APPENDIX

L MITIGATION OPTIONS

MEMO

TO: Slate Asset Management L.P.

FROM: WSP Canada Inc.

SUBJECT: **Mitigation Recommendations, Clarkson Transit Station Area**

DATE: **August 26, 2022, revised February 15, 2023**

Based on the WSP Air Study, mitigation is not required at the proposed development; however, mitigation recommendations have been included to improve indoor air quality. This memorandum outlines mitigation recommendations to improve indoor air quality based on the results of two WSP Canada Inc. (WSP) reports:

— Clarkson Transit Station Area Air Quality Study, Monitoring and Dispersion Modelling Report, January 23, 2023 (WSP Air Study); and,

— Human Health Assessment, Clarkson Transit Station Area (TSA) Study, December 9, 2022 (WSP Health Assessment)

The focus of this mitigation memo is to examine the potential for future building construction with appropriate HVAC and air filtration systems to reduce ingress of chemicals of concern into indoor air. Mitigation could be accomplished by adjusting where intake air is drawn into the suites. The modelling completed as part of the WSP Air Quality Study examined concentrations at receptors at various heights at the property boundary. Predicting the concentrations at receptors at the property line at various heights is conservative since the contaminants of concern (COCs) are traffic-related air pollution (TRAP):

— Particulate matter less than 10 µm (PM_{10});
— Particulate matter less than 2.5 µm ($PM_{2.5}$);
— Oxides of Nitrogen (NO_X);
— Acrolein;
— Benzene; and,
— Benzo(a)pyrene [B(a)P].

Table 1 attached displays the model results for the primary contaminants of concern (COCs) listed above and the equivalent time-weighted average Ambient Air Quality Criteria (AAQC). None of the predicted model concentrations result in a value that is elevated compared to the respective AAQC.

Table 2 uses the percentage change of the modelled concentrations in **Table 1** with height and modifies the baseline ambient monitoring concentrations to show their equivalent change with height. This was performed as a direct percentage change since the ambient conditions would change in a similar proportion to the modelled fractions. Correcting the ambient concentrations for

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height was performed assuming that ambient data is collected from an equivalent height as the modelled 4.3 m receptor height, following best practices. **Table 2** demonstrates the background ambient concentration variability with height, and that for all COCs except B(a)P, impacts are not elevated compared to the AAQC at 17.2 m and above.
Table 3 conservatively adds together values from **Table 1** (modelled concentration) and **Table 2** (ambient concentrations). Adding together the modelled results and ambient results is extremely conservative and usually only conducted for Environmental Assessments (EAs) and Transit Project Assessment Process (TPAP) work. In EAs and TPAPs, a future scenario is often examined to show the project; such as highway expansion or rail improvements, has a net positive impact compared to alternatives. By examining cumulative impacts, **Table 3** effectively takes the known sources modelled (**Table 1**) and adds them to all known and unknown sources (**Table 2**). In this case the cumulative impacts show that except for acrolein and B(a)P, there are no concentrations elevated compared to the AAQC at 30.1 m and above. Background concentrations of acrolein and benzo(a)pyrene are elevated compared to the AAQC values; however, B(a)P is elevated anywhere a development were to proceed in an urban area.

Based on the data assessed in this memo, the following recommendations are presented:

- **Local Air Intakes**: If air intakes are designed to be located in each suite, then for any suites below the fourth floor (12.9 m) filters to control particulates ($PM_{2.5}$ and PM_{10}) impregnated with carbon to control benzene could be utilized to improve indoor air quality. Percent reductions required can be calculated from **Table 3**. Filters require ongoing maintenance and monitoring per manufacturer specifications, which generally require replacement after a specified duration of time. It should be noted that mitigation for particulate will also incidentally reduce the concentration of B(a)P since B(a)P binds to particulate and may be partially mitigated through filtration.

- **Monitoring**: Since **Table 3** represents a very conservative approach then it is recommended that a method of ambient monitoring be incorporated to ensure the controls of a local air intake design are working, or even required.

Ducted Air Intakes: An alternative to filtering local air intakes and monitoring could be to have a centralized air intake system ducted from above 30.1 m for any suites located below this level.

- **NO_x**: No additional controls are recommended for NOx given the level of conservatism in the Air Quality Study and as the measured values (baseline) are well below for ambient air quality criteria for NOx as NO_2. The baseline already includes both industry, rail, and roadways emissions. Railway emissions dominated the predicted modelling concentration and are conservative as no reductions have been included for the electrification of the GO Stations. Therefore, baseline combined with modelling is an overpredicting of the concentrations at the Proposed Development and the potential need for mitigation.

- It is recommended that the proponent conduct a detailed design of mitigation as part of the Design Process.

In addition to the recommendations, WSP identifies the following improvements noted for the Clarkson airshed:

- Ongoing MECP compliance for Industry; and,

- Metrolinx Regional Express Rail Lakeshore West line is expected to be electrified in the coming years (some trains will remain diesel, but the majority will be electrified).

Further improvements of air quality are expected based on the City of Mississauga's local initiatives that are ongoing to improve air quality and reduce greenhouse gases.