



June 9, 2016

Ms. Lara Thomas, Planning Director
Mr. Troy Davis, Senior Planner
City of Duvall
P.O. Box 1300
Duvall, Washington 98019

Subject: Review of the Revised Sensitive Areas Study and Mitigation Plan, Site Concept, Draft TIR Addendum, and Wetland Hydrology Analysis for the Rio Vista Development

Dear Lara:

Environmental Science Associates (ESA) reviewed the revised Sensitive Area Study (SAS) and Mitigation Plan (Wetland Resources, Inc. [WRI], April 11, 2016; hereafter referred to as the *April 2016 Mitigation Plan*); Preliminary Technical Information Report (TIR) (Landscape Development Advisors [LDA], April 2015), Addendum to the Preliminary TIR (LDA, May 2016); and Wetland Hydrology Analysis letter (Ed McCarthy, P.E., PS, February 2016) submitted to the City for the Rio Vista Development Project. The development project is located to the northwest and southwest of the NE 143rd Place and 272nd Place NE intersection in Duvall, Washington. ESA has previously reviewed submittal materials for the project, most recently in our August 7, 2015 letter. The purpose of our review is to assess accuracy and compliance with the wetland allowances and mitigation provisions of DMC 14.42 (Sensitive Areas Regulations).

This letter focuses on the applicant’s response to recommendations from our August 2015 review letter, which assessed project impacts and proposed mitigation as presented in the July 2015 Conceptual Mitigation Plan. The applicant addressed many of ESA’s suggestions and provided details in the April 2016 Mitigation Plan that clarify design elements and provide compliance with DMC 14.42 standards. However, we did identify some remaining issues with the SAS and Mitigation Plan. A summary of previous review recommendations, consideration of updates within the April 2016 Mitigation Plan, and elements that still need to be addressed are discussed below (Table 1). In addition, pertinent comments related to maintenance of wetland hydrology, based on our review of the TIR Addendum and the Wetland Hydrology Analysis letter, are addressed following Table 1.

Table 1. Summary of ESA’s August 2015 Recommendations and Review of the April 2016 Mitigation Plan

ESA’s August 2015 Recommendations	Review of April 2016 Mitigation Plan (and Additional Recommendations, as Necessary)
Discuss WRI’s 2013 field work, including documentation of groundwater monitoring that was completed within Wetland A.	WRI’s field work completed in 2013 is discussed and groundwater monitoring data is attached as an appendix.



Re-examine wetland rating forms completed for Wetlands A and B to be consistent with comments made in ESA's October 2013 letter.	Rating forms for both wetlands were re-examined and changed to be consistent with comments from ESA's 2013 letter.
Consider implications for wetland classification of Wetland B from Category III to Category II, including allowed buffer reduction. Ensure that buffer widths for Wetland B are consistent between text and plan sheets.	Implications of Wetland B classification change (to Category II), and the 25% buffer reduction proposed is consistent with DMC 14.42.210(C). Text and plan sheets updated to consistently show the reduced Wetland B buffer.
Investigate the possibility of relocating the dispersion trenches away from Wetland A's boundary. Consider placement of two dispersion trenches on the east side of Wetland A.	Discussion is provided in the text that justifies locating dispersion trenches near Wetland A's boundary and not relocating elsewhere. An additional dispersion trench is now proposed along the southeastern border of Wetland A. This dispersion trench is evaluated along with proposed northeastern and northwestern dispersion trenches within the Wetland Hydrology Analysis, which supports these discharge locations to ensure that Wetland A hydrology is maintained.
Update the SAS and Mitigation Plan to document and characterize impacts of the existing ditch and stormwater pipes within Wetland A, as well as impacts to wetland functions and drainage issues on adjacent properties. Document and evaluate restoration opportunity associated with existing stormwater ditches/conveyances within Wetland A, as mapped on project plans.	Impacts of the existing ditches/conveyances within Wetland A are documented and characterized in the Wetland Hydrology Analysis, which indicates the primary bisecting ditch collects and conveys "excess surface water from the wetland to its outlet to the north" (McCarthy, 2016). Existing wetland ditches are briefly discussed in the April 2016 Mitigation Plan, which states that "the applicant does not propose to fill or plug these ditches as part of the proposed project". Impairment resulting from existing ditches and restoration opportunities should be further identified and discussed in the SAS and CMP. The Wetland Hydrology Analysis should also be referenced in the SAS and CMP.
Account for the permanent buffer impact associated with the dispersion trenches and provide appropriate wetland and/or buffer mitigation	A section is provided in the updated text that accounts for the permanent buffer impacts (1,800 square feet) of Wetland A, and provides buffer mitigation consistent with DMC 14.42.240 (B).
Reduce the width of the trail to 4 feet and increase the associated buffer by 4 feet or more, as needed, to account for disturbance around Wetland A	Updated text and plan sheets indicate that the width of the trail has been reduced to 4 feet. Plan sheets also indicate some areas where the buffer has been increased by 4 feet or more. Based on updates provided, we agree that the planned trail is consistent with allowances provided in DMC 14.42.220.



<p>Investigate the feasibility of discharging clean stormwater to dispersion trenches, bioswales, or other east of and adjacent to Wetland B.</p>	<p>Updated text briefly mentions that it is not feasible to discharge stormwater into the buffer of Wetland B, but does not provide an explanation (page 2 of the April 2016 Mitigation Plan). Based on our review of site conditions and topography, we presume that infeasibility is due to site topography, which generally slopes to the north between NE 142nd Court and NE 143rd Place, and constraints of the proposed stormwater conveyance and treatment plan.</p> <p>We recommend that a brief explanation be provided in updated materials explaining why it is not feasible to discharge stormwater to the Wetland B buffer. Consideration of opportunity to direct runoff from non-pollution generating surfaces (roofs and sidewalks) should also be considered, especially for areas within and around lots 1 – 5 and 9.</p>
<p>Re-assess line item calculations use to calculate the performance bond.</p>	<p>The updated bond quantity estimate provided on page 20 of the April 2016 Mitigation Plan addresses comments from our August 6, 2015 review letter. The updated bond quantity provides an estimate consistent with the performance assurance requirements of DMC 14.42.130.D.</p>

Addendum to the Preliminary TIR Review – Considerations for Wetland A Hydrology

The TIR Addendum provides revisions to Section 2¹ of the April 2015 Preliminary TIR that support directing additional onsite developed flows westerly along NE 143rd Place instead of northerly through Wetland A to an existing off-site ditch. Based on LDA’s calculations, it was determined that the existing ditch to the north did not have the capacity to accommodate new onsite flows from the project and had to be enlarged. However, the property owner bordering the north portion of the site has not agreed to allow work enlarging the ditch. Therefore, as an alternative the Addendum determined that onsite developed flows may be routed to the existing ditch along the north side of NE 143rd Place, a change to the natural discharge point for the portion of the project site to the north of NE 143rd Place. The TIR Addendum also states that a portion of treated and detained stormwater flows will be discharged to the Wetland A buffer, maintaining flow that supports wetland hydrology, functions, and values. The TIR Addendum states that the flow amount diverted to the wetland is described in the Wetland Hydrology Assessment letter.

The Wetland Hydrology Assessment letter models predeveloped (existing) and developed runoff quantities to Wetland A using King County’s KCRTS model. Based on results of this modeling, the letter details that while the proposed development is anticipated to “change the distribution and volumes

¹ Conditions and Requirements Summary - Core Requirement #1: Discharge at the Natural Location



of runoff to the wetland”, the stormwater management approach and discharges to the northeastern, northwestern, and southern edges of the on-site wetland buffer (along with runoff from non-pollution generating areas, and precipitation) “will be adequate to support the wetland’s hydrology”.

We recommend that the final TIR (submitted during construction drawing review) be required to address any downstream drainage issues or required improvements, and comply with wetland recharge parameters described in the February 8, 2016 Wetland Hydrology Analysis. If a portion of the runoff area (subbasin) that currently drains through Wetland A and to the north is diverted west along 143rd Place NE as a result of development, reduced volumes discharged to the Wetland A buffer must still be adequate to maintain wetland hydrology. We recommend that alteration to existing drainage ditches within Wetland A be considered as an additional strategy to restore wetland hydrologic conditions and functions (as occurred due to past alteration).

After integration of the final recommendations detailed above (regarding additional documentation and consideration of restoration opportunity provided by existing drainage ditches within Wetland A, additional consideration of opportunity to direct clean runoff to the outer portions of the Wetland B buffer, and compliance with wetland recharge parameters for Wetland A), we believe that the mitigation approach provided in April 2016 Mitigation Plan will compensate for wetland impacts consistent with DMC 14.42 requirements.

If you have any questions about recommendations provided in this memorandum, please contact us at (206) 789-9658.

Sincerely,
ESA

A handwritten signature in blue ink, appearing to read 'A. Booy', is written over a light blue horizontal line.

Aaron Booy
Natural Resources Specialist