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ENERGY, WATER AND THE NATURAL ENVIRONMENT

The policies of this section build upon those in Sections 3, 8 and 9.1.1 of Volume 1 of the Official Plan.

Environmental sustainability is a core principle behind the vision for the VMC and the policies of this plan. Implementing efficient, low impact systems for energy and water, including wastewater and stormwater, will be critical to establishing a truly green downtown. This section contains policies regarding municipal servicing infrastructure for the entire VMC and environmental design at the scale of individual sites.

The policies in this section support the objectives set out in Section 3, specifically Objectives 3.7, 3.8 and 3.9. The further intent of the policies in this section is to:

- Ensure the VMC is supported and serviced by highly efficient energy, water and wastewater infrastructure.
- Promote the use of renewable energy sources.
- Promote site planning, architecture, landscape architecture and stormwater management that demonstrates best practices in environmental design.
- Facilitate enhancements to the ecological and stormwater functions, and the aesthetic qualities, of the Black Creek corridor.
- Ensure development in the VMC is supported and complemented by open spaces containing significant natural features.
- Ensure development in the VMC both anticipates impacts from and mitigates potential impacts on climate change.

5.1 General Policies

5.1.1 All development in the VMC shall have regard for the goals and objectives of the City's Community Sustainability and Environmental Master Plan (Green Directions Vaughan).

5.1.2 The City has initiated three important studies that will have a bearing on issues and opportunities related to energy and water in the VMC and will help to guide the planning of infrastructure:

- VMC Servicing and Stormwater Management Master Plan Class EA Study;
- Black Creek Stormwater Optimization Master Plan Class Environmental Assessment Study;
- Vaughan District Energy Feasibility Study.

5.2 Energy Infrastructure

5.2.1 The City will study the feasibility of a district energy system in the VMC and, should it be feasible, shall work to implement a system to serve public and private development.

5.2.2 If and when a district energy system is established in the VMC, public institutional uses shall utilize the system where possible and where no alternative, more efficient energy

source exists. All private development shall be encouraged to utilize the district energy system.

- 5.2.3 The preferred location for a district energy plant is at the periphery of the VMC or in an adjacent industrial area. The design of the facility shall be sensitive to its planned surroundings, and the integration of the facility with another compatible use, such as a parking structure, shall be considered.
- 5.2.4 In the absence of a district energy system or to complement and support district energy, the generation and use of on-site renewable energy, such as solar, wind and geo-thermal, shall be encouraged. All new development shall include or make provision for the installation of solar capture equipment.

5.3 Water and Wastewater Services

- 5.3.1 Servicing infrastructure for water and wastewater shall be planned on a comprehensive basis, having regard for the long-term development potential of the VMC. The City shall complete the VMC Servicing and Stormwater Management Master Plan Strategies, which shall guide the design and phasing of municipal services.
- 5.3.2 The phasing of development shall be coordinated with the phasing of municipal services. The processing and approval of development applications shall be contingent on the availability of water and wastewater capacity, as identified by the Region of York and distributed/allocated by the City.

5.4 Stormwater Management

- 5.4.1 Stormwater management practices and facilities shall be guided by the VMC Servicing and Stormwater Management Master Plan Strategies and designed and implemented to the satisfaction of the City and the Toronto and Region Conservation Authority.
- 5.4.2 Stormwater management facilities create opportunities for natural heritage restoration, recreational trails and passive open space, all of which can enhance the qualities and amenities of adjacent parkland. Schedule E identifies Environmental Open Spaces, which are intended to accommodate stormwater management facilities within naturalized settings. The size and design of each stormwater management facility shall be determined during the plan of subdivision process.
- 5.4.3 The forms and slopes of stormwater ponds shall be designed to replicate natural landforms in the area. The perimeter of ponds should be planted with native and flood-tolerant plants to stabilize banks, improve water quality, create wildlife habitats and add visual interest.

ENVIRONMENTAL
OPEN SPACES

refer to
schedule E

Armour rock may also be used at the edges of ponds for aesthetic purposes. Ponds shall not be fenced, as per the City's Engineering Standards. Barrier planting should be used where public access is discouraged. Trails should encircle ponds, and bridges, boardwalks and overlooks shall be considered.

- 5.4.4 While Environmental Open Spaces are intended to include stormwater management ponds, the City may consider alternative facilities for managing stormwater to optimize the amenities of these open spaces.
- 5.4.5 On-site measures and streetscape elements intended to minimize stormwater run-off, including rainwater harvesting and reuse systems, bio-swales or water features, permeable paving materials and green roofs, shall be encouraged. All new residential buildings shall be required to install rainwater harvesting and recirculation/reuse systems for outdoor irrigation and outdoor water uses.
- 5.4.6 Environmental Open Spaces and the stormwater management facilities within them shall be planned holistically and secured through the plan of subdivision process. An agreement among landowners in the VMC will be required to equitably distribute the cost of stormwater management.

5.5 Environmental Site Design

- 5.5.1 The policies below are intended to augment the policies of Section 9.1.3 of Volume 1 of the Official Plan and the policies regarding Sustainable Buildings in Section 5.2 of the York Region Official Plan.
- 5.5.2 All institutional buildings in the VMC, with the exception of schools, shall be designed to achieve a LEED™ Gold or higher rating. All private development shall be encouraged to strive for a LEED™ Gold or higher rating.
- 5.5.3 To mitigate the urban heat island effect, increase the energy efficiency of buildings and reduce stormwater run-off, green roofs and/or cool roofing materials as well as soft landscaping shall be required on the flat portion of rooftops. All commercial, institutional, multi-unit residential buildings, excluding townhouses and stacked townhouses, and mixed use buildings shall:
- have a green roof with a minimum 50% coverage or,
 - contain solar capture equipment over a minimum of 60% of the roof or,
 - use cool roofing materials for a minimum of 80% of the roof or,
 - use a combination of the above for a minimum of 70% of the roof.
- 5.5.4 Non-roof hardscapes shall use high-albedo surface materials and/or be heavily shaded by trees. Where surface parking is permitted and provided, shade trees shall be planted at the edges of the lot and between rows of parking, generally less than 9 metres apart.

5.5.5 Development shall be designed to maximize opportunities for solar gain while respecting the urban design objectives and policies of this plan.

5.5.6 Consistent with Policy 9.1.3.3 of Volume 1 of the Official Plan, applications for development in the VMC shall include a Sustainable Development Report that describes how the proposed development supports this plan's objectives regarding environmental sustainability and the requirements of any subsequently approved Community Energy Plan. Sustainable Development Reports shall address at a minimum the following:

- energy efficiency;
- water conservation;
- renewable energy use;
- heat island mitigation;
- stormwater management; and,
- solid waste management.

5.6 Natural Heritage

5.6.1 The City shall work with the Toronto and Region Conservation Authority and landowners to enhance existing natural heritage and establish new areas for active naturalization in conjunction with the development or improvement of stormwater management facilities.

5.6.2 The Black Creek Stormwater Optimization Master Plan Class Environmental Assessment Study will consider improvements to address flooding issues and opportunities to reduce the extent of the floodplain, recognizing the development objectives for the VMC. Schedule E identifies an environmental open space corridor adjacent to Jane Street that is intended to accommodate improvements that may be recommended by the Black Creek study as well as aesthetic enhancements and open space amenities along the creek. The City shall cooperate with the Toronto and Region Conservation Authority in implementing the recommendations of the study. The City shall also work with the Conservation Authority to develop special land use policies for lands currently in the Black Creek floodplain, but which are not expected to be in the floodplain once the creek is improved. The intent of such policies, which may require an amendment to this plan, shall be to conditionally permit the development envisaged by this plan for the affected areas.

5.6.3 The Environmental Open Spaces identified in Schedule E are intended to accommodate wooded areas and other natural features planned in conjunction with stormwater ponds and adjacent parkland. The City shall work with the Toronto and Region Conservation Authority and private landowners on the holistic and coordinated design of these open spaces as development occurs. Existing significant natural heritage within Environmental Open Spaces generally shall be protected.

5.6.4 The City shall establish a target for the number of trees to be planted in the VMC by 2031 and through the development review process shall seek to ensure that trees proposed in public and private open spaces and streetscapes support achieving the target.

SUSTAINABLE
DEVELOPMENT
REPORTS

BLACK CREEK

refer to
schedule E

TREE
PLANTING