



# LIST OF LOW IMPACT DEVELOPMENT (LID) MEASURES FOR PROPOSED DIXIE MALL REDEVELOPMENT

## In Support of an Official Plan and Zoning By-Law Amendment

### 1.0 INTRODUCTION

KWA Site Development Consulting Inc. (“KWA”) has been retained by Slate Asset Management (“Slate”) to prepare the functional servicing and stormwater management strategy in support of an Official Plan Amendment and Zoning By-Law Amendment application for the redevelopment of north-west section of the existing Dixie Outlet Mall located in the City of Mississauga, herein referred to as the “Site”. The municipal address is 1250 South Service Road.

The Site is 2.87 ha and is bound by South Service Road and QEW to the north, Haig Boulevard and residential lots to the west, residential lots to the south, and the existing Dixie Outlet Mall to the east. In total there are 3 residential blocks, one park block, and one easement block.

This memorandum presents an overview of the LID strategies that are recommended for the Site. This should be reviewed in conjunction with the Functional Servicing & Stormwater Management Report by KWA dated December 6<sup>th</sup>, 2022.

### 2.0 STORMWATER MANAGEMENT

#### 2.1 QUANTITY CONTROL

For the proposed development, stormwater management strategies will be individually chosen and designed for each of the blocks during detailed design. Subsequent Site Plan Applications will be submitted once the process is further advanced. Some feasible options for quantity control are to:

- Direct runoff into underground storage tanks
- Utilize LID practices for storage

Park and temporary garden blocks will predominately be pervious surfaces, for which little runoff is expected for small storm events so runoff is more of a concern during less-frequent, more-intense storm events. Some recommendations for achieving quantity control are:

- Optimize on ground surface depressions
- Utilize underground storage tanks
- Utilize LID practices for storage

#### 2.2 QUALITY CONTROL

Quality control would be required for development, park, and the temporary nursery garden blocks. In accordance with the Ministry of the Environment stormwater management criteria for enhanced protection, a minimum water quality target of 80% TSS removal is required.

## Development Blocks

Drainage from the development blocks will receive 80% TSS removal through a combination of LIDs and/ or OGS units prior to discharging to the private streets. The location and composition of the LIDs within the development blocks will be finalized during the Site Plan approval stage. The following are some feasible LID strategies:

- **Bioretention:** Bioretention is a stormwater infiltration practice that treats runoff from paved areas by using the natural properties of soil and vegetation to remove contaminants. Most are designed as swales or islands and are constructed adjacent to roads, parking lots or other paved areas. Runoff from these impervious surfaces are directed into the bioretention area, where it ponds and slowly infiltrates. According to LID Treatment Train Tool by created by STEP, bioretention may provide 75% TSS removal.
- **Grassed swales:** Grass swales are shallow sloped, densely vegetated channels designed to treat stormwater runoff. As water flows through the channel, vegetation slows the water and allows for sedimentation and filtering of pollutants through the subsoil. According to LID Treatment Train Tool created by STEP, enhanced swales may provide 40% TSS removal.
- **Permeable pavement:** Permeable pavement help to restore natural infiltration functions to the landscape and reduce impacts to watercourses by allowing rainwater to slowly infiltrate into the ground. Contaminants are removed from the stormwater as it infiltrates slowly through the gravel sub-base and into the native soil. According to LID Treatment Train Tool created by STEP, permeable pavements may provide 75% TSS removal.
- **Green roofs:** Green roofs are contained areas of vegetation, such as grasses or shrubs, that can be planted on top of buildings. Although green roofs are not credited any TSS removal as of now, they provide many benefits beyond stormwater quality control.

## Park and temporary nursery garden Blocks

Runoff in landscaped areas will essentially be clean as it will only travel over pervious surfaces; therefore, no water quality controls are required for the park block. The redevelopment will also include a temporary nursery garden, which can be utilized for LIDs such as:

- Bioretention gardens
- Grassed swales
- Infiltration trenches

The treatment train approach for the site will consist of individual LIDs within the blocks and a downstream OGS for the entire redevelopment. In general, OGS units are credited a %TSS removal of 50%. The OGS will be specified in the detailed design stage accordingly.

## **2.3 WATER BALANCE**

Each block will retain 5mm of rainfall for the purpose of water balance. This can be achieved through a combination of LID strategies described above, such as:

- Bioretention gardens
- Grassed swales
- Infiltration trenches
- Permeable pavements

Please do not hesitate to contact the undersigned if you have any questions or concerns.

Yours very truly,

KWA Site Development Consulting Inc.

A handwritten signature in black ink that reads 'Pavneet Brar'.A handwritten signature in black ink that reads 'Carlo Del Buono'.

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