Official Plan Table of Contents and Climate Change Descriptions

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# City of Burlington – Below Language is DRAFT Only has not been passed by Council yet. Likley to go to Council by about May 2018

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###### **Climate Change and Air Quality\***

###### In order to achieve a sustainable community, and human and ecosystem health, climate change and air pollution must be addressed. Climate change and air pollution impacts are caused primarily by burning fossil fuels, resulting in the emission of greenhouse gases and air pollutants. These impacts can be reduced through sustainable, effective and efficient land use and transportation policies that reduce air and greenhouse gas emissions. This section of the Plan highlights policies that contribute to the mitigation of greenhouse gas and fuel emissions, policies that enhance carbon sinks such as the Natural Heritage System, and policies that address adaptation in order to minimize the city’s vulnerability to the unacceptable impacts of climate change, all of which contribute to a more resilient community and infrastructure.

###### **Objectives\***

###### a) To increase community resiliency to climate change through mitigation and

###### adaptation measures and through the maintenance and restoration of the

###### Natural Heritage System.

###### b) To work towards the goal of the city community being net carbon-neutral.

###### c) To enhance air quality.

###### **Policies\***

###### a) The City will work to improve air quality and energy efficiency, to reduce

###### greenhouse gas and fuel emissions, and to mitigate and adapt to climate

###### change through land use and transportation policies related to:

###### (i) maintaining the urban boundary and seeking a compact built form in

###### Mixed Use Intensification Areas;

###### (ii) achieving mixed use development to encourage walking, cycling and

###### transit;

###### (iii) locating intensification in areas which are well served by existing or

###### planned transit;

###### (iv) promoting and encouraging modal shift towards transit and active

###### transportation, using tools such as transportation demand

###### management;

###### (v) addressing parking management, primarily through the Zoning Bylaw,

###### that does not undermine transit and active modes of

###### transportation;

###### (vi) maintaining, restoring and enhancing the urban forest and Natural

###### Heritage System;

###### (vii) protecting and recognizing the importance of water resources,

###### including watershed management, natural hazards and storm water

###### management;

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###### 6.1.1 Mississauga will:

###### d) promote pollution prevention, reduction of natural resource consumption and increased use of renewable energy;

###### 6.1.7 Mississauga will work with other jurisdictions and levels of government, industries, businesses and the community to address climate change mitigation and adaptation, and to build a resilient city.

###### 6.1.11 Mississauga will consider the impacts of climate change that may increase risks to the city. Mississauga will develop policies on climate change that will:

###### a. promote development and land use patterns that conserve and enhance biodiversity and consider the impacts of a changing climate;

###### b. promote and protect green infrastructure; and

###### c. minimize adverse impacts from a changing climate and consider the ecological benefits provided by nature.

###### 6.1.12 Mississauga will consider the potential impacts of climate change that may increase the risk associated with natural hazard lands.

###### **Living Green\***

###### Climate change is a daunting issue that requires the collective actions of many. While no individual development or municipality can solve the issue of climate change, it is necessary to consider the environmental impacts of every development proposal and planning decision, and mitigation measures to avoid environmental harm and adapt to changing environmental conditions.

###### While no individual development or municipality can solve the issue of climate change, it is necessary to consider the environmental impacts of every development proposal and planning decision, and mitigation measures to avoid environmental harm and adapt to changing environmental conditions. (s. 6.2)

###### 6.2.1 Mississauga will strive to be a leader in sustainable development to mitigate, manage and adapt to climate change.

###### 6.2.2 Mississauga will build communities that are environmentally sustainable and encourage sustainable ways of living.

###### 6.2.3 Mississauga will develop a green development strategy to enhance environmental sustainability.

###### 6.2.4 Mississauga may develop incentive programs to encourage green development.

###### 6.2.5 Mississauga encourages the retrofitting of existing buildings and developed sites to be more environmentally sustainable.

###### 6.2.6 Mississauga will encourage naturalized landscaped areas using native, non-invasive species, especially on lands within the Green System.

###### 6.2.7 Mississauga will require development proposals to address the management of storm water using storm water best management practices.

###### 6.2.8 Mississauga will encourage the use of green technologies and design to assist in minimizing the impacts of development on the health of the environment.

###### **Green Systems\***

###### Trees in the urban setting provide environmental, social and economic benefits such as:

###### • reducing air pollution by removing carbon, dust

###### • and airborne particles;

###### • improving overall air quality;

###### • reducing urban heat island effect;

###### • reducing energy needs for cooling and heating;

###### • assisting in mitigating climate change effects;

###### • intercepting rainfall to reduce runoff, increase groundwater recharge and prevent soil erosion;

###### • reducing noise pollution;

###### • creating wildlife habitat;

###### • enhancing flora and fauna diversity;

###### • assisting in improving public health; and

###### • contributing to the quality and character of the urban environment.

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###### 25. Regional Council supports the concept of "sustainable development”, which meets the need of the present without compromising the ability of future generations to meet their own need. (“Our Common Future, The World Commission on Environment and Development, 1987”) Planning decisions in Halton will be made based on a proper balance among the following factors: protecting the natural environment, preserving Prime Agricultural Areas, enhancing its economic competitiveness, and fostering a healthy, equitable society. Towards this end, Regional Council subscribes to the following principles of sustainability: that natural resources are not being over-used; that waste generated does not accumulate over time; that the natural environment is not being degraded; and that this and future generations’ capacity to meet their physical, social and economic needs is not being compromised. The overall goal is to enhance the quality of life for all people of Halton, today and into the future.

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###### **141. Goals and General Policies**

###### 141(6). Engage the Halton community in the pursuit of measures, including the undertaking of pilot projects, to address climate change, improve air quality, promote energy and water conservation, pursue the use of renewable energy sources, and generally improve environmental quality in Halton.

###### 141(7). Establish and maintain a Sustainability Advisory Committee to:

###### a) advise and assist Council in the pursuit of the goal of sustainability in accordance with the principles of sustainability under Section 25 of this Plan;

###### b) co-ordinate sustainability initiatives between the Region and the Local Municipalities;

###### c) recommend to Council annually a work plan for selecting, funding and overseeing research and development efforts into sustainability programs and practices, including those pilot projects as described under Section 141(6); and

###### d) recommend to Council a protocol, procedure or process for incorporating the principles of sustainability in land use planning decision-making.

###### 141(8). Encourage opportunities for the consideration and use of alternative engineering standards to promote sustainability and more efficient use of resources.

###### **142. Air and Ambience**

###### The objectives of the Region are:

###### 142(1) To reduce, in concert with the Federal Government, the Province, other municipalities, public interest groups and the private sector, the emissions of greenhouse gases.

###### 142(2) To improve air quality and to address the impact of climate change.

###### 142(3) To reduce incrementally the overall greenhouse gas emissions and other air pollutants generated by the Region’s own corporate activities and functions.

###### 142(4) To contribute to the overall improvement of air quality in Halton’s airshed through facility management, land use planning, transportation management, roadway design, operation and maintenance, and other complementary programs.

###### 142(5) To support urban forms that will reduce long distance trip-making and the use of the private automobile. 142(6) To promote trips made by active transportation and public transit.

###### 142(7) To promote tree planting in both rural and urban areas for the purposes of improving air quality, sequestering carbon dioxide and reducing energy use through shading and sheltering. 142(8) To address the impact of air pollution, noise, vibration and light on land uses.

###### **147. Land**

###### 147(5) Recognize and protect trees as a renewable natural resource essential to the health and welfare of Halton residents, wildlife and rural environment, and to this end:

###### c) Monitor, in conjunction with the Local Municipalities and appropriate agencies, the amount and quality of tree cover in Halton on a regular basis and report the results as part of the State of Sustainability Report.

###### 147(6) Promote the planting of new trees, and to this end:

###### a) Implement, in conjunction with the Province, Local Municipalities and Conservation Authorities in Halton, a woodland stewardship program to promote tree conservation, tree planting and reforestation on private properties on a voluntary basis.

###### b) Retain trees capes along major transportation corridors, replace trees cut down for public works and, wherever possible, develop new trees capes consistent with safe and aesthetically pleasing road or corridor design.

###### f) Promote reforestation programs on lower classes of Agricultural Soil.

###### **Transportation**

###### 174. The goal for energy and utilities is to encourage and ensure the conservation and wise economic use of energy and to minimize adverse effects caused by its provision.

###### 175. The objectives of the Region are:

###### 175(1) To guide development and transportation services so that energy consumption is held to a minimum.

###### 175(2) To reduce energy used in public and private buildings.

###### 175(3) To promote the use of those forms of energy that pose the least environmental risk.

###### 175(4) To achieve active participation of energy conservation by all residents and businesses in Halton.

###### 175(5) To take an active part in decisions regarding the planning and development of utility corridors in Halton.

###### 176. 176(2) Facilitate energy conservation by:

###### a) including energy conservation as a criterion in evaluating private and public undertakings of regional significance,

###### b) encouraging all levels of government to provide recreational opportunities locally in Halton to discourage long distance trips for short term recreational purposes,

###### c) promoting compact growth, live-work relationship and locally accessible services,

###### d) encouraging the Local Municipalities to adopt energy conservation policies, including building guidelines in new developments, treescaping and site plan criteria, to improve the efficiency of energy use,

###### e) encouraging public agencies, private industries and individuals to participate in energy conservation programs,

###### f) evaluating and implementing cost-effective resource recovery techniques including the use of recycled wastes and waste by-products such as methane gas as an energy source,

###### g) applying energy conservation techniques in Regional facilities and projects, and

###### h) supporting energy conservation research projects and encouraging the Federal and Provincial governments to provide funds for such projects.

###### 176(3) Support the use of the principles of sustainability in evaluating proposals for alternative energy sources.

###### 176(4) Investigate, through the Sustainability Advisory Committee, energy conservation measures and alternate energy generation methods that would minimize impact to the environment.

###### 176(5) Develop, in conjunction with the Local Municipalities, guidelines for coordinated municipal responses to renewable energy proposals under the Green Energy Act and the Environmental Assessment Act.

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###### 206. Regional Council recognizes the importance of information to support sound and effective decision making and priority setting. A comprehensive monitoring program of gathering and analyzing information is essential to the implementation of this Plan. It will be used to evaluate the effectiveness of the policies and measure the performance of programs designed to achieve the objectives. It is also an important tool in identifying emerging trends that may impact the relevance of the policies, therefore leading to their updates and adjustments. To this end, Regional Council will:

###### 206(1.1) Commit resources to delivering the following

###### c) other monitoring initiatives on:

###### [iv] air quality under Section 143(1),

###### [v] reduction in greenhouse gas emissions under Section 143(2)

###### 206(1.2) Prepare a State of Sustainability Report no less frequently than every three years that:

###### a) defines indicators for measuring the sustainability and health of the physical, human and economic environments;

###### b) provides, based largely on available data sources and information including those supplied by monitoring reports under Section 206(1.1), latest measurements of each sustainability indicator;

###### c) portrays, graphically or otherwise, changes over time of each sustainability indicator;

###### d) compares, for key indicators, Halton's conditions with regional, Provincial, national and global trends;

###### e) draws conclusions on the state of sustainability of Halton's physical, human and economic environments; and

###### f) make recommendations on moving Halton towards sustainability.

###### 206(2) Consider the preparation of the State of Sustainability Report a corporate priority.

###### 206(3) Use the State of Sustainability Report in preparing Halton's Corporate Plan.

###### 206(4) Encourage the Local Municipalities, public agencies and private businesses in Halton to use the information in the State of Sustainability Report for strategic planning purposes.

###### 206(5) Develop and maintain a Regional information and data system for planning and management purposes.

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# City of Hamilton

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###### **3.6.2 Air Quality and Climate Change**

######  Air quality and climate change have significant direct and indirect impacts on community health, the environment, and the economy of Hamilton. Local sources of air pollutants that can compromise clean air include personal and commercial vehicles, industry, and energy sources used for heating and cooling.

######  Climate change can be caused by natural processes and human activities. Increased fossil fuel use and permanent forest loss has increased the concentrations of greenhouse gases, leading to accelerated changes in our climate. A high concentration of heavy industries and transportation corridors are contributing local sources of greenhouse gases in the City.

######  Addressing climate change requires two complementary actions: mitigation (i.e. reduction) and adaptation. Mitigation involves actions to reduce greenhouse gases or actions to avoid or delay climate change. Adaptation involves actions or planning to minimize a city’s vulnerabilities to the impacts of climate change.

######  Several goals and policies of this Plan, both directly and indirectly contribute to the improvement of air quality and reduce greenhouse gases:

###### promoting compact, mixed use urban communities;

###### b) integrating the transportation network to include all modes of transportation;

###### c) promoting walking, cycling, and use of public transit;

###### d) achieving a natural heritage ecosystem through the protection and enhancement of natural heritage features and functions;

###### e) implementing urban design features to reduce fugitive dust;

###### f) enhancing vegetative cover; and,

###### g) reducing the heat island effect through the use of reflective roofs, green roofs, natural landscaping, and increasing the tree canopy.

###### Many of these goals and policies also contribute to the adaptation to climate change by minimizing vulnerabilities to climate impacts. Prohibiting new development on hazard lands, and incorporating urban design features that reduce climate impacts on public works and urban infrastructure - roads and associated infrastructure, bridges, water and waste water systems, and energy distribution, are climate change adaptation strategies.

###### **3.6.2.1 Partnerships**

###### 3.6.2.1 The City shall partner with community groups, such as Clean Air Hamilton, to develop actions to reduce air pollutants and improve air quality.

###### 3.6.2.2 The City shall partner and work with other levels of governments, other municipalities, academics, community groups, and local industries to develop:

###### a) actions that reduce air pollutants and greenhouse gases, improve air quality, reduce and respond to the impacts of climate change in the City; and,

###### b) a Hamilton Air Quality and Climate Change Plan.

###### 3.6.2.3 The City shall promote and support public and private education and awareness of air quality and climate change, associated health impacts, and linkages to transportation and land use development in the City.

###### **Monitoring**

###### 3.6.2.4 The City shall undertake an air pollutant and greenhouse gas emissions inventory and assess the conditions of Hamilton’s local air quality and climate to inform actions to reduce emissions of air pollutants and greenhouse gases generated in the City.

###### 3.6.2.5 The City may partner with other organizations to monitor, track, and assess the conditions of Hamilton’s local air quality and climate to identify local emission sources and take action to reduce air pollutant and greenhouse gas emissions at these sources.

###### 3.6.2.6 The City shall monitor and reduce air pollutants and greenhouse gases generated by the City’s corporate activities and services to achieve the targets set out in the Corporate Air Quality and Climate Change Strategic Plan.

###### 3.6.2.7 The City shall prepare an annual Air Quality and Climate Change report to monitor the City’s progress toward its goals and to increase awareness of air quality and climate change.

###### 3.6.3 Noise, Vibration, and Other Emissions

###### Noise, vibration, and other emissions such as dust and odours from roads, airports, railway lines and stationary sources have the potential to negatively impact the quality of life of residents. The objective of the following policies is to

###### protect residents from unacceptable levels of noise, vibration, and other emissions and to protect the operations of transportation facilities, commercial, and employment (industrial) uses.

###### **General Policies for Noise and Vibration Emissions**

###### 3.6.3.1 Development of noise sensitive land uses, in the vicinity of provincial highways, parkways, minor or major arterial roads, collector roads, truck routes, railway lines, railway yards, airports, or other uses considered to be noise generators shall comply with all applicable provincial and municipal guidelines and standards.

###### 3.6.3.2 Any required noise or vibration study shall be prepared by a qualified professional, preferably a professional engineer with experience in environmental acoustics, in accordance with recognized noise and vibration measurement and prediction techniques, to the satisfaction of the City, and in accordance with all applicable guidelines and standards.

###### 3.6.3.3 Where feasible and in compliance with other policies, the City shall ensure that land use arrangements which minimize the impact of noise and vibration be considered in the formulation of plans of subdivision and condominium, official plan amendments, severances, and zoning by-law amendments.

###### 3.6.3.4 Where noise or vibration attenuation measures are required, these measures, for both outdoor and indoor space, may include the following:

###### a) sound-proofing measures, construction techniques, and materials;

###### b) layout and design of the structure or outdoor living areas;

###### c) spatial separation from the source, including the insertion of permitted sound-insensitive uses between the source and receivers;

###### d) building setbacks;

###### e) acoustical barriers such as berms, living walls, walls, favourable topographic features, or other intervening structures, where appropriate and according to all other policies; and,

###### f) the use of suitably designed higher density residential structures.

###### 3.6.3.5 New technologies may offer opportunities for innovative noise and vibration abatement techniques not yet contemplated. The development and use of such techniques shall be encouraged.

###### **3.3 Urban Design Policies**

######  Urban design is directly concerned with shaping the physical form of the urban areas of the City and plays a vital role in upgrading and maintaining a city’s civic image, economic potential, and quality of life. Good planning practice recognizes the important role of urban design in providing value and identity to a community. The design and placement of buildings, infrastructure, open spaces, landscaping and other community amenities, as well as how these features are connected and work together, affects how people live and interact with each other. Attention to physical design creates attractive, lively and safe communities where people want to live and visit and where businesses want to establish and grow. A city that values good urban design is a city that is successful socially, economically, and environmentally.

######  The intent of this Plan is to create compact and interconnected, pedestrian oriented, and transit-supportive communities within which all people can attain a high quality of life. Achieving this vision requires careful attention to urban design in both the public and private realms with attention to how those realms work together. The public realm is associated with planning and design issues in areas such as roads, sidewalks, plazas, parks, and open space, owned by the

######  City and other public agencies. The private realm includes areas within private property boundaries, which may or may not be open to the public but are physically and visibly connected to the public realm. The policies of this section direct design in both the public and private realms.

######  The overall future growth and land use vision for the City is based on the development of a nodes and corridors system and is described in Chapter E –

###### Urban Systems and Designations. The transformation of identified node and corridor areas into higher density, mixed use nodes and corridors with enhanced pedestrian environments supported by transit represents a departure from the existing character of some of these areas. In other places, the development of a node or corridor requires protecting existing built form character. Therefore, the following policies must be read in context with the function, scale, and design intent described in the policies of Chapter E – Urban Systems and

######  Designations and other policies of this Plan.

###### **3.3.1 Urban Design Goals**

###### The following goals shall apply in the urban area:

###### 3.3.1.1 Enhance the sense of community pride and identification by creating and maintaining unique places.

###### 3.3.1.2 Provide and create quality spaces in all public and private development.

###### 3.3.1.3 Create pedestrian oriented places that are safe, accessible, connected, and easy to navigate for people of all abilities.

###### 3.3.1.4 Create communities that are transit-supportive and promote active transportation.

###### 3.3.1.5 Ensure that new development is compatible with and enhances the character of the existing environment and locale.

###### 3.3.1.6 Create places that are adaptable and flexible to accommodate future demographic and environmental changes.

###### 3.3.1.7 Promote development and spaces that respect natural processes and features and contribute to environmental sustainability.

###### 3.3.1.8 Promote intensification that makes appropriate and innovative use of buildings and sites and is compatible in form and function to the character of existing communities and neighbourhoods.

###### 3.3.1.9 Encourage innovative community design and technologies.

###### 3.3.1.10 Create urban places and spaces that improve air quality and are resistant to the impacts of climate change. \*\*\*

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#### Goal and Objectives\*

###### **2.2.2 Goal: Building Complete Communities**

###### To develop sustainable, compact and complete communities incorporating healthy active living, excellence in community design, efficient infrastructure, housing choices for all, and facilities and services meeting community needs, including a range of travel choices.

###### Strategic Objectives:

######  2.2.2.5 To increase adaptability in the community through the introduction of green infrastructure (water, waste, energy), innovative technology, resource conservation and other sustainable practices to address long term climate change impacts.

#### Markham Structure

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#### Water System

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######  **3.4.2 Other Environmental Hazards**

###### Environmental hazards resulting from human activities such as air quality impacts and contaminated lands as well as noise, vibration and light impacts, have the potential to adversely impact human health and quality of life.

###### **Air Quality and Climate Change**

###### Direct or indirect air pollution impacts human and ecosystem health. The most significant sources of air pollution are related to the burning of fossil fuels and emission of greenhouse gases, which directly contribute to global warming and climate change. By managing and reducing these sources of air pollution and enhancing greenspaces, the impacts on human and ecosystem health can be mitigated.

###### Markham’s Greenprint Community Sustainability Plan is a long-term strategy prepared to address climate change mitigation and adaptation in a comprehensive manner and serves as Markham’s Climate Action Plan. Priority climate change adaptation and mitigation policies have been incorporated throughout this Plan.

######  **It is the policy of Council:**

######  3.4.2.1 To work cooperatively with the Region and other partners to support and implement locally based climate change adaptation actions identified in Markham’s Greenprint Community Sustainability Plan.

######  3.4.2.2 To work in consultation with other public health agencies and stakeholders to develop outreach and programs to raise awareness of air quality issues and encourage behavioural change in order to reduce air pollution and improve air quality.

###### 3.4.2.3 To provide leadership in the reduction of the impact of climate change through the design of municipal buildings, public infrastructure, transportation services and municipal policies and procedures.

#### Environmental Reporting

### Healthy Neighbourhoods and Communities

#### Housing

#### Community Infrastructure\*

###### **5.2.1 Countryside Agriculture**

###### 5.2.1.7 To encourage the agricultural community, agricultural organizations and public agencies to implement best agricultural management practices including:

###### a) integrated pest management;

###### b) phosphorous reduction;

###### c) nutrient management;

###### d) soil and water conservation;

###### e) practices that minimize impacts on air quality and climate change; and

###### f) integrating environmental considerations into farm management.

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#### Services and Utilities\*

###### **7.2 Services and Utilities**

######  Markham municipal services (water supply, sanitary sewers and storm sewers) provide for the safe and effective delivery of water and wastewater services by York Region. Markham also coordinates the provision of utilities by private providers including solid waste and recycling collection, telecommunications, street lighting, gas, electricity and Markham District Energy.

######  Markham invests in new municipal infrastructure and system upgrades from time to time to meet planning objectives and ensure a “state of good repair” in order to protect the valuable assets that are built to last and to operate efficiently. The City will ensure that system upgrades and new municipal infrastructure is climate-resilient to address the impacts of climate change and protect human and environmental health.

######  Markham promotes a culture of conservation and waste minimization. In addition to the waste management targets outlined in Section 7.2.2, water conservation targets and energy conservation strategies are outlined in Section 6.2.2.

###### **7.2.3 Utilities and Communications**

###### 7.2.3.10 To work in partnership with Markham District Energy to provide leadership in the design, development and use of community energy systems in Markham and to promote Markham as a demonstration site for new technologies addressing climate change and energy.

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###### As the effects of climate change emerge, municipal land use decisions and actions will promote mitigation of and adaptation to climate change to protect and sustain the health and well-being of the community. The Town shall take actions to preserve existing trees, protect wildlife habitat, and reduce or curtail local contaminant sources contributing to climate change and adverse environmental conditions in Ajax.

###### **Official Plan Consolidation-Guiding Policies\***

###### c) The Town will, first and foremost, protect and enhance a strong, biologically diverse Greenlands System that weaves throughout the municipality to interconnect with the broader Great Lakes ecosystem in adjoining municipalities and watersheds. While the open Lake Ontario Waterfront, coastal wetlands, and creek valleys are particularly unique natural assets within the Town, the Greenlands System and its inter-related components, as a whole, are highly valued by the community. Accordingly, Ajax shall:

###### During the review and approval of development applications, aim to ensure proponents have designed proposals to be less vulnerable to the potential damage from actual and predicted climate change impacts, and to protect and enhance the natural environment, including the protection and enhancement of Town of Ajax – Official Plan Consolidation 8 January 15, 2016 wildlife habitat, by reducing surface water runoff and implementing water and energy conservation measures through the design, construction and maintenance of infrastructure, such as water, wastewater, and stormwater facilities; and,

### Future Growth

### Residential Intensification

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#### Land Use Categories

###### **Environment\***

###### The Town of Ajax recognizes that a healthy and livable community must be sustained by protecting and enhancing the natural environment, and protecting the designated Greenlands System from human activities for the long term. Additionally, strategic actions need to be taken to reduce Ajax’s vulnerability to climate change and the impacts of severe weather. This will be accomplished through investment in adaptation and climate-resilient development and infrastructure. The Plan’s environment-related goals and policies shall apply to all land uses and infrastructure, and form the basis for educational programs

###### **Climate Change and General Environment Policies\***

###### The Town recognizes that clean water, clean air, safe and secure shelter and infrastructure, employment, community facilities and programs, public open space, a protected natural heritage system, protected agricultural land, and locally grown foods are needed to sustain a healthy community. Climate change is occurring rapidly. In the Greater Golden Horseshoe, climate change is predicted to be characterized by: more frequent and severe wet weather events, such as flooding and tornadoes; higher air temperatures; warmer water temperatures in surface runoff, creeks and Lake Ontario; stronger winds; more surface runoff in winter and less in summer and fall; more evaporation; and less infiltration. Consequently, the Town shall plan to address climate change mitigation and adaptation strategies. By doing so, Ajax shall enhance its adaptive capacity to moderate potential damages, take advantage of opportunities, and better cope with the consequences. As Lake Ontario is the Town’s primary source of drinking water and provides for water-based recreational activities, the municipality’s decisions and actions respecting land use planning and infrastructure shall contribute to improved water quality and quantity, air quality, and the aquatic ecosystem.

###### **2.1.1 Goals**

###### To achieve the environmental principles in Section 1.2 of this Plan, the Town shall:

######  a) Protect and enhance the Greenlands System from adverse effects of development;

######  b) Develop and implement an integrated Climate Change Action Plan with mitigation and adaptation strategies to improve resilience to environmental stresses and changes;

###### c) Require environmental designs and retrofits of buildings and infrastructure in the Built Environment that reduce the quantity and improve the quality of stormwater runoff;

######  d) Promote the reduction of travel time and energy consumption by preventing the conversion of Employment Areas to other land uses, and by promoting the development of such lands in order to deliver employment opportunities to residents within the community;

###### e) Encourage the development of appropriate forms of mixed use development to provide employment and shopping opportunities close to residences, thereby promoting the Town of Ajax – Official Plan Consolidation 14 January 15, 2016 use of alternate forms of transportation, minimizing travel distances, and reducing air pollution;

###### f) Promote the growing of food, and support protection of agricultural land, to enhance food security and support community interaction;

###### g) Promote energy conservation to reduce the demand for energy production, minimize greenhouse gas emissions, and improve air quality;

###### h) Promote water conservation and efficient use of water to reduce demand for municipal water and wastewater treatment and associated energy consumption;

######  i) Actively protect the quality and quantity of local water resources through the review of development applications;

######  j) Advance environmentally responsible outdoor lighting and retrofits that reduce light pollution, energy usage, and glare, to restore unobscured views of the night sky, while maintaining sufficient light levels for a safe built environment;

###### k) Actively protect natural heritage features and functions, as well as preserve and enhance fish and wildlife habitat;

######  l) Manage forest resources and trees in a manner that enhances their quality, quantity and sustainability over time; and,

###### m) Provide shade, using natural and artificial structures placed in convenient, accessible locations in a manner that is sensitive to the surrounding environment to create protection against ultraviolet radiation at the right time of day and at the right time of year.

###### **2.1.2 Climate Change Protection**

###### a) Prepare an effective, integrated Climate Change Action Plan containing mitigation and adaptation strategies, to reduce the environmental, social and economic effects of predicted climate change and severe weather events on the community. Adaptation will increase the Town’s ability to reduce, and cope with disruptions to critical community infrastructure and minimize risks to health and safety over time. The Plan shall, among other matters, identify how to reduce or mitigate the risk to people and damage to property, buildings, infrastructure and the environment. In part, this shall be achieved through the design and retrofit of development and site alteration by:

######  i) increasing the proportion of permeable surfaces to reduce flood risk and strain on sanitary sewer and storm water infrastructure;

######  ii) improving water efficiency standards in new development and existing buildings to reduce use and consumption of water and minimize wastewater flows; Town of Ajax – Official Plan Consolidation 15 January 15, 2016

######  iii) undertaking energy conservation measures, including the use of energy efficient building materials, designs and appliances, in municipal buildings and facilities to reduce energy consumption;

###### iv) promoting the use and retrofit of energy conservation measures in existing and new development throughout the community; and,

###### v) considering a wider range of design standards and alternatives, building in additional safety margins, and determining acceptable to tolerable levels of risk or failure, and associated benefits and costs.

######  b) Develop and implement air quality strategies and programs to reduce greenhouse gas emissions from Town-owned facilities, municipal activities, and other local sources; and,

###### c) Develop and implement an Integrated Community Sustainability Plan.

###### **2.1.3 Air Quality and Urban Heat Island**

###### The Town recognizes that poor air quality and the urban heat island effect have adverse effects on both human health and the natural environment. Accordingly, the Town shall:

###### a) Participate in inter-municipal clean air initiatives;

###### b) Support incremental reduction of greenhouse gas emissions and air pollutants generated by municipal facilities and activities;

###### c) Define urban heat island action areas for targeted greening;

###### d) Promote tree planting and innovative green spaces, such as green roofs in new and existing development, to reduce energy use through shading and sheltering;

###### e) Promote the installation of artificial shade, such as covered walkways, awnings and canopies, in appropriate locations;

###### f) Promote greater use of permeable surfaces and pervious pavement in areas such as parking lots and sidewalks, where appropriate, as well as by conducting pilot projects, and participating in public education programs;

###### g) Reduce single-occupancy vehicle use by promoting alternate forms of transportation to single vehicle use, such as HOV lanes, transit, walking and cycling;

###### h) Increase awareness and educate the public about negative health effects and environmental costs of activities that generate air pollution;

###### i) Encourage the provision of renewable energy sources (i.e., other than fossil fuels) to facilitate the use of alternate modes of travel, such as by providing pay-as-you-go electrical outlets for electric-powered bicycles, scooters and vehicles; and,

###### j) Encourage the provision of hybrid vehicle servicing in new or redeveloping motor vehicle service and repair facilities.

###### **2.1.4 Tree Canopy**

###### The Town recognizes the value of tree cover in improving air quality and lowering air temperature during summer months. Expanding and providing a more robust tree cover creates bird and wildlife habitat, reduces the urban heat island effect, improves air quality, and connects open spaces and other natural areas. To maintain, protect, and enhance the existing tree canopy, the Town shall:

###### a) Develop and implement an Urban Forest Management Plan;

###### b) Encourage the planting of native or non-native non-invasive tree species and vegetation that are resilient to climate change and provide high levels of carbon sequestration, subject to the Town’s approval, particularly through new development and on municipally-owned land;

###### c) Consider enacting a Town-wide tree-cutting by-law to regulate the destruction or injury of trees;

###### d) Encourage the use of water-conserving irrigation systems and the provision of adequate permeable surfaces around newly planted trees to establish a secure root system;

###### e) Require reimbursement, in the form of new trees or financial compensation, for all healthy trees proposed to be removed in development applications, based on the findings of a Tree Inventory and Preservation Plan;

###### f) Encourage tree planting by local residents and organizations, and educate residents about the benefits of planting trees versus the environmental impact of removing trees; and,

###### g) Implement measures to protect, enhance, and expand the tree canopy, including but not limited to:

###### i) requiring tree planting in areas of extensive surface parking;

###### ii) promoting development that maximizes areas for tree planting; and,

###### iii) preserving the existing tree canopy.

###### **2.1.5 Energy Conservation**

###### Energy conservation refers to reducing the amount of energy used to support everyday activities. Energy conservation shall be achieved through community and site planning, building design, and use of energy-efficient materials, appliances, and landscaping. The Town shall:

###### a) Promote street, lot and building orientation with optimum southerly exposures to maximize passive solar energy gain;

###### b) Promote compact and contiguous urban form, infilling, and redevelopment in appropriate locations within the Town; Town of Ajax – Official Plan Consolidation 17 January 15, 2016

######  c) Encourage innovative development that incorporates energy conserving principles into building design;

###### d) Promote landscaping that protects buildings and infrastructure from the effects of excessive wind and sun;

###### e) Encourage the application of energy conservation measures in the rehabilitation and upgrading of existing buildings;

###### f) Promote increased use of solar energy systems to heat water, air and/or generate electricity;

###### g) Work with senior levels of government and private industry to encourage energy conservation measures and promote the use of renewable energy sources, where feasible;

###### h) Promote energy conservation and efficiency through new construction and upgrades to Town-owned facilities, and through the procurement of vehicles, equipment, and supplies; and,

###### i) Develop and implement an Energy Management Plan for Town-owned facilities.

###### **2.1.6 Water Conservation**

###### The Town’s goal is to conserve the water resources that sustain this community’s natural and built environments, and to protect and enhance the quantity and quality of water in Lake Ontario. To achieve this goal, the Town shall:

###### a) Use less water to support community growth and development, including municipal facilities, functions, programs and activities;

###### b) Promote conservation of the municipal water supply through public education about the environmental and fiscal benefits of reducing water consumption and by supporting water conservation programs;

###### c) Support recycling and reuse of grey water only in accordance with the provisions of the Ontario Building Code;

###### d) Monitor, analyze and report on water usage and conservation at municipal facilities regularly;

###### e) Promote installation of water conservation fixtures in new and existing development in conjunction with the Region;

###### f) Encourage use of rainwater cisterns and barrels, in a manner that would not allow stagnant water to become a breeding ground for mosquitoes, to collect water from rooftops to irrigate lawns and gardens;

###### g) Promote the responsible disconnection of rooftop downspouts on lots where water can be directed to pervious or grassy areas and gardens provided the water is capable of being absorbed within a couple of days to prevent stagnant water; Town of Ajax – Official Plan Consolidation 18 January 15, 2016

###### h) Promote planting of drought-resistant species, perennials and ground covers that do not require irrigation; and,

###### i) Work with other government agencies, municipalities and others on integrated and coordinated water conservation initiatives.

###### **2.1.7 Urban Agriculture**

###### Urban agriculture shall mean the growing of produce (i.e., fruits and vegetables) and flowers in community gardens, and smaller scale gardening on public and private land, yards, and structures, such as rooftops, but shall exclude the raising of any animals, livestock or poultry, including chickens. The Town’s goal is to promote agriculture activities within the Urban Area that are compatible with planned land uses, while enhancing access to locally grown produce, lowering energy consumption, reducing transportation costs and greenhouse gas emissions, and augmenting supplies of fresh and preserved foods. To achieve this goal, the Town shall:

######  a) Promote the growing and sharing of a wide variety of local produce and preserved foods and flowers year-round;

###### c) Require proponents of community gardens, on privately and publicly owned land, that are to be open to public use, to enter into an agreement with the Town, including addressing the requirements, if any, of the owner(s) of the land on which such a garden is to be located. This agreement would include, as a minimum, the following:

###### i) the organizational structure for those persons or groups proposing to manage the garden;

###### ii) a concept sketch of the garden, indicating provision of adequate parking, drainage, and access for the location and scope of operation;

###### iii) the source of water for irrigation, with preference for efficient use of precipitation captured in rain barrels and cisterns, rather than municipally-treated water, whenever possible;

###### iv) the prohibition of lighting;

###### v) a maintenance plan detailing daily and seasonal operations, procedures, and requirements, for spring start-up, the growing season, and garden closure in the fall; and, Town of Ajax – Official Plan Consolidation 19 January 15, 2016

###### vi) indication that there will be no adverse effects on the enjoyment of nearby properties;

###### d) Encourage gardens on public and private lands designed to capture and infiltrate surface runoff;

###### e) Require the use of clean topsoil, compost and mulch;

###### f) Encourage gardens to be designed with elements, such as elevated or tiered planting beds with wide aisles/paths between plots, that accommodate access by gardeners with disabilities and situational impairment;

###### g) Promote fruit and vegetable gardening in the yards of residential, “clean” commercial and “clean” industrial properties, greenhouses, and containers on balconies and porches, and on rooftops;

###### h) Support the establishment of seasonal or year-round marketplaces in key locations where locally grown and preserved foods can be sold, and function as places of social interaction; and,

###### i) Consider establishing permanent agricultural easements to secure lands for community gardens in perpetuity.

###### **2.1.8 Outdoor Lighting**

###### The Town’s goal is to reduce the adverse environmental effects of outdoor lighting, such as glare, light trespass, over-illumination, and disruption of circadian rhythms in residents, wildlife, and plants. The Town recognizes the need for outdoor lighting to illuminate buildings, roads, parking lots, yards, public areas, sports fields, and signs for purposes such as safety, information, and visibility. The Town will require outdoor lighting that minimizes energy consumption, utility costs, and adverse environmental effects. Accordingly, the Town shall:

###### a) Use energy efficient lighting fixtures in all new and retrofitted municipal facilities and properties, and in transportation corridors owned and/or maintained by the Town, such as roads, trails and parking lots;

###### c) Require outdoor lighting to be directed away from lands designated Environmental Protection;

###### g) Require appropriately scaled lighting fixtures for pedestrian and bicycle pathways where the Town determines lighting is necessary, taking care to site such fixtures in a manner that avoids adverse effects on lands designated Environmental Protection and on residences;

###### h) Prohibit unnecessary or excessive use of outdoor lighting;

###### i) Use educational materials to encourage landowners to convert existing excessively lit properties to more efficient, appropriate types of outdoor lighting that meets the intent of this Section, particularly with respect to redevelopment;

###### k) Require proponents of development applications to identify the following in their complete application:

######  i) purpose and location of outdoor lighting;

###### i) minimum and maximum light levels required for the proposed land use;

###### ii) details of installation and maintenance of lighting fixtures;

###### iii) energy efficiency of the proposed lighting fixtures; iv) provision of zero-light trespass onto neighbouring properties;

###### v) provision of zero-light trespass onto lands designated Environmental Protection; and,

###### vi) how the proposal meets the Town’s lighting policy and/or by-law;

###### l) Require the submission of a Lighting and Photometric Plan with Site Plan applications that demonstrates compliance with the Official Plan, including an implementation and maintenance plan. After development is complete and prior to the release of performance guarantees, the photometric performance of lighting plans shall be confirmed by a field test and a letter from the lighting designer certifying that the test meets the predicted photometric performance of the lighting plan and complies with the Outdoor Lighting goals and policies of the Official Plan; and,

###### m) Establish Town-wide standards for outdoor lighting fixtures and adopt a Lighting Bylaw.

###### **2.1.9 Renewable Energy**

###### The Town supports the principle of renewable energy to address climate change and help improve air quality. Accordingly, the Town shall: Town of Ajax – Official Plan Consolidation 21 January 15, 2016

###### a) Support the inclusion of solar-ready infrastructure in the design of new buildings and the retrofitting of existing buildings, subject to the requirements of the Ontario Building Code;

###### b) Consider shadow impacts on solar energy systems from new development through the review of subdivision and site plan designs;

###### c) Request all proponents pursuing a Renewable Energy Approval from the Province to provide the following at the required pre-consultation with the municipality:

###### i) a site plan that: - identifies the location of the building or structure on the lot in relation to adjacent land uses, existing natural heritage and/or hydrologic features; and, - addresses site access, parking, site circulation, pedestrian access, and landscaping;

###### ii) building and/or structure elevations;

###### iii) total electricity generation capacity of renewable energy facility;

###### iv) minutes of all public consultation meetings; and,

###### v) draft copies of all studies that will be submitted to the Province in support of the application;

###### d) Permit a district energy facility adjacent to the Downtown Regional Centre to serve local industries and businesses, as well as Downtown development, and supply electricity to the grid, in accordance with Section 6.12; and,

###### e) Not support the location of new biomass, biogas and biofuel renewable energy facilities near sensitive land uses.

###### **2.1.10 Lake Ontario Waterfront**

###### Lake Ontario is the primary source of the Town’s drinking water, dilutes treated effluent from Regional water pollution control plants, receives flows from urbanizing and agricultural Town of Ajax – Official Plan Consolidation 22 January 15, 2016 watershed tributaries, provides aquatic habitat, and supports recreational activities. Accordingly, the Town shall:

###### c) Protect people and property from the flooding, slope instability and erosion hazards resulting from severe weather events and climate change, development in watersheds, and fluctuations in the water level of Lake Ontario, using non-structural and structural protection works, and allowances for slope stability, flooding, and erosion, in conjunction with senior governments and Conservation Authorities;

###### **2.1.10.2 Policies**

###### To achieve the goals for the Lake Ontario Waterfront, the Town shall:

###### e) Ensure the Watershed Plans for Carruthers, Duffins and Lynde Creeks evaluate the impact of planned development and infrastructure including:

###### i) the effects of surface water runoff from loss of pervious surfaces;

###### ii) the impact on nearshore Lake Ontario water quality along the Ajax shoreline;

###### iii) consideration of weather trends and the predicted impacts of climate change; and,

###### iv) ensuring adverse environmental impacts will be avoided, or mitigated to the fullest extent possible, prior to establishing the principle of development;

###### j) Promote public awareness of the predicted impacts of climate change through better understanding the factors that contribute to climate change, such as lifestyles and everyday decisions;

###### **2.1.14 Health Impact Assessment**

###### This Plan recognizes that there is a relationship between land use, infrastructure and public health that affects the vitality and resilience of the community. Elements such as built form, urban design, road and trail networks, open spaces, the public realm, the natural heritage system and infrastructure shape citizens’ physical and psychological well-being.

###### Policies

###### The Town shall:

###### d) Identify climate change impacts which may more adversely affect public health in the community, including older residents, and put in place safeguards where feasible and appropriate.

##### Greenlands System\*

###### The Town’s Greenlands System illustrated on Schedules ‘A-1’ and ‘B’ is a key structural element of this Official Plan. The Greenlands System is characterized by an interconnected natural heritage system, productive soils (i.e.; predominantly Canada Land Inventory Classes 1, 2, and 3 soils), agricultural uses and activities, rural land uses, and open space. The System is dynamic and evolving in response to climate change, urbanization, and human activities.

###### 2.2.2 Policies with respect to the Greenlands System, the Town shall:

###### a) Make decisions and take actions that will protect the Greenlands System, as a key structural element of this Plan, from the adverse effects of climate change, population growth and infrastructure to the fullest extent possible;

###### f) Encourage senior governments, the Conservation Authorities, and agencies to review existing standards for various hazards to reflect the impacts of climate change in Ajax;

##### Water Supply Plant

##### Former Landfill Site

##### Built Environment\*

###### The Built Environment shall be planned to respond to the predicted effects of climate change by minimizing risks to people, property and the natural environment. Unnecessary reliance on the automobile will be reduced by promoting non-automobile forms of travel, including walking, cycling and transit, and providing mixed use development in appropriate locations. Energy and water conservation shall be promoted.

###### **2.5.1 Goals**

###### The goals for the Built Environment shall be to:

###### b) Promote healthy lifestyles and facilitate energy and water conservation to moderate resource consumption and protect the environment in the long term;

###### c) Advance development based on a mixture of land uses and urban designs that support and promote the adaptive reuse of buildings and the use of active modes of transportation, such as walking and cycling, by residents and employees;

###### f) Foster a sense of civic identity and pride through a high standard of urban design and architecture that:

###### i) Sensitively integrates new development with existing and/or planned development, and with adjacent public spaces, streetscapes, and the natural environment;

###### v) promotes the use of transit and provides a pedestrian-oriented and bicycleoriented development pattern; and,

###### v) safely addresses the combined effects of past and predicted climatic factors, including wind, sun exposure, shadowing, precipitation and air temperature;

###### i) Establish Green Development and Environmental Design Guidelines to promote development and site alteration in the Built Environment that protects, enhances, is compatible with, and connects to the natural features within the Greenlands System;

###### m) Adapt the community to address actual and predicted climate change impacts;

###### n) Build the Town’s adaptive capacity by situating and designing development, infrastructure and site alteration to reduce the community’s vulnerability and increase its resilience to climate change; and,

###### o) Avoid adverse effects and negative impacts on natural heritage features and areas to enhance and restore ecosystem connections.

##### Cultural Heritage Preservation

#### Land Use Plan

##### Residential Areas

##### Intensification Areas

##### Employment Areas

##### Specific Land Use Policies

##### Waste Management

#### Transportation

##### Vibrant Streets

##### Road System

##### Transit System

##### Active Transportation System

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#### Definitions

# Town of Clarington

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#### Vision

#### Principles\*

###### **2.2.1 Sustainable Development**

###### The future development of Clarington will be pursued in a manner that ensures current needs can be met without compromising the ability of future generations to meet their own needs. This Plan seeks to implement the following directions:

###### Thinking Globally; Acting Locally Climate change, threats to air quality and other environmental concerns will be considered and acted upon in a local context.

### Protecting the Natural Environment and Managing Natural Resources\*

#### Goals

#### Objectives

#### General Policies

#### Natural Heritage System

#### Watershed and Subwatershed

#### Natural Resources

#### Hazards\*

###### 3.7.4 To protect people, infrastructure, buildings, and properties and promote a healthy and resilient Municipality in the preparation of Secondary Plans, the Municipality shall consider the potential impacts of climate change that may increase the risk associated with natural hazards.

### Managing Our Growth

#### Goal

#### Objective

#### General Policies

#### Built Up Areas

#### Greenfield Areas

#### Secondary Plans

### Creating Vibrant and Sustainable Urban Places\*

###### The Municipality of Clarington is committed to excellence in the design of public spaces and in the design of public and private buildings, and in achieving greater sustainability through community, site and building design practices. Urban and architectural design provides the context for the way in which people interact with the built environment – streets, blocks, buildings, landscaping, and open spaces. Good, sustainable urban and architectural design creates a comfortable environment for residents and establishes a positive image for our community. Sustainable design contributes to community and environmental health, a high quality of life, and climate change mitigation and preparedness.

#### Goal

#### Objectives

#### The Public Realm

#### Built Form

#### Sustainable Design and Climate Change\*

###### 5.5.1 Clarington will seek to address climate change and become a more sustainable community that minimizes the consumption of energy, water, and other resources and reduces impacts on the natural environment. To this end, the Municipality will:

###### a) Promote energy, water and resource efficiency and conservation corporately and in existing and new development;

###### b) Promote the reduction of greenhouse gas emissions and the adaptation of buildings and infrastructure to be more resilient to the potential adverse environmental impacts of climate change;

###### c) Promote improved air and water quality;

###### d) Promote mixed land uses at higher densities to efficiently utilize existing infrastructure;

###### e) Promote the integration of transit and active transportation modes into the early stages of new development;

###### f) Promote the reduction, reuse and recycling of waste, with particular attention to multi-residential housing forms, which meets applicable Provincial standards and has given consideration to the Region’s waste collection design and servicing requirements; and

###### g) Support industrial and agricultural practices that minimize greenhouse gas emissions; and

###### h) Promote employment and housing in Urban and Village Centres and Regional Corridors to shorten commute times and decrease greenhouse gas emissions.

###### 5.5.2 Urban forests are fundamental to address climate change. Development shall protect and enhance the urban forest to absorb carbon dioxide from the atmosphere by:

###### a) Preserving mature trees and, when removal of existing mature trees is necessary as part of the development process, the applicant will replace the lost tree cover to the satisfaction of the Municipality;

###### b) Mitigating heat island effects of development by ensuring an appropriate use of material and landscaping to provide shading; and

###### c) Providing street trees and other landscaping as part of the development proposal within the public right-of-way.

###### 5.5.3 The Municipality will implement a Green Development Program. The Green Development Program will:

###### a) Be developed in consultation with the public and key stakeholders;

###### b) Address sustainable development practices, including the sustainable design and climate change mitigation and climate change adaptation measures outlined in this Plan; and

###### c) Be used to assist in evaluating development applications.

###### 5.5.4 Development proposals shall incorporate sustainable design practices and standards such as green infrastructure and green building design features to reduce greenhouse gas emissions and adapt to climate change.

###### 5.5.5 To encourage development that exceeds the minimum standards outlined in the Green Development Program, the Municipality in collaboration with utilities and other key agencies, will explore incentive programs designed to reward sustainable design

###### and development. This may include giving priority to processing development applications which exceeds the minimum standards.

###### 5.6 Implementation

###### 5.6.1 Urban design policies will be further elaborated through:

###### a) Urban design policies in other sections of the Official Plan;

###### b) Urban design policies in Secondary Plans;

###### c) Urban design guidelines adopted in relation to Secondary Plans;

###### d) Urban design briefs and guidelines on specific topics/sites (i.e. landscape, lighting);

###### e) The zoning by-law (site and building performance standards); and

###### f) The sign by-law, as amended.

###### 5.6.2 Urban Design policies have equal value to land use policies and any other policy in this plan. Both land use and urban design policies must be considered in the interpretation of the context of the site and building.

###### 5.6.3 The policies contained in this chapter are intended to provide guidance for all types of development. For specific design requirements for residential, commercial and industrial developments refer to:

###### a) Chapter 9 Livable Neighbourhoods;

###### b) Chapter 10 Commercial and Mixed Use Development; and

###### c) Chapter 11 Employment Areas.

###### 5.6.4 The Green Development Program may be reviewed periodically by the Municipality without amendment to this Plan to respond to scientific and technological innovations and regulatory changes.

###### 5.6.5 Development applications will include a Sustainability Report indicating how the development meets the sustainable development principle and policies of this Plan, including addressing sustainable community, site and building design and climate change mitigation and climate change adaptation.

#### Implementation

### Encouraging Housing Diversity

#### Goal

#### Objective

#### Policies

### Growing a Prosperous Community

#### Goal

#### Objective

#### Policies

### Celebrating Our Cultural Heritage

#### Goal

#### Objective

#### Policies

### Livable Neighbourhoods

#### Goal

##### Objective\*

###### 9.2.3 To promote subdivision and site design that contributes to sustainability and climate change mitigation and adaptation.

#### General Policies

#### Neighbourhood Planning Areas

### Commercial and Mixed-Use Development

#### Goal

#### Objective

#### General Policies

#### …

### Employment Areas

#### Goal

#### Objective

#### General Policies

#### …

### Rural Settlement Areas

#### Goal

#### Objectives

#### General Policies

#### …

### Countryside

### Open Space System

### Aggregate Extraction Areas

### Special Policy Areas

#### General Policy

#### …

### Special Study Areas

#### General Policy

#### …

### Community Amenities

#### …

### Connected Transportation Systems

#### …

### Stormwater Management

#### Goals

###### 20.1.1 To implement measures into the stormwater management system to address impacts from development and climate change.

#### Policies

###### 20.3.8 The design of stormwater management facilities, including ponds and channels, shall be constructed in accordance with the Municipality’s Engineering Design Guidelines and shall use the following principles:

###### …c) Stormwater management techniques shall contribute to reducing or mitigating the risk to people and damage to property, buildings, infrastructure and the environment due to actual or predicted impacts of climate change;…

### Infrastructure and Utilities

#### …

### Community Improvement

#### …

### Implementation\*

#### Plan Review and Updating

#### Public Notice and Amendment Procedures

#### Secondary Plans\*

###### 23.3.9 Secondary Plans shall implement the policies of this Plan and the Durham Regional Official Plan policies for Secondary Plans, in particular:

###### …e) The integration into the design of the site and buildings of this Plan’s policies for Sustainable Design and Climate Change and related standards/guidelines adopted by the municipality including green infrastructure and low impact development measures;…

#### Zoning By-laws

#### Non-Conforming Uses

#### Subdivision and Condominium Approval

#### Severances

#### Site Plan Control\*

###### 23.8.3 As part of a submission for site plan approval, the Municipality requires that the proponent demonstrate how the proposed design and the organization of the site and buildings will:

###### …d) Implement sustainable development objectives including the Sustainable Design and Climate Change policies of the Plan, not limited to the protection of the natural heritage system, energy efficiency, minimizing light pollution and water consumption, stormwater management controls, tree planting and other enhancements to the natural environment;…

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#### Monitoring Growth and Development

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#### Exceptions

### Interpretation

#### General

#### Definitions\*

###### **Climate Change Adaptation:** refers to actions that respond to the actual or predicted impacts of climate change which also take advantage of opportunities or reduce associated risks.

###### **Climate Change Mitigation**: refers to actions taken to eliminate or reduce factors that negatively contribute to climate change, including strategies to reduce greenhouse gas sources and emissions and enhance greenhouse gas sinks.

###### **Green Infrastructure:** refers to natural and semi-natural systems that perform an infrastructure function, provide more opportunities to contribute to improved air and water quality, energy and water efficiency and conservation, and climate change

# City of Pickering

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###### 7.2 City Council Shall

###### (e) promote the use of green technologies and renewable energy systems in the design of community facilities and associated infrastructure, including the retrofit of facilities to reduce greenhouse gas emissions and to assist in addressing the potential adverse environmental impacts of climate change;”

###### 10.13 City Council recognizes

###### the importance of the urban forest in maintaining a healthy ecosystem, managing stormwater, providing wildlife habitat and community aesthetics, reducing the urban heat island effect and improving air quality; accordingly Council shall,

###### develop and implement an Urban Forest Management Plan to protect, restore, manage, and expand the urban forest, which Plan shall contain goals and strategies that include as a minimum the following:

###### …;

###### (iii) require the planting of native or non-native non-invasive tree species and vegetation that are resilient to climate change and provide high levels of carbon sequestration;”

###### 10.23 City Council recognizes

######  that energy conservation and efficiency efforts, the adaptation of buildings, infrastructure and site development to be more resilient to severe weather, and the reduction of greenhouse gas emissions will assist in addressing potential adverse environmental impacts of climate change; accordingly, Council shall identify, evaluate and introduce appropriate mitigation and adaptation strategies to reduce the environmental, social and economic effects of predicted climate change and severe weather events on the community, which may include the preparation of a Climate Change Management Plan. Such strategies will be established in consultation with the public, business people, landowners, relevant public agencies and other interested groups.”

###### Section 15.15 (Glossary) contains the following definitions in relation to climate change:

###### “Adaptation means adjustment to actual or predicted climatic changes in a manner that reduces harm. Adaptation can be proactive (take place before impacts are observed), spontaneous (triggered by ecological changes), and planned (deliberate decisions based

###### on awareness that conditions have changed or are about to change and that action is required).”

#### Cultural Heritage

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#### Guidelines on when to Submit Environmental Reports in Accordance with Section 15.8 of the Pickering OP\*

# Town of Aurora

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### Building a Greener Community

###### This Section establishes policies that promote green building technologies, renewable and alternative energy options, waste management efforts and other sustainable design options for development with the aim of supporting the Town’s objectives for a healthy, vibrant and sustainable community.

###### **Objectives**

###### a) Demonstrate leadership in sustainable forms of development and green technologies.

###### b) Encourage development proposals that include energy efficient neighbourhood and/or building design and practices in all new development.

###### c) Establish made-in-Aurora green development and design standards that apply to all public and private sector developments.

###### d) Control and, where possible, eliminate water, soil, noise and air pollution to safeguard the natural and human environment.

###### e) Reduce per-capita consumption of energy, water, land and other non-renewable resources.

###### f) Reduce per-capita generation of storm water run-off, sanitary sewage and solid and hazardous waste.

###### g) Develop policies and programs designed to reduce per-capita greenhouse gas emissions by two-thirds by 2031.

###### h) Develop policies and programs designed to reduce greenhouse gas emissions in industrial, commercial and institutional sectors.

###### **Green Development and Design Standards**

###### a) Council, through consultation with key stakeholders, shall develop

###### Green Development and Design Standards to ensure that the vision and policies of this Plan are achieved through the development process.

###### b) The Green Development and Design Standards shall be used to evaluate development applications and prioritize development approvals.

###### c) All development shall meet the minimum standards established by the Green Development and Design Standard upon coming into effect.

###### d) The Green Development and Design Standards shall be implemented through an Official Plan Amendment.

###### e) Development applications that have received required approvals prior to the adoption of this Plan or in advance of Council adoption of more specific Green Development and Design Standards are encouraged to demonstrate a commitment to achieving the Town’s Building a Greener Community objectives, as per Section 5.1 of this Plan, and must conform with related standards established by the York Region Official Plan.

###### f) The Green Development and Design Standards shall be comprised of, but not limited to, the following elements and initiatives that contribute to sustainable community design and green development:

###### i. minimum standards for energy efficiency in building design;

###### ii. standards for community design, including but not limited to, compact forms of Development, transit oriented

###### Development and active transportation, in accordance with the vision and policies of this Plan;

###### iii. design standards to maximize solar gains and facilitate future on-site solar energy technologies;

###### iv. design measures to facilitate future on-site renewable energy and/or energy recovery systems;

###### v. minimum standards for water conservation, including rainwater harvesting, in all buildings and landscaping;

###### vi. green building material requirements to promote durability, resource reuse and renewable resource use;

###### vii. design measures to facilitate the future installation of plugins/ outlets for electric vehicles;

###### viii. requirements for green and/or white roofs into building design;

###### ix. requirements for Dark Sky compliant practices for exterior lighting;

###### x. minimum standards for waste reduction and diversion in the construction process;

###### xi. design standards for permeable surfaces, including permeable driveways and parking areas; and,

###### xii. landscape design standards to promote water efficient, drought resistant landscaping and the elimination of pesticide/herbicide use, including the use of native plants and xeriscaping.

###### g) The Green Development and Design Standards shall be reviewed and revised periodically to respond to technological advancements, design innovations and relevant regulatory changes. An Amendment to this Plan shall not be required to implement the results of the review, unless the intent and/or objectives of this Plan are affected.

###### h) Council will promote and encourage the use of recognized and accredited third-party certification for all new development, including LEED and EnergyStar.

###### i) Council shall commit to targeting LEED Silver certification, or equivalent standard, for all new municipal buildings and projects.

###### j) Council shall encourage the following efficiency standards for new buildings: i. 20% greater water efficiency than the Ontario Building Code;

###### ii. Grade related (3 storeys or less) residential buildings achieve performance level that is equal to a rating of 83 or more when evaluated in accordance with Natural

###### Resources Canada’s EnerGuide for New Houses:

###### Administrative and Technical Procedures;

###### iii. Mid and high-rise residential (4 storeys and greater) and non-residential buildings be designed to achieve 40% greater efficiency than the Model National Energy Code for

###### Buildings; and,

###### iv. Industrial buildings be designed to achieve 25% greater energy efficiency than the Model National Energy Code for

###### Buildings.

###### k) Council shall encourage the achievement of greater energy and water efficiency in all new buildings, beyond the above minimum requirements.

###### l) Council shall have regard for York Region’s sustainable development programs, which provide servicing allocation incentives to developments that meet specific sustainable development criteria. This policy is not intended to supersede the

###### Servicing Allocation Policy of the Town of Aurora and all of the criteria of said policy shall remain applicable. In the case of a conflict, the Servicing Allocation Policy of the Town of Aurora shall apply..

###### m) Council shall require the installation of rainwater harvesting and re-circulation/reuse systems on all new residential buildings for outdoor irrigation and outdoor water use.

###### n) Council shall encourage plans and building designs that maximize solar gains and that buildings be constructed in a manner that facilitates future solar installations (i.e. solar ready).

###### o) Council shall encourage the retrofitting of existing buildings to the standards noted in 5.2.j.

###### p) Council shall review the green building policies in this Plan as building standards and green building technologies, design approaches, and regulatory standards evolve.

###### q) Development applications shall conform with the sustainable building policies contained in the York Region Official Plan, including working to achieve the following energy efficiency and water conservation standards:

###### i. Grade-related (3 storeys or less) residential buildings achieve a minimum performance level that is equal to an ENERGY

###### STAR® standard;

###### ii. Mid- and high-rise (4 storeys and greater) residential and non-residential buildings, with the exception of industrial buildings, shall be designed to achieve 25% greater energy efficiency than the Model National Energy Code for Buildings;

###### iii. Designed to maximize solar gains and be constructed in a manner that facilitates future solar installations (i.e. solar ready); iv. To work with the development community to achieve 10% greater water conservation than the Ontario Building Code for all new buildings.

###### r) Council shall address the effects of climate change by:

###### i. working to understand the impacts of climate change on the health and well-being of residents; and

###### ii. requiring that communities are designed to be more resilient to the effects of climate change.

###### s) Council shall encourage building designs that contribute to improved indoor air quality.

###### **5.3 Alternative and Renewable Energy Policies**

###### a) Council shall promote best practices and innovation in energy conservation and renewable energy systems.

###### b) Council shall work with the Region, local utilities and other stakeholders to advance energy conservation, demand management and local generation efforts, as well as the development of renewable energy systems.

###### c) Council, in coordination with the Province, York Region and other stakeholders, shall investigate suitable criteria for the construction and use of renewable energy systems in Aurora.

###### d) Council may permit on-site alterative energy systems for residential, commercial, institutional and industrial buildings and work with the Region to develop associated design requirements.

###### e) Council shall review the alternative and renewable energy policies in this Plan as energy standards and technologies for alterative energy systems and renewable energy systems evolve.

###### f) Council shall prepare a Town-wide Community Energy Plan to detail energy use requirements and establish a plan to reduce energy demand and consider the use of alternative and renewable energy generation options and district energy systems, and will ensure that communities are designed to optimize passive solar gains.

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###### 3.2.2 To prepare a climate change adaptation action plan in keeping with the York Region Sustainability Strategy: Towards a Sustainable Region.

###### 3.2.3 To reduce vehicle emissions by ensuring that communities are designed to prioritize pedestrians and cyclists, reduce single occupancy automobile use, and support public transit and Transportation Demand Management initiatives.

###### 3.2.4 To establish greenhouse gas reduction targets for York Region in partnership with community stakeholders and local municipalities.

###### 3.2.5 To require health, environmental and cumulative air quality impact studies that assess the impact on human health for development with significant known or potential air emission levels near sensitive uses such as schools, daycares and seniors’ facilities.

###### 3.2.6 That sensitive uses such as schools, daycares and seniors’ facilities not be located near significant known air emissions sources such as controlled access provincial 400-series highways.

###### 3.2.7 To work with partners such as the GTA Clean Air Council to conduct research, develop toolkits and share information on air quality and climate change impacts.

###### 3.2.8 To work with local municipalities, agencies and stakeholders on the development and implementation of clean air initiatives.

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###### 5.2.13 To encourage local municipalities to undertake municipal-wide Community Energy Plans. These plans will detail the municipality’s energy use requirements and establish a plan to reduce energy demand and consider the use of alternative and renewable energy generation options and district energy systems, and will ensure that communities are designed to optimize passive solar gains.

###### 5.2.20 To work with local municipalities and the development community to achieve energy efficiency levels that exceed the Ontario Building Code for residential buildings, and the Model National Energy Code for non-residential buildings. A Urbanizing Region: 5.0|Building Cities and Complete Communities 82 | York Region Official Plan - Office Consolidation: April 2016 5.2.21 To encourage the following energy efficiency and conservation targets for new buildings: a. Grade-related (3 storeys or less) residential buildings achieve a performance level that is equal to a rating of 83 or more when evaluated in accordance with Natural Resources Canada’s EnerGuide for New Houses: Administrative and Technical Procedures. b. Mid- and high-rise residential (4 storeys and greater) and non-residential buildings be designed to achieve 40 per cent greater efficiency than the Model National Energy Code for Buildings, 1997. c. Industrial buildings (not including industrial processes) be designed to achieve 25 per cent greater energy efficiency than the Model National Energy Code for Buildings, 1997.

###### 5.2.28 To encourage all new buildings to include on-site renewable or alternative energy systems which produce 25 per cent of building energy use. Where on-site renewable or alternative energy systems are not feasible, consideration of purchasing grid-source renewable energy is encouraged.

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###### 5.6.10 That the local municipality shall develop a Community Energy Plan for each new community area to reduce community energy demands, optimize passive solar gains through design, maximize active transportation and transit, and make use of renewable, on-site generation and district energy options including but not limited to solar, wind, water, biomass, and geothermal energy.

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