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Site Planning
Civil Engineering
Land Use Consulting
Project Management

March 31, 2018

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And Environmental Review
35030 SE Douglas St., Ste. 210
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RE: ***Enumclaw Recycle Facility — CPH Project No. 0164-17-001***
City File No. GRDE17-0075
Responses to 2nd Review Comments

Mr. Smith,

This letter and the following enclosed information comprise the re-submittal for the Civil Project Review for the *Enumclaw Recycle Facility* project:

- 4 – Additional copies of this letter
- 6 – A revised site plan (*May 31, 2018*)
- 6 – Landscape Plans (*Cramer Design Consultants, Inc.; May 30, 2018*)
- 4 – BRC Critical Aquifer Recharge Areas Hydrogeologic Report (*SNR Company; March 2018*)
- 4 – Addendum to Critical Aquifer Recharge Areas (*SNR Company; March 2018*)
- 4 – Fire Prevention Plan
- 4 – Traffic Impact Analysis (*Heath & Associates; April 25, 2018*)
- 4 – Wildlife Species Utilization and Available Habitats Assessment (*Habitat Technologies; April 5, 2018*)
- 4 – Environmental Noise Mitigation Report (*SSA Acoustics, LLP; May 31, 2018*)
- 4 – Environmental Noise Mitigation Report response to comments (*SSA Acoustics, LLP; May 30, 2018*)
- 4 – Final Technical Information Report (*May 31, 2018*)
- 4 – Stormwater Pollution Prevention Plan (*May 31, 2018*)
- 4 – Operations and Maintenance Manual (May 22, 2018)
- 10 – A revised Environmental Checklist (*May31, 2018*).
- 1 – Water Availability Letter

These documents have been updated or otherwise prepared in response to the County's comments provided in your February 09, 2018 letter. Specific responses to each of the County staff review comments are as follows:

A. Site Design

1. Drive way locations- The proposed opposite driveways on both sides of the road should be relocated further north to a minimum of 400 feet from the nearest residential property to the site.
Response: The driveway locations are located a minimum of 400 feet measured along Enumclaw-Franklin Rd SE to the nearest residential properties.

2. A minimum 100 feet permanent vegetated setback along the south property line of tax lots 362106-9013 and -9014 should be established and shown on the site plan. No clearing, construction or recycling activities shall be located within the 100-foot setback. The area shall be maintained vegetated. Any noise abatement berm within this area must setback 50 feet from the property line and fully landscaped. Please show the accurate location of the well on the site.
Response: A minimum 100 foot vegetated setback has been established along the south property lines. The area will remain vegetated as this area will be used for dispersion on the east side of the site. The well location has been update to show correctly.

3. Please add a sheet to the plan set showing the site operational plan. This must show the processing location, equipment area and storage for processing, noise berms, parking, and the dust and fire prevention apparatus area. It must also identify driveable surface between stockpiles to meet fire safety requirements (see Fire comments, Section D below).
Response: Sheet C2.00 has been added that shows the processing area, equipment and storage areas, noise berms, parking, and dust prevention. A separate fire prevention plan will be submitted. The exact locations of stockpiles are not known at this time.

4. Landscaping Plan- A landscaping plan shall be prepared to screen the site's activities. The plan must show 20-foot wide Type I landscaping along the Enumclaw –Franklin Road on both sides and along all perimeters of the site except the north and east property lines of tax lot 3621069004 and east property line of tax lot 362106-9013 and the south property line of the same parcel where it falls within the steep slope area. And its associated buffer. The plan must show landscaping around the site entrances. The landscaping plan must show security gates, fences and signs. For Type I landscaping standards, please see KCC21A.16.
Response: A landscaping plan has been prepared and submitted. Type 1 landscaping is shown along Enumclaw-Frankling Rd. and all perimeters except the north and east property lines of tax lot 3621069004 and east property line of tax lot 362106-9013 and the south property line of the same parcel where it falls within the steep slope area. Security gates, fences, and signs are also shown.

5. Environmental Checklist- The environmental checklist must be revised to address the following:
    a. Please include a complete description of the project's operation in Section A.11. This should include, the type of material imported, type of material processed, where and how the unwanted material (metal, concrete, plastic, etc.) will be sorted, stored and disposed of, and how long the unwanted material will stay on the site. Please indicate if mulching will occur on the site. Include the maximum proposed height of the stockpiles. The project description must give a complete description of material brought in, processed, stored and where and how the material will be disposed. The site plan prepared for the site must specifically show the operations of the site and where they are located.
    Response: A complete description of the projects operations has been added.

    b. There are discrepancies in the area calculations for the developed area. Please correct Sections A.11, B.4.d and B.1.g., B.5.d. You may identify the total area cleared and graded for the operation, the total area to remain in permanent protection, area for future expansion (if any), and areas devoted for landscaping, etc. These calculations must match those used in the TIR prepared for the drainage review. Please show phasing if proposed.
    Response: Sections A.11, B.4.d, and B.1.g. and B.5.d have been updated to reflect the correct cleared area calculations.

    c. Please add presence of CARA and WHPA on the site in Section B.3. b and indicated mitigation measures to address impacts.
    Response: A report prepared by SNR Company has been provided with this submittal

addressing the presence and impact to the CARA and WHPA. In addition, oil/water separators will treat runoff from the "paved processing area" and "parking and access" area shown on the plans. Treatment or Low-Permeability liners will be placed under conveyance ditches, presettling ponds, and the sides of the infiltration pond/sand filters.

d. Please list all chemicals typically used for operation and maintenance of equipment, and what measures will be taken to avoid spills or accidental fire. Please also include measures to address any potential hazardous material that may be brought to the site and measures to avoid soil and ground water contamination, both from the material and operation of the site (Section B.7.).
Response: Section B.7 has been updated to address the use of chemicals onsite, measures taken to avoid spills or accidental fires, and measures taken to avoid soil and groundwater contamination.

e. In section B.8, please describe mitigation measures to demonstrate compatibility with surrounding uses, ie., landscaping, dust suppressions, noise control measures, and any site monitoring program.
Response: A landscaping plan has been prepared to ensure compatibility with surrounding areas. A noise mitigation study has been prepared to address noise pollution generated from the site. Dust suppression will be controlled by the use of water trucks.

f. Please use a consistent project name "Enumclaw Recycle" and remove references to Buckley Recycle on all related material.
Response: Enumclaw Recycle has been used for all project names. References to Buckley Recycle have been removed.

g. Please include mitigation for additional truck traffic from the proposed Recycling center. You are encouraged to contact the King County Department of Transportation to identify and prepare a "haul route" agreement
Response: As determined in the Traffic Impact Analysis prepared by Heath and Associates, no mitigation measures are required.

B. Traffic – King County 2016 Road Design and Construction Standards

1. Please include the intersection at SR 169/Enumclaw Franklin Rd SE and SR 1691382nd Street the analysis since the development would have a probable significant adverse impact on the intersection based on vehicular trip thresholds, LOS thresholds, crash history, existing and future turning movements.
Response: See page 2 of the Traffic Impact Analysis for response.

2. Based on the previous comment, a revised TIA may require further analysis of operational impacts on other access connections and intersections, including the SR 169/Enumclaw Franklin Rd SE and SR 169/3 82nd Street intersection. If so, please include an analysis and results from Trafficware Synchro and SimTraffic. Provide average vehicular movement delays and 95th percentile queuing results based on an average of five simulation runs. Include in the results the 95th percentile queue length in order to determine impacts.
Response: See page 2 of the Traffic Impact Analysis for response.

3. Per WSDOT Design Manual 320.10(1), please provide methods and assumptions section. Please explain why the ITE trip generation is not appropriate and provide quantitative evidence. Please provide explanation and quantitative reasoning for why the national Trip Generation Manual data might not be appropriate for this application per the Trip Generation handbook, 3rd Edition,

Section 9.3.
Response: See page 2 of the Traffic Impact Analysis for response.

4. For the provided estimated trip generation, please explain the methods and baseline data used for trip generation and include this in the methods and assumptions section.
Response: See page 2 of the Traffic Impact Analysis for response.

5. Consider collecting more trip generation information from other facilities of similar size in the Puget Sound region and use that data to calculate trip generation values for this specific site. Per the Trip Generation Handbook, 3rd Edition, Section 9.3, trip generation data should be collected at a minimum of three local sites. If only one or two potential data collection sites are available, please couple the data with other local or national data to derive the estimate.
Response: See page 2 of the Traffic Impact Analysis for response.

6. Please provide AM peak data for vehicular trip thresholds, LOS thresholds, crash history, and existing and future turning movements as defined in our Developer Services Manual, Chapter 4, Part 1.
Response: See page 2 of the Traffic Impact Analysis for response.

7. Please provide collision history and safety performance analysis for the affected intersections per WSDOT Design Manual 320.10(1).
Response: See page 2 of the Traffic Impact Analysis for response.

8. Please contact Robert Eichelsdoerfer of the King County Department of Transpiration for discussion of a "Haul Route Agreement".
Response: See page 2 of the Traffic Impact Analysis for response.

C. Engineering and Drainage Review Requirements (KCSWDM)

1. Use the 2016 Surface Water Design Manual (SWDM) for all elements related to the drainage review. For example, use the 2016 Technical Information Report (TIR) Worksheet from 2016 SWDM Reference 8A, instead of the 2009 TIR Worksheet. Include all standard Figures, TIR Sections and Parts, and required elements/information as discussed in Chapter 2 of the 2016 SWDM. For example, revise your TIR Section 4 to include each of the subheadings (Parts A through E) as required by the 2016 manual, and ensure that all required information and discussion elements have been addressed under the appropriate subheading. Read the SWDM in detail to identify specific formatting, procedural, and design criteria requirements that apply to the proposed land use, this particular site, your proposed concept for handling surface water, the TIR, and the drainage/site plans.

   Response: The 2016 Surface Water Design Manual has been used for stormwater design and analysis. The TIR worksheet has been updated to the 2016 version. All figures and sections described in Chapter 2 of the 2016 SWDM have been addressed.

2. The required Site Location map (labeled vicinity map in your TIR submittal) should include more detail on the surrounding significant geographic features and all critical areas. The vicinity map currently only identifies significant roads near the project site.
Response: The site location map has been updated to show more detail including significant geological features and critical areas.

3. Multiple supplemental figures may be used to provide a greater level of detail about the requirements listed for Figure 3, but there should be a Figure 3 in the TIR that includes summary level information for all items listed under the Figure 3 subheading on page 2-9. The existing survey data map included in the report (labeled Figure 3 in the August 2017 submittal) is not sufficient and, between the three plans that are labeled Figures 3 through 6, the required items are not all clearly displayed.
   Response: Additional figures and information have been added to the TIR. The figures provide the required detail as described in the SWDM

4. The drainage plans need to show all critical areas, critical area buffers on or adjacent to the site, including the boundary of the well head protection area and the resultant Category 2 CARA (SWDM page 2-22, delineate and label all within 200 feet of project site per KCC 21A.24). The TIR also needs to discuss the total project site acreage within the CARA to more clearly demonstrate whether the site is subject to Large Project Drainage Review (SWDM page 1-14). The SWDM defines "project site" as "that portion of a site and any offsite areas subject to proposed project activities, alterations; and improvements including those required by this manual. The project site definition is distinct from the SWDM definition of "site." Part 9 of the TIR worksheet needs to be completed.
   Response: The drainage plans show critical areas, buffers, the WHPA, and the CARA. The project does not fall under the "Large Project Drainage Review" as the project site generates is less than 50 acres of impervious surface and the project site is less than 50 acres within a critical aquifer recharge area per Table 1.1.2.A and section 1.1.2.5 the SWDM.

5. The report did not include a soils map that meets the requirements described under the Figure 4 subheading on page 2-9 of the TIR. Update the soils map currently included in the TIR Appendix A, and ensure it addresses all the requirements for the soils map as discussed on page 2-9 and elsewhere in the SWDM, such as including soils information for any offsite areas that drain to the site, soils information for the downstream conveyances as required by the downstream analysis, and providing a more representative map if the Soil Survey maps do not accurately represent the proposed project area (i.e., if field inspections, geotechnical investigations, critical areas studies, infiltration tests, or soil logs contradict the NRCS map, it is the design engineer's responsibility to ensure the actual soil types are accurately mapped).
   Response: The soils map has been updated to meet the requirements of the SWDM. The soils map agrees with the soil logs in the infiltration evaluation report by Earth Solutions NW.

6. Page 9, paragraph 1 - Small Site Review, Type I or Type II, are no longer options under the 2016 SWDM. There are nine core requirements and five special requirements under the 2016 SWDM.
   Response: Reference to Small Site Review has been removed. The nine core requirements and five special requirements have been addressed in the report.

7. Pages 9 and 10- In addition to the core and special requirements of the SWDM, the conditions and requirements summary (Section 2) should include a discussion of critical areas requirements, proposed SEPA mitigations, and any conditions or requirements resulting from previous permits/approvals. Any conditions or requirements that affect the site engineering issues and that need to be addressed on the site improvement plan should be included/summarized in Section 2. Additional detail may need to be included in the summary of what aspects of the core and special requirements apply to this project/site. Please review your summary of applicable requirements and provide additional detail as needed.
   Response: Discussion of critical areas, SEPA mitigations, and any other requirements have been included in the TIR in section 2.

8. Section 3 - The downstream analysis did not extend the required distance (see page

2-11), did not include the required maps, and may not have included sufficient detail in the resource review, field inspection, and system descriptions to evaluate potential problems or determine whether further analysis is needed. See the second paragraph under "Task 1. Study Area Definition and Maps" on SWDM page 2-11. The minimum downstream distance for Task 1 and Task 2 is one mile (extended further if deemed necessary through subsequent research/analysis). The offsite analysis site map needs to show the upstream and downstream study area boundaries and document the downstream flowpath for a minimum distance of one mile. The "Resource Review" should consider all the listed resources for the required distances upstream and downstream from the proposed project discharge location, should document the distance downstream from the proposed project to the nearest critical areas (for example, Bass Lake and is associated wetlands are within one mile downstream of the project site and are not currently mentioned in the Off site Analysis), and should include the required Drainage System Table (see SWDM Reference 8-B).
Response: The downstream analysis has been updated to provide the necessary information required by the SWDM. The downstream analysis has been extended to a minimum of one mile downstream of the project site. Figure 6 in the TIR shows the upstream and downstream study areas and drainage components. The offsite analysis table is provided in Appendix E of the TIR.

9. Provide support for the reasoning behind the assertions in the Drainage System Description that "it is highly unlikely any runoff is generated from upstream areas."
   Response: This statement has been removed.

10. Section 4 -For "Existing Hydrology," none of the included site maps/topographical maps include a full delineation and the acreage of areas contributing runoff to the site. Please provide this information. For example, the delineation/acreage should include any upstream off site areas that are in the same basin as the portions of the property that is to remain forested:
    Response: Figure 3A of the TIR identifies existing conditions and basins that contribute runoff to the existing site.

11. Please use the basin labeling requirements/recommendations described on pages 2-14 and 2-15 for existing and developed site hydrology. Each subbasin contained within or flowing through the site shall be individually labeled, and input parameters for the approved stormwater model should be clearly referenced for each subbasin. There are mismatches in the basin labeling, modeling parameters, and acreage subtotals/totals as shown in the TIR narrative (Table 4.1 through Table 4.4), modeling reports/sizing calculations (computer printouts), and drainage plan sheets (acreage summaries, shown in Figure 5 -Drainage sub-basins). The labeling used within the WWHM modeling reports is confusing and hard to follow because it does not follow the basin labelling recommendations. For example, the portion of Appendix B labeled "Infiltration/Sand Filter Pond: East Basins #2 and #3" includes a "Project Name" and footer that says "West Sand Filter" and re-uses the "Basin 1" name, even though these names do not correspond in any way to the labels on the site plan. Make these basin labels clearer whenever possible. See additional comments below regarding classification of various surfaces as impervious or pervious for the purposes of hydrologic modelling.
    Response: The basin labeling for the existing and developed conditions have been updated. The basin areas in the figures match the basin areas in the WWHM reports and TIR.

12. If there are no provisions to separate potential runoff from the eastern portions of the property from the developed portions of the project site, these areas will need to be included in the basin totals for modelling. The soil types on the NRCS map indicate some portions of the property have till soils. The modelling parameters should reflect the correct soil types. Provide adequate support for the reasoning used in delineating the boundaries of each subbasin.
    Response: A ditch on the east boundary of the project site will collect and convey runoff from upstream

areas east of the project site. A portion of the upstream runoff will be conveyed north and discharge to the shoulder along Enumclaw-Franklin Rd SE and a portion will be conveyed south to the vegetated buffer along the southern boundary of the site. Areas of the project site that contain till soils have been modeled as such in the existing conditions. In the developed conditions the majority of the site that contains till soils will be covered with impervious surfaces. The portions that are to remain pervious have been modeled as till soils.

13. The details for the liners on the combined sand filter ponds need to show that the liners extend all the way up the sides to the maximum WS elevation, and the liners for the sand filtration/infiltration ponds must be redesigned to meet the requirements of SWDM Section 6.2.4.
Response: Liners for the infiltration pond/sand filter and presettling ponds extend to the maximum water surface elevation. Liners for the conveyance ditches extend to the top of the ditch.

14. The sand filter ponds need to be redesigned to meet all the design criteria from the SWDM. For example, some of them are deeper than the maximum depth. The water quality treatment option(s) selected from the Enhanced Basic Water Quality Menu must meet all of the design criteria in the SWDM.
Response: The sand filter ponds have been designed per the SWDM. The sand filter ponds have a maximum 50-year water surface depth of 6 feet. The presettling ponds have a maximum depth of 6 feet. The water quality treatment options have been designed to meet the enhanced basic water quality treatment menu requirements.

15. Provide an explanation for use of 1.5 as the hydraulic conductivity value for the sand filter modelling (see SWDM Section 6.5.2.1 and 6.5.2.2).
Response: The hydraulic conductivity used for modelling has been updated to 0.333 per requirements in the SWDM.

16. Modify/revise the combined infiltration pond/sand filter details to reflect the design criteria on page 6-118. Per the described modifications, the underdrain layer from Figure 6.5.2.A should likely be eliminated. The geotextile with the inch of drain rock above the fabric may be used if appropriate for the design (page 6-113). Provide support for combined facility design specifications, details, and sections that are not taken from the SWDM.
Response: The infiltration pond/sand filter has been designed per section 6.5.2 of the SWDM. The underdrain layer in Figure 6.5.2.A has been eliminated.

17. If infiltration is proposed beneath the filter facility, the native materials shall not be compacted, and imported material shall not be used as the sub base for the pond. Revise the details and plan notes accordingly.
Response: Details and notes have been revised to state that native materials be undisturbed.

18. Revise the facility depths, WS elevations, and top of berm elevations shown on the pond details, sections, and plans to be consistent with the modelling inputs and TIR analysis. Show the calculated depths determined through modelling for each facility rather than typical depths only. For example, the modelled depth for Pond #3 (East Basins #2 and #3), shows as over 10 feet in the WWHM report, when providing 100% infiltration, but on Detail G of Sheet C3 .102, the top of berm is only 9 .23 feet above the filter surface. Ensure these values comply with required design criteria. Verify the elevations on shown on the details/plan view match the elevations shown on the sections.
Response: Facility depths and WS elevations have been updated to match modelling inputs and TIR analysis. The depths shown on the plans are consistent with modelling inputs and analysis.

19. Provide the required fencing for open (uncovered) sand filters. See SWDM p 6-23 and 6-24 for requirements. Show fencing on plans and details.
    Response: Fencing has been added to the design.

20. Check the setback for the Pond #2 maintenance access road.
    Response: No setbacks were found in the SWDM

21. Provide a plan for Pond #3 if needed to show additional detail.
    Response: Ponds 2 and 3 have been combined in the location of pond #3.

22. Special Requirement #4 (Source Control) is not currently discussed in the TIR. This portion of the TIR worksheet needs to be filled out (Part 12), and a discussion of these requirements should be included in Section 4 of the TIR. Performance Standards (TIR Section 4, Part C) has been omitted from the TIR. The TIR must include all of the required elements as discussed in SWDM Section 2.3.1.1.
    Response: Discussions for Special Requirement #4 have been included. Part 12 of the TIR worksheet has been filled out. Part C of Section 4 has been included in the TIR.

23. Special Requirement #4 - The drainage plan must include appropriate BMPs from the Stormwater Pollution Prevention Manual. Any applicable structural BMPs must be shown on site plan and discussed in the TIR. It is recommended that the TIR also include a discussion of relevant nonstructural BMPs that would apply to the proposed activities and use of the site. For example, Sheets A-1, A-4, and A-44 apply to the proposed activities. Sheet A-41 may also apply to this site (Wheel Wash and Tire Bath Track Out Control). Other potentially applicable activities include fueling of equipment and vehicles, storage of liquid materials, and washing of cars, trucks and equipment (not just commercial car washes). If the DPER grading permit conditions do not adequately protect surface and groundwater, additional BMPs will be required under KCC 9.12 Water Quality. KCC 9.12.035.A. states, "Compliance with this chapter shall be achieved through the use of the BMPs described in the Storm Water Pollution Prevention Manual. In applying the Stormwater Pollution Prevention Manual, the director shall first require the implementation of source control BMPs. If these are not sufficient to prevent contaminants from entering surface water, stormwater or groundwater, the director may require implementation of treatment BMPs as set forth in AKART".
    Response: Structural and non-structural BMP's are called out on sheet C2.00 and discussed in the TIR. Further discussing of the BMP's are provided in the CSWPPP.

24. The site plans for the long term operation do not include the structural source control BMPs as DPER staff indicated would be required (during the 2016 pre-app meeting). Certain types of structural source control elements included on the temporary erosion and sediment control plans (for the construction phase of the project) may also be required as part of the permanent drainage plan. The TIR needs to include a discussion of the anticipated composition of the materials to be collected and how the operation will handle the materials to ensure that they comply with any limitations on material content. The source control discussion should also address on-site water for dust control and other processing needs.
    Response: Structural and non-structural BMP's are called out on sheet C2.00 and discussed in the TIR. Further discussing of the BMP's are provided in the CSWPPP.

25. Special Requirement #5 - Oil Control; due to the number of diesel vehicles/trucks expected to be onsite as part of the site's routine, daily operations, the site is considered a high-use site. Please address this.

Response: Oil/water separators are proposed to serve the "paved processing area" and "parking and access" area. Discussion is provided in Section 4 of the TIR.

26. The TIR needs to provide a more detailed discussion of how the "Recycle Process Water" as will be handled, reused/recirculated, and whether the process water can be handled by the combined sand filter infiltration pond without impacts to water quality in situations where the process water sump discharges to the western Pond # 1. This discussion may be related to both the water quality core requirement and the source control special requirement, as required in Parts C and E of TIR Section 4.
Response: A more detailed discussion of the Recycled Process Water can be found under "Developed Site Hydrology" in Section 4 of the TIR.

27. The geotechnical and hydrologic evaluation and report needs to specifically state whether the proposed facility/pond locations are suitable for infiltration (the required written opinion of a geotechnical professional). SWDM Section 5.2.1, page 5-44, states "The geotechnical professional shall provide a report stating whether the location is suitable for the proposed infiltration facility, and shall recommend a design infiltration rate." The geologist's February 2, 2017 letter does not provide a recommendation regarding the suitability of the proposed infiltration locations.
Response: A new and updated geotechnical evaluation has been prepared by Earth Solutions NW. The letter states that infiltration ponds are feasible in this area. The report states that an infiltration rate of 600 inches per hour was calculated using the appropriate correction factors. This letter is provided with the TIR.

28. The infiltration rate test methods presented in the February 2, 2017 letter from Leroy Surveyors and Engineers were not prepared using the preferred or alternate infiltration rate test methods described in the SWDM, and do not meet the SWDM site/soil investigation requirements (SWDM Chapter 5, SWDM Appendix C, SWDM Reference 6-A). Even though the filtration rate through the sand filters will be much slower than the assumed infiltration rates for the facility locations, the soils information/geotechnical report still needs to document that the design infiltration rates assumed for the infiltration occurring beneath the sand filter at least meet or exceed the filtration rates for sand filters. The 60 inch/hour application rate presented in the letter does not reflect the variability throughout the site, does not include a factor of safety, and exceeds the maximum design infiltration rate allowed under by the SWDM. Also, the soils logs need to extend at least 5 feet below the proposed bottom of the infiltration facilities, and the report needs to address the depth to water table.
Response: The new geotechnical evaluation was performed using methods described in the SWDM. The recommended design infiltration rate follows the steps described in the SWDM. The soil logs extend a minimum 5 feet below the bottom of the infiltration facilities.

29. Core Requirement #8 - Water Quality; the Enhanced Basic Water Quality Menu is required for design of the water quality facilities.:
    a. Per SWDM Section 6.1.2, Enhanced Basic Option 1 allows for a large sand filter with pre-settling prior to sand filtration. Pre-settling can be provided by a pre-settling pond/vault, a detention facility sized to meet the Level 2 flow control standard, or certain water quality facilities from the Basic WQ Menu (such as a bioswale) as described in Section 6.5.1. However, the required pre-settling cell or upstream WQ facility used for pre-settling must be lined per the requirements in Section 6.2.4.
    Response: Presettling ponds will be provided upstream of the infiltration pond/sand filters. The ponds will be lined per requirements in Section 6.2.4 of the SWDM.

    b. Alternatively, per SWDM Section 6.1.2, Enhanced Basic Option 3 allows for a two-facility treatment train, which allows for a bioswale, as a basic WQ facility, paired with a basic

sand filter, as the second WQ facility. However, per Section 6.2.4, both water quality facilities will require liners for groundwater protection, and if the bioswale is designed as a wet bioswale, then, a low-permeability liner may be required to ensure wet conditions.
Response: Presettling ponds and infiltration ponds/large sand filters will provide water quality for the project site. Both ponds will be liner per requirements in Section 6.2.4.

c. Please see additional comments below (in conveyance discussion) regarding the analysis for use and design of the bioswales for both conveyance and water quality.
Response: Noted.

30. Metal roofs that are not treated to prevent leaching are considered pollution-generating, as are roofs that are subject to venting significant amounts of dusts, mists, or fumes. Please provide clarification on whether the roof surfaces proposed for full dispersion meet the NPGIS requirements (SWDM definitions and Reference 11-E).
Response: Clarification on NPGIS requirements regarding metal roofs will be provided during the building permit stage.

31. Page 13, Developed Site Hydrology states, "Site improvements will be completed in accordance with county road standards as conditions with the preliminary plat approval." Please revise this note to reflect the permitting process for this project, and update the analysis in the TIR to reflect any changes to site layout or impervious surfaces necessary. Any conditions or requirements imposed on this project that affect site engineering and drainage design should be noted in TIR Section 2.
Response: Discussion of conditions and requirements is provided in Section 2 of the TIR.

32. Section 5 - Conveyance System Analysis and Design; all of the conveyances and WQ facilities (such as the bio swales) need to be lined in accordance with SWDM Section 6.2.4 (treatment liners) and SWDM 1.2.4.3.H. The bio swale longitudinal slopes as currently described are shallow enough that they may need to be designed wet bio swales, in which case they may need low permeability liners in place of the treatment liners (However, wet bio swales are generally not recommended in these types of outwash soils).
Response: All conveyance, flow control, and water quality facilities have been designed with a liner per section 6.2.4 of the SWDM. Sheets C3.02 and C3.100.

33. Please include the minimum information required for Section 5 of the TIR (see SWDM page 2-16) and to demonstrate compliance with Core Requirement #4. If computer printouts are used to display the final design results, the narrative portion of the TIR in Section 5 should also provide a separate summary tabulation of conveyance system performance.
Response: Minimum information for Section 5 has been provided. Computer printouts of the WWHM reports are provided in Appendix B of the TIR. Section 5 includes summary level information for the conveyance system.

34. Verify the calculations, equations, and values used for design of the bioswales (Appendix C of the submittal). Since Section 5 of the TIR states that the bioswales used as a conveyance system were analyzed to contain the 100-year storm event; the calculations need to show that the proposed bioswale sections both have sufficient capacity at the indicated peak flow rates and also do not exceed the WQ criteria for depth (maximum = 4" = 0.33 ft), width (maximum = 10 feet), and velocity (maximum =1 fps) at the required WQ design flow rates for an online facility. Some of the current swale designs do not meet the required criteria. Ensure that the swale lengths, contributing areas, and supporting calculations are updated to reflect any reconfiguration of the site plan required in response to other comments, requests, and recommendations included in this letter. Ensure that the design parameters reflected in the modeling and sizing calculations match

what is shown on the plan sheets, sections, and details. See SWDM sections 6.3.1 and 6.3.2; pages 5 and 6 of Reference 8-C provide a summary of design criteria and factors that influence bio swale sizing.
Response: The bioswales have been eliminated from the design. Ditches will provide conveyance to the presettling ponds and infiltration pons/sand filters. Ditch flow calculations are provided in Appendix C of the TIR.

35. The TIR narrative states that an overflow structure and emergency spillway have been designed to pass the I 00-year, l-minute developed peak flow as required in Section 5 .1.1.1, but the calculations for these features are not included in TIR Section 4, TIR Section 5, or the computer data printouts in the TIR Appendices. The drainage plan sheets and details do not include designs or specifications for the mentioned overflow and emergency features. Please add the necessary information (see also SWDM Section 5.2.1, SWDM Section 1.2.4, Figure 5.2.2.A, Figure 5.1.1.B for more information.
Response: Emergency spillway details are provided with the civil engineering plans. Flow calculations are provided in Appendix C of the TIR.

36. Section 6 -Please see comments above regarding the Soil and Infiltration Letter.
Response: Noted and addressed.

37. Section 7 -Please note any permit requirements related to the NPDES General Construction Stormwater Permit that you anticipate would affect the drainage plan. Please note requirements of the Seattle/King County Department of Public Health approvals that you anticipate would affect the drainage plan.
Response: There are no conditions or requirements resulting from previous permits/approvals.

38. Section 8 -The information in this section should be presented in two parts associated with the CSWPP plan's two component plans, the erosion sediment control plan (Part A) and the stormwater pollution prevention and spill control (SWPPS) plan (Part B). See SWDM page 2-17 to 2 -18 and Sections 2.3.l.3 and 2.3.1.4 for plan specifications and contents. This CSWPP plan is intended to be equivalent to and may be more stringent than that required for the NPDES permit issued by Ecology. You may need to update the narrative to be more specific or detailed (Also see Core Requirement #5). Ensure all the required general specifications and measure-specific information discussed in the 2016 are provided in the narrative or on the ESC plan sheets. Please add the required SWPPS Plan (See 2016 SWDM Appendix D). Please remove references to the "City of Renton Engineer" from the ESC narrative. Update the statement about "Sensitive Area Restrictions" to address Critical Areas present on the site, such as the CARA and steep slopes.
Response: A stand-alone CSWPPP is provided with this submittal.

39. If construction is being phased, the CSWPP plan should reflect the proposal for phasing.
Response: Construction is not to be phased.

40. Section 9 -This needs to be included in the next submittal. See SWDM page 2-18 for details (Core Requirement #7).
Response: Items in Section 9 of the TIR are included with this submittal.

41. Section 10 -This needs to be included in the next submittal. See SWDM page 2-19 and Core Requirements #6 and #7.
Response: An O&M manual has been provided with this submittal.

42. Additional notes on Modelling, TIR Appendices, Plan Sheets, and Drainage Details - The pond/facility surfaces should be modelled as impervious surfaces, and the "precipitation applied" and "evaporation applied" options for the facilities turned off in WWHM (see SWDM page 3-25 and WWHM user guidance for details). Berms, maintenance access roads, and lined swales should not be included in the design pervious surface area for modelling. See the SWDM definition of impervious surface for clarification on which surfaces are impervious for the purposes of applying impervious surface thresholds and exemptions and which shall be modelled as impervious surfaces. Surfaces defined as impervious for the purposes of zoning are sometimes different from those that must be considered impervious for the purposes of drainage review.
Response: Ponds, access, roads, and facilities lined to the maximum water surface elevation are modeled as impervious. The "precipitation applied" and "evaporation applied" are turned off.

43. WWHM guidance recommends that the connection to groundwater generally be turned off unless additional documentation is provided as part of the hydrologic analysis (see WWHM 2012 User Manual, page 12).
Response: Connection to ground water is turned off.

44. Include the electronic files from the model run(s) for permit review (see Reference 6-D).
Response: Electronic files are included with this submittal.

45. Regarding Core Requirement #9-Flow Control BMPs, according to SWDM Section 1.2.9 .1, any impervious surface served by an infiltration facility designed in accordance with the flow control facility requirement, facility implementation requirements, and design criteria for infiltration facilities (Section 1.2.3 .1, Section 1.2.3.2, and Section 5.2) is exempt from the flow control BMPs requirement. Therefore, if the roof surfaces are being fully dispersed in a way that meets SWDM requirements, they do not need to be included as impervious surfaces in the modeling for the flow control facilities. fully dispersed, surfaces can be modelled as forest for the purposes of modelling for facility sizing to demonstrate compliance with Core Requirements #3 and #8 (Table 1.2.9.A; see also page 3-40 for differences between modelling for flow control based on facility performance and modelling to demonstrate compliance with the LID Performance standard).
Response: Roofs being fully dispersed are modeled as forest.

46. For use of the full dispersion BMP from roof surfaces, the plan must show a Native Vegetated Flow Path with a length of 200 feet for a 50-foot gravel trench handling up to 10,000 sf impervious surface and a length of 100 feet for a 50-foot gravel trench handling up to 5,000 sf impervious surface.
Response: Native vegetated flow paths are designated downstream of all dispersion trenches.

47. Show the flowpath for the dispersion devices. There must be at least 50' separation between each native vegetated flowpath segment (NVFS), measured at the bottom of the shorter flowpath segment. The flowpaths for the dispersion trenches must be set back 100 feet from downstream septic tanks and drainfields and 30 feet from septic tanks/drainfields that are located "alongside" the flowpath. Show the approved location of the septic tanks on the site plan. The trench itself must be set back 100 feet from all wells.
Response: The flowpaths for the dispersion trenches are shown. The flowpaths lengths and separation distances are consistent with requirements in the SWDM.

48. See the full dispersion minimum design requirements in 2016 SWDM Section C.2.1.1, and see the design specifications in Section C.2.1.5 and C.2.1.7 for details specific to the proposed 50-foot gravel dispersion trenches.
Response: Noted.

49. Trenches must be placed as parallel as possible to the contour of the ground and in outwash soils. The 50-foot dispersion trenches require the notched board detail (see Figure C.2.1.D). This requirement applies to any trenches over 10 feet in length.
Response: Trenches have been placed parallel to the ground contours. Notched board dispersion trench details are called and shown on the plans.

50. In outwash soils, a treatment liner to protect groundwater quality per Section 6.2.4 must be provided underneath the dispersion trench.
Response: A treatment liner has been called out and shown on the dispersion trench detail.

51. For use of full dispersion, minimum required area of native vegetated surface must be delineated and permanently preserved on the site. See 2016 SWDM Section C.2.1.1.1 and C.2.1.2 for requirements regarding the native growth retention area.
Response: This area has been delineated on the plans. A sample covenant for clearing limits has been provided with the TIR.

52. The hatching on the site plans for the undisturbed native vegetation area shown on the site plan should extend into the 50 ft buffer for the steep slope instead of ending at the toe of the slope. No removal of vegetation can occur within the steep slope buffer, unless appropriately permitted and for a) the removal of hazard trees or b) removal of vegetation as necessary for surveying or testing purposes.
Response: The hatching for the undisturbed native vegetation has been adjusted to extend into the 50-ft buffer.

53. The site plan needs to show the location of the septic tanks in addition to depicting the primary and reserve septic fields.
Response: The site plans have been updated to show the correct locations of the septic tanks and drainfields.

54. There needs to be consistency between the actual location of well, the location of the well as shown on site plans submitted to DPER, and the location of the well as shown on septic approval and described in the well approval letter from the health department. The plans submitted to the health department for approval of the septic design do not accurately show location of the proposed septic design relative to the locations of the well and proposed buildings and downspout direction, and the area labeled SEPTIC and RESERVE on the DPER site plans, and in Figures 4 and 5 of the TIR, isn't in the same location shown on the system plans/site design application approved by Public Health. Address these inconsistencies and provide site plans to DPER that are consistent with final health department approvals. Note: The assumed depth to watertable/restrictive layer shown on the septic system application form also does not match assertions made in the TIR and geotechnical information, but that 60- inch value may have been assigned to reflect conservative design assumptions for the purposes of septic design.
Response: The site plans have been updated to show the correct locations of the septic tanks, drainfields, and well. The 60 inches to water table used in the septic design was used as a conservative number at the time of the application. The actual depth was not known at the time. The infiltration evaluation report from Earth Solutions NW states that groundwater was not observed at the test pit locations.

55. Correct the scale indicators that are mislabeled on Sheets 1 and 5 of the full size plan set and Figure 4 in the TIR.
Response: The scale indicators have been updated.

56. Why is the silt fence on page 6 of 15 perpendicular to the contours?
Response: The silt fence is perpendicular to contours because the project site boundary is perpendicular the contours at that location.

57. Please clarify why the berm on parcel 3621069014 is described as a stockpile.
Response: The berm has been updated to read " sound berm".

58. Verify that proposed contours tie in to existing contours appropriately.
Response: Proposed contours tie into existing contours properly.

59. Include all parcel numbers on the project information section of Sheet 2 of 15 (C0.01). It currently only lists one of the three parcels.
Response: All parcel numbers have been added to sheet C0.01.

60. Is the existing fence from the surveyor's note #7/note #8 shown on the plans? If this issue is not currently resolved, does it affect the site layout at all?
Response: The existing fence from the surveyor's notes 7 and 8 is not shown on the plans as it will not affect the site layout in any way.

61. Comply with the formatting and content requirements discussed SWDM Chapter 2 and any other DPER requirements for site plans.
Response: The plans and TIR comply with the formatting and content requirements in the SWDM.

62. Please include the revision #/date on the first two sheets of the plan set as well.
Response: The revision date has been added to the first two sheets of the plan set.

63. The sheet with survey data, legal description, boundary survey, etc. needs to be stamped by the licensed land surveyor instead of the civil engineer.
Response: Stamped survey sheets have been added to the plans.

64. Correct the numbering on the standard plan notes (Sheet C0.03).
Response: The numbering on the standard plan notes has been updated.

65. Some of the notes on standardized notes Sheet C0.01 seem to be out-of-date or from other jurisdictions.
Response: The notes on sheet C0.01 have been updated.

66. Remove references to Snohomish County on the plan sheet template.
Response: Reference to Snohomish County has been removed.

67. The smallest font size for any details or elements of the TIR that need to be recorded is 8-pt. Recordable documents must be on either 8 ½" x 11" or 8 ½ x 14" paper with at least I-inch margins. Generally, use of text smaller than 8-pt, even on documents that will not be recorded, is discouraged (such as the text used for the parcel numbers on the survey sheets) because it is difficult for inspectors in the field to read text smaller than that, it doesn't copy well, etc.
Response: Font size has been updated.

68. Clarification, corrections, revisions, and supplemental information provided in response to these drainage review comments should be consistent with information provided in other revised documents and in response to review comments from other disciplines (for example, details discussed in the updated Environmental Checklist, in response to fire safety requirements, revised traffic analyses, etc.).
Response: Noted.

D. Fire Code and Safety

1. There shall be a minimum of 20-foot wide drivable surfaces accessing material stockpiles for emergency access. Piles shall not exceed 25 feet (7620 mm) in height, 150 feet (45 720 mm) in width and 250 feet (76 200 mm) in length. To the extent possible, show stockpiles locations and the drivable access to and in between them. Piles shall be separated from adjacent piles by approved fire apparatus access roads. Fire apparatus access roads around the piles and access roads to the top of the piles shall be established, identified and maintained during the operation.
Response: The general locations of the stockpiles have been called out on sheet C2.00. The exact locations of the stockpiles is not known at this time. 20-foot wide drivable surfaces will be provided between stockpiles.

2. Please show on the site plan the location of storage for any potentially inflammable material used for site operation. This includes any fuel and oil products for use in machinery and operation of equipment. Design and arrangement of storage yard areas and related materials and handling equipment shall be based upon sound fire prevention and protection principles.
Response: The storage locations of potentially inflammable materials have been called out on sheet C2.00.

3. A Fire Prevention Plan must be prepared to show fire safety measures to prevent incidents of fire as well as measures during fire emergencies. The plan shall include means for early fire detection and reporting to the public fire department, facilities needed by the fire department for fire extinguishment including water supply and fire hydrants. Regular yard inspections by trained personnel must be included as part of an effective fire prevention maintenance program. As part of the Fire Prevention Plan, the owner or operator of the site must develop a plan for monitoring, controlling and extinguishing spot fires and submit the plan to the fire code official for review and approval.
Response: A fire prevention plan has been provided with this submittal.

E. Water Services

1. A letter from the Enumclaw Water District stating that a public water source is not available at the site and extension of a public water line at this time is not feasible.
Response: A Letter from the City of Enumclaw stating public water source is not available and extension of the public water line is not feasible has been provided with this submittal.

2. Provide information regarding additional water sources on-site to address any future fire hazards. This information should be included in the revised Environmental Checklist (ECL) as a mitigation option under B.2 and B.7a.5.
Response: A 225,000 gallon pond will have a fire pump piped to a fire extinguisher to draft water from the pond for fire department access in the case of a fire emergency.

F. Ground Water

1. The site for the proposed facility is located within a Critical Aquifer Recharge Area (CARA) Category II which covers over 60% of the developed area. Additionally, the development site is partially within the Wellhead Protection Area (WHP A). The proposed development area partially overlaps the WHPA for the Remolif Water system to the south. Please indicate measures to reduce impacts to both CARA and WHPA. There are specific standards prescribed in the KCSWDM to address potential impacts from industrial uses within CARA and WHP A. The proposal should incorporate these measures. Please see Section C above.
   Response: A report prepared by SNR Company has been provided with this submittal addressing the presence and impact to the CARA and WHPA. In addition, oil/water separators will treat runoff from the "paved processing area" and "parking and access" area shown on the plans. Treatment or Low-Permeability liners will be placed under conveyance ditches, presettling ponds, and the sides of the infiltration pond/sand filters.

G. Noise

As a result of our review of the submitted Noise Impact Report and Noise Mitigation Report, we recommend that DPER request an updated report from the Applicant, providing the following:

1. Additional refinements in the calculation of acoustical effects of ground cover and foliage.
   Response: Please see responses listed in SSA Acoustic, LLP's response to King County comments included in this submittal.

2. Additional refinements in the calculation of shielding effects from the proposed berms and an evaluation of berms located nearer to the east property line
   Response: Please see responses listed in SSA Acoustic, LLP's response to King County comments included in this submittal.

3. Comments regarding the increases in truck traffic on SR-169 and Enumclaw-Franklin Road as predicted by the project Traffic Impact Analysis and whether the increases are expected to produce substantial increases according to WSDOT impact criteria. Noise from traffic on public roads is not subject to the noise limits of KCC 12.86; however, it is relevant as a potential SEP A impact.
   Response: Please see responses listed in SSA Acoustic, LLP's response to King County comments included in this submittal.

4. Corrections to the presentation and application of noise criteria.
   Response: Please see responses listed in SSA Acoustic, LLP's response to King County comments included in this submittal.

H. Wildlife

2. In order to address citizen concerns regarding wildlife and wildlife habitat, DPER requests a wildlife study be performed during breeding and nesting season to identify endangered, threatened or sensitive species, and winter and summer migratory species (Bird Breeding atlas) on or adjacent to the development site. This report shall evaluate impacts to these species and their habitat due to the propose development. The report is to be prepared by professional ecologist with wildlife expertise. DPER will review the report and may condition the development to alleviate significant adverse impacts.

Response: A wildlife study has been prepared by Habitat Technologies and is included with this submittal.

Please contact me directly at (425) 484-0949 or by e-mail at bryce@cphconsultants.com if you have questions or need any additional information to complete your review and approval of the project. Your prompt response is appreciated. Thank you.

Sincerely,
CPH Consultants

Bryce Bessette

Bryce Bessette, PE
Project Engineer

Enclosures
Cc: copy to file