

# Glossary of Terms

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## **Aeration Tank**

A vessel in which a biological process is carried out which involves bacterial organisms or biochemically active substances derived from such organisms. This encompasses a combination of aerobic, anoxic, and anaerobic processes.

## **Aerobic Digestion**

A collection of processes by which microorganisms break down biodegradable material

## **Anaerobic Digestion**

Is a series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen.

## **Average Daily Flow**

The cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year.

## **Avg. – Average**

An arithmetic mean of the average concentrations and loadings.

## **Biosolids**

Treated wastewater sludge.

## **BOD<sub>5</sub> Five Day Biochemical Oxygen Demand**

(also known as total BOD<sub>5</sub>) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand.

## **By-pass**

Any discharge from the works that does not undergo any treatment or only undergoes partial treatment before it is discharged to the environment.

## **CBOD<sub>5</sub> - Five day Carbonaceous Biochemical Oxygen Demand**

Means a five day carbonaceous (nitrification inhibited) biochemical oxygen demand

## **conc. - Concentration**

A measure of the amount of a dissolved substance contained per unit of volume.

**Denitrification**

The biological process of nitrate reduction to nitrogen gases occurring in low dissolved oxygen environments.

**DP - Dissolved Phosphorus**

The soluble form of phosphorus present in the wastewater.

**District Manager**

The District Manager of the York-Durham District Office of the Ministry of Environment and Climate Change.

**ECA - Environmental Compliance Approval**

The primary regulatory instrument for each water pollution control plant.

**E. coli - (Escherichia coliform)**

Refers to the thermally tolerant forms of Escherichia that can survive at 44.5 degrees Celsius.

**Faecal Streptococcus**

Indicator organisms used to detect faecal waste contamination

**Final Effluent**

Sewage discharge via the water pollution control plant outfall after undergoing the full train of unit processes as listed in the Environmental Compliance Approval.

**Geometric Mean Density**

Is the nth root of the product of multiplication of the results of n number of samples over the period specified.

**kg**

kilogram

**Loading**

Calculated by multiplying the average concentration by the average flow.

**LSPRS - Lake Simcoe Phosphorus Reduction Strategy**

The ECA issued on June 28, 2012 introduced additional phosphorus objectives to comply with the requirements of the Lake Simcoe Phosphorus Reduction Strategy (2010) prepared under the Lake Simcoe Protection Plan (2009).

**m<sup>3</sup> - (Cubic Metre)**

Volume measurement, 1m<sup>3</sup> = 1000 litres or 220 imperial gallons.

**m<sup>3</sup>/d - (cubic metre per day)**

Flow measurement, 1m<sup>3</sup> = 1000litres or 220 imperial gallons. Volume of liquid treated in a day.

**Max.**

Maximum

**Maximum Flow Rate**

The peak or highest flow recorded during a specific time period usually in a day.

**mg/L - (milligram per litre)**

This is a measure of the concentration of a parameter in water or wastewater, sometimes referred to as parts per million (ppm).

**Min**

Minimum

**mm-**

Millimetre

**MECP - (Ministry of the Environment, Conservation and Parks)**

The Provincial regulatory agency responsible for overseeing the water and wastewater industries in Ontario. Their primary functions include approval for new or expanding facilities, inspections and investigations.

**Monthly Average Daily Flow**

The cumulative total sewage flow to the sewage works during a calendar month divided by the number of days during which sewage was flowing to the sewage works that month.

**Nitrate Nitrogen**

Is a salt or ester of nitric acid, containing the NO<sub>3</sub> ion. Nitrates are the most water soluble of salts, and play a major part in the nitrogen cycle and nitrate pollution.

**Nitrification**

Nitrification is the biological process by which ammonia is first converted to nitrite and then to nitrate.

**N/A**

Not Applicable

**N/D**

No Discharge

**pH**

Index of hydrogen ion activity, pH is defined as the negative logarithm of hydrogen ion concentration in moles per litre. The pH may range from 0 – 14, where 0 is most acidic, 14 most basic and 7 neutral.

**Rated Capacity**

The average daily flow for which the works are approved to handle.

**Raw Influent**

Raw wastewater entering the water pollution control plant before treatment.

**Septage**

Partially treated sludge from a septic tank.

**Sludge**

The settleable solids separated from liquids during processing.

**Substantial completion**

Has the same meaning as “substantial performance” in the Construction Lien Act.

**TAN -Total Ammonia Nitrogen**

Ammonia exists in two forms in the wastewater:  $\text{NH}_3$  (this is called unionized ammonia)  $\text{NH}_4^+$  (this is called ionized ammonia) Together, these two forms of ammonia are called TAN which means total ammonia nitrogen.

**TCR -Total Chlorine Residual**

The total amount of chlorine in the wastewater includes the combined chlorine and the free available chlorine.

**Temp.**

Temperature

**TKN – (Total Kjeldahl Nitrogen)**

A laboratory analyses to determine the total concentration of organic nitrogen and

**Total Coliform**

Include bacteria found in soil, in water influenced by surface water and in human and animal waste.

**TP -Total Phosphorus**

A laboratory analyses to determine the total amount of particulate and soluble phosphorus present in the wastewater.

**TSS -Total Suspended Solids**

A laboratory analyses to measure particles that are larger than 2 microns found in the wastewater.

**TS -Total Solids**

Is a measure of the suspended and dissolved solids in the wastewater and in sludges.

**Un-ionized Ammonia Nitrogen**

Un-ionized ammonia refers to all forms of ammonia in water with the exception of the ammonium ion ( $\text{NH}_4^+$ ).

**Works**

The sewage works described in the owner's application, and the ECA, and includes both proposed works and previous works.

**WPCP - Water Pollution Control Plant**

Is typically a facility composed of a variety of treatment processes that collectively treat the wastewater.