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M E M O R A N D U M

DATE: July 17, 2019

TO: Mr. Matt Echelbarger
Mr. David Harmsen – Harmsen & Associates, Inc.

FROM: Khaled M. Shawish, PE

RE: Provisional Design Infiltration Rate
10th Street Apartments Development
1101 – 10th Street
Snohomish, Washington
NGA File No. 1032718



This memorandum documents our prior email correspondence regarding provisional design infiltration rates for the on-site soils at the future 10th Street Apartments Development project in Snohomish, Washington.

We previously provided a preliminary geotechnical report for the project dated May 1, 2018. Subsurface explorations encountered unsaturated recessional outwash soils to depths of up to 8.0 feet below a surficial layer of undocumented fill. At the time the report was prepared, no specific infiltration testing was completed. We concluded that traditional infiltration is feasible within the native, on-site soils at depth. Based on our knowledge of the materials and site constraints, we recommended a long-term design infiltration rate of 4.0 inches per hour be utilized for preliminary design of stormwater management systems on-site. This rate should be verified prior to system installation in accordance with the 2012 State Department of Ecology Stormwater Management Manual for Western Washington, as amended in 2014 (2014 SWMMWW), and adopted by the City of Snohomish in Snohomish Municipal Code (SMC) Section 15.16.020. According to this manual, we understand that long-term design infiltration rates for this site are to be determined by performing laboratory grain size analyses for material which is un-glacially consolidated, such as the recessional outwash encountered within this site.

We trust that this memorandum should satisfy your needs at this time. Please do not hesitate to contact us should you require anything further.