

SEPA ENVIRONMENTAL CHECKLIST - AMENDED

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

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.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

RECEIVED

JUL 26 2018
KING COUNTY
D.P.E.R.

GRD18-0114

A. Background [HELP]

1. Name of proposed project, if applicable:
Ravensdale Trench Filling Project
2. Name of applicant:
**Ravensdale, LLC.
Kurt Erickson & Fred Wagner**
3. Address and phone number of applicant and contact person:
**41306 - 90th Avenue East
Eatonville, WA 98328-9569
PH: (253) 606-6060**

**Contact: Brett Allen, P.E., Principal Contour Engineering, PLLC.
PH: (253) 857-5454**
4. Date checklist prepared:
Jan. 8, 2008, Rev. 7/18/08, Rev 6/12/09, Rev. 1/20/10, Rev. 1/18/13. Rev. 1/31/18
5. Agency requesting checklist:
King County DDES
6. Proposed timing or schedule (including phasing, if applicable):
Operations are currently ongoing. This SEPA checklist is for an expansion of the original project scope. Individual trenches will be filled as needed and depending on site specific weather conditions.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
Not at this time.
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
A Wetland Delineation Critical Areas Evaluation report prepared in November 2007, and revised on May 11, 2009 by Genesis Resource Consulting (document on file at King County DDES).

A Wetland, Aquatic Area, and Fish and Wildlife Habitat Assessment Technical Memorandum prepared on May 30, 2018 by Soundview Consultants LLC.
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.
No, not to our knowledge
10. List any government approvals or permits that will be needed for your proposal, if known.
King County Clearing and Grading for Filling, Washington State Department of Ecology NPDES permit, and DNR Forest Practices Application for Timber Removal. The DNR application numbers are: 2411892, 2411923, 2411944, 24112301, 2412330, 2412742, 2412833, 2412889, 2412915.

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.)

This proposal is an expansion of the approved fill and grade and reclamation-restoration plans to fill the existing mining trenches on the Ravensdale property. The existing approved plans include filling and grading of trenches A, D, E, and F. The expanded plans include modifications to trenches A, D, E, and F and fill and grade for trenches B, C, G, H, I, J, and K. Proposed use is long term forestry. Total site area equals approximately 215± acres.

A copy of the revised Reclamation Filling and Restoration Plans are attached to this checklist.

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.

This project is located southeast of the silica processing plant on SE Ravensdale Way.

The legal discription is the SE 1/4 of Section 36, Township 22 North, Range 6 East and the NE 1/4 of Section 1 Township 21 North , Range 6 East, W.M.

Driving directions from Covington are to follow Kent-Kangley Rd east towards Ravensdale, turn right on SE Ravensdale Way (Black Diamond/Ravensdale cutoff road), go approximately 250 feet past the railroad crossing, the entrance is on the left. Traveling up the existing gravel service road will take you to the top of the hill which is Trench A. Attached is a site map which depicts the other trench locations.

B. Environmental Elements [HELP]

1. Earth [help]

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other Trenches have some vertical side slopes

b. What is the steepest slope on the site (approximate percent slope)?

85 to 90 percent

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 agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Mostly gravelly loam soils and rock

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

Not to our knowledge, the trenches were constructed as part of a mining operation in the early 1900's and the slopes from the excavation have remained nearly the same as they were at the end of the mining operations.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

At this time fill sources have not been identified. It is anticipated that fill will originate from highway, public works, and other significant construction projects throughout the Puget Sound Region. Soils imported to the site will be clean fill material and determined to be below MTCA standards for fill.

Estimated bank fill quantities for the 11 trenches are as follows:

TRENCH	CY±	CY±	
A	190,863	28.2	
B	621	3.36	
C	329,571	2340.41	
D	20,723	200.14	
E	210,931	275.1	
F	99,244	221.65	
G	107,914	5758.36	
H	21,196	6443.38	
I	29,042	430.46	
J	7,882	22.37	
	1,017,987	15,723	1,033,711
TOTAL	FILL	CUT	GROSS

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
With any clearing, grading and construction operations, there is always the potential for erosion. The implementation of appropriate erosion control BMP's will help limit the impacts. Once construction activities are complete and the site is stabilized there is minimal potential for erosion.
- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
At project completion zero percent of the site will be impervious. No new impervious surface will be created. All existing impervious gravel roads will remain.
- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
The trenches will be most likely filled one at a time to minimize the potential of erosion. An erosion control plan is being developed to manage the surface runoff which could contribute to potential erosion from the site. Silt fencing and covering exposed soils will likely be a part of this plan.

2. Air [\[help\]](#)

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.
During the filling process, there will be dust from the road traffic, emissions from construction equipment and administration vehicles. At the completion of the filling project, the site will be reclaimed to forestry.
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
No, not to our knowledge
- c. Proposed measures to reduce or control emissions or other impacts to air, if any:
All of the vehicles and equipment used on the project will meet or exceed the current emissions standards.

3. **Water** [\[help\]](#)

a. Surface Water: [\[help\]](#)

- 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.
A total of 12 wetlands (Wetlands A through L) were identified within 300 feet of the subject trenches. Wetlands A and G are Category II depressional wetlands; Wetlands B, H, J, and K are Category III depressional wetlands; and Wetlands C, D, E, F, I, and L are Category IV depressional wetlands.

Two non-fish (Type N) streams are located in the vicinity of the trenches: Ravensdale Creek and an unnamed seasonal tributary to Ravensdale Creek. Downstream of the trenches, Ravensdale Creek flows subsurface through a mine pit in the northern portion of the site.

- 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.
Yes, mine reclamation actions will take place within 200 feet of several wetlands and streams. The project does not propose any direct wetland or stream impacts. No work over or within these critical areas will occur.
- 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.
No amount of dredge or fill materials will be placed in or removed from onsite surface waters or wetlands. No direct wetland or aquatic area impacts are anticipated.
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
No, the proposed project does not require any surface water withdrawals or diversions.
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
Not to our knowledge.
- 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 waste material will be discharged to surface waters.

b. Ground Water: [\[help\]](#)

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
No, groundwater withdrawals are not proposed.

- 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.

No waste materials will be discharged into ground water during construction or by the completed project.

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.

Surface stormwater runoff is addressed in the Temporary Erosion Control Plan by Contour Engineering, LLC.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Not applicable, no waste materials will be generated by the project.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No, the existing drainage patterns will not be altered by the proposed development.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Surface stormwater runoff is being addressed in the Temporary Erosion Control Plan which is currently being developed by Contour Engineering, LLC. Proposed measures include filter fabric fence and temporary sediment traps.

4. Plants [\[help\]](#)

a. Check the 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

☐ Orchards, vineyards or other permanent crops.

☒ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

☐ water plants: water lily, eelgrass, milfoil, other

☐ other types of vegetation

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

Existing vegetation within the proposed fill limits will be removed or altered during the mine reclamation work. In general, the subject trenches are dominated by non-native invasive vegetation and other early successional aggressive species such as red alder.

- c. List threatened and endangered species known to be on or near the site.
There are no known species to exist on or near the site to our knowledge.
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
At the completion of the filling project, the site will be reforested with native species. The final phase of the reclamation plan is addressed in the Approved Forest Management Plan. The plan was approved by the King County Department of Natural Resources. The area will be seeded with an approved forestry mix to enhance soil stability and development.
- e. List all noxious weeds and invasive species known to be on or near the site.
Himalayan blackberry, Scotch broom, and reed canary grass are present onsite.

5. *Animals* [help]

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site.
No threatened or endangered animal species are known to be on or near the site to our knowledge.
- c. Is the site part of a migration route? If so, explain.
To our knowledge, the site is not a part of a migration route. However, as with the rest of Western Washington State, the project site is located within the Pacific Flyway for Migratory Birds.
- d. Proposed measures to preserve or enhance wildlife, if any:
As proposed the trench sites are being reclaimed and reforested per approved plans providing future wildlife habitat. There are no additional proposed measures to preserve or enhance wildlife as part of this proposal
- e. List any invasive animal species known to be on or near the site.
No invasive animal species are known to be on or near the site.

6. *Energy and Natural Resources* [help]

- 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.
Not applicable to the proposed reclamation project.

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

Not applicable to the proposed reclamation project.

- 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:

Not applicable to the proposed reclamation project.

7. Environmental Health [\[help\]](#)

- 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.

As with any construction site there is always the potential for chemical spills and/or fires

- 1) Describe any known or possible contamination at the site from present or past uses.
There are no known or possible contaminations at the site.
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
There are no known existing hazardous chemical or conditions.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
During construction fuel and hydraulic fluids for construction equipment will be found on-site.
- 4) Describe special emergency services that might be required.
There are no known special emergency services that might be required for the proposed filling operation.
- 5) Proposed measures to reduce or control environmental health hazards, if any:
All equipment and vehicles will be maintained in a manner to reduce or eliminate the potential for equipment failure. Any incident will be corrected immediately and the proper authorities will be contacted. In addition, a spill control plan will be prepared for the filling operations.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
There are no known sources of noise that will affect the proposed project.

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.

Noise will be generated from onsite equipment and by trucking of fill material to the site. It is anticipated that operations could run 24 hours a day, 7 days a week dictated by availability of fill material from other sites. It is likely that filling will occur during normal business hours.

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

All equipment and vehicles will meet all applicable noise standards including the use of engine brakes were prohibited. Trucking operations will avoid residential streets were possible. The construction areas are located approximately 0.5 mile from the nearest residential property.

8. Land and Shoreline Use [\[help\]](#)

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is currently long-term forestry.

Adjacent uses include long term forestry to the south and east, mineral extraction and long-term forestry to the west, and railroad right-of-way to the north.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

The site is currently designated as long-term forestry. The proposed will not convert any property from the forestry designation.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Not applicable, the proposed is long-term forestry.

c. Describe any structures on the site.

There is no structure on-site.

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

Not applicable

e. What is the current zoning classification of the site?

The site is zoned F-forest and M- mineral

f. What is the current comprehensive plan designation of the site?

The comprehensive land use designation of the site is F-forest and M-mineral.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
Yes, as mentioned previously in this checklist there are wetlands and streams on-site. For more information please see the Wetland, Aquatic Area, and Fish and Wildlife Habitat Assessment Technical Memorandum prepared on May 30, 2018 by Soundview Consultants LLC.

i. Approximately how many people would reside or work in the completed project?
Not applicable

j. Approximately how many people would the completed project displace?
Not applicable

k. Proposed measures to avoid or reduce displacement impacts, if any:
Not applicable

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
Filling the mining trenches will increase the available usable site area for the production of timber resources in the future.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:
Not applicable the proposed will not create impacts that will require mitigation.

9. Housing [\[help\]](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Not applicable

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Not applicable

c. Proposed measures to reduce or control housing impacts, if any:
Not applicable

10. Aesthetics [\[help\]](#)

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
Not applicable

b. What views in the immediate vicinity would be altered or obstructed?
Not applicable

c. Proposed measures to reduce or control aesthetic impacts, if any:
Not applicable

11. Light and Glare [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

During construction operations light will be produced from the operation of equipment, vehicles and portable light towers. Once construction operations are complete no light will be generated by the proposed.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Not applicable, no light or glare will be generated by the proposed.

- c. What existing off-site sources of light or glare may affect your proposal?

There are no known sources of light or glare that will affect the proposed

- d. Proposed measures to reduce or control light and glare impacts, if any:

There are no measures to reduce or control the impacts of the light generated during construction activities.

12. Recreation [\[help\]](#)

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

There are several horseman's clubs which utilize the surrounding forest land. Also, there are some hiking opportunities associated with this property and adjacent properties. These opportunities are informal and at the approval of the landowner.

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

No, any informal recreational activities that might exist onsite will be suspended as a safety precaution

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Working in connection with the local horseman's club to provide alternative recreational opportunities during fill and grade operations. Complete Conservation easement requirements with Cascade Land Conservancy.

13. Historic and cultural preservation [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

No, not to our knowledge

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

There are remnants of historical coal mining facilities on this previously unreclaimed site. There are no known human burials or cemeteries on the site.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
King County GIS, King County Assessor, and Washington Department of Archaeology & Historic Preservation's (DAHP) WISAARD program. Methodology also included research using the Washington Information System for Architectural and Archaeological Records Data (WISAARD), an online GIS map tool for locating designated historical sites which are listed on the state and national register. No such sites are identified on the property.
- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
No specific measures are proposed. No impacts to any historic or cultural resources are anticipated due to the nature of the proposed fill actions and since excavation activities are not proposed.

14. Transportation [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
SE Ravensdale Way, Kent-Kangley Road. Maintenance of the old logging roads will provide access to the site.
- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
Not applicable
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
Not applicable
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).
Routine maintenance to the existing private logging roads to support the additional traffic of dump trucks transporting fill material to the site will be needed. Maintenance will include culvert clearing, fine grading for pothole removal and compaction. Maintenance will maximize the width of the existing travel surface throughout the project site. No additional subgrade is needed, only spot treatment of ballast and surfacing. Additional haul roads will be constructed as required to complete operation. All new haul roads will be restored to forested conditions once operations have concluded.
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
BNSF has right-of-way adjacent to the northern property line. The proposed will not impact or utilize the existing rail.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

No vehicular trips per day will be generated by the completed project. However, it is estimated that approximately 25 to 30 trips per day will be made by dump trucks and other vehicles to and from the site during the lifetime of the fill and grade operation.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Not applicable

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

There are three primary haul routes from the west, north and south (see the attached route maps for more detail). The majority of fill materials will come from the west and north. To reduce impacts, the haul routes will remain variable based on availability of material, traffic conditions and time period of operations. The owner will reserve the right to dictate the haul route based on these variable conditions. There are no other measures proposed to reduce or control transportation impacts as the completed project will not generate addition trips.

15. Public Services [\[help\]](#)

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

No, the reclamation project will not require public services.

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

Not applicable

16. Utilities [\[help\]](#)

- a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

Not applicable

- 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.

Not applicable

C. Signature [HELP]

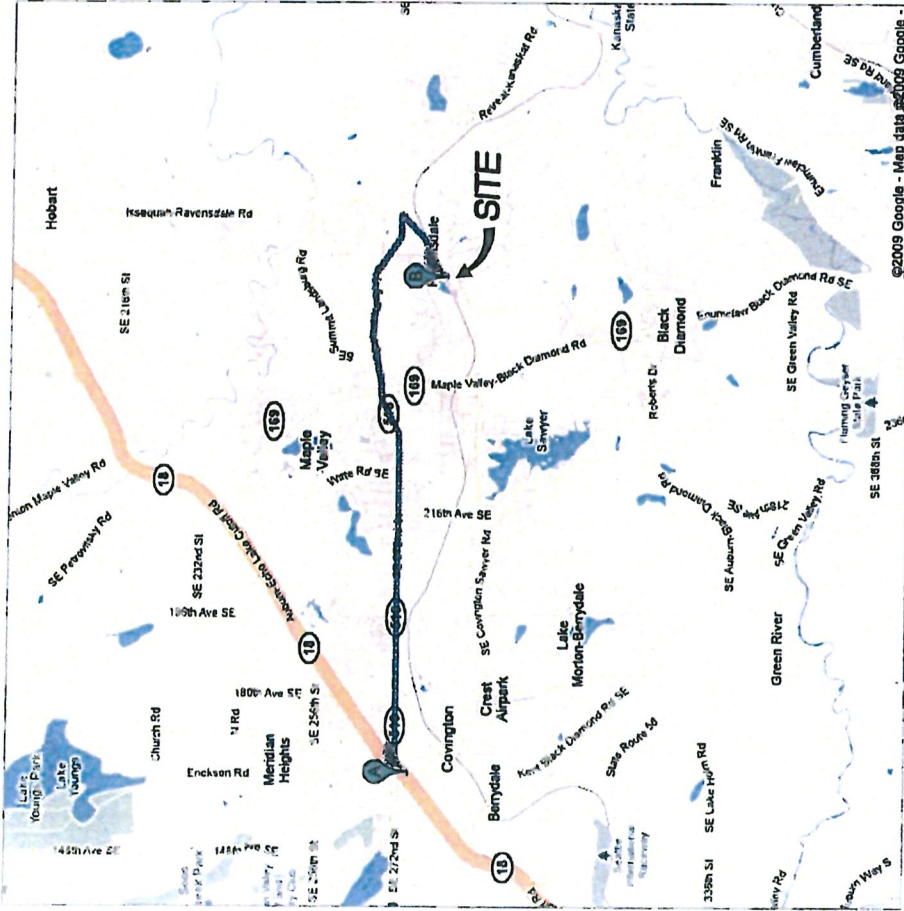
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee _____

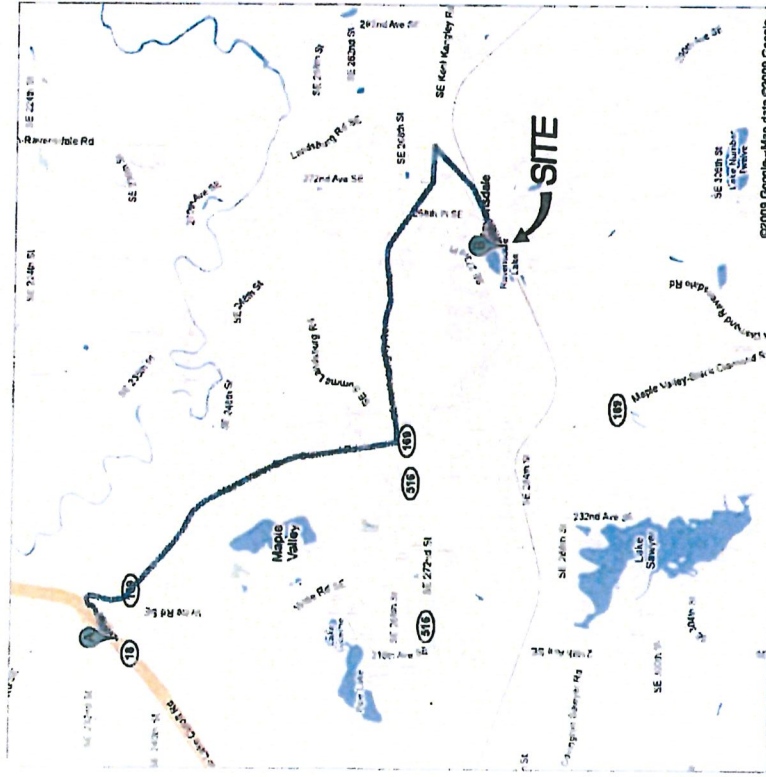
Position and Agency/Organization _____

Date Submitted: _____



MAP NOT TO SCALE

PLEASE NOTE: THE DEPICTED HAUL ROUTE IS LIMITED AS EXACT SOURCES OF FILL MATERIAL HAVE NOT BEEN IDENTIFIED. THE DEPICTED ROUTE SHOWS THE MOST LIKELY ROUTE THAT MATERIAL TRANSPORTATION VEHICLES AND EQUIPMENT WILL TAKE FROM CONSTRUCTION SITES IN SOUTH KING COUNTY AND THE GREATER SOUTH PUGET SOUND REGION.



MAP NOT TO SCALE

PLEASE NOTE: THE DEPICTED HAUL ROUTE IS LIMITED AS EXACT SOURCES OF FILL MATERIAL HAVE NOT BEEN IDENTIFIED. THE DEPICTED ROUTE SHOWS THE MOST LIKELY ROUTE THAT MATERIAL TRANSPORTATION VEHICLES AND EQUIPMENT WILL TAKE FROM CONSTRUCTION SITES IN SOUTH KING COUNTY AND THE GREATER SOUTH PUGET SOUND REGION.

JUL 26 2018
KING COUNTY

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorpace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home.....	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	367	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home.....	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall)	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings

2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)
Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions
<http://buildingsdatabook.eren.doe.gov/>
Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and floorspace per building

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings

Buildings Energy Data Book (National average, 2005)
Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCO2e per Quadrillion Btu)
http://buildingsdatabook.eere.energy.gov/?id=view_book_table&tableID=2057
Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.
To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.
2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Residential floorspace per unit

average life span of buildings,
estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings
New Housing Construction, 2001	1,273,000	329,000	1,602,000
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000
Replacement time:	57.9	80.5	62.5

(national average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.
Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.
Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction,

2001 Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)
http://www.census.gov/construction/starts_completions_cust.xls
See also: <http://www.census.gov/construction/newresconstindex.html>

Existing Housing Stock,

2001 Residential Energy Consumption Survey (RECS) 2001
Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001
Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
Million U.S. Households, 2001
http://www.eia.doe.gov/emeu/recs/recs2001/hc1-4a_housingunits2001.pdf