaction hazard potential associated with reclamation fill can be substantially reduced by adequately compacting good quality fill (discussed further under “Mitigation Measures”). Since subsurface conditions vary across the site, overall settlement would vary, leading to differential settlements across the site and possibly differential settlements between adjacent foundation elements. Liquefaction induced ground settlements could cause increased downdrag loading on deep foundations.

Impacts associated with soil liquefaction can be mitigated in a number of ways, as discussed in the Mitigation Measures section of this section. Examples of possible mitigation methods include ground improvement, use of deep foundations, or designing for potential soil liquefaction impacts. The specific mitigation measures would be determined during site-specific design of future site improvements.

Ground rupture results when an earthquake or series of earthquakes rupture the ground surface along a fault, typically on the order of several feet. The Hawk Property Subarea lies about 8½ miles south of the Seattle Fault Zone and 7 miles north of the Tacoma Fault Zone (DNR 2013b). Accordingly, it is the opinion of the EIS author that ground rupture will not be a significant part of the site-specific seismic design for the future site improvements, and mitigation to prevent ground rupture impacts will not be required. The ground rupture hazard is similar for all soil types.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The impacts would be similar to those described for Alternative 2.

Mitigation Measures

Incorporated Plan Features

Current plans for the various alternatives contain features that aid in earth hazard mitigation. Alternative 1 (No Action) includes grading and vegetation of reclaimed areas to reduce erosion. In addition to grading and vegetation, Alternatives 2 and 3 (Minimum and Maximum Urban Village Proposals) would set aside steep slope

and wetland areas with associated buffers as natural areas; limiting disturbance of areas with increased potential for landslide and erosion hazards and minimizing disturbance to environmentally sensitive zones.

Applicable Regulations and Commitments

See Regulatory Context.

Other Potential Mitigation Measures

Specific foundation support systems to be used for onsite improvements will be determined as part of the specific design and permitting of infrastructure and individual buildings associated with future site development. Actual codes and requirements, being reclamation and structure dependent, are too numerous and varied to be cited at this level of study. Some specific references have been included below in the relevant sections. Site-specific studies and evaluations would be conducted in accordance with Covington Municipal Code requirements and the provisions of the 2012 (or current) IBC. Mitigation measures to limit impacts from geologic hazards and associated foundation support considerations are summarized below.

STEEP SLOPES / LANDSLIDES

Development adjacent to steep slopes would require site-specific slope stability analyses prior to construction (CMC, Sections 18.65.280 and 18.65.310). If post reclamation slopes are assessed and found to require stabilization near any future structure, action would be taken to mitigate slope instability concerns during the design and permitting for those structures. Mitigation measures could include but are not limited to retaining walls, structure setbacks, buttresses, and cutting and filling to establish flatter grades.

EROSION

During construction, contractors should employ Temporary Erosion and Sedimentation Control (TESC) measures and Best Management Practices to control erosion as required under the NPDES construction permit. These measures should be consistent with the City of Covington critical area and grading regulations (CMC, Chapter 18.60 and Section 18.65.220), and could include the following:

- Minimize areas of exposure
- Schedule earthwork during drier times of the year
- Retain vegetation where possible
- Seed or plant appropriate vegetation on exposed areas as soon as earthwork is completed
- Route surface water through temporary drainage channels around and away from disturbed soils or exposed slopes
- Use silt fences, temporary sedimentation ponds, or other suitable sedimentation control devices to collect and retain possible eroded material
- Cover exposed soil stockpiles and exposed slopes with plastic sheeting, as appropriate
- Intercept and drain water from any surface seeps, if encountered
- Incorporate contract provisions allowing temporary cessation of work under certain, limited circumstances, if weather conditions warrant

LIQUEFACTION

Ground improvement techniques or deep foundations could mitigate liquefaction impacts, if needed, during the design for individual future structures. Several methods of ground improvement are available, including stone columns, vibro-compaction, vibro-replacement, deep soil mixing, compaction grouting, and others. Selection of the appropriate deep foundation or ground improvement technique is location-specific at the site and would depend on a number of factors that would be considered during design and permitting of the future structures.

Ground improvement and foundation support requirements should be determined as part of the design and permit approval process for each future onsite development project. Using a high quality, well-compacted crushed rock or gravel fill material during reclamation would also significantly reduce the potential for soil liquefaction.

STRUCTURE SETTLEMENT UNDER STATIC LOADS

Although not associated with a specific environmental hazard, structure settlement should be mitigated during the design and permitting for individual future structures. For multi-story structures, total and differential settlements could be accommodated by founding the structures on deep foundations or by implementing ground improvement techniques. Soil preloading/surcharging could likely be used to reduce total and differential settlements to within tolerable levels for utilities and single-story structures. Alternatively, lightly loaded structures could potentially be founded on mat foundations with flexible utility connections that would limit the potential adverse effect of differential settlement. Deep foundation options include driven piles and drilled shafts. These options should be assessed during the design phase after reclamation is complete and the actual earth conditions can be assessed. Using a high quality, well-compacted crushed rock or gravel fill material during reclamation would also significantly reduce the potential for future structure settlement. However, regardless of the quality of reclamation fill that is anticipated to be placed before site development begins, site structures will require site-specific geotechnical studies in order to design appropriate foundation systems under the City's building permit process.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts have been determined for the earth elements at the Hawk Property Subarea. Methods are available to build out the Hawk Property Subarea under each EIS alternative without resulting in significant unavoidable adverse impacts.

3.2 Surface Water Resources

The Hawk Property Subarea Plan and Environmental Impact Statement (EIS) study area totals approximately 212 acres on the south side of SR 18 as described in Section 2.2. This section of the DEIS describes existing water resources on and in the vicinity of the Hawk Property site. Potential impacts to water resources from redevelopment of the site are evaluated.

Affected Environment

The Hawk Property site is located within Water Resource Inventory Area 9 (WRIA 9), which is the Duwamish-Green Watershed. WRIA 9 is situated in southern Puget Sound and comprises most of southern King County, including south Seattle and its adjacent suburban areas of Kent, Des Moines, Covington, and other cities. On its west side WRIA 9 is bounded by Puget Sound, and its east side includes portions of the Cascade Mountain range. This watershed has a large amount of urban development and high population density on its west side. This watershed includes only one major river, the Duwamish-Green River, which originates in the Cascade Mountains. The Covington Water District's water supply consists of groundwater allotted to the City by the State of Washington and water from the Green River Watershed via the Tacoma Second Supply Project. The District has a total of 11 production wells, 20.5 million gallons of storage in steel tanks at seven sites throughout the District, and over 217 miles of pipeline. The Green River watershed includes various smaller streams such as Jenkins, Little Soos, Newaukum, and Boundary creeks (DOE 2012).

Jenkins Creek is located between Pipe Lake and Little Soos Creek, and the Jenkins Creek sub-basin encompasses approximately 10,176 acres. The subject property represents approximately two percent of the Jenkins Creek sub-basin. See Chapter 2 for the planned action area for the development alternatives discussed in this EIS.

The Hawk Property Subarea primarily consists of the Lakeside gravel mine, an asphalt batch plant, vacant land, and a highway interchange. Currently, structures in the subarea consist of two maintenance facilities, two offices, one concrete plant, one asphalt plant, one rock crusher, and one wash plant. On-site surface water resources include Jenkins Creek and two wetlands (Wetlands A and B). A small portion of the site drains into these wetlands and Jenkins Creek. For a complete discussion of the wetlands associated with the Hawk Property, see the Covington South Hawk Property – Stream & Wetland Reconnaissance Study (The Watershed Company 2013), included as Appendix E. The rest of the site drains into the excavated depression of the gravel mine, flowing south to the existing ponds at the bottom of the 100-foot-deep depression. Surface water runoff flowing into these ponds discharges from the site as groundwater, joining a much more significant volume of groundwater flowing in the Covington channel, a paleochannel formed by meltwater drainage from prior courses of the Cedar River. Some of this groundwater volume will be intercepted and discharged by Jenkins and Cranmar Creeks.

The ponds on site were man made as a result of extraction of sand and gravels to a depth of 80 feet below existing ground elevation. The ponds created have been used as settling ponds associated with the wash plants. In the existing condition, water was pumped from the initial pond 1 through the wash plant, and then by gravity the wash water migrated through ponds 3-5. Ultimately water was pumped from pond 6 to Jenkins Creek. Portions of these ponds are being reclaimed under the existing reclamation permit.

Available monitoring data for Jenkins Creek is limited, but King County does have several monitoring stations on Soos Creek; Jenkins Creek is a tributary of Soos Creek. King County monitors the ecological health of Soos Creek in a variety of ways, including collecting and analyzing water, sediment, and benthic invertebrate samples. Water quality samples have been collected monthly at four stations in the Soos Creek basin since 1972 for temperature, dissolved oxygen, pH, conductivity, turbidity, total suspended solids, ortho-phosphorus, total phosphorus, ammonia, nitrate-nitrogen, total nitrogen, and fecal coliform bacteria (King County 2009). The Hawk Property is also not in the 305(b) list of the Clean Water Act for any elevated levels of phosphorous or other measured contaminants.

Portions of Soos Creek exhibit unhealthy temperature and oxygen conditions that cause them to fail to meet Washington State water quality standards. These streams serve as important migration corridors and spawning and rearing areas for several salmonid species, including Puget Sound Chinook, bull trout, coho, chum, pink, sockeye, and kokanee salmon, steelhead/rainbow, and cutthroat trout. The Hawk Property Subarea is located near water quality station D320, which is located near the mouth of Jenkins Creek just upstream of its confluence with Soos Creek at the bridge on Kent-Black Diamond Rd near 157th Avenue SE. Soos Creek was considered a “Class A” water body under the 1997 rules and is categorized as “Core Salmon Migration and Rearing Habitat” for aquatic life use and “Primary Contact” for recreational use under the 2003 Washington State Department of Ecology’s rules (DOE 2012). As part of the updated water quality standards, Jenkins Creek has been assigned an additional “Supplemental Spawning and Incubation Protection” temperature criteria of 13 °C to be applied from September 15th through July 1st. In the Water Quality Index ratings system by the State Department of Ecology, Jenkins Creek scores 91 out of 100, making it a low concern site.

Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes, collectively referred to in the act as "states," are required to develop lists of impaired waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states (Washington State Legislature, 2013). The law requires that states establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters. The Ammonia and pH at Jenkins creek are in a good condition, scoring 1 in the 2012 Category, which means that they meet tested standards for clean waters, although this score does not necessarily mean that a water body is free of all pollutants. However, in the Water Quality Assessment for Washington State, Jenkins Creek is on the 1998 and 1996 303(d) list for bacteria violation and in the TMDL Category 5, although the monitoring station is upstream of the Hawk Property Subarea. These bacteria can get into surface water from untreated or partially treated discharges from wastewater treatment plants, from improperly functioning septic systems, and from livestock, pets, and wildlife. Placement in this category also means that Ecology has data showing that the water quality standards have been violated for one or more pollutants, and there is no TMDL or pollution control plan. However, considering that the Hawk Property is partially forested and located away from farms and more than a quarter mile distance from a monitoring station, it is not likely that the Hawk Property Subarea is contributing to the fecal bacteria violation at this upstream monitoring station.

Impacts

Methodology

The primary resource documents for this section are the Stormwater Management Manual for Western Washington (2012), Soos Creek Water Quality Report by Tetra Tech (2011), and NHC’s Assessment of Current Water Quantity Conditions in the Green River Basin (2005).

Alternative 1 – No Action

Under the No Action Alternative, the Hawk Property Subarea Plan would not be adopted, and the existing mining reclamation and asphalt batch plant activities would continue. Due to the Mineral zoning, it is assumed that employment at the on-site asphalt batch plants would increase, and additional building square footage would be added from roughly 3,750 square feet of structure to 11,250 square feet of structure, a 7,500 square-foot increase.

ALTERNATIVE 1: CONSTRUCTION IMPACTS

Sediment transport, erosion, and fuel and other spills would be the primary pollution concerns during construction of the small asphalt batch plant expansion. Additionally, runoff rates from the site may temporarily increase, if there is an overall increase in impervious surfaces. Sediment control measures that would be implemented include thorough site monitoring, marking clearing limits, cover measures, perimeter protection, area stabilization, sediment retention facilities, surface water control facilities, and wet season restrictions. A Spill Prevention Plan

would also be developed and implemented to prevent and minimize chances of accidental release of chemicals from construction equipment/activity.

Under Alternative 1 less land would be disturbed compared with Alternatives 2 and 3, thus limiting the risk of sediment leaving the site. Also, smaller construction projects require less construction equipment and other sources of pollution to be onsite.

ALTERNATIVE 1: OPERATIONAL IMPACTS

For this site, the majority of the areas would generally continue to discharge untreated or undertreated, and undetained or under-detained stormwater runoff to the pond. Asphalt batch plant operations and reclamation would continue along with water quality treatment under the current NPDES permit.

Alternative 2 – Minimum Urban Village Proposal

The minimum urban village proposal would contain approximately 680,000 square feet of regional, iconic, and local retail uses and about 1,000 dwelling units with a mix of single-family, townhome, and multi-family residences See Chapter 2.

A multi-acre pond is planned to serve as a unique open space feature which is anticipated to be between 15 and 20 acres. Connections to the regional Tri-City trail and to a residential trail system to the south are planned to be made. Critical areas would be protected with buffers consistent with applicable critical area regulations.

204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve citywide circulation. A local street would connect to the southern neighborhood to allow local access for nearby residents and improve emergency vehicle access and response times.

Based on Alternative 2 proposed land uses and proposed zoning impervious surface standards, this alternative is anticipated to generate 75.8 acres of new impervious surface, which is 35% of the total study area. Assumptions for the impervious surface calculations are shown in Exhibit 3.2-1.

Exhibit 3.2-1. Estimated Impervious Surface – Alternative 2

Land Uses	Acres Required for Development*	Assumed Impervious %	Impervious Acres
Commercial	45	85%	38.3
Parks	5.5	20%	1.1
Spine Road	9	95%	8.6
Multi-Family	12	85%	10.2
Townhomes	11.3	85%	9.6
Single Family	10.8	75%	8.1
Total	93.6		75.8

* Acres required for development reflects the acreage required to accommodate the residential units and commercial space proposed for the alternative, based on the maximum allowed density.

Source: Communita, BERK, 2013

ALTERNATIVE 2: CONSTRUCTION IMPACTS

During construction, sediment transport, erosion, and fuel and other spills would be the primary pollution concerns during construction. Additionally, runoff rates from the site may temporarily increase if there is an overall increase in impervious surface across the site. Sediment control measures that would be implemented include thorough site monitoring, marking clearing limits, cover measures, perimeter protection, area stabilization, sediment retention facilities, surface water control facilities, and wet season restrictions. A Spill Prevention Plan

would also be developed and implemented to prevent and minimize chances of accidental release of chemicals from construction equipment/activity.

Alternative 2 would consist of larger development projects with a larger construction management budget, larger area for TESC facilities, and more opportunities for phasing. The opportunity to master plan the development and use sites that will be redeveloped near the end of the construction build-out as TESC facilities in the early phases of the project allows for more effective TESC management.

However, Alternative 2 would generally disturb more land at one time compared to Alternative 1, allowing for more potential sediment transport and higher erosion risk, and require more construction equipment and other sources of pollution to be onsite.

ALTERNATIVE 2: OPERATIONAL IMPACTS

Traffic would be a significant source of pollutants emanating from the site after development has occurred. Rubber from tires, metals from brakes and other car parts under friction, various oils and lubricants, litter, and other pollutants are generated by transportation and parking facilities. Landscaped areas have the potential to receive fertilizers, pesticides, herbicides, and fecal matter. Additionally, flow rates and volumes off the site to nearby surface waters will increase over historical conditions due to the increase in the level of imperviousness of the site.

Alternative 3 – Maximum Urban Village Proposal

Under Alternative 3, the Hawk Property Subarea would transition from its current mineral extraction use to a mixed-use village similar to the minimum urban village proposal under Alternative 2, though featuring an additional 170,000 square feet of commercial space and an additional 500 residential units. Parks, open space, and trails would also be provided to serve the needs of local residents. Transportation and trail connections would be provided. A park and ride would support transit service. Alternative 3 would contain approximately 850,000 square feet of regional, iconic, and local retail uses and about 1,500 dwelling units with a mix of single-family, townhome, and multi-family residences. See Chapter 2.

Similar to Alternative 2, a pond is planned to serve as a unique open space feature (again, size will be determined based on final reclamation plans, but is anticipated to be between 15 and 20 acres. As with Alternative 2, connections would be made to the regional Tri-City trail and to a residential trail system to the south. Critical areas would be protected with buffers consistent with applicable critical area regulations.

Likewise, similar to Alternative 2, 204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve City circulation. Consistent with Alternative 2, a local street would connect to the southern neighborhood to allow local circulation and improve emergency vehicle access and response times. A park and ride would be developed onsite with about 125 spaces, similar in size to a facility currently in Maple Valley.

This alternative is anticipated to generate 99.6 acres of new impervious surface, which is 47% of the total study area. Assumptions for the impervious surface calculations are shown in Exhibit 3.2-2.

Exhibit 3.2-2. Estimated Impervious Surface – Alternative 3

Land Uses	Acres Required for Development*	Assumed Impervious %	Impervious Acres
Commercial	56	85%	47.6
Park & Ride	3	90%	2.7
Parks	8.3	20%	1.7
Spine Road	9	95%	8.6
Multi-Family	18	85%	15.3
Townhomes	13	85%	11.1
Single Family	17	75%	12.8
Total	124.3		99.6

* Acres required for development reflects the acreage required to accommodate the residential units and commercial space proposed for the alternative, based on the maximum allowed density.

Source: Communita, BERK, 2013

ALTERNATIVE 3: CONSTRUCTION IMPACTS

Potential construction impacts for Alternative 3 would be fundamentally similar to the impacts of the Alternative 2 and Alternative 1 described previously. Sediment transport, erosion, and fuel and other spills would be the primary pollution concerns. Additionally, runoff rates from the site may temporarily increase if there is an overall increase in impervious surfaces across the site. An increase in runoff rates often correlates to a decrease in infiltrated water through landscaped areas and ponds.

The primary advantage of Alternative 3 is that it would tend to be larger development with a larger construction management budget, larger area for TESC facilities, and greater phasing opportunities. The opportunity to master plan the development and use sites that will be redeveloped near the end of the construction build-out as TESC facilities in the early phases of the project allows for more effective TESC management.

Similar to but greater than Alternative 2, Alternative 3 would generally disturb more land at one time, allowing for more potential sediment transport and higher erosion risk, and require more construction equipment and other sources of pollution to be onsite.

ALTERNATIVE 3: OPERATIONAL IMPACTS

Similar to Alternative 2 and Alternative 1, traffic would be the primary source of pollutants for Alternative 3. Transportation and parking facilities would generate pollutants from the rubber from tires, oils and lubricants, metals from brakes, and other litter. For Alternative 3, potential water quality concerns emanating from the use of fertilizers and herbicides would be best managed through the use of a landscape management plan, which would be best implemented as part of a large-scale development to ensure consistency and compliance.

Cumulative Impacts

Ongoing development of the project area is likely to result in reduced surface water quality in the immediate vicinity. Under Alternatives 2 and 3, the current water quality treatment will be upgraded so that nearly 100% of the site's runoff will receive treatment for total suspended solids (basic treatment) and zinc. This is an improvement over the existing condition.

Mitigation Measures

Incorporated Plan Features

As described under the impact analysis, Alternatives 2 and 3 would tend to be larger developments with a larger construction management budget, larger area for TESC facilities, and greater phasing opportunities.

Applicable Regulations and Commitments

Regulations adopted at the time development permits are submitted will be applicable, such as:

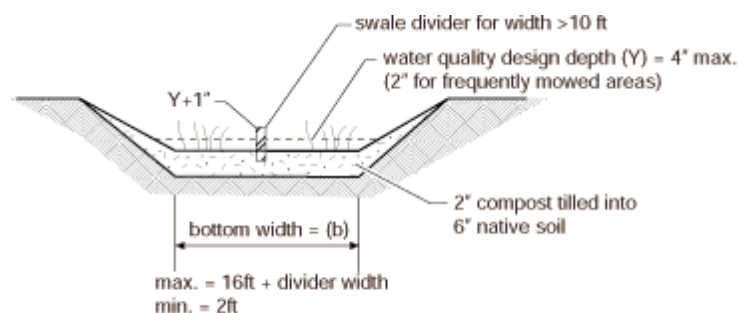
- Department of Ecology, Stormwater Manual for Western Washington
- City of Covington Surface Water Management Program, CMC 13.25
- Washington State Statutes
- US Environmental Protection Agency, Clean Water Act

Other Potential Mitigation Measures

STORMWATER QUALITY ALTERNATIVE 2: BASIC WATER QUALITY TREATMENT

For Alternative 2, water quality treatment would be accomplished using the Basic Water Quality menu from 2012 Stormwater Management Manual for Western Washington or the manual in effect at the time of development applications. The goal of this treatment is to remove 80 percent of total suspended solids (TSS) for influent concentrations that are greater than 100 mg/l, but less than 200 mg/l. Ecology encourages the design and operation of treatment facilities that engage a bypass at flow rates higher than the water quality design flow rate as long as the reduction in TSS loading exceeds that achieved with initiating bypass at the water quality design flow rate. There are twelve options for the basic water quality menu, and a biofiltration swale is the most likely option to be implemented due to its cost effectiveness and aesthetics to satisfy the basic water quality protection requirement. Biofilters are vegetated treatment systems (typically grass) that remove pollutants by means of sedimentation, filtration, soil absorption, and/or plant uptake. They are typically configured as swales or flat filter strips and designed to remove low concentrations and quantities of TSS, heavy metals, petroleum hydrocarbons, and/or nutrients from stormwater (SMMWW 2012). A biofilter can be used as a basic treatment BMP for contaminated stormwater runoff from roadways, driveways, parking lots, and highly impervious ultra-urban areas, or as the first stage of a treatment train. In cases where hydrocarbons, high TSS, or debris would be present in the runoff, such as high-use sites, a pretreatment system for those components would be necessary. Exhibit 3.2-3 below shows the typical swale section (SMMWW 2012).

Exhibit 3.2-3. Typical Swale Section



However, for some areas in the Hawk Property where the development is more intensive such as in the commercial or multifamily areas, the Enhanced Basic Water Quality menu might be more applicable, where an enhanced level of treatment is required for those development sites or portions thereof that generate the highest

concentrations of metals in stormwater runoff. Based on a review of dissolved metals removal with basic treatment options, a “higher rate of removal” is currently defined as greater than 30% dissolved copper removal, and greater than 60% dissolved zinc removal. In addition, the menu choices are intended to achieve the Basic Treatment performance goal. The performance goal assumes that the facility is treating stormwater with dissolved Copper typically ranging from 0.005 to 0.02 mg/l, and dissolved Zinc ranging from 0.02 to 0.3 mg/l. Ecology encourages the design and operation of treatment facilities that engage a bypass at flow rates higher than the water quality design flow rate as long as the reduction in dissolved metals loading exceeds that achieved with initiating bypass at the water quality design flow rate. The Enhanced Basic menu is a stand-alone menu. It integrates the Basic menu level of protection and the additional measures needed to achieve a higher level of metals removal. When this menu is required in Basic Water Quality Treatment Areas, it is intended to replace the Basic Water Quality menu on development sites or portions of development sites that generate the highest concentrations of metals in stormwater runoff. For the enhanced treatment menu, there are a couple of options that will satisfy the enhanced treatment requirements such as: infiltration, large sand filter, stormwater treatment wetland, compost-amended vegetated filter strip, two facility treatment trains, bioretention, media filter drain, and emerging stormwater treatment technologies.

STORMWATER QUALITY ALTERNATIVE 3: BASIC WATER QUALITY TREATMENT

Similar to Alternative 2, water quality treatment under Alternative 3 would be accomplished using the Basic Water Quality menu from 2012 Stormwater Management Manual for Western Washington or the most current manual in effect at the time of development applications; currently the goal is to remove 80 percent of total suspended solids TSS for influent concentrations that are greater than 100 mg/l, but less than 200 mg/l. Ecology encourages the design and operation of treatment facilities that engage a bypass at flow rates higher than the water quality design flow rate as long as the reduction in TSS loading exceeds that achieved with initiating bypass at the water quality design flow rate. There are twelve options for the basic water quality menu, and a biofiltration swale is also the most likely option to be implemented due to its cost effectiveness and aesthetic side to satisfy the basic water quality protection requirement. For some areas where the development is more intensive such as the park and ride, commercial, and multifamily areas, the Enhanced Basic Water Quality menu might also be more applicable to this site, where an enhanced level of treatment is required for those development sites or portions thereof that generate the highest concentrations of metals in stormwater runoff. Based on a review of dissolved metals removal of basic treatment options, a “higher rate of removal” is currently defined as greater than 30% dissolved copper removal, and greater than 60% dissolved zinc removal. In addition, the menu choices are intended to achieve the Basic Treatment performance goal. For the enhanced treatment menu, there are couple options that will satisfy the enhanced treatment requirements such as: infiltration, large sand filter, stormwater treatment wetland, compost-amended vegetated filter strip, two facility treatment trains, bioretention, media filter drain, and emerging stormwater treatment technologies.

Significant Unavoidable Adverse Impacts

Alternative 1 would result in some modest changes to the site as reclamation is executed, batch operations continue and new facility construction occurs. Overall, these actions would not significantly change site conditions in terms of surface water quality.

As mitigated, Alternatives 2 and 3 would not create significant adverse environmental impacts.

3.3 Groundwater Resources

This section describes the hydrogeologic setting, groundwater conditions, and conceptual impacts to groundwater in the area of the proposed development. The discussion includes three alternative scenarios for mixed-use development of the site.

Affected Environment and Methodology

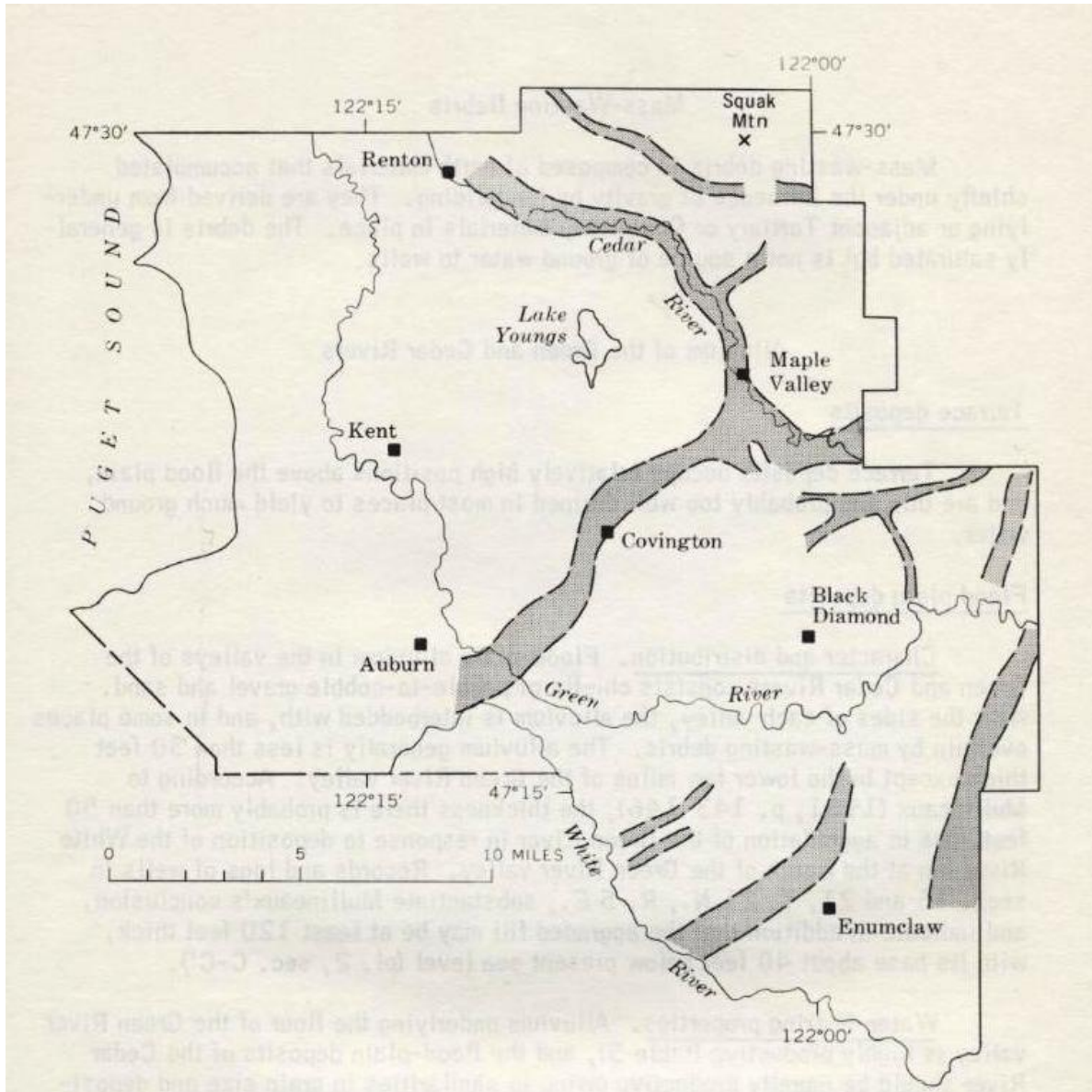
Existing Groundwater Resources

The Hawk Property site currently has one existing well (22/6-19B01), which is less than 100 feet deep and has been used as a water supply for the gravel mine.

Hydrogeologic Setting

The site was previously known as the Lakeside gravel pit and used for gravel extraction and rock materials processing in recent years. It lies within the Big Soos Creek drainage of the Middle Green River Watershed and generally slopes southwesterly to Jenkins Creek, a tributary to Big Soos Creek. The site is located on the Covington Drift Plain, a remnant of Quaternary age glaciations with variable strata of recessional outwash, advance outwash, and fine-grained, cemented tills (Mullineaux 1970). The site lies within the Covington Channel, a paleo channel formed by meltwater drainage from prior courses of the Cedar River. A paleochannel is a remnant of an ancient stream channel that has been buried by younger sediment. The Covington Channel is described as a large, well-defined, relic recessional outwash channel filled with coarse-grained deposits (Vacarro 1992) including coarse recessional gravels Qvr, overlying advance outwash QAf, without an intervening till layer Qvt (Woodward et al 1995). The Covington Channel is shown below in Exhibit 3.3-1 (Luzier 1969).

Exhibit 3.3-1. Covington Channel



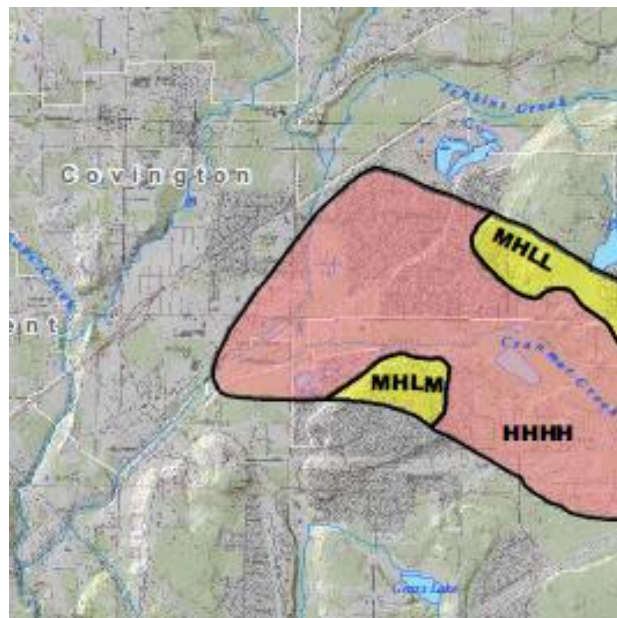
Source: Luzier 1969

The piezometric surface beneath the Covington Drift Plain indicates that a groundwater divide extends from Lake Youngs to near Auburn (Luzier 1969). Groundwater northwest of the divide discharges to the Duwamish River Valley and southeast of the divide discharges to Big Soos Creek and the Green River Valley. Another groundwater divide about 2 miles north of Covington separates groundwater discharge north to the Cedar River from discharge south to Big Soos Creek. Although there is some indication of deep (regional) groundwater discharge to the west, most groundwater recharge north and east of Covington discharges to Big Soos Creek as local drainage (Vaccaro 1992).

Channel deposits and undifferentiated outwash of the Covington Channel contain significant water supplies. More than 18 individual wells in the general vicinity of the site were identified from driller's logs in previous studies (Luzier 1969). Current well log data on the Department of Ecology website (WDOE 2003) lists additional small (domestic and resource protection) wells in the general area, but no additional wells in the subarea. Current water use in the area is low to moderate, less than 2 inches out of an annual recharge of an estimated 28 inches, not including return flows (Bauer and Mastin 1997). Total pumpage from wells, relative to recharge volumes, has not significantly changed since the water supply study in 1997. Groundwater levels in measured wells show that hydraulic heads in the outwash deposits typically increase with depth and general groundwater movement is upward from deeper to shallow deposits. These conditions are indicative of groundwater discharge areas. Wells at Armstrong Springs (22/5-36) show well depths of greater than 100 feet may have water levels less than 20 feet below land surface. Groundwater gradients near Covington are typically low (20 to 30 feet/mile) due to greater hydraulic conductivity (100 to 200 feet/day) of the coarse sediments (Woodward et al 1995). Groundwater discharges to Big Soos Creek may range from 0.3 to 3 cfs/mile of stream (Vaccaro 1992). Groundwater moves readily through the Covington Channel and the ratio of horizontal to vertical conductivity is typically greater than 20 with transmissivity on the order of 2900 ft sq/day (Morgan and Jones 1999).

Armstrong Springs, a municipal water supply for the City of Kent, and other wells are located southwest of the site. Water quality protection needs for the area are described in a Wellhead Protection Program and aquifer susceptibility assessment (Aspect Consulting 2008). A section of the aquifer susceptibility map (below) shows generally high susceptibility in this area.

Exhibit 3.3-2. Armstrong Springs and Medium and High Susceptibility Wellhead Protection Area



Source: City of Kent, 2008

Impacts

Methodology

Groundwater impacts would include changes in groundwater availability and groundwater quality for existing users. Impervious areas on the site can reduce groundwater recharge by 75% or more and reduce subsequent discharge to streams and springs (Woodward et al 1995). Impacts to groundwater quality may result from infiltration of untreated stormwater, transportation related spills, and on-site spills of hazardous materials.

Groundwater Impacts

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, the Hawk Property Subarea Plan would not be adopted, and the existing mining reclamation and asphalt batch plant activities would continue. Due to the Mineral zoning, it is assumed that employment at the on-site asphalt batch plants would increase, and additional building square footage would be added from roughly 3,750 square feet of structure to 11,250 square feet of structure, a 7,500 square-foot increase. Current water rights allow onsite wellwater use. However, irrigation in excess of 5,000 gallons per day may require a new water right or change in purpose of use.

This alternative would have little very little increase in impervious surfaces and no appreciable impact to existing groundwater recharge from the 212 acre site. An increase in untreated stormwater infiltration from additional industrial uses on the site may pose an increased risk of impacts to groundwater quality.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Alternative 2 would contain approximately 680,000 square feet of regional, iconic, and local retail uses and about 1,000 dwelling units with a mix of single family, townhome, and multifamily residences. See Chapter 2.

204th Avenue SE would connect through the site to serve offsite and onsite traffic, mitigate traffic impacts, and improve citywide circulation. A local street would connect to the southern neighborhood to allow local access for nearby residents and improve emergency vehicle access and response times.

Based on the proposed land uses and proposed impervious surface standards in draft zoning regulations, this alternative will generate 75.8 acres of new impervious surface, which is approximately 35% of the total area.

Groundwater is relatively abundant in shallow aquifers in this area of the Covington Channel. Wells typically yield 80 to 400 gallons/minute with less than 20 feet of drawdown and annual water level fluctuations are on the order of 10 feet or less (Woodward et al 1995). Reductions in groundwater recharge due to an increase of 76 acres of impervious surfaces in the proposed development would not likely impair existing groundwater users. The total area of groundwater recharge on the Covington Plain is greater than 20 square miles, not including upwelling from deeper formations (Woodward et al 1995). In Washington State, static water levels and aquifer storage are not protected so long as prior rights can meet perfected uses with reasonable and economic pumping lifts. The reduction in groundwater recharge on the site in proximity to Jenkins Creek may reduce seasonal discharge to the stream, although baseflow contributing areas are also quite large.

Impacts to groundwater quality may result from infiltration of untreated stormwater, leaking underground storage tanks, NPDES permitted discharges, transportation-related spills, and unmitigated hazardous waste sites.

The proposed development is near the northern boundary of Kent's Armstrong Spring susceptibility area. The general direction of groundwater movement is southwesterly with relatively high horizontal conductivity in the shallow aquifers. Stormwater management plans for the site should route runoff from impervious surfaces to permeable soils and include water treatment measures to prevent infiltration of poor quality discharge. Stormwater infiltration from pond designs is typically shallow and is frequently intercepted by local surface drainage. Jenkins and Cranmar Creeks, southeast of the site, have relatively steep gradients on the order of 80 feet/mile (Morgan and Jones 1999) and would intercept and discharge seepage from the site as streamflow.

Vertical (upward) movement of groundwater in the area of the springs provides additional mitigation of potential water quality impacts from the site. Seepage from stormwater discharges, onsite sewage system effluent, or surface spills are less of a risk in areas of increasing hydraulic head with depth and significant groundwater discharge.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The maximum urban village proposal would contain approximately 850,000 square feet of regional, iconic, and local retail uses and about 1,500 dwelling units with a mix of single family, townhome, and multifamily residences. See Exhibit 3.3-2 in the Surface Water section above for the Maximum Urban Village Proposal.

Based on proposed land use and zoning standards, this alternative is anticipated to generate 99.6 acres of new impervious surface, which is approximately 47% of the total study area.

Similar to Alternative 2, reductions in groundwater recharge due to an increase of 100 acres of impervious surfaces in the proposed development would not likely impair existing groundwater users. The total area of groundwater recharge on the Covington Plain is greater than 20 square miles, not including upwelling from deeper formations (Woodward et al 1995). In Washington State, static water levels and aquifer storage are not protected so long as prior rights can meet perfected uses with reasonable and economic pumping lifts. The reduction in groundwater recharge on the site in proximity to Jenkins Creek may reduce seasonal discharge to the stream, although baseflow contributing areas are also quite large.

Impacts to groundwater quality may result from infiltration of untreated stormwater, leaking underground storage tanks, NPDES permitted discharges, transportation-related spills, and unmitigated hazardous waste sites.

Armstrong Springs, a municipal water supply for the City of Kent, and other wells are located about southwest of the site. Water quality protection needs for the area are described in a Wellhead Protection Program and aquifer susceptibility assessment (Aspect Consulting 2008).

The proposed development is near the northern boundary of the Armstrong Springs susceptibility area. The general direction of groundwater movement is southwesterly with relatively high horizontal conductivity in the shallow aquifers. Similar to Alternative 2, stormwater management plans for the site under Alternative 3 should route runoff from impervious surfaces to permeable soils and include water treatment measures to prevent infiltration of poor quality discharge. Stormwater infiltration from pond designs is typically shallow and may be intercepted by local surface drainage. Jenkins and Cranmar Creeks, southeast of the site, have relatively steep gradients on the order of 80 feet/mile (Morgan and Jones 1999) and would likely intercept and discharge seepage from the site. Vertical (upward) movement of groundwater in the area of the springs reduces the risk of potential water quality impacts from the site. Seepage from stormwater discharges, onsite sewage system effluent, or surface spills are less of a risk in areas of increasing hydraulic head with depth and significant groundwater discharge.

Cumulative Impacts

Ongoing development of the project area is likely to result in reduced ground water quality in the immediate vicinity. Under Alternatives 2 and 3, the current water quality treatment will be upgraded so that nearly 100% of the site's runoff will receive treatment for total suspended solids (basic treatment) and zinc. This is an improvement over the existing condition. This will represent a large reduction in pollutant loading to Jenkins Creek, associated wetland, and downstream portions of Big Soos Creek.

Increases in impervious surface area on the site could result in a net loss in onsite groundwater recharge if not adequately mitigated. Any net reduction in groundwater recharge on the site would not reduce aquifer storage volumes, because of increasing hydraulic head with depth, but could reduce seasonal baseflows in Jenkins Creek. The site represents less than 2% of the recharge area for this reach of the creek and net effects, if they occurred, would be small.

Mitigation Measures

Incorporated Plan Features

Alternative 1 maintains stormwater infiltration by retaining forested and vegetated areas beyond the protected critical areas. Alternatives 2 and 3 maintain critical area protections and would improve management and treatment of runoff from new impervious surface areas. Stormwater infiltration is projected to maintain groundwater volumes.

Applicable Regulations and Commitments

The site is near, but not within the Armstrong Springs Aquifer Protection Area, which is documented as Zone 1 in the City of Kent Wellhead Protection Program (Aspect 2008). Critical Aquifer Recharge Areas (CARAs) regulations are intended to protect groundwater; those regulations focus on underground storage tanks, abandoned wells, and stormwater infiltration. Based on geologic mapping the site is primarily characterized as a groundwater discharge site. However, given site proximity to CARAs and the onsite well, the following regulations, in current or amended form, could apply to site development activities.

- 2012 Stormwater Management Manual for Western Washington
- City of Covington Standard Plan Notes and Covington Municipal Code, Chapter 13.37

Low impact development measures are based on the current version of Washington State Department of Ecology's stormwater manual; the manual in effect at the time of development applications would apply.

- 2012 Stormwater Management Manual for Western Washington Chapter 2.5.2 Element 13: Minimum Requirements for New Development and Redevelopment – Protect Low Impact Development BMPs.

Other Potential Mitigation Measures

Potential impacts due to reduced recharge could be mitigated by stormwater detention and infiltration design and construction considerations as discussed in Section 3.2. Site soils are well drained and suitable for infiltration; infiltration should be required with pretreatment of stormwater inflows. Given the potential creation of 87 acres of impervious area on the site, natural recharge from critical areas and the pond should be protected, such as through the use of stormwater infiltration methods, which could significantly reduce potential impacts due to loss of groundwater recharge.

Any abandoned wells on the site should be decommissioned consistent with requirements from the Washington State Department of Ecology. Existing wells, properly constructed with sanitary seals and steel casing, would not pose much of a risk to groundwater resources.

A Best Management Practices (BMP) Plan should be developed for the entire property, especially if there are planned fueling areas, gas stations, and any associated automotive services, to protect groundwater resources. Assistance with the development of a BMP plan may be available from the King County Local Hazardous Waste at (206) 296-3976. In addition, King County Envirostars program may be beneficial to the applicant and resource conservation.

Stormwater management facilities should be designed to maintain a no net loss of recharge to the aquifer. All stormwater should be treated appropriately to avoid any potential degradation to groundwater resources.

Aquifers in this area, as documented in the Aspect report and other studies, are primarily groundwater discharge areas (increasing hydraulic head with depth). Infiltration of stormwater is less of an issue for aquifer storage and more important for maintaining seasonal baseflows in local streams, as noted above.

Any landscaping associated with the development should consist of native species to reduce the potential use of pesticide/fertilizer application. Native vegetation also will promote water conservation, as these species require less irrigation.

Through the Planned Action Ordinance, the City could require compliance with the 2008 City of Kent Draft Water System Plan Chapter 8: Wellhead Protection Program similar to the City's practice of applying appropriate conditions through the permit and SEPA process.

Significant Unavoidable Adverse Impacts

As described in the cumulative impact section above, increased impervious surface area could reduce groundwater recharge volumes, thereby reducing seasonal baseflows in Jenkins Creek. The site currently has limited stormwater treatment facilities. Under Alternatives 2 and 3, compliance with stormwater design standards in effect at the time of the development application would provide greater stormwater quantity and quality control than under existing conditions, and no significant impacts would be expected to downstream water resources (Jenkins Creek and Big Soos Creek).

As mitigated, Alternatives 2 and 3 would not create significant adverse environmental impacts on groundwater resources.

3.4 Air Quality

This section describes the current air quality conditions in the region, existing regulations and policies that govern allowable air pollutant emissions, and existing regulations and policies that have been developed to reduce greenhouse gas (GHG) emissions. Impacts of the alternatives (Alternative 1 - No Action, Alternative 2 – Minimum Urban Village Proposal, and Alternative 3 – Maximum Urban Village Proposal) are analyzed at a programmatic level. This section also provides a screening-level forecast of GHG emission rates that would be generated by the alternatives.

Current air quality regulations would prevent new developments and commercial facilities within the Hawk Property Subarea from generating unacceptable air pollutant emissions that would affect nearby areas during construction or operation. Reclamation activities would be discontinued within the Hawk Property Subarea under each alternative, but the existing asphalt batch plant operations would continue under Alternative 1. Therefore, air pollutant emissions generated within the Hawk Property Subarea are expected to decrease under Alternative 1 compared to existing conditions. Because Alternatives 2 and 3 would increase population and commercial space in the Hawk Property Subarea above existing conditions, the air pollutant emissions generated within the Hawk Property Subarea are expected to increase. Similarly, regional vehicle miles traveled (VMT) by vehicles used by Hawk Property Subarea residents and/or those who work within the Hawk Property Subarea under Alternatives 2 and 3 would also increase in the study area, along with the tailpipe emissions generated by those vehicles. However, the VMT generated by the new homes and businesses in the Hawk Property Subarea under Alternatives 2 and 3 would be a small fraction of the overall VMT generated within the Puget Sound region, so it is unlikely that those alternatives would significantly affect regional air quality.

Affected Environment and Methodology

Existing Air Pollution Sources

Air pollution sources in the Hawk Property Subarea include on-site mining equipment, haul roads, asphalt batch plant, and vehicular traffic along nearby SR 18 and within the residential areas surrounding the study area. These existing sources cause criteria pollutant emissions including carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen dioxide (NO₂), particulate matter (PM), and to a lesser extent sulfur dioxide (SO₂). Additionally, residential wood-burning appliance emissions in surrounding neighborhoods likely impact background air quality in the rural areas outside the study area.

Key Criteria Air Pollutants

The following paragraphs describe the sources and environmental effect of key criteria pollutants (CO, ozone, and particulate matter) considered in this analysis.

CO is a product of incomplete combustion generated by mobile sources, residential wood combustion, and industrial fuel-burning sources. CO is a concern related to on road mobile sources because it is the pollutant emitted in the greatest quantity for which short-term health standards exist. CO is a pollutant whose impact is usually localized, and CO concentrations typically diminish within a short distance of roads. The highest ambient concentrations of CO usually occur near congested roadways and intersections during wintertime periods of air stagnation.

Ozone is a highly reactive form of oxygen created by an atmospheric chemical reaction of nitrogen oxides and VOCs, both of which are emitted directly from industrial and mobile sources. Ozone problems tend to be regional in nature because the atmospheric chemical reactions that produce ozone occur over a period of time, and because, during the delay between emission and ozone formation, ozone precursors can be transported far from their sources. Transportation sources like automobiles and trucks are some of the sources that produce ozone precursors.

Particulate matter is generated by industrial emissions, residential wood combustion, motor vehicle tailpipes, and fugitive dust from roadways, haul roads, and unpaved surfaces. When first regulated, particle pollution was based on “total suspended particulate,” which included all size fractions. As sampling technology has improved and the importance of particle size and chemical composition has become clearer, ambient standards have been revised to focus on the size fractions thought to be most dangerous to people. At present, there are standards for particulate matter less than 10 micrometers in size (PM10) and particulate matter less than 2.5 micrometers in size (PM2.5), because these sizes of particulate contribute the most to human health effects, regional haze, and acid deposition. The highest ambient concentrations generally occur near the emissions sources, which in the Hawk Property Subarea would be near the unpaved roads within the gravel mine and asphalt batch plant area, and from motor vehicle tailpipes from SR 18 and major roads. PM2.5 has a greater impact than PM10 at locations far from the emitting source, because it remains suspended in the atmosphere longer and travels farther.

Air Quality Attainment Status

Based on monitoring information collected over a period of years, the U.S. Environmental Protection Agency (EPA) and Washington State Department of Ecology (Ecology) designate regions as being attainment or nonattainment areas for regulated air pollutants. Attainment status indicates that air quality in an area meets the National Ambient Air Quality Standards (NAAQS), and nonattainment status indicates that air quality in an area does not meet those standards. If the measured concentrations in a nonattainment area improve so they are consistently below the NAAQS, Ecology and EPA can reclassify the nonattainment area to a maintenance area.

Covington, including the Hawk Property Subarea, is currently designated as a maintenance area for CO and ozone and an attainment area for all other criteria air pollutants (PM10, PM2.5, lead, sulfur dioxide [SO₂], and NO₂). In March 2008, the EPA lowered its 8-hour ozone standard from 0.08 parts per million (ppm) to 0.075 ppm to better protect public health. In January 2010, EPA proposed a revision to the 2008 ozone standard, and put all area designations to the 2008 standard on hold. Until the revised standard is adopted, the region is still designated an attainment area for ozone.

Similarly, in 2010 EPA enacted a new, more stringent 1-hour average ambient air quality standard for NO₂. At this time it is not known which regions in the country will be redesignated based on the new standard. Therefore, as of this time, Covington is still considered an attainment area for NO₂.

Air Toxics Issues

The Hawk Property Subarea includes mining reclamation and asphalt batch plant operations that pose no special issues related to air toxics. However, there is the potential for minor amounts of toxic air pollutant emissions at the Hawk Property Subarea due to the use of on-site diesel-fueled mining equipment. The Hawk Property Subarea is not near any major industrial facilities that emit large amounts of toxic air pollutants. SR 18 is adjacent to the Hawk Property Subarea, and heavy diesel trucks traveling along the highway have the potential to emit toxic air pollutants. It is expected that existing and future air quality in the Hawk Property Subarea could be affected by minor to moderate concentrations of toxic air pollutants, emitted primarily from SR 18.

According to EPA's National Air Toxics Assessment (NATA) 2005 database, the existing respiratory cancer risk in the census tracts that include the Hawk Property Subarea is roughly 43×10^{-6} or 43 cancer cases per million population (USEPA 2013). This reported respiratory cancer risk is typical of other developed rural areas located near freeways in Washington State.

Puget Sound Regional Council Transportation Conformity Analysis

Under federal and state regulations, Puget Sound Regional Council (PSRC) is required to demonstrate that the Regional Transportation Plan (RTP) or Transportation Improvement Program (TIP) conforms to the State Implementation Plan (SIP) allowable emissions budget. The SIP provides a blueprint of how maintenance and nonattainment areas such as the central Puget Sound region will meet or maintain the NAAQS. The most recent air

quality analysis (PSRC 2013) for the 2013–2016 Regional TIP and the long-range RTP, demonstrates that 2040 forecasted regional emissions conform to the SIP’s allowable emissions budgets.

National Ambient Air Quality Standards

EPA established the NAAQS and specifies future dates for states to develop and implement plans to achieve these standards. The standards are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life. Ecology established the Washington State Ambient Air Quality Standards (WAAQS) for the same six criteria air pollutants that are at least as stringent as the national standards; in the case of SO₂, state standards are more stringent. Exhibit 3.4-1 lists the NAAQS for six criteria pollutants: CO, ozone, PM₁₀, PM_{2.5}, lead, SO₂, and NO₂.

Exhibit 3.4-1. National and Washington State Ambient Air Quality Standards

Pollutant	Federal		
	Primary	Secondary	State
Carbon monoxide			
8-hour average ^a	9 ppm	No standard	9 ppm
1-hour average ^a	35 ppm	No standard	35 ppm
Ozone			
8-hour average ^b	0.075 ppm	0.075 ppm	0.075 ppm
Total suspended particles			
Annual average	No standard	No standard	60 µg/m ³
24-hour average ^c	No standard	No standard	150 µg/m ³
Particulate matter—PM ₁₀			
24-hour average ^c	150 µg/m ³	150 µg/m ³	150 µg/m ³
Particulate matter—PM _{2.5}			
Annual average	15 µg/m ³	15 µg/m ³	15 µg/m ³
24-hour average ^d	35 µg/m ³	35 µg/m ³	35 µg/m ³
Lead			
Quarterly average	1.5 µg/m ³	1.5 µg/m ³	1.5 µg/m ³
Sulfur dioxide			
Annual average	0.03 ppm	No standard	0.02 ppm
24-hour average ^a	0.14 ppm	No standard	0.10 ppm
3-hour average ^a	No standard	0.50 ppm	No standard
1-hour average ^e	No standard	No standard	0.40 ppm
Nitrogen dioxide			
Annual average	0.053 ppm	0.053 ppm	0.05 ppm
1-hour average ^f	0.100 ppm	No standard	No standard

Source: Washington Administrative Code (WAC) 173-470–475

ppm = parts per million; µg/m³ = micrograms per cubic meter

Notes:

Annual standards are never to be exceeded. Short-term standards are not to be exceeded more than once per year unless noted.

^a Not to be exceeded once per year.

Pollutant	Federal		
	Primary	Secondary	State
^b	To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).		
^c	Not to be exceeded more than once per year on average over 3 years.		
^d	To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m ³ .		
^e	0.25 ppm are not to be exceeded more than two times in 7 consecutive days.		
^f	To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm.		

Transportation Conformity Regulations

Regionally significant transportation projects (with federal or state funding) proposed for construction within nonattainment areas or maintenance areas are subject to the transportation conformity regulations specified under federal regulations (Code of Federal Regulations, Title 40, Parts 51 and 93) and state regulations (Chapters 173–420 of the Washington Administrative Code [WAC]). Regionally significant projects include constructing or widening new roadways and widening signalized intersections. The intent of these regulations is to ensure that transportation projects, plans, and programs affecting regional and local air quality will conform to existing plans and time tables for attaining and maintaining federal health-based air quality standards. The permitting agency must demonstrate transportation conformity by the following steps for any proposed future roadway improvement projects.

- Confirm that the proposed projects are included in the RTP or TIP.
- Confirm that the regional emissions described in the TIP are within the allowable emissions budget specified by Ecology.
- Use an EPA-approved air quality dispersion model to conduct a project-level CO hot-spot analysis at the most heavily congested intersections.

Inclusion of a project in PSRC’s regional conformity analysis does not satisfy project-level conformity requirements. Project-level hot-spot analyses must be performed by the project sponsor as part of the project’s environmental review process.

Currently for this programmatic evaluation, it is uncertain whether the City would request state and federal transportation funding to support new roadway and intersection improvements required for the proposed development. However, if the City used state or federal funds to construct any roadway improvements, then it would be required to include the preceding air quality demonstrations in Washington State Environmental Policy Act (SEPA) and/or National Environmental Policy Act (NEPA) documentation.

National Environmental Policy Act Requirement for Climate Change Analysis

On December 7, 2009, EPA signed the Endangerment and Cause or Contribute findings for GHGs under Section 202(a) of the Clean Air Act. Under the Endangerment Finding, EPA determines that the current and projected concentrations of the six key well-mixed GHGs—CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Finding, EPA determines that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG emissions that threaten public health and welfare.

On February 19, 2010, the Council on Environmental Quality issued draft NEPA guidance on the consideration of the effects of climate change and GHG emissions. This guidance advises federal agencies to consider opportunities

to reduce GHG emissions caused by federal actions, adapt their actions to climate change impacts throughout the NEPA process, and address these issues in their agency NEPA procedures. Where applicable, the scope of the NEPA analysis should cover the GHG emission effects of a proposed action and alternatives and the relationship of climate change effects to a proposed action or alternatives. However, this guidance document does not set numerical thresholds for what levels of GHG emissions would constitute a significant impact, nor does the guidance document specify what types of mitigation measures should be required by local municipalities. This guidance document also advises that when determining the effects of climate change on a proposed action, an agency should start with an identification of the future condition of the affected environment for the “no action” alternative which should serve as the basis for evaluating and comparing the incremental effects of action alternatives.

Outdoor Burning

Burning yard waste and land-clearing debris is not allowed at any time in the City or in King County. The Puget Sound Clean Air Agency (PSCAA) enforces state outdoor burning regulations required by the Revised Code of Washington 70.94.743.

State of Washington Greenhouse Gas Requirements

In response to growing worldwide concerns, former Washington State Governor Christine Gregoire issued Executive Order 07-02 in February 2007. The executive order established the following GHG reduction limits (Ecology 2008a):

- Reduce emissions to 1990 levels by 2020, 25% below 1990 levels by 2035, and 50% below 1990 levels by 2050.
- Increase “green economy jobs” to 25,000. The term “green economy jobs” means the design, manufacture, marketing, and installation of equipment to support sustainable development both within and beyond Washington State.
- Reduce expenditures on fuel imported into Washington State by 20% by 2020.

The above GHG reduction goals apply state-wide, but they do not specify any requirements for local government agencies to implement measures to reduce emissions within their local jurisdictions.

The Washington Legislature enacted Revised Code of Washington (RCW) 70.235, Limiting Greenhouse Gas Emissions, into state law. This law codifies the GHG reduction goals of Executive Order 07-02 and specifies them as “limits” rather than “goals.” The new law also adds a fourth requirement to help achieve the GHG reduction targets.

- Decrease the annual per capita vehicle miles traveled 18% by 2020, 30% by 2035, and 50% by 2050.

The state law applies only to actions taken by Washington State agencies and local governments. State regulations on GHG emissions include prerequisites for distribution of capital funds for infrastructure and economic development projects, where projects receiving funding must be evaluated for consistency with state and federal GHG limits and state VMT goals (RCW 20.235.070).

Ecology issued guidance in 2010 for SEPA reviews related to GHG emissions, for SEPA actions for which a local government agency is the SEPA lead agency (Ecology 2013a). That guidance indicated all SEPA reviews must evaluate GHG emissions. The guidance document presented a range of ways that local agencies could set significance thresholds and calculate GHG emissions and potentially mitigate those emissions. However, the guidance did not stipulate what GHG significance threshold must be used, nor did it specify what level of GHG emission reduction is required under SEPA. The guidance emphasized those decisions must be made by the SEPA lead agency on a case-by-case basis.

Ecology issued revised GHG guidance in June 2011 for SEPA reviews regarding actions where Ecology is the SEPA lead agency (Ecology 2013b). This guidance is applicable only to projects where Ecology is the lead agency or

agency with jurisdiction. Ecology's 2011 GHG guidance for Ecology-led SEPA determinations sets a SEPA significance threshold of 25,000 metric tons per year of GHG emissions. However, the 2011 Ecology guidelines do not specify significance thresholds or mitigation requirements for local governmental actions for which the municipality is the SEPA lead agency. Regardless, they illustrate the importance of local actions to reduce GHG emissions.

In 2011, the Washington State Department of Commerce released an updated Washington State Energy Strategy for 2012 (Washington State Department of Commerce 2011), which includes short- and long-term policy options to meet the following goals:

1. Maintain competitive energy prices that are fair and reasonable for consumers and businesses and support Washington's continued economic success.
2. Increase competitiveness by fostering a clean energy economy and jobs through business and workforce development.
3. Meet the state's obligations to reduce GHG emissions.

The Washington State Energy Strategy outlines strategies meeting these goals in the categories of transportation efficiency, building efficiency, distributed energy and pricing.

Puget Sound Clean Air Agency Regulations

All construction sites in the Puget Sound region are required to implement rigorous emission controls to minimize fugitive dust and odors during construction, as required by PSCAA Regulation 1, Section 9.15, Fugitive Dust Control Measures.

All industrial and commercial air pollutant sources in the Puget Sound region are required to register with PSCAA. Facilities with substantial emissions are required to obtain a Notice of Construction air quality permit before construction is allowed to begin. The application for this permit requires the facility to install best available control technology to reduce emissions, conduct computer modeling to demonstrate that the facility's emissions will not cause ambient concentrations to exceed the NAAQS limits, and minimize the impacts of odors and toxic air pollutants.

In 2004, PSCAA published its strategy document for climate change, entitled Roadmap for Climate Protection: Reducing Greenhouse Gas Emissions in Puget Sound (PSCAA 2004). In this strategy document PSCAA recommended a broad range of GHG reduction measures including regional vehicle trip reduction, building energy efficiency improvements, solid waste reduction, forestry and agriculture practice improvements, and community education. This document also encouraged local municipalities to encourage their own GHG reduction measures; however, it did not propose a SEPA significance threshold for GHG emissions, nor did it require local governments to impose future mitigation measures for future development projects for which the municipality is the SEPA lead agency. Regardless, this document illustrates the importance of local government actions to reduce GHG emissions.

Impacts

Methodology

LAND USE VALUES USED FOR AIR QUALITY AND GREENHOUSE GAS ASSESSMENTS

This analysis considered future land use growth and future emissions increases in the Hawk Property Subarea. Population growth and square footage of commercial space is expected to be higher for Alternatives 2 and 3 than under Alternative 1. Exhibit 3.4-2 lists the land use values that were used to assess regional vehicle miles traveled (VMT) and regional GHG emissions.

Exhibit 3.4-2. Assumed Land Use and Population Growth for Greenhouse Gas Emission Calculations

Land Use Type	Existing	Net Increase under Alternatives Compared to Existing Conditions		
		Alternative 1	Alternative 2	Alternative 3
Single-family (dwelling units)	0	0	130	200
Multifamily Townhomes (dwelling units)	0	0	270	400
Multifamily Flats (dwelling units)	0	0	600	900
Commercial (square feet)	0	0	680,000	850,000

Source: Communita, Stalzer and Associates, 2013

REGIONAL VMT CONTRIBUTING TO REGIONAL TAILPIPE EMISSIONS

Regional photochemical smog issues in the Puget Sound region are caused largely by tailpipe emissions from cars and trucks traveling on public streets. For this analysis it was assumed the relative amounts of regional tailpipe emissions caused by each alternative would be proportional to the regional VMT caused by each alternative. For purposes of assessing the potential air quality impacts, the regional VMT generated by each alternative was provided by the City’s traffic consultant (Barnes J., 2013), based on trip generation modeling described in Section 3.8.

GREENHOUSE GAS EMISSIONS CALCULATION METHODS

For this analysis, GHG emissions are expressed as metric tons of carbon-dioxide equivalent emissions (CO₂-equivalent), to account for the combined global warming potential caused by the most common GHG constituents (carbon dioxide (CO₂), methane, and nitrous oxide). For purposes of comparing alternatives and determining significance under SEPA, forecast GHG emission increases are based on comparing the future emission rates for Alternatives 2 and 3 to the forecast future emission rate for the No Action Alternative (Alternative 1). The emissions estimates for future land use conditions associated with the action Alternatives 2 and 3 accounts for GHG emissions reductions expected as a result of existing City land use development goals and policies within the City’s Comprehensive Plan and as a result of development-related land use features that appear to be inherent in the land use design of the Hawk Property Subarea.

Greenhouse Gas Calculations for Mine Reclamation and Asphalt Batch Plant Operations (Existing Conditions and Alternative 1)

The GHG emissions resulting from existing land use conditions and land use conditions associated with the No Action alternative (Alternative 1) were calculated using site-specific facility information provided by the existing operator of the facility, Lakeside Industries (Grueter, L. 2013). Information on the facility’s current and proposed electricity, natural gas, and diesel fuel use and information on inbound and outbound loads of gravel were used to estimate GHG emissions for existing mine reclamation and existing asphalt batch plant operations. Puget Sound-specific CO₂-equivalent emission factors for electricity use were obtained from the Puget Sound Energy 2011 Greenhouse Gas Inventory (AECOM 2012). CO₂-equivalent emission factors for natural gas and diesel fuel use were obtained from Local Government Operations Protocol: For the quantification and reporting of greenhouse gas emissions inventories, Version 1.1 (CARB et al. 2010). Exhibit 3.4-3 presents the site-specific production rates that were used to calculate the GHG emissions for the mine reclamation and asphalt batch plant operations.

Exhibit 3.4-3. Production Rates for Greenhouse Gas Emission Calculations

	Existing Condition	Alternative 1 - No Action	Alternatives 2 and 3
Asphalt Batch Plant Operation¹			
Electricity (kW-hrs/year)	1,442,000	1,442,000	0 (Discontinued Use)
Natural Gas (cubic feet/yr)	53,051,700	53,051,700	0 (Discontinued Use)
Inbound loads/year import gravel	7,000	7,000	0 (Discontinued Use)
Outbound loads/year product	7,000	7,000	0 (Discontinued Use)
Round trip distance per load and haul truck fuel economy	16 miles at 6 mpg	16 miles at 6 mpg	0 (Discontinued Use)
Mining and Reclamation Equipment¹			
Diesel fuel for on-site mining equipment (gallons/year)	10,000	0 (Discontinued Use)	0 (Discontinued Use)
Inbound loads/year for reclamation import fill	10,000	0 (Discontinued Use)	0 (Discontinued Use)
Round trip distance per load and haul truck fuel economy	16 miles at 6 mpg	0 (Discontinued Use)	0 (Discontinued Use)
Restored Forest Land After Reclamation²			
Acres of restored forest, shrubs, and groundcover for reclamation	0	95 acres	0

Source: Landau, 2013

Notes:

“Discontinued Use” indicates the existing operation of this item will be discontinued under the indicated alternative.

Sources:

¹ Site-specific facility information for the asphalt batch plant and mining and reclamation equipment provided by Lakeside Industries (Grueter, L. 2013).

² Acres of restored vegetation calculated based on a Washington Department of Natural Resources *Surface Mine Reclamation Inspection Report* (DNR 2012).

King County Greenhouse Gas Spreadsheet for Residential and Commercial Land Use (Alternatives 2 and 3)

The GHG emissions spreadsheet developed by King County was used to provide a screening-level estimate of life-cycle “business as usual” emissions for residential and commercial land use, not including any special project-level emissions reduction measures other than the vehicle trip reduction measures inherent to the action alternatives’ land use patterns (King County 2013). The spreadsheet is a screening-level tool that estimates GHG emissions to construct a building, and estimates the life-cycle emissions generated by building occupants over the presumed life of the building. The King County spreadsheet was originally developed for use with project-level SEPA documentation for individual development projects. However, this spreadsheet was also used for this programmatic-level analysis of the Hawk Property Subarea because it is the best available screening-level tool to forecast trends in GHG emissions associated with each of the action alternatives. The available input data used for the GHG emission calculations was limited to aggregate square footages for commercial land development, and aggregate housing units for single and multiple family housing. Given those limitations in the input data, the King

County spreadsheet is considered an adequate screening-level tool for purposes of forecasting GHG emission rates.

The King County spreadsheet uses statewide estimates for vehicle travel, building occupancy, and space heating, and allows the user to enter more site-specific values for key assumptions. For this analysis, a limited number of default factors were adjusted to account for information specific to the study area. Specifically, the following values were adjusted:

- For the analysis of future years the default value for the average fuel economy was increased to 54.5 miles per gallon to reflect EPA's newly proposed Corporate Automobile Fuel Economy (CAFE) vehicle mileage standard for 2025. For the analysis of the existing condition the spreadsheet's default fuel economy of 19.8 miles per gallon was used.
- As noted above, the City's Comprehensive Plans contain goals and policies that encourage pedestrian and bicycle path connectivity between neighborhoods, and encourage development patterns within the UGA that support transit use. Additionally, higher density development appears to be inherent in the land use design of the Hawk Property Subarea (Alternatives 2 and 3 would include high density residential developments near commercial areas, and Alternative 3 would include a proposed Park and Ride lot). These goals, policies, and development features are expected to reduce GHG emissions compared to traditional development by reducing vehicle trips and fuel usage. For this assessment, the percent reductions in vehicle usage and the corresponding GHG emissions reductions for new development were derived based on the Sacramento Metropolitan Air Quality Management District (SMAQMD) document *Recommended Guidance for Land Use Emission Reductions*. The district's methodology uses a scoring system to estimate GHG emissions reduction for a new development based on a number of development factors (SMAQMD 2010). The methodology estimates GHG reductions only as a result of reduced vehicle trip generation. A 6 percent reduction in VMT and transportation-related GHG emissions was given for the Hawk Property Subarea for Alternative 2 and a 6.25 percent reduction was given for Alternative 3.

The spreadsheet assumes the commercial and industrial buildings in Washington State will be occupied for between 58 to 62 years, and estimates life-cycle emissions within that time period. Three types of life-cycle emissions are estimated by the King County spreadsheet: embodied, energy, and transportation emissions.

- Embodied emissions are generated by construction of the building, including extraction, production, and eventual disposal of the building materials used to construct the structure. These do not include embodied emissions during the operating life of the facility to account for consumer productions purchased by residents and workers.
- Energy emissions are generated by space heating and electrical supply to the building during its lifespan. The spreadsheet incorporates energy intensity factors specific to Washington State.

Transportation emissions include tailpipe emissions generated by on-road vehicles used by building occupants after the building is constructed. For purposes of calculating GHG emissions for this screening-level programmatic analysis all of the forecast commercial space was aggregated into the single land use category "Retail". The transportation emissions do not account for vehicles passing through the Hawk Property Subarea, unless they are directly associated with the buildings being evaluated. These emissions account for "upstream" emissions during extraction and refining of the fossil fuel used over the lifespan of the building. The transportation emissions for the commercial land use categories account only for the employees working in that space, but they do not account for the relatively small amount of vehicle travel by delivery trucks carrying goods to or from the buildings. In addition, they do not account for vehicle travel by customers at retail or commercial buildings. The spreadsheet was modified to assume a future fleet-wide fuel economy of 54.5 miles per gallon, consistent with EPA's newly proposed CAFE vehicle mileage standard for 2025.

“SOIL CARBON” GHG EMISSIONS FROM PERMANENT REMOVAL OR RESTORATION OF BIOMASS

Alternative 1 would restore approximately 95 acres of vegetation to the currently bare gravel mine. Alternatives 2 and 3 would remove approximately 9 acres of forest. In addition, Alternative 2 would provide approximately 5.5 acres of park or open space and Alternative 3 would provide approximately 8.3 acres of park or open space. For the purposes of this assessment, it is assumed that the park and open space would be replanted with grass. Therefore, total biomass within the study area would be reduced for Alternatives 2 and 3. The general term “soil carbon GHG emissions” refers to the effect of permanently removing existing vegetation for purposes of constructing new development. This exacerbates global climate change by two mechanisms. First, the existing biomass consisting of aboveground vegetation and below ground root mass is immediately removed and disposed of, which immediately causes the biomass to decay and release carbon dioxide to the atmosphere. Second, the above-ground vegetation that was permanently removed is no longer available to remove carbon dioxide from the atmosphere during natural photosynthesis. Likewise, the restoration and re-planting of vegetation in areas that have already been cleared of vegetation is a way to recapture carbon by locking the carbon into the plant structure and releasing oxygen into the atmosphere.

The “soil carbon” GHG emission rates for each alternative were estimated using the calculation tool developed by Build Carbon Neutral (Build Carbon Neutral 2013). That tool queries the user for the acreage of the vegetation type that is removed or replanted, and then displays the annualized GHG emission rate.

TAILPIPE EMISSION REDUCTIONS PROVIDED BY DEVELOPMENT GOALS AND POLICIES

Development goals and policies in the study area are expected to reduce GHG emissions compared to traditional development by reducing vehicle trips and fuel usage, because Alternatives 2 and 3 would include high-density residential and commercial development and a park and ride lot is proposed for Alternative 3. As described above, for this assessment, the percent reductions in vehicle usage and the corresponding GHG emissions reductions for new development were derived based on the 2010 SMAQMD guidance document. The methodology described in the guidance document estimates GHG reductions only as a result of reduced vehicle trip generation, but it does not attempt to estimate GHG reductions provided by other mitigation measures such as use of recycled building materials, improved thermal insulation, reduced electricity consumption, or reduced waste generation. Nor do they attempt to account for additional project-specific design features that might be implemented for individual future developments in the Hawk Property Subarea. Details on how the development strategies were used to adjust the transportation-related GHG emissions are provided in Appendix D.

The estimated transportation-related GHG emission reduction for the action alternatives compared to future conditions without these development strategies (business as usual) for each action alternative was calculated to be 6 percent for Alternative 2 and 6.25 percent for Alternative 3. Thus, the transportation-related GHG emission factors (expressed as tons of GHG per dwelling unit or per square foot of commercial building) for Alternatives 2 and 3 were reduced by 6 and 6.25 percent, respectively, compared to existing conditions.

Direct Impacts Common to All Alternatives

Construction Impacts

During construction, dust from excavation and grading could cause temporary, localized increases in the ambient concentrations of fugitive dust and suspended particulate matter. Construction activity must comply with PSCAA regulations requiring reasonable precautions to minimize dust emissions (Regulation I, Section 9.15). Regardless, construction activity could cause localized fugitive dust impacts at homes and businesses near the construction site.

Construction activities would likely require the use of diesel-powered, heavy trucks and smaller equipment such as generators and compressors. These engines would emit air pollutants that could slightly degrade local air quality in the immediate vicinity of the activity. However, these emissions would be temporary and localized, and the

resulting construction tailpipe emissions would likely be far outweighed by emissions from existing traffic around the Hawk Property Subarea.

Some construction activities could cause odors detectible to some people in the vicinity of the activity, especially during paving operations using tar and asphalt. Such odors would be short-term and localized. Stationary equipment used for the construction activities must comply with PSCAA regulations requiring the best available measures to control the emissions of odor-bearing air contaminants (Regulation I, Section 9.11). In addition, no slash burning would be permitted in association.

Construction equipment and material hauling could temporarily increase traffic flow on city streets adjacent to a construction area. If construction delays traffic enough to significantly reduce travel speeds in the area, general traffic-related emissions would temporarily increase.

Operational Impacts

EXISTING MINE RECLAMATION ACTIVITY

The existing mine reclamation activity will continue until the reclamation is complete, after which this activity will cease. Therefore, fugitive dust emissions and haul truck tailpipe emissions associated with mine reclamation are expected to cease under all alternatives.

EXISTING AND FUTURE ASPHALT BATCH PLANT OPERATIONS

The existing asphalt batch plant operations would continue under Alternative 1 (No Action), but would cease under Alternatives 2 and 3. Under Alternative 1 the future asphalt batch plant emissions would be similar to the current emissions, because the asphalt batch plant would be required to continue to use and maintain the emission control devices that are currently required under the facility's PSCAA permits.

EMISSIONS FROM FUTURE BUSINESS OPERATIONS

Under Alternatives 2 and 3, the Hawk Property Subarea is expected to experience air quality impacts due to commercial/business operations. It is likely that new commercial development would occur near either current or future residential property. Unless properly controlled, stationary equipment (such as gas stations), mechanical equipment (such as commercial boilers and heating units), and trucks at loading docks at retail buildings could cause air pollution issues at adjacent residential property. However, pollutant-emitting equipment must be registered and permitted with PSCAA (Regulation I and Regulation II). PSCAA requires all commercial facilities to use Best Available Control Technology to minimize emissions. The agency may require applicants with high emissions to conduct an air quality assessment to demonstrate that the proposed emissions would not expose off-site areas to odors or air quality concentrations exceeding regulatory limits. Therefore, it is unlikely that new commercial operations would cause significant air quality issues.

EMISSIONS FROM VEHICLE TRAVEL

Tailpipe emissions from vehicles traveling on public streets would be the major source of air pollutant emissions associated with the growth in the Hawk Property Subarea. Potential air quality impacts caused by increased tailpipe emissions are divided into two general categories: CO hot-spots caused by localized emissions at heavily congested intersections; and regional photochemical smog caused by combined emissions throughout the Puget Sound region.

Localized Hot-Spot Air Quality Impacts

Future haul truck trips would decrease under the Alternative 1 (No Action) because the current mine reclamation activity will be completed and cease. The proposed commercial and residential development under Alternative 2 and Alternative 3 would increase vehicle travel on existing public streets. However, even for Alternative 2 and Alternative 3 it is unlikely that the increased traffic and congestion would cause localized air pollutant concentrations at local intersections to form a hot-spot (i.e., a localized area where air pollutant concentrations

exceed NAAQS). PSCAA operates ambient air pollution monitors at some of the most heavily congested intersections in the Puget Sound region, and none of those monitors have indicated measured concentrations exceeding the allowable NAAQS limits over the past several years. Furthermore, ongoing EPA motor vehicle regulations have provided steady decreases in tailpipe emissions from individual vehicles, and it is possible that those continuing decreases from individual vehicles could more than offset any potential increase in vehicle traffic. For these reasons, it is unlikely that air quality impacts at local intersections would be significant.

Indirect and Cumulative Impacts

Indirect impacts caused by air pollutant emissions from stationary sources and motor vehicle tailpipes are discussed in the following sections. In addition, indirect and cumulative impacts of the alternatives' contribution to regional growth, travel, and GHG emissions are addressed.

Contribution to Regional Air Pollutant Emissions

Regional Air Quality Impacts

Tailpipe emissions for all of the alternatives would be very small relative to the overall regional tailpipe emissions within the Puget Sound air basin. Photochemical smog (the regional haze produced by ozone and fine particles) is caused by regional emissions throughout the Puget Sound region, rather than localized emissions from any individual neighborhood. Photochemical smog was a serious concern in the Puget Sound region before the late 1980s, but federal tailpipe emission regulations have reduced vehicular emissions to the point that the region is currently a designated attainment area for ozone. To track the reduction of regional tailpipe emissions, Ecology's Seattle-Tacoma Puget Sound Area Ozone Maintenance Plan (Ecology 2003) set allowable emissions budgets for Puget Sound regional transportation emissions, with the understanding that as long as regional emissions are below the allowable budgets then photochemical smog impacts are unlikely to resume. Regional transportation emission budgets were set for three pollutants: CO, nitrogen oxides (NO_x), and PM_{2.5}. Based on PSRC air quality conformity analysis, forecasted regional emissions for its 2040 planning year are far below the allowable budgets (PSRC 2013):

- CO: 45% of budget;
- NO_x: 30% of budget; and
- PM_{2.5}: 51% of budget.

Numerical forecasts of increased regional vehicle miles traveled or VMT and regional tailpipe emissions for each of the planned action alternatives are presented in the following sections. Population growth and VMT can be used as indicators of future transportation-related emissions. For every alternative, the forecasted VMT from the Hawk Property Subarea is only a small fraction of the Puget Sound regional totals. Additionally, forecasted Puget Sound regional vehicular emissions for NO_x (an ozone precursor) is projected to be less than 30% of the allowable emissions budgets designed to protect regional air quality. Therefore, the forecasted increase in VMT for the action alternatives compared to the no action alternative would not appear to alter PSRC's conclusion that future Puget Sound regional emissions will be less than the allowable emissions budgets mandated by the air quality maintenance plans. It appears that none of the alternative would result in a significant impact on regional air quality.

MOBILE SOURCE AIR TOXICS

Future development might require future improvements to existing roadways. When a street is widened and, as a result, moves closer to receptors, the localized level of mobile source air toxics (MSAT) emissions could be higher, but this could be offset due to reductions in congestion (which are associated with lower MSAT emissions). Furthermore, on a regional basis, EPA's vehicle and fuel regulations (coupled with ongoing future fleet turnover) will over time cause substantial reductions that will cause region-wide MSAT levels to be significantly lower than today in most cases.

ALTERNATIVE 1 (NO ACTION)

The current mine reclamation activity will eventually be completed and cease as part of the No Action alternative. The existing asphalt batch plant operations would continue. The overall direct and indirect impacts caused by construction emissions, localized stationary source emissions, localized CO hot-spots, and regional tailpipe emissions would be the same as described under Impacts Common to All Alternatives.

Population growth and daily VMT can be used as indicators of future transportation-related emissions. Exhibit 3.4-4 shows the future contribution of regional VMT from the Hawk Property Subarea to the overall Puget Sound region.

Alternative 1 (No Action) would cause less regional VMT than existing conditions, because the haul truck trips associated with the current mine reclamation activity will cease after the reclamation is completed. The current asphalt batch plant operations would continue under the No Action alternative. The No Action Alternative would result in vehicle travel of 600 VMT per day, which would contribute less than 0.001% of the Puget Sound regional VMT forecast for 2040 for the CO maintenance area (PSRC 2010). The forecasted VMT from the Hawk Property Subarea is only a small fraction of the Puget Sound regional totals. Additionally, forecasted regional vehicular emissions from the entire Puget Sound region for CO, NOx, and PM2.5 are projected to be approximately 50% or less of the allowable emissions budgets designed to protect regional air quality in the Puget Sound region. Therefore, the forecasted population growth and VMT for the No Action Alternative would not appear to alter PSRC’s conclusion that future Puget Sound regional emissions will be less than the allowable emissions budgets mandated by the air quality maintenance plans. The No Action Alternative would not result in a significant impact on regional air quality.

Exhibit 3.4-4. Hawk Property Contribution to Forecast 2040 Puget Sound Regional Vehicle Miles Traveled

	Alternative 1 No Action	Alternative 2	Alternative 3
Hawk Property Subarea daily VMT ¹	600	8,455	12,005
Puget Sound region 2040 daily VMT ²	85,280,704	85,280,704	85,280,704
Contribution to regional 2030 VMT	0.0007%	0.01%	0.014%

Source: Landau, 2013

¹ Daily VMT forecasts provided by Heffron Transportation (Barnes, L. 2013).

² Puget Sound regional VMT totals for 2040 for the CO Maintenance Area (PSRC 2010).

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

The direct and indirect impacts caused by construction emissions, localized stationary source emissions, localized CO hot-spots, and regional tailpipe emissions would be the same as described under Impacts Common to All Alternatives.

Construction Emissions, Mineral Resource Sources, and Air Toxics

Under Alternative 2, the Hawk Property Subarea is expected to experience population and employment growth (unlike Alternative 1 which will see no population growth and little to no employment growth). Therefore, development under Alternative 2 would increase localized and regional air pollutant emissions from construction activities, commercial activity, and regional tailpipe emissions from vehicle travel. Regardless, the overall air quality impacts from construction activities, business operations, and mobile source air toxics would be similar to those described under Impacts Common to All Alternatives.

Emissions from Vehicle Travel

As shown in Exhibit 3.4-4, the forecasted VMT for Alternative 2 is higher than the forecasted values for existing conditions and Alternative 1. However, the Hawk Property Subarea VMT forecast as a result of this alternative is inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, regional air quality impacts caused by population growth and transportation emissions in the Hawk Property Subarea would not be significant under Alternative 2.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The direct and indirect impacts caused by construction emissions, localized stationary source emissions, localized CO hot-spots, and regional tailpipe emissions would be the same as described under Impacts Common to All Alternatives.

Construction Emissions, Mineral Resource Sources, and Air Toxics

Under Alternative 3, the Hawk Property Subarea is expected to experience greater population and employment growth than under the other alternatives. Development under Alternative 3 would result in a greater increase in localized air pollutant emissions from construction activities and regional tailpipe emissions from vehicle travel. However, this alternative would result in fewer emissions associated with asphalt batch plant operations compared to Alternative 1. Regardless, air quality impacts from construction activities, business operations, and mobile source air toxics would be similar to those described under Impacts Common to All Alternatives.

Emissions from Vehicle Travel

As shown in Exhibit 3.4-4, the forecasted VMT for Alternative 3 is higher than the forecasted values for Alternative 1 and 2. However, the Hawk Property Subarea VMT forecast as a result of Alternative 3 is inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, regional air quality impacts caused by population growth and transportation emissions in the Hawk Property Subarea would not be significant under Alternative 3.

Greenhouse Gas Emissions

IMPACTS COMMON TO ALL ALTERNATIVES

Global Climate Change

As quantified in later sections, in comparison to existing conditions Alternative 1 would reduce GHG emissions by discontinuing mine reclamation operations within the Hawk Property Subarea. Alternatives 2 and 3 would result in higher GHG emissions in the Hawk Property Subarea due to future increases in population and employment. The changes in emissions associated with all the alternatives would contribute to global GHG atmospheric concentrations, but would be a very small fraction of the worldwide GHG emissions. By themselves, none of the alternatives would cause discernible changes to global climate change.

Increased worldwide GHG emissions are expected to cause global climate change, and the effects will likely impact the Hawk Property Subarea and the Pacific Northwest region. Local climate change impacts are expected to include changes in seasonal temperatures and seasonal precipitation patterns (UWCIG 2012), which could also affect seasonal flood patterns in local drainages.

ALTERNATIVE 1 (NO ACTION)

For the purposes of this analysis, the total GHG emissions are provided for each alternative. Additionally, the GHG emissions are expressed in terms of their increase between future conditions associated with No Action (Alternative 1) and future proposed conditions associated with the two action alternatives (Alternative 2 and 3) in the Hawk Property Subarea. Exhibit 3.4-3 lists the projected Hawk Property Subarea facility production rates that were used for calculating GHG emissions for existing conditions and Alternatives 1 (No Action). Exhibit 3.4-2 lists the projected Hawk Property Subarea land uses that were used for calculating GHG emissions for Alternatives 2

and 3. The values listed under “existing” represent current land use. Exhibit 3.4-5 lists the forecast GHG emission rates for each alternative, categorized according to the various types of activity for each alternative. The values listed for each alternative represent the total GHG emissions for that alternative.

The disturbance of soil associated with construction and development and the resulting removal of biomass is a source of GHG emissions. Likewise, the restoration and re-planting of vegetation in areas that have already been cleared of vegetation is a way to recapture carbon by locking the carbon into the plant structure and releasing oxygen into the atmosphere. Under Alternative 1, approximately 95 acres of land previously used for mining and reclamation activities would be replanted with vegetation. Using the Buildcarbonneutral.org calculator (Build Carbon Neutral 2013), the GHG reduction effects of replanting areas with vegetation were calculated for this alternative based on the total acreage of restored land that is anticipated. For Alternative 1 the annualized GHG emission reduction provided by biomass restoration is 193 metric tons per year, while Exhibit 3.4-5 shows the operational GHG emission rate is 3,849 metric tons per year. Therefore, the GHG emissions reduction provided by biomass restoration has little influence on the overall GHG emission rate.

As listed in Exhibit 3.4-5, Alternative 1 would decrease GHG emissions in the Hawk Property Subarea compared to existing conditions.

Exhibit 3.4-5. Comparison of Annual Greenhouse Gas Emissions

	Average Annual GHG Emissions During 60-Year Project Lifetime (metric tons CO ₂ -equivalent per year)			
	Existing	Alternative 1 – Future No Action	Alternative 2 – Minimum Urban Village Proposal	Alternative 3 – Maximum Urban Village Proposal
Asphalt Batch Plant Operation	3,849	3,849	0	0
Mine Reclamation	378	0	0	0
Residential and Commercial Land Use for Action Alternatives	--	--	18,159	25,340
“Soil Carbon” for Vegetation Removal for Action Alternatives	--	--	17	17
Credit for “Soil Carbon” for Re-vegetated Reclamation of Existing Gravel Mine	--	193	--	--
Total GHG Emissions	4,227	3,656	18,176	25,357
Net Increase Compared to Alternative 1 (Future No Action)	--	--	14,520	21,701

Source: Landau, 2013

Total GHG emissions for Washington State were estimated to exceed 101,000,000 metric tons CO₂-equivalent in 2008 (Ecology 2010). In comparison to state-wide annual GHG emissions, the relatively small decrease in GHG emissions within the Hawk Property Subarea associated with Alternative 1 (a decrease of only 571 metric tons per year) is considered to be inconsequentially low. .

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

The annual GHG emissions for Alternative 2 are calculated based on the future land use listed in Exhibit 3.4-2. Exhibit 3.4-5 lists the life-cycle GHG emissions increases caused by future development in the Hawk Property Subarea under each alternative. Alternative 2 would provide additional residential and employment growth in the Hawk Property Subarea, whereas Alternative 1 would provide none. Therefore, Alternative 2 would increase

localized GHG emissions within the Hawk Property Subarea by 14,520 metric tons per year compared to Alternative 1. The future GHG emission increases within the Hawk Property Subarea for Alternative 2 would be similar but slightly less than the future GHG emission increases associated with Alternative 3.

To evaluate the significance of the estimated GHG emission increases for Alternative 2, the relative future increase compared to the future no-action alternative (Alternative 1) was compared to the 25,000 metric tons per year significance threshold that is used by Ecology for SEPA determinations for which Ecology is the SEPA lead agency (Ecology, 2013b). Ecology's threshold is not directly applicable to this EIS because Ecology is not the lead SEPA agency. However, Ecology's published threshold is relevant because Ecology will use it to evaluate land use projects similar to the one being considered in this EIS. The increase of future GHG emissions in the Hawk Property Subarea for Alternative 2 (compared to the No Action Alternative 1) is only 14,520 metric tons CO₂-equivalent per year which is less than the 25,000 metric tons CO₂-equivalent per year significance threshold used for this EIS. Therefore, this evaluation demonstrates that GHG emission increases caused by increased development in the Hawk Property Subarea (associated with Alternative 2) would not be significant.

Total GHG emissions for Washington State were estimated to exceed 101,000,000 metric tons CO₂-equivalent in 2008 (Ecology 2010). In comparison to state-wide annual GHG emissions, the relatively small increase in GHG emissions within the Hawk Property Subarea associated with Alternative 2 (14,520 metric tons per year) is not considered to be significant.

The disturbance of soil associated with construction and development and the resulting permanent removal of biomass is also a source of GHG emissions, because it permanently eliminates vegetation that would otherwise have removed CO₂ from the atmosphere during photosynthesis. Using the Buildcarbonneutral.org calculator (Build Carbon Neutral 2013), GHG emissions associated with soil disturbance and biomass removal was calculated for each alternative based on the total acreage of disturbed land that is anticipated. Impacts associated with land disturbance would be greatest for Alternatives 2 and 3. Approximately 15 acres of forest land would be permanently removed; however, approximately 20 acres of pocket parks would be added as part of the development. The annualized GHG emission rate associated with the forest removal after subtracting the carbon credit received for restoring the pocket parks is 17 metric tons CO₂-equivalent per year. This relatively small contribution to GHG emissions by biomass removal is much lower than the contribution from future operational activity. For Alternative 2 the annualized GHG emission rate caused by biomass removal is 17 metric tons per year, while Exhibit 3.4-5 shows the total operational GHG emission rate is 18,159 metric tons per year. Therefore, the GHG emissions caused by biomass removal are not considered significant.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

The annual GHG emissions for Alternative 3 are calculated based on the future land use listed in Exhibit 3.4-2. The emissions estimate for future land use conditions associated with the Alternative 3 accounts for GHG emissions reductions expected as a result of local development policies and goals. Exhibit 3.4-5 lists the life-cycle GHG emissions increases caused by future development in the Hawk Property Subarea under each alternative. The future GHG emission increases within the Hawk Property Subarea for Alternative 3 would be the highest of any of the studied alternatives, but close to the GHG emission increase associated with Alternative 2.

Alternative 3 would provide the most residential and employment growth in the Hawk Property Subarea compared to the other two alternatives. Therefore, it would increase localized GHG emissions within the Hawk Property Subarea compared to the other alternatives. The increase of future GHG emissions in the study area for Alternative 3 (compared to the No Action Alternative 1) is only 21,701 metric tons CO₂-equivalent per year which is less than the 25,000 metric tons CO₂-equivalent per year PSD significance threshold assumed for this EIS. Therefore, this evaluation demonstrates that GHG impacts caused by increased development in the Hawk Property Subarea (associated with Alternative 3) would not be significant.

Additionally, in comparison to state-wide annual GHG emissions (101,000,000 metric tons CO₂-equivalent in 2008), the relatively small increase in GHG emissions within the Hawk Property Subarea associated with Alternative 3 (21,701 metric tons per year) is not considered to be significant.

GHG emissions associated with soil disturbance and biomass removal was calculated based on the total acreage of disturbed land that is anticipated. As noted above, impacts associated with land disturbance would be greatest for Alternatives 2 and 3. Approximately 15 acres of forest land would be permanently removed; however, approximately 20 acres of pocket parks would be added as part of the development. The annualized GHG emission rate associated with the forest removal after subtracting the carbon credit received for restoring the pocket parks is 17 metric tons CO₂-equivalent per year. This relatively small contribution to GHG emissions by biomass removal is much lower than the contribution from future operational activity. For Alternative 3 the annualized GHG emission rate caused by biomass removal is 17 metric tons per year, while Exhibit 3.4-5 shows the increased operational GHG emission rate is 25,340 metric tons per year (net increase of 21,701 metric tons, still below the Ecology study threshold of 25,000 metric tons). Therefore, the GHG emissions caused by biomass removal are not considered significant.

Indirect/Cumulative Impacts

Development facilitated by Alternatives 2 and 3 would result in indirect effects outside the study area. For example, additional people and vehicles in the Hawk Property Subarea would increase vehicle travel outside the study area, which could increase ambient pollutant concentrations at congested intersections outside the study area. However, as described previously the ambient concentration increases would not be significant.

Every alternative would slightly increase regional VMT, which would contribute to tailpipe emissions throughout the Puget Sound region. When added to the forecast population and economic growth throughout the region, the increased emissions caused by development in the Hawk Property Subarea could slightly contribute to future worsening of air regional quality.

Future development within the Hawk Property Subarea associated with Alternatives 2 and 3 would also contribute to worldwide emissions of GHG, which would contribute to potential future effects caused by global climate change (e.g., changes in seasonal temperature, seasonal precipitation, and local seawater rise).

Mitigation Measures

Incorporated Plan Features

The majority of the Hawk Property Subarea is located within the city limits, and all of the subarea is within the city's UGA. The Land Use and Transportation elements of the city's Comprehensive Plan include a number of goals and policies that could contribute to reducing GHG emissions, including:

LAND USE GOAL 1 (LNG 1.0): The City of Covington will encourage a future growth and development pattern that implements the Vision Statement, minimizes urban sprawl, protects critical areas, enhances the quality of life of all residents, and supports a healthy economy and employment growth:

Policy LNP 1.5. Provide areas of low, medium and high-density single family residential development, multifamily residential and mixed-use areas so that existing neighborhoods and open space areas are preserved and transit opportunities are enhanced.

LAND USE GOAL 18 (LNG 18.0): Provide sufficient land for a variety of appropriate economic development opportunities.

Policy LNP 18.2. Create relatively high density areas that allow people to live, shop, and possibly work without being dependent on their automobiles.

TRANSPORTATION GOAL 5.0 (TRG 5.0): Work directly with the local and regional transit agencies to increase transit service.

TRANSPORTATION GOAL 5.1 (TRG 5.1): Promote transit and transportation demand management strategies as viable alternatives to single-occupant vehicle use.

TRANSPORTATION GOAL 5.2 (TRG 5.2): Enhance use of transit and transportation demand management strategies by supporting appropriate land use.

Policy TRP 5.1. Work with KC/Metro to evaluate and make necessary changes to enhance the transit service within the city.

Policy TRP 5.2. Proactively participate in the planning of the regional transit system to facilitate the City's transportation needs with regards to transit.

Policy TRP 5.3. Promote and facilitate transit-friendly and convenient land use and facilities to increase transit ridership.

Policy TRP 5.4. Transit stops and transit access shall be promoted near land uses that attract large numbers of employees and/or customers.

Policy TRP 5.5. Encourage an ongoing awareness program for ridesharing, carpooling, and transit in cooperation with KC/Metro.

Policy TRP 5.7. Encourage the use of transit, high occupancy vehicles, and other travel modes, such as carpools and vanpools, through transportation demand management programs and nonmotorized connections.

TRANSPORTATION GOAL 6.1 (TRG 6.1): To ensure satisfactory roadway facilities for all types of users, including non-motorized transportation.

TRANSPORTATION GOAL 6.3 (TRG 6.3): In general, all arterials shall accommodate pedestrian and bicycle movement, as well as automobile and transit traffic.

Policy TRP 6.6. Focus major capacity improvements on existing and identified new arterials. Supplement these improvements with high priority safety, capacity, and multi-modal improvements on all streets.

TRANSPORTATION GOAL 7.0 (TRG 7.0): Develop facilities to provide safe pedestrian and bicycle travel to promote alternative transportation modes and to support recreational activity, access to transit, and access to schools.

TRANSPORTATION GOAL 7.1 (TRG 7.1): To provide a safe and convenient transportation system that supports and enhances walking and bicycling.

TRANSPORTATION GOAL 7.3 (TRG 7.3): To provide a local and regionally integrated non-motorized transportation system of sidewalks, trails, and bicycle lanes to link neighborhoods, businesses, parks, schools and activity centers.

Policy TRP 7.1. Require that pedestrian and bicycle friendly design features are incorporated into proposed new developments.

Policy TRP 7.2. Develop facilities for the safe and efficient movement of pedestrian and bicycle traffic with consideration for both modes of travel as a means of alternative transportation as well as for recreational purposes.

Policy TRP 7.3. Recognize pedestrian and bicycle travel as a basic mode of transportation and assure adequate pedestrian and bicycle facilities are provided within residential areas and to/from commercial, schools and other public facilities.

Policy TRP 7.4. The zoning code should require that new development is accessible by pedestrians from adjacent roads and trails, with access points to major pedestrian destinations.

Policy TRP 7.5. Provide good non-motorized access to and from transit stops.

Policy TRP 7.6. Develop and sign a system of bicycle routes providing for travel within the city with connections to regional facilities and major local destinations.

Applicable Regulations and Commitments

- **National Ambient Air Quality Standards:** As described above in National Ambient Air Quality Standards, the US EPA establishes NAAQS and specifies future dates for states to develop and implement plans to achieve these standards.
- **State Ambient Air Quality Standards:** Ecology establishes state ambient air quality standards for the same six pollutants that are at least as stringent as the national standards; in the case of SO₂, state standards are more stringent. Exhibit 3.4-1 lists the state ambient air quality standards for six criteria pollutants.
- **Outdoor Burning:** Burning yard waste and land-clearing debris is not allowed at any time in areas of King County. PSCAA enforces state outdoor burning regulations required by RCW 70.94.743.
- **Puget Sound Clean Air Agency Regulations:** All construction sites in the Puget Sound region are required to implement rigorous emission controls to minimize fugitive dust and odors during construction, as required by PSCAA Regulation 1, Section 9.15, Fugitive Dust Control Measures. All industrial and commercial air pollutant sources in the Puget Sound region are required to register with PSCAA. Facilities with substantial emissions are required to obtain a Notice of Construction air quality permit before construction is allowed to begin.
- **State of Washington GHG Laws:** As described above in State of Washington Greenhouse Gas Requirements, Washington enacted a new law establishing GHG reduction limits.

Other Potential Mitigation Measures

CONSTRUCTION EMISSION CONTROL

The City should require all construction contractors to implement air quality control plans for construction activities in the Hawk Property Subarea. The City should require all future developers to prepare a dust control plan that commits the construction crews to implement all reasonable control measures described in the *Associated General Contractors of Washington's Guide to Handling Fugitive Dust from Construction Projects*. Copies of that guidance document are distributed by PSCAA. The air quality control plans should include best management practices (BMPs) to control fugitive dust and odors emitted by diesel construction equipment.

The following BMPs would be used to control fugitive dust.

- Use water sprays or other non-toxic dust control methods on unpaved roadways.
- Minimize vehicle speed while traveling on unpaved surfaces.
- Prevent track-out of mud onto public streets.
- Cover soil piles when practical.
- Minimize work during periods of high winds when practical.

The following mitigation measures should be used to minimize air quality and odor issues caused by tailpipe emissions.

- Maintain the engines of construction equipment according to manufacturers' specifications.
- Minimize idling of equipment while the equipment is not in use.

If there is heavy traffic during some periods of the day, scheduling haul traffic during off-peak times (e.g., between 9:00 a.m. and 4:00 p.m.) would have the least effect on traffic and would minimize indirect increases in traffic related emissions.

Burning of slash or demolition debris will not be permitted without express approval from PSCAA. No slash burning is anticipated for any construction projects in the Hawk Property.

GREENHOUSE GAS REDUCTION MEASURES

Washington State has established GHG reduction goals with targets for 2020 (1990 levels), 2035 (20% reduction below 1990) and 2050 (50% reduction below 1990) limits and adopted requirements for capital investments, an energy strategy, and VMT reduction targets. However, neither Ecology nor EPA have adopted numerical GHG emissions standards, GHG reduction requirements, or numerical GHG significance thresholds that direct local government land use development actions. It is the City’s responsibility to implement its GHG reduction requirements for new developments.

As noted above, development goals and policies within the City’s Comprehensive Plan will help to mitigate GHG impacts within the City UGA. As part of the City’s pending planned action ordinance under consideration, the City could require or encourage future developers to implement additional trip-reduction measures and energy conservation measures that could provide even greater GHG reductions. GHG emissions reductions could be provided by using building design and construction methods to use recycled construction materials, reduce space heating and electricity usage, incorporate renewable energy sources and reduce water consumption and waste generation.

Exhibit 3.4-6 lists a variety of mitigation measures that could reduce GHG emissions caused by transportation facilities, building construction, space heating, and electricity usage (Ecology 2008b). The Exhibit lists potential GHG reduction measures and indicates where the emission reductions might occur.

The City could require development applicants to consider the reduction measures shown in Exhibit 3.4-6 for their projects. The City can incorporate potential GHG reduction measures through its goals, policies, or regulations, including the proposed Planned Action Ordinance.

Exhibit 3.4-6. Potential Greenhouse Gas Reduction Mitigation Measures

Reduction Measures	Comments
Site Design	
Retain and enhance vegetated open spaces.	Retains or increases sequestration by plants.
Plant trees and vegetation near structures to shade buildings.	Reduces on-site fuel combustion emissions and purchased electricity, and enhances carbon sinks.
Minimize building footprint.	Reduces on-site fuel combustion emissions and purchased electricity consumption, materials used, maintenance, land disturbance, and direct construction emissions.
Design water efficient landscaping.	Minimizes water consumption, purchased energy, and upstream emissions from water management.
Minimize energy use through building orientation.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Building Design and Operations	
Apply LEED standards (or equivalent) for design and operations.	Reduces on-site fuel combustion emissions and off-site/indirect purchased electricity, water use, waste disposal.
Purchase Energy Star equipment and appliances for public agency use.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options.	Reduces on-site fuel combustion emissions and purchased electricity consumption.

Reduction Measures	Comments
Design street lights to use energy-efficient bulbs and fixtures.	Reduces purchased electricity.
Construct “green roofs” and use high-albedo roofing materials.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Install high-efficiency HVAC systems.	Minimizes fuel combustion and purchased electricity consumption.
Eliminate or reduce use of refrigerants in HVAC systems.	Reduces fugitive emissions. Compare refrigerant usage before/after to determine GHG reduction.
Maximize interior day lighting through floor plates, increased building perimeter and use of skylights, celestories, and light wells.	Increases natural/day lighting initiatives and reduces purchased electrical energy consumption.
Incorporate energy efficiency technology such as super insulation motion sensors for lighting and climate-control-efficient, directed exterior lighting.	Reduces fuel combustion and purchased electricity consumption.
Use water-conserving fixtures that surpass building code requirements.	Reduces water consumption.
Reuse gray water and/or collect and reuse rainwater.	Reduces water consumption with its indirect upstream electricity requirements.
Use recycled building materials and products.	Reduces extraction of purchased materials, possibly reduces transportation of materials, encourages recycling and reduction of solid waste disposal.
Use building materials that are extracted and/or manufactured within the region.	Reduces transportation of purchased materials.
Use rapidly renewable building materials.	Reduces emissions from extraction of purchased materials.
Conduct third-party building commissioning to ensure energy performance.	Reduces fuel combustion and purchased electricity consumption.
Track energy performance of building and develop strategy to maintain efficiency.	Reduces fuel combustion and purchased electricity consumption.
Transportation	
Size parking capacity to not exceed local parking requirements and, where possible, seek reductions in parking supply through special permits or waivers.	Reduced parking discourages auto-dependent travel, encouraging alternative modes such as transit, walking, and biking. Reduces direct and indirect VMT.
Develop and implement a marketing/information program that includes posting and distribution of ridesharing/transit information.	Reduces direct and indirect VMT.
Subsidize transit passes. Reduce employee trips during peak periods through alternative work schedules, telecommuting, and/or flex time. Provide a guaranteed-ride-home program.	Reduces employee VMT.
Provide bicycle storage and showers/changing rooms.	Reduces employee VMT.
Use traffic signalization and coordination to improve traffic flow and support pedestrian and bicycle safety.	Reduces transportation emissions and VMT.
Apply advanced technology systems and management strategies to improve operational efficiency of local streets.	Reduces emissions from transportation by minimizing idling and maximizing transportation routes/systems for fuel efficiency.

Reduction Measures	Comments
Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes.	Reduces idling fuel emissions and direct and indirect VMT.
Source: Ecology 2008b	
LEED = Leadership in Energy and Environmental Design; HVAC = heating, ventilation, and air-conditioning	

In addition to the representative GHG reduction mitigation measures listed in Exhibit 3.4-6, additional vehicle trip reduction measures and land-use-related GHG reduction measures have been published by various air quality agencies. For example, Exhibit 3.4-7 lists the emission reduction measures developed by Sacramento Metropolitan Air Quality Management District (SMAQMD 2010). The Exhibit lists SMAQMD’s estimated “mitigation points” value, where each point value corresponds to the percent reduction in emissions. For example, a mitigation points value of 1.0 corresponds to a 1% reduction in land-use-related emissions. SMAQMD developed this Exhibit to quantify reductions in criteria pollutant emissions, but the listed measures would also generally reduce GHG emissions.

Exhibit 3.4-7. SMAQMD Recommended Measures for Land Use Emission Reductions

Measure Number	Title	Description	Mitigation Points
Bicycle/Pedestrian/Transit Measures			
1	Bike parking	Non-residential projects provide plentiful short-term and long-term bicycle parking facilities to meet peak season maximum demand.	0.625
2	End of trip facilities	Non-residential projects provide “end-of-trip” facilities including showers, lockers, and changing space.	0.625
3	Bike parking at multi-unit residential	Long-term bicycle parking is provided at apartment complexes or condominiums without garages.	0.625
4	Proximity to bike path/bike lanes	Entire project is located within 1/2 mile of an existing Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing offsite facility.	0.625
5	Pedestrian network	The project provides a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the subarea.	1.0
6	Pedestrian barriers minimized	Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated.	1.0
7	Bus shelter for existing transit service	Bus or Streetcar service provides headways of one hour or less for stops within 1/4 mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).	0.25-1.0
8	Bus shelter for planned transit service	Project provides transit stops with safe and convenient bicycle/pedestrian access. Project provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting) in anticipation of future transit service.	0.25

Measure Number	Title	Description	Mitigation Points
9	Traffic calming	Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features.	0.25-1.0
Parking Measures			
10a	Paid parking	Employee and/or customer paid parking system	1.0-7.2
10b	Parking cash out	Employer provides employees with a choice of forgoing subsidized parking for a cash payment equivalent to the cost of the parking space to the employer.	0.6-4.5
11	Minimum parking	Provide minimum amount of parking required. Special review of parking required.	0.1-6.0
12	Parking reduction beyond code	Provide parking reduction less than code. Special review of parking required. Recommend a Shared Parking strategy.	0.1-12
13	Pedestrian pathway through parking	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.	0.5
14	Off street parking	Parking facilities are not adjacent to street frontage.	0.1-1.5
Site Design Measures			
15	Office/Mixed-use density	Project provides high density office or mixed-use proximate to transit.	0.1-2.0
16	Orientation to existing transit, bikeway, or pedestrian corridor	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance is minimized.	0.5
17	Orientation toward planned transit, bikeway, or pedestrian corridor	Project is oriented towards planned transit, bicycle, or pedestrian corridor. Setback distance is minimized.	0.25
18	Residential density	Project provides high-density residential development.	1.0-12
19	Street grid	Multiple and direct street routing (grid style).	1.0
20	Neighborhood electric vehicle access	Make physical development consistent with requirements for neighborhood electric vehicles.	0.5-1.5
21	Affordable housing component	Residential development projects of 5 or more dwelling units provide a deed-restricted low-income housing component on-site (as defined in Ch 22.35 of Sacramento County Ordinance Code) [Developers who pay into In-Lieu Fee Programs are not considered eligible to receive credit for this measure].	0.6-4.0
Mixed-use Measures			
22	Urban mixed-use	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated	3.0-9.0

Measure Number	Title	Description	Mitigation Points
		development project with functional interrelationships and a coherent physical design.	
23	Suburban mixed-use	Have at least three of the following on site and/or offsite within ¼ mile: Residential Development, Retail Development, Park, Open Space, or Office.	3.0
24	Other mixed-use	All residential units are within ¼ mile of parks, schools or other civic uses.	1.0
Building Component Measures			
25	No fireplace	Project does not feature fireplaces or wood burning stoves.	1.0
26	Reserved for future measure		
27	Energy Star roof	Install Energy Star labeled roof materials.	0.5-1.0
28	Onsite renewable energy system	Project provides onsite renewable energy system(s).	1.0-3.0
30	Solar orientation	Orient 75 or more percent of homes and/or buildings to face either north or south (within 30 degrees of N/S).	0.5
31	Non-roof surfaces	Provide shade (within 5 years) and/or use light-colored/high-albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's non-roof impervious surfaces, including parking lots, walkways, plazas, etc.; OR place a minimum of 50% of parking spaces underground or covered by structured parking; OR use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area. Unshaded parking lot areas, driveways, fire lanes, and other paved areas have a minimum albedo of .3 or greater.	1.0
32	Green roof	Install a vegetated roof that covers at least 50% of roof area.	0.5
TDM and Miscellaneous Measures			
33	Transportation Management Association membership	Include permanent TMA membership and funding requirement. Funding to be provided by Community Facilities District or County Service Area or other non-revocable funding mechanism.	5.0
34	Electric lawnmower	Provide a complimentary electric lawnmower to each residential buyer.	1.0
99	Other	Other proposed strategies, in consultation with project lead agency and SMAQMD.	To Be Determined

Source: SMAQMD, 2010

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on regional or local air quality are anticipated. Temporary, localized dust and odor impacts could occur during the construction activities. The regulations and mitigation measures described above are adequate to mitigate any adverse impacts anticipated to occur as a result of Hawk Property Subarea growth increases.

3.5 Plants and Animals

This section of the DEIS describes existing conditions for critical areas, plants and animals in the vicinity of the Hawk Property subarea. Existing conditions for wildlife habitat, habitat features, and potential use by federal- or state-listed threatened, endangered, candidate, or priority species are evaluated. Potential impacts to those resources and possible mitigation measures are also discussed.

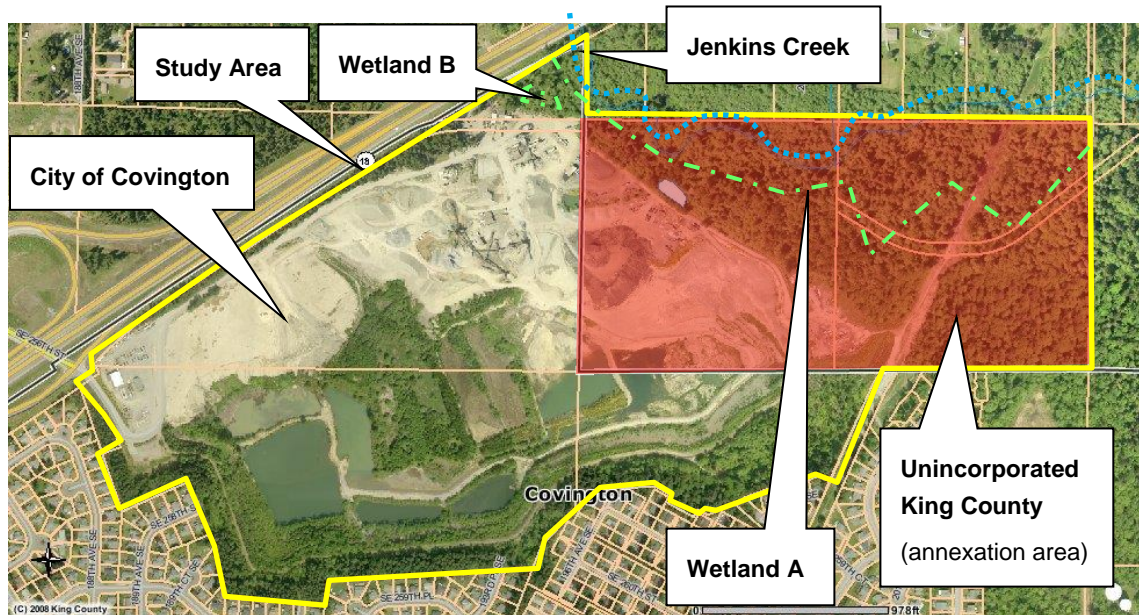
Affected Environment and Methodology

Critical Areas

The sub-area is an approximately 212-acre site south of Highway 18, located off the SE 256th Street exit; it currently spans City of Covington and King County jurisdictions (Exhibit 3.5-1). The annexation area is within the City of Covington’s Urban Growth Area (UGA); annexation of this area is anticipated in the future.

The majority of the subject property is a gravel mine surrounded by asphalt batch plants; mining activities are currently transitioning to reclamation. The northeast end of the study area is largely forested and undisturbed; a maintained pipeline corridor and some pedestrian trails cross through this area. Mining operations have created depressions with surface and groundwater collecting in mining ponds, the largest ponded mining area is at the south end of the site. According to the DNR Reclamation Permit, approximately eight acres along the southern slopes are designated for upland restoration. Native volunteer saplings, shrubs, and groundcovers have colonized some mining pond edges. A perimeter road surrounds the mine site.

Exhibit 3.5-1. Study Area and Current Jurisdictions



Source: King County, The Watershed Company, 2013

Note: Areas depicted are approximate and not to scale (aerial and parcel lines are from King County iMAP).

The subject property is in the Jenkins Creek basin of the Duwamish-Green Water Resource Inventory Area (WRIA-9). Jenkins Creek is mapped along the north end of the site. The following critical areas, as defined in the King County Critical Areas Regulations (KCC 21A.24) and City of Covington Critical Areas Regulations (CMC 18.65), are present on and in the vicinity of the study area: a fish-bearing stream, two jurisdictional wetlands, and steep slopes. Wetland and stream conditions are documented in the Covington Hawk Property – Wetland & Stream Reconnaissance Study (The Watershed Company, 04-2013) and described below. As documented in the *Covington Hawk Property – Stream & Wetland Reconnaissance Study* (The Watershed Company April 2013), wetland and

stream boundaries were only approximated for this study, more detailed wetland and stream delineation mapping would be required for any future development permits. The Wetland and stream reconnaissance map is included in Appendix E. Steep slopes, which are defined by King County(KCC 21A.24.1230) and City of Covington (CMC 18.20.1230) as a gradient of 40 percent or more, are discussed in Section 3.1 Earth, above.

WETLAND A (JENKINS CREEK WETLAND)

Wetland A is classified as a depressional plus riverine-type wetland. Jenkins Creek flows through Wetland A, but the wetland is much broader than the stream. The Palustrine forested and scrub-shrub vegetation classes comprise the wetland. The tree canopy is characterized by Sitka spruce, western red cedar, black cottonwood, red alder and western hemlock. Several of the trees are mature and exceed 21 inch diameter at breast height. The shrub layer is diverse and contains vine maple, salmonberry, twinberry, devil's club and red elderberry. Groundcover includes skunk cabbage, piggyback plant, lady fern, and slough sedge. According to NRCS soil maps, Wetland A soils are Everett gravelly sandy loam 5-15% slopes and Seattle Muck. Sampled soils are characterized as clay loam with high organic content, which masked redoximorphic features. Soil saturation from a high water table was observed along the wetland boundary at the time of EIS consultant fieldwork in mid-March of 2013. Sources of hydrology for Wetland A are groundwater, precipitation, and limited over-bank flooding.

WETLAND B

Wetland B is a slope wetland containing Palustrine forested and scrub-shrub vegetation classes. It is located north of the paved lot just beyond a small on-site detention pond. Pacific willow, red alder, black cottonwood, twinberry, salmonberry, and slough sedge characterize wetland vegetation. The silty clay loam soils exhibit Redox Dark Surface hydric soil indicators and oxidized rhizospheres were observed along living roots. Wetland B slopes down toward Wetland A and Jenkins Creek.

JENKINS CREEK

The study area is in the Middle Green River Subwatershed, which contains some of the best remaining salmon habitat in the Duwamish-Green Water Resource Inventory Area (King County DNRP 2011). As documented in King County WRIA-9 reports, Jenkins Creek is a tributary to Soos Creek; Soos Creek joins the Green River at River Mile 33.8. Jenkins Creek is a salmonid fish-bearing stream. Since Wetland A extends well beyond the stream, Jenkins Creek was only directly observed where it crosses the maintained pipeline easement. The channel bed is a mix of silt, sand, gravel and cobbles. Riffle and pool features are present. The channel is presumed to contain large woody debris within the wetland interior.

GRAVEL MINE

The gravel mine reclamation and asphalt batch plant operations occupy the developed portion of the site. Mining activities have created a series of ponds. Grade cuts associated with the largest mining ponds at the south end of the site apparently created steep slopes. Wetland conditions were observed in the mining ponds. Volunteer saplings, such as red alder, willows and black cottonwood, have colonized some ponded mining areas. A patch of cattails was noted in at least one disturbed and shallowly inundated area. The created ponds are generally deeply inundated and sparsely vegetated. Sources of hydrology appear to be groundwater in the lower ponds and perched stormwater runoff in the upper ponds. Creation of the ponds and general site disturbances were conducted in accord with the Washington State Department of Natural Resources (DNR) Surface Mining Reclamation permit. Therefore, these areas were not considered jurisdictional wetlands under this evaluation.

LOCAL REGULATIONS

Streams and wetlands within the City of Covington and unincorporated King County are regulated under the Covington Municipal Code (CMC) 18.65 and the King County Code (KCC) 21A.24, respectively. Both King County and City of Covington use the Ecology rating system to classify jurisdictional wetlands. Wetland classifications and associated buffer widths are summarized in the table below.

Exhibit 3.5-2. Wetland Classifications and Buffer Widths

Wetland Name	Habitat Score*	Total Score*	Special Characteristics	Cat.	King County		City of Covington	
					Buffer	Buffer increase	Buffer	Buffer increase
Wetland A	24	58	Mature Forest	I	180 ft	+ 50 ft**	150 ft	+ 50 ft**
Wetland B***	19	47	N/A	III	N/A	N/A	75 ft	N/A

Source: The Watershed Company, 2013

*Habitat scores and total scores were calculated using the Western Washington Wetland Rating System (Ecology, Aug 2004, version 2).

**Per King County (KCC 21A.24.325.A.2) and Covington (CMC 18.65.320(2)) codes, the standard buffer of Wetland A would be increased by 50 feet if the conditions in those code sections are not met. Code requirements are detailed in the text below.

***Wetland B is located entirely within the current City of Covington jurisdictional boundaries.

Both King County and City of Covington require a 50-foot buffer width increase for Category I or II wetlands with high habitat scores (>20 points) located within 300 feet of a priority habitat area when certain conditions are not met. According to WDFW’s PHS on the Web, the onsite segment of Jenkins Creek is a priority habitat due to the presence of coastal resident cutthroat trout and Coho salmon. Wetland and elk habitat is also shown around the stream.

Per city and county code the buffer increase is applied unless: 1) “The applicant provides a relatively undisturbed vegetated corridor at least 100 feet wide between the wetland and all priority habitat areas located within 300 feet of the wetland. The corridor shall be protected for the entire distance between the wetland and the priority habitat through a conservation easement, native growth protection easement (NGPE) or the equivalent;” and 2) applicable mitigation measures are provided. Those mitigation measures are listed in Exhibit 3.5-3 below.

Exhibit 3.5-3. Mitigation Measures per CMC 18.65.320(3) and KCC 21A.24.325.A.3.b.

Disturbance	Measures to minimize impacts	Activities that may cause the disturbance
Lights	Direct lights away from wetland	Parking lots, warehouses, manufacturing, high density residential
Noise	Place activity that generates noise away from the wetland	manufacturing, high density residential
Toxic runoff	Route all new untreated runoff away from wetland, or Covenants limiting use of pesticides within 150 ft of wetland, or Implement integrated pest management program	Parking lots, roads, manufacturing, residential areas, application of agricultural pesticides, landscaping
Change in water regime	Infiltrate or treat, detain and disperse into buffer new runoff from impervious surfaces using low impact development measures identified in the King County Surface Water Design Manual	Any impermeable surface, lawns, tilling
Pets and Human disturbance	Privacy fencing or landscaping to delineate buffer edge and to discourage disturbance of wildlife by humans and pets	Residential areas
Dust	BMP’s for dust	Tilled fields

Disturbance	Measures to minimize impacts	Activities that may cause the disturbance
Degraded buffer condition	Nonnative plants to be removed and replaced with native vegetation per an approved landscaping plan to be bonded and monitored for a three year period after completion to assure at least 80% survival of plantings	All activities potentially requiring buffers

Source: King County, City of Covington, 2013

Since Wetland A is continuous with the nearest priority habitat (Jenkins Creek), and the standard buffer width is generally undisturbed and well-vegetated, the corridor could be protected through designation as a non-buildable tract or an equivalent protection measure for the standard buffer width. Additionally, if subarea zoning and development plans implement the applicable “measures to minimize impacts” listed in Exhibit 3.5-3 above, then the buffer increase could be avoided. Critical area fencing and signage, construction BMPs, and stormwater improvements that maintain existing wetland hydrology and base stream flows are examples of mitigation measures for this project.

STATE AND FEDERAL REGULATIONS

Wetlands are also regulated by the Corps under section 404 of the Clean Water Act. Any filling of Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A and likely Wetland B would not be considered isolated. A formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process.

Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

Mining operations in the study area have been conducted under DNR Surface Mine Reclamation Permit No. 70-011068 and Federal Mine ID No. 45-01582. According to permit documents the allowed area of disturbance is 215-acres and a maximum mining depth of 100 feet is permitted. As per the permit conditions, a reclamation plan is to be implemented following completion of mining activities. The current reclamation plan maintains a large open water feature and reclaims (fills) the other ponded areas in the process of restoring site grades. The current reclamation plan is subject to revision.

EXISTING BUFFERS

Within the potential annexation area, which is currently under King County jurisdiction, Wetland A has the most encumbering buffer. Jenkins Creek and the associated 165-foot buffer lies within wetland and/or wetland buffer. The existing 180-foot buffer of Wetland A is primarily intact native mixed deciduous and coniferous forest. The forest is composed of mature and second-growth trees with a dense native understory. On the east end, the pipeline corridor and some pedestrian trails cross through the buffer. On the west end, site development extends slightly into the buffer. Some locally-dominant patches of invasive weeds, primarily non-native blackberry and reed canarygrass, are present along the edges of disturbed or developed areas.

Critical areas also overlap within the northwest end of the study area, which is within the current City of Covington boundary. Wetland B lies within the 150-foot buffer of Wetland A. The 75-foot buffer of Wetland B is the most encumbering feature. That buffer area is primarily vegetated with second-growth forest. Invasive blackberry brambles are present along the edges of the vegetated area. Developed areas associated with the asphalt batch plant are also within the buffer.

Plants

EXISTING CONDITIONS

Vegetation found in on-site critical areas (Wetlands A and B, and Jenkins Creek) and their buffers are generally characterized by native forest. As described above, Wetland A and the associated buffer contains several mature trees. Undeveloped areas outside of streams, wetlands, and associated buffers are also forested. Relatively undisturbed areas total approximately 95 acres. A maintained pipeline corridor approximately 2.4-acres in size and a few pedestrian trails form breaks in the vegetation. Overall, approximately 112-acres have been modified by mining and asphalt batch plant activity and contain little or no vegetation.

The southeast corner of the potential annexation area is mixed native forest; the area beyond protected critical areas is approximately 9-acres. A few mature trees were noted in this forested patch. Bigleaf maple, Douglas-fir, red alder, and black cottonwood form the canopy. The understory contains Oregon grape, salal, snowberry, sword fern, and Pacific dewberry. Along the edges of active site use, trees tend to be characterized by younger native saplings, such as red alder and black cottonwood.

Due to site development and former mining activities, about half the site is not vegetated. Volunteer native conifers and deciduous saplings are colonizing the south slopes of the mining pond and a few interior areas. Some intact forest lies along the southern study area boundary. Locally-dominant patches of invasive plants are present, primarily along the fringes of site development or disturbance. Non-native blackberry brambles are the dominant weed.

RARE PLANTS

The Washington State Department of Natural Resources Natural Heritage Program lists known occurrences of rare plants in Washington by county. This listing includes plant species with Federal Status under the Endangered Species Act, State Status as determined by the Washington Natural Heritage Program, and historic records. The most recent information was evaluated for this EIS. The 32 rare plants species listed in Exhibit 3.5-4 below are documented in King County. Based on the available gross-scale mapping, no rare plants are known to exist within the Hawk Property Subarea.

Exhibit 3.5-4. Rare Plants Documented in King County

Scientific Name	Common Name
<i>Arenaria paludicola</i>	swamp sandwort
<i>Bidens amplissima</i>	Vancouver Island beggar-ticks
<i>Boschniakia hookeri</i>	Vancouver ground-cone
<i>Botrychium ascendens</i>	triangular-lobed moonwort
<i>Botrychium pedunculosum</i>	stalked moonwort
<i>Campanula lasiocarpa</i>	Alaska harebell
<i>Carex comosa</i>	bristly sedge
<i>Carex macrochaeta</i>	large-awn sedge
<i>Carex pauciflora</i>	few-flowered sedge
<i>Carex stylosa</i>	long-styled sedge
<i>Cassiope lycopodioides</i>	clubmoss cassiope
<i>Castilleja levisecta</i>	golden paintbrush
<i>Ceratophyllum echinatum</i>	smooth hornwort
<i>Chrysolepis chrysophylla</i> var. <i>chrysophylla</i>	golden chinquapin
<i>Cimicifuga elata</i> var. <i>elata</i>	tall bugbane
<i>Coptis aspleniifolia</i>	spleenwort-leaved goldthread
<i>Dryopteris carthusiana</i>	toothed wood fern
<i>Elodea nuttallii</i>	Nuttall's waterweed
<i>Fritillaria camschatcensis</i>	black lily
<i>Heterotheca oregona</i> var. <i>oregona</i>	Oregon goldenaster
<i>Hypericum majus</i>	Canadian St. John's-wort
<i>Lobelia dortmanna</i>	water lobelia
<i>Lycopodiella inundata</i>	bog clubmoss
<i>Lycopodium dendroideum</i>	treelike clubmoss
<i>Meconella oregana</i>	white meconella
<i>Montia diffusa</i>	branching montia
<i>Nuttallanthus texanus</i>	Texas toadflax
<i>Platanthera chorisiana</i>	Choris' bog-orchid
<i>Sericocarpus rigidus</i>	white-top aster
<i>Utricularia gibba</i>	humped bladderwort
<i>Utricularia intermedia</i>	flat-leaved bladderwort
<i>Utricularia minor</i>	lesser bladderwort

Source: The Watershed Company, 2013

Animals

FISHERIES RESOURCES

Jenkins Creek is a fish-bearing stream that is home to coastal cutthroat trout and Coho salmon according to WDFW Priority Habitat and Species distribution maps (WDFW March 2013). Other resident fish, such as sculpins and lamprey, are presumed to utilize the onsite segment of Jenkins Creek. Steelhead trout are mapped north of highway 18, but not onsite. In-stream elements, such as large woody debris, provide habitat niches and riffle/pool features. The riparian corridor is shaded and densely vegetated.

PRIORITY HABITATS AND SPECIES

The WDFW PHS database places the project on the western edge of a resident and migratory elk regular winter concentration. Two bald eagle nests are depicted in PHS data approximately 1.0 and 1.3 miles to the SE and SW of the subarea, respectively. No listed wildlife species are documented on the site.

PHS elk concentration data is general and does not indicate records within a particular area. Per WDFW records, elk are anecdotally documented as occasionally occurring on the adjacent Cedar Downs Park to the east. Onsite habitat includes some suitable forage for wintering elk, but the area of habitat is very limited. Although the property could be accessed by elk from the park to the east, significant barriers such as roads and residential development just beyond the park to the east would greatly limit the chances of elk accessing the study area.

Forested parts of the site have the potential to support other PHS species. The mature forest provides suitable pileated woodpecker (State Species of Concern) foraging habitat, and future recruitment of snags would potentially support nesting. Wetland and riparian habitat on the site is suitable for foraging by great blue heron (State Monitor Species) and could potentially attract the rarer black-crowned night heron (State Monitor Species), although this species' presence in western Washington is normally very limited. Great blue herons are likely to frequent the ponded mining areas where they are bordered by vegetation. The ponded mining areas are suitable for Vaux's swift and purple martin (State Species of Concern) foraging, as these species commonly forage over open water.

The PHS species bald eagle (State Sensitive Species), band-tailed pigeon, and Vaux's swift (State Species of Concern) are relatively common in the region and may pass through the site, and band-tailed pigeon could potentially nest on the property, although known suitable nest sites for bald eagle and Vaux's swift are not currently present. Peregrine falcon (State Sensitive Species and federal Species of Concern), while less widely observed in the area, could use the site in passing as well.

Several cavity-nesting ducks, including bufflehead, common goldeneye, ring-necked duck, hooded merganser and wood duck, are included in the PHS cavity-nesting ducks category and are present in the vicinity of the site. Each of these species could use the ponded mining areas, particularly where vegetation is present on the fringes, for foraging and resting. Suitable nesting cavities are not yet naturally occurring in the immediate vicinity of open water, where nest sites are preferred. Wood ducks could potentially use Jenkins Creek occasionally, although the species is usually associated with the more open water of ponds, lakes, and wide, slow rivers.

LISTED SPECIES

No State or federally listed threatened or endangered species are documented on or adjacent to the site (except see steelhead trout information, above).

OTHER STATUSES

Several PHS species are also State Species of Concern or Monitor Species (see preceding section). Green herons (State Monitor Species) use slow rivers, wetlands, and riparian areas throughout their lifecycle and may use the areas adjacent to Jenkins Creek. The riparian zone of Jenkins creek provides dense shrubs and woody debris, a key

habitat component for green heron. Some areas bordering the mining ponds are vegetated adequately for green heron.

Impacts

Critical Areas

ALTERNATIVE 1 (NO ACTION)

The No Action Alternative would not change the current and restrictive zoning. Permitted site reclamation, onsite asphalt batch plant operations, and facility expansion would occur under Alternative 1. Existing paving does extend slightly into the buffers of Wetlands A and B. Incidental degradation of buffer area that abuts the developed site may occur under Alternative 1. However, no new areas of disturbance are anticipated under the No Action alternative. Therefore, it is generally assumed that no new buffer impacts would occur under Alternative 1.

Indirect/Cumulative Impacts

Ongoing development of the subarea, under Alternative 1, is likely to result in incremental habitat losses in the vicinity. However, the planned protection of buffers under all scenarios limits impacts associated with directly adjacent disturbance, such as displacement due to human presence and the loss of “source” areas for wildlife to access the site. Areas where development is most likely to occur are primarily on the northwest side adjacent to SR 18, on the far side of Cedar Creek Park to the north and east, and on the far side of existing residential development to the south, generally already-disturbed locations, limiting their impact on the study area plants and animals. Other nearby areas are either built out or part of protected easements or critical areas.

Since the reclamation plan will be implemented regardless of future zoning, the area of open water on-site will be reduced under all three alternatives. Under Alternative 1, existing fringe vegetation would likely be left intact and native volunteers may colonize that area to the extent that it’s not disturbed by industrial site uses. Under Alternative 1, stormwater improvements are likely not required.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Potential impacts to critical areas on and in the vicinity of the site resulting from both Alternatives 2 and 3 are projected to be similar. Since the current conceptual site plan alternatives only identify zoning polygons and site access requirements, the impact assumptions are necessarily broad. However, both Alternatives 2 and 3 show planning and zoning that primarily avoid critical area impacts.

Planned site development under Alternatives 2 and 3 would preserve standard critical area buffer widths to the extent feasible. Standard critical area buffer widths would generally be maintained; although some modification is anticipated, primarily for the new arterial street connection. New public rights-of-way area allowed in wetland and aquatic areas (streams) and their buffers pursuant to CMC 18.65.050. To meet traffic and safety targets, it has been determined that an arterial street connection is necessary between 204th Avenue SE and SE 256th Street. Based on projected traffic volumes and city established design specifications, the right of way (ROW) will be approximately 80 feet wide. In order to connect with 204th Avenue SE, the new street will have to cross through steep slopes and possibly through wetland buffer. It is an EIS assumption that utilities will generally be installed within the ROW. Stormwater impacts are addressed in Section 3.2 Surface Water Resources, and 3.3 Groundwater Resources.

Additionally, to improve trail connections and expand passive recreation opportunities, some new trails will be created within critical areas. Alternatives 2 and 3 show trails along the steep slopes at the south end. The City also discussed possibly creating a trail through the Jenkins Creek/wetland corridor at the north end of the site; this would serve as a connection to existing trails to the east. Trails would increase pedestrian use of these critical areas. Typically use by people and pets results in increased litter, increased pollutants (pet waste), and

disturbance to wildlife. While a formal trail would increase use, it would also encourage people to stay on the path, thus managing site use. This could be an improvement over the present condition, where people have established several informal trails and at least one make-shift camp; Illegal dumping and littering is also a problem at this site, particularly off the pipeline corridor.

Once the annexation is complete, City of Covington critical areas regulations and associated buffer requirements would be applicable along Jenkins Creek and the associated wetlands in the approximately 80 acres in the northeast section of the subarea currently in unincorporated county jurisdiction. There are differences between the two jurisdictions. The relevant change is the wetland buffer width. Under current King County regulation the Wetland A buffer is 180 -feet; under City of Covington it would be 150-feet. This reduction in buffer width would have a slight incremental impact on buffer functions.

Wetland buffers and riparian zones provide a number of different functions including water quality (sediment removal, excess nutrient removal, toxic substance removal), microclimate conditions, adjacent upland wildlife habitat for life-history needs, disturbance screening (light, noise, etc.), and potentially landscape-scale habitat connectivity. Specific functions associated with stream buffers include water quality, bank stabilization, shade and temperature, microclimate, wildlife habitat, large woody debris recruitment and productivity.

According to a review of the scientific literature by Ecology (Sheldon et al., 2005), the degree to which a wetland or stream buffer performs these functions is dependent on multiple factors, primarily vegetation characteristics, buffer gradient, soil conditions, and buffer dimensions (width and length). Effective buffer widths vary depending on the target function. Protecting wildlife habitat functions requires wide buffers, relative to water quality and hydrologic functions. To protect wildlife habitat functions, recommended buffer widths range from 98 feet to 312 feet, with 197 feet being noted as sufficient for most wildlife needs (Sheldon et al., 2005). When the buffer is densely vegetated by high-quality forest and/or the surrounding land use is low intensity, lesser buffer widths may be adequate; buffer continuity is considered as important as width (May et al., 1997). See Appendix C of Management recommendations for Washington's priority habitats (Knutson et. al. 1997).

Relatively narrow buffers significantly reduce some pollutants, such as sediments, nutrients and toxins. For example, effective sediment control can be achieved with buffers ranging from 30 feet to 200 feet depending on slope and particle size. A buffer range of 15 to 131 feet is effective for nutrient removal with 62 feet being 80 to 89 percent effective when the buffer is forested. Removal of toxins and pathogens requires buffer widths ranging from 12.5 feet up to 115 feet. One pattern that is clear from the available literature is that the relationship between buffer width and sediment removal is non-linear. Since nutrients are commonly transported via sediment laden water, a similar non-linear relationship appears to apply to nutrient removal as well. It has been established in the scientific literature that it takes a proportionally larger buffer to remove increased pollutant loads. However, there is a point of diminishing return, due to the non-linear relationship between sediment/pollutant removal and buffer width (Sheldon et al., 2005). For example, a study of the relationship between buffer width and sediment removal, found that beyond a buffer width of approximately 15 feet the relationship is non-linear and diminishing returns are notable starting at a 50 foot width (Desbonnet et al. 1994).

Given the available literature and non-linear correlation between buffer functions and widths, the buffer difference of 180 feet (King County) versus 150 feet (City of Covington) cannot be quantitatively assessed. We can presume that site development under Alternatives 2 and 3 would increase runoff and associated sediments and pollutants draining toward the wetland and stream. Greater buffers widths do allow more time for pollutants to settle and be filtered out of water entering the associated wetland and/or stream (Sheldon et al., 2005).

According to Washington Department of Ecology guidance (Ecology, 2005), four basic criteria are recommended when determining wetland buffer widths: 1) functions and values of the resource you are buffering, 2) characteristics of the buffer, 3) intensity of adjacent land use, and 4) particular buffer functions you seek to provide. It is widely acknowledged that variable-width buffers, as opposed to fixed-width buffers, may be more effective given site-specific conditions.

Development results in landscape changes that affect physical, chemical and biologic process within critical areas and the greater watershed. A number of scientific studies have documented ecologic consequences of urbanization, including flashy and erosive hydrologic conditions, increased sedimentation, higher nutrient loads, increased input of toxic contaminants, and habitat fragmentation. Effective wetland buffer widths presented in the literature generally range from 25 to 300+ feet depending on land use intensity (stressors) and habitat functions. Effective riparian buffer widths range from 33 to 600 feet with most functions not requiring more than a 150-foot buffer.

As described above, Alternatives 2 and 3 would likely impact a small area of wetland buffer for construction of the arterial street. To follow City and County regulations, site planning should seek to avoid critical area impacts, minimize any unavoidable impacts, and lastly provide compensatory mitigation. It must be demonstrated that critical area functions and values are maintained in a manner equivalent to or greater than the standard buffer widths. Under Alternatives 2 and 3, the majority of the buffer would remain intact. Buffer losses are presumed to be slight and could be off-set through buffer width expansion in other continuous and well vegetated areas.

Impacts Allowed under the City & County Codes

ARTERIAL STREET

Both the City and County codes allow for streets and infrastructure in critical area buffers (CMC 18.65.050 and KCC 20A.24.045). This provision would apply to the new 204th Avenue SE arterial street connection and associated improvements to SE 272nd Street. Covington code (CMC 18.65.050.A.27) is cited below; King County Code is similar.

Allowed only if:

- a. There is not another feasible location with less adverse impact on the critical area and its buffer;*
- b. The corridor is not located over habitat used for salmonid rearing or spawning or by a species listed as endangered or threatened by the State or Federal government unless the Department determines that there is no other feasible crossing site.*
- c. The corridor width is minimized to the maximum extent practical;*
- d. The construction occurs during approved periods for instream work; and*
- e. The corridor will not change or diminish the overall aquatic area flow peaks, duration or volume or the flood storage capacity.*

Additionally, both King County and Covington codes contain exemptions for linear structures. CMC 18.65.070(a) states:

For linear structures the Director may approve alterations to critical areas, critical area buffers and critical area setbacks only when all of the following criteria are met:

- (i) There is no feasible alternative to the development proposal with less impact on the critical area;*
- (ii) The proposal minimizes the impact on critical areas; and*
- (iii) The alteration:*
 - (A) Connects to or is an alteration to a public roadway, public trail, utility corridor or utility facility owned or operated by a public agency or company regulated by the Washington Utilities and Transportation Commission, or other public infrastructure;*
 - or*
 - (B) Is required to overcome limitations due to gravity;*

PROPOSED TRAIL

Construction of public and private trails may be allowed in wetland and stream buffers as per County and City codes (KCC 20A.24.045.A.47 and CMC 18.65.050.A.47). Replacement buffer or other mitigation measures are required. Per the noted City of Covington code, new trails are:

Allowed as far landward as feasible in the buffer if:

- a. The trail surface is not made of impervious materials, except that public multi-purpose trails may be made of impervious materials if stormwater mitigation for the trail surface materials meets the stormwater requirements in CMC Title 13; and*
- b. To the maximum extent practical, buffers are expanded equal to the width of the trail corridor including disturbed areas.*

As described above, some impacts are expected to occur as passive recreation opportunities increase. However, managing public use through formal trail design and signage, and mitigating for buffer impacts, through buffer replacement and/or enhancement planting should adequately compensate for those changes.

Potential Construction Impacts

Possible impacts to critical areas that could result from construction of the street and pursuant development of the newly designated commercial and residential zones include clearing and grading activities. Implementing temporary erosion and sediment control measures and other general best management practices (BMPs) during construction should prevent any direct critical area impacts. Any buffer and/or steep slopes impacts would need to be mitigated in accordance with City Code (CMC 18.65).

Indirect/Cumulative Impacts

Long-term impacts occur over the landscape with higher population densities and increased development activities. Sources, or areas of habitat in which a population is able to produce a net gain in individuals, decrease with habitat loss, and fragmentation impacts the ability of wildlife species to travel and reproduce (Marzluff and Ewing 2001, Marzluff 2001). Both habitat loss and fragmentation tend to increase with development. The proposed land use under all three alternatives maintains a habitat corridor by preserving Jenkins Creek, associated wetlands, and buffers. The riparian corridor is and will continue to be the primary habitat corridor through the site.

Since the reclamation plan will be implemented regardless of future zoning, the area of open water on-site will be reduced under all three alternatives. Some fringe vegetation would be lost under Alternatives 2 and 3, including approximately 9 acres of forest. The south end of open water feature would remain, and some landscaping and/or park space is likely to develop around it. Development under Alternatives 2 and 3 would include improved stormwater treatment for run-off entering the open water feature.

The city's critical areas regulations call for protecting natural areas in a comprehensive manner to afford a measure of protection for wildlife through the reduction and minimization of critical areas impacts, and mitigation for unavoidable impacts (CMC 18.65.120). Critical area regulations will help preserve the corridor along Jenkins Creek and associated wetlands, even as surrounding buildable parcels are developed. Artificially constructed features, such as the mining ponds, are, by definition, not critical areas (CMC 18.20.072 and CMC 18.20.1415). Therefore, they are generally not afforded the same protection under the City of Covington's critical area regulations, nor do they require mitigation for their removal. Subsequently, complete removal of similar features in the landscape may occur in the future.

Roads and trails associated with site developments would also contribute to cumulative and indirect impacts by allowing greater access to the site. However, as stated above, roads and trails are allowed pursuant to CMC 18.65.050.

Plants

ALTERNATIVE 1 (NO ACTION)

The no action plan, Alternative 1, would have little impact on the existing vegetation. Ongoing asphalt batch plant operations and new facility construction is expected to occur in the disturbed site footprint. This would leave the surrounding forest intact.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Forested areas beyond critical areas and associated buffers may be cleared under Alternatives 2 and 3. Approximately 15 acres of forest are outside of the wetland buffer; approximately 6 of those acres are protected as steep slopes. Therefore, the remaining approximately 9 acres of forest could potentially be cleared. Additionally, interior patches of volunteer shrubs and saplings within the mine site interior would be lost under Alternatives 2 and 3 as reclamation is implemented and the site develops. However, Alternatives 2 and 3 would both include interior parks and opens spaces in the existing disturbed area footprint. The main difference between Alternatives 2 and 3, in terms of vegetation, is that the maximum alternative requires more land for parks and open space. However, this may not equate to more vegetated area since parks and open space can include hardscape features. Alternative 3 is also projected to have more impervious surface area, 99.6-acres versus 75.8-acres of impervious surface under Alternative 2.

Animals

ALTERNATIVE 1 (NO ACTION)

Direct impacts to non-fish wildlife under the no action alternative are an increase in structure footprint, possibly loss of mining ponds and shrub vegetation, and use of the site by asphalt batch plant staff. Wetlands, buffers, Jenkins Creek, and other substantial forested areas will not be directly impacted. The increased structure footprint will presumably not affect forested areas, although mining ponds and surrounding shrub areas may be reduced or eliminated.

Any loss of mining ponds and shrub vegetation will reduce habitat for wildlife using these areas. In addition to the species of interest discussed below, songbirds, small mammals, and possibly medium-size mammals such as coyotes and raccoons may lose year-round habitat. Forest species that use edge or open water would also be impacted by this loss through both direct area loss and a decrease in diversity and interspersed habitat types.

Ongoing mining reclamation and asphalt batch plant activities will presumably incur an increase in employees and therefore some disturbance on the site from vehicles and the presence of people. Depending on the proximity of increased human and vehicle use to the forested areas, disturbance from noise, litter, or physical presence could temporarily displace wildlife using the edges of vegetated areas. Open water area will be reduced and interior vegetation losses may occur under Alternative 1 depending on the final reclamation plan. These shrub loss impacts could be mitigated through installation of new native landscaping around the open water feature at the end of the reclamation process.

Priority Habitats and Species

The retention of most of the forested areas will minimize impacts to pileated woodpecker, which is the most forest-dependent of the PHS species that might occur on the site. However, the species can be sensitive to disturbance and might avoid busy areas that generate noise. Similarly, in the unlikely event of elk use of the site, disturbance could displace individuals.

Of the species described in the preceding section, Vaux's swift and peregrine falcon may use open (unvegetated) areas adjacent to forest. Peregrine falcons often target prey in skies above cleared areas, and swifts and martins often hawk insects in open skies. Under the No Action alternative, these species might be slightly less likely to use the presently developed part of the site for foraging because of the additional structure area and higher use by people and vehicles. The partial filling of mining ponds under this scenario would reduce habitat for the duck species described above, including bufflehead, common goldeneye, and wood duck. As well, foraging space for peregrine falcon, Vaux's swift, and purple martin would be reduced.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Both action Alternatives 2 and 3 of the Hawk Property Subarea project would have similar impacts to forest wildlife species of interest. Impacts to forest, wetland, and riverine/riparian species would be similar to those under the

No Action alternative, with the exception of some loss and fragmentation due to a new access street. Placement of the access street will eliminate some shrub and possibly forest; it would also fragment the buffer area proposed for protection. The new street would introduce vehicle disturbance at the east end of the site as well.

Most of the urban village would be within the footprint of existing mining/reclamation and asphalt batch plant developments. The existing industrial use has already removed substantial habitat. Some additional habitat losses are expected under Alternatives 2 and 3. As stated above, approximately 9-acres of forest beyond protected critical areas/buffer could potentially be cleared resulting in habitat area losses. Interior patches of volunteer shrubs and saplings within the mine site interior would also be lost under Alternatives 2 and 3 as reclamation is implemented and the site develops. Impacts from this unavoidable loss of forested habitat would include reducing an urban forest from moderate to small changes bird populations (Donnelly and Marzluff 2004). Impacts would include increased disturbance from humans and vehicles, pollution associated with commercial and residential use (litter, emissions, noise, and light), and direct disturbance. The majority of these uses will overlap with current industrial use where habitat value is already degraded. However, despite the current level of disturbance, the mining ponds, vegetation fringe, and adjacent forest (beyond the critical area protections) provide habitat for wildlife, including birds and small mammals. During site visits, ecologists from The Watershed Company observed numerous species, including northern shrike, lesser scaup, and bufflehead ducks, utilizing the mining ponds and surrounding vegetated areas. Alternatives 2 and 3 would displace wildlife by increasing the area used by people, altering/removing fringe vegetation, reducing habitat connectivity, and increasing noise.

A reduction of mining ponds would reduce edge habitat and habitat type diversity and interspersions. While one open water feature would be retained, its value to wildlife would decrease with the proposed removal of adjacent shrub vegetation. Many species that commonly occur in developing areas and rural fringes inhabit a mix of forest and shrub habitat, and the loss of shrub area would reduce both habitat availability and quality for species not using the mining pond as well.

Priority Habitats and Species

As under the no action alternative, pileated woodpecker would experience little habitat loss but may be displaced from forest near edges of development and the street or other disturbance. Peregrine falcon often adapt to human presence and development, but foraging space may be somewhat reduced with the loss of area over the mining ponds. Vaux's swift and purple martin are generally found in more lightly developed areas and may not frequent this site given the existing industrial use. If these species are present, then the reduction of open water as the mining ponds are reclaimed and the likely reduction of shrub areas surrounding them would likely displace these species to more suitable spaces.

Cavity-nesting ducks, which are present in the site vicinity and were observed on the site, would lose foraging and resting areas on the site with the reduction in open water areas and would be unlikely to use the site if retained open water areas did not have a vegetated buffer to screen nearby buildings, parking lots, and human use. It is possible that wood ducks could use Jenkins Creek and its edges, although the species normally frequents ponds and wide, slow-moving rivers.

Disturbances to priority habitats and species would occur under all three alternatives. Industrial uses and corresponding habitat degradation within the developed footprint would continue under Alternative 1. Alternatives 2 and 3, with increased pedestrian and vehicle traffic and reduced open water and vegetation, are likely to deter some species from using the remaining open water and vegetated fringe, even when suitable habitat is present. The disturbed site footprint will remain industrial (Alternative 1) or urban (Alternatives 2 and 3); both types of land use impact habitat value compared to a native forested condition. Overall, Alternatives 2 and 3 would have a greater impact to wildlife due to higher intensity use and loss of forest and fringe vegetation around the open water feature. Alternative 3 is projected to have more impervious surface area compared to Alternative 2. Although the total buildable area under Alternatives 2 and 3 is the same Alternative 3 could potentially have a lesser impact relative to Alternative 2. Higher zoning density under Alternative 3 would include

more land for parks and open space, which could result in more pockets of vegetation suitable for wildlife use. However, open space and parks may include mowed lawn and hardscape areas, which provide little or no habitat for wildlife.

Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to critical areas, plants and animals resulting from Covington Sub-Area Project.

Incorporated Plan Features

Under all of the alternatives, the riparian corridor, Jenkins Creek and associated wetlands, would be left intact. Some self-mitigating approaches are incorporated into the plan for each alternative. For example, the reclamation plan would be implemented under Alternative 1; this restores approximately two-thirds of the mining area with native plants. Alternatives 2 and 3 would off-set changes to land use intensity by incorporating park space into site plans. The maximum plan (Alternative 3) incorporates more park acres than the minimum plan (Alternative 2).

Applicable Regulations and Commitments

Changes to the site under any of the proposed alternatives would need to comply with current critical area regulations, stormwater design specifications, and other applicable regulatory standards. Current local, state and federal regulations protecting plants and animals include:

- Covington Municipal Code (CMC) 18.65, Critical Areas;
- King County Zoning Code (KCC) 21A.24, Critical Areas (only applicable until annexation is complete);
- US Army Corps of Engineers (Corps) regulate wetlands under section 404 of the Clean Water Act;
- Washington State Department of Ecology may require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination for Corps permits;
- U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service, for federally permitted actions that could affect endangered species (i.e. salmon or bull trout); and
- No State or federally listed threatened or endangered plant or animal species have been observed on or adjacent to the site. The site does contain habitat that could be used by such species. It is recommended prior to completion of reclamation and upon any amendment to the current reclamation permit (e.g. to resize the lake), the applicant should consult with the lead federal agency regarding compliance with state and federal laws, including the State Hydraulic Code, Sections 401 and 404 of the Clean Water Act, and Section 7 of the Endangered Species Act.

Critical area impacts will be avoided and minimized to the extent possible. Any impacts would be fully mitigated as required by the Covington's critical areas regulations. Temporary critical area impacts, such as disturbance and possible erosion/sedimentation would be addressed by restoring the affected areas to the same or an improved condition, as required by Covington's critical area regulations and other applicable state and federal regulations.

As described above, both action alternatives 2 and 3 would impact steep slope and possibly encroach into wetland buffer. Based on existing site conditions and current plans, there appears to be more than enough intact forest continuous with the standard buffer that could be expanded as necessary to off-set any buffer losses. The same applies to any future trail designs that may occur under Alternatives 2 or 3. Under all three alternatives, critical area functions and values will be maintained in a manner consistent with the CAO.

Prior to the start of construction, a wetland and stream delineation is required to precisely map the critical area and quantify any impacts. This level of detail will be needed to prepare a compensatory mitigation plan.

Erosion control measures would be implemented prior to construction as detailed in the Earth and Water Resource sections. All clearing and grading construction would be in accordance with specific permit conditions, codes, ordinances, and standards. Temporary sedimentation control measures such as silt fencing would be installed as needed and disturbed soils would be covered with straw, hydroseeded, or otherwise revegetated with sod or native plants as soon after construction as possible. These measures would reduce impacts on critical areas on and in the vicinity of the site.

Other Potential Mitigation Measures

CRITICAL AREAS

Under all of the alternatives, the riparian corridor, Jenkins Creek and associated wetlands, would be left intact. To further protect the wetland/riparian corridor, that area could be put under a protective easement. Once the baseline impacts necessary for construction of the arterial street and other infrastructure, such as utilities, are determined, the modified buffer could be placed in a non-buildable tract to effectively protect it in perpetuity and prevent future incremental impacts as adjacent land is developed. The non-buildable tract could be recorded with King County and dedicated to the City of Covington or some other conservation group. Additional buffer protection could be provided by applying the wider King County buffer to Wetland A (which is contiguous with Jenkins Creek) during the annexation process.

A long-term stewardship program for natural open spaces and critical areas could be created prior to future redevelopment. Elements such as removing non-native and invasive plants, native revegetation, removing garbage, and trail maintenance could be included. This program could include stewardship goals and objectives for the care of the Jenkins Creek natural corridor as well as overall, long-term goals for the ecological health and habitat value of Jenkins Creek and associated wetland and buffer areas. Long-term goals and allowed maintenance practices for critical areas/non-buildable tract(s) could be incorporated into a vegetation management plan (CMC 18.65.150).

PLANTS

Under Alternatives 2 and 3 approximately 35 and 47 percent of the site, respectively, would be converted to impervious non-vegetated area. Under the no action alternative, the current batch operations would be expanded and the majority of the site would be re-vegetated through the permitted reclamation process.

Upland vegetation removed during construction would be replaced to the extent possible. The eventual build-out under Alternatives 2 and 3 would cause loss of vegetation in some areas, such as the southeast corner, and increase vegetation in other areas through creation of parks and interior landscaping. Public landscaped areas, stormwater bioswales, and other green space areas provided with redevelopment would generally be planted with native grasses, groundcovers, trees and shrubs wherever possible to maximize wildlife habitat and minimize needed maintenance. Both Alternatives 2 and 3 contain the same buildable acreage; Alternative 3, the maximum intensity plan, would include more parks and green space compared to Alternative 2, but it would also include more impervious surface acres.

ANIMALS

Mitigation measures include the avoidance of critical areas and buffers, and placement of buffers in a protected easement. The new access street is planned to bisect as little of the vegetated areas as is practicable. One ponded mining area would be preserved as an open water feature. Planting native vegetation and installing snags and other habitat features on the pond fringe would enhance the pond area for wildlife. Construction timing restrictions would be implemented as needed and required to protect priority species.

Landscaping and park spaces may incorporate native planting, snags, logs, and other special habitat features to improve habitat functions and values. Preserving and establishing native trees, shrubs, and groundcovers around

the perimeter of the open water feature, would improve the habitat value of this feature by creating refuge, foraging, and nesting opportunities.

The City could provide neighboring property owners with educational resources to encourage native plant use and backyard habitat projects. Interpretive signage along proposed trails and/or within park spaces could be designed and installed to educate the public about the functions and values of critical areas and urban habitats. Pet waste bags and trash cans could help limit water quality impacts and enforcement of leash rules could limit wildlife disturbances. Incorporating community garden spaces or p-patches into interior parks may further encourage residents to be environmentally sensitive in their daily practices. This would further mitigate some of the impacts that typically occur with high intensity land use.

To reduce habitat fragmentation between the Jenkins Creek corridor and habitat patches to the south and west, a wildlife crossing may be incorporated into the new arterial street design. A crossing could potentially be established in the southeast corner of the site, approaching the connection with 204th Avenue. In addition to providing safe crossing for Elk, a corridor could benefit invertebrates and small mammals that are likely to access the open water feature (Hansen et al. 2005). Even mobile species, such as songbird, exhibit a preference for travel through wooded corridors compared to open gaps (Desrochers and Hannon 1997).

Significant Unavoidable Adverse Impacts

Alternative 1 would result in some modest changes to the site as reclamation is executed, batch operations continue, and new facility construction occurs. Overall, these actions would not significantly change site conditions in terms of critical areas, plants and animals. The area that is vegetated is expected to increase over time as reclamation is completed. However, the site would still be in industrial use via the asphalt batch plant.

Alternatives 2 and 3 would cause some cumulative and avoidable impacts to critical areas and wildlife. These include increased human activity associated with more dense urban development, which could result in long-term disturbance to sensitive wildlife species in the vicinity of the Jenkins Creek corridor, and an increase in impervious surface area, which may impact the quantity and quality of surface water runoff. These impacts would be mitigated as described in Sections 3.2 and 3.3, Surface Water and Groundwater Resources.

3.6 Noise

The purpose of this section is to provide necessary noise-related background information, evaluate existing noise conditions in the study area, and describe the methodology used to assess existing conditions and potential noise impacts associated with proposed alternative actions.

Affected Environment and Methodology

Definitions and Background Information

In order to assess existing noise conditions and potential noise impacts in the study area, it is necessary to understand basic noise principles, as well as the regulatory background for noise-related issues. Below are brief definitions of basic noise-related terminology used in this section:

- **Sound.** A vibratory disturbance transmitted by pressure waves through a medium (e.g., air, water, and solids) and capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A measure of sound intensity based on a logarithmic scale that indicates the squared ratio of actual sound pressure level to a reference sound pressure level of 20 micropascals.
- **A-weighted decibel (dBA).** A measure of sound intensity that is weighted to account for the varying sensitivity of the human ear to different sound frequencies. Typical A-weighted noise levels for various types of sound sources are summarized in Exhibit 3.6-1.
- **Equivalent sound level (Leq).** A measure used to represent the average sound energy occurring over a specified time period. Leq is the steady-state sound level that would contain the same acoustical energy as the time-varying sound that actually occurs during the monitoring period. The 1-hour A-weighted equivalent sound level (Leq 1 h) is the energy average of A-weighted sound levels occurring during a 1-hour period.

Basic Principles of Noise

Exhibit 3.6-1 shows the range of sounds often experienced by the community. Sound waves generally travel in a hemispherical pattern from a noise source at ground level, with the sound wave energy spreading out over a larger area as it travels away from the source. As the sound travels away from the source, its intensity declines (attenuates) at a rate known as the attenuation rate. When only considering distance, sound levels from isolated point sources typically decrease by about 6 dBA for every doubling of distance from the noise source. For a continuous line noise source, such as vehicle traffic on a highway, sound levels decrease by approximately 3 dBA for every doubling of distance. However, it is also important to consider the characteristics of the ground over which the noise attenuates, as different ground types have varying abilities to contribute to noise attenuation. For traffic noise studies, an attenuation rate of 4.5 dBA per doubling of distance is often used when the roadway is at ground level and the ground offers effective sound absorption (this is called “soft ground”). For stationary sources the attenuation for soft-ground conditions can be approximated as 7.5 dBA per doubling of distance.

The human ear generally perceives an increase in noise of 10-dBA as a doubling of loudness and generally cannot detect differences of 1 to 2 dBA between noise levels of a similar nature. Under *ideal* listening conditions, some people can detect differences of 2 or 3 dBA, but under *normal* listening conditions, a 5-dBA change in sound level of a similar nature is typically detectable. However, when an intruding sound is of a different nature from background (e.g., a backup alarm in an otherwise quiet neighborhood), most people can discern a new type of noise even if it only increases the overall Leq by less than 1 dBA.

Exhibit 3.6-1. Typical A-Weighted Sound Levels

Sound Source	Decibels (A-weighted)	Typical Response
Carrier deck jet operation	140	Limit amplified speech
Limit of amplified speech	130	Painfully loud
Jet takeoff (200 feet)		
Auto horn (3 feet)	120	Threshold of feeling and pain
Riveting machine		
Jet takeoff (2,000 feet)	110	--
Shout (0.5 foot)		
New York subway station	100	Very annoying
Heavy truck (50 feet)		
Pneumatic drill (50 feet)	90	Hearing damage
Passenger train (100 feet)		
Helicopter (in flight, 500 feet)		
Freight train (50 feet)	80	Annoying
Freeway traffic (50 feet)	70	Intrusive
Air conditioning unit (20 feet)		
Light auto traffic (50 feet)	60	--
Normal speech (15 feet)	50	Quiet
Living Room		
Bedroom		
Library	40	--
Soft whisper (15 feet)	30	Very quiet
Broadcasting studio	20	--
	10	Just audible
	0	Threshold of hearing

Source: Federal Transit Administration 2006.

Noise-Sensitive Receivers Used to Evaluate Potential Noise Impacts

The study area used to evaluate noise impacts consists of the existing gravel mine site undergoing reclamation and existing asphalt batch plant, the currently-undeveloped lands within the study area, and several representative existing residential areas outside the study area that could potentially be impacted by noise from the proposed new development. This noise study evaluated existing and future noise levels at the following representative noise sensitive receivers:

- Existing wetlands at the north side of the planned action area.
- Existing dense residential development on the south side of the current mine site (near SE 259th Street) in the Timberland Estates development. This receiver also represents other similar developments that are at similar distances from the current reclamation and asphalt batch plant operations, such as the Covington Park and Shire Hills developments.
- Existing homes along the existing section of 204th Avenue SE, southeast of the study area (for example, the existing dwellings between SE 262nd Street and SE 272nd Street).
- Existing homes along SE 256th Street on the northwest side of SR-18 (for example between 180th Ave SE and 173rd Avenue SE).

- Proposed new dwellings adjacent to the proposed new section of 204th Avenue SE within the subarea.

Methodology for Noise Modeling

NOISE FROM MINE RECLAMATION AND ASPHALT BATCH PLANT

Noise emissions generated by the existing mine reclamation and existing asphalt batch plant operations were forecast using the screening-level methodology developed by the City of Boston for their “Central Arterial” construction project (Thalheimer, 2000). The list of noise sources in that reference document includes the types of equipment used for mine reclamation and asphalt batch plants: concrete batch plants, crushers, bulldozers, graders, loaders, and haul trucks. Sound propagation from the reclamation activity and asphalt batch plant operations to the noise-sensitive receivers was modeled using the screening-level methodology developed by the Federal Transit Administration (FTA), assuming “soft ground” to simulate substantial ground attenuation (Federal Transit Administration, 2006).

TRAFFIC NOISE MODELING METHODS

Traffic noise often exceeds the Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) noise abatement criteria for homes within 200 feet of a freeway or within 50 to 100 feet of an arterial roadway. The magnitude of the traffic noise impact near any given roadway would depend on the traffic volume, traffic speed, number of lanes, and the setback distance to the homes.

For this assessment, traffic noise impacts caused by increased traffic on SE 256th Street and 204th Avenue SE were evaluated for existing homes and proposed developments. Peak-hour traffic volumes along these streets in the study area under the existing conditions and projected for each alternative are listed in Exhibit 3.6-2. Peak-hour traffic volume forecasts were provided by the City’s traffic team (Barnes, 2013b).

Exhibit 3.6-2. Weekday Evening Peak-Hour Traffic Volumes in Study Area

Representative Receiver Location	Existing (2012)	Alternative 1 No Action (2035)	Alternative 2 Minimum Urban Village (2035)	Alternative 3 Maximum Urban Village (2035)
Existing homes along SE 256 th Street, west of study area	960	1,460	1,800	1,800
Existing homes along 204 th Avenue SE, southeast of study area	70	170	770	840
Future new dwellings along the proposed new 204 th Avenue SE within study area	Not Applicable	Not Applicable	1,440	1,520

Source: Heffron Transportation, 2013

Note: Traffic volume measured in vehicles/hour (combined vehicles in all directions)

The FHWA Traffic Noise Model Version 2.5 (Federal Highway Administration, 2004) was used to predict existing and future noise levels during the peak hour under the following screening-level assumptions. The model was configured as follows for SE 256th Street, 204th Avenue SE, and the proposed new segment of the 204th Avenue SE connector street within the study area.

- No field measurements were performed for this screening-level noise analysis.
- Medium trucks and heavy trucks were each assumed to represent 1% of traffic volumes.
- Traffic was assumed to operate at 35 miles per hour.

- The surface between the street and nearby residences consists mainly of asphalt and packed soil. Therefore, the ground surface type was defined as “hard surface” for the model.
- The analysis distance from the center of the street to existing homes was assumed to be 75 feet under existing conditions. Future distance between the center of the street and average allowable setbacks (for new developments) was assumed to be 60 feet.
- The width of the new 204th Avenue SE street segment was assumed to be the same as the width of the existing 204th Avenue SE roadway (44 feet).

Existing Conditions

Currently, the subarea consists of a gravel mine, which is undergoing the reclamation process. The gravel mine has historically produced noise associated with mining activities, such as the operation of heavy mining equipment and noise associated with asphalt batch plant operation. Traffic noise is currently produced from SR 18 and local streets in the study area. The study area is located approximately 2 miles from Crest Airpark, approximately 7 miles from Auburn Municipal Airport, and approximately 11 miles from SeaTac International Airport. The study area is not located within the noise exposure contours for SeaTac Airport. Crest Airpark and Auburn Municipal Airport are very small, and noise from these airports is negligible. The nearest railroad line is located approximately 1 mile south of the study area, and is not expected to contribute to ambient noise levels within the study area.

Exhibit 3.6-3 lists the modeled daytime Leq noise levels at each representative receiver location for the existing conditions, categorized according to the individual noise source affecting that location. The existing mine reclamation activity and the existing asphalt batch plant are modeled to be the dominant existing noise sources at the northern wetland location, but traffic noise is the dominant existing noise source at the surrounding residential areas.

Impacts

The modeled peak-hour noise levels for all noise sources under the existing conditions and all three alternatives are shown in Exhibit 3.6-3. Impacts from each category of noise source are discussed below.

Exhibit 3.6-3. Modeled Peak-Hour Noise Levels in the Study Area

Noise Sensitive Receiver	Daytime Peak-Hour Noise Level (dBA, Leq)			
	Existing Conditions	Future Alternative 1 (No Action)	Future Alternative 2 (Minimum Urban Village)	Future Alternative 3 (Maximum Urban Village)
Wetlands Within Northern Study Area				
Mine Reclamation	50	Discontinued	Discontinued	Discontinued
Asphalt Batch Plant	58	55	Discontinued	Discontinued
Roadway (SR-18)	50	50	50	50
Roadway Increase Compared to Existing Condition	0	3 dBA decrease	8 dBA decrease	8 dBA decrease
New Residential Areas Within Study Area, Near New Section of 204th Avenue SE				
Mine Reclamation	N/A	Discontinued	Discontinued	Discontinued
Asphalt Batch Plant	N/A	Discontinued	Discontinued	Discontinued

Noise Sensitive Receiver	Daytime Peak-Hour Noise Level (dBA, Leq)			
	Existing Conditions	Future Alternative 1 (No Action)	Future Alternative 2 (Minimum Urban Village)	Future Alternative 3 (Maximum Urban Village)
New Roadway (204th Ave. SE)	N/A	N/A	65	66
Roadway Increase Compared to Existing Condition	N/A, noise receiver does not currently exist			
Existing Homes Along SE 256 th Street				
Mine Reclamation	43	Discontinued	Discontinued	Discontinued
Asphalt Batch Plant	41	41	Discontinued	Discontinued
Existing Roadway (SE 256 th Street)	63	64	65	65
Roadway Increase Compared to Existing Condition	0	1	2	2
Existing Homes Along Existing 204 Ave, SE				
Mine Reclamation	43	Discontinued	Discontinued	Discontinued
Asphalt Batch Plant	41	41	Discontinued	Discontinued
Existing Roadway (204 th Avenue SE)	51	55	62	62
Roadway Increase Compared to Existing Condition	0	4	11	11
Existing Homes South of Mine Site				
Dense suburban background noise	60	60	60	60
Mine Reclamation	50	Discontinued	Discontinued	Discontinued
Asphalt Batch Plant	49	49	Discontinued	Discontinued
New roadway (new section of 204 th Avenue SE)	N/A	N/A	Less than 50	Less than 50
Roadway Increase Compared to Existing Condition	0	0	0	0

Source: Landau, 2013

Noise Related to Mine Reclamation Activity and Asphalt Batch Plant

Regardless of which development alternative is implemented, the currently-permitted reclamation of the gravel mine will continue until reclamation is completed, after which time noise from the gravel mine will cease. The asphalt batch plant would continue to operate under Alternative 1 (No Action) and slightly expand in size, but would cease under Alternatives 2 and 3.

ALTERNATIVE 1 (NO ACTION)

It is assumed the mine reclamation will be completed before 2035, the timeline for the noise analysis of the future No Action alternative and Alternatives 2 and 3. Noise from the mine reclamation will cease, but the asphalt batch plant will continue to operate and potentially expand, and noise associated with asphalt batch plant operations will continue. Noise from the asphalt batch plant is listed in Exhibit 3.6-3. Asphalt batch plant noise would be

negligible at the residential receivers including the existing residential area south of the mine site. The asphalt batch plant was modeled to be the dominant noise source at the wetlands on the north side of the study area.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under the Minimum Urban Village proposal, the mine reclamation will be completed before any substantial residential or commercial development begins within the study area. Under this proposal, the asphalt batch plants will discontinue operation. Noise associated with mine reclamation and asphalt batch plants will cease under the minimum urban village proposal.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under the maximum urban village proposal, the mine reclamation will be completed before any substantial residential or commercial development begins within the study area. Under this proposal, the asphalt batch plants will discontinue operation. Noise associated with mine reclamation and asphalt batch plants will cease under the maximum urban village proposal.

Noise Related to Construction Activities

ALTERNATIVE 1 (NO ACTION)

Under Alternative 1 (No Action), the mine would not be developed after reclamation is completed, apart from a small asphalt batch plant expansion and therefore, minor construction noise would be produced within the gravel mine area.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under the proposal, noise from construction activities will be more substantial than in Alternative 1 due to the proposed residential and commercial development within the gravel mine area. Proposed future development would include construction of buildings, streets, and parking lots, which would temporarily increase noise levels at residences close to the development site. The development plan specifies residential land use adjacent to commercial land use. If a new commercial business is constructed on a parcel adjacent to an apartment complex that has already been occupied, then the construction noise might impact the existing residents. Temporary daytime construction activity is not regulated under the Covington Municipal Code (CMC), which is described later in this section. This type of activity could cause annoyance at outdoor locations adjacent to the construction sites. Nighttime construction activity, if required at all, would require a waiver and special mitigation measures from the City Manager or his/her designee.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under the maximum urban village proposal, an even greater level of development would occur within the gravel mine area, resulting in increased noise from construction-related activities. Construction noise impacts would be similar to those described for Alternative 2.

Noise Related to Commercial Business within Study Area

ALTERNATIVE 1 (NO ACTION)

Under Alternative 1 (No Action), the mine would not be developed, and there would continue to be no noise from commercial businesses within the gravel mine limits (other than continued use of the asphalt batch plant, which was described previously).

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under the Minimum Urban Village proposal, the gravel mine area would be developed as an urban village featuring regional and local commercial space and a mixture of housing types and densities. It is likely that new commercial development would occur near either current or future residences. Unless properly controlled, mechanical equipment (e.g. rooftop air conditioning units) and trucks at loading docks of office and retail buildings

could cause public disturbance noises. However, these commercial noise sources would be regulated under the City's noise code, and would be required to be designed to avoid noise impacts to nearby neighbors. Therefore, noise impacts from commercial activity would not be significant.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under the maximum urban village proposal, the gravel mine area would be developed as an urban village featuring additional regional and local commercial space and a mixture of residential units. Under this alternative, the gravel mine area would be developed to a greater degree than in Alternatives 1 and 2. However, similar to Alternative 2 all new future commercial equipment would have to be designed to satisfy the City's noise code, so noise impacts would not be significant.

Noise Related to Aircraft

Under all alternatives, no impacts caused by nearby airports such as Crest Airpark or Auburn Municipal Airport or air traffic patterns would occur. Small aircraft approaching or departing Crest Airpark might be discernible as they occasionally fly overhead, but the daily air traffic at that small airport are low enough so the long-term daily average noise levels are not substantial. Therefore, there would be no impact from noise related to aircraft under Alternatives 1, 2, or 3.

Noise Related to Traffic

This section evaluates existing and future traffic noise levels for each alternative. For this screening-level study a traffic noise impact is defined as either of the following:

- Peak-hour traffic noise level of 66 dBA (Leq) or greater at the exterior outdoor use area of any existing or future dwelling along 204th Avenue SE or SE 256th Street.
- Increase in peak-hour traffic noise of 10 dBA Leq or greater (future project level minus existing level)) at the exterior outdoor use area of any existing dwelling.

These noise impact thresholds are the same that are used by WSDOT to define a "noise impact" for roadways constructed using state or federal funding (WSDOT's noise guidelines are described in the Applicable Regulations and Commitments section). WSDOT's noise guideline would not apply to any roadway that was not constructed using state or federal funds, so WSDOT would have no direct authority over any portion of the proposed action. Regardless, WSDOT's criteria were applied as relevant indicators of traffic noise impacts at all existing and future roadway segments evaluated for this screening-level analysis.

ALTERNATIVE 1 (NO ACTION)

Under Alternative 1 (No Action), the mine would not be developed. After reclamation of the mine, traffic related to mine operations would cease. Traffic related to asphalt batch plant operations, however, would continue and could increase in a minor way if the asphalt batch plant were expanded. Traffic noise caused by the small number of trucks serving the asphalt batch plant would be similar to but likely greater than under existing conditions.

Exhibit 3.6-3 shows the forecast traffic noise levels for each representative receiver location. Under the No Action alternative, the modeled peak-hour traffic noise increase at existing homes along SE 256th Street and 204th Avenue SE would not exceed the WSDOT "substantial increase" impact threshold of 10 A-weighted decibels (dBA).

Therefore, Alternative 1 would not affect typical residences along these streets.

Under all three alternatives, traffic noise levels at the wetland system in the north portion of the study area will be dominated by traffic on SR 18 and would remain the same. Therefore, traffic noise for Alternative 1 would not affect the wetland.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Future traffic volumes would increase as a result of this development and an increased population. For most residents adjacent to streets, increased traffic would result in the greatest increase in ambient noise levels, caused by moving traffic and vehicles idling at intersections. Increased population and development could lead to the following types of events, which could result in future traffic noise impacts:

- Increases in traffic volumes along existing streets, with resulting impacts on existing homes near the streets; and
- Construction of new streets through lightly developed land.

Exhibit 3.6-3 shows the forecast traffic noise levels at each receiver location. Under the Minimum Urban Village proposal, the modeled peak-hour traffic noise increase at existing homes along SE 256th Street would not exceed the WSDOT “substantial increase” impact threshold of 10 dBA, while the modeled peak-hour traffic noise increase at existing homes along 204th Avenue SE would exceed this threshold. Therefore, Alternative 2 would have no noise impact on homes along SE 256th Street, but may have an impact on homes along the existing segment of 204th Avenue SE where dBA increases from 51 to 62, an increase of 11 dBA, considered an exceedance of one of WSDOT’s thresholds, and a significant impact. Noise levels for typical homes on these streets were modeled to be 60 dBA, high enough to interfere with normal speech at outdoor use areas and possibly cause excessive indoor noise levels, though lower than WSDOT’s 66dBA threshold. No impacts from traffic-related noise will occur to the wetlands within the northern part of the study area, to existing homes along SE 256th Street, or to the existing homes in the residential neighborhood south of the mine site.

Under all three alternatives, traffic noise levels at the wetland system in the north portion of the study area are dominated by noise from SR 18 and will remain the same. Therefore, traffic noise from Alternative 2 would not affect the wetland.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Exhibit 3.6-3 shows the forecast traffic noise levels at each receiver location. Under the maximum urban village proposal, the modeled peak-hour traffic noise increase at existing homes along SE 256th Street would not exceed the WSDOT “substantial increase” impact threshold of 10 dBA, while the modeled peak-hour traffic noise increase at existing homes along the existing segment of 204th Avenue SE would exceed this threshold similar to Alternative 2’s 11 dBA increase. In addition, the traffic noise levels at future dwellings adjacent to the new section of 204th Avenue SE within the development were modeled to be 66 dBA, which triggers WSDOT’s noise impact criterion. Therefore, Alternative 3 would have no noise impact on homes along SE 256th Street, but may have an impact on homes along both the existing and proposed new segments of 204th Avenue SE. No impacts from traffic-related noise will occur at the existing residential neighborhood south of the mine site.

Noise levels at the wetland system in the north portion of the study area will be dominated by traffic on SR 18 and would remain the same. Therefore, Alternative 3 would not affect the wetland.

Mitigation Measures

Incorporated Plan Features

The proposed alternatives do not currently incorporate mitigation measures for noise. The City may, however, require noise mitigation measures be implemented by commercial and residential developers and construction crews on a case-by-case basis. Additionally as described below, due to predicted noise impacts for future residences located along the new 204th Avenue SE within the development, the City could elect to implement traffic noise mitigation measures along that new street.

Applicable Regulations and Commitments

Issues and impacts related to noise are regulated at the local, state, and federal levels. The proposed alternatives will be conducted in compliance with regulations at all three levels. This section describes applicable noise regulations.

LOCAL: CITY OF COVINGTON NOISE REGULATIONS

Chapter 8.20 of the Covington Municipal Code (CMC) establishes regulations to minimize the exposure of citizens to excessive noise. The CMC clearly states the hours during which certain noisy activities are prohibited but does not specify numerical limits for permissible noise levels. The City’s code references state noise regulations.

The CMC prohibits sounds originating from construction activity between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and 6:00 p.m. and 9:00 a.m. on Saturdays, Sundays, or Federal holidays. However, prohibitions on construction activities may be waived or modified for work involving public utilities within the public right-of-way if approved by the City Manager or his/her designee.

FEDERAL: FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE REGULATIONS

Federal FHWA funding, distributed WSDOT, may be used for street improvements associated with this project, and as such, the noise criteria established in Title 23, Part 772 of the Code of Federal Regulations (CFR) may apply. The FHWA Noise Abatement Criteria (NAC) are summarized in Exhibit 3.6-4.

Exhibit 3.6-4. Federal Highway Administration Noise Abatement Criteria

Activity Category	Criterion (dBA Leq)	Description of Activity Category
A	57 (exterior)	Lands where serenity and quiet are of extraordinary significance and that serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	152 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA, CFR, 2013

STATE: NOISE CONTROL ACT OF 1974 (WAC 173-60)

WAC 173-60-040 establishes maximum permissible noise levels for various environments, and construction activities under all alternatives would be subject to these provisions. Under Alternative 1, greater levels of noise would be allowed in keeping with the existing mineral/industrial use of the property. Alternatives 2 and 3 would have lower noise thresholds, consistent with their proposed use for commercial and residential activity.

STATE: WASHINGTON DEPARTMENT OF TRANSPORTATION TRAFFIC NOISE REGULATIONS

WSDOT has adopted the FHWA NAC for evaluating noise impacts and for determining if such impacts are sufficient to justify funding of noise abatement for new roadway construction and roadway widening projects with state funding. The WSDOT traffic noise policy described below meets the federal requirements of 23 CFR 772 described above, so compliance with the WSDOT traffic noise policy will meet FHWA noise requirements. For WSDOT-funded roadway projects, a noise impact occurs when a predicted traffic noise level under the design year conditions

approaches within 1 dBA of the FHWA NAC (for example, WSDOT defines a traffic noise impact at a dwelling to be 66 dBA or higher). In addition, WSDOT defines a traffic noise impact to occur when the predicted traffic noise level substantially exceeds the existing noise level. A 10-dBA increase over existing noise levels is considered a substantial increase.

The results of the screening-level TNM modeling study conducted for this EIS show that traffic-related noise from Alternative 3 may impact proposed new dwellings along the proposed new segment of 204th Avenue SE within the development. However, WSDOT would have no authority over mitigation for those impacts because WSDOT funding would not be used to construct the new street.

This screening analysis also indicates potential noise impacts at existing homes along the existing segments of 204th Avenue SE outside the planned action area. Regardless, WSDOT funds would not be available for potential mitigation along that segment because that segment would not include WSDOT-funded improvements.

Other Potential Mitigation Measures

CONSTRUCTION NOISE ABATEMENT

Nighttime construction will not be allowed without a waiver from the City Manager or his/her designee. The CMC does not regulate noise from daytime construction activities. Regardless, based on site-specific considerations at the time of construction permit review, the City may require all construction contractors to implement noise control plans for construction activities in the study area for daytime activities.

Construction noise could be reduced by using enclosures or walls to surround noisy stationary equipment, installing mufflers on engines, substituting quieter equipment or construction methods, minimizing time of operation, and locating equipment as far as practical from sensitive receivers. To reduce construction noise at nearby receivers, the following mitigation measures could be incorporated into construction plans and contractor specifications.

- Locate stationary equipment away from receiving properties.
- Erect portable noise barriers around loud stationary equipment located near sensitive receivers.
- Limit construction activities to between 7:00 a.m. and 8:00 p.m. on weekdays and between 9:00 a.m. and 6:00 p.m. on weekends and holidays to avoid sensitive nighttime hours.
- Turn off idling construction equipment.
- Require contractors to rigorously maintain all equipment.
- Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas.

TRAFFIC NOISE MITIGATION

This screening-level traffic noise study indicated the potential for traffic noise impacts at future dwellings to be constructed adjacent to the proposed new section of 204th Avenue SE within the planned action area. Although the CMC does not regulate traffic-related noise, based on site-specific considerations the City may, at its discretion under the planned action ordinance, require the new developments to install noise control measures at the new dwellings along the proposed new section of 204th Avenue SE within the development. Noise mitigation measures could include:

- Require developers to conduct site-specific traffic noise studies, to confirm the number and location of dwellings that would be impacted by traffic noise.

- Double-pane glass windows or other building insulation measures designed in accordance with the Washington State Energy Code (4-5-040). These would reduce indoor noise levels, but would not reduce exterior noise at outdoor use areas.
- Installation of noise barrier walls to shield outdoor use areas facing the street.

Significant Unavoidable Adverse Impacts

The screening-level noise study used for this analysis indicated potential traffic noise impacts at future dwellings located adjacent to the proposed new segment of 204th Avenue SE within the development. Depending on the specific configuration of the new street and the future dwelling units, it is possible that conventional traffic noise mitigation measures (e.g., noise barrier walls or window insulation) might not be technically feasible or economically reasonable. In addition, it is uncertain whether traffic noise mitigation would be technically feasible or economically reasonable at the existing homes along 204th Avenue SE south of the planned action area.

Therefore, it is possible that the future traffic noise impacts could not be mitigated. In that case the future traffic noise levels at the proposed new dwellings and the existing dwellings along 204th Avenue SE would constitute a significant and unavoidable impact.

3.7 Land Use Patterns/Plans and Policies

Affected Environment and Methodology

This section compares and evaluates the proposed amount, types, scale and pattern of uses under each alternative in relative to the existing land use pattern. Each alternative is also evaluated for consistency with state, regional, countywide, and city plans and policies including Growth Management Act Goals, Vision 2040, King County Countywide Planning Policies, and the City of Covington Comprehensive Plan.

Land Use Patterns

CURRENT LAND USE

Current land use in the subarea primarily consists of mineral extraction (170.91 acres). The eastern portion of the subarea contains vacant, undeveloped land (37.68 acres), including a heavily vegetated hillside. Exhibit 3.7-1 illustrates the distribution of land uses in the vicinity of the subarea.

COMPREHENSIVE PLAN LAND USE

The subarea contains both land within the boundary of the City of Covington (approximately 134 acres) and land in unincorporated King County but within the City's Urban Growth Boundary (approximately 75 acres). The Covington Comprehensive Plan designates the portion of the subarea within the City as Mineral, and King County has designated the portion outside city limits as Mining. City and County land use designations for the subarea are described below:

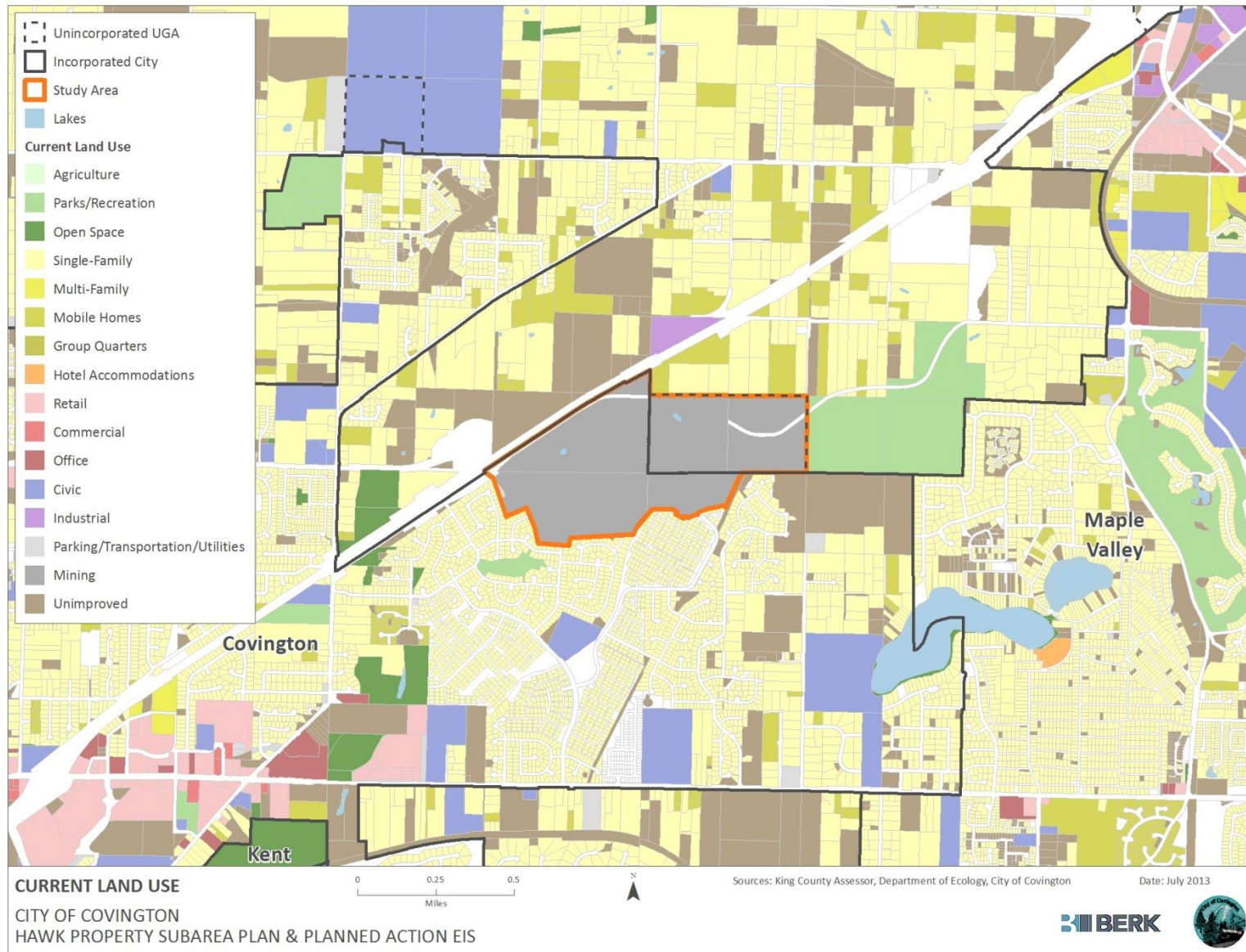
City of Covington – Mineral

According to the Covington Comprehensive Plan, mineral extraction has been performed in the vicinity of the Hawk Property Subarea for approximately 40 years. The Mineral designation is applied to mineral resource lands of long-term commercial significance.

King County – Mining

Policy R-680 of the King County Comprehensive Plan states that the Mining designation shall be applied to areas with a history of being designated for mineral extraction uses in earlier versions of the County's comprehensive plan. Policy R-681 supports designation of additional sites as Mining only following a site-specific environmental study and rezone to the Mineral zoning district.

Exhibit 3.7-1. Current Land Use



ZONING

As described under Comprehensive Plan Land Use, the subarea is divided between lands within the City of Covington and the City's UGA. The portion of the subarea within the City is zoned Mineral, consistent with the adopted comprehensive plan land use designation for the area. The portion of the subarea in the UGA is zoned M-P by King County, also intended for mineral extraction. Exhibit 3.7-2 depicts City and County zoning in the subarea, and the applied zoning districts are described below:

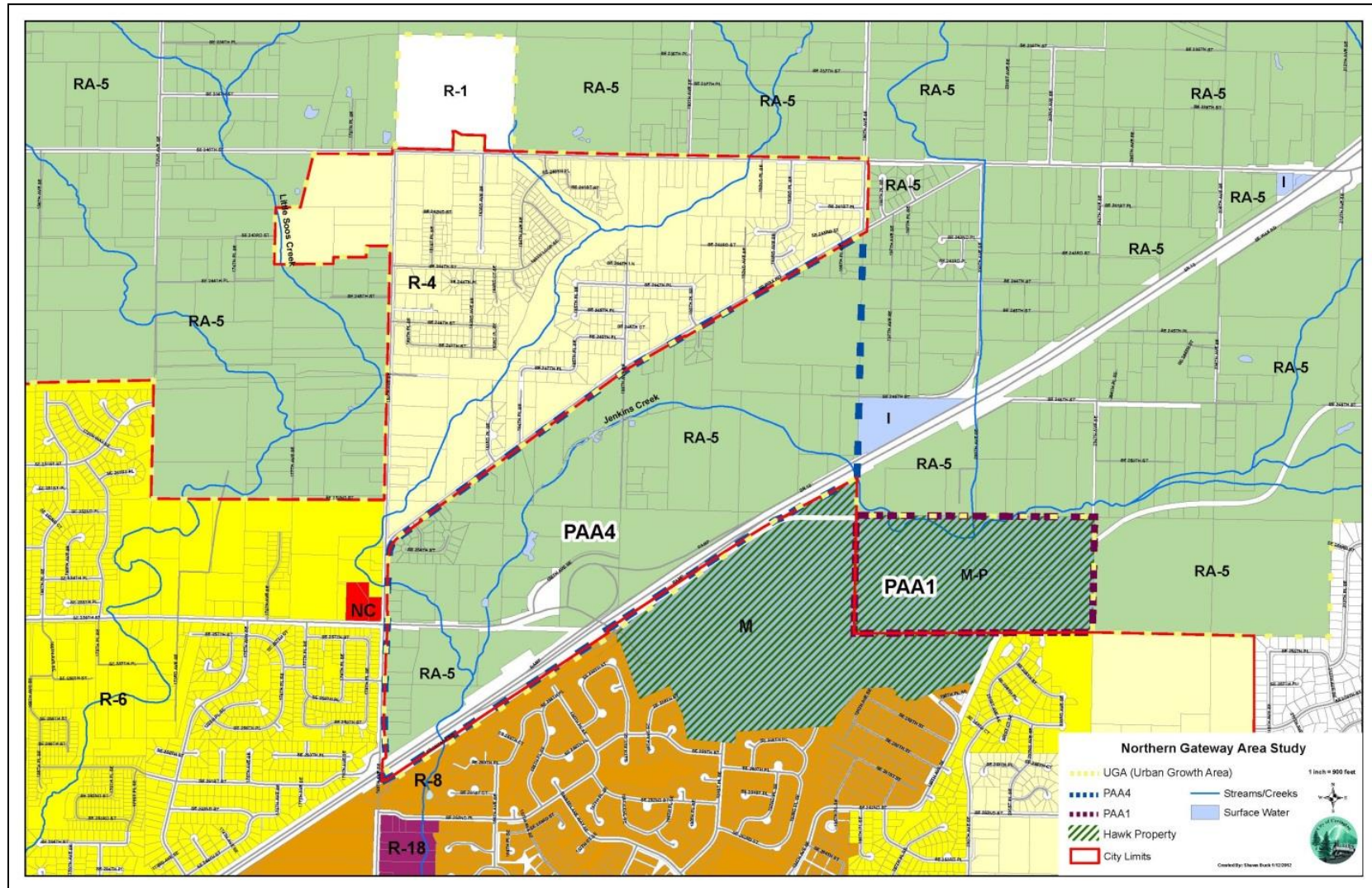
City of Covington – Mineral

Covington Municipal Code Chapter 18.15.030 states that the “purpose of the mineral zone (M) is to provide for continued extraction and processing of mineral and soil resources in an environmentally responsible manner by (a) Reserving known deposits of minerals and materials within areas as protection against premature development of the land for non-extractive purposes; (b) Providing neighboring properties with notice of prospective extracting and processing activities; and (c) Providing appropriate location and development standards for extraction and on-site processing to mitigate adverse impacts on the natural environment and on nearby properties.”

King County – M-P

Chapter 21A.04.050 of the King County Code regulated mineral resource lands in the Covington area prior to the City's incorporation in 1996, and the County's zoning language was incorporated verbatim into the City's zoning ordinance, quoted above. In addition to the development regulations associated with the Mineral zone, the portion of the subarea under King County jurisdiction is also subject to site-specific conditions, denoted by the zoning designation's “P” suffix. These conditions pertain specifically to the property's use for gravel extraction and processing and include requirements for annual grading permits, coordination with the Department of Public Works on haul routes, limits on hours of operation and noise levels, and limits on the location of excavation or tree removal (Ordinance 3494, adopted 1997).

Exhibit 3.7-2. Zoning



Source: City of Covington 2012.

Land Use Plans and Policies

GROWTH MANAGEMENT ACT

The Growth Management Act (Chapter 36.70A RCW) establishes thirteen planning goals (RCW 36.70A.020) that are to guide local jurisdictions in the development of plans and land use regulations. Exhibit 3.7-3 lists these goals and evaluates the consistency of the two Action Alternatives with GMA.

Exhibit 3.7-3. Consistency of the Action Alternatives with Growth Management Act

GMA Goal	Consistency with the Action Alternatives
<p>Urban Growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.</p>	<p>Development of the Hawk Property Subarea under either of the Action Alternatives would occur within the City of Covington and its adopted UGA. No rural lands would be converted for development, and all necessary public services are available in the area.</p>
<p>Reduce Sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.</p>	<p>The Hawk Property Subarea is currently in use as a gravel mine. The Action Alternatives would replace this use with an urban village featuring commercial and residential development ranging from 12-50 units per acre. No undeveloped land would be converted for development.</p>
<p>Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.</p>	<p>Both Action Alternatives provide access to existing King County Metro transit along SR-18. Alternative 3 features a Park-and-Ride lot to further encourage use of transit by area residents.</p>
<p>Housing. Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.</p>	<p>Both Action Alternatives would incorporate a range of housing options at a variety of densities, including single-family, townhomes, and multifamily dwelling units. This would increase housing choice in Covington, as multifamily housing is relatively uncommon in the city.</p>
<p>Economic Development. Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state’s natural resources, public services, and public facilities.</p>	<p>The Action Alternatives would both provide increase economic development opportunity for the Covington community and would aid in the recruitment of new businesses to the area. Both Action Alternatives also include commercial space designated for regional and local/iconic retail, which would allow businesses currently active in the community to potentially expand to the Hawk Property subarea.</p>
<p>Property Rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.</p>	<p>No private property would be taken for public use under either of the Action Alternatives.</p>
<p>Permits. Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.</p>	<p>Both Action Alternatives propose development standards that would be integrated with the City’s development code. Permitting and environmental review would be expedited by the adoption of a Planned Action Ordinance.</p>

GMA Goal	Consistency with the Action Alternatives
Natural Resource Industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.	Neither Action Alternative would affect productive forest or agricultural lands. The current mineral extraction use is approaching the end of its life cycle, and the development proposal has been put forth at the property owner’s request.
Open Space and Recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.	Both Action Alternatives would incorporate recreational resources proportionate to the level of population increase proposed. Alternative 2 would incorporate approximately 5.5 acres of park space, and Alternative 3 would incorporate approximately 8.3 acres of park space. Both Action Alternatives would also incorporate an on-site trail system.
Environment. Protect the environment and enhance the state’s high quality of life, including air and water quality, and the availability of water.	Protection of environmental resources is a stated goal of the development proposal, and both Action Alternatives provide for critical area buffers near Jenkins Creek and the steep slope areas at the eastern and southern edges of the subarea.
Citizen Participation and Coordination. Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.	Both Action Alternatives have been developed with the aid of citizen participation and feedback, including an active site planning exercise.
Public Facilities and Services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.	Both Action Alternatives would make necessary investments in public facilities and services, as analyzed in Chapter 3.8.
Historic Preservation. Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.	No historic resources have been documented within the Hawk Property Subarea.

Source: BERK, 2013

RCW 90.58.020 sets forth a fourteenth goal, which consists of the collective goals and policies of the Shoreline Management Act. No streams or water bodies regulated under the Shoreline Management Act are present within the subarea; therefore, this goal does not apply.

VISION 2040

In coordination with its member jurisdictions, the Puget Sound Regional Council developed VISION 2040 to provide a regional framework for growth and serve as multi-county planning policies for the purposes of the Growth Management Act. The central concept of VISION 2040 is the designation of regional growth centers to serve as the focus for anticipated housing and employment growth. Regional manufacturing/industrial centers serve as target areas for increased employment.

Covington is not designated as a regional growth center under VISION 2040, nor does it contain a designated manufacturing/industrial center. However, as a PSRC member jurisdiction, Covington’s comprehensive plan updates are subject to review by PSRC to ensure consistency with regional planning goals. PSRC has certified the City’s latest comprehensive plan update as being consistent with VISION 2040.

KING COUNTY COUNTYWIDE PLANNING POLICIES

The Growth Management Act requires counties to adopt Countywide Planning Policies (CPPs) to provide a countywide framework to guide constituent cities when developing and updating comprehensive plans. The CPPs

establish a regional vision and help ensure consistency between cities. King County’s CPPs are in currently in a state of flux; the County updated the CPPs in 2011, but the updated policies have yet to be ratified by the required number of jurisdictions to make them effective. King County’s CPPs were originally adopted in 1994 and have undergone periodic revisions since that time, but this is the first comprehensive update.

The CPPs address consistency with the regional framework of VISION 2040, environmentally sensitive areas and sustainability, urban and rural development patterns (including urban centers and resource lands), housing, economic development, transportation, and public facilities and services. An analysis of consistency with both adopted and recommended applicable CPPs is presented in Exhibit 3.7-4.

Exhibit 3.7-4. Consistency with King County Countywide Planning Policies

Countywide Planning Policy	Consistency Discussion
<p>DP-2: Promote a pattern of compact development within the Urban Growth Area that includes housing at a range of urban densities, commercial and industrial development, and other urban facilities, including medical, governmental, institutional, and educational uses and parks and open space. The Urban Growth Area will include a mix of uses that are convenient to and support public transportation in order to reduce reliance on single occupancy vehicle travel for most daily activities.</p>	<p>The Hawk Property Subarea Plan and associated development regulations plan for a range of housing types and establish minimum residential densities that would result in an overall pattern of compact development. Alternative 3 includes provisions for construction of a Park-and-Ride facility to encourage carpooling, ridesharing, and use of transit by area residents.</p>
<p>DP-3: Efficiently develop and use residential, commercial, and manufacturing land in the Urban Growth Area to create healthy and vibrant urban communities with a full range of urban services, and to protect the long-term viability of the Rural Area and Resource Lands. Promote the efficient use of land within the Urban Growth Area by using methods such as:</p> <ul style="list-style-type: none"> • Directing concentrations of housing and employment growth to designated centers; • Encouraging compact development with a mix of compatible residential, commercial, and community activities; • Maximizing the use of the existing capacity for housing and employment; and • Coordinating plans for land use, transportation, capital facilities, and services. 	<p>See response to DP-2, above.</p>
<p>DP-5: Decrease greenhouse gas emissions through land use strategies that promote a mix of housing, employment, and services at densities sufficient to promote walking, bicycling, transit, and other alternatives to auto travel.</p>	<p>Development under the Hawk Property Subarea Plan would provide a mix of employment and housing with access to transit. Implementation of Alternative 3 would include development of a park-and-ride facility to further encourage the use of regional transit.</p>
<p>DP-24: Allow cities to annex territory only within their designated Potential Annexation Area as shown in Appendix 2. Phase annexations to coincide with the ability of cities to coordinate the provision of a full range of urban services to areas to be annexed.</p>	<p>The unincorporated portion of the Hawk Property Subarea is part of the City’s designated Potential Annexation Area, and the ability to provide adequate services to the area is evaluated as part of this EIS.</p>
<p>DP-38: Identify in city comprehensive plans local centers, such as city or neighborhood centers, transit station areas, or other activity nodes, where housing, employment, and services are accommodated in a compact form and at sufficient densities to support transit service and to make efficient use of urban land.</p>	<p>Under Alternatives 2 and 3, the Hawk Property Subarea Plan would be adopted, and new goals and policies would be added to the City’s comprehensive plan to reflect the creation of this new urban village.</p>

Countywide Planning Policy	Consistency Discussion
<p>DP-60: Ensure that extractive industries maintain environmental quality and minimize negative impacts on adjacent lands.</p>	<p>Adoption of the Hawk Property Subarea Plan would ensure that land use regulations are in place to guide the transition of the site from its current mineral extraction use to a development pattern more suitable for an urban environment.</p>
<p>EC-16: Add to the vibrancy and sustainability of our communities and the health and well-being of all people through safe and convenient access to local services, neighborhood-oriented retail, purveyors of healthy food (e.g. grocery stores and farmers markets), and transportation choices.</p>	<p>Development under the Hawk Property Subarea Plan would provide Covington residents with improved access to regional retail and services, as well as neighborhood-scale retail. Alternative 3 includes provisions for the construction of a Park-and-Ride facility to encourage subarea residents to make use of transit service.</p>

Source, BERK 2013

COVINGTON COMPREHENSIVE PLAN

Covington’s first comprehensive plan was adopted shortly after the City was incorporated in 1997. A major update was completed in 2003, and minor amendments have been made to individual elements during the intervening years. The most recent updates were made to the Land Use and Downtown elements in 2012. The plan consists of twelve elements, seven of which are mandated by the GMA: Land Use, Housing, Transportation, Parks and Recreation, Utilities, Capital Facilities, and Economic Development. The plan also includes five optional elements: the Downtown Element, Environmental, Surface Water Resources, Natural Hazard Mitigation, and the Shoreline Master Program Element. The comprehensive plan forms the basis for all future and existing subarea plans and capital facility planning. Future amendments to implementing regulations, such as zoning codes, must be consistent with the goals and policies established in the comprehensive plan.

The Land Use Element of the Comprehensive Plan provides the policy basis for how the City regulates land uses in each zoning district, as well as for development regulations that cover dimensional standards and other requirements for the size and scale of development. The element also focuses on complying with the requirements of the Growth Management Act by concentrating development within the city and its associated Urban Growth Area. An analysis of consistency with applicable Goals and Policies from the Land Use Element is presented in Exhibit 3.7-5.

Exhibit 3.7-5. Consistency with Land Use Element Goals and Policies

Land Use Goal or Policy	Consistency Discussion
<p>LNP 1.5: Provide areas of low, medium, and high-density single family residential development, multifamily residential and mixed-use areas so that existing neighborhoods and open space areas are preserved and transit opportunities are enhanced.</p>	<p>Development under both Action Alternatives will increase housing choice in Covington and provide single-family and multifamily housing at a greater range of density options than is currently available in the community. Open space and recreational resources are also provided as part of the subarea plan, as well as connections to transit service.</p>
<p>LNP 7.5: Provide higher density housing opportunities in a manner that is compatible with the existing neighborhood character and require all residential construction to adhere to design standards.</p>	<p>Development under the Action Alternatives would entail provision of higher-density housing, but because the subarea is currently in mineral extraction use, there is no existing neighborhood character. However, all future development would be subject to design standards to minimize impacts to adjacent residential areas.</p>
<p>LNP 8.1: Increase the opportunities for affordable home ownership and rental housing in the community by providing for a variety of higher density housing forms, such as townhouses, apartments, senior housing, mixed-uses with residences above or attached to businesses, cottage housing, duplexes, and manufactured home parks.</p>	<p>Redevelopment of the subarea under the Action Alternatives would provide increased high-density housing options in the form of small-lot single-family homes, townhomes, and multifamily flats.</p>

Land Use Goal or Policy	Consistency Discussion
<p>LNP 18.2: Create relatively high density areas that allow people to live, shop, and possibly work without being dependent on their automobiles.</p>	<p>Development under the Action Alternatives would provide higher-density housing and the possibility for residents to live and work in close proximity. The provision of an on-site trail network could potentially reduce demand for auto use, and Alternative 3 include a Park-and-Ride lot to encourage area residents to commute by transit.</p>

Source: BERK, 2013

Impacts

Land Use Patterns

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, land use patterns in the Hawk Property Subarea would be similar to existing conditions. As described in Chapter 2, employment at the mine site is anticipated to increase slightly, including an additional 7,500 square feet of industrial building space associated with the asphalt batch plant. However, use of the property would remain unchanged. Given the minimal level of building expansion and the fact that the site is an active mining operation, impacts under the No Action Alternative are anticipated to be minimal.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 2, the Hawk Property Subarea would be converted from a mineral extraction site to an urban village featuring a mix of residential and commercial uses. The existing Mineral zoning would be converted to a mix of residential and commercial zoning consistent with the new uses proposed for the subarea. Given the current state of the subarea, the addition of approximately 1,000 residential units and 680,000 square feet of commercial space represents a substantial increase in the overall level of development and a fundamental change to land use patterns in the area. While population, employment, and overall developed space would increase under Alternative 2, no undeveloped “greenfield” land would be converted for development due to the site’s previous status as an active gravel mine. However, development under Alternative 2 is anticipated to substantially increase the level of impervious surface coverage in the subarea by approximately 75.8 acres.

Development under Alternative 2 would allow commercial, single-family, and townhome development at heights up to 35 feet. Multifamily residential buildings would be allowed at heights up to 60 feet. While this is an increase over current building heights, the developable portion of the subarea is separated from adjacent residential areas to the south and southeast by a relatively steep vegetated slope. The grade change is approximately 50-100 feet. While development in the subarea is likely to be visible from portions of adjacent neighborhoods, it is unlikely that any buildings will be tall enough to interfere with existing territorial views or otherwise create a visual obstruction.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 3, the Hawk Property Subarea would be converted from a mineral extraction site to an urban village featuring a mix of residential and commercial uses similar to Alternative 2. The existing Mineral zoning would be converted to a mix of residential and commercial zoning consistent with the new uses proposed for the subarea. Under Alternative 3, the new urban village would feature approximately 1,500 residential units and 850,000 square feet of commercial space. While Alternative 3 would feature a similar mix of uses as Alternative 2, the overall level of development would be higher, leading to greater density in the subarea than under Alternative 2. Alternative 3 would also result in greater increases in population, employment, and impervious surface coverage; impervious surface coverage in the subarea is anticipated to increase by approximately 99.6 acres.

Similar to Alternative 2, Alternative 3 would allow multifamily residential buildings at heights up to 60 feet. While the increased density and increased number of multifamily residential units could potentially increase the number

of multifamily residential buildings developed at this height, impacts to adjacent views are anticipated to be similar to Alternative 2 and would not pose a significant visual obstruction to adjacent neighborhoods.

Land Use Plans and Policies

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, the Hawk Property Subarea Plan would not be adopted, and no amendments to the City’s comprehensive plan or zoning code would be made. The Hawk property would continue as a gravel mine and asphalt batch plant, consistent with current zoning, comprehensive land use designations, and issued permits. No significant impacts to Land Use Plans and Policies are anticipated under the No Action Alternative.

ACTION ALTERNATIVES

As illustrated in Exhibit 3.7-3, Exhibit 3.7-4, and Exhibit 3.7-5, both Action Alternatives are generally consistent with adopted policy frameworks. Because of the inclusion of a Park-and-Ride facility, Alternative 3 provides greater consistency with GMA and Land Use policies for encouraging carpooling, ridesharing, and transit use.

Mitigation Measures

Incorporated Plan Features

- On-site stormwater detention and treatment will be provided to compensate for the additional impervious surface coverage generated by the Action Alternatives. The Subarea Plan also includes policy guidance for new development to implement Low Impact Development (LID) practices whenever feasible to offset increases in impervious surface coverage.
- Both Action Alternatives include sufficient park and open space dedications to adequately offset the need generated by increased population. Alternative 2 would provide approximately 6 acres, and Alternative 3 would provide approximately 8 acres.
- Both Action Alternatives would be developed under the provisions of the Hawk Property Subarea Plan, which includes development and design guidelines intended to minimize incompatibilities between commercial and residential uses within the subarea and to reduce overall visual bulk. Examples of such provisions include lower height limits on commercial buildings than residential buildings and façade articulation requirements. A full description of the proposed development and design standards is contained in the Draft Hawk Property Subarea Plan.

Applicable Regulations and Commitments

- All development in the Hawk Property Subarea after annexation would be subject to the provisions of the Covington Municipal Code Title 18 – Zoning, including the following Chapters:
 - 18.25: Permitted Uses
 - 18.30: Development Standards – Density and Dimensions
 - 18.35: Development Standards – Design Requirements
 - 18.40: Development Standards – Landscaping
 - 18.50: Development Standards – Parking and Circulation
 - 18.55: Development Standards – Signs
 - 18.65: Critical Areas
- Prior to annexation to the City of Covington, the unincorporated portion of the subarea would be subject to the provisions of King County Code Title 21, including the following Chapters:

- 21A.08: Permitted Uses
- 21A.12: Development Standards – Density and Dimensions
- 21A.14: Development Standards – Design Requirements
- 21A.16: Development Standards – Landscaping and Water Use
- 21A.18: Development Standards – Parking and Circulation
- 21A.20: Development Standards – Signs
- 21A.22: Development Standards – Mineral Extraction
- 21A.24: Critical Areas

Other Potential Mitigation Measures

None proposed.

Significant Unavoidable Adverse Impacts

Under the Action Alternatives, land reclaimed and revegetated pursuant to the requirements of a Department of Natural Resources Surface Mining permit and reclamation plan would be permanently converted from open area to urban uses. However, much of this area is and historically has been disturbed. With implementation of the measures described above, no significant unavoidable adverse impacts to land use patterns, plans, or policies are anticipated.

3.8 Transportation

This chapter describes the existing transportation system in the vicinity of the subarea and the future transportation conditions that are expected with and without the proposed project.

Affected Environment

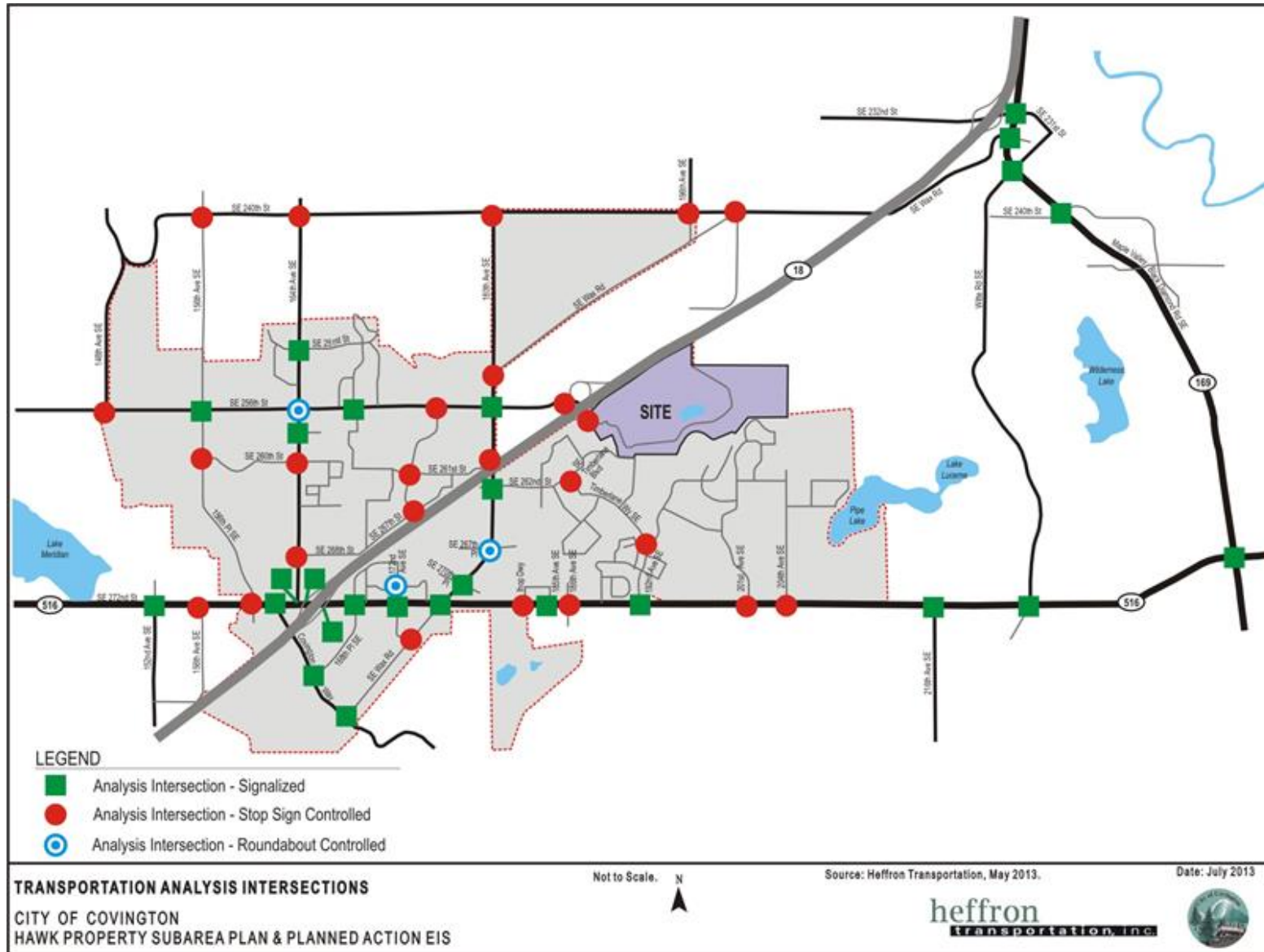
This section describes the study area considered for transportation analysis and presents existing transportation conditions within that area, including traffic volumes, roadway operations, safety conditions, transit facilities and operations, non-motorized facilities, and freight conditions.

Transportation Study Area and Study Period

The transportation study area includes all roadways and intersections that the City of Covington has defined for its Concurrency Management Program, which is the program by which cities identify infrastructure needed to support existing and future land use. Intersections that the City of Maple Valley has designated for its Concurrency Management Program have also been included in the study area. Exhibit 3.8-1 shows the analysis intersections included in the transportation study area, along with their existing traffic control. The transportation study area includes transit service located within one mile of the subarea, and existing and planned future non-motorized facilities located within one-quarter mile of the site.

Analysis is provided for the weekday PM peak hour condition (the highest volume one-hour period between 4:00 and 6:00 P.M.), which reflects the most congested hour of a typical week, and is the analysis period on which both Covington's and Maple Valley's concurrency management programs are based. Future conditions are evaluated for year 2035, which is the City of Covington's long-range planning year.

Exhibit 3.8-1. Transportation Analysis Intersections



Roadway System

EXISTING NETWORK

The City of Covington designates streets according to functional classifications that define the street’s function in the roadway network. The classifications are summarized in Exhibit 3.8-2.

Exhibit 3.8-2. City of Covington Roadway Functional Classifications

Classification	Primary Function
Principal Arterial	Provides for movement across and between large subareas of an urban region and serves predominantly "through traffic" with minimum direct service to abutting land uses. This category includes the freeways and major highways (SR 18 and SR 516) under the jurisdiction of the Washington State Department of Transportation (WSDOT).
Minor Arterial	Provides for movement within the larger subareas bound by principal arterials. A minor arterial may also serve "through traffic" but provides more direct access to abutting land uses than does a principal arterial.
Collector	Provides for movement within smaller areas which are often definable neighborhoods, and which may be bound by arterials with higher classifications. Collectors serve very little "through traffic" and serve a high proportion of local traffic requiring direct access to abutting properties. Collector arterials provide the link between local neighborhood streets (i.e. non-arterials) and larger arterials.
Local Access	Provides access to the roadway network for abutting residential and commercial development. All roadways not designated as principal arterials, minor arterials, or collectors are local access streets.

Source: City of Covington 2009a.

Regional access is provided by State Route (SR) 18, which is a limited access freeway that connects the study area to Interstate-90 (I-90), SR 169, SR 167, and I-5, with direct connections between Covington and the cities of Auburn and Federal Way to the southwest. The City’s Comprehensive Plan states that SR 18 is also considered a principal arterial (City of Covington 2009a). SR 18 has an existing full access interchange near the Hawk Property site, located at SE 256th Street. The other SR 18 interchange within Covington is located at SE 272nd Street (SR 516), about one and a half miles to the southwest of the subarea. Through Covington, SR 18 has two general purpose travel lanes in each direction. SR 18 is designated as a Highway of Statewide Significance, which is codified in the Revised Code of Washington (RCW) 47.06.140. Highways of Statewide Significance are those highways and other transportation facilities needed to promote and maintain significant statewide travel and economic linkages in Washington State; the legislation emphasizes that these significant facilities should be planned from a statewide perspective. Standards for Highways of Statewide Significance are defined by the Washington State Department of Transportation (WSDOT). SR 169 in Maple Valley is also designated as a Highway of Statewide Significance (WSDOT 2007).

Access to the existing mine on the Hawk Property site is provided via SE 256th Street, just east of the SR 18/SE 256th Street interchange. Exhibit 3.8-3 summarizes functional classifications and other features of key roadways located in the project study area.

Exhibit 3.8-3. Key Study Area Roadways

Roadway	Functional Classification ¹	Speed Limit (mph)	Lanes	Transit, Non-Motorized and Parking Facilities
SE 240 th Street	Minor Arterial	35-40 ²	2	Intermittent sidewalks. No on-street parking. No bus stops.
SE 256 th Street	Minor Arterial	35-40	2-5	Sidewalks and bicycle lanes on both sides between 180 th Avenue SE and the SR 18 interchange. No on-street parking. No bus stops.
SR 516 (SE 272 nd Street, SE Kent-Kangley Road)	Principal Arterial to the west of SR 18; Minor Arterial to the east.	35-45	2-5	Sidewalks adjacent to commercial areas; shoulder where sidewalks are not present. Bus stops are located at about one-quarter to one mile spacing along the entire length. No on-street parking.
SE Wax Road ³	Minor Arterial to the north of SE 256 th Street; Collector to the south.	35	2-3	Sidewalks and bicycle lanes on both sides of the street, south of SE 256 th Street. To the east of 180 th Avenue SE, shoulder on both sides. Bus stops located at SE 267 th Place and SE 270 th Street. No on-street parking.
180 th Avenue SE ³	Minor Arterial to the north of SE 256 th Street; Collector to the south.	35	2-3	Sidewalks and bicycle lanes on both sides of the street, south of SE 256 th Street. To the north of SE 256 th Street, primarily shoulder on both sides, with intermittent sidewalks. Bus stops located at SE 267 th Place and SE 270 th Street. No on-street parking.
204 th Avenue SE	Local Access	25	2	No sidewalks or shoulders. No on-street parking. No bus stops.
SR 169 (Maple Valley-Black Diamond Road SE)	Arterial ⁴	35-50	2-5	Sidewalks on both sides adjacent to commercial development near SR 516 and near the SR 18 interchange; primarily shoulder on both sides in-between these two areas. Bus stops are located at about one-quarter to one-half mile spacing along the entire length. No on-street parking.

1. Source: City of Covington 2009a.

2. Near Tahoma High School at 180th Avenue SE, there is a school speed limit of 20 mph when children are present.

3. SE Wax Road and 180th Avenue SE share the same roadway along the section between the SE Wax Road/180th Avenue SE intersection and SE 272nd Street.

4. Source: City of Maple Valley 2011.

FUTURE ROADWAY IMPROVEMENTS

Exhibit 3.8-4 summarizes future roadway projects that have been planned in the study area. Based on existing Transportation Improvement Programs (TIPs) and other plans and programs developed by the Cities of Covington and Maple Valley, there is reasonable certainty that the projects listed would be completed by 2035 if build-out of planned regional land use, as well as planned land use within the Cities of Covington and Maple Valley, occurs by that year. Assumed future improvements in Maple Valley include mitigation projects that have been identified in a development agreement to address impacts of the planned The Villages and Lawson Hills Master Planned Developments (MPDs) in the City of Black Diamond. These improvements were included because the planned new developments are expected to be complete and fully occupied prior to 2035.

Exhibit 3.8-4. Assumed Future Roadway Improvements in Study Area by 2035

Location	Planned Improvement	Source
SE 272 nd Street, between Jenkins Creek and 192 nd Avenue	Widen roadway to 5 lanes, including curb and gutter, sidewalks, access control features, landscaping, and provisions for U-turns.	Covington 2013-2018 TIP, #CIP 1127 and #CIP 1128 ¹
SE 272 nd Street, between 160 th Avenue SE and 164 th Avenue SE	Add turn lanes, channelization, and signal modifications.	Covington 2013-2018 TIP, #CIP 1063 ¹
SE 272 nd Street, between 192 nd Avenue SE Covington east city limits	Widen roadway to 5 lanes, including curb and gutter, sidewalks, access control features, landscaping, and provisions for U-turns.	(2)
185 th Place Extension, from Wax Road/180 th Street to SE 272 nd Street	Construct new 3-lane urban arterial, with curb and gutter, sidewalks, and landscaping.	Covington 2013-2018 TIP, #CIP 1124 ¹
SE 256 th Street, between 172 nd Avenue SE and 180 th Avenue SE; 180 th Avenue SE, between SE 256 th Street and SE Wax Road	Provide improvements adjacent to the new fire station at SE 256 th Street/180 th Avenue SE; widen the north side of SE 256 th Street from 176 th Avenue SE to 180 th Avenue SE.	Covington 2013-2018 TIP, #CIP 1056 and #CIP 1149 ¹
SR 169, Witte Road SE to SE 244 th Street	Widen to 5 lanes and add southbound right-turn access lane	Maple Valley 2013-2018 TIP, #T-7, #T-36 and #T-39 ³
SR 169, SE 260 th Street to SE 264 th Street	Widen roadway to 5 lanes.	Maple Valley 2013-2018 TIP, #T-31a ³
SR 169 / SE 244 th Street	Add traffic signal.	Maple Valley 2013-2018 TIP, #T-34 ³
SR 169 / SE 271 st Place	Widen roadway to 5 lanes and add traffic signal.	Maple Valley 2013-2018 TIP, #T-37 ³
216 th Avenue SE, SR 516 to Maple Valley south city limits	Widen to 3 lanes.	Maple Valley 2013-2018 TIP, #T-38 ³
SE 231 st Street Connection, Witte Road to SE 240 th Street	Construct new 3-lane roadway, including curb and gutter, bicycle lanes, and sidewalks.	Maple Valley Comprehensive Plan ⁴
SR 169 / SE Wax Road	Add southbound through-lane on SR 169, from SE 231 st Street to Witte Road. Add second eastbound to southbound right-turn lane. Modify signal to allow eastbound right-turn overlap with northbound left-turn phase.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project A ⁵
SR 169 / Witte Road SE	Add southbound through lane.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project B ⁵
SR 169 / SE 240 th Street	Add second northbound to westbound left turn lane. Add second westbound to southbound left turn lane. Add westbound through lane.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project C ⁵
SR 169, Witte Road SE to SE 280 th Street	Add second northbound lane and second southbound lane. Add traffic signal at SR 169 / Witte Road SE	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Projects E, F, G, H, and J ⁵
SR 169 intersections with SE 264 th Street, SR 516, and SE 271 st Street	Coordinate signals and set cycle length to 140 seconds.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project I ⁵

Location	Planned Improvement	Source
SR 169, SE 280 th Street to Maple Valley south city limits	Add second southbound lane.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project K ⁵
SE 271 st Bypass Road from SR 169 to SR 516	Construct new 3-lane street.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project L ⁵
SR 516, 216 th Avenue SE to Maple Valley west city limits.	Widen to 4/5 lanes, with curb, gutter and sidewalk. At the 216 th Avenue SE intersection, restripe the northbound approach to one left-turn lane and one left- and right-turn shared lane. Increase the left lane pocket length to 270 feet. Modify signal to accommodate eastbound right-turn overlap with northbound phase.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Projects W and X ⁵
SE 240 th Street, SR 169 to Witte Road	Add second westbound lane.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project Y ⁵
SE 240 th Street Extension	Construct a new 3-lane extension of SE 240 th Street between SE Wax Road and Witte Road SE.	Maple Valley Development Agreement for The Villages and Lawson Hills MPDs, Project Z ⁵

1. Source: City of Covington, 2012.

2. Source: City of Covington, 2013. Although this improvement is not currently programmed in the TIP, the City of Covington is committed to continuing the widening projects currently underway east to the city limits, and have reasonable certainty that this will be complete by 2035.

3. City of Maple Valley 2012.

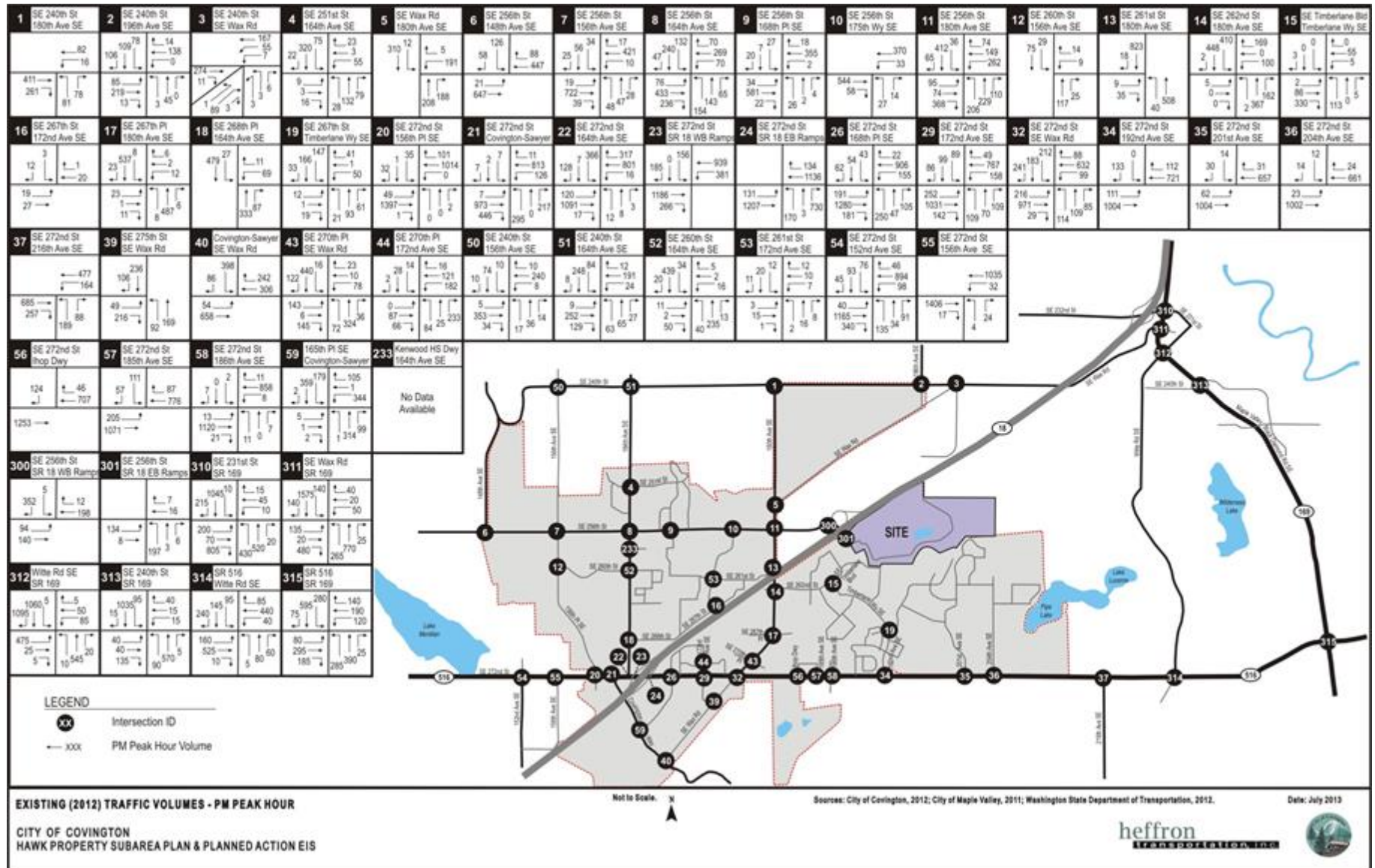
4. City of Maple Valley 2011.

5. City of Maple Valley 2010.

Traffic Volumes

Existing weekday intersection traffic volumes were obtained from PM peak period turning movement counts conducted at the study area intersections. Counts within the City of Covington were conducted in 2012 and counts within the City of Maple Valley were conducted in 2010. Average annual growth rates were applied to the 2010 volumes to estimate the 2012 volumes for the Maple Valley intersections. The growth rates were derived by comparing 2010 and 2012 volumes on SR 169 and SR 516 in Maple Valley, obtained from the *Annual Traffic Report* (WSDOT 2012). Based upon the changes in volume reflected by the WSDOT counts, an average annual growth rate of 2.25% was applied to 2010 counts along SR 169, and an annual rate of 4% was applied to 2010 counts along SR 516. Exhibit 3.8-5 shows the 2012 PM peak hour intersection volumes for the transportation analysis intersections.

Exhibit 3.8-5. Existing (2012) Intersection Volumes – PM Peak Hour



Traffic Operations

Traffic operational analysis methods and existing conditions for intersections and arterial segments are described in the following sections.

INTERSECTIONS

Level of Service Method

Level of service (LOS) analysis was performed at the study area intersections for the PM peak hour. Level of service is a qualitative measure used to characterize traffic operating conditions. Six letter designations, “A” through “F,” are used to define level of service. LOS A and B represent conditions with the lowest amounts of delay, and LOS C and D represent intermediate traffic flow with some delay. LOS E indicates that traffic conditions are at or approaching congested conditions and LOS F indicates that traffic volumes are at a high level of congestion with unstable traffic flow.

Levels of service for the study area intersections were analyzed using methodologies presented in the *Highway Capacity Manual* (HCM) (Transportation Research Board 2000). All level of service calculations were performed with Trafficware’s *Synchro 7.0* analysis software. Intersection analysis was completed using the HCM Signalized and Unsignalized modules, consistent with the methods applied in both Covington’s and Maple Valley’s current comprehensive plans. Operations at roundabouts were evaluated using *SIDRA* analysis software.

Level of service for intersections is defined in terms of average delay per vehicle in seconds. For a signalized intersection, all-way stop-controlled intersection, or roundabout intersections, level of service is based upon average delay for all vehicles traveling through the intersection. The level of service for a one- or two-way stop-controlled intersection is determined by the average delay for the most congested movement through the intersection. Delay is related to the availability of gaps in the main street’s traffic flow, and the ability of a driver to enter or pass through those gaps. Exhibit 3.8-6 shows the level of service criteria for signalized and unsignalized intersections, as defined in the *Highway Capacity Manual*. Unsignalized intersections have different level of service threshold values than signalized intersections, primarily because drivers expect different levels of performance from different types of transportation facilities. In general, unsignalized intersections are expected to carry lower volumes of traffic than signalized intersections. Therefore, for the same level of service, a smaller amount of delay is acceptable at unsignalized intersections than for signalized intersections.

Exhibit 3.8-6. Level of Service Criteria

Level of Service (LOS)	Average Delay Per Vehicle	
	Signalized	Unsignalized
A	≤ 10.0 seconds	≤ 10.0 seconds
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	> 80.0 seconds	> 50.0 seconds

Source: Transportation Research Board, 2000.

Intersection Level of Service Standards

CITY COVINGTON

To evaluate the potential transportation impacts of new development, the City of Covington has adopted an intersection standard of LOS D. Levels of service for traffic movements from unsignalized non-arterial side streets may be allowed to operate at LOS E or F, if the City Engineer determines that no significant operational or safety hazards will result (City of Covington, 2009a).

CITY OF MAPLE VALLEY

The City of Maple Valley has also adopted a standard of LOS D for its seven concurrency intersections, which are all signalized. However, this standard is based upon the weighted average delay per vehicle (based upon the number of total entering vehicles at each intersection), for north and south groups of intersections that have been defined by the City. The north concurrency group consists of the intersections of SR 169/SE 231st Street, SR 169/SE Wax Road, SR 169/ Witte Road SE, SR 169/SE 240th Street. The south concurrency group consists of the intersections of SR 516/SE 216th Avenue, SR 516/Witte Road SE, and SR 516/SR 169. The weighted average is computed according to the methodology outlined in the City’s Comprehensive Plan. The use of the weighted average delay for each of these groups of intersections allow one or more of the intersections to operate below LOS D, while still maintaining an overall average of LOS D or better (City of Maple Valley 2011).

Existing Intersection Level of Service

Exhibit 3.8-7 summarizes the existing levels of service for the study area intersections. As shown, all intersections except the following (shaded in the table) are currently operating at LOS D or better.

Signalized

- 21 – SE 272nd Street/Covington Way (LOS E)
- 32 – SE 272nd Street / SE Wax Road (LOS E)

All-Way Stop-Controlled

- 51 – SE 240th Street/164th Avenue SE (LOS E)

One-Way Stop Controlled

- 6 – SE 256th Street/148th Avenue SE (LOS F)
- 35 – SE 272nd Street/201st Avenue SE (LOS E)
- 36 – SE 272nd Street/204th Avenue SE (LOS E)

Exhibit 3.8-7. Existing (2012) Level of Service

ID	Intersection	LOS ¹	Delay ²
Signalized			
4	SE 251 st St/164 th Ave SE	A	6.7
7	SE 256 th St/156 th Ave SE	A	9.5
9	SE 256 th St/168 th PI SE	A	8.3
11	SE 256 th St/ SE 180 th St	C	32.5
14	SE 262 nd St/180 th Ave SE	B	13.7
21	SE 272 nd St/Covington Way	E	56.3
22	SE 272 nd St (SR 516)/164 th Ave SE	D	37.3

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

ID	Intersection	LOS ¹	Delay ²
23	SE 272 nd St (SR 516)/Westbound SR 18 Ramps	C	29.6
24	SE 272 nd St (SR 516)/Eastbound SR 18 Ramps	D	37.2
26	SE 272 nd St/168 th Ave SE	D	41.3
29	SE 272 nd St/172 nd Ave SE	D	48.3
32	SE 272 nd St (SR 516)/SE Wax Rd	E	56.1
34	SE 272 nd St/192 nd Ave SE	B	11.6
37	SE 272 nd St/216 th Ave SE	C	24.6
40	Covington Way/SE Wax Rd	C	21.0
43	SE 270 th Pl/SE Wax Rd	B	16.6
54	SE 272 nd St/152 nd Ave SE	B	12.8
57	SE 272 nd St/185 th Ave SE	C	29.8
59	165 th Pl SE/Covington Way	C	27.9
233	Kenwood HS Access/164 th Ave SE	(3)	(3)
310	SE 231 st St/SR 169	D	39.6
311	SE Wax Rd/SR 169	D	40.9
312	Witte Rd SE/SR 169	D	41.3
313	SE 240 th St/SR 169	C	24.2
314	SR 516/Witte Rd SE	C	34.0
315	SR 516/SR 169	D	41.2
Roundabout			
8	SE 256 th St/164 th Ave SE	B	10.9
17	SE 267 th Place/SE Wax Rd/180 th Ave SE	A	7.4
44	SE 240 th Place/172 nd Ave SE	A	5.8
All-Way Stop-Control			
2	SE 240 th St/196 th Ave SE	B	12.7
5	SE Wax Rd/SE 180 th St	B	13.4
15	SE Timberlane Boulevard/Timberlane Way SE	B	10.4
19	SE 267 th St/Timberlane Way SE	B	10.7
51	SE 240 th St/164 th Ave SE	E	39.7
One- or Two-Way Stop Control⁴			
1	SE 240 th St/180 th Ave SE (NB)	C	22.6
3	SE 240 th St/SE Wax Rd/200 th Ave SE	(3)	(3)
6	SE 256 th St/148 th Ave SE (SB)	F	169.3
10	SE 256 th St/175 th Way SE (NB)	B	14.6
12	SE 260 th St/156 th Ave SE (WB)	A	9.6
13	SE 261 st St/180 th Ave SE (EB)	C	17.0
16	SE 267 th St/172 nd Ave SE (SB)	A	8.6

ID	Intersection	LOS ¹	Delay ²
18	SE 268 th Place/164th Ave SE (WB)	D	27.3
20	SE 272nd St/156th Pl SE (SB)	C	23.0
35	SE 272nd St/201st Ave SE (SB)	E	38.2
36	SE 272nd St/204th Ave SE (SB)	E	37.9
39	SE 275th St/SE Wax Rd (EB)	C	16.2
50	SE 240th St/156 th Ave SE (SB)	C	24.3
52	SE 260th St/164th Ave S (WB)	C	15.1
53	SE 261st St/172nd Ave SE (EB)	A	9.8
55	SE 272nd St/156th Ave SE (WBL)	B	12.4
56	SE 272nd St/IHOP Driveway (SB)	C	17.3
58	SE 272nd St/186th Ave SE (NB)	D	33.1
300	SE 256th St/Westbound SR 18 Ramps (SB)	B	13.7
301	SE 256th St/Eastbound SR 18 Ramps (NB)	C	17.8

Source for Covington intersections: David Evans and Associates, 2012.

Source for Maple Valley intersections: Heffron Transportation, May 2013.

1. LOS = level of service

2. Delay = average delay per vehicle in seconds

3. Not available.

4. For one- and two-way stop-controlled intersections, the most congested movement (shown in parentheses) is reported.

ARTERIAL SEGMENTS

Arterial Level of Service Method

The City of Covington has adopted King County’s standards for arterials which apply Transportation Adequacy Measures (TAMs). The TAM process is very complex and involves use of a detailed traffic-forecasting model to evaluate the impacts of project-generated trips. This process establishes an area-wide average volume-to-capacity ratio (v/c) of 0.89 which relates to LOS D or better. This standard applies to most new developments within the city, although the County system does provide for some exemptions.

The TAM process also involves evaluation of possible Unfunded Critical Links (UCLs). The list of UCLs consists of arterial corridors that the County has identified as being important for countywide mobility, forecasted to have a high traffic congestion level, and having unfunded improvements within the 6-year time frame of the most recent Capital Improvement Program (CIP). These links are monitored and used in the level of service analysis of the TAM for testing concurrency. If links exceed the critical link threshold with a volume-to-capacity ratio (v/c) of 1.10 or greater and the link is impacted by 50 percent of a development’s peak hour traffic then the development must be denied concurrency.

The unfunded critical link test applies within Covington since SR 516 (from 104th Avenue SE to SR 169) is included on the County’s list of links to be monitored. The City applies the unfunded critical link test only to the section of SR 516 within the city limits.

In order for new development to receive a concurrency certificate and permit approval, both the TAM area-wide average v/c ratio and unfunded critical link test standard need to be met.

Existing Arterial Level of Service

The City of Covington monitors v/c in each direction along 40 arterial segments within the city limits. Under existing conditions, all segments except the following four have a PM peak hour v/c of 0.89 or less.

- SE 272nd Street, east of SR 18 eastbound ramp, v/c = 0.92 in eastbound direction
- SE 272nd Street, east of SE Wax Road, v/c = 1.29 in eastbound direction
- SE 272nd Street, west of 192nd Avenue SE, v/c = 1.03 in eastbound direction
- SE 272nd Street, east of 204th Avenue SE, v/c = 0.98 in eastbound direction

The area-wide average v/c is well below 0.89 under existing conditions.

Safety Conditions

Collision data obtained from WSDOT for the site vicinity were assessed to determine the existing traffic safety conditions in the study area. Exhibit 3.8-8 summarizes the most recent data available, recorded from January 1, 2009 through September 30, 2012.

Exhibit 3.8-8. Historical Collision Summary in Project Study Area

Intersection	Collision Type								Total - 3.8 Yrs	Avg/ Year	Rate/ MEV ¹
	Head-On	Rear-End	Side-Swipe	Right Turn	Left Turn	Right Angle	Ped/Cycle	Other			
180 th Ave/ 240 th St	0	0	0	0	1	0	0	2	3	0.8	0.2
196 th Ave/ 240 th St	0	0	0	0	0	0	0	1	1	0.3	0.1
240 th St/200 th Ave/Wax Rd	0	1	0	0	4	1	0	0	6	1.6	0.7
180 th Ave/ Wax Rd	0	1	0	0	4	1	0	2	8	2.1	0.6
256 th St/ 164 th Ave	1	5	2	2	1	5	2	7	25	6.7	0.9
180 th Ave/ 256 th St	0	3	0	2	7	3	1	1	17	4.5	0.6
Wax Rd (180 th Ave)/ 267 th Pl	0	1	0	0	0	0	0	2	3	0.8	0.2
272 nd St / Wax Rd	0	15	7	5	11	0	1	2	41	10.9	1.0
272 nd St (SR 516)/ 192 nd Ave	0	13	0	0	2	0	1	2	18	4.8	0.6
272 nd St (SR 516)/204 th Ave	0	2	0	1	0	1	0	0	4	1.1	0.2

Segment	Collision Type								Total - 3.8 Yrs	Avg/ Year	Rate/ MVM ²
	Head- On	Rear- End	Side- Swipe	Right Turn	Left Turn	Right Angle	Ped/ Cycle	Other			
240 th St, 180 th - 196 th Ave	0	15	0	0	4	1	0	7	27	7.2	3.4
180 th Ave, 240 th - Wax Rd	1	2	0	0	0	0	0	3	6	1.6	1.1
180 th Ave, Wax Rd - 256 th St	0	0	0	0	0	0	0	0	0	0.0	0.0
180 th Ave, 256 th - 267 th Pl	0	4	1	1	2	0	1	5	14	3.7	1.1
Wax Rd, 267 th Pl - 272 nd (SR 516)	0	2	0	0	2	0	1	0	5	1.3	1.0
256 th St, 164 th Av - Wax Rd (180 th Ave)	0	8	1	0	0	1	1	9	20	5.3	1.5
256 th St, Wax Rd (180 th) - SR 18	0	0	0	0	0	0	0	0	0	0.0	0.0
272 nd (SR 516), SE Wax Rd - 192 nd Ave	0	78	6	0	7	0	0	7	118	31.5	3.6
272 nd (SR 516), 192 nd Ave - 204 th Ave	0	19	0	0	1	0	0	5	25	6.7	1.4

Source: Washington Department of Transportation, Data provided for the period from January 1, 2009 through September 30, 2012, April 2013. Compiled by Heffron Transportation, May 2013.

1. MEV = million entering vehicles, calculated at study area intersections where collisions have been reported.
2. MVM = million vehicle miles traveled.

The intersections with the highest recorded collision rates are SE 256th Street/164th Avenue and SE 272nd Street/SE Wax Road, with average rates of 0.9 and 1.0 collision per million entering vehicles (MEV), respectively. The average rates at the other study area intersections are all well below 1.0 per MEV. Typically, collision rates higher than 1.0 per MEV are considered to indicate potential safety issues. Therefore, the historical collision data do not indicate unusual safety conditions at study area intersections.

For the roadway segments, the collision rates are shown in terms of million vehicle miles (MVM) traveled. The highest rates occurred on SE 240th Street between 180th Avenue SE and 196th Avenue SE (3.4 per MVM) and on SE 272nd Street between SE Wax Road and 192nd Avenue NE (3.6 per MVM). According to the *Washington State Collision Data Summary*, minor arterials in the Northwest Region (state routes) had average collision rates of 1.07 in rural areas and 2.98 in urban area (WSDOT 2011). The rates for the two segments are comparable to the average rate for urban areas. The collisions recorded along these roadways primarily occurred at intersections with driveways or local access streets at subdivisions. The collisions were spread out along the corridors, which are each about 1 mile in length, and are typical of the types of collisions that occur at intersections with driveways and local access streets. All other roadway segments had lower rates that were comparable to the rates found on roadways in rural areas. Therefore, the historical collision data do not indicate unusual safety conditions along study area roadway segments.

Transit

Bus service in Covington is provided by King County Metro (Metro) Routes 159, 168, and 912.

Metro Route 159 provides weekday commuter service from Covington to Kent and downtown Seattle in the morning and to back to Covington from downtown Seattle and Kent in the evening. The bus stop nearest the Hawk Property site served by this route is located at the SE 261st Street/ SE 180th Street intersection, about one-half mile south of the western edge of the study area.

Metro Route 168 provides daily local bus service between Covington and Kent. The bus stop nearest the Hawk Property site served by this route is also located at the SE 261st Street/ SE 180th Street intersection. This route stops at the Kent Transit Center, where riders can transfer to buses that serve other regional destinations.

Metro Route 912 provides limited weekday service between Covington, Black Diamond, and Enumclaw. The bus stop nearest the Hawk Property site served by this route is located on SE 272nd Street, more than a mile to the south of the Hawk Property site.

Non-Motorized Transportation

As described previously, SE 256th Street has continuous sidewalks and bicycle lanes between 180th Avenue SE and the SR 18 interchange. SE Wax Road (180th Avenue SE) has sidewalks and bicycle lanes to the south of SE 256th Street. No other bicycle lanes are present within the study area. Sidewalks are provided intermittently, primarily where they have been built as frontage improvements for newer developments, but the majority of roadways within the site vicinity do not have sidewalks. When new developments occur, the City requires frontage improvements, dedication of rights-of-way and construction of sidewalks to meet City standards. This provides for evolving improvement of non-motorized facilities along city roadways, but can also result in intermittent improvement of roadway segments with substantial gaps. Most roadways do have paved or unpaved shoulders of varying widths that are used by pedestrians. The following non-motorized traffic generators are located within the vicinity of the Hawk Property site:

- Crestwood Elementary School is located at the 180th Avenue SE/SE Wax Road intersection, west of the study area. There is also an unnamed green space located between the school and SE 256th Street.
- Jenkins Creek Trail is located south of SR 18 and east of SE Wax Road (180th Avenue SE), directly south of the study area.

While these facilities do not typically generate non-motorized traffic to or from the Hawk Property site, they do generate pedestrian and bicycle traffic along the major roadways that provide access to the area.

Exhibit 3.9-6 and Exhibit 3.9-7 (in Section 3.9 – Public Services) show the trails and bikeways that have been planned in Covington by King County. As shown, the planned Timberline Trail would be located along the south edge of the subarea, the planned SR 18 Trail would be located along the north edge of the subarea, the planned Jenkins Creek Trail would traverse the northeast corner of the site, and the planned Pipeline Trail would traverse the southeast corner.

The King County bicycle map identifies portions of study area roadways as part of the regional bicycle network. In addition to the bicycle lanes on SR 256th Street and SE Wax Road (180th Avenue SE), 180th Avenue SE (north of SE Wax Road), 196th Avenue SE (north of SE 240th Street) and SE 240th Street (west of 180th Avenue SE and east of 196th Avenue SE) are identified as shared roadways in the county-wide bicycle network (King County 2012).

Freight Mobility and Access

The City of Covington does not currently have a formal adopted truck route ordinance. In lieu of a formal truck route, the City assumes all arterial roadways are acceptable for truck traffic. These roadways provide access to the major commercial activity centers in the city while minimizing the impacts on residential neighborhoods (City of Covington, 2009a).

Freeways, arterials, and local roadways carry freight near the study area. The *Washington State Freight and Goods Transportation System* (FGTS) classifies highways, county roads, and city streets according to the average annual gross truck tonnage they carry. Classifications range from T-1, which includes roadways that carry over 10 million tons per year, to T-5, which includes roadways that carry over 20,000 tons in 60 days. Within Covington, SR 516 is classified as T-2; SR 169 in Maple Valley is classified as T-2 between SR 516 and Cedar Grove Road and as T-3 between SR 516 and SR 164. Several Covington roadways are classified as T-3 (300,000 to 4 million tons per year) in this system including 164th Avenue SE, 165th Place SE, 180th Avenue SE, Covington Way SE, SE 256th Street, and SE Wax Road. Two Maple Valley roadways are classified as T-3—216th Avenue SE and Witte Road SE. (WSDOT 2011)

Impacts

This section describes the conditions that would exist with each of the DEIS alternatives at build-out in the year 2035. It includes detailed trip generation estimates for each alternative, and assesses how increased vehicular traffic, transit ridership, and pedestrian traffic would affect the transportation system.

Roadway System

ALTERNATIVE 1 (NO ACTION)

With Alternative 1, no changes to the roadway system would occur. Access to and from the subarea would continue to be provided only at SE 256th Street.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

With Alternatives 2 and 3, the following new roadway connections are proposed:

- **204th Avenue SE Connector** – A new roadway connection is proposed between the east terminus of SE 256th Street and the north terminus of 204th Avenue SE. This roadway would be a 2- to 3-lane arterial (one general purpose lane in each direction and a center two-way left-turn lane where needed), and could potentially also have parking lanes on each side. The existing section of 204th Avenue SE between its north terminus and NE 272nd Street would also be improved to this standard, providing a continuous connection between SE 256th Street and SE 272nd Street. The 204th Avenue SE Connector would serve as the spine of the site's internal roadway circulation system, and would provide a second major roadway connection to the site from the east.
- **191st Avenue SE Local Connector** – A local roadway connection is proposed between 191st Avenue SE, and the local internal roadway system at the south end of the site. The purpose of this roadway would be to provide a direct connection between the site and residential development located to the south. This connection would not be intended to serve trips generated outside of the local neighborhood and would require appropriate traffic calming measures to limit access to the local neighborhood and discourage cut-through traffic (described later in this section under Mitigation Measures).

In addition to serving general vehicle trips that would be generated by the proposed alternatives, these connections would also provide additional access points for emergency vehicles. Since both roadways are proposed as part of Alternatives 2 and 3, they are assumed to be in place in the future transportation analyses for each of these alternatives and would be required to be built if the proposed redevelopment of the Hawk Property occurs.

Future Travel Demand

Future 2035 travel demand was projected using the City of Covington's travel demand forecasting model, which is a traffic analysis tool used for forecasting future traffic volumes based on existing traffic patterns and forecasted land use growth. It provides future traffic volumes for development review and comprehensive planning. The model forecasts the traffic distribution of proposed future development for traffic impact analysis related to

development review. The City's model includes each jurisdiction's planned land use in the analysis area; the model integrates elements of the regional model developed by the Puget Sound Regional Council (PSRC).

The Covington travel demand model employs the traditional travel demand forecast modeling process, which includes the following key components.

- **Transportation Network and Zone Development.** The roadway network is represented as a series of links (roadway segments) and nodes (intersections). Characteristics such as capacity, length, speed, and turning restrictions at intersections are coded into the network. The model area is divided into Transportation Analysis Zones (TAZs) that have similar land use characteristics.
- **Existing Land Use Assessment.** Existing land use is quantified within each TAZ. Land use characteristics in Covington and Maple Valley were estimated based on existing land use data. For the model area outside the two cities, land use was based on regional population and employment inventory provided by the PSRC.
- **Trip Generation.** The trip generation step estimates the total number of trips produced by and attracted to each TAZ in the model area, based on the land use within the TAZ. The trips are estimated using statistical data on population and household characteristics, employment, economic output, and land uses. The trip generation model estimates the number of trips generated per household for residential uses, and based on building area (square feet) for non-residential uses. The output is expressed as the total number of trips produced in each TAZ and the total number of trips attracted to each TAZ, categorized by trip purpose.
- **Trip Distribution.** The trip distribution step allocates vehicle trips estimated by the trip generation model to create a specific zonal origin and destination for each trip. This is accomplished using a gravity model, which distributes trips according to two basic assumptions: (1) more trips will be attracted to larger zones (the size of a zone is defined by the number of attractions estimated in the trip generation phase, not the geographical size), and (2) more trip interchanges will take place between zones that are closer together than the number that will take place between zones that are farther apart. The result is a trip matrix that estimates how many trips occur from each zone (origin) to every other zone (destination). The trips are often referred to as trip interchanges.
- **Network Assignment.** The roadway network is represented as a series of links (roadway segments) and nodes (intersections). Each roadway link and intersection node is assigned a functional classification, with associated characteristics of length, capacity, and speed. This information is used to determine the optimum path between all the zones based on travel time and distance. The trips are distributed from each of the zones to the roadway network using an assignment process that takes into account the effect of increasing traffic on travel times. The result is a roadway network with traffic volumes calculated for each segment of roadway. The model reflects the influence of traffic congestion on the roadway network.
- **Model Validation.** The model output, which consists of estimated traffic volumes on each roadway segment, is compared to existing traffic counts. Adjustments are made to the model inputs until the modeled existing conditions replicate actual existing conditions, within accepted parameters. Once the model is validated for existing conditions, it can be used as the basis for analyzing future traffic conditions that result from proposed land use, and for evaluating the effectiveness of potential improvements to the roadway network.

To project future 2035 travel demand under the three alternatives, the following assumptions were applied in the model:

- Future land use within Covington, but outside of the subarea, was projected based upon the City's future population and employment projections, and market demand analysis,
- Future land use within the City of Maple Valley was based upon build-out of the City's future land use plan, as defined in the current Comprehensive Plan (City of Maple Valley 2011),

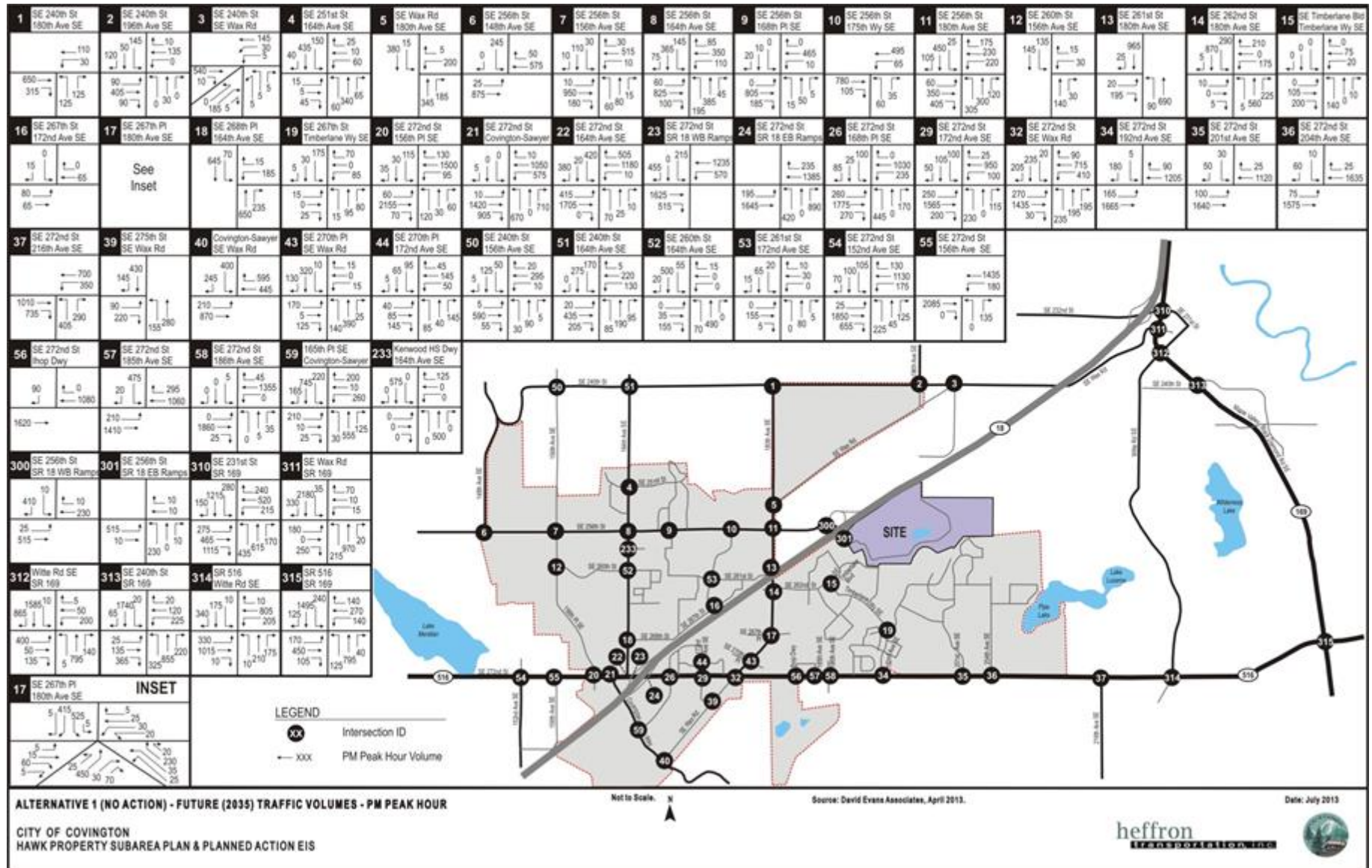
- Future land use outside of the Covington and Maple Valley was based upon projections developed by the PSRC (completion of The Villages and Lawson Hills MPDs in Black Diamond was additionally assumed), and
- The planned future roadway improvements previously summarized in Exhibit 3.8-4 were assumed to be in place.

The land use and trip generation assumptions within the project varied by alternative, and are described in the following sections.

ALTERNATIVE 1 (NO ACTION)

The No Action alternative assumes that mining reclamation operation on the Hawk Property site continues and that the asphalt batch plant would continue with slight increases in employment. The projected 2035 PM peak hour intersection volumes are shown on Exhibit 3.8-9.

Exhibit 3.8-9. Future (2035 Traffic Volumes – Alternative 1 (No Action))



ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

To evaluate the potential effects of the proposed action alternatives on future roadway operations, the estimated changes in vehicle trips generated by each alternative were estimated, as described in the following sections.

Trip Generation

This section presents the estimates of vehicle trips projected to result from the proposed development scenarios for each of the Action alternatives. The methodology also accounts for the mixed-use character of the proposed development alternatives that would allow some trips to be made internal to the site, as well trips that would be drawn from traffic already traveling on SR 18 and diverted to the site.

PROPOSED PROGRAM

Exhibit 3.8-10 summarizes the land use elements assumed for the two Action alternatives. The projections assume build-out of the proposed land use concepts by 2035.

Exhibit 3.8-10. Proposed Land Use for the Action Alternatives

Land Use Type	Unit	Alternative 2	Alternative 3
		Minimum Urban Village	Maximum Urban Village
Residential			
Single Family Detached	Dwelling units	130	200
Townhomes	Dwelling units	270	400
Multifamily	Dwelling units	600	900
Commercial			
Large Format Retail	Square feet	600,000	708,940
Iconic/Local Retail	Square feet	80,000	141,060
Park & Ride Lot	Parking spaces	0	125

Source: BERK 2013.

SUMMARY OF TRIP GENERATION METHODOLOGY

Trip generation for new projects is typically determined using rates and equations in the *Trip Generation Manual* (Institute of Transportation Engineers [ITE] 2012). This reference manual summarizes the results of numerous traffic studies throughout the country for a variety of land-use types. The *Trip Generation User’s Guide* states on page 1:

“The average trip generation rates in this report represent weighted averages of studies conducted throughout the United States and Canada since the 1960s. Data were primarily collected at suburban locations having little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs. At specific sites, the user may wish to modify trip generation rates presented in this document to reflect the presence of public transportation services, ridesharing, or other TDM measures, enhanced pedestrian and bicycle trip-making opportunities, or other special characteristics of the site or surrounding area.”

As recommended in *Trip Generation Manual*, the ITE trip generation estimates were adjusted to account for internal trips between the site’s proposed mix of land uses. However, because Covington is a suburban area and the majority of projected retail at the site is anticipated to be large format type development that would be expected to generate a relatively high proportion of automobile trips, no additional adjustments or reductions were made to reflect higher levels of transit or non-motorized modes of travel for project-related trips generated outside of the site.

The following methodology was used to adjust the trip generation estimates to account for internal trips among uses at the site, and also to account for vehicle trips generated by the site that would already be traveling on the surrounding roadway network.

1. The total number of vehicle trips generated by each major land use category (residential, retail and park & ride) was determined using equations published in ITE’s *Trip Generation Manual*.
2. Internal trips between on-site uses were estimated using the methodology presented in the *Trip Generation Handbook* (ITE 2004). A resident who makes a trip, by vehicle, bike or on foot to an on-site retail shop is an example of an internal trip.
3. Total vehicle trips were separated into “diverted linked” trips (trips already on the roadway network but would require a diversion to access the site) and “primary” trips (new trips generated by the site), utilizing procedures in the *Trip Generation Handbook*.

The following sections provide more details about each of these steps.

TRIP GENERATION EQUATIONS

Exhibit 3.8-11 summarizes the vehicle trip equations published by ITE and applied for each Action alternative land use category.

Exhibit 3.8-11. ITE Trip Generation Equations

ITE Code	Land Use Type	Daily	PM Peak Hour		
		Vehicle Trip equation	Vehicle Trip Equation	% Inbound	% Outbound
210	Single Family Residential ¹	$\text{Ln}(T) = 0.92\text{Ln}(X) + 2.72$	$\text{Ln}(T) = 0.90\text{Ln}(X) + 0.51$	63%	37%
220	Multifamily Residential ¹	$T = 6.06(X) + 123.56$	$T = 0.55(X) + 17.65$	65%	35%
230	Townhome ¹	$\text{Ln}(T) = 0.87\text{Ln}(X) + 2.46$	$\text{Ln}(T) = 0.82\text{Ln}(X) + 0.32$	67%	33%
820	Shopping Center (Retail) ²	$\text{Ln}(T) = 0.65\text{Ln}(X) + 5.83$	$\text{Ln}(T) = 0.67\text{Ln}(X) + 3.31$	48%	52%
090	Park & Ride Lot ³	$T = 4.04(X) + 117.33$	$T = 0.62(X) + 1.35$	25%	75%

Source: Institute of Transportation Engineers, *Trip Generation*, 9th Edition, 2012.

1. T = number of vehicle trips; Ln = natural logarithm; X = number of dwelling units
2. T = number of vehicle trips; Ln = natural logarithm; X = 1,000 square feet
3. T = number of vehicle trips; X = number of parking spaces.

For the proposed retail uses, the Shopping Center equations (ITE land use code [LU] 820) were applied for both the Large Format retail and the Local/Iconic retail uses. The ITE shopping center land use category is described as “...an integrated group of commercial establishments that is planned, developed, owned and managed as a unit.” The data on which the equations are based reflect a wide variety of components that can be included in retail shopping centers such as stores, restaurants, bank branches, and health and recreation facilities. Because the Hawk Property site would be designed and developed in an integrated manner and since the exact mix of retail is unknown at this time, it is appropriate to treat the retail uses as a shopping center. Also, while ITE provides average trip rates and equations for a variety of types of “superstores” that would be considered typical of large format retail development, the average rates vary greatly, from about 1.5 to 5.0 trips per 1,000 square feet for the PM peak hour. The average PM peak hour rate for the shopping center category is 3.71 trips per 1,000 square feet, which is within the upper portion of the range for large format retail stores. Since this is a planning level analysis with no development proposals from specific retailers, the shopping center rates were determined to represent reasonably conservative average rates that could likely result from two to four different types of large format retail stores at the site.

INTERNAL TRIPS

The total number of trips generated by a mixed-use development typically includes “internal trips,” or trips made between uses on the site by car or by non-motorized means. Chapter 7 of the *Trip Generation Handbook* is dedicated to estimating trip generation for multi-use developments, and provides a methodology to estimate the number of internal trips that can be expected at specific types of sites. This method is based on the types and sizes of various land uses. The more balanced the mix of uses, the higher the percentage of internal trips. Developments with a predominance of one type of use (e.g., mostly retail, or mostly residential) typically have few or no internal trips.

ITE’s methodology to determine internal trips has four steps:

1. Determine the number of trips generated by each land use as if each was on a separate site,
2. Determine the number of internal trips from capture rates provided in the *Trip Generation Handbook* for each land use category pairing,
3. Balance the number of internal trips to and from all land uses at the site, and
4. Subtract internal trips based on the percentages determined.

The *Trip Generation Handbook* provides typical percentages of internal trips between retail and residential uses, which were applied for the trip calculations. Because these trips would occur entirely on-site (either by walking, bicycling, or driving) they would not reflect new trips on the surrounding roadway system.

No adjustments were made for retail-to-retail trips because the ITE “Shopping Center” trip generation equations already take into account the internal trips that occur between retail uses on the same site. In addition, trip estimates for this DEIS analysis conservatively assume no internal trip reduction related to the park & ride lot included with Alternative 3. While it is reasonable to expect that some users of the park & ride lot could walk to and from the retail uses on-site, there is little documented evidence that this regularly occurs at other locations.

Exhibit 3.8-12 summarizes the resulting total internal trips calculated for each alternative development scenario.

Exhibit 3.8-12. Internal Trip Summary

Land Use Type	Alternative 2 – Minimum Urban Village		Alternative 3 – Maximum Urban Village	
	Daily	PM Peak Hour	Daily	PM Peak Hour
Internal Trips	5,320	530	6,560	630
Percent of Total Trips	15.5%	17.0%	15.2%	15.9%

Source: Derived by Heffron Transportation using data in ITE’s *Trip Generation Handbook*, April 2013.

TRIP COMPONENTS

It is important to recognize that a portion of the site’s vehicular driveway trips would not be new to the local area roadway network. For the retail uses, the external trips can consist of three different types—pass-by, diverted-linked, and primary trips—that would affect local roadways differently. Each of these trip types is described as follows:

- **Pass-by Trips** are attracted from roadways immediately adjacent to the site. Pass-by trips would affect driveway volumes at the specific site access points, but do not represent new trips on the overall roadway network.
- **Diverted-linked Trips** are attracted from roadways within the project vicinity but require a diversion to gain access to the site. Diverted-linked trips add traffic to streets and intersections immediately adjacent to the site, but are not be a new trip to the overall roadway network.

- **Primary Trips** are single-purpose new trips generated by the site. Primary trips are generally assumed to begin and end at home, although some new trips could originate at work, school, or other locations.

Although SR 18 is located adjacent to the subarea, it is a limited access highway and drivers on SR 18 would need to travel through the SE 256th Street interchange to gain access to the site. Development-generated trips drawn from traffic already on SR 18 were therefore considered to be diverted-linked trips.

The average diverted-linked trip percentage of 28% determined from data published in Table 5.6 of the *Trip Generation Handbook for Shopping Centers (LU 820)* was applied to the projected retail development trip estimates (ITE 2004). The remaining retail trips (72%) were considered to be primary trips, which would be new to study area roadways and intersections. The residential and park & ride uses were assumed to generate only primary trips new to the local transportation network.

VEHICLE TRIP SUMMARY

All of the steps described above were applied to estimate the number of vehicle trips that would result from the proposed Action alternatives. Exhibit 3.8-13 summarizes the total vehicle driveway trip estimates for Alternatives 2 and 3.

Exhibit 3.8-13. Vehicle Trip Generation Summary

Land Use	Alternative 2 – Minimum Urban Village				Alternative 3 – Maximum Urban Village			
	Daily	PM Peak Hour			Daily	PM Peak Hour		
		In	Out	Total		In	Out	Total
Single Family Residential								
Primary Trips	800	51	24	75	1,320	84	43	127
Diverted-Linked Trips	0	0	0	0	0	0	0	0
Subtotal	800	51	24	75	1,320	84	43	127
Townhome Residential								
Primary Trips	910	56	22	78	1,420	85	37	122
Diverted-Linked Trips	0	0	0	0	0	0	0	0
Subtotal	910	56	22	78	1,420	85	37	122
Multifamily Residential								
Primary Trips	2,260	138	61	199	3,690	226	106	332
Diverted-Linked Trips	0	0	0	0	0	0	0	0
Subtotal	2,260	138	61	199	3,690	226	106	332
Local/Iconic Retail								
Primary Trips	3,810	161	171	332	5,500	235	251	486
Diverted-Linked Trips	1,480	65	65	130	2,140	94	94	188
Subtotal	5,290	226	236	462	7,640	329	345	674
Large Format Retail								
Primary Trips	14,170	619	662	1,281	15,720	693	739	1,432
Diverted-Linked Trips	5,510	249	249	498	6,120	279	279	558
Subtotal	19,680	868	911	1,779	21,840	972	1,018	1,990

Land Use	Alternative 2 – Minimum Urban Village				Alternative 3 – Maximum Urban Village			
	PM Peak Hour				PM Peak Hour			
	Daily	In	Out	Total	Daily	In	Out	Total
Park & Ride Lot								
Primary Trips	0	0	0	0	620	20	59	79
Diverted-Linked Trips	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	620	20	59	79
TOTAL EXTERNAL TRIP GENERATION								
Primary Trips	21,950	1,025	940	1,965	28,270	1,343	1,235	2,578
Diverted-Linked Trips	6,990	314	314	628	8,260	373	373	746
TOTAL EXTERNAL TRIPS	28,940	1,339	1,254	2,593	36,530	1,716	1,608	3,324

Source: Heffron Transportation, April 2013.

FUTURE TRAVEL DEMAND

The net new trips projected to result from Alternatives 2 and 3, as summarized in Exhibit 3.8-13, were input into the Covington travel demand forecasting model, which was then used to project the total trips that would result on the study area roadways. Exhibit 3.8-14 shows the projected 2035 intersection volumes with Alternative 2 (Minimum Urban Village) and Exhibit 3.8-15 shows the projected 2035 intersection volumes with Alternative 3 (Maximum Urban Village).

Exhibit 3.8-14. Future (2035 Traffic Volumes – Alternative 2 (Minimum Urban Village))

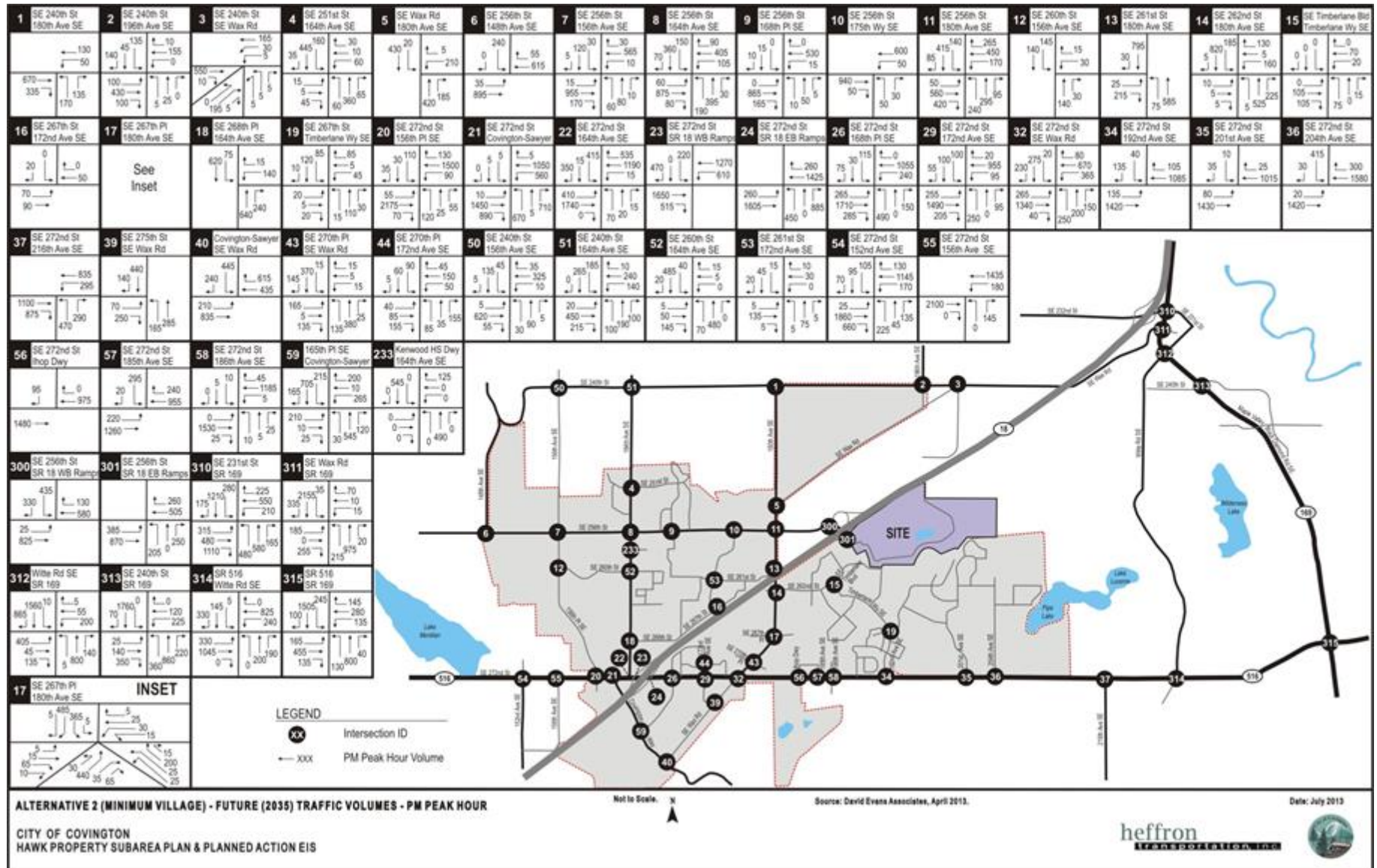
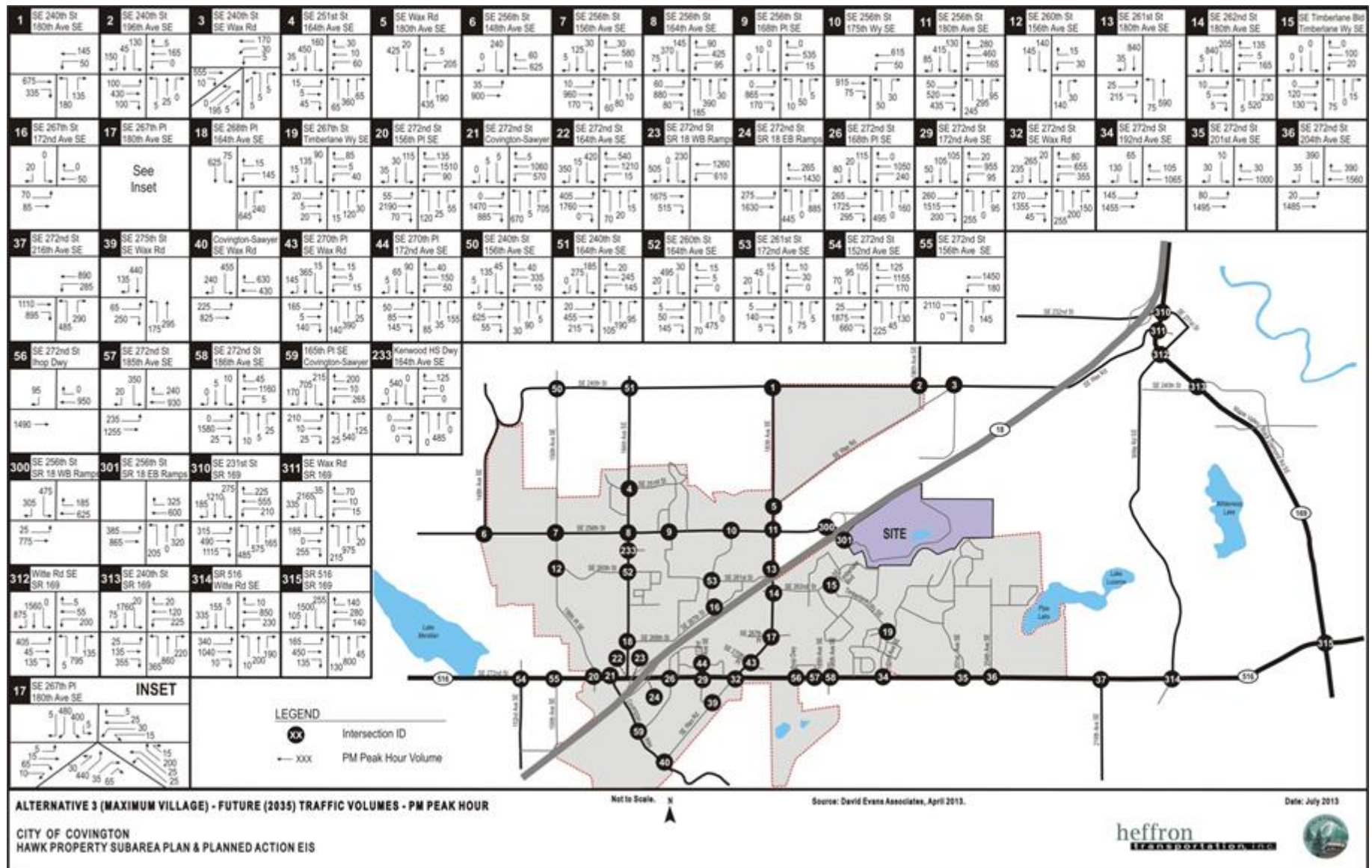


Exhibit 3.8-15. Future (2035 Traffic Volumes – Alternative 3 (Maximum Urban Village))



Intersection Operations

Intersection level of service analysis was conducted for the three future alternatives, using the same methodology previously described for existing conditions. Exhibit 3.8-16 summarizes the projected levels of service if no additional mitigation measures are implemented.

Exhibit 3.8-16. Future (2035) Level of Service - Unmitigated

ID	Intersection	Alternative 1 No Action		Alternative 2 Minimum Action		Alternative 3 Maximum Action	
		LOS ¹	Delay ²	LOS	Delay	LOS	Delay
Signalized							
4	SE 251 st St/164 th Ave SE	A	6.4	A	7.3	A	7.3
7	SE 256 th St/156 th Ave SE	C	23.3	C	23.1	C	23.0
9	SE 256 th St/168 th PI SE	A	8.8	A	9.6	A	9.3
11	SE 256 th St /SE 180 th St	D	40.7	D	54.6	D	52.8
14	SE 262 nd St/180 th Ave SE	C	24.9	B	19.4	C	20.3
21	SE 272 nd St/Covington Way	F	>200	F	>200	F	>200
22	SE 272 nd St (SR 516)/164 th Ave SE	E	72.7	E	73.9	E	79.7
23	SE 272 nd St (SR 516)/Westbound SR 18 Ramps	D	51.5	E	57.7	E	63.0
24	SE 272 nd St (SR 516)/Eastbound SR 18 Ramps	D	37.0	D	44.7	D	43.7
26	SE 272 nd St/168 th Ave SE	E	55.9	E	58.1	E	57.1
29	SE 272 nd St/172 nd Ave SE	E	69.7	E	66.9	E	70.6
32	SE 272 nd St (SR 516)/SE Wax Rd	F	115.8	F	99.8	F	99.6
34	SE 272 nd St/192 nd Ave SE	B	12.3	B	11.1	B	11.8
37	SE 272 nd St/216 th Ave SE ³	E	71.6	E	79.5	E	79.4
40	Covington Way/SE Wax Rd	D	43.8	D	45.5	D	46.2
43	SE 270 th PI/SE Wax Rd	B	13.5	B	14.0	B	13.9
54	SE 272 nd St/152 nd Ave SE	C	25.5	C	24.7	C	24.9
57	SE 272 nd St/185 th Ave SE	D	47.2	C	25.0	C	29.2
59	165 th PI SE/Covington Way	D	36.0	D	34.2	D	34.2
233	Kenwood HS Access/164 th Ave SE	A	7.4	A	7.3	A	7.2
310	SE 231 st St/SR 169 ⁴	F	133.3	F	145.0	F	145.7
311	SE Wax Rd/SR 169 ⁴	C	27.9	C	28.1	C	28.1
312	Witte Rd SE/SR 169 ⁴	C	19.7	C	19.5	C	19.6
313	SE 240 th St/SR 169 ⁴	E	79.3	F	84.0	F	86.4
314	SR 516/Witte Rd SE ³	F	159.4	F	165.8	F	171.9
315	SR 516/SR 169 ³	E	56.3	E	57.3	E	57.7

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

Roundabout						
8	SE 256 th St/164 th Ave SE	F	107.0	F	124.5	F 120.9
17	SE 267 th Place/SE Wax Rd/180 th Ave SE	F	70.6	D	34.8	E 40.8
44	SE 240 th Place/172 nd Ave SE	A	6.9	A	6.9	A 7.0
All-Way Stop-Control						
2	SE 240 th St/196 th Ave SE	E	36.6	F	50.2	F 51.4
5	SE Wax Rd/SE 180 th St	C	21.6	E	36.9	E 40.1
15	SE Timberlane Boulevard/Timberlane Way SE	A	9.7	A	8.4	A 8.8
19	SE 267 th St/Timberlane Way SE	A	9.6	A	9.3	A 9.5
51	SE 240 th St/164 th Ave SE	F	>200	F	>200	F >200
One- or Two-Way Stop Control⁵						
1	SE 240 th St/180 th Ave SE (NB)	F	192.0	F	>200	F >200
3	SE 240 th St/SE Wax Rd/200 th Ave SE (EB)	F	53.9	F	64.2	F 68.1
6	SE 256 th St/148 th Ave SE (SB)	F	ECL ⁶	F	ECL ⁶	F ECL ⁶
10	SE 256 th St/175 th Way SE (NB)	D	26.5	D	31.9	D 30.8
12	SE 260 th St/156 th Ave SE (WB)	B	13.3	B	13.5	B 13.4
13	SE 261 st St/180 th Ave SE (EB)	F	67.1	E	43.8	F 52.3
16	SE 267 th St/172 nd Ave SE (SB)	A	9.0	A	8.7	A 8.7
18	SE 268 th Place/164 th Ave SE (WB)	F	ECL ⁶	F	>200	F >200
20	SE 272 nd St/156 th Pl SE (NB)	F	ECL ⁶	F	ECL ⁶	F ECL ⁶
35	SE 272 nd St/201 st Ave SE (SB)	D	25.9	C	16.5	C 16.7
36	SE 272 nd St/204 th Ave SE (SB)	D	31.2	F	ECL	F ECL
39	SE 275 th St/SE Wax Rd (EB)	F	177.2	F	156.5	F 156.6
50	SE 240 th St/156 th Ave SE (NB)	F	>200	F	ECL ⁶	F ECL ⁶
52	SE 260 th St/164 th Ave S (EB)	C	19.5	C	22.2	C 22.1
53	SE 261 st St/172 nd Ave SE (EB)	B	14.0	B	13.1	B 13.2
55	SE 272 nd St/156 th Ave SE (WBL)	F	58.3	F	62.8	F 65.9
56	SE 272 nd St/IHOP Driveway (SB)	B	11.5	B	10.6	B 10.7
58	SE 272 nd St/186 th Ave SE (SB)	E	37.0	D	34.8	D 34.6
300	SE 256 th St/Westbound SR 18 Ramps (SB)	C	17.2	F	ECL ⁶	F ECL ⁶
301	SE 256 th St/Eastbound SR 18 Ramps (NB)	F	ECL ⁶	F	ECL ⁶	F ECL ⁶

Source: Heffron Transportation, May 2013.

1. LOS = level of service
2. Delay = average delay per vehicle in seconds
3. Part of Maple Valley's South Concurrency Intersection Group – standards are satisfied if average weighted delay of all intersections in the group is equivalent to LOS D or better. Without mitigation, the average weighted delay for this group is 92.4 (LOS F) for Alternative 1, 96.6 (LOS F) for Alternative 2, and 98.7 (LOS F) for Alternative 3.
4. Part of Maple Valley's North Concurrency Intersection Group – standards are satisfied if average weighted delay of all intersections in the group is equivalent to LOS D or better. Without mitigation, the average weighted delay for this group is 70.3 (LOS E) for Alternative 1, 75.4 (LOS E) for Alternative 2, and 76.3 (LOS E) for Alternative 3.
5. For one- and two-way stop-controlled intersections, the most congested movement is reported. The direction of the most congested movement is shown in parentheses.
6. ECL = Exceeds calculable limit.

Summary of Intersection Impacts

ALTERNATIVE 1 (NO ACTION)

The following intersections are projected to operate at LOS E or LOS F with the No Action alternative, if no additional capacity improvements are made.

Signalized

- 21 – SE 272nd Street/Covington Way
- 22 – SE 272nd Street/164th Avenue SE
- 26 – SE 272nd Street/168th Avenue SE
- 29 – SE 272nd Street/172nd Avenue SE
- 32 – SE 272nd Street/SE Wax Road
- 37 – SE 272nd Street/216th Avenue SE
- 310 – SE 231st Street/SR 169
- 313 – SE 240th Street/SR 169
- 314 – SR 516/Witte Road SE
- 315 – SR 516/SR 169

Roundabout-Controlled

- 8 – SE 256th Street/164th Avenue SE
- 17 – SE 267th Place/SE Wax Road/180th Avenue SE

Stop-Controlled

- 1 – SE 240th Street/180th Avenue SE
- 2 – SE 240th Street/196th Avenue SE
- 3 – SE 240th Street/SE Wax Road/200th Avenue SE
- 6 – SE 256th Street/148th Avenue SE
- 13 – SE 261st Street/180th Avenue SE
- 18 – SE 268th Place/164th Avenue SE
- 20 – SE 272nd Street/156th Place SE)
- 39 – SE 275th Street/SE Wax Road
- 50 – SE 240th Street/156th Avenue SE
- 51 – SE 240th Street/164th Avenue SE
- 55 – SE 272nd Street/156th Avenue SE
- 58 – SE 272nd Street/186th Avenue SE
- 301 – SE 256th Street/Eastbound SR 18 Ramps

Notes 3 and 4 of Exhibit 3.8-16 also show that for the Maple Valley concurrency intersections, the weighted averages for the North and South concurrency groups are projected to exceed the City's LOS D threshold by 2035, if no additional capacity improvements are made.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

At the following intersections projected to operate at LOS E or LOS F with the No Action alternative, both Action alternatives are projected to add delay.

Signalized

- 21 – SE 272nd Street/Covington Way
- 22 – SE 272nd Street/164th Avenue SE
- 26 – SE 272nd Street/168th Avenue SE
- 37 – SE 272nd Street/216th Avenue SE
- 310 – SE 231st Street/SR 160
- 313 – SE 240th Street/SR 169
- 314 – SR 516/Witte Road SE
- 315 – SR 516/SR 169

Roundabout-Controlled

- 8 – SE 256th Street/164th Avenue SE

Stop-Controlled

- 1 – SE 240th Street/180th Avenue SE
- 2 – SE 240th Street/196th Avenue SE
- 3 – SE 240th Street/SE Wax Road/200th Avenue SE
- 6 – SE 256th Street/148th Avenue SE
- 20 – SE 272nd Street/156th Place SE
- 50 – SE 240th Street/156th Avenue SE
- 51 – SE 240th Street/164th Avenue SE
- 55 – SE 272nd Street/156th Avenue SE
- 301 – SE 256th Street/Eastbound SR 18 Ramps

Both Alternatives 2 and 3 are projected to add a small amount of delay to the Maple Valley concurrency intersections, compared to the No Action alternative, both to the individual intersections and to the weighted averages for the North and South concurrency groups.

At the following intersections projected to operate at LOS E or LOS F with the No Action alternative, both Action alternatives are projected to reduce trips and/or average delay. The projected improvement in operations at these locations is due to shifts in citywide traffic patterns expected to primarily result from the proposed 204th Avenue SE connector street. At intersections 17 (Alternative 2 only) and 58 (Alternatives 2 and 3), operations are projected to improve to LOS D, eliminating the need for mitigation. At the other intersections, mitigation would still be needed to meet the City's LOS standard.

Signalized

- 29 – SE 272nd Street/172nd Avenue SE
- 32 – SE 272nd Street/SE Wax Road

Roundabout-Controlled

- 17 – SE 267th Place/SE Wax Road/180th Avenue SE

Stop-Controlled

- 13 – SE 261st Street/180th Avenue SE
- 18 – SE 268th Place/164th Avenue SE
- 39 – SE 275th Street/SE Wax Road
- 58 – SE 272nd Street/186th Avenue SE

The following intersections are projected to operate at LOS D or better with the No Action alternative. Both Action alternatives are expected to degrade operations to LOS E or LOS F.

Signalized

- 23 – SE 272nd Street (SR 516)/Westbound SR 18 Ramps

Stop-Controlled

- 5 – SE Wax Road/180th Avenue SE
- 36 – SE 272nd Street/204th Avenue SE
- 300 – SE 256th Street/Westbound SR 18 Ramps

Arterial Segment Operations

ALTERNATIVE 1 (NO ACTION)

The City's Transportation Adequacy Measure (TAM) thresholds are only applied to proposed new developments. If the existing asphalt batch plant were to expand, it would be subject to City concurrency regulations, but would be expected to generate a negligible number of PM peak hour trips on citywide arterial segments. Therefore, under the No Action alternative, no impacts related to arterial segments are identified.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

The 2035 TAM values calculated through the modeling process are projected to be 0.75 for Alternative 2 (Minimum Urban Village) and 0.78 for Alternative 3 (Maximum Urban Village). Both are below the City's 0.89 threshold, so no impacts related to arterial segments are identified for either action alternative.

Site Access and Circulation

ALTERNATIVE 1 (NO ACTION)

No new site access points would be constructed for the No Action alternative, and a low volume of traffic generated by continuing operation of the asphalt pavement plant would continue to access the site via SE 256th Street. No adverse impact related to site access and circulation is expected to result from this alternative.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

204th Avenue SE Connector

A new roadway connection is proposed between the east terminus of SE 256th Street and the north terminus of 204th Avenue SE. This roadway would be a 2-to-3-lane arterial (one general purpose lane in each direction and a

center two-way left-turn lane where needed), and through the city's street standard deviation process (CMC 12.60) could potentially also have parking lanes on each side. The existing section of 204th Avenue SE between its north terminus and NE 272nd Street would also be improved to this standard, providing a continuous connection between SE 256th Street and SE 272nd Street. The 204th Avenue SE Connector would serve as the spine of the site's internal roadway circulation system, and would provide a second major roadway connection to the site from the east. It would also provide an additional emergency vehicle access point.

With Alternative 2 (Minimum Urban Village), this roadway is forecast to carry about 820 project-generated PM peak hour trips (about 31% of total). With Alternative 3 (Maximum Urban Village), it is forecast to carry about 1,070 project-generated PM peak hour trips (about 32% of total). However, with both alternatives, the travel demand forecasting model shows that this new roadway would also attract additional vehicle trips not related to the proposed project, traveling between SE 272nd Street (east of 204th Avenue SE) and the SR 18/SE 256th Street interchange. With both alternatives, this would result in a reduction of trips using SE 272nd Street between 204th Avenue SE and SE Wax Road, and also using SE Wax Road/180th Avenue SE between SE 272nd Street and SE 256th Street.

This connection is also expected to attract trips currently cutting through residential neighborhoods (e.g. via Timberlane Way SE) to access the SE 256th Street/SR 18 ramps while avoiding the SE 272nd Street/SE Wax Road intersection, reducing volumes on those neighborhood roadways. The analysis indicates that total trips through the SE 272nd Avenue/192nd Avenue SE intersection, which is where cut-through traffic would typically access the local neighborhood, would decrease by about 13% with Alternative 2 and 12% with Alternative 3. As shown in Exhibit 3.8-16, both Action alternatives are expected to result in a slight decrease in average delay at this intersection.

The model analysis shows that, as project-generated trips decrease on the 204th Avenue SE connection, non-project trips would be expected to increase. About 140 more non-project related trips are projected to travel on the 204th Avenue SE connection with the Minimum Urban Village alternative (Alternative 2), than are projected for the Maximum Urban Village alternative (Alternative 3).

For both alternatives, the additional trips generated on 204th Avenue SE would degrade the stop-controlled intersection at SE 272nd Street to LOS F. However, if mitigation is provided at this intersection, the new roadway connection is expected to result in an overall benefit to the citywide street system, by providing more options for vehicles traveling between SE 272nd Street and SR 18.

191st Avenue SE Local Connector

A local roadway connection is proposed between 191st Avenue SE, and the local internal roadway system at the south end of the subarea. The purpose of this roadway would be to provide a direct connection between the subarea and residential development located to the south. It would also provide an additional emergency vehicle access point. This connection would not be intended to serve trips generated outside of the local neighborhood.

The model analysis showed that roadway capacity constraints imposed through traffic calming measures and local access roadway design treatments would minimize the amount of cut-through traffic with either Alternative 2 or Alternative 3. The 191st Avenue SE local connection is projected to carry about 520 PM peak hour trips with Alternative 2, and about 620 PM peak hour trips with Alternative 3. The model analysis indicates that the majority of these trips would be to and from the residential neighborhoods that are served by this local access street. As described above, a net reduction in trips of 12% to 13% is projected to result from either Action alternative at the SE 272nd Avenue/192nd Avenue SE intersection, which is where cut-through traffic would be expected to access the roadway. This is due to the proposed 204th Avenue SE Connector providing a more attractive route for vehicles accessing the SE 256th Street/SR 18 ramps to and from the east.

The 191st Avenue SE connector is expected to have a beneficial effect on city-wide roadway operations because it would allow direct access between the subarea and adjacent residential development. Without this connection,

trips generated to and from these neighborhoods would need to use SE 272nd Street and access the site via SE 256th Street or 204th Avenue SE. This would increase overall vehicle miles traveled on the roadway system, and would also increase traffic volumes along these alternate routes. With traffic calming measures such as on-street parking, landscaping, and/or devices such as traffic circles in place to discourage cut-through traffic, no adverse transportation impacts are expected to result from this connection.

Internal Circulation

The internal roadway and walkway system within the subarea would be subject to City design standards provided in the *Covington Design Guidelines* (City of Covington 2005) and Covington Municipal Code (CMC) *Chapter 18.50 Development Standards – Parking and Circulation*, to ensure that internal mobility and safety objectives are met. With City design standards incorporated into site design, no adverse internal circulation impacts are expected to result from Alternatives 2 or 3.

Traffic Safety

ALL ALTERNATIVES

Historical collision data in the site vicinity do not indicate any unusual safety concerns and the addition of future projected traffic is not expected to substantially change overall safety conditions. For all three alternatives, projected increases in vehicle traffic on the study area street network resulting from regional land use growth could increase the potential for vehicle conflicts. Alternatives 2 and 3 would add more trips to the roadway system, compared to Alternative 1. High average delays at stop-controlled intersections projected to operate at LOS E or F with all three alternatives could also result in drivers on the stop-controlled approaches taking shorter gaps to cross or enter the major street, which could increase the potential for vehicle conflicts. However, mitigation identified to address operational impacts would also address potential safety issues at these locations. None of the three alternatives are expected to result in significant adverse impact to traffic safety.

Transit

ALTERNATIVE 1 (NO ACTION)

No residential or retail land uses would be constructed with this alternative, and no transit demand is expected to occur at the site.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE)

Although the traffic analysis conducted for this DEIS conservatively assumes that all external project-generated trips would occur by vehicle, the project could generate some transit trips. The area is served by two bus routes with stops located within one-half mile of the site. The decision to extend transit service to the site would be at the discretion of King County Metro and/or Sound Transit and could be dependent on funding availability. However, higher density residential and commercial development could encourage extension of transit routes to directly serve the site. Additionally, higher density could potentially also encourage private transit services (such as Microsoft's Connector buses) to stop at the site. No adverse impacts to transit are expected to result from Alternative 2.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

The potential effects on transit due to Alternative 3 would be similar to those described for Alternative 2. However, the proposed park & ride lot with this alternative, as well as higher density residential and commercial development compared to Alternative 2, would increase the likelihood that public or private transit service would be extended to directly serve the site. No adverse impacts to transit are expected to result from Alternative 3.

Non-Motorized Facilities

ALTERNATIVE 1 (NO ACTION)

No residential or retail land uses would be constructed with this alternative, and no non-motorized demand is expected to occur at the site.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

Although the analysis conducted for this DEIS conservatively assumes that all external project-generated trips would occur by vehicle, the both alternatives could generate some non-motorized trips. Both alternatives propose connections to the planned future trails that would be located adjacent to the site, which would encourage non-motorized travel to and from the site. (See Section 3.9 Public Services for a discussion of parks and recreational facilities.) Both major roadways providing access to the subarea (existing SE 256th Street and proposed 204th Avenue SE connector) would have sidewalks that would allow non-motorized traffic to be separated from vehicular traffic. No adverse impacts to non-motorized facilities are expected to result from Alternatives 2 or 3.

Parking

ALTERNATIVE 1 (NO ACTION)

No residential or retail land uses would be constructed with this alternative, and no parking demand beyond what is needed to support continued operation of the asphalt plant is expected to occur at the site.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

The parking supply within the subarea would be subject to City code requirements (*CMC Chapter 18.50 Development Standards – Parking and Circulation*) to ensure that adequate parking supply is provided to meet demand. With City parking code requirements incorporated into site design, no adverse parking impacts are expected to result from Alternatives 2 or 3.

Freight Mobility and Access

ALTERNATIVE 1 (NO ACTION)

No substantial increase in truck traffic is anticipated with the No Action alternative and no adverse impact to freight mobility or access is expected to occur.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE) AND ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE)

Both Alternatives 2 and 3 would generate delivery trucks typical of retail development, but increases are not anticipated to substantially change the overall percentage of trucks within the project study area. Both alternatives would increase traffic volumes on roadways that also carry freight and some additional delays are expected. However, both alternatives would also include the two roadway connectors that are expected to have beneficial effect on citywide roadway operations. New development within the subarea would be subject to City code requirements for loading spaces (*CMC Chapter 18.50.070*). With City loading space requirements incorporated into site design and mitigation in place to address identified traffic operational impacts, no adverse impacts to freight mobility or access are expected to result from Alternatives 2 or 3.

Mitigation Measures

This section presents potential measures to mitigate the transportation-related impacts of the project alternatives, including measures to mitigate short-term construction impacts as well as long-term impacts to all modes of travel.

Incorporated Plan Features

204TH AVENUE SE ROADWAY CONNECTION

Alternatives 2 and 3 propose to provide a new 2-to-3-lane arterial between SE 256th Street and SE 272nd Street. The 204th Avenue SE Connector would serve as the spine of the site's internal roadway circulation system, would provide a second major roadway connection to the site from the east, and would also provide an additional emergency vehicle access point. Since this roadway is proposed as part of Alternatives 2 and 3, it is assumed to be in place in the future transportation analyses for each of these alternatives, and would be required to be built as part of the redevelopment of the Hawk Property. If the developer desired not to implement this connection, or to delay or reduce its extent, the City would first require supplemental transportation analysis to be completed showing that no adverse transportation impacts would result.

With both alternatives, this roadway would reduce trips using SE 272nd Street between 204th Avenue and SE Wax Road, and also using SE Wax Road/180th Avenue SE between SE 272nd Street and SE 256th Street. The model analysis shows that, as project-generated trips decrease on the 204th Avenue SE connection, non-project trips would be expected to increase. With mitigation provided at the SE 272nd Street/204th Avenue SE intersection, the new roadway connection is expected to provide an overall benefit to the citywide street system, by providing more options for vehicles traveling between SE 272nd Street and SR 18.

191ST AVENUE SE LOCAL ACCESS STREET CONNECTION AND TRAFFIC CALMING

Alternatives 2 and 3 propose to provide a local roadway connection between 191st Avenue SE and the local internal roadway system at the south end of the subarea. The purpose of this roadway would be to provide a direct connection between the subarea and residential development located to the south, and to provide an additional emergency vehicle access point. This connection would not be intended to serve trips generated outside of the local neighborhood. Since this local connection is proposed as part of Alternatives 2 and 3, it is assumed to be in place in the future transportation analyses for each of these alternatives, and would be required to be built as part of the redevelopment of the Hawk Property. If the developer desired not to implement this local connection, the City would first require supplemental transportation analysis to be completed showing that no adverse transportation impacts would result.

The model analysis indicates that the majority of trips generated at this connection would be to and from the residential neighborhoods that are served by this local access street. The 191st Avenue SE connector is expected to have a beneficial effect on city-wide roadway operations because it would allow direct access between the subarea and adjacent residential development. Without this connection, trips generated to and from these neighborhoods would need to use SE 272nd Street and access the site via SE 256th Street or 204th Avenue SE. This would increase overall vehicle miles traveled on the roadway system, and would also increase traffic volumes along these alternate routes. The local access connection should be designed with traffic calming measures such as on-street parking, landscaping, and/or devices such as traffic circles to limit access to the local neighborhood and discourage cut-through traffic.

NON-MOTORIZED CONNECTIONS

Alternatives 2 and 3 propose to provide connections to existing and planned future non-motorized facilities adjacent to the subarea (see Section 3.9 Public Services). These connections could encourage higher use of non-motorized modes for trips generated by the site, and would improve safety and mobility for pedestrians and bicyclists entering and exiting the site.

PARK & RIDE LOT

Alternative 3 proposes to provide a park & ride lot at the subarea. This would increase the likelihood that transit service would be extended to directly serve the site.

Applicable Regulations and Commitments

CITY OF COVINGTON DESIGN STANDARDS

For Alternatives 2 and 3, internal roadways, and non-motorized facilities are subject to design standards presented in *Covington Design Guidelines* (City of Covington 2005) and *CMC Chapter 18.50 - Development Standards – Parking and Circulation*. The proposed new roadway connections would be subject to the City’s *Design and Construction Standards* for roadways. (City of Covington 2009)

CITY OF COVINGTON PARKING CODE

For Alternatives 2 and 3, the amount of parking supply provided as the subarea develops would be subject to parking requirements defined in *CMC Chapter 18.50 - Development Standards – Parking and Circulation*.

Other Potential Mitigation Measures

ROADWAY CAPACITY IMPROVEMENTS

Exhibit 3.8-17 summarizes the roadway capacity improvements that have been identified to mitigate intersection operation impacts of all three alternatives. For each intersection location, an “X” indicates whether the identified measure would be required for each alternative. For Alternatives 2 and 3, the table also summarizes the share of total PM peak hour trips through each intersection that build-out of the proposed project is expected to contribute.

Exhibit 3.8-17. Roadway Capacity Improvements and Action Alternative Proportional Trip Shares

ID	Intersection	Measure ⁽¹⁾	Jurisdiction	Alt 1 No Action	Alt 2 Min Village		Alt 3 Max Village	
					Project % Share	Project % Share	Project % Share	Project % Share
Signalized								
21	SE 272 nd St/Covington Way	None Identified ⁽²⁾	Covington, WSDOT	X	X	<1%	X	1%
22	SE 272 nd St (SR 516)/164 th Ave SE	None Identified ⁽²⁾	Covington, WSDOT	X	X	1%	X	2%
23	SE 272 nd St (SR 516)/Westbound SR 18 Ramps	None Identified ⁽²⁾	Covington, WSDOT		X	3%	X	4%
26	SE 272 nd St/168 th Ave SE	None Identified ⁽²⁾	Covington, WSDOT	X	X	<1%	X	1%
29	SE 272 nd St/172 nd Ave SE	None Identified ⁽²⁾	Covington, WSDOT	X	X	-2%	X	-1%
32	SE 272 nd St (SR 516)/SE Wax Rd	None Identified ⁽²⁾	Covington, WSDOT	X	X	-4%	X	-4%
37	SE 272 nd St/216 th Ave SE	Add eastbound through lane, add eastbound receiving lane. ⁽³⁾	Maple Valley, WSDOT	X	X	10%	X	12%

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

ID	Intersection	Measure ⁽¹⁾	Jurisdiction	Alt 1 No Action	Alt 2 Min Village		Alt 3 Max Village	
					Project % Share	Project % Share		
310	SE 231 st St/SR 169	Add westbound through lane (from Maple Valley Comprehensive Plan)	Maple Valley, WSDOT	X	X	1%	X	2%
313	SE 240 th St/SR 169	Add eastbound right-turn lane (from Maple Valley Comprehensive Plan)	Maple Valley, WSDOT	X	X	1%	X	2%
314	SR 516/Witte Rd SE	Add eastbound through lane, convert westbound right-turn lane to right-though, add northbound right-turn lane, add eastbound and westbound receiving lane. ⁽³⁾	Maple Valley, WSDOT	X	X	1%	X	2%
315	SR 516/SR 169	Convert westbound right-turn lane to right-though, add westbound receiving lane. ⁽³⁾	Maple Valley, WSDOT	X	X	1%	X	1%
Roundabout								
8	SE 256 th St/164 th Ave SE	Widen northbound and southbound approaches to two lanes; widen east and west sides of circulating street to two lanes.	Covington	X	X	2%	X	3%
17	SE 267 th Place/SE Wax Rd/180 th Ave SE	Widen southbound approach to two lanes; widen west side of circulating street to two lanes.	Covington	X		-7%	X	-6%
All-Way Stop-Control								
2	SE 240 th St/196 th Ave SE	Add eastbound left-turn lane.	Covington	X	X	6%	X	7%
5	SE Wax Rd/SE 180 th St	Add northbound right-turn lane, or add traffic signal. ⁽⁴⁾	Covington		X	11%	X	12%
51	SE 240 th St/164 th Ave SE	Add eastbound left-turn lane, add westbound left-turn lane, add traffic signal.	Covington, King County ⁽⁵⁾	X	X	4%	X	6%

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

One- or Two-Way Stop Control								
1	SE 240 th St/180 th Ave SE	Add traffic signal.	Covington	X	X	9%	X	11%
3	SE 240 th St/SE Wax Rd/200 th Ave SE	Add traffic signal.	Covington, King County ⁽⁵⁾	X	X	6%	X	7%
6	SE 256 th St/148 th Ave SE	Add westbound right-turn lane and eastbound left-turn lane (CIP #1041), add traffic signal.	Covington	X	X	4%	X	5%
13	SE 261 st St/180 th Ave SE	Add traffic signal.	Covington	X			X	-12%
		Add eastbound left-turn lane.	Covington		X	-15%		
18	SE 268 th Place/164 th Ave SE	Add traffic signal.	Covington	X	X	-4%	X	-3%
20	SE 272 nd St/156 th PI SE	Add westbound left-turn lane, add traffic signal. ⁽⁶⁾	Covington, WSDOT	X	X	<1%	X	1%
36	SE 272 nd St/204 th Ave SE	Add southbound left-turn lane, add traffic signal.	Covington, WSDOT		X	10%	X	13%
39	SE 275 th St/SE Wax Rd	Add traffic signal.	Covington	X	X	2%	X	3%
50	SE 240 th St/156 th Ave SE	Add traffic signal.	Covington, King County ⁽⁵⁾	X	X	6%	X	7%
55	SE 272 nd St/156 th Ave SE	Add traffic signal. ⁽⁷⁾	Kent, Covington ⁽⁸⁾	X	X	1%	X	1%
58	SE 272 nd St/186 th Ave SE	Restrict northbound and southbound movements to right-turn-in, right-turn-out	Covington	X		-17%		-16%

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

300	SE 256 th St/Westbound SR 18 Ramps	Add traffic signal. Add eastbound left-turn lane. Coordinate signal timing/phasing with new signal at the northbound SR 18 ramp intersection.	Covington, WSDOT		X	49%	
		Add traffic signal. Add eastbound and southbound left-turn lanes. Coordinate signal timing/phasing with new signal at the northbound SR 18 ramp intersection.	Covington, WSDOT				X 50%
301	SE 256 th St/Eastbound SR 18 Ramps	Add traffic signal.	Covington, WSDOT	X			
		Add traffic signal. Remove bike lanes across SR 18 overpass, restripe to add eastbound left-turn lane and to channelize bicycles to use sidewalk across the overpass. Add westbound right-turn lane. Coordinate signal timing/phasing with new signal at the westbound SR 18 ramp intersection.	Covington, WSDOT		X	69%	
		Add traffic signal. Remove bike lanes across SR 18 overpass, restripe to add eastbound left-turn lane and to channelize bicycles to use sidewalk across the overpass. Add westbound and northbound right-turn lanes. Coordinate signal timing/phasing with new signal at the westbound SR 18 ramp intersection.	Covington, WSDOT				X 72%

Source: Heffron Transportation, May 2013.

1. The roadway improvement measures that have been identified would improve operation to meet local level of service standards under projected 2035 conditions with build-out of local and regional land use plans, with the three alternatives. If regional development growth occurs to the extent projected, it is possible that other measures could be identified to address the impact at the time the need for improvement is triggered.
2. No mitigation measures have been identified at these intersections. For projected 2035 conditions, SE 272nd Street is assumed to be a five-lane section throughout Covington, with additional turn-lanes at high volume intersections. If growth occurs to the degree reflected in the model projections, it is likely that the City of Covington would reevaluate its long-term

- plan for the corridor, and determine if widening is warranted, or if it would be warranted to reexamine level of service standards and allow this section to operate lower than LOS D. The two Action alternatives do not significantly affect this outcome.
3. Analysis indicates that with projected 2035 volumes and any of the three alternatives, SR 516 would need to be widened to 5 lanes between 216th Avenue SE and SR 169 in order to meet City of Maple Valley concurrency standards. If growth occurs to the degree reflected in the model projections, it is likely that the City of Maple Valley would reevaluate its long-term plan for the corridor, and determine if widening is warranted, or if it would be warranted to reexamine level of service standards and allow this section to operate lower than LOS D. The two Action alternatives do not significantly affect this outcome.
 4. Analysis indicates that addition of a northbound right-turn lane would address the level of service impact for both Action alternatives. However, addition of an additional lane may not be feasible due to space constraints at this location, in which case addition of a traffic signal would also address the impact.
 5. While this intersection is located outside of the Covington city limits in King County, the City of Covington monitors operations at this location, and it is included as an analysis intersection in the City's Concurrency Management Program.
 6. While addition of a traffic signal would greatly improve safety and operations at this location, projected signalized operation at this location is LOS F with all three alternatives. Improvement to LOS D or better would require widening of this section of SE 272nd Street. See Note 1.
 7. Alternatively, turn movements could be restricted to right-turns only at this intersection. In this case, it is assumed that the projected westbound left-turn movement (180 vehicles in each alternative) would instead turn at 152nd Avenue SE. Phasing changes could be made to allow SE 256th Street/152nd Avenue SE to operate at LOS E in this circumstance, but additional capacity improvements would be needed to improve operation to LOS D.
 8. This intersection is located outside of the Covington city limits in the City of Kent. However, Covington monitors operations at this location as part of its Concurrency Management Program.

It should be noted that the traffic impacts and recommended mitigation are identified for 2035 conditions that reflect build-out of both Covington's and Maple Valley's future land use plans outside of the subarea, growth in regional development growth outside of the two cities, and full build-out of each respective alternative. As described previously in this section under *Affected Environment*, all except six of the 54 analysis intersections are currently operating at LOS D or better. If full build-out of regional land use does not occur to the extent projected by 2035, it is possible that the need for some of the improvements may not be triggered by that year. Each jurisdiction continuously monitors operations of its roadways, and identifies appropriate policies and/or capacity improvements to address traffic operational issues as they emerge. Additionally, it is possible that measures other than those described in the table could be identified to address an impact, at the time the need for improvement is triggered.

Alternative 1 (No Action) Mitigation Measures

For the No Action alternative, roadway capacity improvements are identified at 15 locations in Covington, and at five locations in Maple Valley.

The mitigation measures summarized in Exhibit 3.8-17 are expected to address all roadway operational impacts in Covington identified to result from the No Action alternative, with the exception of impacts at intersections located along SE 272nd Street. No mitigation measures have been identified at these intersections. For projected 2035 conditions, SE 272nd Street is assumed to be a five-lane section throughout Covington, with additional turn-lanes at high volume intersections. 2035 model projections indicate that with the No Action alternative, traffic volumes on the section of SE 272nd Street between 156th Place SE and SE Wax Road would be high enough that most intersections along the section would operate at LOS E or F. While some spot improvements at these locations may improve conditions slightly, they would not be sufficient to improve operation to LOS D. Improvement to LOS D or better would require widening to 6 or 7 lanes of this section of SE 272nd Street. If growth occurs to the degree reflected in the model projections, it is likely that the City of Covington would reevaluate its long-term plan for the corridor, and determine if widening is warranted, or if it would be warranted to reexamine level of service standards and allow this section to operate lower than LOS D.

For Maple Valley intersections in the North Concurrency Group (located along SR 169), mitigation measures reflect future recommended capacity improvements identified in the City's *Comprehensive Plan* (Maple Valley 2011). For Maple Valley intersections in the South Concurrency Group (located along SR 516), analysis indicates that with the

projected 2035 volumes, SR 516 would need to be widened to five lanes between 216th Avenue SE and SR 169 in order to meet City of Maple Valley level of service standards. WSDOT, in cooperation with local jurisdictions, recently completed a corridor study for SR 516, which evaluated traffic conditions along the roadway through the year 2030 (WSDOT 2013). This report did not recommend widening of the portion of SR 516 east of 216th Avenue SE. It is noted that recommendations in the WSDOT report reflect a lower standard than both Covington’s and Maple Valley’s standards, with improvements identified only to address operations projected at LOS F. Also, the long range planning year evaluated for this DEIS is 2035, reflecting five years of additional regional growth; Covington model projections along SR 516 were higher than those reflected in the WSDOT report. If regional land use growth occurs at the rate reflected in the Covington model assumptions through 2035, it is likely that the City of Maple Valley would reevaluate its long-term plan for the corridor, and determine if widening is warranted, or if it would be warranted to reexamine level of service standards and allow this section to operate lower than LOS D.

Alternative 2 (Minimum Urban Village) and Alternative 3 (Maximum Urban Village) Mitigation Measures

COVINGTON

The roadway capacity improvements identified for Alternative 1 (No Action) are expected to also address impacts identified for both Alternatives 2 and 3 at the following locations.

- 1 – SE 240th Street/180th Avenue SE
- 2 – SE 240th Street/196th Avenue SE
- 3 – SE 240th Street/SE Wax Road/200th Avenue SE
- 6 – SE 256th Street/148th Avenue SE
- 8 – SE 256th Street/164th Avenue SE
- 13 – SE 261st Street/180th Avenue SE *(Needed for Alternative 3 only, which is projected to reduce average delay as compared to No Action, but would still require mitigation. Alternative 2 is also projected to reduce average delay and would require a lower level of mitigation, as described below.)*
- 17 – SE 267th Place/SE Wax Road/180th Avenue SE *(Needed for Alternative 3 only, which is projected to reduce average delay as compared to No Action, but would still require mitigation. Alternative 2 is also projected to reduce average delay and would eliminate the need for mitigation, as described below.)*
- 18 – SE 268th Place/164th Avenue SE *(Alternatives 2 and 3 projected to reduce average delay, as compared to No Action, but mitigation would still be required.)*
- 20 – SE 272nd Street/156th Place SE
- 39 – SE 275th Street/SE Wax Road *(Alternatives 2 and 3 projected to reduce average delay, as compared to No Action, but mitigation would still be required.)*
- 50 – SE 240th Street/156th Avenue SE
- 51 – SE 240th Street/164th Avenue SE
- 55 – SE 272nd Street/156th Avenue SE

In addition, the same potential operational issues are identified on SE 272nd Street between 156th Place SE and SE Wax Road, as described for the No Action alternative. While both Alternative 2 and Alternative 3 would be expected to add trips to some locations, the proportional share would be relatively small (4% or less). Alternatives 2 and 3 are also projected to improve conditions at other locations along the corridor, such as the SE 272nd St (SR 516)/SE Wax Rd (180th Ave SE) intersection, due to changes in citywide traffic patterns resulting from the proposed 204th Avenue SE Connector; however, the reduction in delay is not projected to improve operation to

LOS D or better. Overall, the trips generated by these alternatives do not affect the overall outcome described for No Action. If by 2035, regional growth occurs at the rate reflected in the model projections, any capacity or policy solution identified by the City to address operational issues for the No Action alternative would also be expected to address Alternatives 2 or 3.

In addition, both Alternatives 2 and 3 are expected to reduce delay and eliminate the need for left-turn restrictions at intersection 58–SE 272nd Street/186th Avenue SE that are recommended for No Action. As described above, delay reductions anticipated from Alternative 2 would also allow for less mitigation at two locations. At intersection 13 – SE 261st Street/180th Avenue NE, mitigation would not need to include signalization, but could be limited to addition of an eastbound left-turn lane. At intersection 17–SE 267th Place/SE Wax Road (180th Avenue SE), delay reduction expected to result from Alternative 2 would eliminate the need for mitigation.

The following additional roadway capacity improvements are identified to address impacts triggered by Alternatives 2 and 3.

- **5 – SE Wax Road/SE 180th Street:** Increased traffic volumes resulting from Alternative 2 or 3 would require additional capacity improvement at this location. Analysis indicates that addition of a northbound right-turn lane would allow the intersection to operate at LOS D or better through 2035. However, space at this location is constrained by a retaining wall located along the east side of the roadway. If it is not feasible to widen the roadway at this location, installation of a traffic signal would also address the impact.
- **36 – SE 272nd Street/204th Avenue SE:** Increased traffic volumes resulting from the 204th Avenue SE Connector Roadway, would require that this intersection be signalized. The planned three-lane section would also need to be extended to this intersection, providing a southbound left-turn lane.
- **300 – SE 256th Street/SR 18 Westbound Ramps:** Both Alternative 2 and Alternative 3 would trigger the need to signalize this intersection and add an eastbound left-turn lane. Alternative 3 would additionally need to add a southbound left-turn lane on the ramp.
- **301 – SE 256th Street/SR 18 Eastbound Ramps:** Addition of a traffic signal at this location would be triggered with the No Action alternative, but additional capacity improvements would be needed to accommodate traffic volumes generated by Alternatives 2 and 3. In order for the intersection to operate at LOS D or better with both alternatives, it will be necessary to add an eastbound left-turn lane on the existing SR 18 overpass. The width of the west leg of this intersection is constrained by the bridge structure; however, it appears there may be adequate curb-to-curb width to accommodate three travel lanes. The addition of a center left-turn lane would require that the existing bicycle lane striping be removed, and bicyclists instead be directed to use the sidewalk to cross SR 18. As described previously, with additional trips attracted to this interchange via the 204th Avenue SE Connector, model projections indicate that total demand for the interchange is not substantially influenced by differences in project-generated trips. As a result, there is very little difference in the projected eastbound traffic volumes between the two Action alternatives at this location. In addition to the eastbound left-turn lane, a westbound right-turn lane would be needed with both Alternative 2 and Alternative 3. Alternative 3 would also need to add a northbound right-turn lane on the ramp.

MAPLE VALLEY

The roadway capacity improvements identified for Alternative 1 (No Action) are expected to address all impacts identified for Alternatives 2 and 3 at all Maple Valley intersections. As shown in Exhibit 3.8-17, trips generated by the Action alternative are projected to contribute 10% to 12% of 2035 volumes at SE 272nd Street/216th Avenue SE, and 1% or less at the other Maple Valley intersections.

Exhibit 3.8-18 summarizes the project level of service at the study area intersections with mitigation in place. Locations where mitigation would not achieve the LOS standard are highlighted.

Exhibit 3.8-18. Future (2035) Level of Service - Mitigated

ID	Intersection	Alternative 1 No Action		Alternative 2 Minimum Action		Alternative 3 Maximum Action	
		LOS ¹	Delay ²	LOS	Delay	LOS	Delay
Signalized							
1	SE 240th St/180th Ave SE	C	23.9	D	35.7	D	38.7
3	SE 240 th St/SE Wax Rd/200 th Ave SE	C	29.2	C	31.3	C	32.1
4	SE 251 st St/164 th Ave SE	A	6.4	A	7.3	A	7.3
6	SE 256 th St/148 th Ave SE	B	16.0	B	17.9	B	18.2
7	SE 256 th St/156 th Ave SE	C	23.3	C	23.1	C	23.0
9	SE 256 th St/168 th PI SE	A	8.8	A	9.6	A	9.3
11	SE 256 th St/SE Wax Rd/SE 180 th St	D	40.7	D	54.6	D	52.8
13	SE 261 st St/180 th Ave SE	A	10.0		(3)	A	9.5
14	SE 262 nd St/180 th Ave SE	C	24.9	B	18.9	C	20.3
18	SE 268 th Place/164 th Ave SE	B	18.3	B	13.7	B	14.4
20	SE 272 nd St/156 th PI SE (SB)	F	118.4	F	108.5	F	119.6
21	SE 272 nd St/Covington Way	F	>200	F	>200	F	>200
22	SE 272 nd St (SR 516)/164 th Ave SE	E	68.2	E	69.0	E	68.3
23	SE 272 nd St (SR 516)/Westbound SR 18 Ramps	D	51.2	E	57.3	F	65.6
24	SE 272 nd St (SR 516)/Eastbound SR 18 Ramps	D	36.0	D	44.5	E	46.2
26	SE 272 nd St/168 th Ave SE	E	54.6	E	57.5	E	57.7
29	SE 272 nd St/172 nd Ave SE	E	68.7	E	60.7	E	65.8
32	SE 272 nd St (SR 516)/SE Wax Rd	F	115.8	F	100.3	F	99.7
34	SE 272 nd St/192 nd Ave SE	B	12.3	B	11.1	B	11.8
36	SE 272 nd St/204 th Ave SE		(4)	D	45.0	D	46.3
37	SE 272 nd St/216 th Ave SE ⁵	C	26.9	C	27.8	C	29.1
39	SE 275 th St/SE Wax Rd	B	17.6	B	16.6	B	16.5
40	Covington-Sawyer Rd/SE Wax Rd	D	43.8	D	45.5	D	46.2
43	SE 270 th PI/SE Wax Rd	B	13.5	B	14.0	B	13.9
50	SE 240 th St/156 th Ave SE	B	10.3	B	10.7	B	10.7
51	SE 240th St/164th Ave SE	D	41.9	D	51.7	D	55.0
54	SE 272 nd St/152 nd Ave SE	C	25.5	C	24.7	C	24.9
55	SE 272 nd St/156 th Ave SE (WBL)	C	20.2	C	22.3	C	22.8
57	SE 272 nd St/185 th Ave SE	D	47.2	C	25.0	C	29.2
59	165 th PI SE/Covington-Sawyer Rd	D	36.0	C	34.2	C	34.2

HAWK PROPERTY PLANNED ACTION EIS | AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, AND MITIGATION

ID	Intersection	Alternative 1 No Action		Alternative 2 Minimum Action		Alternative 3 Maximum Action	
		LOS ¹	Delay ²	LOS	Delay	LOS	Delay
233	Kenwood HS Access/164 th Ave SE	A	7.4	A	7.3	A	7.2
300	SE 256 th St/Westbound SR 18 Ramps		(6)	D	54.5	C	21.2
301	SE 256 th St/Eastbound SR 18 Ramps	B	19.3	C	36.8	C	30.3
310	SE 231 st St/SR 169 ⁷	F	94.9	F	103.2	F	105.1
311	SE Wax Rd/SR 169 ⁷	C	25.6	C	26.3	C	26.0
312	Witte Rd SE/SR 169 ⁷	C	20.6	C	20.0	C	20.1
313	SE 240 th St/SR 169 ⁷	D	43.3	D	44.9	D	47.9
314	SR 516/Witte Rd SE ⁵	D	45.2	D	44.6	D	47.6
315	SR 516/SR 169 ⁵	E	54.2	E	55.1	E	55.3
Roundabout							
8	SE 256 th St/164 th Ave SE	D	26.5	D	34.5	D	33.5
17	SE 267 th Place/SE Wax Rd (180 th Ave SE)	D	34.9	D	34.8	C	21.0
44	SE 240 th Place/172 nd Ave SE	A	6.9	A	6.9	A	7.0
All-Way Stop-Control							
2	SE 240 th St/196 th Ave SE	D	25.8	D	34.0	D	34.8
5	SE Wax Rd/SE 180 th St	C	21.6	C	21.3	C	21.6
15	SE Timberlane Boulevard/Timberlane Way SE	A	9.7	A	8.4	A	8.8
19	SE 267 th St/Timberlane Way SE	A	9.6	A	9.3	A	9.5
One- or Two-Way Stop Control⁸							
10	SE 256 th St/175 th Way SE (NB)	D	26.5	D	31.9	D	30.8
12	SE 260 th St/156 th Ave SE (WB)	B	13.3	B	13.5	B	13.4
13	SE 261 st St/180 th Ave SE (EB) ⁸		(3)	D	32.3		(3)
16	SE 267 th St/172 nd Ave SE (SB)	A	9.0	A	8.7	A	8.7
35	SE 272 nd St/201 st Ave SE (SB)	D	25.9	C	16.5	C	16.7
36	SE 272 nd St/204 th Ave SE (SB)	D	31.2		(4)		(4)
52	SE 260 th St/164 th Ave S (EB)	C	19.5	C	22.2	C	22.1
53	SE 261 st St/172 nd Ave SE (EB)	B	14.0	B	13.1	B	13.2
56	SE 272 nd St/IHOP Driveway (SB)	B	11.5	B	10.6	B	10.7
58	SE 272 nd St/186 th Ave SE (NB)	C	16.7	D	34.8	D	34.6
300	SE 256 th St/Westbound SR 18 Ramps (SB)	C	17.2		(6)		(6)

Source: Heffron Transportation, May 2013.

1. LOS = level of service
2. Delay = average delay per vehicle in seconds
3. Intersection #13 is signalized with Alternatives 1 and 3, and eastbound stop-controlled with Alternative 2.
4. Intersection #36 is southbound stop-controlled with Alternative 1, and signalized with Alternatives 2 and 3.
5. Part of Maple Valley's South Concurrency Intersection Group – concurrency is satisfied if average weighted delay of all intersections in the group is equivalent to LOS D or better. With mitigation, the average weighted delay for this group is 42.7 (LOS D) for Alternative 1, 42.7 (LOS D) for Alternative 2, and 44.0 (LOS D) for Alternative 3.
6. Intersection #300 is westbound stop-controlled with Alternative 1, and signalized with Alternatives 2 and 3.

7. Part of Maple Valley's North Concurrency Intersection Group – concurrency is satisfied if average weighted delay of all intersections in the group is equivalent to LOS D or better. With mitigation, the average weighted delay for this group is 50.0 (LOS D) for Alternative 1, 53.2 (LOS D) for Alternative 2, and 54.5 (LOS D) for Alternative 3.
8. For one- and two-way stop-controlled intersections, the most congested movement is reported. The direction of the most congested movement is shown in parentheses.

Significant Unavoidable Adverse Impacts

The projected year 2035 conditions with Alternative 1 (No Action) indicate that traffic volumes on the section of SR 516 (SE 272nd Street) between 156th Place SE and SE Wax Road, and also between 216th Avenue SE and SR 169, would be high enough that most intersections along these sections would operate at LOS E or F. While some spot improvements at these locations may improve conditions slightly, they would not be sufficient to improve operation to meet level of service standards defined by the Cities of Covington and Maple Valley. Improvement to LOS D or better would require widening of the roadway under projected conditions. If 2035 growth occurs to the degree reflected in the Covington model projections, it is likely that both Cities would reevaluate their long-term plans for the corridor, and determine if major widening is warranted, or if it would be warranted to reexamine level of service standards and allow the roadway to operate at a lower level of service.

While Alternatives 2 and 3 are projected to add trips to some intersections along SR 516, any capacity or policy solution identified by the Cities to address operational issues for the No Action alternative would also be expected to address Alternatives 2 or 3. Therefore, with recommended mitigation in place at all other locations, no additional significant adverse unavoidable transportation impacts are expected to result from Alternatives 2 or 3.

3.9 Public Services

Affected Environment and Methodology

This section compares and evaluates the estimated effects on demand for public services under each alternative relative to current conditions, as well as how development proposed under each alternative would impact levels of service (LOS) for police and fire protection, schools, parks, and solid waste. The impact analysis is based on population-based estimates of demand.

Police Protection

EXISTING SERVICE

Police service in the Hawk Property Subarea is currently provided by two agencies. The portion of the subarea within Covington city limits is nominally served by the Covington Police Department, though all Covington police officers are King County Sheriff's Office employees who are dedicated to Covington via contract. The portion of the subarea in unincorporated King County is served directly by the King County Sheriff's Office. The Covington Police Department consists of eleven active-duty police officers, one detective, and a police chief.

Neither the Covington Police Department nor the King County Sheriff's Office maintains any facilities in the immediate vicinity of the subarea. The nearest police facility is at Covington City Hall, which serves as both the headquarters for the Covington Police Department and as the headquarters for King County Sheriff's East Precinct South.

LEVEL OF SERVICE

The Covington Police Department does not maintain an adopted level of service standard. Current level of service, based on a 2012 city population of 17,760, is approximately 1.6 officers per 1,000 residents.

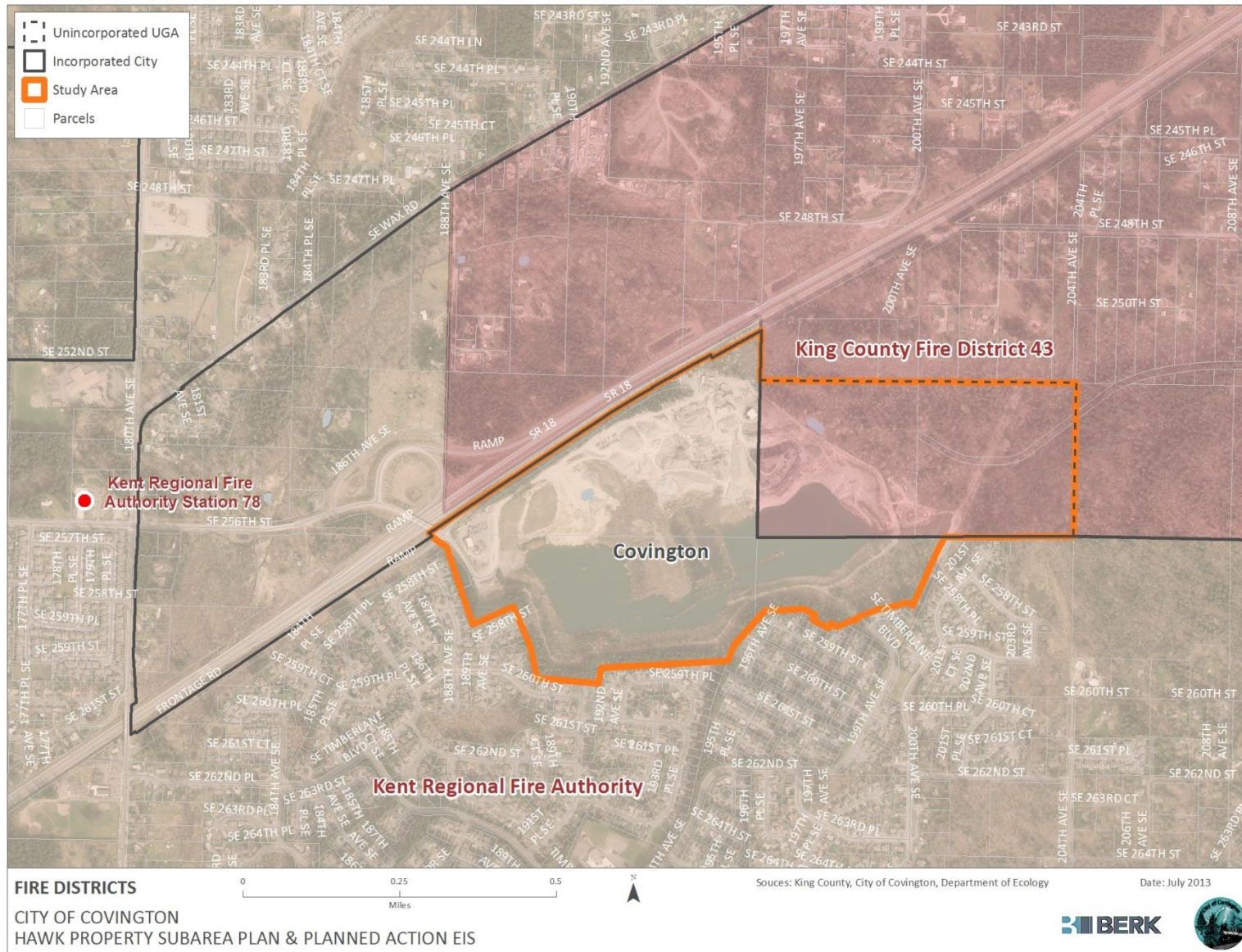
Fire Protection

EXISTING SERVICE

Fire and emergency medical service in the Hawk Property Subarea are provided by two fire districts. The portion of the subarea within Covington city limits is served by the Kent Regional Fire Authority; the portion in unincorporated King County is served by King County Fire District 43, also known as Maple Valley Fire & Life Safety (MVFLS). Fire district boundaries are shown in Exhibit 3.9-1. The nearest Kent Regional Fire Authority facility is Fire Station 78, located approximately 0.5 mile west of the subarea at the intersection of 180th Avenue SE and SE 256th Street. The station is staffed by one fire engine with career personnel 24 hours per day.

The nearest MVFLS facility is Station 81, located approximately two miles northeast of the subarea at the interchange of SR 18 and SE 232nd Street in Maple Valley. The station is manned 24 hours per day by a combination of career and volunteer resident personnel. Station 81 houses two pumper engines, one tender truck, one aid vehicle, and one brush truck.

Exhibit 3.9-1. Fire Districts



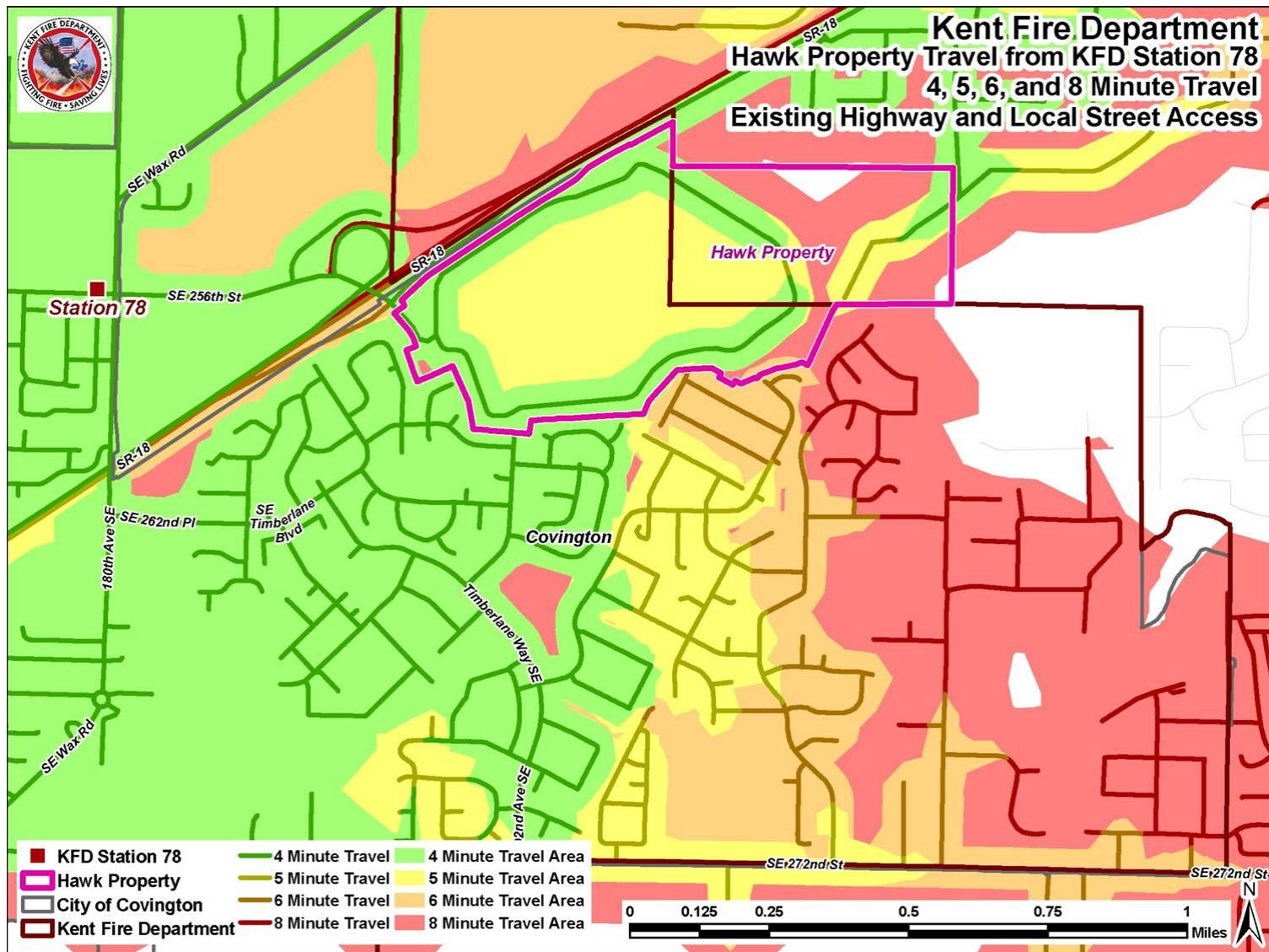
LEVEL OF SERVICE

The Kent Regional Fire Authority has adopted a LOS standard that requires the first responding unit to arrive within seven minutes of a 9-1-1 call. This time frame includes call answering and dispatch time of one (1) minute, firefighter reaction time of one minute and forty-five seconds (1:45), and a drive time of four minutes and fifteen seconds (4:15). Level of Service for a full first alarm assignment (the resources necessary to begin and sustain firefighting operations) is ten (10) minutes and uses a drive time of seven minutes and fifteen seconds (7:15). The KRFA has committed to meeting this standard 90% of the time in urban risk areas, 80% of the time in suburban risk areas, and 70% of the time in rural risk areas. The Authority classifies Covington as a mostly suburban risk area, except for portions of downtown, which are classified as urban, and the Hawk Property itself, which is classified as Wildland/Agricultural. This category is assessed to have a very low risk of fire emergencies. While call volumes from the vicinity of the subarea are generally low due to the low intensity of development, the Kent Regional Fire Authority reports that vehicular access to the area can be challenging due to topography and the current street configuration. In addition, the current configuration of the street network in the area also leads to longer response times in residential areas to the southeast of the Hawk Property Subarea. Exhibit 3.9-2 illustrates theoretical response times in the vicinity of the Hawk Property Subarea using a Geographic Information System (GIS) computer model. Areas shown in green should be reached by emergency responders from Station 78 within four (4) minutes' drive time, while areas in red may require eight (8) minutes or longer drive time.

Maple Valley Fire and Life Safety has established a district-wide level of service standard for turnout time, as well as a response time objective for each station. The established standard for turnout time is two minutes, with a goal of achieving this objective 90% of the time. The established response time standard for Station 81 is eight minutes (including two minutes of turnout time). As of 2010, Station 81 was the only station not in compliance with the standard, chiefly due to the size of its coverage area and the inclusion of both urban and rural areas.

Communication with the district's fire chief in 2012 indicated that response time to the vicinity of the Hawk Property Subarea was approximately 6-7 minutes.

Exhibit 3.9-2. Current Kent Fire Department Computer Modeled Drive Time



Source: Kent Regional Fire Authority, 2013.

Schools

EXISTING FACILITIES

Educational services in the Hawk Property Subarea are provided by two school districts. The portion of the subarea within Covington city limits is served by the Kent School District, while the unincorporated portion of the subarea is served by the Tahoma School District. School district boundaries are illustrated in Exhibit 3.9-4.

The subarea is served by three elementary schools, one middle school, one junior high school, and two senior high schools. Exhibit 3.9-3 lists the schools serving the subarea and their approximate enrollments and capacities for the 2011-2012 school year.

Exhibit 3.9-3. School Facilities Serving the Hawk Property Subarea

School Name	District	Location	Enrollment 2011/2012	Capacity 2011/2012
Jenkins Creek Elementary (K-6)	Kent	26915 186th Avenue SE, Covington	325	404
Cedar Valley Elementary (K-6)	Kent	26500 Timberlane Way SE, Covington	304	380
Cedar Heights Middle School (7-8)	Kent	19640 SE 272nd Street, Covington	692	895
Kentlake High School (9-12)	Kent	21401 SE Falcon Way, Kent	1,753	1,957
Lake Wilderness Elementary (PreK-5)	Tahoma	24216 Witte Road SE Maple Valley	1,018	828
Tahoma Junior High School (8-9)	Tahoma	25600 Summit Landsburg Road, Ravensdale	1,205	1,221
Tahoma Senior High School (10-12)	Tahoma	18200 SE 240th, Covington	1,754	1,764

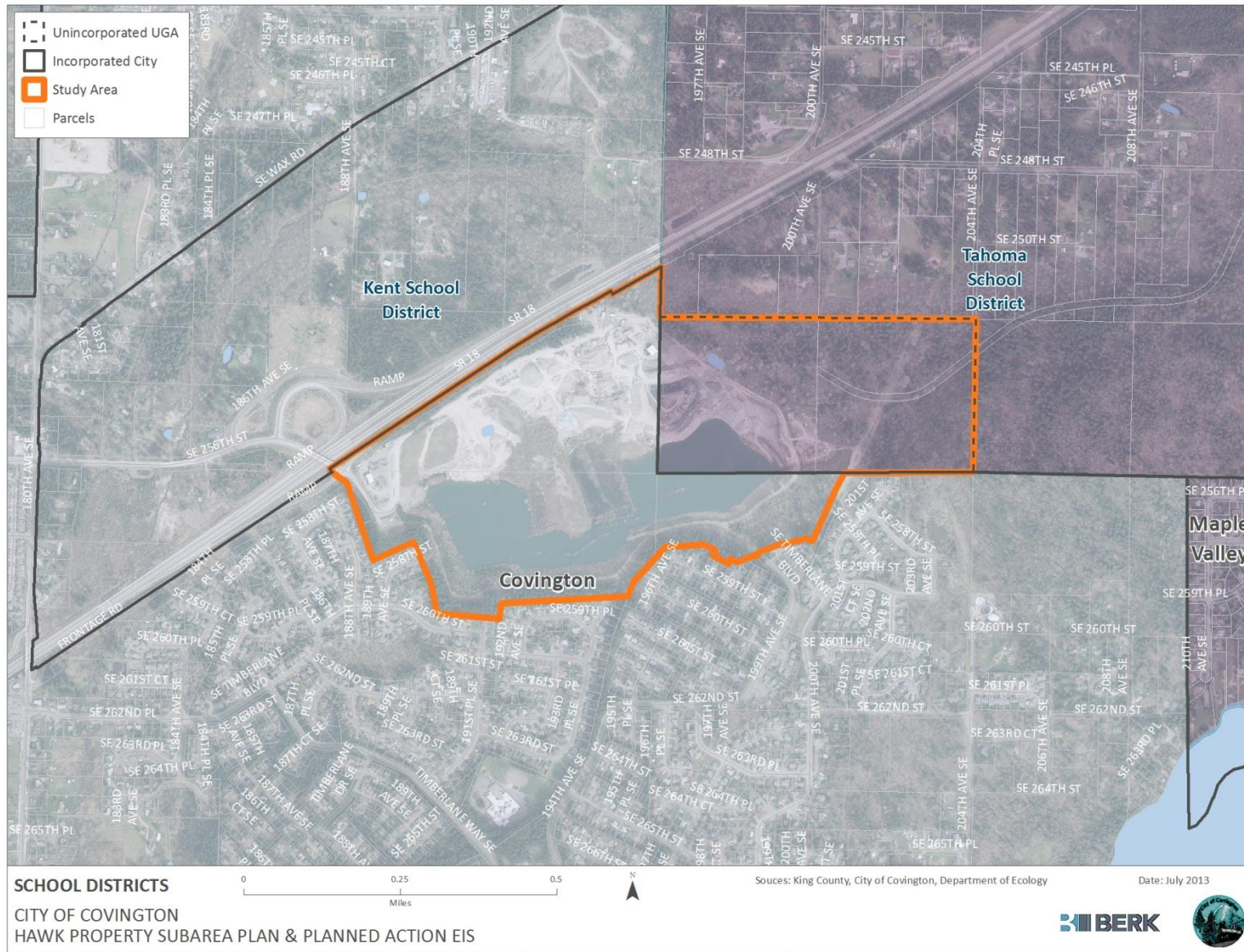
Source: Kent School District 2012; Tahoma School District 2012; OSPI 2012

LEVEL OF SERVICE

The Kent School District has established a series of level of service standards based on maximum class size for various student age groups. The District strives for an average maximum class size of 24 students for elementary schools (grades K-6), 29 students for middle schools (grades 7-8), and 31 students for high schools (grades 9-12). In order to meet these standards, the district recently completed additions to Kent-Meridian High School and is planning the replacement of Covington Elementary in 2015 and construction of a new elementary school in 2016.

The Tahoma School District has established level of service standards based on maximum class size for three student age groups. The District strives for an average maximum class size of 23 students for grades K-5, 26 students for grades 6-9), and 27 students for grades 10-12. According to the district’s 2012 Capital Facilities Plan, all three schools that serve the Hawk Property Subarea are currently over their permanent capacity and using relocatable facilities to house classes. The district plans construction of an additional elementary school in 2015, as well as increased capacity at Lake Wilderness Elementary in 2015. Capacity is also planned to be added to Tahoma Junior High in 2016 and to Tahoma High School in 2017.

Exhibit 3.9-4. School Districts



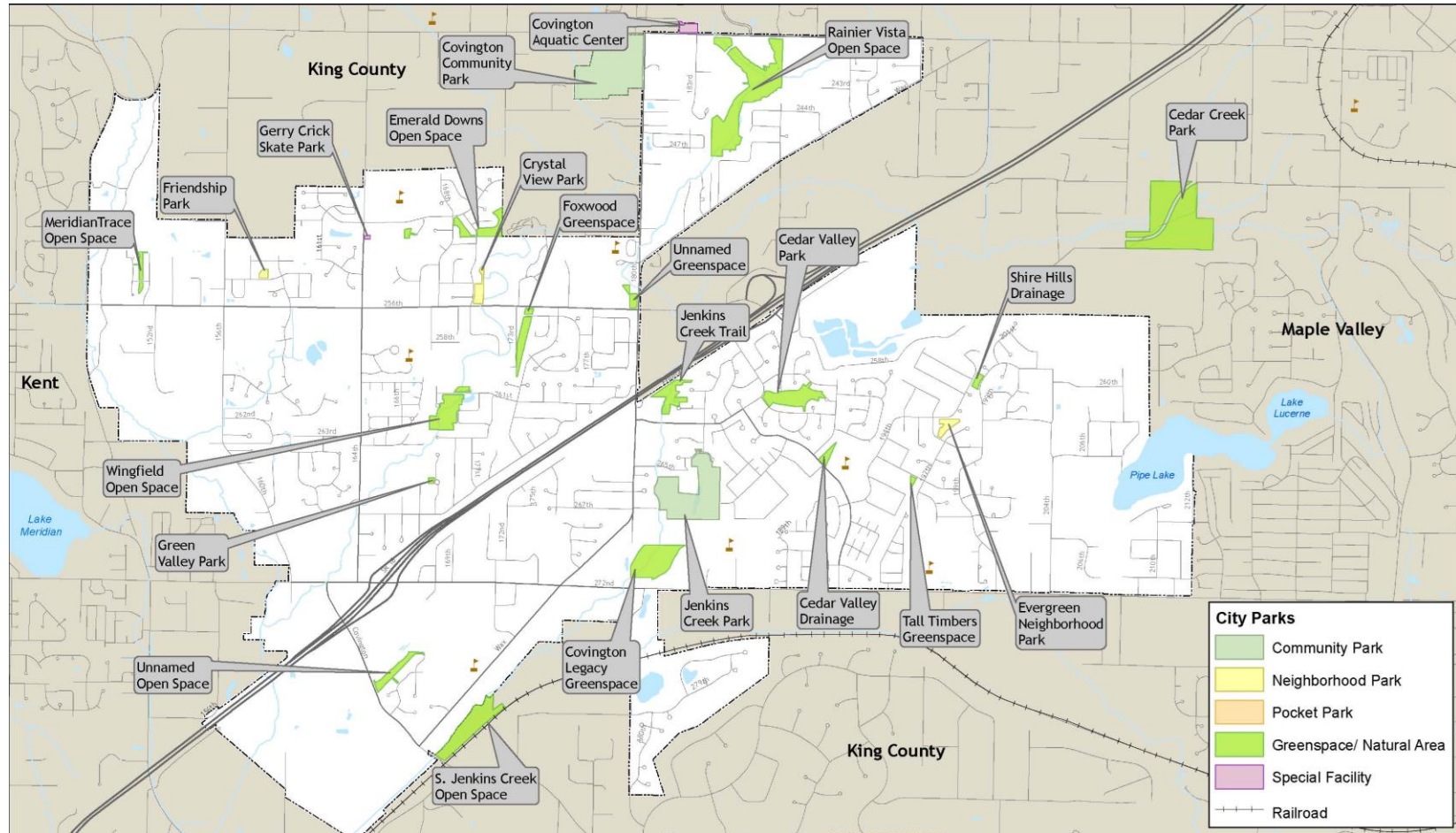
Parks and Trails

EXISTING FACILITIES

Covington contains approximately 168 acres of City-owned park, recreational, and open space, distributed among 24 sites and facilities, as well as approximately 11.8 miles of shared-use paths, bikeways, and trails. These facilities are illustrated on Exhibit 3.9-5 and Exhibit 3.9-6. The subarea itself does not contain any existing parks, or other recreation facilities, though the area contains an extensive network of informal trails used by local resident connecting the site with the Covington Park and Timberland Estates Neighborhoods to the south, as well as with Cedar Downs, a King County regional park, to the east. Nearby recreational resources are illustrated on Exhibit 3.9-7.

- Cedar Valley Park is a 6.75-acre natural area located approximately 0.2 mile southwest of the subarea in a residential neighborhood.
- The Jenkins Creek Trail Natural Area is a 4.2-acre parcel located near the interchange of SR 18 and 180th Avenue SE, approximately 0.5 mile southwest of the subarea. This site is a segment of the Jenkins Creek Trail and contains a segment of Jenkins Creek, asphalt and unimproved footpaths, a footbridge, and the remnants of a historic homestead.
- Evergreen Park is a 1.66-acre neighborhood pocket park located approximately 0.3 mile southeast of the subarea in a residential neighborhood. The City's Parks, Recreation, and Open Space Plan has identified this park for future master planning to develop a play area for children, as well as natural areas and a walking path. Currently, the site is undeveloped except for an unfinished path and is used as a BMX course.
- Cedar Creek Park is a 32-acre natural area located approximately 0.5 mile northeast of the subarea in unincorporated King County. The site contains three tributaries to Little Soos Creek, as well as wildlife habitat areas. Improvements on the site currently consist of worn footpaths and two residential structures.
- King County's Cedar Downs Park is a 78-acre natural area adjacent to the subarea in unincorporated King County. The site contains foot worn paths and wildlife habitat area.
- Bicycle lanes are available along SE 256th Street, terminating at the interchange with SR 18 at the western edge of the subarea.
- The City has planned an extensive network of trails through the subarea and surrounding neighborhoods, as shown in Exhibit 3.9-6 and Exhibit 3.9-7, including bicycle and pedestrian connections to the adjacent neighborhoods and along Jenkins Creek:
 - The SR 18 Trail would parallel SR 18 throughout Covington, providing connections to other local and regional trails. This trail is currently under study by King County as the Tri-City/Covington Highlands Trail and is anticipated to pass through the subarea.
 - The Jenkins Creek Trail would approximately follow the path of Jenkins Creek, linking the subarea with the unincorporated areas to the northwest.
 - The Timberline Trail would follow the southern boundary of the subarea, connecting to SE 256th Street and the planned SR 18/Tri-City/Covington Highlands Trail.
 - The Pipeline Trail would follow the existing gas pipeline easement southeast of the subarea. The Pipeline Trail, Timberline Trail, and Jenkins Creek Trail would intersect in the eastern portion of the subarea and continue northeast, providing a non-motorized connection to Cedar Creek Park and other regional facilities beyond, including Lake Wilderness Park and the Cedar River Trail in Maple Valley

Exhibit 3.9-5. Parks



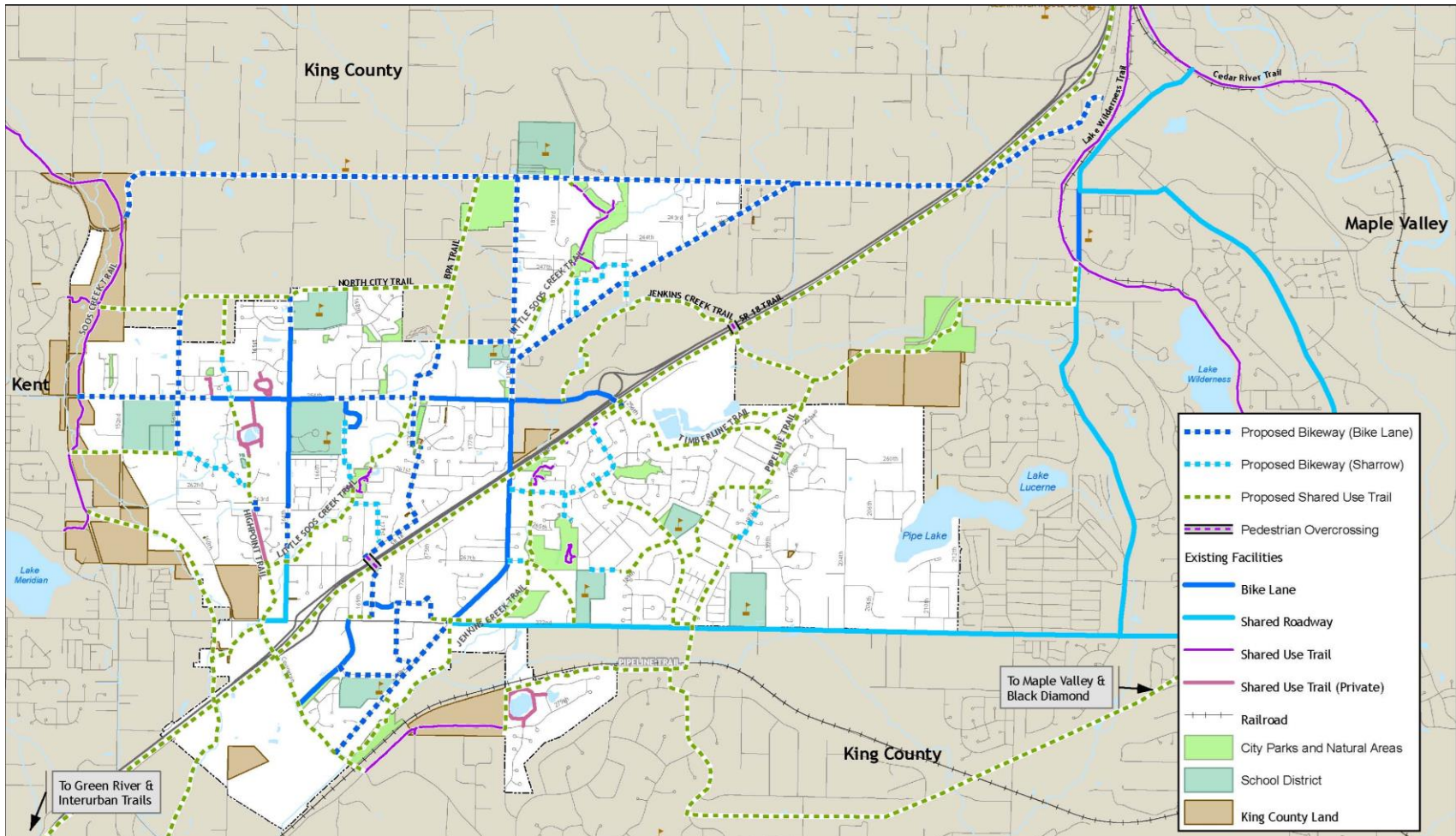
Map 1. Existing City Park & Recreation Facilities Map

Covington
Parks Recreation & Open Space (PROS) Plan
Source: King County
Author: KJ and MK
Date: April 2010



Source: City of Covington, 2010

Exhibit 3.9-6. Existing and Proposed Trails



Map 9. Proposed Trails and Bikeways

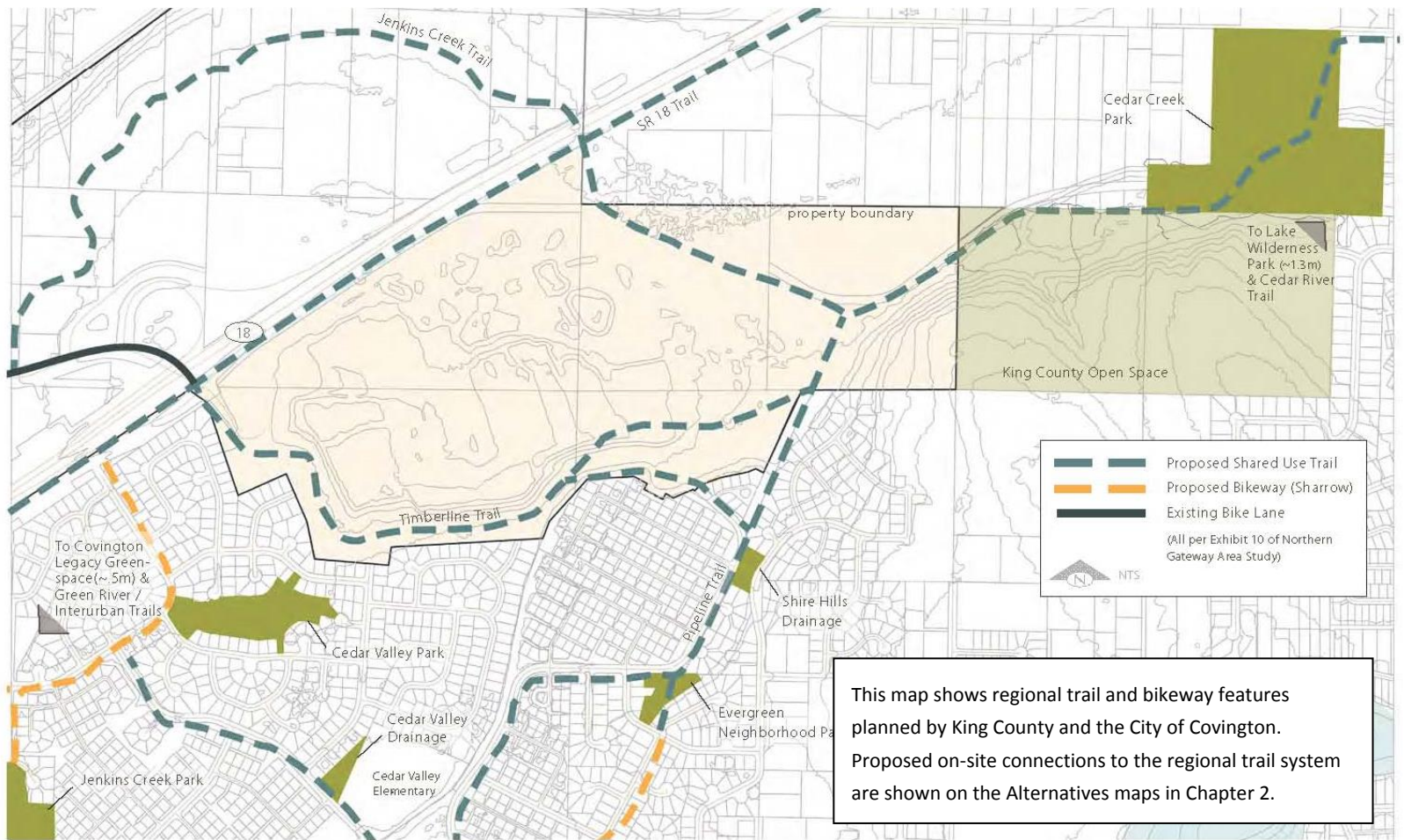
Covington
 Parks Recreation & Open Space (PROS) Plan
 Source: King County
 Author: KV and HK
 Date: April 2010

Source: City of Covington, 2010



Exhibit 3.9-7. Planned Trails in the Subarea and Vicinity

Hawk Property Subarea Plan Community Workshop 25 March 2013



PROPOSED TRAILS AND BIKEWAYS MAP

Source: City of Covington, 2010; Communita, 2013.

LEVEL OF SERVICE

The City of Covington has adopted a series of LOS standards for various types of park and recreation facilities in its Parks, Recreation, and Open Space (PROS) Plan and in the Parks and Recreation Element of its Comprehensive Plan. These adopted standards, as well as current performance, are shown in Exhibit 3.9-8 below.

Exhibit 3.9-8. Adopted and Current Parks Level of Service

Open Space Type	Adopted LOS Standard (per 1,000 population)	2013 Existing Inventory	2013 LOS (per 1,000 population)
Neighborhood Park	3 acres	44.5 acres	2.5 acres
Community Park	5 acres	52.0 acres	2.9 acres
Greenspace/Natural Area	6 acres	109.8 acres	6.1 acres
Trails	0.75 mile	4.7 miles	0.3 miles
Bikeways	0.75 mile	7.1 miles	0.4 miles

1. Inventory acreages for Community and Neighborhood Parks include both public and privately-owned facilities. Acreage for

2. Greenspace/Natural Areas includes only City-owned land.

3. LOS calculated based on OFM 2013 population estimate of 18,100.

Source: City of Covington, 2013; OFM 2013.

As of 2013, the City is deficient in neighborhood and community park space, trails, and bikeways but has a small surplus in greenspace and natural areas.

In addition to the LOS standards of the Comprehensive Plan, the City’s municipal code (CMC 18.35.150) requires residential and mixed-use developments to provide on-site recreation at the following ratios:

- Residential subdivisions at densities of 4 units per acre or more: 450 square feet per unit.
- Townhouses developed at densities of 8 units per acre or less: 450 square feet per unit.
- Manufactured home parks: 260 square feet per unit.
- Multifamily dwelling units and townhouses developed at densities greater than 8 units per acre: 100 square feet per unit.

Because the Comprehensive Plan LOS standards are based on population, while the code standards are based on the number of dwelling units proposed, the two standards may prescribe different amounts of park space for the same development, depending on the number of residents per household. In general, the Comprehensive Plan LOS standards require more park space and a trails than the municipal code and place a greater emphasis on public access to these recreational facilities. While the Comprehensive Plan provides overall policy guidance regarding level of service for parks and recreation facilities, development proposals in the City are required to comply with the standards established in the municipal code.

Solid Waste

EXISTING SERVICE

Solid waste service in Covington is provided by a combination of public and private entities. Republic Services Allied Waste Division provides waste and recycling collection in Covington. Residents may also self-haul garbage and recycling items to the Bow Lake Recycling and Transfer Station in Tukwila or to the Enumclaw Recycling and Transfer Station in Enumclaw. Waste collected at these transfer stations is transported to the Cedar Hills Regional Landfill.

The Cedar Hills Regional Landfill is the only active landfill remaining in King County. The site has been in operation since 1965 and is projected to reach its ultimate capacity in 2024.

LEVEL OF SERVICE

While solid waste is collected locally by private haulers, disposal occurs at a public facility, and King County Solid Waste Division plans for ongoing management of the County's solid waste. The County's Comprehensive Solid Waste Management Plan sets goals and policies for reducing waste generation by residents, maintaining transfer facilities and landfills, and financing necessary improvements. The Plan has set a goal of reducing per-capita waste generation to 20.4 pounds per week by the year 2020. This represents a 15% reduction from the 2007 per-capita average of 24 pounds per week. In addition, the County plans to increase the recycling rate to 55% of the waste stream by 2015 and 70% by 2020.

Impacts

Police Protection

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, no population growth would occur in the subarea, and no changes in the use of the site would occur. While employment at the existing asphalt batch plant is anticipated to increase slightly, it is unlikely that this will result any additional demand for police service. No significant impacts to police protection are anticipated under the No Action Alternative.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 2, the unincorporated portions of the subarea would be annexed to the City of Covington and would fall under the jurisdiction of the Covington Police Department. Approximately 1,838 residents would be added to the City's population. If the City wishes to maintain its current level of service of 1.6 patrol officers per 1,000 residents, implementation of Alternative 2 would result in demand for approximately 3 additional officers.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 3, the unincorporated portions of the subarea would be annexed to the City of Covington and would fall under the jurisdiction of the Covington Police Department. Approximately 2,760 residents would be added to the City's population. If the City wishes to maintain its current level of service of 1.6 patrol officers per 1,000 residents, implementation of Alternative 3 would result in demand for approximately 4.5 additional officers.

Fire Protection

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, no population growth would occur in the Hawk Property Subarea. As a result, no additional demand for police or fire protection services is anticipated.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

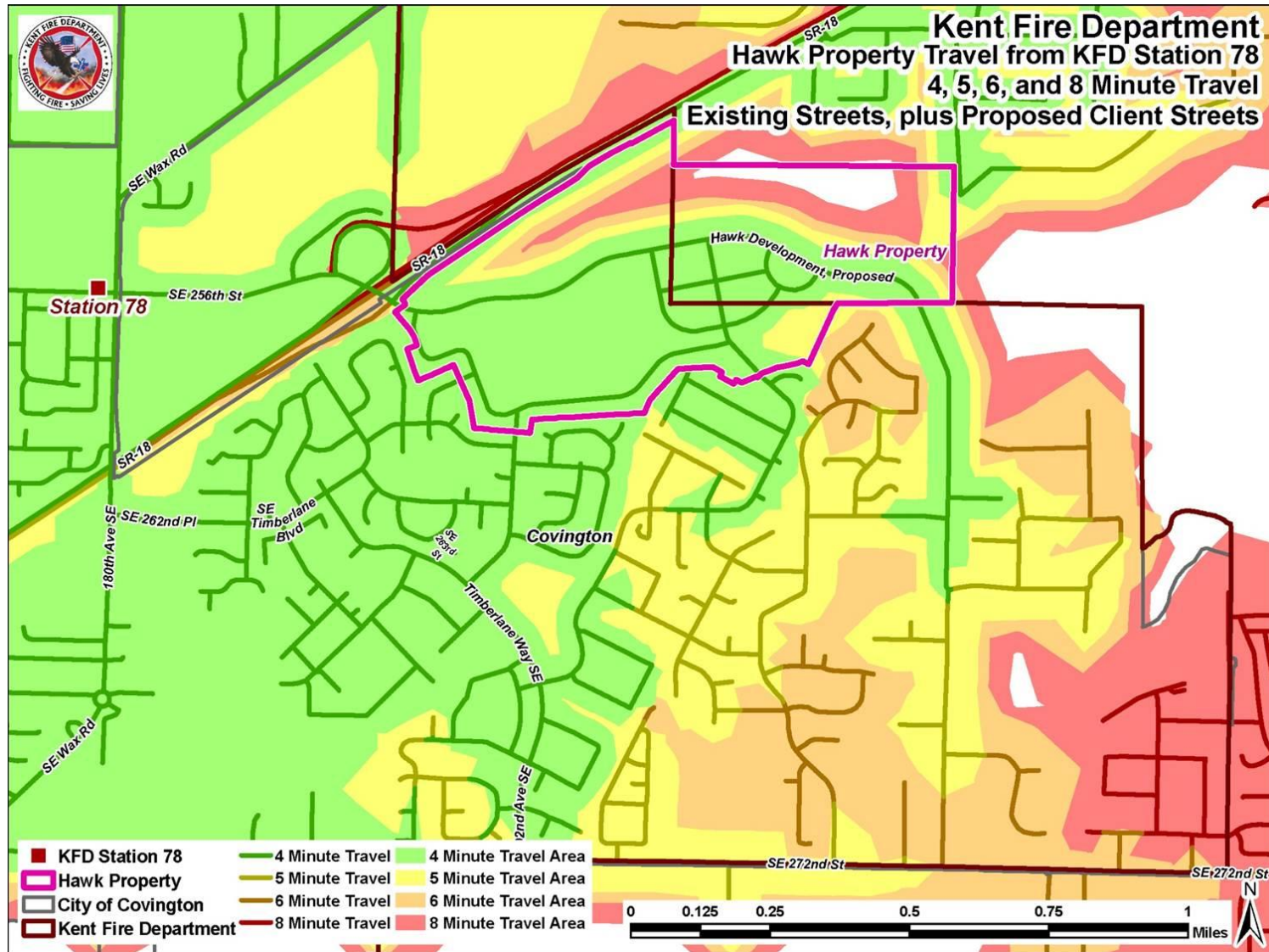
Under Alternative 2, the unincorporated portion of the subarea would be annexed to the City of Covington and would then be removed from the jurisdiction of Maple Valley Fire and Life Safety; these areas would then be served by the Kent Regional Fire Authority. Population in the subarea would increase by approximately 1,838 persons in 1,000 dwelling units, creating an increase in service demand. According to Kent Regional Fire Authority, this population increase would result in approximately 140 additional emergency responses annually. Additional commercial development would also increase demand for fire protection service by approximately 75 incidents per year. In total, development under Alternative 2 is anticipated to increase demand at KFD Station 78 by an amount equal to approximately 23% of its daily work load, which would possibly use all reserve capacity for peak hour services and create the need for an additional fire unit and two (2) additional 24-hour staff. However, one of the major obstacles to emergency response in the vicinity of the subarea is the current lack of a direct vehicular connection from SE 256th Street to 204th Avenue SE. As illustrated in Exhibit 3.9-9, construction of the proposed spine street through the Hawk Property Subarea would extend the number of locations that could be reached by

fire units dispatched from KFD Station 78 within the allotted response time, as well as improve response times in areas already served.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 3, the unincorporated portion of the subarea would be annexed to the City of Covington and would then be removed from the jurisdiction of Maple Valley Fire and Life Safety; these areas would then be served by the Kent Regional Fire Authority. Population in the subarea would increase by approximately 2,760 persons in 1,500 dwelling units, creating an increase in service demand. According to Kent Regional Fire Authority, this population increase would result in approximately 210 additional emergency responses annually. Additional commercial development would also increase demand for fire protection service by approximately 92 incidents per year. In total, development under Alternative 3 is anticipated to increase demand at KFD Station 78 by an amount equal to approximately 32% of its daily work load, which is likely to use all reserve capacity for peak hour services and create the need for an additional fire unit and two to three (2-3) additional 24-hour staff. As described under Alternative 2, the proposed street network connections would substantially improve emergency access to the subarea and reduce response times.

Exhibit 3.9-9. Projected Kent Fire Department Computer Modeled Drive Times – Alternatives 2 and 3



Source: Kent Regional Fire Authority, 2013.

Schools

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, no residential development would occur in the Hawk Property Subarea, and no additional students would require educational services. School enrollment in both the Kent and Tahoma school districts would be unaffected by future expansion of the asphalt batch plant, and no impacts to school service is anticipated.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 2, resident population within the Hawk Property Subarea would increase, generating additional demand for educational services. As described in Chapter 2, Alternative 2 would result in 1,000 additional housing units in the subarea, composed of 130 single-family homes, 270 townhomes, and 600 multifamily units. Because the exact site plan for the subarea will not be finalized until the development agreement is signed, it is difficult to predict precisely how much of this increased demand will be absorbed by each affected school district. In addition, it is possible that the Kent and Tahoma School Districts could perform a boundary adjustment to keep the entire Hawk Property Subarea within a single school district. While school district boundaries are generally independent of city boundaries and are not automatically changed by city annexations, school districts have the option to amend their boundaries in response to major developments or citizen petitions. Transfers of territory may be initiated by either affected district, but a resolution enacting the transfer must be adopted by both school boards. While it is advantageous for any territory transfers to be complete before substantial development occurs in the subarea, a detailed study of fiscal, logistic, and service implications would need to be prepared before either district would be able to decide whether a territory transfer is warranted. (Derdowski 2013) Because further analysis by the school districts is necessary, this EIS will discuss impacts to both districts.

Future school enrollment is primarily projected using student generation factors applied to population. Kent School District and Tahoma School District have adopted different student generation factors for their jurisdictions. Exhibit 3.9-10 calculates the number of potential additional students to be generated under Alternative 2 if each school district were assumed to capture 100% of the proposed population growth. These numbers represent a conservative, “worst-case” estimate; actual enrollment increases are likely to be lower.

Exhibit 3.9-10. Maximum Student Generation by District (Alternative 2)

School Type	Kent	Tahoma
Elementary	393	268
Middle School	92	81
High School	174	99

Source: Kent School District, 2012; Tahoma School District 2012.

The additional students anticipated under Alternative 2 would place additional demands on Kent and Tahoma School District facilities. Kent schools serving the Hawk Property Subarea generally have greater available capacity than their Tahoma counterparts. Lake Wilderness Elementary, in particular, is already overcrowded, and this crowding issue could be exacerbated by additional enrollment growth from the Hawk Property Subarea.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 3, resident population within the Hawk Property Subarea would increase, generating additional demand for educational services. As described in Chapter 2, Alternative 3 would result in 1,500 additional housing units in the subarea, composed of 200 single-family homes, 400 townhomes, and 900 multifamily units. As described under Alternative 2, the precise amount of population growth to be absorbed by each district is unknown, as is the potential for a boundary amendment to bring the entire subarea into a single school district. Exhibit 3.9-11 therefore presents the number of potential additional students to be generated under Alternative 3

if each school district were assumed to capture 100% of the proposed population growth. These numbers represent a conservative, “worst-case” estimate; actual enrollment increases are likely to be lower.

Exhibit 3.9-11. Maximum Student Generation by District (Alternative 3)

School Type	Kent	Tahoma
Elementary	590	401
Middle School	138	122
High School	262	149

Source: Kent School District, 2012; Tahoma School District 2012.

The additional students anticipated under Alternative 3 would place additional demands on Kent and Tahoma School District facilities. Kent schools serving the Hawk Property Subarea generally have greater available capacity than their Tahoma counterparts. Lake Wilderness Elementary, in particular, is already overcrowded, and this crowding issue could be exacerbated by additional enrollment growth from the Hawk Property Subarea.

Parks and Trails

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, no population growth would occur in the Hawk Property Subarea, and no additional demand for parks or recreational facilities would be generated. However, without adoption of the subarea plan and associated planned action ordinance, any future mixed-use or residential development occurring after reclamation of the mine would be subject to the on-site recreation standards of the City’s municipal code (CMC 18.35.150). Because the standards of the code do not match the LOS standards of the Comprehensive Plan, such development would have the potential to increase existing deficiencies or reduce existing surpluses of various types of park space. In addition, CMC 18.35.150 does not require provision of trail or bike paths for new development, which creates the potential to increase the City’s current trails deficiency.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 2, housing units in the Hawk Property Subarea would increase by approximately 1,000 units, equivalent to approximately 1,838 persons. As described under Affected Environment, CMC 18.35.150 requires residential and mixed-use developments to provide on-site recreation. Based on the requirements of the code for the proposed housing mix and density, Alternative 2 would require a maximum of approximately 3.3 acres of on-site park and recreation space, exclusive of open space occupied by critical areas. The Minimum Urban Village Proposal conceptual plan includes 5.5 acres of park space, consistent with the Comprehensive Plan LOS standard of 3 acres of neighborhood park space per 1,000 population. This exceeds the requirements of the City’s development code and meets the goals of the Comprehensive Plan, thereby not increasing the City’s overall deficit of neighborhood park space.

Alternative 2 would also incorporate sufficient on-site trails to meet the City’s Comprehensive Plan LOS standard of 0.75 mile per 1,000 population. Under Alternative 2, this would require approximately 1.4 miles of trails to maintain the City’s current level of service and not increase the City’s overall deficit of trails. The precise configuration of on-site trails would be determined by the final site plan approval or development agreement.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Under Alternative 3, housing units in the Hawk Property Subarea would increase by approximately 1,500 units, equivalent to approximately 2,760 persons. As described under Affected Environment, CMC 18.35.150 requires residential and mixed-use developments to provide on-site recreation. Based on the requirements of the code and the proposed housing mix and density, Alternative 3 would require approximately 5.1 acres of on-site park and recreation space, exclusive of open space occupied by critical areas. The Maximum Urban Village Proposal

conceptual plan includes approximately 8.3 acres of park space, consistent with the Comprehensive Plan LOS standard of 3 acres of neighborhood park space per 1,000 population. This exceeds the requirements of the City's development code and will slightly decrease the City's overall deficit of Neighborhood Park space.

Alternative 3 would also incorporate sufficient on-site trails to meet the City's Comprehensive Plan LOS standard of 0.75 mile per 1,000 population. Under Alternative 3, this would require approximately 2.1 miles of trails to maintain the City's current level of service and not increase the City's overall deficit of trails. The precise configuration of on-site trails would be determined by the final site plan approval or development agreement.

Solid Waste

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, no population growth would occur in the Hawk Property Subarea. While increased employment at the asphalt batch plant could potentially generate additional solid waste, the increase would not be significant on a regional scale and could be managed within existing hauler and landfill capacity.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Alternative 2 would result in population growth in the subarea of approximately 1,838 persons. Based on King County's projected 2020 waste generation rates of 20.4 pounds per capita per week, Alternative 2 would result in approximately 975 tons of additional solid waste per year. These rates are anticipated to be manageable within the existing capacity of the Cedar Hills landfill.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Alternative 3 would result in population growth in the subarea of approximately 2,760 persons. Based on King County's projected 2020 waste generation rates of 20.4 pounds per capita per week, Alternative 3 would result in approximately 1,464 tons of additional solid waste per year. These rates are anticipated to be manageable within the existing capacity of the Cedar Hills landfill.

Mitigation Measures

Incorporated Plan Features

FIRE

- Both Action Alternatives include construction of a central spine street connecting the west and east ends of the subarea. This street will reduce response times for emergency vehicles throughout the subarea, as well as residential areas to the east, which currently must be accessed by a more circuitous route.

PARKS & TRAILS

- Both Action Alternatives include development of sufficient park space to offset the demand created by additional residential development in the subarea, in compliance with the LOS standard established in the City's Comprehensive Plan. This is in excess of what is required by the City's current development regulations for the proposed housing mix.
- Both Action Alternatives include development of sufficient trails to meet the trails LOS standard established by the City's Comprehensive plan, thereby maintaining the City's current level of trail service.

Applicable Regulations and Commitments

SCHOOLS

- After annexation by the City of Covington, development in the Hawk Property Subarea will be subject to assessment of school impact fees, as required by Covington Municipal Code Chapter 18.120.

- Until annexation by the City of Covington, development in the unincorporated portions of the Hawk Property Subarea will be subject to assessment of school impact fees, as required by King County Code Chapter 27.44.

Other Potential Mitigation Measures

POLICE

- The City could adopt a formal LOS standard for police service and coordinate with the King County Sheriff's Office on monitoring of call responses to incidents by members of the Covington Police Department.
- The City should contract with the King County Sheriff's Office for the services of additional police officers commensurate with the level of development ultimately approved for the subarea.

FIRE

- The City should require a mitigation agreement between the developer and Kent Regional Fire Authority prior to development to address the impacts identified in this Chapter. The mitigation agreement should address impacts to daily and peak hour workload at KFD Station 78 resulting from development of Alternative 2 or Alternative 3.

PARKS AND TRAILS

- At the time of development application, the City should review submitted conceptual and detailed site plans to ensure that sufficient park space and trails are provided to be consistent with both the LOS standards of the Parks and Recreation Element of the Comprehensive Plan and with the requirements of CMC 18.35.150, as established in the Planned Action Ordinance.

Significant Unavoidable Adverse Impacts

Future population growth and development will continue to increase demand for all public services on both a local and regional level. With implementation of mitigation measures, no significant unavoidable adverse impacts are anticipated.

3.10 Utilities

The Utilities portion of the proposed Hawk Property Subarea Plan & Planned Action EIS evaluates the existing conditions of utility infrastructure (storm drainage, water supply, and sanitary sewer), provides guidelines for the future utility infrastructure, and identifies potential challenges.

The proposed subarea will require utility infrastructure to be developed offsite and onsite along existing and proposed street networks as well as within the residential and retail development areas. It should be noted that the proposed street networks and associated utilities may impact existing sensitive areas such as wetlands, streams, and steep slopes, depending on the ultimate location of the streets and utilities.

A conceptual site plan will be developed for the subarea at a later date, which will include further detail on the proposed infrastructure, such as building, street, parking, and landscape area layouts, together with the associated utilities.

Exhibit 3.10-1 illustrates existing and planned utility infrastructure in the vicinity of the study area.

Affected Environment and Methodology

Storm Drainage

The existing storm drainage system within the subarea currently consists of private culverts and ditches. The City's current stormwater standards are the 2012 Stormwater Management Manual for Western Washington, as amended, and are contained in Covington Municipal Code Chapter 13.25. The existing culverts and ditches do not meet the City's stormwater standards for the type and intensity of uses proposed for the subarea. Future improvements will be designed per the City's standards in effect at the time of site development. Existing conditions will be modeled as pasture. Existing wetlands, streams, and steep slopes, as well as the associated buffers will limit the area available for storm drainage facilities.

Water Supply

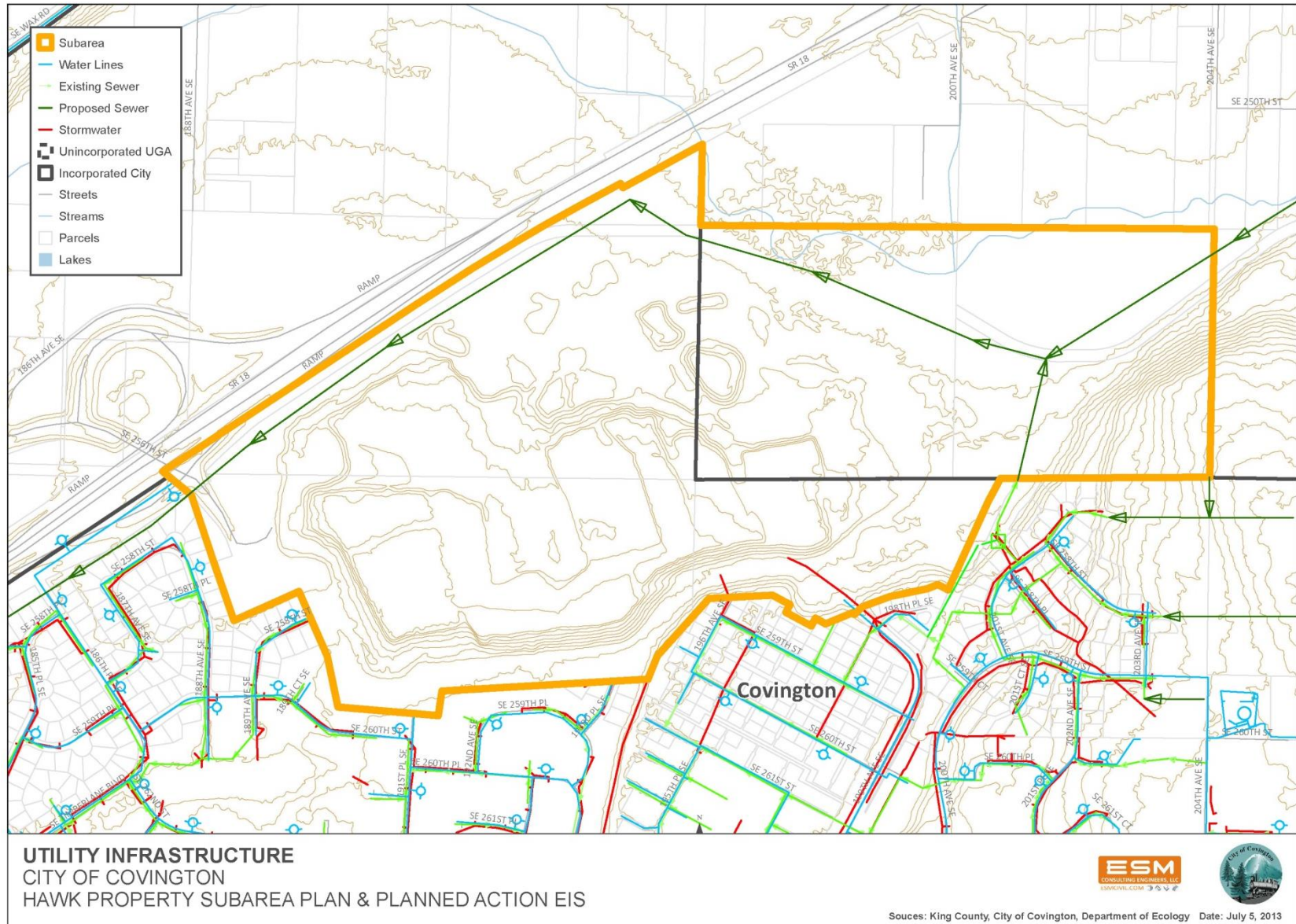
There is no existing potable water infrastructure in the subarea. Water supply in the vicinity of the subarea is provided by the Covington Water District from water towers (Tanks 2A and 2B, totaling a volume of 6 million gallons in the 660 pressure zone) currently located to the southeast of the subarea. Water service to the subarea would be provided by the District from Tanks 2A and 2B.

The Covington Water District has developed a water system demand forecast that includes the subarea, taking into account the projected demographic changes, historical water usage patterns, and projected changes to such patterns due to continued conservation efforts. The current Covington Water District Water System Plan Update is dated February 2007; however, according to the District, this document is scheduled to be updated in 2014.

Sanitary Sewer

Sanitary sewer is currently addressed in the subarea by the use of individual septic systems. The subarea is located within the Soos Creek Water and Sewer District Planning Area (Service Area) and within the City's Urban Growth Area. Based on Figures 2-2 and 7-15 in the 2005 Soos Creek Water and Sewer District Comprehensive Plan, GIS information received from the District, and the 2012 Covington Northern Gateway Area Study, the District's sanitary sewer system has been master planned such that a gravity-fed system can serve future development in the Subarea (See Figure 3.10-1). Furthermore, the District's existing sanitary sewer system and the existing sanitary sewer Lift Station 11B (located to the southwest of the subarea) have adequate capacity to serve urban growth such as that projected under both Alternatives.

Exhibit 3.10-1. Existing and Planned Utility Infrastructure



Impacts

Storm Drainage

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, a small expansion of the asphalt batch plant would occur in the Hawk Property Subarea, generating up to approximately 7,500 square feet of additional impervious surface. This would be subject to current City standards in effect at the time of development. It is estimated that the building roof square footage increase will be considered clean runoff and not result in significant adverse impacts to storm drainage facilities.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Stormwater runoff will be analyzed and designed per City standards in effect at the time of application. However, based on the types of uses and intensity proposed in Alternative 2, it is anticipated that stormwater drainage facilities required by the City's stormwater standards will be sufficient for the expected level of runoff. The storm drainage system would consist of facilities whereby stormwater is collected and conveyed along the future road network and parking areas, within swales, catch basins, and pipes (estimated up to 24 inches diameter in size), then directed to water quality treatment and flow control (detention/retention) facilities. Low impact development (LID) techniques are recommended to be utilized to minimize concentrated stormwater runoff and associated volumes.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

As described in Section 3.2, Alternative 3 would result in a greater level of building coverage than Alternative 2, resulting in a greater amount of storm runoff requiring detention/retention and water quality treatment; however, it is anticipated that stormwater drainage facilities required by the City's stormwater standards will be sufficient for the expected level of runoff. The storm drainage system would consist of facilities whereby stormwater is collected and conveyed along the future road network and parking areas, within swales, catch basins, and pipes (estimated up to 24 inches diameter in size), then directed to water quality treatment and flow control (detention/retention) facilities. Low impact development (LID) techniques are recommended to be utilized to minimize concentrated stormwater runoff and associated volumes.

Water Supply

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, the estimated 7,500 square foot building increase is not anticipated to result in significant additional demand on water facilities.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Development of Alternative 2 is anticipated to generate additional demand for water service, proportional to the needs of the future development.

Based on preliminary evaluations completed by the Covington Water District, and discussed in a meeting held by the City of Covington on April 26, 2012, water mains along the south side of SR8, in SE 248th Street, and in 208th Street SE will be required to be upgraded to 8-12 inches in diameter, with an estimated length of 1.5 miles, to supply water to the subarea. Furthermore, the pressure zones in relation to the subarea will require additional analyses and designs prior to development, as transitions between pressure zones (such as pressure reducing stations) could be necessary.

The proposed water supply network within the subarea is estimated to range between 8 and 16-inch diameter pipes. Water utility infrastructure will be further quantified, at a later date pursuant to District requirements, during the development process.

These facilities are not shown on the Covington Water District Water System Plan Update dated February 2007; however according to the District they will be included in the Plan scheduled to be updated in 2014 (Soos Creek Water and Sewer, 2012).

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Development of Alternative 3 is anticipated to generate a greater demand for water service than Alternative 2; however, the facilities necessary to serve Alternative 2 also will meet the water demands of Alternative 3.

Based on preliminary evaluations completed by the Covington Water District, and discussed in a meeting held by the City of Covington on April 26, 2012, water mains along the south side of SR8, in SE 248th Street, and in 208th Street SE will be required to be upgraded to 8-12 inches in diameter, with an estimated length of 1.5 miles, to supply water to the subarea. Furthermore, the pressure zones in relation to the subarea will require additional analyses and designs prior to development, as transitions between pressure zones (such as pressure reducing stations) could be necessary.

The proposed water supply network within the subarea is estimated to range between 8 and 16-inch diameter pipes. Water utility infrastructure will be further quantified, at a later date pursuant to District requirements, during the development process.

These facilities are not shown on the Covington Water District Water System Plan Update dated February 2007; however according to the District they will be included in the Plan scheduled to be updated in 2014 (Soos Creek Water and Sewer, 2012).

Sanitary Sewer

ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, the estimated 7,500 square foot building increase is not anticipated to result in significant additional demand to sewer service.

ALTERNATIVE 2 (MINIMUM URBAN VILLAGE PROPOSAL)

Alternative 2 is estimated to generate a demand for sanitary sewer service, proportional to the needs of the future development. The planned sanitary sewer facilities shown on Figures 2-2 and 7-15 in the 2005 Soos Creek Water and Sewer District Comprehensive Plan, as well as GIS information received from the District [See Figure 3.10-1], will be needed to provide service to the subarea.

The proposed sanitary sewer network within the subarea is estimated to range between 8 and 16 inch diameter pipes. The estimated flow for Alternative 2 is 400,000 gallons per day (gpd). This estimate is based on the Soos Creek Water and Sewer Districts 2005 Comprehensive Plan and the Department of Ecology (DOE) criteria for determining design flows. According to the District, there is adequate capacity in their system to meet the estimated demand. The sanitary sewer utility infrastructure will be further quantified, at a later date pursuant to the District's requirements, during the development process.

ALTERNATIVE 3 (MAXIMUM URBAN VILLAGE PROPOSAL)

Alternative 3 is estimated to generate a greater demand for sanitary sewer service than Alternative 2. As with Alternative 2, the planned sanitary sewer facilities shown on Figures 2-2 and 7-15 in the 2005 Soos Creek Water and Sewer District Comprehensive Plan, as well as GIS information received from the District [See Figure 3.10-1], will be needed to provide service to the subarea.

The proposed sanitary sewer network within the subarea is estimated to range between 8 and 16 inch diameter pipes. The estimated flow for Alternative 3 is 600,000 gallons per day (gpd). This estimate is based on the Soos Creek Water and Sewer Districts 2005 Comprehensive Plan and the Department of Ecology (DOE) criteria for determining design flows. According to the District, there is adequate capacity in their system to meet the

estimated demand. The sanitary sewer utility infrastructure will be further quantified, at a later date pursuant to the District's requirements, during the development process.

Mitigation Measures

Incorporated Plan Features

None.

Applicable Regulations and Commitments

Plans and regulations adopted at the time development permits are submitted will be applicable, such as:

- Department of Ecology, Stormwater Manual for Western Washington
- City of Covington Surface Water Management Program, CMC 13.25
- CMC Title 13 Public Utilities
- Soos Creek Water and Sewer District Comprehensive Plan
- Covington Water District Water System Plan

Other Potential Mitigation Measures

- Mitigation measures for impacts to stormwater runoff from the proposed development may include incorporating LID best management practices in the developed conceptual site plan. See Section 3.2 for additional potential mitigation measures.
- No additional mitigation measures are necessary for the water supply and sanitary sewer utility infrastructure.

Significant Unavoidable Adverse Impacts

While both proposed Alternatives will generate additional demand for stormwater drainage, water, and sanitary sewer facilities, no significant unavoidable adverse impacts are anticipated. The City's Stormwater standards address the drainage impacts created by the Alternatives. The water supply and sanitary sewer impacts have been anticipated by both the Covington Water District and the Soos Creek Water and Sewer District. The existing water supply and sanitary sewer capacity are adequate to accommodate the demands of the subarea, but additional water and sewer transmission facilities will be needed to and within the subarea.

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Soos Creek Water and Sewer District 2005 Sewer Comprehensive Plan, prepared by Roth Hill Engineering Partners, LLC

Covington Water District Water System Plan Update dated February 2007, prepared by HDR, Inc.

5.0 DISTRIBUTION LIST

5.1 Federal Agencies

US Army Corp. of Engineers, Seattle Dist.
Attn: Sarah Rahman
OD-RG
P.O. Box 3755
Seattle, WA 98124-3755

Kent Post Office
Postmaster
10612 SE 240th Street
Kent, WA 98031-9998

United States Fish & Wildlife Service
Attn:Ken Berg, Manager
Washington Fish and Wildlife Office
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

United States Geological Survey
Western Regional Office
909 1st Avenue, 8th Floor
Seattle, WA 98104

United States Postal Service
Don Bartley
Growth Management Coordinator
10612 SE 240th St
Kent, WA 98031-9998

5.2 Tribes

Muckleshoot Indian Tribe
Fisheries Division
Attn: Karen Walter
39015 172nd Ave SE
Auburn, WA 98092

5.3 State and Regional Agencies

Puget Sound Clean Air Agency
Attn: SEPA Review
1904 3rd Ave, Ste 105
Seattle, WA 98101-3317

HAWK PROPERTY PLANNED ACTION EIS | DISTRIBUTION LIST

Puget Sound Partnership
1111 Washington Street SE
Olympia, WA 98504-7000

Puget Sound Regional Council
Attn: SEPA Review
1011 Western Avenue, Suite 500
Seattle, WA 98104

Seattle/King County Public Health
Lee Dorigan
401 5th Ave, Ste 1100
Seattle, WA 98104

Washington State Department of Commerce
Growth Management Services
Attn: Review Team
PO Box 42525
Olympia, WA 98504-2525

Washington Department of Corrections
P.O. Box 41100, Mail Stop 41100
Olympia, WA 98504-1100

Washington State Department of Ecology
SEPA Unit
PO Box 47703
Olympia, WA 98504-7703

Washington State Department of Fish & Wildlife
Attn: Larry Fisher, Area Habitat Biologist
1775 12th Avenue NW
Issaquah, WA 98027

Washington State Department of Health
Environmental Public Health Division
P.O. Box 47820
Olympia, WA 98504-7820

Washington State Department of Natural Resources
Resource Protection Division
1111 Washington Street SE
PO Box 47037
Olympia, WA 98504-7037

Washington State Department of Social and Health Services
Constituent Services
P.O. Box 45130
Olympia, WA 98504-5130

Washington State Department of Transportation
John LeFotu
Po Box 330310 MS 240
Seattle, WA 98133-9710

5.4 Services, Utilities, and Transit

Bonneville Power Administration
Covington Substation
28401 Covington Way SE
Covington, WA 98042

BNSF Railway Company
Mike Cowles, Manager Public Projects
2454 Occidental Ave S., Suite 1A
Seattle, WA 98134

Comcast of Washington IV
410 Valley Ave NW, Suite12
Puyallup, WA 98371-3317

Cascade Water Alliance
Michael Gagliardo
520 112th Ave Ne Suite 400
Bellevue, WA 98004

Covington Water District
Gwenn Maxfield, General Manager
18631 SE 300th Place
Kent, WA 98042

Kent Regional Fire Authority
24611 116th Ave SE
Kent, WA 98030

Kent School District Finance and Planning
Ms. Gwenn Escher-Derdowski
12033 SE 256th Street, Ste A-600
Kent, WA 98030

HAWK PROPERTY PLANNED ACTION EIS | DISTRIBUTION LIST

Kent School Dist. Transportation
Don Walkup
25211 104th Ave SE
Kent, WA 98030

Maple Valley Fire and Life Safety
Scott Webster
23775 SE 264th Street
Maple Valley, WA 98038

Puget Sound Energy
Jim Kennedy
PO Box 90868, EST9W
Bellevue, WA 98009-0868

Qwest Communications
Jennifer Gorman
23315 66th South
Kent, WA 98032

Republic Services
Jeff Wagner
22010 76TH Ave S.
Kent, WA 98032

Soos Creek Sewer and Water District
Darci McConnell
PO Box 58039
Renton, WA 9808-1039

Tahoma School District
Attn: Lori Cloud, Director of Financial Services
25720 Maple Valley-Black Diamond Rd SE
Maple Valley, WA 98038

Water District 111
Sharon Goble
27224 144th Avenue SE
Kent, WA 98042

5.5 Community Organizations

Crest Air Park
Rikki Birge
29300 179th Pl SE
Kent, WA 98042

Middle Green River Coalition
PO Box 921
Enumclaw, WA 98022

Timberland Homes Association
C/O: Chantelle Mitchell
Community Association Manager
WPM South LLC
15215 SE 272nd St #204
Kent WA 98042

5.6 Adjacent Jurisdictions

City of Black Diamond
Planning Director
PO Box 599
Black Diamond, WA 98010

City of Kent
Kelly B. Peterson, Wellhead Protection Engineer
220 4th Ave South
Kent WA 98032-5895

City of Kent Planning Department
Planning Director
220 4th Ave South
Kent, WA 98032-5895

City of Maple Valley
Planning Director
P. O. Box 320
Maple Valley, WA 98038

HAWK PROPERTY PLANNED ACTION EIS | DISTRIBUTION LIST

King County Department of Natural Resources and Parks
Parks and Recreation Division
201 S Jackson Street, Room 700
Seattle, WA 98104-3855

King Co. Dept of Permitting and Environmental Review
35030 SE Douglas St, Ste 210
Snoqualmie, WA 98065-9266

King County Dept. of Transportation
Linda Dougherty, Div. Director Road Services
201 S. Jackson St., KSC-TR-0313
Seattle, WA. 98104-3856

King County Metro Transit Division
Gary Kriedt
201 S. Jackson St., MS-KSC-TR-0431
Seattle, WA 98104

Appendix A: SCOPING NOTICE AND SEPA CHECKLIST



City of Covington

16720 SE 271st St. #100

Covington, WA 98042

City Hall 253-480-2400

Fax 253-480-2401

**Determination of Significance and Scoping Notice
Request for Comments on Scope of Environmental Impact Statement
(EIS)**

Hawk Property Subarea Plan

Application Name: Hawk Property Subarea Plan
Applicant/Contact: Ann Mueller, AICP
Senior Planner
Community Development Department
City of Covington
16720 SE 271st Street
Covington, WA 98042
253-480-2444
Date of Issuance: March 8, 2013

Description of Proposal, and Location

The City of Covington proposes to adopt a subarea plan for a portion of the Covington Northern Gateway, referred to as the Hawk Property Subarea. The Hawk Property Subarea is located at the extreme northeast of the City of Covington and encompasses approximately 209 acres on the south side of SR18. The Hawk Property Subarea primarily consists of the Lakeside gravel mine, vacant land, and a highway interchange. Approximately 134 acres of this area lies within the City's corporate limits; the remainder lies within the City's assigned Potential Annexation Area in the King County Urban Grown Area. The subarea plan would establish goals, and a policy framework for the area, including land use and zoning regulations, active and passive open space requirements, and vehicular and pedestrian circulation concepts, and a capital facilities plan.

Lead Agency and EIS Required

The City of Covington, as lead agency, has determined this proposal is likely to have a significant adverse impact on the environment. An Environmental Impact Statement (EIS) is required under RCW 43.21C.030(2)(c) and will be prepared. An environmental checklist and the Northern Gateway Area Study(August 2012) indicating likely environmental impacts can be reviewed at: City of Covington Community Development Department, 16720 SE 271st Street, Covington, WA 98042. The City intends to designate the Hawk Property Subarea Plan as a planned action as defined under WAC 197-11-164 and will, prepare a Planned Action EIS. Future projects developing under the Planned Action will not require individual environmental review at the time of permit application if they are consistent with the range of alternatives and mitigation studied in the EIS.

EIS Alternatives

The City intends to study three land use alternatives to be comparatively evaluated in the Planned Action EIS: one No Action Alternative (SEPA required) and two action alternatives. The No Action alternative would assume that the Hawk Property Subarea Plan would not be adopted and that existing comprehensive plan and zoning regulations would remain in place. Preliminarily, the two action alternatives would include variations of the proposal to designate the Hawk Property Subarea for a mix of retail, office, industrial, and residential uses. The two action alternatives will be developed based upon input from the public, city officials and consultants, the developer, and participants a community workshop to be held on March 25, 2013 at Covington City Hall.

Elements Of The Environment To Be Addressed

The lead agency has identified the following topic areas for analysis in the Planned Action EIS: Earth, Plants and Animals, Surface Water, Air Quality, Transportation, Land Use, Public Services, Utilities, and Noise.

Scoping Comments

Agencies, affected tribes, and members of the public are invited to comment on the scope of the Planned Action EIS. You may comment on EIS Alternatives, issues that should be evaluated in the EIS, probable significant adverse impacts, and licenses or other approvals that may be required. The method and deadline for providing scoping comments is:

Written Comments

Provide written comments on the scope of the Planned Action EIS no later than **5:00 pm on March 29, 2013**. Comments may be sent to the Lead Agency Contact Person, Ann Mueller, Senior Planner at the City of Covington Community Development Department, 16720 SE 271st Street, Covington, WA 98042 or via e-mail at amueller@covingtonwa.gov.

Community Workshop

Written comments on the scope of the Planned Action EIS may also be submitted at the Hawk Property Subarea Plan Community Workshop on Monday, March 25, 2013 at the Covington City Hall from 6:30- 8:30pm. Covington City Hall is located at 16720 SE 271st Street, Covington, WA 98043.

Responsible Official

Richard Hart, SEPA Official
Community Development Director
City of Covington
Department of Community Development
16720 SE 271st Street
Covington, WA 98042-4964
253-480-2441

Date: 3-27-2013

Signature: _____



Appeal

You may appeal this determination of significance by following the procedures in CMC 16.10.210. Any appeal must be filed in writing at Covington City Hall within 14 days after the end of the comment period (**by 5pm on April 5, 2013**). You must make specific factual objections, identify errors, identify harm suffered, or identify anticipated relief sought and raise specific issues in the statement of appeal. Contact the Community Development Department at Covington City Hall to ask about procedures for SEPA appeals.

CITY OF COVINGTON ENVIRONMENTAL CHECKLIST

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." In addition, complete the supplemental sheet for nonproject actions (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable: Hawk Property Subarea Plan
2. Name of applicant: City of Covington
3. Address and phone number of applicant and contact person:
Ann Mueller, AICP
Senior Planner
City of Covington
16720 SE 271st Street, Suite 100
Covington, WA 98042
253-480-2444
4. Date checklist prepared: March 5, 2013
5. Agency requesting checklist: City of Covington
6. Proposed timing or schedule (including phasing, if applicable):

EIS completion and adoption of subarea plan, development regulations, and planned action ordinance are anticipated by December 2013.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. Future development in the subarea would occur in accordance with the subarea plan and its associated development regulations. Proposals within the range of alternatives covered by the Planned Action and within the study area would not require individual SEPA threshold determinations.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A Planned Action Environmental Impact Statement (EIS) will be prepared for the study area as stated in the City's SEPA Determination of Significance and Scoping Notice. Topics proposed for analysis in the EIS include Earth, Plants and Animals, Surface Water, Air Quality, Transportation, Land Use, Public Services, Utilities, and Noise.

The Covington Northern Gateway Area Study, published in August 2012, contains detailed information about the study area, specifically existing land uses, adopted zoning, land supply, environmentally critical areas, available utilities and public services, and vehicular access. This study will provide the basis for much of the environmental analysis conducted as part of the EIS process.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There is an existing Lakeside Industries Surface Mining Reclamation Permit (70011068) that is currently being revised with the Washington State Department of Natural Resources. No other pending permits or approvals are known.

10. List any government approvals or permits that will be needed for your proposal, if known.

Adoption of the subarea plan, associated development regulations, and Planned Action Ordinance by the Covington City Council. Actual construction of future development will occur under separate, individual permits.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The City of Covington proposes to adopt a subarea plan and associated development regulations for a portion of the Covington Northern Gateway Area, referred to as the Hawk Property Subarea, which encompasses approximately 209 acres. The subarea plan would establish goals, and a policy framework for the area, including land use and zoning regulations, active and passive open space requirements, and vehicular and pedestrian circulation concepts, and a capital facilities plan.

The City intends to study three land use alternatives to be evaluated in the Planned Action EIS: one No Action Alternative (SEPA required) and two action alternatives. The No Action alternative would assume that the Hawk Property Subarea Plan would not be adopted and that existing comprehensive plan and zoning regulations would remain in place. Preliminarily, the two action alternatives would include variations of the proposal to designate the Hawk Property Subarea for a mix of retail, office, industrial, and residential uses.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Hawk Property Subarea is located at the extreme northeast corner of the City of Covington and encompasses approximately 209 acres on the south side of SR18. The Hawk Property Subarea primarily consists of the Lakeside gravel mine, vacant land, and a highway interchange. Approximately 134 acres of this area lies within the City's

corporate limits; the remainder lies within the City's assigned Potential Annexation Area in the King County Urban Grown Area.

B. ENVIRONMENTAL ELEMENTS

1. Earth

Proposed EIS Scope: The City's Critical Area Ordinance maps and the Natural Resource Conservation Service maps will be used to characterize existing soil types, especially steep slopes, unstable soils, and highly erodible soils. The existing reclamation plan for the Lakeside gravel mine will be reviewed to characterize how post-reclamation soil conditions will affect the suitability for future land uses at the current mine site. Relevant City building code regulations for erosion control and soil stability will be summarized and a range of options presented for how the City could implement special geotechnical standards for project-level permitting.

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other
Most of the subarea falls within a gently sloping valley that drains to Jenkins Creek at the northern edge of the subarea. Land at the far eastern edge of the subarea rises to a series of hills. Much of the subarea is currently occupied by a gravel mining operation, and the landscape in this area has been significantly altered from its natural state.
- b. What is the steepest slope on the site (approximate percent slope)?
The Environmental Impact Statement will examine geologic conditions in the subarea in detail, including information from the existing reclamation plan for the mining operation. The City has not designated any steep slope hazards within the subarea.
- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.
Soils in the subarea consist primarily of sandy gravelly loams. The USDA has also mapped an area of Orcas peat on the Lakeside gravel mine site (approximately 17 acres). Limited areas of Seattle muck may also be found at the northern edge of the study area, along Jenkins Creek.
- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
The City has not mapped any unstable soils or landslide hazards in the immediate vicinity, though the EIS will describe geologic conditions, particularly on the Lakeside gravel mine site.
- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
The proposal is a non-project action and does not include any specific filling or grading. The EIS will examine the potential impacts of future development authorized under the Planned Action.
- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
The proposal is a non-project action and does not include any specific clearing or construction activities. The EIS will examine the potential impacts of future development authorized under the Planned Action.
- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
The proposal is a non-project action and does not include any specific development activities. The EIS will examine the potential impacts of future development authorized under the Planned Action.
- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
The EIS will analyze potential geologic impacts and propose mitigation measures as necessary.

2. Air

Proposed EIS Scope: Existing air quality conditions and regulations relevant to the proposal will be summarized including Puget Sound Clean Air Agency regulations for stationary sources and construction fugitive dust and future requirements for Transportation Conformity determinations for roadway improvements. To evaluate potential impacts to regional air quality the City's forecasts for population growth and regional vehicle miles traveled (VMT) will be compared to regional Puget Sound forecasts developed by the Puget Sound Regional Council (the City will provide the population and VMT data used for this analysis). To evaluate greenhouse gas (GHG) emissions, land use forecasts will be used to estimate existing GHG emissions and future GHG emissions for each alternative, using the King County GHG spreadsheet. The "Build Carbon Neutral" calculator will be used to forecast soil-carbon GHG emissions caused by removing existing vegetation from the study area. A comprehensive list of relevant GHG reduction measures the City could consider as part of project-level environmental permitting will be presented.

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

The proposal is a non-project action and does not include any specific development or construction activities. The EIS will examine the potential impacts of future development activities authorized under the Planned Action, including construction associated emissions, automobile emissions, and commercial/industrial emissions. Development proposals occurring under the Planned Action may result in short-term emissions, including construction equipment exhaust and fugitive dust, but future development will be required to follow adopted goals, policies, and regulations regarding air quality and must comply with best management practices and mitigation measures outlined in the EIS.

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

No off-site emissions that may affect the proposal are known.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

The EIS will analyze potential air quality impacts, including applicable laws and proposed mitigation measures and best management practices for future development occurring under the Planned Action.

3. Water

Proposed EIS Scope: The technical analysis will include a description of existing conditions, assessment of the significant adverse impacts (direct, indirect and cumulative), evaluation of the potential mitigation measures for each of the alternatives, and discussion of regulatory implications and permit requirements.

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Jenkins Creek, which is documented as a salmonid-bearing stream, flows along the northern edge of the study area, and the National Wetland Inventory (NWI) has documented several associated wetlands adjacent to it within the proposal area. The NWI has also documented a wetland unit on the gravel mine site, which appears to correspond to a series of open water ponds. Analysis of these features will be included in the Surface Water and Plants and Animals sections of the EIS.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Future development under the Planned Action may occur within 200 feet of the water bodies described above, and all future development in the subarea will be required to adhere to the City of Covington's adopted stream and wetland buffers, as well as the City's adopted Shoreline Management Program development regulations.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The proposal is a non-project action, and no dredge or fill activities are proposed at this time. Any future dredge or fill actions would be required to comply with the City's critical areas regulations (CMC 18.65), as well as the conditions of any State or Federal permits necessary for work in or over a regulated water body.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No surface water withdrawals or diversions are proposed as part of the subarea plan. Future development applications proposing withdrawals or diversions will be evaluated for compliance with application state, federal, and local regulations.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The proposal area does not contain any areas designated as 100-year floodplain.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No discharges of waste materials to surface waters are proposed as part of the subarea plan. Future development applications proposing withdrawals or diversions will be evaluated for compliance with application state, federal, and local regulations.

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

There is an existing on-site well that is currently used for the mining/reclamation operation, which future development of the area may use for irrigation or other uses. No groundwater withdrawals or discharges are proposed as part of the subarea plan. New development under the Planned Action is anticipated to connect to Covington Water District water sources and will not withdraw water from ground sources. Any future development applications proposing withdrawals or discharges will be evaluated for compliance with application state, federal, and local regulations.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

All new development within the proposal area will be connected to Soos Creek Water & Sewer District sewer systems and will not discharge waste material into the ground.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Aside from the gravel mining operation and asphalt batch plant, the proposal area is currently undeveloped, and impervious surface coverage is relatively low. Development of the area for commercial and residential use under the Planned Action would increase the level of impervious surface coverage in the study area, leading to a commensurate increase in stormwater runoff. The EIS will further describe existing conditions and analyze impacts associated with future development under the Planned Action, including both runoff quantity and impacts to the quality of receiving waters.

2) Could waste materials enter ground or surface waters? If so, generally describe.

The EIS will analyze the potential for inadvertent discharge of waste materials to ground or surface waters and will specify mitigation measures as appropriate.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The EIS will propose mitigation measures for addressing potential impacts to surface and groundwater quality, as well as surface water runoff.

4. Plants

Proposed EIS Scope: The technical analysis will include a description of existing conditions, assessment of the significant adverse impacts (direct, indirect and cumulative), evaluation of the potential mitigation measures for each of the alternatives, and discussion of regulatory implications and permit requirements.

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
 evergreen tree: fir, cedar, pine, other
 shrubs
 grass
 pasture
 crop or grain
 wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
 water plants: water lily, eelgrass, milfoil, other
 other types of vegetation

The proposal area is characterized by a mix of deciduous and coniferous trees and shrubs. The eastern portions of the study area are heavily vegetated, as are those portions of the gravel mining site not occupied by buildings, equipment or open pits. Wetland areas adjacent to Jenkins Creek are assumed to contain wet soil plants, though further reconnaissance will confirm this during the EIS analysis.

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

The proposal is a non-project action, no specific vegetation removal or alteration activities are proposed. Future development under the Planned Action is likely to include clearing of vegetation, and the Plants and Animals section of the EIS will analyze potential impacts associated with such removal or alteration.

c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species are known to occur in the study area.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The EIS will identify appropriate programmatic mitigation measures for plants.

5. Animals

Proposed EIS Scope: The technical analysis will include a description of existing conditions, assessment of the significant adverse impacts (direct, indirect and cumulative), evaluation of the potential mitigation measures for each of the alternatives, and discussion of regulatory implications and permit requirements.

- a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other: The EIS will identify existing bird populations.

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

- b. List any threatened or endangered species known to be on or near the site.

Jenkins Creek is documented as a salmonid-bearing stream, including Steelhead Trout and Coho Salmon, which are State Candidate species, as well as Federally Threatened species. The Plants and Animals section of the EIS will provide a detailed analysis of potential impacts to threatened and endangered species, as well as an overview of the regulations governing development within and near threatened and endangered species habitat.

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

Regular concentrations of elk have been documented in the vicinity of the study area, and Jenkins Creek serves as a migration stream for Coho and Chinook salmon, as well as Cutthroat and Steelhead trout. The EIS will evaluate the potential impacts of future development on migrating wildlife.

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

The EIS will identify appropriate programmatic mitigation measures for any anticipated impacts to wildlife migration. All future development under the Planned Action will be required to comply with the City's adopted critical areas regulations.

6. Energy and natural resources

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

Electric and natural gas service are available within the City of Covington, though services may need to be extended to those portions of the subarea that are undeveloped. Energy is likely to be used mostly for heating and lighting in residential and commercial development. However, some energy may be used for manufacturing if light industrial uses are developed.

- b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe.

The subarea is largely undeveloped, and future development under the planned action would result in a greater degree of residential and commercial development than currently exists in the area at taller building heights than currently exist. However, given that most of the study area lies at a lower elevation than adjacent developed areas, future development under the Planned Action is not anticipated to be of sufficient height or bulk to affect the potential use of solar energy by neighboring properties.

- c. What kinds of energy conservation features are included in the plans of this proposal?

List other proposed measures to reduce or control energy impacts, if any:

Future development under the Planned Action would consist of a mix of low to high-density residential, and commercial uses. High-density, compact development is less dependent on automobiles, providing indirect energy and resource conservation over lower-density development styles.

Future development will comply with the Washington State Energy Code: CMC 15.05.040(7).

7. Environmental health

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

The proposal would allow for future development of residential and commercial uses, and potentially industrial uses, that would be required to comply with zoning regulations for allowed uses, as well as State and Federal regulations for handling of hazardous materials.

- 1) Describe special emergency services that might be required.

Increased development in the proposal area as a result of subarea plan adoption could potentially increase demand for fire, police, and emergency medical services. Potential impacts to public services, including fire, police, and medical, will be analyzed in the EIS (see also Section B.15).

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

Future development under the Planned Action will be required to comply with City development regulations, as well as the International Building Code and the International Fire Code (adopted by reference in CMC 15.05.040). Any development that proposes the use of hazardous materials or which produces hazardous waste shall be subject to state and federal regulations for facility siting, materials storage, and waste disposal.

b. Noise

Proposed EIS Scope: The existing noise environment and key existing noise sources in the study area (no baseline noise monitoring is proposed) will be qualitatively characterized. Relevant state and local regulations that will minimize future noise impacts caused by future development will be cited. Published sources will be used to estimate future increases in day-night noise levels (Ldn) based on forecast future land use population density. For the future No Action alternative, the potential noise impacts caused by continued gravel mining will be evaluated. The Traffic Noise Model (TNM) lookup model will be used to develop a general spatial trend for future noise levels near up to three key roadways affecting the study area. Additionally, the noise review will be coordinated with the team's wildlife specialists to assess future wildlife impacts.

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Current noise in the study area consists of traffic noise from SR 18 and from operation of the Lakeside gravel mine and asphalt batch plant.

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

Future development under the Planned Action may produce short-term construction noise, as well as noise from increased automobile traffic. Individual projects would be required to comply with the conditions of their building permits, including noise abatement provisions. Potential impacts associated with future development under the Planned Action will be addressed in the Noise chapter of the EIS.

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

Public disturbance noise is regulated under Chapter 8.20 of the Covington Municipal Code and by WAC 17-60, The EIS will identify appropriate mitigation measures and best management practices for any noise-generating activities authorized under the Planned Action.

8. Land and shoreline use

Proposed EIS Scope: Land use patterns, land use compatibility and activity levels, and population/employment capacity of the Draft EIS alternatives and Final EIS preferred alternative will be reviewed. The relationship of the Subarea Plan to the City's Comprehensive Plan and other functional plans will be identified, as will policy or code provisions that serve as mitigation measures.

- a. What is the current use of the site and adjacent properties?
The study area consists of a gravel mining operation, asphalt batch plant and vacant land. No occupied residential structures are present. The Land Use chapter of the EIS will evaluate and compare the existing and proposed land uses of the various alternatives under consideration for the Subarea Plan, as well as the potential impacts on adjacent land uses. The analysis will include an evaluation of the City's growth targets and buildable land capacity relative to the action alternatives. The EIS will also identify appropriate mitigation measures in the form of policy or development code amendments.
- b. Has the site been used for agriculture? If so, describe.
No part of the study area has been used for agriculture. See response to #8a relating to analysis that will be performed in the EIS.
- c. Describe any structures on the site.
Buildings in the study area include industrial buildings associated with the gravel extraction operation and an asphalt plant. See response to #8a relating to analysis that will be performed in the EIS.
- d. Will any structures be demolished? If so, what?
Reclamation of the gravel mine would likely include removal of at least some of the existing structures, and future development under the Planned Action could propose demolition of any remaining buildings. Demolition permits will be obtained on an individual project basis. See response to #8a relating to analysis that will be performed in the EIS.
- e. What is the current zoning classification of the site?
The study area is divided between approximately 133 acres within the city limits zoned Mineral (M) and designated for mining activities. The remaining portion of the study area lies within the City's UGA and is currently zoned M-P by King County, also intended for mineral extraction. See response to #8a relating to analysis that will be performed in the EIS.
- f. What is the current comprehensive plan designation of the site?
The portion of the study area within city limits is designated Mineral, and the portion within the UGA is designated for Mining by King County. See response to #8a relating to analysis that will be performed in the EIS.
- g. If applicable, what is the current shoreline master program designation of the site?
No water bodies or streams regulated under the Shoreline Management Act are located within the study area.
- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
Wetlands associated with Jenkins Creek are located within the study area and fall under the City's critical areas regulations. See response to #8a relating to analysis that will be performed in the EIS.
- i. Approximately how many people would reside or work in the completed project?
See response to #8a relating to analysis that will be performed in the EIS.
- j. Approximately how many people would the completed project displace?
See response to #8a relating to analysis that will be performed in the EIS.
- k. Proposed measures to avoid or reduce displacement impacts, if any:
See response to #8a relating to analysis that will be performed in the EIS. The Land Use section of the EIS will identify appropriate mitigation measures in the form of policies and code provisions.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

See response to #8a relating to analysis that will be performed in the EIS. The Land Use section will identify appropriate mitigation measures in the form of policies and code provisions.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. The study area currently contains no housing. Future development under the Planned Action is anticipated to include a mixture of housing types, including low, medium, and high-density. The anticipated range in the number of residential units will be included in the EIS.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. The study area currently contains no housing units, so no housing would be eliminated.
- c. Proposed measures to reduce or control housing impacts, if any: The Land Use section of the EIS will analyze various proposed land use patterns relative to the City's growth targets and land capacity, including housing units. The EIS will identify appropriate mitigation measures in the form of policies and code provisions.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? The proposal would result in an overall increase in building heights over existing conditions. The Land Use chapter of the EIS will analyze land use patterns associated with the various alternatives, including proposed zoning. Maximum allowed heights for each alternative will be discussed in the EIS.
- b. What views in the immediate vicinity would be altered or obstructed? Alteration of existing views as a result of the proposal is anticipated to be minimal. Adjacent existing development is generally located at a higher elevation than the study area and screened by thick vegetation.
- c. Proposed measures to reduce or control aesthetic impacts, if any: The Subarea Plan will establish design guidelines intended to produce compatible development.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? Future development under the Planned Action could produce ambient light and glare in the form of building illumination, signage, street lights, and vehicle headlights. Though some lighting would be employed during the daytime, light and glare would be most noticeable at night.
- b. Could light or glare from the finished project be a safety hazard or interfere with views? Light from development occurring under the Planned Action would not be a safety hazard and would be required to comply with all City regulations governing the use of outdoor illumination.
- c. What existing off-site sources of light or glare may affect your proposal? Light and glare from automobile headlights on SR 18 may impact development occurring in the study area. Due to the undeveloped nature of the study area, few other sources of ambient light and glare are present in the vicinity.

d. Proposed measures to reduce or control light and glare impacts, if any:

Future development under the Planned Action would be required to comply with all City of Covington development regulations regarding exterior illumination. The EIS may propose appropriate mitigation measures and best management practices in the form of additional policies and code provisions.

12. Recreation

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

Informal walking trails are located along the southern edge of the study area adjacent to the Timberlane community.

The Public Services chapter of the EIS will review the supply of recreation opportunities in the vicinity of the study relative to the increased demand anticipated from development of the area under the Planned Action. Analysis will be based on available plans and the City's adopted levels of service for recreational facilities.

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

Land uses in the study area consist of mineral extraction, asphalt production and vacant land. The proposal would not displace any recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

See response to 12a. The EIS will identify appropriate mitigation measures.

13. Historic and cultural preservation

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

No documented historic register properties are located within, or in the vicinity of, the study area.

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

No known historic, archaeological, scientific, or cultural landmarks or resources are known to be in the area. The only buildings in the study area are industrial buildings associated with the gravel mine.

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

Washington State has enacted several laws to protect archaeological sites (RCW 27.53, WAC 25-48) and human remains (RCW 27.44). In addition, Governor's Executive Order 05-05 requires capital project planning by state agencies to include the Department of Archaeology and Historic Preservation (DAHP) and any concerned tribes.

DAHP also regulates the treatment of archaeological sites, particularly resources determined to predate local Native American contact with Europeans, which are protected regardless of significance or eligibility for local, state, or national registers. Any historic archaeological resources discovered will remain protected unless DAHP issues a determination of non-eligibility for listing on the Washington Historic Register and the National Register of Historic Places.

In addition to adopted laws and codes, the following mitigation measures will be included in the Planned Action Ordinance to protect any currently undiscovered historic or archaeological resources in the study area:

- If construction activities uncover any remains of historic or archaeological significance, construction shall immediately be stopped and all appropriate state and local agencies notified.
- Projects that entail substantial excavation must enter consultation with DAHP to determine the likelihood of inadvertent discovery of archaeological resources and to establish mitigation procedures. Archaeological surveys and testing may be necessary prior to excavation. DAHP may

recommend archaeological monitoring of construction activities in areas deemed to have a high likelihood of discovery.

- In the event of an archaeological discovery, future development on property surrounding the archaeological site shall analyze the potential for adverse impacts to the archaeological resource, and, if necessary, engage a qualified professional archaeologist to determine whether the proposed development would negatively affect the archaeological resource.

14. Transportation

Proposed EIS Scope: The transportation analysis will project the trips generated by build-out of the land use that has been defined for each alternative. The trips will be distributed and assigned based on the City's traffic model. The level of service at the project site's potential access driveways will be evaluated and potential issues with on-site vehicle circulation identified. Recommendations for the locations and capacities needed for internal roadways and driveways will be prepared. Potential operational and safety impacts of pedestrian and bicycle modes will be evaluated and recommendations for connections to the external non-motorized network identified, as well as internal access and circulation connections. The parking supply needs for each land use alternative will be evaluated based upon the City's code requirements. Any improvement projects or other measures that are identified will be documented.

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

Vehicle access to and from the study area is provided by SR 18, SE 240th Street and SE 256th Street. SR 18 is a state highway, and the others are classified as minor arterials.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Transit service in the City of Covington is relatively limited. The nearest transit stop is approximately 0.5 mile south of the study area.

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

The proposal is a non-project action, and specific development projects are not proposed at this time. The EIS will examine transportation issues, including street and intersection levels of service, parking required, non-motorized facilities, and transit demand.

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

The proposal is a non-project action, and specific development projects are not proposed at this time. Internal circulation in the study area is currently very limited, so it is likely that new roads or streets will be constructed as future development occurs under the Planned Action. See response to #14c regarding issues to be analyzed by the EIS.

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

No water, rail, or air transportation facilities are in the immediate vicinity of the study area.

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

Trip volumes for the various alternatives will be analyzed in the Transportation chapter of the EIS. Please see response to #8c for a list of the topics to be addressed by the EIS.

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

Please see the response to #8c regarding the topics to be analyzed by the Transportation chapter of the EIS.
The EIS will propose appropriate mitigation measures.

15. Public services

Proposed EIS Scope: Existing levels of service, estimated needs and demand for service, and projected levels of service under each alternative for the range of services (fire, police, emergency medical, schools; see also Recreation in B.12) that could be altered as a result of each studied alternative will be reviewed. To the extent feasible the analysis will be based on available plans and population-based estimates of demand. Efforts will be coordinated with city staff and service providers to craft mitigation language. The analysis will be coordinated with the Capital Facilities Plan as it contains similar information about levels of service and planned improvements.

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

The EIS will analyze projected need for public services (fire, police, emergency medical, schools) under each of the alternatives. EIS analysis will be based on available plans, adopted levels of service, and population-based estimates of demand.

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

See response to #15a. The EIS will propose mitigation measures as appropriate.

16. Utilities

Proposed EIS Scope: A capacity analysis and identification of deficiencies and other issues for each alternative will be prepared. The analysis will include: a narrative of issues regarding sewer, water, and storm facilities to serve the alternatives; an order-of-magnitude estimate of costs of providing sewer, water and storm services for the action alternatives; and maps of the necessary facilities by alternative.

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

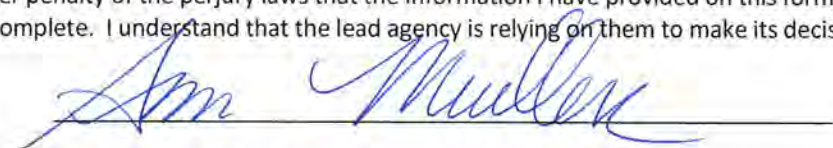
The study area currently contains minimal utility infrastructure, though it falls within the jurisdiction of multiple utility providers (Covington Water District, Soos Creek Water & Sewer District, City of Covington stormwater system). Future utility extension to the study area is planned. The Utilities Chapter of the EIS will identify utilities available in the study area and an analysis of projected utility demand for each of the alternatives.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Please see response to #16a. The EIS will propose mitigation measures as appropriate.

C. SIGNATURE

I declare under penalty of the perjury laws that the information I have provided on this form/application is true, correct and complete. I understand that the lead agency is relying on them to make its decision.

Signature: Date Submitted: 22-Feb-2013

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

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

See responses to Part B, Sections 2, 3, and 7.

Proposed measures to avoid or reduce such increases are:

See responses to Part B, Sections 2, 3, and 7.

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

See responses to Part B, Sections 4 and 5.

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

See responses to Part B, Sections 4 and 5.

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

See response to Part B, Section 6.

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

See response to Part B, Section 6.

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

See responses to Part B, Sections 3, 4, 5, 8, 12, and 13.

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

See responses to Part B, Sections 3, 4, 5, 8, 12, and 13.

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

See response to Part B, Section 8.

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

See response to Part B, Section 8.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

See responses to Part B, Sections 12, 14, 15, and 16.

Proposed measures to reduce or respond to such demand(s) are:

See responses to Part B, Sections 12, 14, 15, and 16.

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

There are no known conflicts with state or federal environmental regulations, and such laws will remain in force under the Planned Action. The Planned Action EIS will address compatibility of the subarea plan with other local laws, plans, and programs.

Appendix B: COMMUNITY WORKSHOP VISIONING EXERCISE

**City of Covington**

16720 SE 271st St. #100
Covington, WA 98042

City Hall 253-480-2400
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www.covingtonwa.gov

Hawk Property Subarea Plan

(Northern Gateway Area Study Phase 2)
Covington, Washington

March 25, 2013 Community Workshop Summary

The Hawk Property Subarea Plan Community Workshop began at 6:45pm on Monday, March 25, 2013 in the Community Room at Covington City Hall. Around 34 members of the public attended the workshop. In addition, city staff, consultants, city council and planning commission members as well as King County councilmember staff were present. Staff stayed until all of the attendees had left. The workshop concluded around 8:30.

Notification:

The workshop was announced in the Covington Reporter in two newspaper display advertisements on March 15 and 22, 2013, as well as, in a legal notice for the SEPA Determination of Significance and Scoping Notice for the Hawk Property Subarea Plan, published on March 8, 2013. Postcards announcing the community workshop were direct mailed to 356 property owners within 500 feet of the subarea boundaries (attachment #1). Any attendees of the May 15, 2012, Northern Gateway Area Study Phase 1 Informational Open House who provided mailing address were also mailed a postcard announcement. Copies of the postcard were available at the front counter of city hall, Covington's King County library, Covington Chamber of Commerce, and the public bulletin boards/posting areas at Fred Meyers, Starbucks and Cutter's Coffee.

Notice of the community workshop was also posted on the city's website and Facebook page. Email announcements about the community workshop and project webpage were sent to any attendee of the Phase 1 Open House who provided a working email address and any other member of the public that had emailed comments or provided their email and asked to be sent information about the Northern Gateway Area Study. City council members and members of the Planning Commission, Art Commission, Park Commission, Human Services Commission and the Covington Economic Development Commission were also emailed information about the community workshop.

Format:

The community workshop started with an overview of the Northern Gateway Area Study by Richard Hart, Covington's Community Development Director, and Bill Stalzer, a member of the city's consultant team. They provided background on the project, including a review of the work and outcome of Phase 1 in 2012. They then introduced the scope of this second phase of the Northern Gateway Area Study, now referred to as the Hawk Property Subarea Plan, which is limited to

approximately 209 acres of land on the southeast side of SR 18; 134 acres of which are within the city's limit and all of which is within the city's urban growth area and currently zoned for Mineral Extraction.

Meeting participants were asked to work in groups at five tables in the room and develop two conceptual plans at each table of how they would like to see the Hawk Property developed in the future. Specific limitations to development of the subarea were shown on a base map (e.g. wetland areas, steep slope, pond) and general guidelines were provided to the meeting participants to help them develop their conceptual plans, while understanding the types and amount of uses necessary to create an economically feasible plan.



Each of the five tables were provided a base map of the subarea and trace paper along with pieces of colored paper which represented different types of uses and density (i.e. commercial, housing, parks), and string to represent roads and trails and asked to determine where these uses should be located within the subarea. Not every table developed two conceptual subarea plans but most groups did.



Attendees at the community workshop were provided a project fact sheet (attachment #2) and a comment form to fill out. Only four comment forms were returned by the end of the meeting. Meeting participants were also provided with a visual preference survey to fill out and return at the end of the meeting. All attendees were asked to review several pages of images of different types of housing, commercial/retail and recreational uses and vote on which visual images they liked best. Seventeen image preference voting sheets, some with comments on the back where returned by participants at the end of the meeting.



Written comments submitted at the workshop:

- Will the city annex additional properties to the East? (from Urban Maple Valley)
- Road access not on Hwy 18 will there be improvement to 180th St 256th to Kent Kangley Road? It is bad now.
- Plan for Police Protection. What is it?
- Some retail with housing above and parking below.
- A good grocery store. I live on the eastside of Covington and hate coming into Covington to grocery shop. Over half the time I go to Maple Valley.
- A park by the water with trails (walking, running), picnic area – some covered areas.
- Better access besides Hwy 18.
- Old Frontage Road? Is it useable? Consider making parks as large as possible with large play areas. Small, tiny, HOA-style parks are not well-liked and not well-used.
- Please consider paving your trails so that moms jogging with strollers or roller bladders or bike riders can also use the trail. Loose gravel restricts that use.
- As much as possible, encourage walk-ability between stores and general spaces. Big, lighted sidewalks are highly desirable. As this is also an area with many families and small children, please consider putting sidewalks and safe walking areas in parking lots so moms can safely move their children from car to store.
- I would like to see [the whole] thing single family.
- Public access to lake with trail around it.
- Cineplex in one of the 10 acres commercial.
- Restaurants around lake.
- Retail: Cabellas.
- Large Lot-acreage single family.
- No multifamily.
- Large Parks- walking trails.
- Road is not to connect to our road [north to unincorporated King County] that has natural buffer zone greenbelt.
- Absolutely zero Target.
- Zero multifamily homes.
- Multifamily homes have increase incidence of crimes.
- Would prefer a trail that can be used as fire truck access.
- Multifamily homes are too tall.
- Look at senior housing with no income restrictions.
- Need to find a way to get lodging- hotel/motels.
- Trail around the lake create a Covington “Green Lake”. A very desirable feature.
- If [there is] retail on the ground floor [is] with parking underground, then I like it.
- Minimum asphalt parking anywhere.
- Parks space – beyond pocket park size ?
- No HOA – Too bossy , Too nosy, Too picky.
- Farmer’s Market focal point.
- Focal point end at trail.
- Townhomes [on] top [of] commercial at lake side.
- Stack multi [family] homes over commercial with parking below for both.

Attached Documents:

1. Postcard Announcement
2. Project Fact Sheet(dated March 2013)

HAWK PROPERTY SUBAREA PLAN

Northern Gateway Area
Phase 2

Community Workshop | Monday, March 25



6:30 p.m.
Monday, March 25

Covington City Hall
Community Room
16720 SE 271st St
Covington, WA 98042

Public Participation Invited!

Join us for a Community Workshop on the Hawk Property Subarea Plan. The City of Covington invites the public to a workshop to help shape the uses, location and layout of future development in the Hawk Property Subarea that builds upon the outcome of the Northern Gateway Study completed in 2012.

What is the Hawk Property Subarea?

This is 209 acres located in the northern part of the city, southeast of SR 18, currently consisting of the Lakeside gravel mine, an asphalt batch plant, vacant land and a highway interchange. Approximately 134 acres lies within the City's corporate limits; the remainder lies within the City's Urban Growth Boundary, but soon to be annexed to the city

Why is the City preparing a subarea plan?

Based on the outcome of the Northern Gateway Study completed in 2012, City Council directed staff to develop a plan for the Hawk Property subarea that will establish goals and a policy framework, including land use and zoning regulations, active and passive open space requirements, vehicular and pedestrian circulation layouts and a capital facilities plan. This subarea plan will be evaluated in a Planned Action Environmental Impact Statement (EIS).

How can you learn more and help shape this plan?

Attend this community workshop at 6:30 p.m. on Monday, March 25 at Covington City Hall, 16720 SE 271st St. in Covington, to learn more about this process. The evening will include an interactive planning exercise whereby meeting participants can provide input on the type and location of uses that they would like to see developed in this area in the future. Project information is also available on the city's website at www.covingtonwa.gov.

Questions or comments?

Contact Senior Planner Ann Mueller at 253.480.2444 or by email at amueller@covingtonwa.gov.



City of Covington
Community Development
16720 SE 271st St #100
Covington, WA 98042



HAWK PROPERTY SUBAREA PLAN & PLANNED ACTION EIS

Project Fact Sheet

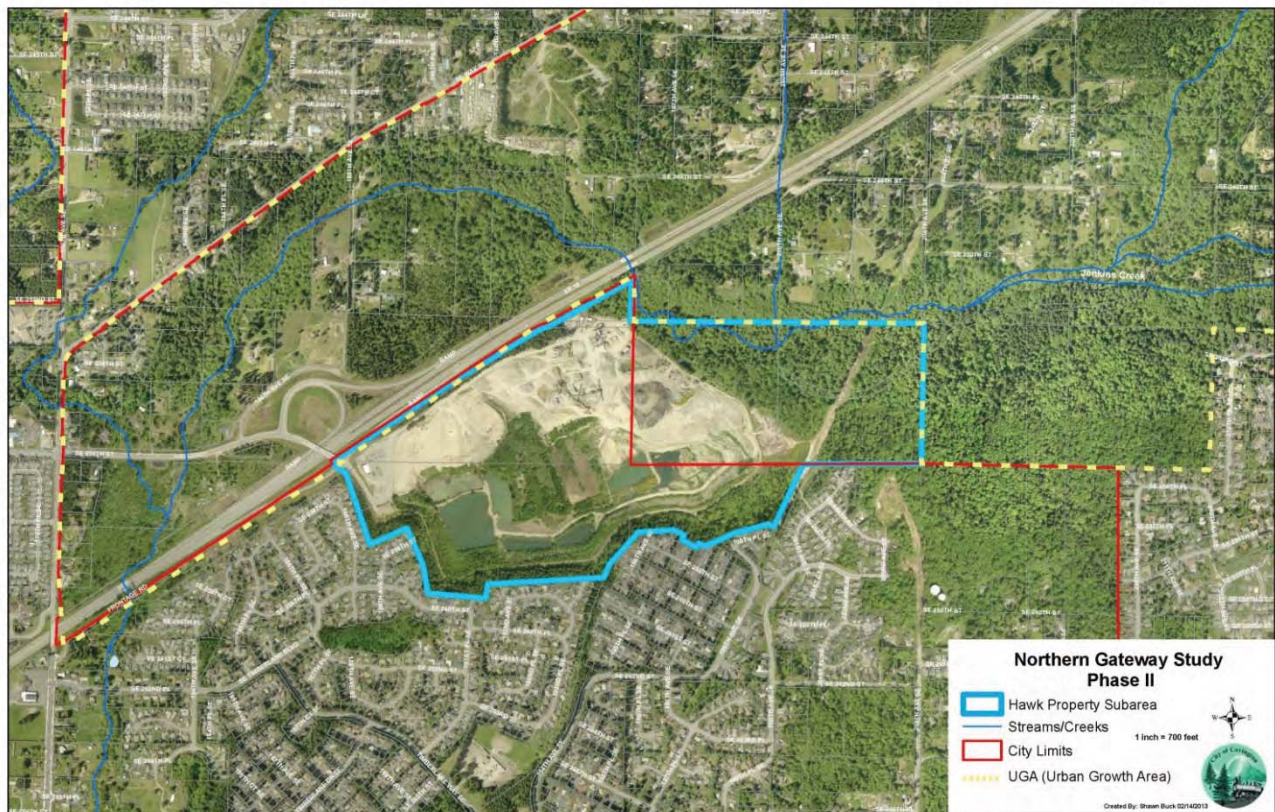
What is the Hawk Property Subarea Plan and EIS?

The subarea plan and EIS for the Hawk Property are intended to guide future development in the southern portion of Covington's Northern Gateway area and provide for streamlined environmental review of future development proposals through a SEPA Planned Action. Objectives of the planning effort include:

- To plan for future development of the Hawk Property in Covington's Northern Gateway area by defining land use options,
- To protect environmentally sensitive areas while fostering economic development, and
- To create a village for housing, regional commercial and related employment, and recreation that is unique but secondary to Covington's downtown.

What is the study area?

The Hawk Property Subarea Plan and EIS study area is located at the extreme northeast corner of the City of Covington's Urban Growth Area (UGA) and encompasses approximately 209 acres on the south side of SR 18. The Hawk Property Subarea primarily consists of the Lakeside gravel mine, an asphalt batch plant, vacant land, and a highway interchange. Approximately 134 acres of this area lies within the City's corporate limits; the remainder lies within the City's assigned Potential Annexation Area in the UGA. The study area comprises the southern portion of the area analyzed in phase one of the Covington Northern Gateway Area Study, published by the City in 2012.



Who is planning for the area? What plans will be prepared?

The City of Covington is in the process of preparing a subarea plan containing a land use plan, policies, active and passive open space requirements, circulation concepts, and a capital facilities plan. The City will also identify zoning districts and prepare design guidelines and development regulations. The plan and regulations will undergo public review beginning in mid-2013, with adoption of the plan scheduled for December 2013.

How is the plan funded?

The City is the lead agency and has retained consultants on its behalf. The planning effort is funded through the participation of the City of Covington and Oakpointe LLC, the property purchaser and developer.

Is annexation under consideration?

As described above, most of the study area lies within the City's current corporate limits, but the remainder lies within the City's UGA and is designated as a Potential Annexation Area for the City. The subarea plan and implementing zoning are anticipated to serve as pre-annexation planning and zoning in accordance with state laws. The City proposes to annex the unincorporated portion of the study area following adoption of the subarea plan and EIS.

What is an Environmental Impact Statement (EIS)?

Generally an EIS is an informational document that provides the City, public agencies, tribes, and citizens with environmental information to be considered in the decision-making process for new development. It also allows public agencies, tribes, and citizens to comment on proposals and alternatives. An EIS describes proposed actions and alternatives; existing conditions of the study area; impacts that may occur if an alternative were implemented; mitigation measures to reduce or eliminate impacts; and potential significant, unavoidable and adverse impacts.

What is scoping?

Scoping is a process intended to narrow the scope of every EIS to the probable significant adverse impacts and reasonable alternatives, including mitigation measures for this subarea plan. Interested citizens, public agencies and tribes may comment on EIS alternatives, issues the EIS should evaluate, probable significant adverse impacts, and licenses or other approvals that may be required.

The City has identified the following areas for discussion in the EIS: Earth, Plants and Animals, Surface Water, Air Quality, Transportation, Land Use, Public Services, Utilities, and Noise.

The EIS will analyze the *No Action Alternative*, e.g. continuation of the City's and County's current Comprehensive Plan and development regulations applicable to the study area without amendment. It is also anticipated that the EIS will address two *Action Alternatives* that would review a range of retail, office, industrial, and residential uses. The anticipated alternatives to be analyzed under the Action Alternatives will contain a mix of uses including approximately 1,050 – 1,575 residential units and 600,000 – 850,000 square feet of retail space within the subarea boundaries. Residential uses would occur at a mix of densities, including potentially single-family dwellings, townhomes, and multifamily units. The action alternatives will be developed based on comments from the public, city officials and consultants, the developer, and participants at a community workshop to be held on March 25, 2013 at Covington City Hall.

What is a Planned Action?

The City is considering designating a planned action for the Hawk Property Subarea. A planned action provides more detailed environmental analysis during formulation of planning proposals rather than at the project permit review stage. The basic steps in designating a planned action are to prepare an EIS, designate the planned action area and uses by ordinance, and review permit applications for consistency with the ordinance (see WAC 197-11-164 to 172).

Future development proposals in the subarea consistent with the planned action ordinance and the identified performance standards/mitigation measures will not have to undergo a new environmental threshold determination and are not subject to SEPA appeals. However, local permit review standards will apply to all development.

How do I comment?

Public comment is being solicited in a scoping process from March 9 – 29, 2013. Mail written comments at the address below or email comments to amueller@covingtonwa.gov. **The City must receive the comments by 5:00 pm March 29, 2013.** Additional comment opportunities will be available following the preparation of the draft subarea plan and draft EIS.

A community workshop is also scheduled for Monday, March 25, 2013 at Covington City Hall from 6:30 – 8:30 pm (see address below). Written public comments will be accepted at the community workshop.

For More Information:

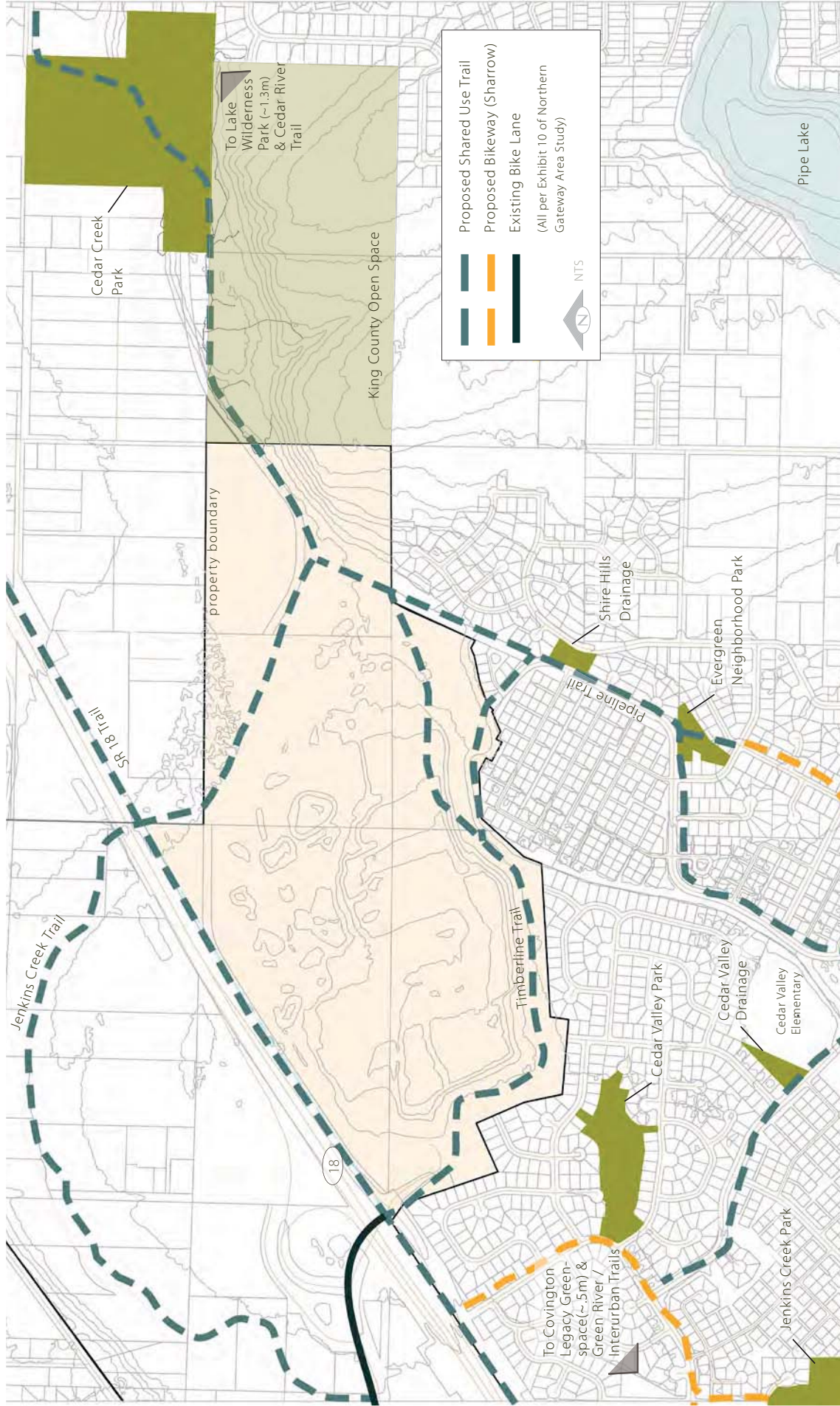
Ann Mueller, AICP
Senior Planner

Community Development Department

City of Covington | 16720 SE 271st Street | Covington, WA | 98042

Phone: 253-480-2444

amueller@covingtonwa.gov

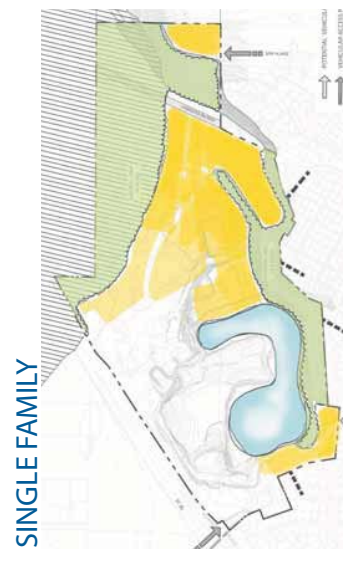


PROPOSED TRAILS AND BIKEWAYS MAP

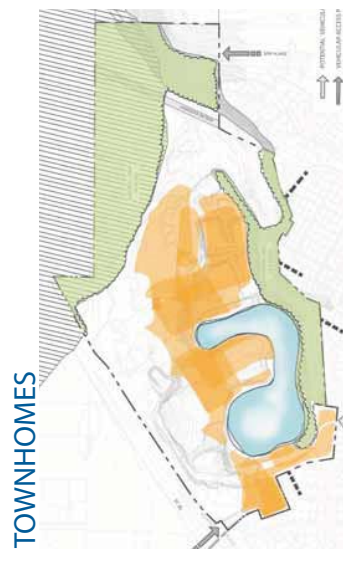
MINIMUM INTENSITY PLAN SOLUTIONS COMPOSITE



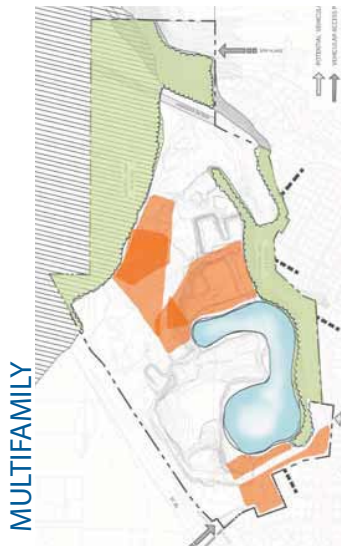
PARKS



SINGLE FAMILY



TOWNHOMES



MULTIFAMILY



COMMERCIAL

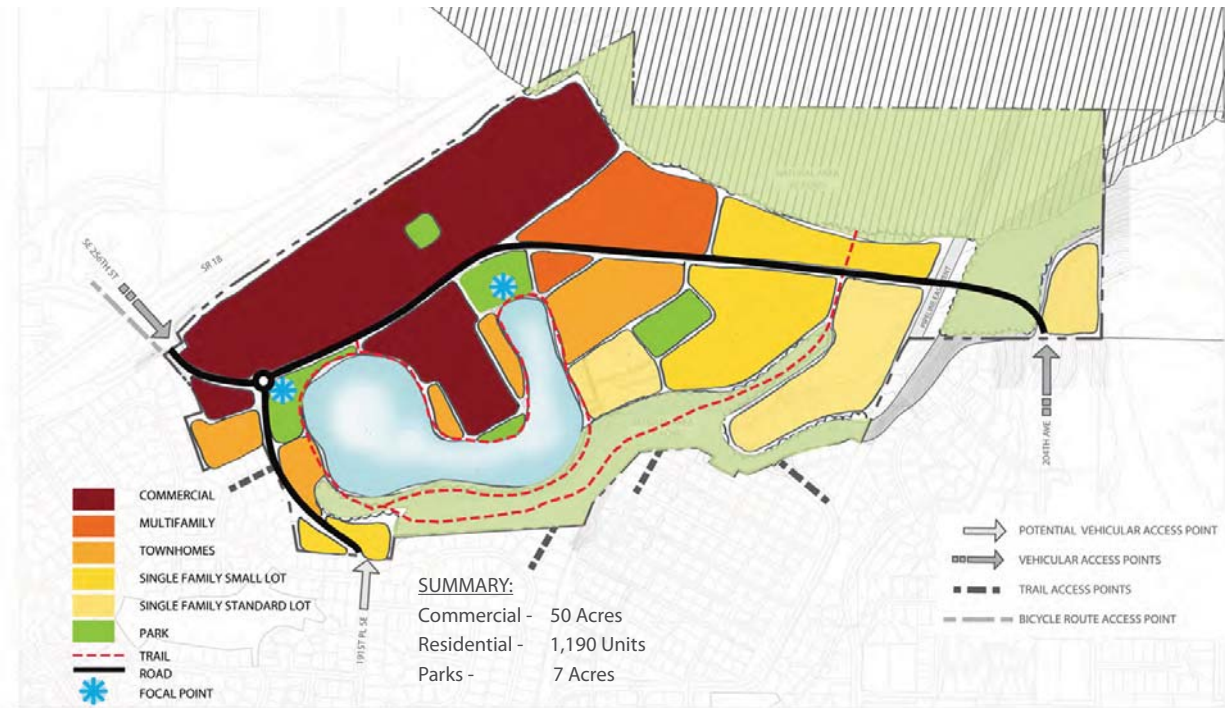
TEAM 1 MINIMUM INTENSITY PLAN SOLUTION



COMMENTS

- Would like to see restaurants around the lake
- Farmers market as a focal point at a plaza near the lake
- Focal point at the end of the trail
- Housing on top of the commercial at the lake site
- Stack multi-family over commercial with parking below.
- Public access to lake with a trail around it
- Cineplex located in the commercial area
- A trailhead off the new road at the 204th connection end is needed. They'd like it to serve the trail network and a larger park (6-acres+) in that same location.
- They'd like to see a wildlife crossing under the new road in the SE corner.
- Keep the big box retail (& noise) close to the Hwy-18 off-ramp.
- Keep the multi-family near the public areas to minimize crime. (crime concern with multi-family)
- Lower-density residential preferred adjacent to Jenkins Creek (& nearest their properties).
- They want park space to be open to the community, not just the new developments.

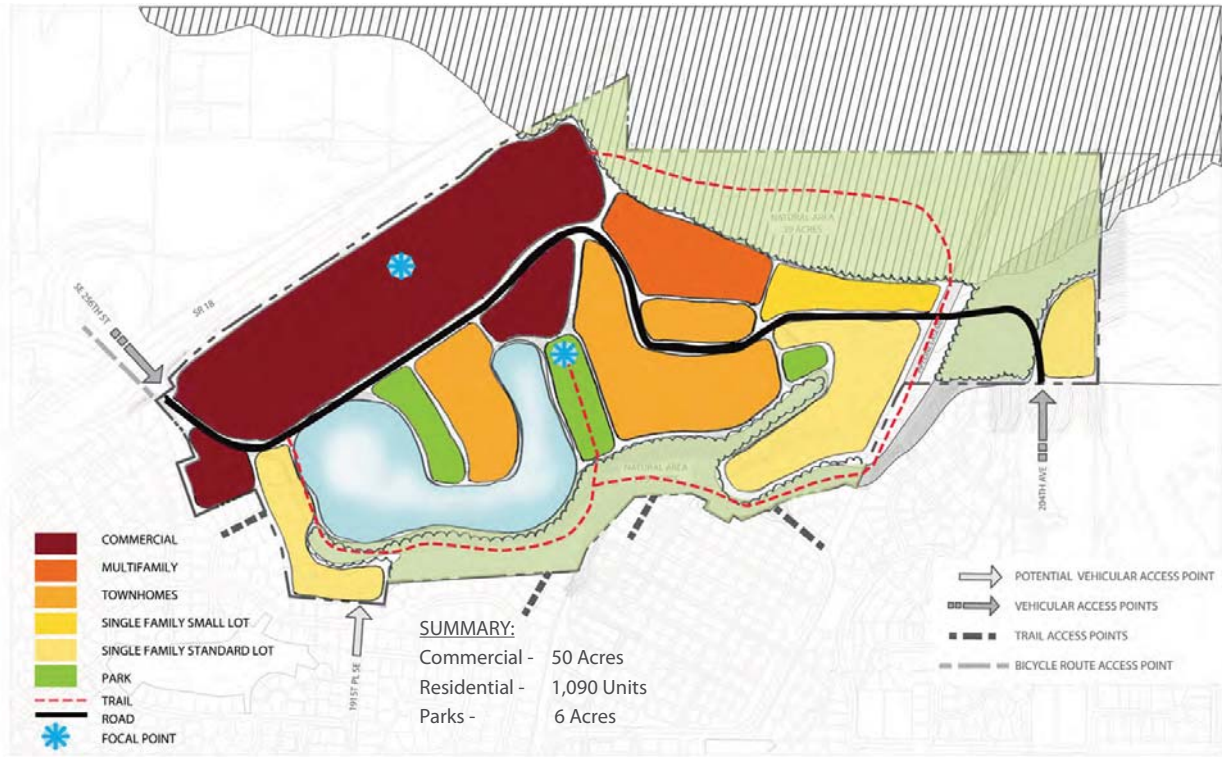
TEAM 2 MINIMUM INTENSITY PLAN SOLUTION



COMMENTS

- Provide more activities for the youth. Youth center, movie theater, bowling, climbing tower, etc.
- Provide kayaking and activities on the lake
- Would like to see a Community Center, YMCA or Boys and Girls club
- Provide parks along the lake with a trail around it. Parks should provide activities for different age groups
- Like the connection to 191st street, for fire and access to the center and hwy 18th
- Would like to see a daycare
- Mix residential with commercial
- Would like to see medical office or clinic
- Like 5 story multi-family with structured parking better than 3 story with surface parking
- Wanted a mix of uses along the lake

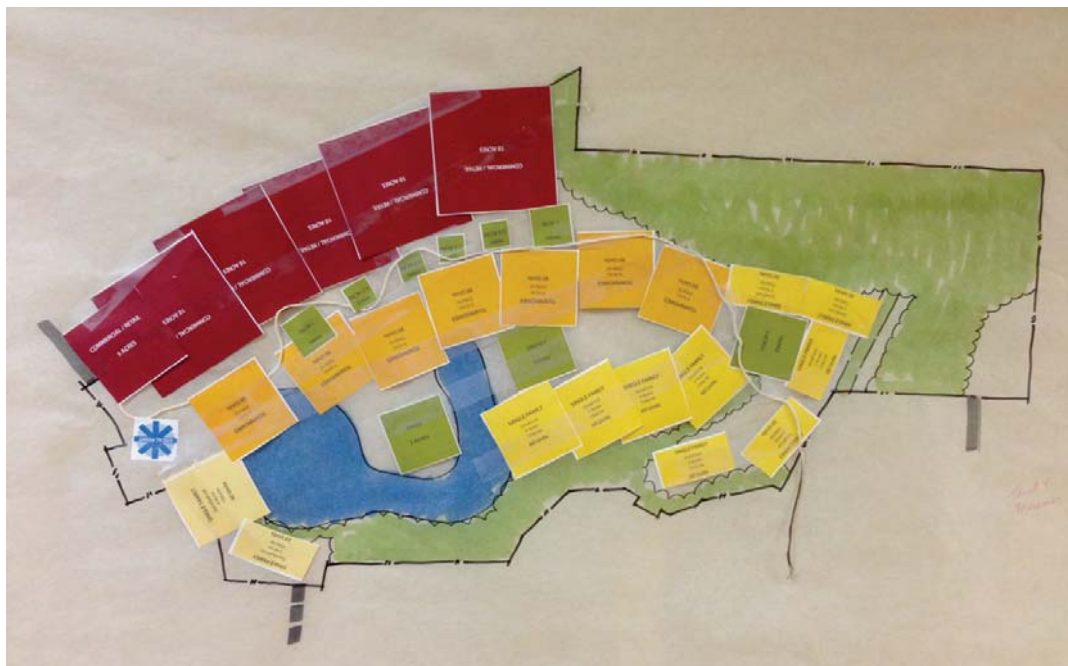
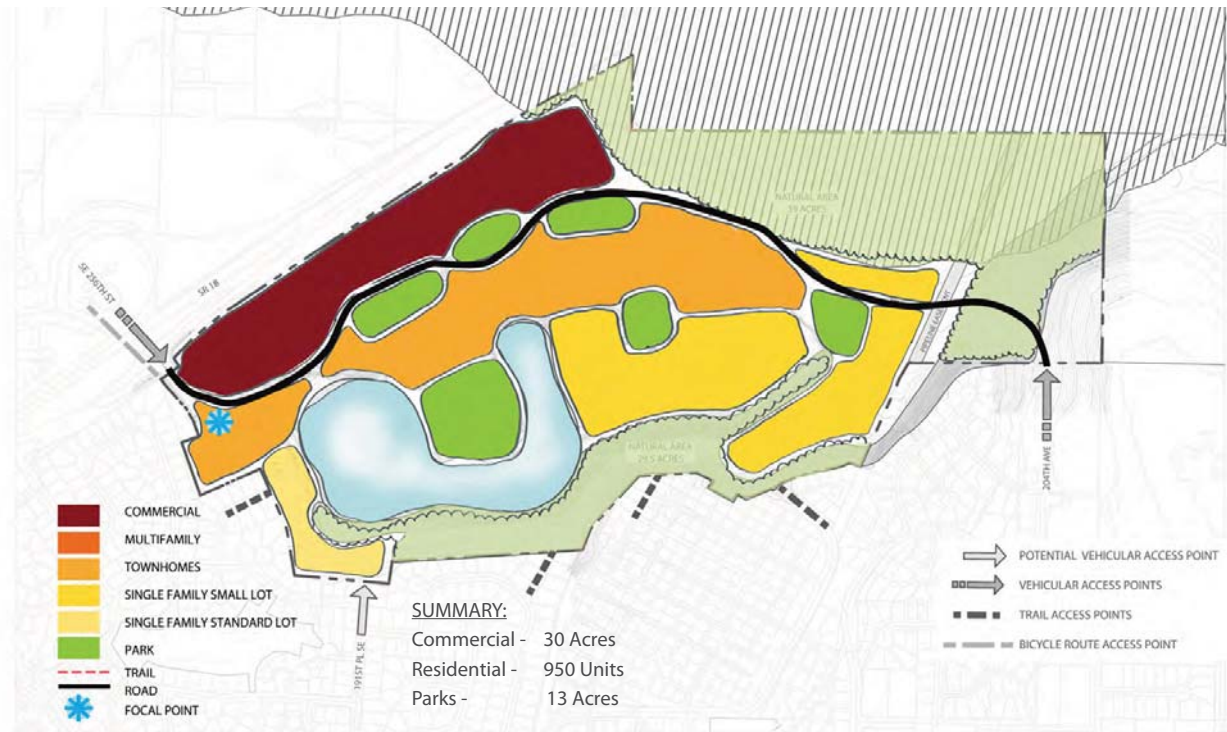
TEAM 3 MINIMUM INTENSITY PLAN SOLUTION



COMMENTS

- The road connection to the neighborhood should be only for emergency vehicles.
- Single family homes should be located along the boundary with the adjacent neighborhood.
- Industrial uses should not be allowed, including continuation of the batch plant.
- The main road should meander to discourage speeding vehicles.
- 5 and 4-story multifamily housing is acceptable
- City needs more multifamily housing and this would be a good location as long as there are amenities for residents like commercial, retail and entertainment uses.
- Two focal points and the one in the commercial/retail area should be large
- The area should be an urban village.

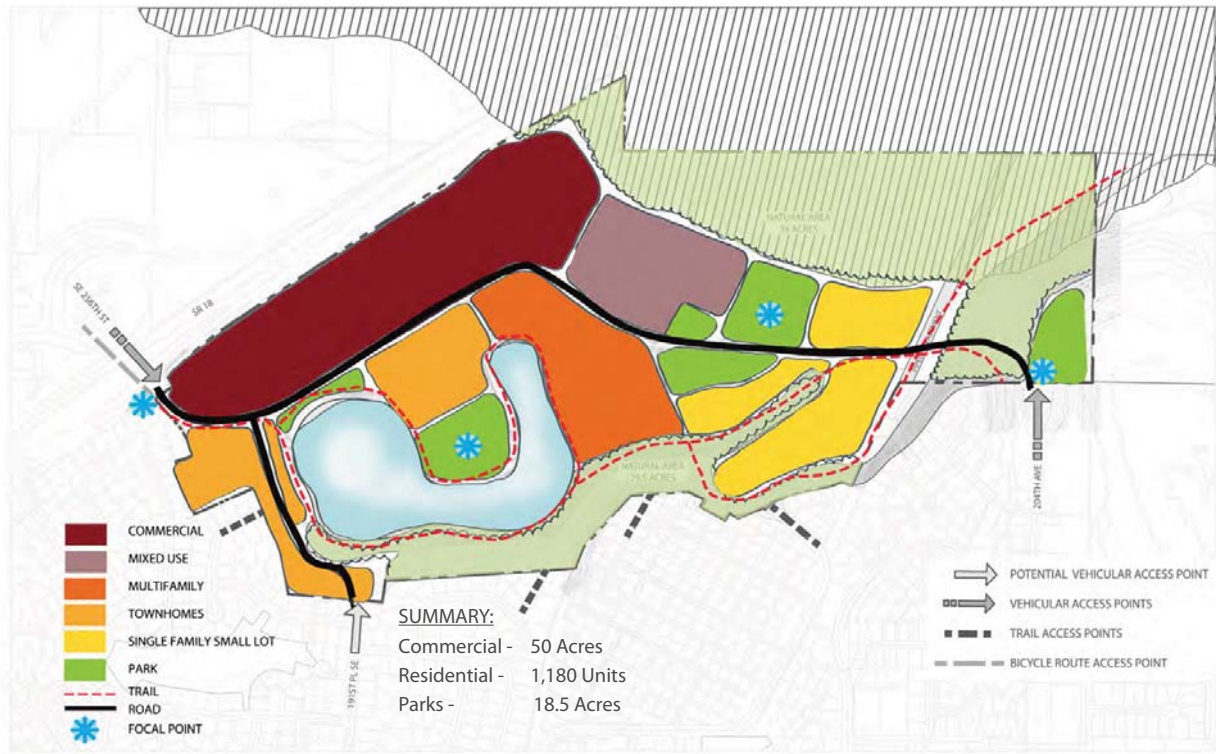
TEAM 4 MINIMUM INTENSITY PLAN SOLUTION



COMMENTS

- Would prefer no multifamily housing; all single-family or townhomes.
- Willing to see additional height in the commercial areas to make more room for residences.
- Use the road and a series of parks to create a buffer between the commercial area and single-family.
- Generally opposed to flats over commercial and worried that multifamily housing will increase crime.
- Prefer to keep commercial and residential units separated.
- Focal point near entry to act as a gateway.

TEAM 5 MINIMUM INTENSITY PLAN SOLUTION



COMMENTS

- Want to see mixed-use buildings with housing above retail and parking underneath
- Would like to see a trail around the lake and trail connections to Timberlane as well as to regional trails

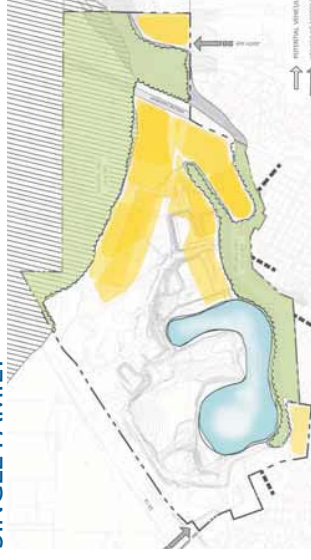
MAXIMUM INTENSITY PLAN SOLUTIONS COMPOSITE



PARKS



SINGLE FAMILY



TOWNHOMES



MULTIFAMILY



COMMERCIAL



TEAM 1 MAXIMUM INTENSITY PLAN SOLUTION



COMMENTS

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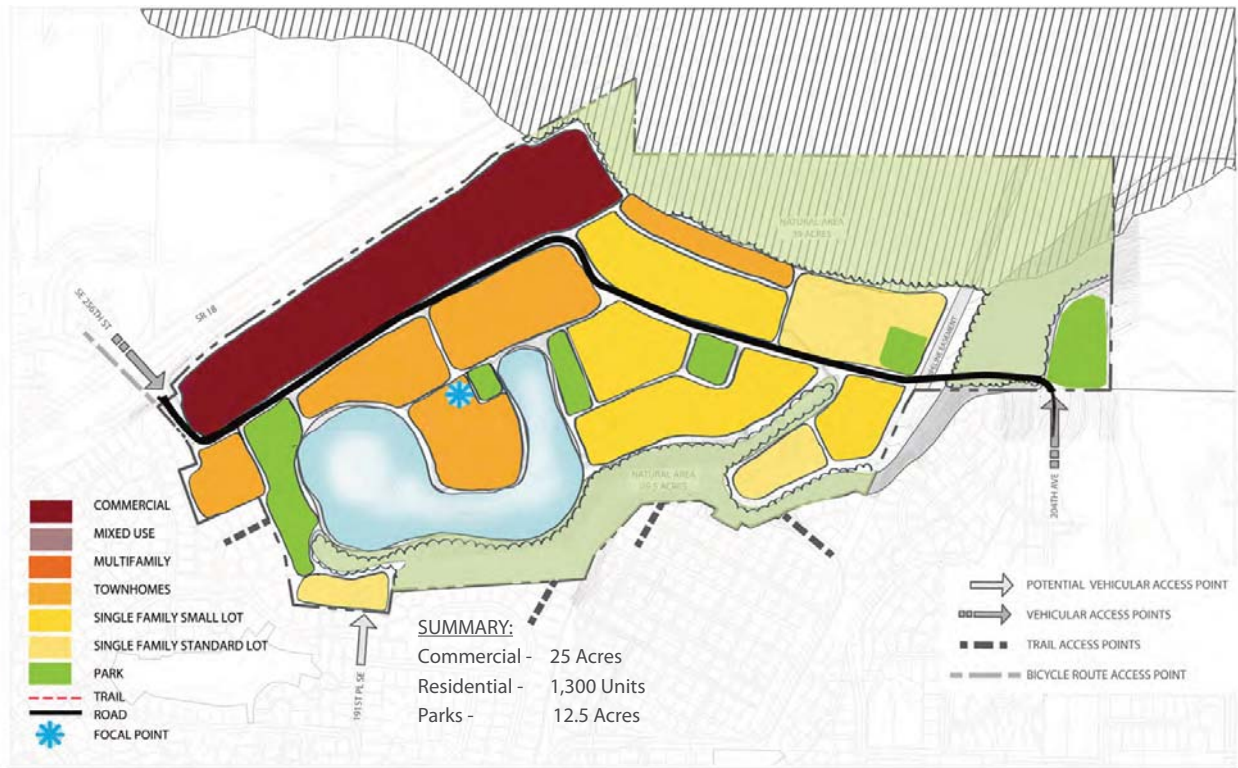
TEAM 2 MAXIMUM INTENSITY PLAN SOLUTION



COMMENTS

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- Provide kayaking and activities on the lake
- Would like to see a Community Center, YMCA or Boys and Girls club
- Provide parks along the lake with a trail around it. Parks should provide activities for different age groups
- Like the connection to 191st street, for fire and access to the center and hwy 18th
- Would like to see a daycare
- Mix residential with commercial
- Would like to see medical office or clinic
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TEAM 4 MAXIMUM INTENSITY PLAN SOLUTION



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TEAM 5 MAXIMUM INTENSITY PLAN SOLUTION



COMMENTS

- Want to see mixed-use buildings with housing above retail and parking underneath
- Would like to see a trail around the lake and trail connections to Timberlane as well as to regional trails

SINGLE-FAMILY

Small Lot



Standard Lot



* # = number of votes received # = image number

TOWNHOMES



* # = number of votes received # = image number

MULTI-FAMILY

4-Story with Parking Beneath



1

2



3



4

3-Story with Surface Parking



5



6



7

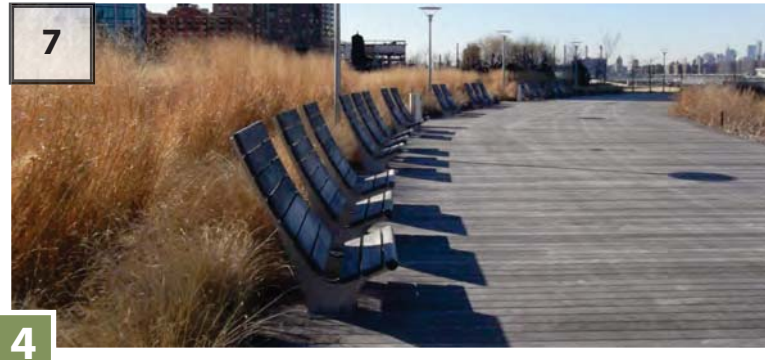
* # = number of votes received # = image number

COMMERCIAL / RETAIL



* # = number of votes received # = image number

AMENITIES / RECREATION



* # = number of votes received # = image number

Appendix C: DRAFT PLANNED ACTION ORDINANCE

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF COVINGTON, WASHINGTON,
ESTABLISHING A PLANNED ACTION FOR THE HAWK PROPERTY
PURSUANT TO THE STATE ENVIRONMENTAL POLICY ACT.

WHEREAS, the State Environmental Policy Act (SEPA) and implementing rules provide for the integration of environmental review with land use planning and project review through designation of "Planned Actions" by jurisdictions planning under the Growth Management Act (GMA); and

WHEREAS, the City of Covington has adopted a Comprehensive Plan complying with the GMA;
and

WHEREAS, to guide the redevelopment of the Hawk Property from a reclaimed mine and asphalt batch plant to an urban village, the City has engaged in extensive planning for the Hawk Property Subarea and has adopted amendments to its Comprehensive Plan including the Hawk Property Subarea Plan; and

WHEREAS, the City desires to designate a new Planned Action for the Hawk Property; and

WHEREAS, designation of a Planned Action expedites the permitting process for subsequent, implementing projects whose impacts have been previously addressed in a Planned Action environmental impact statement (EIS), and thereby encourages desired growth and economic development; and

WHEREAS, the Hawk Property Planned Action Environmental Impact Statement (EIS) identifies impacts and mitigation measures associated with planned development in the Hawk Property Subarea Plan; and

WHEREAS, the City has adopted development regulations and ordinances which will help protect the environment, and is adopting regulations specific to the Hawk Property Subarea which will guide the allocation, form and quality of desired development; and

WHEREAS, the Covington Municipal Code (CMC) 16.10.180 provides for Planned Actions within the City; and

WHEREAS, the City as lead agency provided public comment opportunities through an EIS scoping period in March 2013, a Draft EIS comment period in August 2013, and subarea plan meetings throughout 2013 as part of a coordinated public participation program. The City held XX public workshops and hearings before the Planning Commission on XX dates. The City conducted XX briefings, meetings, and hearings with the City Council on XX dates. The City also notified agencies through the SEPA comment period and the State of Washington Department of Commerce through a 60-day notice issued on XX date.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF COVINGTON, WASHINGTON DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Purpose. The City of Covington declares that the purpose of this Ordinance is to:

A. Combine environmental analysis, land use plans, development regulations, Covington codes and ordinances together with the mitigation measures in the Planned Action EIS to mitigate environmental impacts and process Planned Action development applications in the Planned Action Area;

- B. Designate the Hawk Property Subarea shown in Exhibit A as a Planned Action Area for purposes of environmental review and permitting of subsequent, implementing projects pursuant to SEPA, RCW 43.21C.440;
- C. Determine that the EIS prepared for the Hawk Property Subarea Plan meets the requirements of a Planned Action EIS pursuant to SEPA;
- D. Establish criteria and procedures, consistent with state law, that will determine whether subsequent projects within the Planned Action Area qualify as Planned Actions;
- E. Provide the public with information about Planned Actions and how the City will process implementing projects within the Planned Action Area;
- F. Streamline and expedite the land use permit review process by relying on the EIS completed for the Planned Action;
- G. Apply the City's development regulations together with the mitigation measures described in the EIS and this Ordinance to address the impacts of future development contemplated by this Ordinance.

Section 2. Findings. The City Council finds as follows:

- A. The City is subject to the requirements of the GMA (RCW 36.70A), and is applying the Planned Action to a UGA [Urban Growth Area]; and
- B. The City has adopted a Comprehensive Plan complying with the GMA, and is amending the Comprehensive Plan to incorporate a subarea element specific to the Hawk Property Subarea; and
- C. The City is adopting zoning and development regulations concurrent with the Subarea Plan to implement said Plan, including this Ordinance; and
- D. An EIS has been prepared for the Planned Action Area, and the City Council finds that the EIS adequately identifies and addresses the probable significant environmental impacts associated with the type and amount of development planned to occur in the designated Planned Action Area; and
- E. The mitigation measures identified in the Hawk Property Subarea Plan Planned Action EIS attached to this Ordinance as Exhibit B, incorporated herein by reference, together with adopted City development regulations, will adequately mitigate significant impacts from development within the Planned Action Area; and
- F. The Hawk Property Subarea Plan and Planned Action EIS identify the location, type and amount of development that is contemplated by the Planned Action; and
- G. Future projects that are implemented consistent with the Planned Action will protect the environment, benefit the public and enhance economic development; and
- H. The City provided several opportunities for meaningful public involvement in the Hawk Property Subarea Plan and Planned Action EIS, including a community meeting prior to the publication of notice for the Planned Action Ordinance; has considered all comments received; and, as appropriate, has modified the proposal or mitigation measures in response to comments;
- I. Essential public facilities defined in RCW 47.06.140 are excluded from the Planned Action and not eligible for review or permitting as Planned Actions unless they are accessory to or part of a project that otherwise qualifies as a Planned Action; and
- J. The Planned Action applies to a defined area that is smaller than the overall City boundaries; and
- K. Public services and facilities are adequate to serve the proposed Planned Action, with implementation of mitigation measures identified in the Hawk Property Subarea Plan Planned Action EIS.

Section 3. Procedures and Criteria for Evaluating and Determining Planned Action Projects within the Planned Action Area.

A. Planned Action Area. This Planned Action designation shall apply to the area shown in Exhibit A, incorporated herein by reference.

B. Environmental Document. A Planned Action determination for a site-specific project application within the Planned Action Area shall be based on the environmental analysis contained in the Hawk Property Subarea Plan Planned Action Environmental Impact Statement issued by the City on July 26, 2013 and the Final EIS published on XXX 2013. The Draft and Final EIS shall comprise the Planned Action EIS for the Planned Action Area. The mitigation measures contained in Exhibit B and attached to this Ordinance are based upon the findings of the Planned Action EIS and shall, along with adopted City regulations, provide the framework that the City will use to apply appropriate conditions on qualifying Planned Action projects within the Planned Action Area.

C. Planned Action Designated. Land uses and activities described in the Planned Action EIS, subject to the thresholds described in subsection 3.D and the mitigation measures contained in Exhibit B, are designated Planned Actions or Planned Action Projects pursuant to RCW 43.21C.031. A development application for a site-specific Planned Action project located within the Planned Action Area shall be designated a Planned Action if it completes a SEPA Checklist [or subarea specific checklist to be prepared] and City application form, and meets the criteria set forth in Subsection 3.D of this Ordinance and all other applicable laws, codes, development regulations and standards of the City are met.

D. Planned Action Qualifications. The following thresholds shall be used to determine if a site-specific development proposed within the Planned Action Area was contemplated as a Planned Action and has had its environmental impacts evaluated in the Planned Action EIS: [Note: this list is a placeholder and will be revised, as appropriate, based on the preferred subarea plan land uses.]

(1) Qualifying Land Uses.

(a) Planned Action Categories: The following general categories/types of land uses are defined in the Hawk Property Subarea Plan and are considered Planned Actions:

- i. XXX
- ii. XXX

[To be based on the Preferred Alternative – see Draft EIS Chapter 2 for example land uses in the alternative land use and zoning designations, e.g. commercial, multifamily, mixed use, etc.]

(b) Planned Action Uses: A land use shall be considered a Planned Action Land Use when:

- i. it is within the Planned Action Area as shown in Exhibit A;
- ii. it is within one or more of the land use categories described in subsection 1(a) above; and
- iii. it is listed in development regulations applicable to the zoning classifications applied to properties within the Planned Action Area.

A Planned Action may be a single Planned Action use or a combination of Planned Action uses together in a mixed use development. Planned Action uses include accessory uses.

(c) Public Services: The following public services, infrastructure and utilities are also Planned Actions: XXX [Consistent with Preferred Alternative].

(2) Development Thresholds:

(a) Land Use: The following amounts of various new land uses are contemplated by the Planned Action:

Feature	Planned Action Area
Residential Dwellings (units)	XXX
Commercial Square Feet	XXX
Jobs	XXX

(b) Shifting development amounts between land uses in D(2)(a) may be permitted when the total build-out is less than the aggregate amount of development reviewed in the EIS; the traffic trips for the preferred alternative are not exceeded; and, the development impacts identified in the Planned Action EIS are mitigated consistent with Exhibit B.

(c) Further environmental review may be required pursuant to WAC 197-11-172, if any individual Planned Action or combination of Planned Actions exceeds the development thresholds specified in this Ordinance and/or alter the assumptions and analysis in the Planned Action EIS.

(3) Transportation Thresholds:

(a) Trip Ranges & Thresholds. The number of new PM peak hour trips anticipated in the Planned Action Area and reviewed in the EIS for 2035 is as follows:

PM PEAK HOUR TRIPS	
	Total
TOTAL	XXX PM Peak Hour Trips

(b) Concurrency. All Planned Actions shall meet the transportation concurrency requirements and the LOS thresholds established in Chapter 12.11 CMC.

(c) Traffic Impact Mitigation. [To be determined based on Preferred Alternative; see Draft EIS for mitigation.]

(d) Discretion. The responsible City Official shall have discretion to determine incremental and total trip generation, consistent with the Institute of Traffic Engineers (ITE) Trip Generation Manual (latest edition) or an alternative manual accepted by the Public Works Director at his or her sole discretion, for each project permit application proposed under this Planned Action.

(4) Elements of the Environment and Degree of Impacts. A proposed project that would result in a significant change in the type or degree of adverse impacts to any element(s) of the environment analyzed in the Planned Action EIS, would not qualify as a Planned Action.

(5) Changed Conditions. Should environmental conditions change significantly from those analyzed in the Planned Action EIS, the City’s SEPA Responsible Official may determine that the Planned Action designation is no longer applicable until supplemental environmental review is conducted.

E. Planned Action Review Criteria.

(1) The City’s SEPA Responsible Official may designate as “Planned Actions”, pursuant to RCW 43.21C.030, applications that meet all of the following conditions:

- (a) the proposal is located within the Planned Action area identified in Exhibit A of this Ordinance;
 - (b) the proposed uses and activities are consistent with those described in the Planned Action EIS and Section 3.D of this Ordinance;
 - (c) the proposal is within the Planned Action thresholds and other criteria of Section 3.D of this Ordinance;
 - (d) the proposal is consistent with the Covington Comprehensive Plan and the Hawk Property Subarea Plan;
 - (e) the proposal's significant adverse environmental impacts have been identified in the Planned Action EIS;
 - (f) the proposal's significant impacts have been mitigated by application of the measures identified in Exhibit B, and other applicable City regulations, together with any modifications or variances or special permits that may be required;
 - (g) the proposal complies with all applicable local, state and/or federal laws and regulations, and the SEPA Responsible Official determines that these constitute adequate mitigation; and
 - (h) the proposal is not an essential public facility as defined by RCW 36.70A.200(1), unless the essential public facility is accessory to or part of a development that is designated as a Planned Action under this Ordinance.
- (2) The City shall base its decision on a proposal on review of a SEPA checklist or an alternative form approved by state law, and review of the application and supporting documentation.
 - (3) A proposal that meets the criteria of this section shall be considered to qualify and be designated as a Planned Action, consistent with the requirements of RCW 43.21C.030, WAC 197-11-164 et seq, and this Ordinance.

F. Effect of Planned Action.

- (1) Designation as a Planned Action Project by the SEPA Responsible Official means that a qualifying proposal has been reviewed in accordance with this Ordinance and found to be consistent with the development parameters and thresholds established herein, and with the environmental analysis contained in the Planned Action EIS.
- (2) Upon determination by the City's SEPA Responsible Official that the proposal meets the criteria of Section 3.D and qualifies as a Planned Action, the proposal shall not require a SEPA threshold determination, preparation of an EIS, or be subject to further review pursuant to SEPA.

G. Planned Action Permit Process. Applications for Planned Actions shall be reviewed pursuant to the following process:

- (1) Development applications shall meet all applicable requirements of the Covington Municipal Code (CMC) and this Planned Action Ordinance. Applications for Planned Actions shall be made on forms provided by the City and shall include the SEPA checklist [or subarea specific checklist to be prepared with ordinance].
- (2) Conceptual Site Plan: A conceptual site plan shall be submitted for proposed planned actions and processed as a Type 2 decision. The purpose of the conceptual site plan process is to assess overall project concepts and phasing as well as review of how the major project elements work together to implement requirements of this Planned Action Ordinance, the Hawk Property Subarea Plan, and the Covington Municipal Code. The Conceptual Site Plan shall contain:

- (a) Name of proposed project,
 - (b) Date, scale, and north arrow oriented to the top of the paper/plan sheet,
 - (c) Drawing of the subject property with all property lines dimensioned and names of adjacent streets,
 - (d) A legend listing the following information on one of the sheets:
 - Total square footage of the site
 - Square footage of each individual building and/or use
 - Total estimated square footage of all buildings (including footprint of each building)
 - Percentage estimate of lot coverage
 - Square footage estimate of all landscaping (total and parking lots)
 - Allowable and proposed building height
 - Building setbacks proposed and required by Code
 - Parking analysis, including estimated number, size, and type of stalls required, by use; and number of stalls provided, by use
 - (e) Phasing of development,
 - (f) Major access points and access to public streets, vehicle and pedestrian circulation, public transit stops,
 - (g) Critical areas,
 - (h) Focal points within the project (e.g., public plazas, art work, gateways both into the site and into the City, etc.),
 - (i) Private and public open space provisions, and recreation areas,
 - (j) Written summary of how the conceptual site plan meets the requirements of this Planned Action Ordinance and Hawk Property Subarea Plan as well as relevant Covington Municipal Code requirements.
- (3) The City's SEPA Responsible Official shall determine whether the application is complete as provided in Title 14 CMC.
- (4) If the application is for a project within the Planned Action Area defined in Exhibit A, the application will be reviewed to determine if it is consistent with the criteria of this Ordinance and thereby qualifies as a Planned Action project.
- (a) The decision of the City's SEPA Responsible Official regarding qualification of a project as a Planned Action is a **Type 2** decision. The SEPA Responsible Official shall notify the applicant of his/her decision. Notice of the determination shall also be mailed or otherwise verifiably delivered to federally recognized tribal governments and to agencies with jurisdiction over the Planned Action project, pursuant to Chapter 1, Laws of 2012 (Engrossed Substitute Senate Bill (ESSB) 6406).
 - (b) If the project is determined to qualify as a Planned Action, it shall proceed in accordance with the applicable permit review procedures specified in Title 14 CMC, except that no SEPA threshold determination, EIS or additional SEPA review shall be required.
 - (c) Notice of the application for a Planned Action project shall be consistent with Title 14 CMC.

- (5) If notice is otherwise required for the underlying permit, the notice shall state that the project has qualified as a Planned Action. If notice is not otherwise required for the underlying permit, no special notice is required by this Ordinance.
- (6) To provide additional certainty about applicable requirements, the City or applicant may request consideration and execution of a development agreement for a Planned Action project, consistent with RCW 36.70B.170 et seq.
- (7) If a project is determined to not qualify as a Planned Action, the SEPA Responsible Official shall so notify the applicant and prescribe a SEPA review procedure consistent with the City's SEPA regulations and the requirements of state law. The notice shall describe the elements of the application that result in failure to qualify as a Planned Action.
- (8) Projects that fail to qualify as Planned Actions may incorporate or otherwise use relevant elements of the Planned Action EIS, as well as other relevant SEPA documents, to meet their SEPA requirements. The SEPA Responsible Official may limit the scope of SEPA review for the non-qualifying project to those issues and environmental impacts not previously addressed in the Planned Action EIS.

Section 4. Monitoring and Review.

A. The City should monitor the progress of development in the designated Planned Action area as deemed appropriate to ensure that it is consistent with the assumptions of this Ordinance and the Planned Action EIS regarding the type and amount of development and associated impacts, and with the mitigation measures and improvements planned for the Planned Action Area.

B. This Planned Action Ordinance shall be reviewed by the SEPA Responsible Official no later than **xx** [Note: this is a placeholder to be determined by city] years from its effective date in conjunction with the City's regular Comprehensive Plan review cycle. The review shall determine the continuing relevance of the Planned Action assumptions and findings with respect to environmental conditions in the Planned Action area, the impacts of development, and required mitigation measures. Based upon this review, the City may propose amendments to this Ordinance or may supplement or revise the Planned Action EIS.

Section 5. Conflict. In the event of a conflict between this Ordinance or any mitigation measures imposed thereto, and any Ordinance or regulation of the City, the provisions of this Ordinance shall control.

Section 6 Severability. If any one or more sections, subsections, or sentences of this Ordinance are held to be unconstitutional or invalid such decision shall not affect the validity of the remaining portions of this Ordinance and the same shall remain in full force and effect.

Section 7. Effective Date. This Ordinance shall take effect and be in force ten (10) days after publication as provided by law.

Passed by the City Council of the City of Covington the ___ day of **XXX, 2013**.

[Signatures]

EXHIBIT A
PLANNED ACTION AREA

Draft

EXHIBIT B
PLANNED ACTION EIS MITIGATION MEASURES

Draft

Appendix D: DERIVATION OF DEVELOPMENT EMISSION REDUCTION FACTORS HAWK PROPERTY SUBAREA PLAN EIS

Vehicle miles traveled (VMT) and greenhouse gas emission rates generated by vehicle travel associated with the Hawk Property Subarea were adjusted downward to account for development that will encourage residents and workers to commute options other than single-occupancy vehicles. The development reduction factor for each alternative was derived using the scoring system described in the Sacramento Metropolitan Air Quality Management District (SMAQMD) document “Recommended Guidance for Land Use Emission Reductions”, Version 2.5, updated January 12, 2010. That document presents a wide variety of design features that are typically available for the land use design of any given development, and scores the percent reduction in VMT and vehicle emissions by assigning ‘mitigation points’ to each selected development feature. The numerical value of each “mitigation point” is equivalent to the percent reduction in VMT and vehicle emissions compared to the base-case land use design. For example, if a developer selects a set of development-related features with a cumulative mitigation point total of 10, then it is assumed the VMT and vehicle emissions would be reduced by 10%.

Note, the development-related mitigation is applied only to emissions generated by vehicle travel. This method does not attempt to evaluate GHG emission reductions from construction materials, electricity usage, space heating, or waste reduction.

Development Reduction Factor Derivation for Alternatives

Exhibit D-1 shows the list of development-related land use features that appear to be inherent in the land use design of the Hawk Property Subarea, and shows the mitigation points assigned to each of those land use features. The key features that are believed to be inherent to the Hawk Property Subarea are as follows:

- Bicycle paths within ½ mile, with connection to transit.
- Residential density.
- Close proximity to a park and ride/transit.

The combined mitigation points for the above features is 6 for Alternative 2 and 6.25 for Alternative 3, so the base-case VMT and transportation-related GHG emissions factors for Alternatives 2 and 3 were reduced by 6% and 6.25%, respectively, as applied to the per-dwelling factors and the per-square-foot factors.

Note, for this analysis mitigation points were assigned only to the above land use features that are inherent to the overall programmatic configuration of the Hawk Property Subarea. This analysis did not attempt to predict what other project-specific design features the future developers might build into their facilities, to respond either to encouragement by the City or to comply with potential Covington-specific design standards. It is likely the future developers will indeed incorporate more of SMAQMD’s listed design features into their facilities, in which case the actual overall development-related reductions might be higher than the value derived for this study.

Exhibit D-1. Derivation of Development Reduction Factor

Mitigation Number	Description	Maximum Achievable Reduction	Considerations for Assigning Mitigation Values for Proposed Action	Assigned Mitigation
4	Bicycle paths within 1/2 mile, with connection to dwellings, business and transit corridors.	1%	Alternatives would provide multi family and mixed use near bus routes and pedestrian corridors. Bike paths would likely be provided.	1%
18	Residential density	12%	Alternatives would provide high density multi family and mixed use development.	5%
18	Proximity to transit	1%	Alternative 3 would provide high density multi family and mixed use development within close proximity to a park and ride.	0.25%
Total Assigned Mitigation For Alternative 2				6%
Total Assigned Mitigation for Alternative 3				6.25%

Source: the Sacramento Metropolitan Air Quality Management District (SMAQMD), "Recommended Guidance for Land Use Emission Reductions", Version 2.5, updated January 12, 2010

Appendix E: WETLAND RECONNAISSANCE REPORT

April 18, 2013

Lisa Grueter, AICP
BERK Consulting
2025 First Avenue, Suite 800
Seattle, WA 98121

Re: Covington Hawk Property – Stream & Wetland Reconnaissance Study

The Watershed Company Reference Number: 120121

Dear Lisa:

This stream and wetland reconnaissance study was conducted to inform the City, a property owner, and the public of existing critical areas on the Hawk Property (parcels 1922069041, 2022069152, 2022069012, 2922069162, 3022069001) as rezoning and annexation are being considered. The project area spans City of Covington and King County jurisdictions; it is all within the Urban Growth Boundary of Covington.

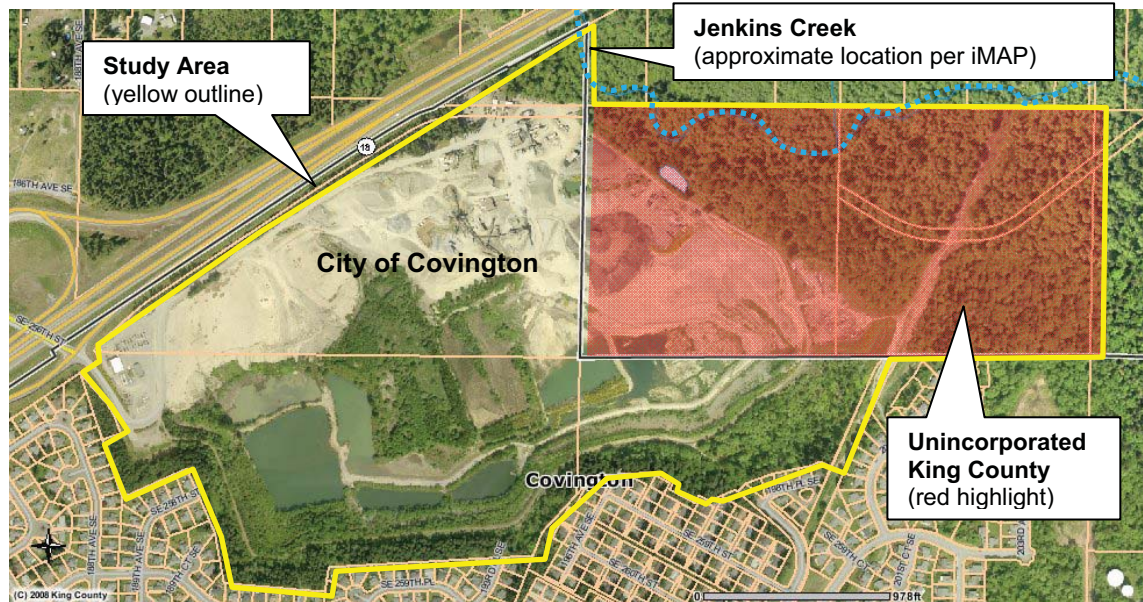


Figure 1. Study Area and current jurisdictions.

Permission to access the property was granted and staff ecologists from The Watershed Company screened the approximately 210-acre site over several days in mid-March 2013. This letter summarizes the findings of this study and details applicable federal,

state, and local regulations. The following attachments are included: Wetland Reconnaissance Map and Wetland Rating Forms.

Methods

Public-domain information on the subject properties was reviewed for this reconnaissance study. These sources include USDA Natural Resources Conservation Service Soil maps, U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps, Washington Department of Fish and Wildlife (WDFW) interactive mapping programs (PHS on the Web), and King County's GIS mapping website (iMAP).

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). The approximate wetland boundary depicted in Map 1 was determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundary to make the determination. Data points are marked with yellow- and black-striped flags. We recorded data at four of these locations.

Identified Wetlands were classified using the *Western Washington Wetland Rating System* (Ecology, Aug 2004, version 2) (Ecology Rating System).

Findings

The site is in the Jenkins Creek basin of the Duwamish-Green Water Resource Inventory Area (WRIA-9). Jenkins Creek is mapped along the north end of the study area. The majority of the subject property is a gravel mine; site activities are currently transitioning to reclamation. Mining operations created several large ponds, primarily at the south end of the site. An operational asphalt plant is located in the northeast corner of the developed area. The east end of the study area is largely undisturbed. However, it does contain a maintained pipeline corridor and some pedestrian trails. Two wetlands were identified in the Jenkins Creek corridor, Wetlands A and B. These wetlands and associated buffer widths are shown on the enclosed *Wetland Reconnaissance Map*.

Mining operations were found to have created depressions or ponds that exhibit wetland characteristics; however, these features are more appropriately discussed in the Mining Site section below.

Wetland A (Jenkins Creek Wetland)

Wetland A is classified as a depression plus riverine-type wetland. Jenkins Creek flows through Wetland A, but the wetland is much broader than the stream. Per the guidance, it rates as a depression hydrogeomorphic class. The Palustrine forested and scrub-shrub vegetation classes comprise the wetland. The tree canopy is characterized by Sitka spruce, western red cedar, black cottonwood, red alder and western hemlock. Several of the trees are mature and exceed 21 inch diameter at breast height. The shrub layer is diverse and contains vine maple, salmonberry, twinberry, devil's club and red elderberry. Groundcover includes skunk cabbage, piggyback plant, lady fern, and slough sedge. According to NRCS soil maps, Wetland A soils are Everett gravelly sandy loam 5-15% slopes and Seattle Muck. Sampled soils are characterized as clay loam with high organic content, which masked redoximorphic features. Soil saturation from a high water table was observed along the wetland boundary at the time of our fieldwork. Sources of hydrology for Wetland A are groundwater, precipitation, and limited over-bank flooding.

Wetland B

Wetland B is a slope wetland containing Palustrine forested and scrub-shrub vegetation classes. It is located north of the paved lot just beyond a small detention pond. Pacific willow, red alder, black cottonwood, twinberry, salmonberry, and slough sedge characterize wetland vegetation. The silty clay loam soils exhibit Redox Dark Surface hydric soil indicators and oxidized rhizospheres were observed along living roots. Wetland B slopes down toward Wetland A and Jenkins Creek.

Jenkins Creek

The study area is in the Middle Green River Subwatershed, which contains some of the best remaining salmon habitat in the Duwamish-Green Water Resource Inventory Area (WRIA-9) according to King County (<http://www.govlink.org/watersheds/9/activities-partners/MiddleGreen.aspx>). As documented in King County WRIA-9 reports, Jenkins Creek is a tributary to Soos Creek; Soos Creek joins the Green River at River Mile 33.8. Jenkins Creek is a salmonid fish-bearing stream. Since Wetland A extends well beyond the stream, Jenkins Creek was only directly observed where it crosses the maintained pipeline easement. The channel bed is a mix of silt, sand, gravel and cobbles. Riffle and pool features are present. The channel is presumed to contain large woody debris within the wetland interior.

Non-Wetland

Developed and disturbed portions of the study area comprise the bulk of the non-wetland area. Forested non-wetland areas, including most of the Wetland A buffer, are characterized by bigleaf maple, Douglas-fir, western red cedar, red alder and black cottonwood. The understory commonly contains osoberry, hazelnut, vine maple,

snowberry and tall Oregon grape. Sword fern, lady fern, and dewberry are common groundcovers. Sampled soils were bright and did not exhibit hydric soil indicators. Wetland hydrology was also lacking.

Mining Site

The gravel mine and asphalt plant operations occupy the developed portion of the site. Mining activity has created a series of ponds. Grade cuts associated with the largest ponds at the south end of the site apparently created the existing steep slopes. Wetland conditions were observed in the ponds. Volunteer saplings, such as red alder, willows and black cottonwood, have colonized some ponded areas. A patch of cattails was noted in at least one disturbed and shallowly inundated area. The created ponds are generally deeply inundated and sparsely vegetated. Sources of hydrology appear to be groundwater in the lower ponds and perched stormwater runoff in the upper ponds. Creation of the ponds and general site disturbances were conducted in accord with the Washington State Department of Natural Resources (DNR) Surface Mining Reclamation permit. Therefore, these areas were not considered jurisdictional wetlands under this evaluation.

Local Regulations

Streams and wetlands within the City of Covington and unincorporated King County are regulated under the Covington Municipal Code (CMC) 18.65 and the King County Code (KCC) 21A.24, respectively. Both King County and City of Covington use the Ecology rating system to classify jurisdictional wetlands. Wetland classifications and associated buffer widths are summarized in the table below.

Table 1. Wetland classifications and buffer widths

Wetland Name	Habitat Score	Total Score	Special Characteristics	Cat.	King County		City of Covington	
					Buffer	Buffer increase	Buffer	Buffer increase
Wetland A	24	58	Mature Forest	I	180 ft	+ 50 ft *	150 ft	+ 50 ft *
Wetland B**	19	47	N/A	III	N/A	N/A	75 ft	N/A

*Per King County (KCC 21A.24.325.A.2) and Covington (CMC 18.65.320(2)) codes, the standard buffer of Wetland A would be increased by 50 feet if the conditions in those code sections are not met. Code requirements are detailed in the text below.

**Wetland B is located only within the City of Covington.

Both King County and City of Covington require a 50-foot buffer width increase for Category I or II wetlands with high habitat scores (>20 points) located within 300 feet of a priority habitat area when certain conditions are not met. According to WDFW's PHS on the Web, the onsite segment of Jenkins Creek is a priority habitat due to the presence

of coastal resident cutthroat trout and Coho salmon. Wetland and elk habitat is also shown around the stream.

Per city and county code the buffer increase shall be applied unless: 1) *“The applicant provides a relatively undisturbed vegetated corridor at least 100 feet wide between the wetland and all priority habitat areas located within 300 feet of the wetland. The corridor shall be protected for the entire distance between the wetland and the priority habitat through a conservation easement, native growth protection easement (NGPE) or the equivalent;”* and 2) applicable mitigation measures are provided. Those mitigation measures are listed in Table 2 below.

Table 2. Mitigation Measures per CMC 18.65.320(3) and KCC 21A.24.325.A.3.b.

Disturbance	Measures to minimize impacts	Activities that may cause the disturbance
Lights	Direct lights away from wetland	Parking lots, warehouses, manufacturing, high density residential
Noise	Place activity that generates noise away from the wetland.	manufacturing, high density residential
Toxic runoff	Route all new untreated runoff away from wetland, or Covenants limiting use of pesticides within 150 ft of wetland, or Implement integrated pest management program	Parking lots, roads, manufacturing, residential areas, application of agricultural pesticides, landscaping
Change in water regime	Infiltrate or treat, detain and disperse into buffer new runoff from impervious surfaces using low impact development measures identified in the King County Surface Water Design Manual	Any impermeable surface, lawns, tilling
Pets and Human disturbance	Privacy fencing or landscaping to delineate buffer edge and to discourage disturbance of wildlife by humans and pets	Residential areas
Dust	BMP's for dust	Tilled fields
Degraded buffer condition	Nonnative plants to be removed and replaced with native vegetation per an approved landscaping plan to be bonded and monitored for a three year period after completion to assure at least 80% survival of plantings	All activities potentially requiring buffers

Since Wetland A is continuous with the nearest priority habitat (Jenkins Creek), and the standard buffer width is generally undisturbed and well-vegetated, the corridor could

be protected through applying an NGPE or equivalent to the standard buffer width. Additionally, if site zoning and development plans follow the mitigation measures listed in Table 2 above, then the buffer increase could be avoided.

State and Federal Regulations

Wetlands are also regulated by the Corps under section 404 of the Clean Water Act. Any filling of Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A and likely Wetland B would not be considered isolated. A formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process.

Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

Mining operations in the study area have been conducted under DNR Surface Mine Reclamation Permit No. 70-011068 and Federal Mine ID No. 45-01582. According to permit documents the allowed area of disturbance is 215-acres and a maximum mining depth of 100 feet is permitted. As per the permit conditions, a reclamation plan is to be implemented following completion of mining activities. The current reclamation plan maintains a large pond as a lake feature and reclaims (fills) the other ponded areas in the process of restoring site grades. The current reclamation plan is subject to revision. Prior to reclamation activities, the applicant should consult with the lead federal agency, presumably the Bureau of Reclamation, regarding compliance with state and federal laws, including the State Hydraulic Code, Sections 401 and 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act.

Disclaimer

The information contained in this letter is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this letter are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.

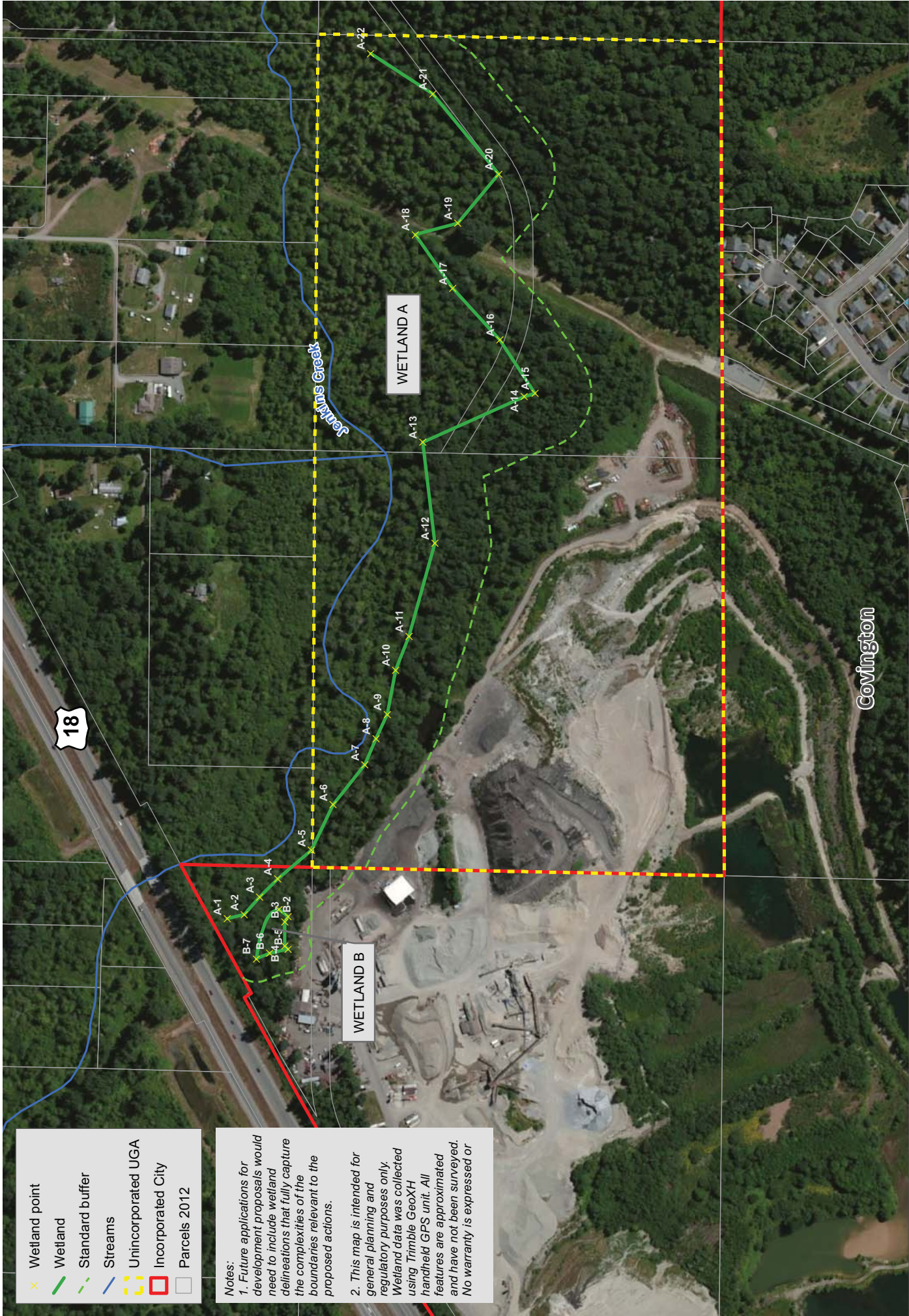
Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Nell Lund".

Nell Lund, PWS
Ecologist

Enclosures



- x Wetland point
- Wetland
- - - Standard buffer
- Streams
- Unincorporated UGA
- Incorporated City
- Parcels 2012

Notes:

1. Future applications for development proposals would need to include wetland delineations that fully capture the complexities of the boundaries relevant to the proposed actions.
2. This map is intended for general planning and regulatory purposes only. Wetland data was collected using Trimble GeoXH handheld GPS unit. All features are approximated and have not been surveyed. No warranty is expressed or

Wetland name or number A (Jenkins Creek wetland)

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Covington Sub-Area Plan Date of site visit: 3/14/2013
 Wetland A (Jenkins Creek Wetland)
S. Tomassi
Rated by: N. Lund Trained by Ecology? Yes No Date of Training 10/2008
SEC: 20 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes No

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV

Category I = Score ≥70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	20
Score for Hydrologic Functions	14
Score for Habitat Functions	24
TOTAL score for functions	58

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply

Final Category (choose the “highest” category from above)

I

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	X
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest	X	Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above		Check if unit has multiple HGM classes present	X

Wetland name or number A (Jenkins Creek wetland)

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.		X*
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X*
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).**

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?
 NO – go to 2 YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit

NO – go to 3 YES – The wetland class is **Flats**

If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?

- The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m)?
 NO – go to 4 YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

- The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded?**

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*

NO – go to 5 YES – The wetland class is **Slope**

Wetland name or number A (Jenkins Creek wetland)

5. Does the entire wetland unit **meet all** of the following criteria?
- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
 - The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7 YES – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8 YES – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

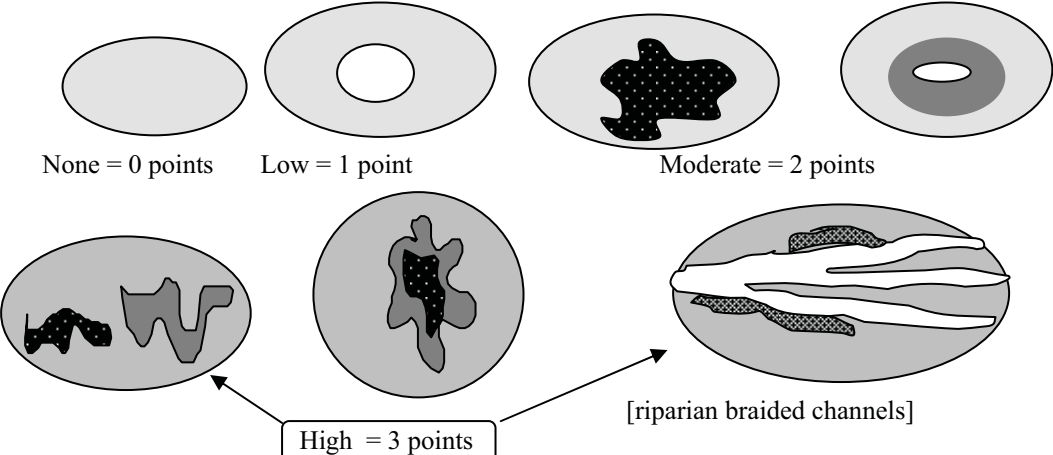
<i>HGM classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
D	D 1. Does the wetland have the potential to improve water quality?	<i>(see p. 38)</i>
D	<p>D 1.1 Characteristics of surface water flows out of the wetland:</p> <p>Unit is a depression with no surface water leaving it (no outlet)..... points = 3</p> <p>Unit has an intermittently flowing, or highly constricted permanently flowing outlet..... points = 2</p> <p><input type="checkbox"/> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1</p> <p>Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch points = 1 <i>(If ditch is not permanently flowing treat unit as "intermittently flowing")</i></p>	1
D	<p>D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>).</p> <p style="text-align: center;"><input type="checkbox"/> YES points = 4 <input type="checkbox"/> NO points = 0</p>	0
D	<p>D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):</p> <p><input type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5</p> <p><input type="checkbox"/> Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3</p> <p><input type="checkbox"/> Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1</p> <p><input type="checkbox"/> Wetland has persistent, ungrazed vegetation < 1/10 of area..... points = 0</p>	5
D	<p>D1.4 Characteristics of seasonal ponding or inundation.</p> <p><i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i></p> <p><input type="checkbox"/> Area seasonally ponded is > ½ total area of wetland..... points = 4</p> <p><input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland..... points = 2</p> <p><input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland..... points = 0</p> <p style="text-align: center;">NOTE: See text for indicators of seasonal and permanent inundation.</p>	4
D	Total for D 1	<i>Add the points in the boxes above</i>
D	<p>D 2. Does the wetland unit have the opportunity to improve water quality?</p> <p>Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i></p> <p><input type="checkbox"/> Grazing in the wetland or within 150 ft</p> <p><input type="checkbox"/> Untreated stormwater discharges to wetland</p> <p><input type="checkbox"/> Tilled fields or orchards within 150 ft of wetland</p> <p><input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging</p> <p><input checked="" type="checkbox"/> Residential, urban areas, golf courses are within 150 ft of wetland</p> <p><input type="checkbox"/> Wetland is fed by groundwater high in phosphorus or nitrogen</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> YES multiply score in D 1. by 2 <input type="checkbox"/> NO multiply score in D 1. by 1</p>	<i>(see p. 44)</i> multiplier <u>2</u>
D	TOTAL - Water Quality Functions	Multiply the score from D1 by D2 <i>Add score to table on p. 1</i>
		20

D Depressional and Flats Wetlands		
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
D	D 3. Does the wetland have the potential to reduce flooding and erosion?	<i>(see p. 46)</i>
D	<p>D 3.1 Characteristics of surface water flows out of the wetland unit</p> <p>Unit is a depression with no surface water leaving it (no outlet)..... points = 4</p> <p>Unit has an <u>intermittently flowing, or highly constricted permanently flowing outlet</u>..... points = 2</p> <p>Unit has an <u>unconstricted, or slightly constricted, surface outlet (permanently flowing)</u>..... points = 1</p> <p>Unit is a “flat” depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch points = 1</p> <p><i>(If ditch is not permanently flowing treat unit as “intermittently flowing”)</i></p> <p>Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) . points = 0</p>	1
D	<p>D 3.2 Depth of storage during wet periods</p> <p><i>Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i></p> <p>Marks of ponding are at least 3 ft or more above the surface or bottom of outlet..... points = 7</p> <p>The wetland is a “headwater” wetland” points = 5</p> <p>Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet..... points = 5</p> <p><u>Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet</u>..... points = 3</p> <p>Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points = 1</p> <p>Marks of ponding less than 0.5 ft..... points = 0</p>	3
D	<p>D 3.3 Contribution of wetland unit to storage in the watershed</p> <p><i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i></p> <p>The <u>area of the basin is less than 10 times the area of the unit</u> points = 5</p> <p>The <u>area of the basin is 10 to 100 times the area of the unit</u> points = 3</p> <p>The area of the basin is more than 100 times the area of the unit points = 0</p> <p>Entire unit is in the FLATS class points = 5</p>	3
D	Total for D 3 <i>Add the points in the boxes above</i>	7
D	<p>D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?</p> <p>Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur.</p> <p><i>Note which of the following conditions apply.</i></p> <p><input type="checkbox"/> Wetland is in a headwater of a river or stream that has flooding problems</p> <p><input checked="" type="checkbox"/> Wetland drains to a river or stream that has flooding problems</p> <p><input type="checkbox"/> Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</p> <p><input type="checkbox"/> Other _____</p> <p><input checked="" type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1</p>	multiplier <u>2</u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	14

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	
H 1. Does the wetland have the potential to provide habitat for many species?	
<p>H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defined by Cowardin) if the class is 1/4 acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.</p> <p> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have >30% cover) <input checked="" type="checkbox"/> Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon </p> <p>Add the number of vegetation types that qualify. If you have:</p> <p style="text-align: right;"> 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0 </p>	2
<p>H 1.2. <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)</p> <p> <input type="checkbox"/> Permanently flooded or inundated <input checked="" type="checkbox"/> Seasonally flooded or inundated <input type="checkbox"/> Occasionally flooded or inundated <input checked="" type="checkbox"/> Saturated only <input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points </p> <p style="text-align: right;"> 4 or more types present points = 3 3 types present points = 2 2 types present points = 1 1 types present points = 0 </p>	2
<p>H 1.3. <u>Richness of Plant Species</u> (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</p> <p style="text-align: right;">If you counted:</p> <p style="text-align: right;"> > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0 </p> <p>List species below if you want to:</p> <p> THPL, ALRU, TSHE, POBA, ACMA, PISI, ACCI, RUSP, RIDI, OECE, SARA, LOIN, OPHO, LYAM, TOME, ATFI, CAO B, BLSP, JUEF, POMU, GERO, GATR, RARE, HYTE </p>	2

<p>H 1.4. <u>Interspersion of habitats</u> (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p>  <p>None = 0 points Low = 1 point Moderate = 2 points</p> <p>High = 3 points [riparian braided channels]</p> <p>NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".</p>	<p>3</p>
<p>H 1.5. <u>Special Habitat Features:</u> (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present <input checked="" type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants <p><i>Note: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	<p>5</p>
<p>H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>14</p>

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (see p. 80) <i>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0</p> <p><input checked="" type="checkbox"/> Buffer does not meet any of the criteria above.....Points = 1</p>	1
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 40px;">within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?</p> <p style="text-align: center;">YES = 1 point NO = 0 points</p>	2

<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)</u></p> <p>Which of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the connections do not have to be relatively undisturbed)</p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).</p> <p><input checked="" type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input checked="" type="checkbox"/> Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)</p> <p><input checked="" type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)</p> <p><input checked="" type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input checked="" type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.</p> <p style="border: 1px solid black; padding: 2px; display: inline-block;">If wetland has 3 or more priority habitats = 4 points</p> <p style="padding-left: 20px;">If wetland has 2 priority habitats = 3 points</p> <p style="padding-left: 20px;">If wetland has 1 priority habitat = 1 point</p> <p style="padding-left: 20px;">No habitats = 0 points</p> <p><i>Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.</i></p>	<p>4</p>
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Wetland name or number A (Jenkins Creek wetland)

<p>H 2.4 <u>Wetland Landscape</u> (choose the one description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	10
<p>TOTAL for H1 from page 14</p>	14
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	24

Wetland name or number A (Jenkins Creek wetland)

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
<p>SC 1.0 Estuarine wetlands (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2</p>	<p>Cat. I</p>
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.</p> <p><input type="checkbox"/> The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating I/II</p>

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i> S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site <input type="checkbox"/> YES <input type="checkbox"/> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <input type="checkbox"/> Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16” or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO <input type="checkbox"/> is not a bog for purpose of rating Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 <i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</i> Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO is not a bog for purpose of rating 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Note: Onsite portion of Wetland A does not meet Bog criteria. Offsite area not screened. NRCS soil maps show Seattle Muck on North end (offsite) of Wetland A.</p> </div> <p style="text-align: center; font-weight: bold;">Cat. I</p>

<p>SC 4.0 Forested Wetlands (see p. 90)</p> <p>Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife’s forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. <i>Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and “OR” so old-growth forests do not necessarily have to have trees of this diameter.</i></p> <p><input checked="" type="checkbox"/> Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth</p> <p style="text-align: center;"> YES = Category 1 NO <input type="checkbox"/> not a forested wetland with special characteristics </p>	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 80px; margin: auto;"> Cat. I </div>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains surge water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p>YES – Go to SC 5.1 NO <input type="checkbox"/> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square feet)</p> <p>YES = Category I NO = Category II</p>	<div style="margin-bottom: 20px;"> Cat. I </div> <div> Cat. II </div>

Wetland name or number A (Jenkins Creek wetland)

<p>SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO <input type="checkbox"/> not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics <i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1 .</i> If you answered NO for all types enter “Not Applicable” on p.1.</p>	<p>I</p>

Wetland name or number B

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Covington Sub-Area Plan Date of site visit: 3/18/2013
Wetland B
S. Tomassi
Rated by: N. Lund Trained by Ecology? Yes No Date of Training 10/2008
SEC: 20 TWNSHP: 22N RNGE: 6E Is S/T/R in Appendix D? Yes No

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV

Category I = Score \geq 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	12
Score for Hydrologic Functions	16
Score for Habitat Functions	19
TOTAL score for functions	47

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply

Final Category (choose the “highest” category from above)

III

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	X
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	

Wetland name or number B

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.		X*
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X*
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

***The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<http://wdfw.wa.gov/mapping/phs/>).**

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?
 NO – go to 2 YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit
 NO – go to 3 YES – The wetland class is **Flats**

If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?
 The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m)?
 NO – go to 4 YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?
 The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded?**
NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*
 NO – go to 5 YES – The wetland class is **Slope**

Wetland name or number B

5. Does the entire wetland unit **meet all** of the following criteria?

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
- The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

- NO - go to 6 **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

- NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

- NO – go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

<i>HGM classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

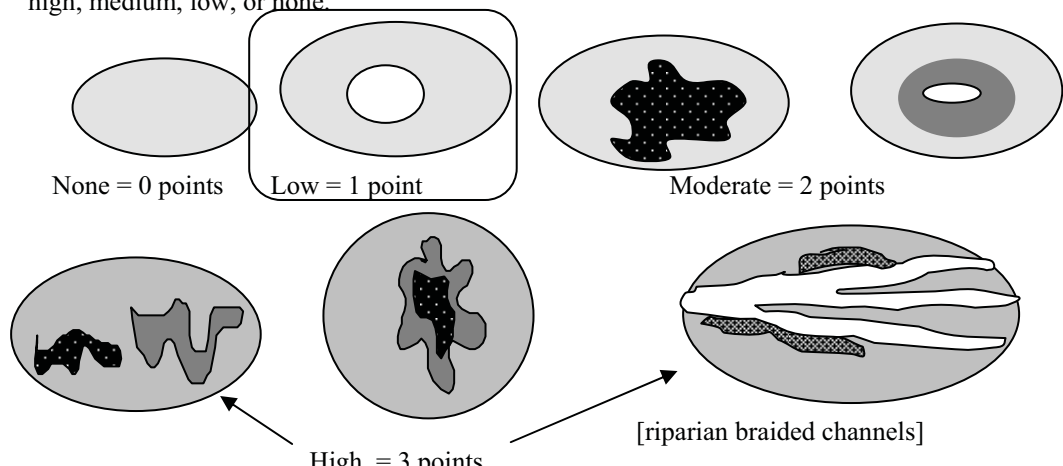
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the potential to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is <u>clay or organic</u> (use NRCS definitions). YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches Dense, ungrazed, herbaceous vegetation > 90% of the wetland area..... points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0	6
S	Total for S 1	6
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input checked="" type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields, logging or orchards within 150 ft of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input checked="" type="checkbox"/> Residential, urban areas, or golf courses are within 150 ft upslope of wetland <input type="checkbox"/> Other <div style="text-align: center;"> <input checked="" type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1 </div>	(see p. 67) multiplier <u> 2 </u>
S	TOTAL - Water Quality Functions	12

S	Slope Wetlands	Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
	S 3. Does the wetland have the potential to reduce flooding and erosion?	<i>(see p. 68)</i>
S	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. <i>Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)</i></p> <p style="margin-left: 40px;"> <input type="checkbox"/> Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 <input type="checkbox"/> Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 <input type="checkbox"/> Dense, uncut, rigid vegetation > 1/4 area points = 1 <input type="checkbox"/> More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0 </p>	6
S	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area.</p> <p style="margin-left: 40px;"> <input type="checkbox"/> YES points = 2 <input type="checkbox"/> NO points = 0 </p>	2
S	Total for S 3	<i>Add the points in the boxes above</i>
S	<p>S 4. Does the wetland have the opportunity to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i></p> <p style="margin-left: 40px;"> <input checked="" type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems <input type="checkbox"/> Other _____ </p> <p style="margin-left: 40px;"><i>(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)</i></p> <p style="margin-left: 40px;"> <input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1 </p>	(see p. 70) multiplier <u>2</u>
S	TOTAL - Hydrologic Functions	Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>
		16

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	
H 1. Does the wetland have the potential to provide habitat for many species?	
<p>H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defined by Cowardin) if the class is 1/4 acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.</p> <p> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have >30% cover) <input checked="" type="checkbox"/> Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon </p> <p>Add the number of vegetation types that qualify. If you have:</p> <p style="text-align: right;"> 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0 </p>	2
<p>H 1.2. <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)</p> <p> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present points = 3 <input type="checkbox"/> Seasonally flooded or inundated 3 types present points = 2 <input checked="" type="checkbox"/> Occasionally flooded or inundated 2 types present points = 1 <input checked="" type="checkbox"/> Saturated only 1 types present points = 0 <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points </p>	1
<p>H 1.3. <u>Richness of Plant Species</u> (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</p> <p style="text-align: right;">If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0</p> <p>List species below if you want to:</p> <p>SALU, ALRU, POBA, LOIN, RUSP, ACCI, CAOB</p>	1

<p>H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p>  <p>NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".</p>	<p>1</p>
<p>H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present <input type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants <p><i>Note: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	<p>2</p>
<p>H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p>7</p>

H 2. Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (see p. 80) <i>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input checked="" type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0</p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above.....Points = 1</p>	3
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 40px;">within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?</p> <p style="text-align: center;">YES = 1 point NO = 0 points</p>	2

<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)</u></p> <p>Which of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the connections do not have to be relatively undisturbed)</p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).</p> <p><input type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input checked="" type="checkbox"/> Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)</p> <p><input checked="" type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)</p> <p><input checked="" type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input checked="" type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.</p> <p style="border: 1px solid black; padding: 2px; display: inline-block;">If wetland has 3 or more priority habitats = 4 points</p> <p style="padding-left: 20px;">If wetland has 2 priority habitats = 3 points</p> <p style="padding-left: 20px;">If wetland has 1 priority habitat = 1 point</p> <p style="padding-left: 20px;">No habitats = 0 points</p> <p><i>Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.</i></p>	<p>4</p>
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Wetland name or number B

<p>H 2.4 <u>Wetland Landscape</u> (choose the one description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	12
<p>TOTAL for H1 from page 14</p>	7
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	19

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
<p>SC 1.0 Estuarine wetlands (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2</p>	<p>Cat. I</p>
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.</p> <p><input type="checkbox"/> The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating I/II</p>

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i> S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site <input type="checkbox"/> YES <input type="checkbox"/> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <input type="checkbox"/> Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16” or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO <input checked="" type="checkbox"/> is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 <i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</i> 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO <input type="checkbox"/> is not a bog for purpose of rating 	<p>Cat. I</p>

<p>SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO <input checked="" type="checkbox"/> not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics <i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1 .</i> If you answered NO for all types enter “Not Applicable” on p.1.</p>	<p>N/A</p>