
Glossary of Terms

3-Dimensional Features	Features that extend vertically below the ground surface (as opposed to 2 dimensional features that only exist on the ground surface). An aquifer is an example of a 3 dimensional hydrogeological feature.
7Q Flow	Annual Minimum 7-day flow
Advanced Treatment (Tertiary Treatment, Quaternary Treatment, And Disinfection)	Additional treatment needed to remove constituents remaining after conventional secondary treatment. Advanced treatment includes Tertiary Treatment, Quaternary Treatment as well as Disinfection. The advanced treatment system at the Lake Simcoe Water Reclamation Centre features two treatment trains: one designed to produce an effluent that has minimal nutrients for surface water discharge, and the other designed to produce nutrient rich reclaimed water suitable for irrigation. The treatment train producing effluent for discharge would include the following major treatment units after conventional treatment: filtration, reverse osmosis, disinfection, post-conditioning of the effluent, and reverse osmosis concentrate management. For production of reclaimed water, the post-secondary treatment will consist of tertiary filtration and disinfection.
Advantage	A relative term used to indicate that a particular condition is deemed to offer a benefit when compared to another condition.
Aerial Photography	Aerial photography is the taking of photographs from the air with a camera mounted, or hand held, on an aircraft, helicopter, balloon, rocket, kite, skydiver or similar vehicle.
Agronomic Loading Rate	A specific rate of effluent applied that provides the precise amount of water and nutrient loading, which selected crops require without having any excess water or nutrients percolate beyond the root zone.
Alkalinity	The capacity of water for neutralizing an acid solution.
Alternative	Both alternative methods and alternatives to a proposed undertaking.

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Alternative Methods of Carrying out the Undertaking (Interchangeable with Alternative Methods)	Different ways of doing the same activity. Alternative methods could include consideration of one or more of the following alternative technologies; alternative methods of applying specific technologies; alternative sites for a proposed undertaking; alternative design methods; and alternative methods of operating any facilities associated with a proposed undertaking.
Alternatives To the Undertaking (Interchangeable with Alternatives To)	Functionally different ways of approaching and dealing with a problem or opportunity.
Ammonia (un-ionized)	The neutral form of ammonia-nitrogen in water. Un-ionized ammonia is the principal form of ammonia that is toxic to aquatic life. The percentages of un-ionized ammonia (NH ₃) in aqueous ammonia solution are dependent on temperature and pH conditions. The PWQO for un-ionized ammonia is 20 µg/L.
Anaerobic	Without air, specifically oxygen. Anaerobic processes happen in the absence of oxygen.
Anoxic	An environment without dissolved oxygen, but with chemically bound oxygen in the form of nitrate/nitrite present. Under anoxic conditions, nitrate nitrogen is converted biologically to nitrogen gas in the absence of oxygen.
Antiscalant	Chemicals that are typically used in Reverse Osmosis applications to prevent sparingly soluble salts from precipitating on the membranes.
Aquatic	Refers to an environment that consists of, relates to, or is in water; or to animals and plants living or growing in, on, or near the water.
Aquifer	Rock or soil in a formation that is saturated and sufficiently permeable to transmit water in sufficient quantities to serve as a source of water supply.
Aquitard	Rock or soil in a formation that is saturated but is not sufficiently permeable to transmit water in sufficient quantities to serve as a source of water supply.

Glossary of Terms

Archaeological potential	The possibility of the presence of physical remains of past human activity.
Area of Influence	As it relates to pumping groundwater from a well, the area surrounding a pumping or recharging well within which the water table or potentiometric surface has been changed due to the well's pumping or recharge.
Area-Sensitive Breeding Birds	Include species of birds designated by the Ontario Ministry of Natural Resources that breed in urban forests.
Area-Sensitive Species	Species designated by the Ontario Ministry of Natural Resources that respond negatively to decreasing habitat patch size.
Artesian Conditions	<p>When a confined aquifer containing groundwater under positive pressure, causes the water level in a geotechnical piezometer or monitoring well to rise to a point where hydrostatic equilibrium has been reached. An artesian aquifer is confined by a relatively less permeable surficial layer (i.e. an aquitard) which results in this positive pressure.</p> <p>If the upper confining layer is removed during excavation activities, water could reach the ground surface if the natural pressure is high enough, in which case the flowing artesian condition will occur.</p>
Assimilative Capacity	Capacity of a natural body of water (lake, river, sea, etc.) to receive wastewaters and naturally treat those wastewaters without harmful effects and damage to aquatic life and humans who consume water from the water body.
Available Soil Moisture	Term used to define the difference between the amount of water in the soil at field capacity and the amount at the permanent wilting point.
Avoidance Measure	Taking actions that aim to prevent the occurrence of negative effects associated with the implementation of an alternative.
Bacteriophage	<p>A virus that infects and replicates within bacteria.</p> <p>Bacteriophages are used as an indicator of enteric (relating to the intestine) viruses.</p>

Glossary of Terms

Bardenpho Process	A 4-stage biological nutrient removal process developed by James Barnard in the mid-1970s.
Baseline Conditions	The existing conditions that are the physical, chemical, biological, social, economic, and cultural setting in which the proposed project is to be located and where local impacts (both positive and negative) might be expected to occur.
Bathymetry	Measurement of the depth of water bodies (ocean, sea, lake and river) and data derived.
Bedrock	The solid rock that underlies any unconsolidated sediment or soil.
Beneficial Reuse	The use of reclaimed water to benefit the end user or receiver (e.g., for irrigation of crops), as opposed to disposal, where there is no positive impact resulting from the discharge of water.
Best Management Practices	Scientific, technical, and operational-based approaches to resource management that when applied should allow the user to meet required standards or achieve objectives in a sustainable manner.
Biochemical Oxygen Demand (BOD)	A measure of the organic content in wastewater. BOD represents the amount of oxygen required by microorganisms to degrade the organic matter.
5-day Biochemical Oxygen Demand (BOD₅)	A measure of the organic content in wastewater after 5 days. BOD ₅ represents the measurement of the dissolved oxygen used by microorganisms in the biochemical oxidation of the organic matter.
Biofiltration	The use of microbial growth on an inert support media to remove air pollutants.
Biogas	Gas produced by the breakdown of organic material in the absence of oxygen. Biogas (e.g., methane) can be burned for energy generation.
Biological Nutrient Removal	The removal of nutrients (nitrogen and phosphorus) by microorganisms. Conditions are created to encourage the growth of desired microbes in various stages of the biological (secondary) treatment system take up or otherwise use nutrients present in the wastewater stream.

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Biological Oxygen Demand (BOD)

Biochemical oxygen demand is a measure of the organic content in wastewater. BOD represents the amount of oxygen required by microorganisms to degrade the organic matter.

Biosolids

Wastewater sludge that has been stabilized through one of many stabilization processes (e.g., digestion, alkaline stabilization).

- Class A Biosolids are biosolids in which pathogens are reduced to below detectable levels, as defined by the US EPA.
- Class B Biosolids are biosolids in which pathogens are reduced to levels that are unlikely to pose a threat to public health and the environment under specific use conditions, as defined by the US EPA. Class B Biosolids cannot be sold or given away in bags or other containers or applied on lawns or home gardens (i.e. site restrictions exist on land application).

BioWin

A simulator used in the analysis and design of wastewater treatment plants.

Boreholes

A hole that is drilled into the subsurface by the cutting of soil and rock and removal of the cuttings from the hole.

Buffer

A protective barrier; any of various devices or pieces of material for reducing shock or damage due to contact.

Built Environment

The human-made surroundings that provide the setting for human activity.

Canada Land Inventory (CLI)

A comprehensive, multi-disciplinary land classification scheme and common mapping of all rural land in Canada.

Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem

A federal-provincial agreement that establishes common priorities, goals, and results for the restoration, protection and conservation of the Great Lakes Basin Ecosystem. The purpose of the agreement is to restore, protect and conserve the Great Lakes Basin Ecosystem in order to assist in achieving the vision of a healthy, prosperous and sustainable Great Lakes Basin Ecosystem for present and future generations.

Glossary of Terms

Canadian Environmental Assessment Act (CEAA)	CEAA establishes the legal parameters for the federal environmental assessment process and sets out the responsibilities and procedures for carrying out the environmental assessments of projects that involve federal government decision-making authorities.
Carbon Footprint	The total set of greenhouse gas (GHG) emissions caused directly and indirectly by any given activity.
Carbon Sequestration	The natural or artificial process by which carbon dioxide is removed from the atmosphere and held in solid or liquid form.
5-day Carbonaceous Biochemical Oxygen Demand (cBOD₅)	A measure of the organic content in the wastewater after 5 days (BOD ₅) less the nitrous oxygen demand of the wastewater.
Category	A broader category, group or element of the environment used for classifying a given set of criteria.
Chemically Enhanced Primary Treatment (CEPT)	The process of adding metal salts or polymers to the primary sedimentation process to cause the suspended particles to coagulate and flocculate. The flocs or larger particles will settle faster thus enhancing the efficiency of the sedimentation process.
Chemical Oxygen Demand (COD)	A measure of the organic and inorganic content in wastewater. COD represents the amount of oxygen required to degrade the organic and inorganic matter.
Class Environmental Assessment	A Class Environmental Assessment (Class EA) is approved under Ontario's Environmental Assessment Act for a class of undertakings. There are currently 10 approved class environmental assessments (Class EAs) in Ontario. The preparation and approval of Class EAs is a streamlined process for projects or undertakings with predictable environmental impacts. See also Municipal Class Environmental Assessment.
Clean in Place (CIP)	A method of cleaning the interior surfaces of process equipment without disassembling the equipment. For water and wastewater treatment applications, Clean in Place processes are typically used to clean Reverse Osmosis membranes.

Glossary of Terms

Commitments

Represents a pledge from a proponent about a certain course of action, that is, "I will do this, at this time, in this way." Proponents document obligations and responsibilities, which they agree to follow, in environmental assessment documentation. The Minister of the Environment, with the agreement of Cabinet, has the authority to give approval to proceed with the undertaking. The commitments within the document are often made legally binding as a condition of approval.

Community Liaison Forum (CLF)

The Community Liaison Forum is a non-voting liaison forum with representation from organizations and residents within the preliminary study area that makes recommendations related to the UYSS EA to the Project Team for their consideration. The purpose of the CLF is to provide a forum for focused discussion of project issues with a representative broadly based group of interested stakeholders. The Community Liaison Forum will help to identify public and stakeholder opportunities and concerns and assess the possible public response and feedback to project issues.

Compensation Measure

To counterbalance a negative environmental effect through replacement in kind, or provision of a substitute or reimbursement in order to offset or neutralize the negative effect.

Compliance Monitoring

An assessment of whether an undertaking has been constructed, implemented, and/or operated in accordance with the commitments made in the environmental assessment and the conditions of the Environmental Assessment Act approval.

Composite Sample

An integrated sample which consists of a mixture of several individual grab samples collected at specified time periods.

Concentrate (RO)

See Reverse osmosis concentrate.

Glossary of Terms

Concept Level Design	An early stage of design that includes a description of the process/system selection criteria and process flow diagrams; conceptual information regarding system sizing, approximate locations/alignment diagrams, and operating and maintenance strategies; constructability issues/constraints and servicing requirements; and approximate footprint requirements. Concept Level Design may be broken down into sub-levels of progressive detail (i.e. Concept Level 1 Design and Concept Level 2 Design).
Confined Aquifer	An aquifer that is overlain by deposits with significantly lower permeability (i.e., confining bed or aquitard); thereby confining the waters therein.
Confluence	The point where two or more bodies of water meet and start flowing together.
Contingency Plans	A plan that includes specific strategies and actions to deal with specific variances to assumptions resulting in a particular problem, emergency or state of affairs.
Conventional Activated Sludge	The most common biological wastewater treatment process. CAS includes biological treatment (in biological reactors) and secondary clarification. Activated sludge is removed from the secondary clarifiers and returned to the biological reactors to maintain a healthy microbial population.
Conventional Parameters	Traditional indicators of environmental quality including BOD, nutrients and solids. Materials defined as hazardous substances are not included.
Conventional Treatment (Preliminary Through Secondary Treatment)	The conventional treatment system for the Lake Simcoe Water Reclamation Centre would consist of the following major treatment units: headworks, primary clarification, flow balancing, and biological treatment.
Criteria / Criterion	A set of principles or standards used to compare and judge alternatives. (plural = "criteria", singular = "criterion")
CT	Concentration in milligrams per litre multiplied by contact time in minutes.

Glossary of Terms

Cultural Environment	The ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions, and values.
Cultural Heritage Resource	Cultural heritage encompasses material culture, in the form of objects, structures, sites, landscapes and natural environment shaped by cultural practices and traditions over time, as well as living (or expressive) culture as evidenced in forms such as music, crafts, performing arts, literature, oral tradition and language. The emphasis is on cultural continuity from the past, through the present and into the future, with the recognition that culture is organic and evolving.
Cultural Landscape	Distinct geographical areas or properties uniquely representing the combined work of nature and humans.
Customer (Interchangeable with End User)	Recipient of reclaimed water for approved uses.
Dechlorination	The process of removing residual chlorine from disinfected water prior to discharge into the environment.
Demonstration Facility	An advanced treatment Demonstration Study is required by the Ontario Ministry of the Environment (MOE) as part of the UYSS EA to demonstrate the ability of membrane technology (low pressure membranes and reverse osmosis membranes) to achieve low total phosphorus levels (less than 0.020 milligrams per Litre of TP) following biological treatment of municipal wastewater. The Demonstration Facility was operational from March 2012 to April 2013.
Denitrification	A biological process where nitrate present in a wastewater stream is reduced to nitric oxide, nitrous oxide, and nitrogen gas (Tchobanoglous et al., 2004). The second stage in a two-stage biological nitrogen removal process, following nitrification.
(Department of) Fisheries and Oceans Canada (DFO)	DFO is the lead federal government department responsible for developing and implementing policies and programs in support of Canada's economic, ecological, and scientific interests in oceans and inland waters.

Glossary of Terms

Detailed Design	The process of refining and expanding the preliminary design of the system and all supporting systems to the extent that the design is finalized and construction documents can be prepared.
Dewatering	A physical operation to reduce the moisture content of sludge or biosolids. Also used in construction to refer to the removal of groundwater by pumping or other means to permit tunneling or excavation without encountering waterlogged soil conditions.
Digestion	The decomposition of organic matter in sludge by microorganisms. Digestion may occur under aerobic or anaerobic conditions.
Disadvantage	A relative term used to indicate that a particular condition is deemed to be unfavourable or of an inferior condition when compared with another condition.
Discharge (Water Reclamation Centre Discharge)	The flow of treated clean water from a wastewater treatment plant. In this case the flow of treated clean water from the Water Reclamation Centre.
Discharge to Lake Ontario Alternative	One of the four Alternatives To the Undertaking examined in the UYSS EA. Under this alternative, all wastewater would be conveyed to an appropriate point in the existing York Durham Sewage System through some combination of tunnel, pumping station(s) and forcemain(s).
Discharge to Lake Simcoe Alternative	One of the four Alternatives To the Undertaking examined in the UYSS EA. Under this alternative, wastewater from growth in East Gwillimbury and a portion of Newmarket would be conveyed to an advanced wastewater treatment plant for treatment and discharge within the Lake Simcoe watershed, in compliance with the phosphorus loading targets established by the Phosphorus Reduction Strategy under the Lake Simcoe Protection Plan. Wastewater from approved growth in Newmarket and Aurora would continue to be conveyed to the existing York Durham Sewage System.
Disinfection	Destruction or removal of disease-causing organisms (pathogens) from wastewater. Disinfection is usually the last stage in the wastewater treatment process.

Glossary of Terms

Displacement	An action that results in a change in the location of an activity or facility.
Disruption	An action that results in a negative change in the way people undertake activities, stopping the activity or negatively changing the schedule.
Disturbance	An action that negatively influences people's activities or enjoyment of those activities.
Do Nothing Alternative	One of the four Alternatives To the Undertaking examined in the UYSS EA. Under this alternative, no additional wastewater collection and treatment capacity would be built to accommodate the approved growth.
Drainage Basin	An area from which all precipitation flows to a single stream or set of streams.
Drawdown	A lowering of the water table of an unconfined aquifer or the potentiometric surface of a confined aquifer caused by pumping of groundwater from wells.
<i>E. coli</i>	A common organism that is found in untreated wastewater. Some forms of <i>E. coli</i> may be pathogenic and along with other pathogenic organisms are damaged or removed during disinfection so that they are no longer a threat to human health.
Easement	A legally recognized property right held by a person or a group to make use of land for a limited purpose, such as construction.
Ecological Land Classification	A system to delineate natural regions based on ecological factors. In Ontario, the Ministry of Natural Resources defines ecological units on the basis of bedrock, climate, physiography, and corresponding vegetation, creating an Ecological Land Classification System.
Economic Environment	The economic conditions that influence the life of humans or a community, including factors such as employment, income, and wealth.
Effluent	Refers to water flowing from a pipe, treatment process, or treatment plant.

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Effluent Compliance Limit	Regulatory limit on the concentration of a constituent in the effluent from a wastewater treatment facility. Exceeding the limit constitutes non-compliance and may result in legal sanctions.
Effluent Limit	Limit or level of discharge water quality to be achieved by a sewage treatment plant.
Effluent Objective	Objective for the concentration of a constituent in the effluent from a wastewater treatment facility. The objectives are not enforceable, but achievement of objectives signifies a well-operating facility. Objectives are more stringent than compliance limits.
Elutriation	The process of decanting liquid from a unit process. In the case of the gravity thickeners, for use within the process.
End User (Interchangeable with Customer)	Recipient of reclaimed water for approved uses.
Endangered	A species, landform or terrestrial feature that is at risk of becoming extinct because it is threatened by changing parameters.
Environment	<p>The <i>Environmental Assessment Act</i> defines “environment” broadly to include:</p> <ul style="list-style-type: none">i) air, land or waterii) plant or animal life, including human lifeiii) social, economic, and cultural conditions influencing the life of humans or a communityiv) any building, structure, machine or other device or thing made by humansv) any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from the human activitiesvi) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario

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Environmental Assessment (EA)

A generic term for a study that assesses the potential environmental effects (positive or negative) of a proposal. Key components of an environmental assessment include consultation with government agencies and the public; consideration and evaluation of alternatives; and the management of potential environmental effects. Conducting an environmental assessment promotes good environmental planning before decisions are made about proceeding with a proposal.

For the purposes of this Terms of Reference, an Environmental Assessment refers to the process and related documentation, including the submission of a Terms of Reference and final Environmental Assessment Report for approval by the Minister of the Environment, in accordance with the requirements of Part II of the *EA Act*.

Environmental Assessment Act (EA Act)

Legislation that defines a decision-making process used to promote good environmental planning by assessing the potential effects of certain activities on the environment. The purpose of the *EA Act* is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.

Environmental Compliance Approval (ECA)

The ECA is an instrument of environmental approval issued by the Ontario Ministry of Environment (MOE) and has replaced the Certificate of Approval.

Businesses in Ontario must have MOE- issued environmental approvals if they release contaminants into the air, onto land or into water, or store, transport or dispose of waste.

Environmental Effect

The effect that a proposed undertaking or its alternatives has or could potentially have on the environment, either positive or negative, direct or indirect, short- or long-term.

Environmental Management Plan (EMP)

A report that describes monitoring activities to identify environmental impacts from construction activities and adaptive initiatives to mitigate those impacts.

Eutrophication

Eutrophication describes an excess of nutrients in a water body, which leads to an overgrowth of plants and depletion of dissolved oxygen, which may cause death to fish and other animals.

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Evaluation	A formal process for comparatively assessing the advantages and disadvantages of alternatives (see Evaluation Methodology).
Evaluation Methodology	A formal process for comparatively assessing the advantages and disadvantages of alternatives and establishing an order of preference among alternatives.
Evapotranspiration Values (ET)	Evapotranspiration is the loss of water from a vegetative surface through the combined processes of plant transpiration and soil evaporation.
Fermentate	Term used to refer to the fermenter effluent, which is rich in volatile fatty acids.
Fermenter	Refers to the tank / apparatus used to ferment solids to volatile solids to generate volatile fatty acids.
Filtrate	The treated liquid that has passed through a filter.
Firm Capacity	For a number of pieces of process equipment (i.e. pumps) installed in parallel, the capacity of the remaining units when the unit with the largest design capacity is removed from service.
Flocculation	A process where wastewater particles form aggregates, or flocs, which are more readily removed by settling. Flocculation follows chemical addition and rapid mixing.
Flow Balancing	The process of mitigating changes in the flow rate by providing storage during high flow periods and controlled release of stored volumes during low flow periods.
Forcemain	A pressurized pipe that can convey wastewater, water, etc. to and from a treatment facility using mechanical devices (e.g. pumps).
Framework	Criteria based on the Framework provided in the Assessment of the Proposed Reclaimed Water Program Report which are incorporated into the Environmental Compliance Approval (ECA) for the Water Reclamation Centre and ECAs for End Users of reclaimed water from the Water Reclamation Centre.

Glossary of Terms

Geographic Information System (GIS)	A system for creating, storing, analyzing and managing spatial data and associated attributes.
Government Review Team (GRT)	Staff from government ministries and agencies (federal; provincial, including local Conservation Authorities; and, municipal, including local Boards of Health) who contribute to the review of environmental assessment documentation (terms of reference and environmental assessment) by providing comments from their mandated areas of responsibility.
Grab sample	A single sample taken at a specific time.
Gravity Sewers	Large networks of underground pipes that convey sanitary sewage and storm sewage from individual buildings to a treatment facility using gravity rather than mechanical devices such as pumps.
Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement	The Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (2005) is intended to provide strong protections for Great Lakes–St. Lawrence River Basin waters and is founded on the principles of precaution, ecosystem protection, and recognition of cumulative impacts and climate change uncertainties.
Great Lakes Charter	The Great Lakes Charter and Annex (2001) establish a non-binding understanding between Ontario, Quebec and the eight Great Lakes States that sets out broad principles for the joint management of the Great Lakes.
Greenbelt Act, 2005	Enacted in 2005, provides for the establishment of the Greenbelt Plan.
Greenbelt Plan	Established under the authority of Section 3 of the Greenbelt Act, 2005. The Greenbelt Plan identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological features and functions occurring on this landscape.
Groundwater	Water below the surface of the ground that occupies a zone of the earth's mantle that is saturated with water.

Glossary of Terms

Growth Plan for the Greater Golden Horseshoe (Growth Plan)	Established under the authority of subsection 7 (6) of the <i>Places to Grow Act, 2005</i> , the Growth Plan aims to manage growth and development in Ontario in a way that supports economic prosperity, protects the environment, and develops a culture of conservation.
Guidelines	Not legally enforceable, guidelines are established by government or other agencies to provide general rules or guidance.
Habitat	The physical location or type of environment in which an organism or biological population occurs or lives, grows, and carries out life processes.
Hardness	A measure of concentration of mineral salts such as calcium and magnesium ions in water and expressed as equivalent mass of calcium carbonate per unit volume of water.
Harmful Alteration, Destruction or Disruption of Fish Habitat (HADD)	According to Section 35(1) of the Fisheries Act, no one is allowed to cause a HADD unless an authorization, according to Section 35(2) of the Fisheries Act, has been obtained. “No net loss of the productive capacity of existing fish habitat” is the conservation goal guiding an authorization to cause a HADD.
Headwaters	The source of water at the top of a drainage system.
Headworks	Precedes the first stage of a generic wastewater treatment process. Headworks often include screening, grit removal, and other preliminary treatment processes to improve overall efficiency and protect downstream processes.
Head loss	Energy loss by a moving fluid as it flows through a pipe or channel.
Holland Marsh	Consists of 2900 ha of organic (muck) soil draining to the Holland River used for farming. The region is the largest area of organic soil developed for agriculture in the province and one of the most intensive areas of agricultural production in the country (From: The University of Guelph Muck Crops Research Station, http://www.uoguelph.ca/plant/stations/muck_crops/).

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Horizontal Directional Drilling	A steerable trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface-launched drilling rig, with minimal impact on the surrounding area. Directional drilling is commonly used when trenching or excavating is not practical due to environmental/operational impact. It is suitable for a variety of soil conditions and jobs including road, landscape and river crossings. Installation lengths up to 2000 m have been completed, and diameters up to 1200 mm have been installed in shorter runs. The advantage of directionally drilling includes the ability to steer the horizontal and vertical alignment along a prescribed path.
Hydraulic Residence Time (HRT)	A measure of the average length of time that a soluble compound remains in a tank or reactor.
Hypoxia	Refers to deficiency in oxygen amount.
Impact Assessment	The process of studying and identifying the future consequences of a current or proposed action.
Indicator	An aspect of a criterion that characterizes the potential effects on the environment.
Indirect Emissions	Emissions from sources generally outside the boundary of an organization, area, facility, etc.
Individual Environmental Assessment (IEA)	See Environmental Assessment.
Infiltration	Extraneous flow that enters a wastewater collection system from groundwater through broken pipes, pipe joints, connections, and manhole walls.
Inflow	Extraneous flow that enters a wastewater collection system from overland flow (e.g., stormwater and snowmelt) through drains, manhole covers, and cross connections.
Influent	Water flowing from a pipe, as part of a treatment process, into a treatment plant.

Glossary of Terms

Innovative Wastewater Treatment Technologies Alternative

One of the four Alternatives To the Undertaking examined in the UYSS EA. Under this alternative, wastewater from approved growth in East Gwillimbury and a portion of Newmarket would be conveyed to a Water Reclamation Centre within the Lake Simcoe watershed. Wastewater from the remaining approved growth in Newmarket and Aurora would be conveyed to the existing York Durham Sewage System for treatment and discharge to Lake Ontario.

Intra-Basin Transfer

Under the Great Lakes – St. Lawrence River Basin Sustainable Water Resources Agreement and the OWRA, intra-basin transfer is the transfer of water from the watershed of one of the Great Lakes into the watershed of another Great Lake.

Irrigation

Application of water to land or soil, often for the purposes of supporting plant growth.

Jacking and Boring (Auger Boring)

Auger bores are generally short in nature (200 m maximum) and can only be installed in a straight line. Auger bores are ideal for crossing heavily travelled roadways or small environmentally sensitive areas. Auger boring is not conducive to working in sandy soils or in locations where there is high ground water. In these cases auger boring can be substituted with Pipe Jacking. Similar to auger boring, the main difference with pipe jacking is that the casing or product pipe is fully installed prior to spoil removal.

Lagoon

Also referred to as a wastewater stabilization pond, lagoons provide biological and physical treatment of wastewater.

Lake Simcoe Phosphorus Reduction Strategy (PRS)

The Lake Simcoe Protection Plan commits the Province, working with the Lake Simcoe Region Conservation Authority, local stakeholders, municipalities and other partners, to develop a comprehensive Phosphorus Reduction Strategy. The Strategy identifies specific reduction goals and potential reduction opportunities to achieve phosphorus loading targets for Lake Simcoe. In addition, the Strategy incorporates several key concepts and strategic directions including: adaptive management, watershed approach, stewardship and community action, source-specific actions, monitoring and compliance, and research, modeling and innovation.

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Lake Simcoe Protection Act, 2008	Enacted in 2008, provides the authority for the Minister of the Environment to establish the Lake Simcoe Protection Plan. The purpose of the Act is to protect and restore the ecological health of the Lake Simcoe watershed.
Lake Simcoe Protection Plan	Established under the authority of <i>Lake Simcoe Protection Act, 2008</i> . The objectives of the Lake Simcoe Protection Plan, approved June 2009, include to protect, improve or restore the elements that contribute to the ecological health of the Lake Simcoe watershed, including, water quality, hydrology, key natural heritage features and their functions, and key hydrologic features and their functions.
Lake Simcoe Region Conservation Authority (LSRCA)	Established under the <i>Conservation Authorities Act (1946)</i> , the LSRCA prepares and delivers programs for the management of the renewable natural resources within watersheds in its jurisdiction.
Lakes and Rivers Improvement Act	Enacted in 1990, provides for the management, protection, preservation, and use of the waters of the lakes and rivers of Ontario and the land under them.
Laminar flow	Flow in a pipe or channel that flows in parallel layers, with no disruption between the layers. It is the opposite of turbulent flow.
Locally Significant Wetland	Wetlands identified as locally significant by the Ministry of Natural Resources using evaluation procedures established by the province, as amended from time to time.
Long List	The preliminary list of alternative methods of carrying out the undertaking.
Low Nutrient Reclaimed Water	Reclaimed water containing low amounts of phosphorus and/or nitrogen.

Glossary of Terms

Membrane Filtration

A physical solids separation process where water and other small molecules are forced across a thin, porous membrane while larger solid particles are unable to pass through the pores and are effectively removed from the stream. The two types of membrane filtration discussed in this report are microfiltration and ultrafiltration. The differences are briefly outlined below.

Microfiltration can remove solids that are 0.08 to 2.0 micrometres (μm) in size. Microfiltration can remove TSS, turbidity, micro-organisms, and some bacteria and viruses. Water and dissolved solutes are allowed to pass through the membrane.

Ultrafiltration can remove solids that are 0.005 to 0.2 micrometres in size. Ultrafiltration can remove some dissolved solutes, most bacteria, and some viruses and proteins. Water and small molecules are allowed to pass through the membrane.

Note: the definitions for Microfiltration and Ultrafiltration are based on *Metcalf and Eddy, Wastewater Engineering Treatment and Reuse, 2003*.

Mesophilic

Describes organisms, especially bacteria that thrive at moderate temperatures.

Microfiltration

Membrane filtration is a physical solids separation process where water and other small molecules are forced across a thin, porous membrane while larger solid particles are unable to pass through the pores and are effectively removed from the stream. Microfiltration can remove solids that are 0.08 to 2.0 micrometres (μm) in size. Microfiltration can remove TSS, turbidity, micro-organisms, and some bacteria and viruses. Water and dissolved solutes are allowed to pass through the membrane.

Definition for Microfiltration based on *Metcalf and Eddy, Wastewater Engineering Treatment and Reuse, 2003*.

Microtunneling

Microtunneling is a construction method where a horizontal shaft is mined through the earth from an entry point by grinding out soil and displacing the waste via conveyor or slurry. Once the shaft is mined; the tunnel machine is propelled forward via hydraulic jacks and a liner is installed behind the head of the tunnel machine to stabilize the earth. The completed liner provides a passage allowing new infrastructure to be installed.

Glossary of Terms

Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

A (former) provincial ministry committed to supporting Ontario's agricultural food sector, enforcing and improving food safety, protecting the environment, and strengthening Ontario's rural communities. In 2013, this Ministry was split into two ministries: Ministry of Agriculture and Food and Ministry of Rural Affairs.

Ministry of Tourism, Culture and Sport (MTCS)

The Ministry of Tourism, Culture and Sport:

- Supports the delivery and marketing of high quality tourism and cultural experiences to Ontarians and visitors to Ontario. Promoting a sustainable, customer-focused tourism industry helps improve our quality of life, increase pride in our communities, and increase economic growth.
- Encourages the arts and cultural industries, protects Ontario's heritage and advances the public library system to maximize their contribution to the province's economic and social vitality.
- Seeks to increase investment in Ontario's tourism industry.
- Champions participation in sport and recreation activities across Ontario.

Minister of the Environment (Minister)

The Minister of the Environment is responsible under the *EA Act* for final approval of the ToR and the EA.

Ministry of the Environment (MOE)¹

The Ministry of the Environment is responsible for protecting air, land and water to ensure healthy communities, ecological protection, and sustainable development for present and future generations of Ontarians.

Ministry of Natural Resources (MNR)

The Ministry of Natural Resources manages and protects Ontario's natural resources for wise use across the province.

Mitigation measure/techniques

Action(s) that remove or alleviate to some degree the negative effects associated with the implementation of an alternative.

¹ As of July 3, 2014, the Ministry of the Environment was renamed the Ministry of Environment and Climate Change. As a result, all instances of the "Ministry of the Environment", "MOE" and "Minister (of the Environment)" in the UYSS EA Report and related documentation are references to the Ministry of Environment and Climate Change and the Minister thereof.

Glossary of Terms

Mixed liquor	The contents of an aeration basin (influent wastewater and return activated sludge).
Monitoring	A systematic method for collecting information using standard observations according to a schedule and over a sustained period of time.
Municipal Class Environmental Assessment (Municipal Class EA)	Approved under the EA Act and prepared by the Municipal Engineers Association, the Municipal Class EA applies to municipal infrastructure projects including transit, roads, water, and wastewater projects. Projects under the Municipal Class EA are to be undertaken in accordance with an approved procedure.
Natural Environment	A term that encompasses all living and non-living things occurring naturally on Earth or some region thereof.
Net Effect	The remaining negative or positive effect of an alternative after the application of avoidance / mitigation / compensation / enhancement measures.
Net Effects Analysis	The process of determining and documenting the net effects associated with each indicator for each alternative being considered.
Net Present Worth Costs	Present worth (equivalent value at specific point in time) of cash inflows minus the present worth of cash outflows.
Nitrification	A two step biological process where ammonia present in the wastewater stream is oxidized to nitrite, and the nitrite is in turn oxidized to nitrate (Tchobanoglous et al., 2004). Nitrification must be performed before denitrification can occur.
Non-Potable Water	Water that is not intended for human consumption and therefore intended for non-drinking water uses only.
Nutrient-Rich Reclaimed Water	Reclaimed water rich in phosphorus and/or nitrogen.
Oak Ridges Moraine (ORM)	An environmentally sensitive, geological landform in south central Ontario, covering 190,000 hectares and is delineated and protected by the Oak Ridges Moraine Conservation Plan.

Glossary of Terms

Oak Ridges Moraine Conservation Act, 2001 (ORMCA)	Enacted in 2001, provides the authority for the Minister of the Environment to establish the Oak Ridges Moraine Conservation Plan.
Oak Ridges Moraine Conservation Plan (ORMCP)	Established under the authority of Section 3 of the Oak Ridges Moraine Conservation Act, 2001. The purpose of the Oak Ridges Moraine Conservation Plan is to provide land use and resource management planning direction to provincial ministers, ministries, and agencies, municipalities, municipal planning authorities, landowners and other stakeholders on how to protect the moraine's ecological and hydrological features and functions.
Odour Unit (OU)	A threshold where 50 percent of the population would detect, but not identify, an odiferous compound. This definition is normally applied at odour sensitive receptors.
Ontario Archaeological Sites Database	An area where data is gathered in a standardized format with up to 70 fields of information available for any particular site. Included are detailed site location, type of site, history of research, disposition of the artifacts, and dates when excavated.
Ontario Geological Survey	A provincial government organization that helps implement government public policy by collecting and applying relevant information about Ontario's geology and geological resources, and helps attract mineral investment.
Ontario Municipal Board (OMB)	An independent, quasi-judicial administrative tribunal that oversees provincial regulations of municipal matters. The OMB acts as a tribunal that hears municipal planning disputes and seeks to resolve them through legal hearings, mediation and other means as may be appropriate.
Ontario Realty Corporation (ORC)	Provides customer-focused real estate services to the Ontario government, including strategic portfolio management, asset management, property and land management, and capital projects.
Ontario Stream Assessment Protocol	Contains a series of standardized methodologies for identifying sites, evaluating benthic macro invertebrates, fish communities, physical habitat, and water temperature in wadeable streams.

Glossary of Terms

Ontario Water Resources Act (OWRA)	The OWRA provides for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use to promote Ontario's long-term environmental, social and economic well-being.
Ontario Water Resources Commission (OWRC)	The predecessor agency of the Ministry of the Environment. The OWRC officially became the Ministry of the Environment in 1972.
Open Cut	A construction method by which ground is removed or excavated and pipe is directly installed in the trench and backfilled.
Oxidation	In the context of wastewater treatment, advanced oxidation processes are used to oxidize complex organic compounds in wastewater that are difficult to degrade biologically.
Parameter	A measurable or quantifiable characteristic or feature of water quality.
Pathogen	A disease causing bacterium, virus or other microorganism.
Permeate (RO)	See reverse osmosis (RO) permeate.
Permeability	Pertaining to the relative ease with which a medium can transmit a liquid under a hydraulic or potential gradient. For example, sand and gravel deposits have a high permeability and silt and clay deposits have a low permeability.
Permit to Take Water (PTTW)	The Permit to Take Water program is the principal means by which the Ontario Ministry of the Environment regulates the taking of water in the province. Water takings in Ontario are governed by Ontario Regulation 387/04 under the <i>Ontario Water Resources Act</i> .
pH	A measure of the acidity or alkalinity of a solution.

Glossary of Terms

Phosphorus

A chemical element that occurs naturally in the environment and is an essential nutrient for plants and animals. Because phosphorus is a nutrient, high levels in a lake encourage the growth of plants and algae. Although some phosphorus is required to support a healthy aquatic ecosystem, too much phosphorus leads to excessive growth of plants and algae in the lake. As these plants decay, dissolved oxygen required by fish and other aquatic species is depleted.

Phosphorus Loading Targets

Established by the Phosphorus Reduction Strategy under the Lake Simcoe Protection Plan, the phosphorus loading targets aim to reduce the amount of phosphorus entering streams and Lake Simcoe from the subwatersheds and other specific areas within the Lake Simcoe watershed. This will help the Lake Simcoe watershed reduce the amount of phosphorus discharged to surface waters and meet the long-term phosphorus reduction goals in the Lake Simcoe Phosphorus Reduction Strategy.

Phosphorus Reduction Strategy (PRS)

See Lake Simcoe Phosphorus Reduction Strategy.

Physiographic region

Refers to a distinctive area of landscape that has its own topography and geology.

Places To Grow Act, 2005

Enacted in 2005, provides the authority for the Minister of Energy and Infrastructure to establish the Growth Plan for the Greater Golden Horseshoe (the Growth Plan). The purpose of the *Places to Grow Act, 2005* is:

- a) to enable decisions about growth to be made in ways that sustain a robust economy, build strong communities and promote a healthy environment and a culture of conservation
- b) to promote a rational and balanced approach to decisions about growth that builds on community priorities, strengths and opportunities and makes efficient use of infrastructure
- c) to enable planning for growth in a manner that reflects a broad geographical perspective and is integrated across natural and municipal boundaries
- d) to ensure that a long-term vision and long-term goals guide decision-making about growth and provide for the co-ordination of growth policies among all levels of government

Glossary of Terms

Post-Conditioning	The process of conditioning treated and disinfected water by adjusting pH, hardness, dissolved oxygen and removing residual chlorine to meet effluent discharge criteria.
Potable Water	Water that is suitable for human consumption.
Potential Effect	An effect that is deemed possible to result from an activity or implementation of a particular alternative.
Potentiometric Surface	The surface that represents the level to which water will rise in a well.
Preferred Alternative	The alternative selected as the undertaking for which approval will be sought, based on an approach for identifying a preferred alternative, namely: <ul style="list-style-type: none">a) Identify a recommended alternativeb) Consult review agencies and the public on the recommended alternativec) Confirm or select the preferred alternative based on the comments received
Preliminary Design	A level of design more detailed than concept level design that includes design criteria, process narratives and preliminary equipment sizing; preliminary construction phasing strategies; anticipated staffing and operations and maintenance requirements; preliminary site servicing requirements; the basis for structural, mechanical, and electrical design; and preliminary design drawings including the site plan(s).
Preliminary Study Area	In reference to the UYSS EA, extends north to Lake Simcoe, east to Woodbine Avenue, south to 19th Avenue, and west to Bathurst Street. This preliminary study area is the area within which activities associated with the undertaking will occur and where potential environmental effects will be studied, and it currently includes the UYSS service area.
Primary Treatment	The first stage of wastewater treatment, involves removal of a portion of suspended solids and organic matter, usually by sedimentation.

Glossary of Terms

Primary Zone of Influence	The primary zone of influence is an area directly above the proposed forcemain alignment, where the need for excavation or disturbance of either the surface or buried infrastructure/utilities is anticipated during construction. This area will be needed for the permanent easement.
Project-Specific Guidelines	Criteria based on the Framework provided in the Assessment of the Proposed Reclaimed Water Program Report which are incorporated into the Environmental Compliance Approval (ECA) for the Water Reclamation Centre and ECAs for End Users of reclaimed water from the Water Reclamation Centre.
Property Easements	An easement is a legally established and recognized right that one party has to use property that is owned by someone else. The rights of the easement holder regarding usage of the property are specific and typically limited.
Provincial Policy Statement (PPS)	Updated in 2014, the PPS is issued under the authority of Section 3 of the Planning Act. The PPS provides direction on matters of provincial interest related to land use planning and development, and promotes the provincial "policy-led" planning system.
Provincially Significant Candidate Earth Science (ES) Area of Natural and Scientific Interest (ANSI)	Areas of land and water containing natural landscapes or features that have been identified as having earth science values related to protection, scientific study or education, and identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.
Provincially Significant Candidate Life Science(LS) Area of Natural and Scientific Interest (ANSI)	Areas of land and water containing natural landscapes or features that have been identified as having life science values related to protection, scientific study or education, and identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.
Provincially Significant Wetland (PSW)	Wetlands identified as provincially significant by the Ministry of Natural Resources using evaluation procedures established by the province, as amended from time to time.
Public	Means the general public, individual members of the public who may be affected by or have an interest in a project and special interest groups.

Glossary of Terms

Pump Test	A test conducted to determine aquifer or well characteristics.
Pumping/Forcemain Based Sewer System	A sewer system that relies on the use of pumps and pressurized pipes (forcemain) to convey collected wastewater from urban areas to a wastewater treatment facility for disposal.
Quaternary Treatment	Refers to advanced treatment processes implemented following tertiary treatment to remove remaining constituents that cannot be removed through conventional processes.
Rank	Of a specified order or position in relation to others in a series.
Ranking	To arrange (alternatives) according to their rank from first to last.
Rationale	Explanation of the logical reasons or principles employed in consciously arriving at a decision or estimate.
Readily Biodegradable Soluble Chemical Oxygen Demand (rbCOD)	The fraction of biodegradable COD that is soluble, and can be quickly assimilated by biomass in an activated sludge process. rbCOD can be further characterized as either volatile fatty acids, or complex soluble COD that can be fermented to generate volatile fatty acids (Tchobanoglous et al., 2004).
Reasonable Alternative	Defined for “Alternatives To the Undertaking” to be those alternatives that can address the purpose of the undertaking. Defined for “Alternative Methods of Carrying out the Undertaking” to be those alternative methods that can implement the preferred alternative.
Reasoned Argument / Trade-off Method	A comparative evaluation method based on net effects / advantages and disadvantages and explained in narrative terms (rationale). The process of examining the net effects and key trade-offs of each alternative in order to provide a clear rationale for the preferred alternative.
Receiver	A water body to which a treated effluent is directed.

Glossary of Terms

Reclaimed Water (Interchangeable with Reuse)	Wastewater that has gone through various treatment processes to meet specific water quality criteria with the intent of being used in a beneficial manner (e.g., irrigation and industrial uses).
Recommended Alternative(s)	An alternative or alternatives that are selected as first place based on the results of a comparative evaluation process.
Record of Consultation	Describes the consultation activities undertaken during the preparation of the EA Terms of Reference.
Regulations	A rule or directive made pursuant to legislation and enforced by an authority, such as the Ontario Ministry of the Environment.
Replicable	Refers to evaluation methods that are sufficiently unambiguous such that the same or equivalent results would be obtained by the application of the method by different users.
Retrofit	Adding a component to an existing item or structure to change or improve its function.
Return activated sludge (RAS)	Settled sludge in activated sludge treatment processes that is returned to the biological reactor to maintain a healthy population of microorganisms.
Reuse (Interchangeable with Reclaimed Water)	Wastewater that has gone through various treatment processes to meet specific water quality criteria with the intent of being used in a beneficial manner (e.g., irrigation and industrial uses).
Reverse Osmosis (RO)	A high-pressure membrane separation process in which a liquid is forced across a membrane against osmotic pressure. Osmosis is the passage of pure solvent (such as water) between two solutions separated by a semi-permeable membrane in response to a concentration gradient (i.e., from the lesser to the greater solute concentration). The term osmotic pressure refers to the pressure exerted by the flow of the solvent through the membrane separating two solutions with different concentrations of solute. Reverse osmosis membranes are effective in removing dissolved constituents with a membrane pore size of 0.001 micrometres (µm) or less.

Glossary of Terms

Reverse Osmosis (RO) Concentrate	Rejected flow that was not able to pass through the RO membrane and contains the constituents removed from the RO permeate.
Reverse Osmosis (RO) Permeate	Treated flow that has been filtered through the RO membrane.
Review Agencies	Means government agencies, ministries, or public authorities or bodies whose mandates require them to have jurisdiction over matters affected or potentially affected by projects. This includes municipalities other than the proponent.
Review Agency Advisory Committee (RAAC)	A committee that provides a forum for in-depth discussion of project issues with agencies having regulatory authority. The RAAC will ensure the project team has effectively engaged the various levels of government that are responsible for commenting on the UYSS EA.
Right of Way (ROW)	Publicly owned land occupied by facilities such as roadways or public utilities. A public right-of-way by-law is designated under the Highway Traffic Act.
River Morphology	Study of the shapes of river channels and how they change over time; fluvial geomorphology.
Sanitary Sewage	Liquid or waterborne waste, of industrial or commercial origin, or of domestic origin, including human body waste, toilet or other bathroom waste, and shower, tub, culinary, sink and laundry waste.
Screening	A process of applying criteria/criterion to alternatives and eliminating those that do not meet minimum conditions or categorical requirements from further consideration.
Screening Criteria/Criterion	A set of minimum conditions or categorical requirements that an alternative must satisfy in order to be carried forward for further consideration.
Secondary Treatment	The second stage of the wastewater treatment process, involves removal of biodegradable organic matter and suspended solids.
Septage	Solids that have accumulated in private on-site wastewater treatment or storage systems (i.e. septic tanks).

Glossary of Terms

(UYSS) Service Area	Area to be serviced by the undertaking consisting of the growth portions of the Towns of Aurora, Newmarket, and East Gwillimbury, including Holland Landing, Queensville, and Sharon.
Settling	Sedimentation. The removal of particles in suspension by gravity.
Sewer System	A network of service branches, trunk and local sewers, pumping stations, and appurtenances all for purposes of conveying sewage.
Short List	The result of applying a screening process to a list of alternatives. The "short list" represents those alternatives that met minimum conditions or requirements and will be carried forward for comparative evaluation.
Silviculture	The practice of controlling the establishment, growth and care of forests.
Simcoe Lowlands	A physiographic region comprising flat floored valley features that generally correspond to current river systems. It is part of the Lake Simcoe watershed.
Sludge	Settled biological solids.
Social Environment	Represents the external conditions under which people engage in social activity within their community.
Sodium Adsorption Ratio (SAR)	Method used to measure the proportion of sodium ions compared to the concentration of calcium and magnesium.
Soil Moisture Deficit (SMD)	Refers to the amount of water required to raise the soil-water content of the crop root zone to field capacity.
Solids Management	The long term plan for solids management at the Lake Simcoe Water Reclamation Centre is to produce anaerobically digested biosolids which will be dewatered on-site. This will create a biosolids product suitable for land application, landfilling, or incineration at the Duffin Creek WPCP.

Glossary of Terms

Species at Risk Act (SARA)	A Canadian Federal law that seeks to prevent Canadian indigenous species, subspecies, and distinct populations from becoming extirpated or extinct, to provide for the recovery of endangered or threatened species, and encourage the management of other species to prevent them from becoming at risk.
Species of Special Concern	A species is of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
Stakeholder	A party that has interest or concern in an organization, enterprise, or project.
Stakeholder Sensitivity Analysis	A study that identifies key stakeholders/groups, describes key stakeholder issues/concerns, and provides inputs to a planned communication strategy for implementation during the project.
Storm Sewage	Water that is discharged from a surface as a result of rainfall, snow melt or snowfall.
Stormwater	Water that is discharged from a surface as a result of rainfall, snow melt, or snowfall.
Substation	A part of an electrical generation, transmission and distribution system used to transform voltage from high to low or low to high.
Subwatershed	A smaller geographic section of a larger watershed unit (See definition of watershed).
Supervisory Control and Data Acquisition (SCADA)	A computer controlled system that monitors and controls physical processes.
Surface Water	Water that exists above the substrate or soil surface, including runoff from precipitation events and snow melt, typically occurring in streams, creeks, rivers, lakes, ponds and wetlands.

Glossary of Terms

Terms of Reference (ToR)	The first step in an application for approval to proceed with a project or undertaking under the <i>Environmental Assessment Act</i> is the submission of a Terms of Reference (ToR) for the Environmental Assessment (EA). Public and agency consultation is required on the preparation and submission of the ToR to the Ministry of the Environment. Approval is required by the Minister of the Environment. If approved, the ToR provides a framework / work plan for the EA.
Tertiary Treatment	The third stage in the wastewater treatment process, involves removal of residual suspended solids, usually by filtration.
Terrestrial	Refers to animals and plants living or growing on the ground (land), as opposed to animals and plants living in aquatic environments. Specifically referring to habitats where the water table is rarely or briefly above the surface and where soils are not saturated with water.
Threatened Species	A species that is listed or categorized as a "Threatened Species" on the Ontario Ministry of Natural Resources' official species at risk list, as updated and amended from time to time.
Till	Glacial drift composed of an unconsolidated, heterogeneous mixture of clay, sand, pebbles, cobbles, and boulders.
Toronto and Region Conservation Authority (TRCA)	Established under the Conservation Authorities Act (1946), the TRCA prepares and delivers programs for the management of the renewable natural resources within watersheds in its jurisdiction.
Total Ammonia Nitrogen (TAN)	The sum of the ammonium ion and ammonia gas concentrations in a solution.
Total Kjeldahl Nitrogen (TKN)	The sum of organic nitrogen and ammonia-nitrogen concentrations in a solution.
Total Phosphorus (TP)	The total concentration of all forms of phosphorus in a solution.
Total Solids (TS)	A measure of the non-filterable solids particles.
Total Suspended Solids (TSS)	A measure of the non-filterable solids particles in suspension.

Glossary of Terms

Traceability	The characteristic of an evaluation process that enables its implementation to be followed with ease.
Trade-Offs	A balancing of attributes, all of which are not attainable at the same time. Giving up of one thing in return for another.
Turbidity	A measure of water clarity.
Turndown Ratio	A ratio of the design flow rate for a treatment process to the minimum flow rate at which the process can meet its treatment criteria.
Unconfined Aquifer	An aquifer in which there are no confining beds (layers) between the zone of saturation and the surface (commonly referred to a water table aquifer).
Undertaking	An enterprise, activity, proposal, plan or program in respect of a commercial or business enterprise or activity of a person or persons that has potential environmental effects and is assessed in accordance with the requirements of the <i>Environmental Assessment Act</i> .
Upper York/upper York	Upper York is defined as the general area of York Region within the Lake Simcoe watershed.
UV Disinfection	The use of ultraviolet (UV) light to kill microorganisms.
Variable Frequency Drive (VFD)	An adjustable-speed drive typically used to control the motor speed and torque in electromechanical drive systems by varying the motor input frequency and voltage. VFDs are widely used in wastewater treatment applications to improve control of the discharge flow rates from blowers, fans and pumps, and reduce energy consumption compared to fixed speed motors.
Volatile Fatty Acid (VFA)	Fatty acids with a carbon chain of six carbons or less. In this case the term is used to describe a volatile fatty acid that can be used as a readily biodegradable carbon source.
Volatile solids	Solids, primarily organic, that volatilize at temperatures equal to or exceeding 550°C.

Glossary of Terms

Waste Activated Sludge (WAS)	Settled sludge in activated sludge treatment processes that is wasted from the biological treatment system to prevent the accumulation of solids in the system.
Waste Solids	Waste sludge streams (thickened primary sludge and waste activated sludge) that will be blended with the Reverse Osmosis concentrate stream and pumped to the YDSS until biosolids process facilities are built at the Water Reclamation Centre.
Wastewater	Used water discharged from homes, businesses, cities, industry, and agriculture.
Water Reclamation Centre	A wastewater (sewage) treatment plant for treatment or processing of wastewater to make it reusable by meeting appropriate water quality criteria.
Water Quality Trading	An approach to achieving water quality targets or objectives in which a point source may off-set with or purchase pollutant reduction credits from another point source in a defined geographic area (e.g. the same watershed) which can then be used to meet the point source's discharge requirements for the same pollutant. Water quality trading will be further defined by regulations (rules, requirements, conditions, etc.) if enabled through regulation.
Watercourse	A body of water having defined bed and banks with permanent or intermittent flow that may include rivers, creeks, streams, and springs.
Watersheds	An area that is drained by a river and its tributaries.
Wetland	Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of soils saturated with water and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs, and fens.
Whitebelt	An area that is currently undesignated in the York Region Official Plan, 2010.

Glossary of Terms

York Durham Sewage System (YDSS)	A centralized wastewater collection and treatment system for both York and Durham Regions.
York-Peel-Durham-Toronto (YPDT) Groundwater Management Study	A multi-agency, collaborative approach to collecting, analyzing and disseminating water resource data as a basis for effective stewardship of water resources.
York Region's Planning for Tomorrow	A growth initiative conducted by the York Region that ensures that a minimum of 40 percent of approved growth occurs through intensification in existing built up areas.
York Region's Sustainability Strategy	A framework for integrating Economy, Environment and Communities through establishing the case for sustainability by emphasizing engagement, monitoring and continuous improvement.
York Region's Water Efficiency Program (Water for Tomorrow)	An innovative and award-winning water-efficiency program that provides tools to York Region residents for conserving water in the home, garden and at work.
