



MINISTRY OF TRANSPORTATION

Environmental Protection Requirements for Transportation Planning and Highway Design, Construction, Operation and Maintenance

Version: April 2014

MINISTRY OF TRANSPORTATION

Environmental Protection Requirements for Transportation Planning and Highway Design, Construction, Operation and Maintenance

Part of the Environmental Standards and Practices

Issued By:

Environmental Policy Office

Ministry of Transportation

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Comments and Suggestions

The Ministry of Transportation welcomes comments and suggestions on ways to improve the document with the objective of providing a practical and pragmatic approach to Environmental Management in the Province of Ontario. MTO anticipates that changes will be warranted to clarify, improve and incorporate new information.

The format of the document is designed to accommodate such changes. Such revisions and amendments will be incorporated in later editions of this document. MTO will not formally respond to unsolicited comments submitted in response to the document.

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Version History

VERSION #	DATE	DESCRIPTION OF MAJOR CHANGE
1	Jun-2005	<ul style="list-style-type: none"> • Additions to OMR-4 and 8 and WLD-2. • Addition of disclaimer. • Addition of headings and notes for Niagara Escarpment and Greenbelt.
2	Oct-2006	<ul style="list-style-type: none"> • Consolidation of Section 1, 2 and 3 • Updated EPRs to reflect current provincial legislation. • Fish and Fish Habitat EPRs updated to reflect new Protocol • Noise EPRs updated to reflect new approach as documented in MTO's Environmental Guide for Noise • Addition of reference table in Section 1
3	Apr-2014	<ul style="list-style-type: none"> • Updated EPRs to reflect current legislation and policy since 2006. • Some EPRs renumbered. • Introduction revised and an overview section added which includes further clarification of the role and limitations of the EPRs and the role of the Ontario Environmental Assessment process in decision making. • Introduction added to each section to reflect overview section. • Legislation that is not applicable to MTO was removed. • New general (GEN) EPRs made. • Environmental Assessment EPRs renamed (FEA and PEA). • New Species at Risk (SAR) section and EPRs created SAR requirements embedded within the EPRs for FISH (Fish and Fish Habitat), and WLD (Wildlife) & VEG (Vegetation) have been removed and replaced with a reference to the SAR EPRs. • New Water Resources (WR) section and EPRs created. Groundwater (GW) and surface water (SW) sections were made subsections under the WR section. Common requirements were removed from GW and SW and made into WR EPRs. • Reference to Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects added to Chapter 13. • Update to show changes due to Canadian Environmental Assessment Act 2012.

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1. Introduction

1.1 Goal of the Environmental Protection Requirements (EPRs)

The goal of the EPRs is to provide a clear and organized list of environmental legislative and policy requirements that apply to the Ministry of Transportation's (MTO) planning, design, construction and operation and maintenance of transportation projects and activities.

Over sixty separate federal and provincial statutes, regulations and formal government policies have been identified as potentially relevant to the environmental aspects of MTO transportation projects and activities. Some of these requirements are overlapping or complementary. The ministry reviewed the statutes and the supporting regulations and formal policies, synthesized and organized the requirements by environmental factor using typical operational language to describe them.

1.2 Using the EPRs

The EPRs are intended to help multi-disciplinary teams identify and comply with environmental requirements for all stages of provincial transportation projects (planning, design, construction, and operation and maintenance) and activities. To assist users, the EPRs are organized generally by environmental assessment and environmental factors (e.g., fish and fish habitat and archaeology) instead of by legislation or policy. The EPRs are numbered and have a letter code related to their factor (e.g., ARCH-1 for the first EPR under the archaeology factor).

- As discussed in MTO's *Environmental Standards and Practices User Guide*, the hierarchy of environmental protection is, in order of decreasing preference, as follows: avoidance / prevention;
- control / mitigation; and
- compensation / enhancement.

Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms "as possible" or "as feasible".

1.3 Disclaimer

The information provided in this document is intended to help multi-disciplinary teams undertaking provincial transportation projects and activities under the

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Ontario Environmental Assessment Act. The legislative and policy information has been reorganized, synthesized and operationalized for this use. The information in the EPRs is not authoritative. It is provided for convenience only. Authority rests with the various statutes, regulations and policies referenced in this document which can be obtained through Ontario E-laws, the Department of Justice of Canada and other websites. For individual MTO projects or activities, legislative requirements should be discussed with the appropriate regulatory agencies and/or legal counsel.

The legislation and policies included in this document are those that apply to the Ministry of Transportation of Ontario. Additional legislation or policies may be applicable to other entities that are not included in this document such as:

- Lakes and Rivers Improvement Act;
- Municipal (e.g. official plans, by-laws).

1.4 Referencing

References have been provided in the EPRs to legislation or policy and, as appropriate, the reference may include specific sections. This is to assist the user in referring back to the source material for the authoritative text and context.

Table 1 provides list of the statutes and policies upon which the EPRs are based.

Table 1 References for the Environmental Protection Requirements

Federal Acts

Documents	Date
Canada Water Act	1985
Canada Wildlife Act	1985
Canadian Environmental Assessment Act	2012
Canadian Environmental Protection Act	1999

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Documents	Date
Fisheries Act	1985, 2013
Migratory Birds Convention Act	1994
Species At Risk Act	2002
Plant Protection Act	1990

Table 2 References for the Environmental Protection Requirements

Provincial Acts

Documents	Date
Clean Water Act	2006, 2009
Common Law	N/A
Conservation Authorities Act	1990, 2009
Drainage Act	1990, 2006
Endangered Species Act	2007
Environmental Protection Act	1990, 2009
Fish and Wildlife Conservation Act	1997, 2009
Forestry Act	1990, 2009

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Documents	Date
Lake Simcoe Protection Act	2008, 2009
Nutrient Management Act	2002, 2009
Oak Ridges Moraine Conservation Act	2001, 2006,
Greenbelt Act	2005, 2009
Niagara Escarpment Planning and Development Act	1990, 2009
Ontario Environmental Assessment Act	1990
Ontario Heritage Act	1990, 2009
Ontario Water Resources Act	1990, 2007, 2008, 2009
Pesticides Act	1990, 2009
Safe Drinking Water Act	2002, 2007, 2009

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Table 3 Federal Policy/Standards/Guides

Document	Date
Federal Policy on Wetland Conservation (Canadian Wildlife Service, Environment Canada)	1991
Fisheries and Oceans Canada Fisheries Protection Policy Statement	2013

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Table 4 Provincial Policy/Standards/Guides

Document	Date
Provincial Policy Statement (Ministry of Municipal Affairs and Housing)	2005
Niagara Escarpment Plan (Ministry of Municipal Affairs and Housing)	2005, 2009
Oak Ridges Moraine Conservation Plan (Ministry of Municipal Affairs and Housing)	2001
Greenbelt Plan (Ministry of Municipal Affairs and Housing)	2005
Lake Simcoe Protection Plan (Ministry of Municipal Affairs and Housing)	2008
Class Environmental Assessment for Provincial Transportation Facilities (Ministry of Transportation)	2000
Standards and Guidelines for Conservation of Provincial Heritage Properties (Ministry of Tourism and Culture)	2010
Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (Ministry of the Environment)	2003, 2006

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Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario (Ministry of the Environment)	2007
Drainage Directives (Ministry of Transportation)	1980, 1987, 1988, 1989
Ontario Provincial Standard Specifications (OPSS 120) (Ministry of Transportation)	2003, 2008
Publication NPC-119 – Blasting (Ministry of the Environment)	1978, 1995
Significant Wildlife Habitat Technical Guide (Ministry of Natural Resources)	2000
Temperate Wetlands Restoration Guidelines (Ministry of Natural Resources)	1998
Guideline for Preparing the Cultural Heritage Component of Environmental Assessments (Ministry of Culture)	1992
Management of Excess Materials in Road Construction and Maintenance Protocol (Ministry of Transportation and Ministry of the Environment)	1994
MTO/MOE Memorandum of Understanding for the Permits to Take Water (Ministry of Transportation and Ministry of the Environment)	2007

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MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings (Ministry of Transportation, Fisheries and Oceans Canada, and Ministry of Natural Resources)	2013
Environmental Guide for Noise (Ministry of Transportation)	2006
Environmental Guide for Contaminated Property Identifications and Excess Materials Management (Ministry of Transportation)	2006
Management of Excess Soil – a Guide for Best Management Practices (MOE)	2014

* Acts are as amended and include regulations (as amended) under the Acts

A few EPRs are without references. Typically, these are not specifically based on legislation or policy but on MTO internal standard practice

1.5 Development of the EPRs

The EPRs were developed with the participation of:

- Canadian Environmental Assessment Agency;
- Environment Canada;
- Fisheries and Oceans Canada;
- Health Canada;
- Ministry of Agriculture, Food and Rural Affairs;
- Ministry of Tourism and Culture;
- Ministry of the Environment;

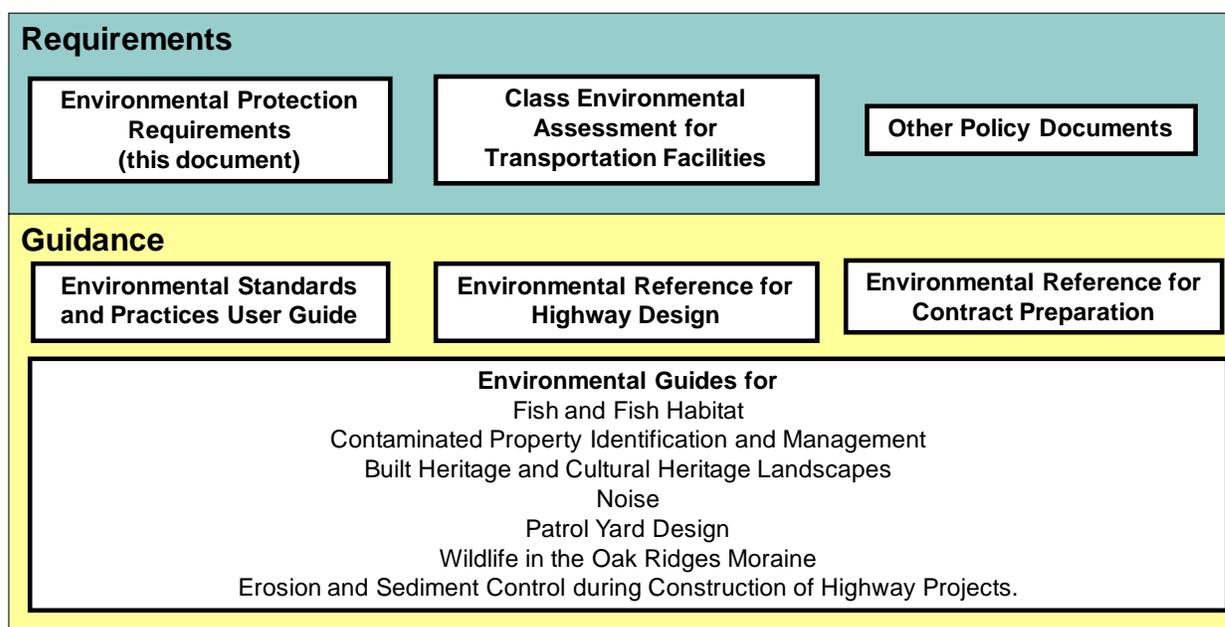
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- Ministry of Municipal Affairs and Housing;
- Ministry of Natural Resources;
- Niagara Escarpment Commission; and
- Conservation Ontario

1.6 Role of this Document in MTO Environmental Standards and Practices

Figure 1 Environmental Standards and Practices Documents



2. General

2.1 Overview

General EPRs are not specific to any environmental process or factor but apply generally to transportation projects and activities, as appropriate.

2.2 General EPRs

GEN 1

The ministry has a duty to consult with Aboriginal communities. Projects may affect areas that are traditionally used by Aboriginal communities who hold established or asserted Aboriginal or treaty rights. Consultation with interested Aboriginal communities is intended to allow MTO to identify and respond to

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concerns that may be raised by Aboriginal communities potentially affected by a project. Consultation processes will vary with the circumstances of each project.

3. Federal and Provincial Environmental Assessment

3.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process, if applicable, and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

Federal Environmental Assessment

Under the Canadian Environmental Assessment Act, 2012 (CEA Act), project types listed in the Designated Physical Activities Regulation or specifically designated by the federal Minister of the Environment may require a federal environmental assessment. For MTO designated projects, the Canadian Environmental Assessment Agency is the only federal regulatory authority. Under CEA Act 2012, federal authorizing departments will require determination of significant adverse effects if the project is on federal lands before issuing a permit, approval or authorization.

Provincial Environmental Assessment

The Ontario Environmental Assessment Act (EA) is a planning process that allows proponents to assess the potential for environmental effects using the best information available in order to make an informed decision about trade-offs within a project or whether a project should proceed at all. This process is defined and finds its authority in the Environmental Assessment Act, and is undertaken with appropriate consultation with stakeholders and external agencies. While the objective is to avoid or minimize potential negative environmental effects, it may not always be feasible to do so. The objective is to

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ensure that alternatives are considered and projects are planned in an environmentally responsible manner so that the environment is protected.

3.2 EPRs for Federal EAs (FEA) and Provincial EAs (PEA)

FEA 1

In the event that an MTO project is designated by Regulation, by the federal Minister of the Environment or is on federal lands, the requirements of the Canadian Environmental Assessment Act, 2012 (CEA Act) will be applied during the planning and design of a transportation project. The requirements of the CEA Act will be met prior to the commencement of construction (Canadian Environmental Assessment Act).

PEA 1

The requirements as set out in the approved Class Environmental Assessment for Provincial Transportation Facilities must be met for the types of projects and activities to which it applies. Projects included in the Class Environmental Assessment can proceed without seeking further approval under the Environmental Assessment Act if they have been planned in accordance with the planning process outlined in the approved class environmental assessment.

PEA 2

The requirements for an Individual Environmental Assessment (IEA) as set out in the Environmental Assessment Act (1990) must be met for all projects not covered by the MTO Class Environmental Assessment process (i.e., new freeways). An IEA will be undertaken in conformance with the Ministry of Environment's Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario (2009).

PEA 3

O.Reg. 231/08 [Transit Projects and Greater Toronto Transportation Authority Undertakings] exempts proponents of all public transit projects from the requirements under Part II of the Environmental Assessment Act, and creates a process that certain projects must follow in order to be exempt. Proponents of certain classes of projects must follow the "transit project assessment process" outlined in the regulation. A transit project may proceed under the Class EA process and not the regulated process if written notice is provided to the Minister of the Environment.

4. Species at Risk

4.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

4.2 EPRs for Species at Risk (SAR)

SAR 1

The federal Species at Risk Act provides protection for species listed as endangered, threatened or extirpated in Schedule I of the Act. Individuals, parts or derivatives of these species cannot be, killed, harmed, harassed, captured or taken (Species At Risk Act, section 32 (1)(2)(3)). This protection applies to these species where they occur on Federal lands, unless specified by an Order, and in the case of Aquatic species (includes fish as per Fisheries Act definition and marine plants) and Migratory Birds protected under the Migratory Birds Convention Act, wherever they occur (Species at Risk Act, section 34 (1)(2)(3)(4)).

SAR 2

The federal Species at Risk Act provides protection for the residence of one or more individuals of a wildlife species (as defined in the Act) that is listed as an endangered species or a threatened species in Schedule 1 of the Act. It also provides protection for the residence of those species listed as extirpated species, if a recovery strategy has recommended the reintroduction of the species into the wild in Canada. The residence of these species cannot be damaged or destroyed (Species at Risk Act, section 33).

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This protection applies to residences on Federal lands, unless specified by an Order, and wherever they occur in the case of Aquatic species (includes fish as per Fisheries Act definition and marine plants) and Migratory Birds protected under the Migratory Birds Convention Act (Species at Risk Act, section 34 (1)(2)(3)(4)).

SAR 3

The federal Species at Risk Act provides protection for the critical habitat of endangered or threatened species listed in Schedule 1 of the Act, as well as for listed extirpated species where a recovery strategy recommends reintroduction of that species into the wild in Canada. Any part of the critical habitat for these species cannot be destroyed (Species At Risk Act, section 58 (1)(b)).

This protection applies to critical habitat on Federal lands, unless specified by an Order, and wherever it occurs in the case of Aquatic species (includes fish as per Fisheries Act definition and marine plants) and Migratory Birds protected under the Migratory Birds Convention Act (Species at Risk Act, section 34 (1)(2)(3)(4)).

SAR 4

If transportation projects or activities will impact listed species at risk or their habitat, an exemption authorization under the federal Species at Risk Act may be required to proceed. The Minister responsible for the Parks Canada Agency, Minister of Fisheries and Oceans, or Minister of the Environment may issue a permit, or enter into an agreement, to allow these projects or activities to proceed if certain conditions are followed (Species at Risk Act, section 73). An application is required for a project or activity to be considered for an exemption authorization.

SAR 5

The provincial Endangered Species Act provides protection for species listed as endangered, threatened or extirpated on the Species at Risk in Ontario List (O.Reg 230/08). These species cannot be, among other things: killed, harmed, harassed, captured or taken. (Endangered Species Act, section 9 (1)).

If the Species at Risk in Ontario list specifies a geographic area, then the protection only applies to the species in that area (Endangered Species Act, section 9 (3)).

SAR 6

The provincial Endangered Species Act provides habitat protection for endangered and threatened species that are listed on the Species at Risk in

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Ontario List (O.Reg 230/08) as well as listed extirpated species, if prescribed by regulations. The habitat of these species cannot be damaged or destroyed. (Endangered Species Act, section 10(1)) If the Species at Risk in Ontario List specifies a geographic area for a species, then this protection only applies to that species in that area (Endangered Species Act, section 10(2)).

The Act provides general habitat protection for listed species, however there may be species-specific habitat descriptions provided in regulation which include further details on protected habitat and may also specify geographic areas in which protection applies. Additionally, there may be exemptions outlined in regulation to describe situations in which protection does not apply (O.Reg 230/08).

SAR 7

If transportation projects or activities will impact listed species at risk or their habitat as described above, an Endangered Species Act exemption authorization may be required to proceed. The Minister of Natural Resources may issue a permit, or enter into an agreement, to allow these projects or activities to proceed if certain conditions are followed (Endangered Species Act, section 17 (1); O.Reg 242/08 section 22). An application must be submitted for a project or activity to be considered for an exemption authorization.

SAR 8

Transportation projects and activities that are eligible for registration under O.Reg 242/08 do not require a permit or agreement under the provincial Endangered Species Act to proceed, however instead, they require registration with the Ministry of Natural Resources (i.e. MNR Registry) prior to the project or activity being carried out, and compliance with the conditions of the applicable section of the regulation (O. Reg. 242/08).

SAR 9

The protection provisions of the provincial Endangered Species Act do not apply to a person carrying out activities to protect a human being or an animal if there is an imminent risk to the health or safety of the human being or animal (O.Reg 242/08 section 8).

5. Fish and Fish Habitat

5.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when

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undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

5.2 EPRs for Fish and Fish Habitat (FISH)

FISH 1

Transportation projects and activities shall meet the EPRs for Species At Risk (SAR) as applicable to fish and fish habitat (see Section 4).

FISH 2

Transportation projects, activities, works and undertakings shall not result in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery (Fisheries Act, Section 35 (1)).

FISH 3

Crossing of a waterbody that provides fish habitat at any time of the year shall be designed, constructed, operated and maintained such that fish passage is provided, including maintaining minimum flows and depths (Fisheries Act, section 20(1) and section 35).

FISH 4

If highway construction must proceed during a period when fish are moving between different areas of their habitat, it is necessary to ensure safe fish passage to prevent harm to fish (Fisheries Act, section 20(1)).

FISH 5

Any area of a waterbody containing fish that is temporarily isolated by guards, screens or other barriers shall be inspected for the presence of fish, and all fish shall be captured and released in accordance with A Licence to Collect Fish for

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Scientific Purposes issued by the OMNR which shall be obtained to authorize any such fish rescue activities. (Fisheries Act, section 35, Ontario Fishery Regulations, section 3, Fish and Wildlife Conservation Act and Ontario Regulation 664/98).

FISH 6

Fish screens, guards, netting or other barriers shall be installed and maintained across any water intake withdrawing water from any waterbody that contains fish (e.g. for the purposes of water-taking, dewatering, bypass pumping, etc.) or across the entrance to any channel constructed for the purposes of conducting water temporarily from any waterbody that contains fish, so as to prevent fish access until the water intake or diversion has been decommissioned (Fisheries Act, section 20(2)).

FISH 7

Where MTO conducts any works, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery, appropriate measures to avoid, mitigate and offset serious harm shall be developed by a MTO Qualified Fisheries Assessment Specialist, as per the MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings.

FISH 8

Where MTO obtains a Fisheries Act authorization, MTO shall hire a Qualified Fisheries Contracts Specialist to undertake construction monitoring as per the MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings.

FISH 9

If the use of explosives is required during construction in the vicinity of a waterbody that contains fish, they shall be used in such a manner as to ensure no harmful effects to fish occur unless authorized by Fisheries and Oceans Canada (Fisheries Act, section. 32).

FISH 10

As per the MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings, information on projects that may result in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery shall be provided to Fisheries and Oceans Canada (Fisheries Act, section 35).

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FISH 11

If there is an occurrence that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery, that is not authorized under this Act, or if there is a serious and imminent danger of such an occurrence, it shall be reported without delay to Fisheries and Oceans Canada (*Fisheries Act*, section 38(4)).

FISH 12

No one shall deposit or permit the deposit of a deleterious substance of any type in a waterbody frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water (*Fisheries Act*, section 36(3)).

FISH 13

As per the MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings, where a deleterious substance is released and/or deposited in water frequented by fish that is not authorized under the *Fisheries Act*, or if there is a serious and imminent danger of such an occurrence, and detriment to fish habitat or fish or to the use by humans of fish results or may reasonably be expected to result from the occurrence, it shall be reported without delay to the Ontario Ministry of the Environment Spills Action Centre 1-800-268-6060 (*Fisheries Act*, section 38(5), *Canadian Environmental Protection Act*, section 212).

FISH 14

Where a substance is released and/or deposited into water such that fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery are harmed or likely to be harmed, all reasonable measures to remedy the situation shall be undertaken as soon as feasible (*Fisheries Act*, section 38(6)).

6. Terrestrial Ecosystems

6.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for

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convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

Terrestrial ecosystem EPRs are provided under the following sub-factors:

- Wildlife;
- Wetlands; and
- Vegetation.

6.2 EPRs for Wildlife (WLD)

WLD 1

Transportation projects and activities shall meet the EPRs for Species at Risk (SAR) applicable to wildlife and wildlife habitat (see Section 40).

WLD 2

Transportation projects and activities shall be done in a manner that avoids [Migratory Bird Sanctuaries and National Wildlife Areas in Ontario as listed on the Environment Canada website](#). Transportation projects and activities shall consider the conservation of wildlife on federal public lands that are administered by the Federal Minister of the Environment, and in any protected marine areas ([Canada Wildlife Act, section 1-19](#)).

WLD 3

Transportation projects and activities shall be carried out to prevent the destruction of migratory birds, their eggs or their nests and minimize the release of oil, oil wastes or any other substance harmful to migratory birds to any waters or any area frequented by migratory birds ([Migratory Birds Convention Act, section 5 and Migratory Bird Regulations, section 6 and section 35](#)).

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WLD 4

Transportation projects and activities shall recognize to the extent feasible the need to protect wildlife species identified in the schedules in the Fish and Wildlife Conservation Act, section 5(1) and section 7(1).

WLD 5

During transportation projects and activities, consideration will be given to maintaining, restoring and where possible improving the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems recognizing linkages between and among natural heritage features and areas, surface water features and groundwater features (Provincial Policy Statement, 2.1.2).

WLD 6

Transportation projects and activities shall have regard to policies, plans, strategies and programs at the local/regional level dealing with other wildlife species of local or regional significance to the extent feasible. Such species and associated habitats may be identified by a local planning body such as a municipality or conservation authority, or identified as being of conservation concern through initiatives such as the North American Bird Conservation Initiative. For such resources the descending order of priority will be: 1) avoidance; 2) minimizing impact; and 3) mitigation/restoration as decided through the Ontario Environmental Assessment process as feasible.

6.3 EPRs for Wetlands (WET)

WET 1

Transportation projects and activities shall achieve no net loss of wetland function for wetlands where loss has reached critical levels, and the wetland is located on federal lands or the transportation initiative requires federal approvals or is receiving federal funding (Federal Policy on Wetland Conservation, Strategy 2).

WET 2

During transportation projects and activities, consideration will be given to maintaining, restoring (following the Temperate Wetlands Restoration Guidelines [MNR 1998]) and where possible improving the diversity and connectivity of natural features (including wetlands) in an area, and the long-term ecological function and biodiversity of natural heritage systems recognizing linkages

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between and among natural heritage features and areas, surface water features and groundwater features (Provincial Policy Statement, 2.1.2).

6.4 EPRs for Vegetation (VEG)

VEG 1

Transportation projects and activities shall meet the EPRs for Species at Risk applicable to vegetation (see Section 4).

VEG 2

During transportation projects and activities, consideration will be given to maintaining, restoring and where possible improving the diversity and connectivity of natural features in an area (including significant woodlands and significant valleylands) and the long-term ecological function and biodiversity of natural heritage systems recognizing linkages between and among natural heritage features and areas, surface water features and groundwater features (Provincial Policy Statement, 2.1.2).

VEG 3

Transportation projects and activities shall consider municipal objectives for woodland forestry management, as feasible (Forestry Act, section 11).

VEG 4

Transportation projects and activities shall have regard for policies, plans, strategies and programs at the local/regional level dealing with vegetation resources of local or regional significance to the extent feasible. Such vegetation resources or specific species may be identified by a local planning body such as a municipality, conservation authority, or other resource agency. For such resources the descending order of priority will be: 1) avoidance; 2) minimizing impact; and 3) mitigation/restoration, as feasible.

VEG 5

Transportation projects and activities shall be done in a manner that protects as feasible, the features and functions of retained vegetation areas.

VEG 6

Restoration of terrestrial ecological features shall utilize ecological restoration principles where the right-of-way crosses or is adjacent to significant wildlife habitats, woodlots, wetlands and /or valley lands.

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VEG 7

Transportation projects and activities shall comply with Canadian Food Inspection Agency (CFIA) 'Orders' and/or prohibitions related to the movement of materials out of or through CFIA identified "regulated areas"(Plant Protection Act, Sects 5, 6) (e.g. Asian Long-horned Beetle Infested Place Order and regulated areas for Mississauga and Toronto – regulating the movement of trees and wood).

7. Water Resources

7.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms "as possible" or "as feasible".

- Water resources EPRs are provided under the following sub-factors: water resources (applies to both GW and SW);
- Groundwater (GW); and
- Surface water (SW).

7.2 Water Resources EPRs (WR)

WR 1

Transportation projects and activities shall be carried out in a way that protects sources of drinking water by complying with local Source Protection Plans, as per Clean Water Act, section 57(1) and section 58(1). Source Protection Areas and Regions, Boundaries are defined in O. Reg. 284/07 [Source Protection Areas and Regions].

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WR 2

Transportation projects and activities related to the following prescribed drinking water threats may have restrictions under a Source Protection Plan:

- The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act
- The establishment, operation or maintenance of a system that collects, stores, transmits; treats or disposes of sewage (e.g., oil/water separators at patrol yards and car pool lots; stormwater ponds).
- The handling, storage and application of non-agricultural source material to land (e.g., compost as a substitute for topsoil prior to seeding of slopes, etc.).
- The handling, storage and application of commercial fertilizer to land.
- The handling, storage and application of pesticide to land.
- The handling, storage and application of road salt.
- The storage of snow.
- The handling and storage of fuel (e.g., operation / maintenance of equipment, vehicles at patrol yards).
- The handling and storage of a dense non-aqueous phase liquid (e.g., bridge coatings, pavement markings).
- The handling and storage of an organic solvent (e.g., solvent for clean-up of pavement marking equipment)
- The management of runoff that contains chemicals used in the de-icing of aircraft (e.g., Remote Northern Airports)
- An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body (e.g., water-taking for various purposes, such as landscaping, sodding, seeding, dust control, bridge washing).
- An activity that reduces the recharge of an aquifer (e.g., blasting).

(O. Reg. 287/07 [General], section 1)

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WR 3

A Permit-To-Take-Water from the Ministry of the Environment shall be obtained for the taking of water over 50,000 l/day from any given source, whether temporary or permanent for any consumptive or non-consumptive purpose: diversions, dewatering, dust control and compaction, hydraulic seeding, bridge washing etc. during highway construction, operation and maintenance (Ontario Water Resources Act, section 34, and O.Reg. 387/04 [Water Taking and Transfer]). To initiate the permit application process on behalf of contractors, the process provided within the MTO/MOE Memorandum of Understanding for the Permits to Take Water (2007) is to be followed.

WR 4

During transportation projects and activities, consideration will be given to maintaining, restoring and where possible improving the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems recognizing linkages between and among natural heritage features and areas, surface water features and groundwater features (Provincial Policy Statement, 2.1.2).

7.3 Groundwater EPRs (GW)

GW 1

Transportation projects and activities shall meet the EPRs for water resources applicable to groundwater (see sub-section 7.2).

GW 2

All water supply and non-water supply (e.g., geotechnical boreholes, test holes, and monitoring and dewatering wells and water wells shall be drilled and installed as specified in Ontario Water Resources Act and Reg. 903 of R.R.O. 1990 [Wells], section 11. In practical terms, all water supply and non-water supply wells shall be drilled and installed as specified with due regard for the subsurface environment, protection of groundwater resources from surface contamination, and prevention of aquifer cross connection.

GW 3

All water supply and non-water supply wells that are no longer in use, are no longer needed due to location in the right-of-way, or no longer needed for water supply due to highway construction shall be properly decommissioned. Proper abandonment procedures are to be specified and followed as per O.Reg. 903 of RRO 1990 [Wells], section 21. In practical terms all boreholes, test holes and

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dewatering wells shall be effectively sealed at surface and at depth as appropriate.

GW 4

Transportation projects and activities shall be carried out in a way that protects groundwater supplies on adjacent lands for any reasonable use that can be made of them. Typically the assumed use is potable, therefore the supply and water quality parameters set in the O.Reg. 169/03 [Ontario Drinking Water Standards], under the Safe Drinking Water Act, shall be maintained or alternative supply provided of equal or better quality. If the use is not potable, then the supply and water quality parameters set out in Soil, Ground Water and Sediment Standards for use under Part XV.1 of the Environmental Protection Act shall be maintained or alternative supply provided of equal or better quality.

GW 5

Transportation projects and activities shall provide for groundwater source protection in terms of both quality and quantity and recognize vulnerable or sensitive (highly vulnerable) aquifer zones and wellhead protection zones as defined by the Ministry of the Environment (designated Director) and in Municipal Official Plans (Ontario Water Resources Act, section 33 and O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section 29 and section 42(1)).

7.4 Surface Water EPRs (SW)

SW 1

Transportation projects and activities shall meet the EPRs for water resources applicable to surface water (see sub-section 7.2).

SW 2

Current procedural directives, policies and protocols of the Ministry of Transportation shall be used to ensure that transportation projects and activities of highway surface water conveyance and management measures (i.e. culverts, bridges, ditches, erosion protection, stormwater management basins, etc.) proceeds in a consistent, efficient, safe and responsible manner.

SW 3

The design of the highway surface water conveyance and management works that will be implemented during transportation projects and activities should integrate both temporary and permanent measures representing the best available technologies that are economically achievable, such that:

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1. Impacts to the existing water balance in the vicinity of the highway are minimized to the extent that is technically, physically and economically feasible (Canada Water Act; Common Law);
2. Upstream and downstream human and non-human (e.g. wildlife, vegetation, etc.) land and water uses are protected to the extent that is technically, physically and economically feasible (Common Law; Ministry of Transportation Drainage Directives);
3. Impacts to the quality of surface water are mitigated to the extent that is technically, physically and economically feasible (Canada Water Act; Canadian Environmental Protection Act; Ontario Environmental Protection Act; Fisheries Act; Ontario Water Resources Act, section 29); and
4. Changes in erosion potential and flood risk for features of the natural environment upstream and downstream of the transportation corridor are minimized to the extent that is technically, physically and economically feasible (Common Law; Ministry of Transportation's Drainage Directives).

SW 4

A Environmental Compliance Approval (under Ontario Water Resources Act [OWRA], section.53) shall be acquired from the Ministry of the Environment prior to construction of works for the collection, transmission, treatment and disposal of sewage. Drainage works (surface water conveyance or management works) constructed under either the Drainage Act or the Public Transportation and Highway Improvement Act are exempt from the Environmental Compliance Approval requirement (OWRA, section.53(6)(d) and (e)).

8. Noise

8.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario

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Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

8.2 Noise EPRs (Noise)

NOISE 1

During design of a new or modified highway, a noise assessment by a qualified acoustical specialist is required for the Most Exposed Side and the Outdoor Living Areas of Noise Sensitive Areas. As an initial screening, future sound levels shall be assessed with and without the proposed improvements for the Most Exposed Side. The objective for outdoor sound levels is to achieve the future predicted ambient that would occur without the proposed highway. The significance of a noise impact will be quantified by using this objective in addition to the change in sound level above the ambient (i.e. the future sound level without the proposed improvements is compared to the future sound level with the proposed improvement).

The determination of the provision of mitigation is based on the analysis of the predicted noise level at the Outdoor Living Areas. The mitigation efforts to be applied for various noise level increases are as follows:

Table 5 Environmental Guide for Noise

<p>Change in Noise Level Above Ambient / Projected Noise Levels with Proposed Improvements</p>	<p>Mitigation Effort Required</p>
<p>< 5 dBA change & < 65 dBA</p>	<p>None</p>
<p>≥ 5 dBA change OR ≥ 65 dBA</p>	<ul style="list-style-type: none"> • Investigate noise control measures on right-of-way. • Introduce noise control measures within right-of-way and mitigate to ambient if technically, economically and administratively feasible. • Noise control measures, where introduced, should achieve a minimum of 5 dBA attenuation, over first row receivers.

(MTO's Environmental Guide for Noise)

NOISE 2

Highway construction shall be undertaken in a manner to minimize noise levels and identify a process for dealing with public complaints during construction. Pile driving and blasting operations shall be in accordance with Ontario Provincial Standard Specifications (OPSS 120) and Ministry of the Environment publication NPC-119 - Blasting.

9. Land Use Factors

9.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”

9.2 Agriculture EPRs

AGR 1

Transportation projects and activities shall avoid prime agricultural areas and prime agricultural land to the extent feasible. Highest priority for protection will be given to specialty crop areas, followed by Canada Land Inventory Classes 1, 2 and 3 lands and any associated Class 4 through 7 lands within the prime agricultural area in this order of priority (Provincial Policy Statement, 2.3.1).

AGR 2

Transportation projects and activities shall be carried out in a manner which avoids fragmentation of prime agricultural land and agricultural operations where feasible and practical (Provincial Policy Statement, 2.3.4.1). Where there is no reasonable alternative (i.e. cannot be accommodated through the use of easements or rights-of-way), fragmentation shall be mitigated, including consideration of the minimum distances separation formula, to the extent feasible (Nutrient Management Act, section 6(2)).

AGR 3

Impacts from any new or expanding non-agricultural uses on surrounding agricultural operations and lands should be mitigated to the extent feasible (Provincial Policy Statement, 2.3.6). Agricultural operations may include the

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types, sizes and intensities of agricultural uses, normal farming practices and surrounding agricultural operations and lands.

10. Contaminated Property, Waste and Excess Materials Management

10.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

10.2 Contaminated Property, Waste and Excess Materials Management EPRs

CON 1

There shall be no release, discharge or addition to:

1. The natural environment (e.g. land, surface water, groundwater or air) of a contaminant (Ontario Environmental Protection Act, section 6) or a toxic substance (as defined by the Canadian Environmental Protection Act, section 64) that may cause adverse effects as defined by the Ontario Environmental Protection Act (Part II section 14(1)); and/or
2. Surface water or groundwater, of a contaminant or material that may impair water quality as defined by Ontario Water Resources Act, section 29 or a substance deleterious to fish or fish habitat (Fisheries Act, section 36).

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CON 2

Any property being considered for disposition or acquisition by MTO for the purposes of highway construction or other transportation projects and activities, shall be screened for potential site contamination (MTO's Environmental Standards and Practices User Guide for Contaminated Property and Excess Materials Management).

CON 3

Any potentially contaminated properties shall be assessed and managed in accordance with or with consideration of:

- O.Reg. 153/04, Records of Site Condition (RSC) and the generic contaminant standards set out in, "Soil, Ground Water and Sediment Standards, for Use under Part XV.1 of the Environmental Protection Act" dated April 15, 2011, (Standards);
- The Canadian Council of Ministers of the Environment guidelines (for federal properties);
- Canadian Standards Association guidelines; and
- In consultation with the appropriate agencies.

CON 4

No land or land covered with water, which was used for the disposal of waste within the past 25 years, may be used for the construction of a highway without first receiving approval from the Minister of the Environment (Ontario Environmental Protection Act, Part V section 46). Sites known to have been used for the disposal of wastes more than 25 years ago shall be investigated to determine whether or not waste and/or contamination is still present on the site. The site's current environmental condition including the potential for residual contamination will be assessed and appropriate cleanup or other actions shall be taken.

CON 5

Vehicle fuelling operations shall be carried out by persons trained as per the requirements in the Liquid Fuels Handling Code (O.Reg 217/01 [Liquid Fuels]).

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CON 6

Any fuelling facility and associated equipment, such as temporary aboveground storage tanks, shall conform to Technical Standards and Safety Association guidelines.

CON 7

Any storage of petroleum products (e.g. motor and hydraulic oils, and lubricants) and propane or other compressed gas tanks shall be conducted in conformance with the relevant Technical Standards and Safety Association codes, protocols and guidance documents, in order to prevent any potential environmental impacts from product spillage, leakage, explosions or fires.

CON 8

Any spill (abnormal discharge) of a substance into the natural environment that may cause an adverse effect shall be reported to the Ministry of the Environment Spills Action Centre (SAC) 1 800-268-6060, as required by O.Reg. 675/98 [Classification and Exemption of Spills and Reporting of Discharges]. All spills shall be cleaned up as quickly as feasible, given the circumstances surrounding the discharge, by the person(s) having control of the discharge. Every practicable effort shall be taken to prevent, eliminate and ameliorate the adverse effect and to restore the natural environment (Ontario Environmental Protection Act, Part X section 91, section 92 and section 93).

CON 9

Any solid and/or liquid wastes, contaminated materials, potentially contaminated earth, fill or other suspect materials encountered during transportation projects and activities, shall be assessed and managed in accordance with the appropriate Ministry of the Environment Acts and Regulations, Ministry of the Environment Guidelines, Canadian Council of Ministers of the Environment Guidelines (for federal properties) and Canadian Standards Association Standards, and in consultation with the appropriate regulatory and other agencies.

CON 10

Stockpiling of wastes, contaminated materials, excess earth, fill or other materials shall be avoided where feasible. However, if stockpiling of wastes or contaminated materials is required, the stockpiling shall not exceed 90 days without approval from the Ministry of the Environment Regional Director (Reg. 347 of R.R.O. 1990 [General — Waste Management], section.17.2). Subject waste stored for a period exceeding 24 months requires the generator to apply

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for an environmental compliance approval from the Ministry of Environment for the storage.

CON 11

Transportation of wastes shall only be carried out by waste haulers with a Ministry of the Environment environmental compliance approval (Certificate of Approval for a Waste Management System) valid for the type of waste being transported (Ontario Environmental Protection Act, Part V section 41).

CON 12

Any solid and liquid wastes or excess materials generated during transportation projects and activities shall be managed through reuse wherever feasible under the conditions within the Management of Excess Materials in Road Construction and Maintenance (1994) protocol, and Ontario Environmental Protection Act [EPA], Part V and Reg. 347 of R.R.O. 1990 [General — Waste Management], section 17-19 provides exemptions to Part V of the EPA for waste asphalt pavement.

CON 13

Wastes generated by transportation projects and activities shall be taken for off-site disposal to a waste disposal site with an environmental compliance approval (Certificate of Approval) valid for the type of waste to be disposed of or treated (Ontario Environmental Protection Act, Part V, section 18).

CON 14

Prior to disposing of a subject waste (i.e. liquid industrial waste and hazardous waste), the generator of that waste shall classify the subject waste, register it in the Ministry of the Environment Hazardous Waste Information Network (HWIN System) and in accordance with the Reg. 347 of R.R.O. 1990 [General — Waste Management] and shall have a valid generator registration number. Generators of waste shall ensure that wastes are stored, handled and disposed of in accordance with Reg. 347 of R.R.O. 1990 [General — Waste Management].

CON 15

Generators of subject waste (i.e. liquid industrial waste and hazardous waste), shall ensure that waste manifests are completed correctly for each waste transferred and that all waste movements are properly identified and tracked through the Ministry of the Environment Hazardous Waste Information Network (HWIN System). Reg. 347 of R.R.O. 1990 [General — Waste Management].

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CON 16

For any existing utility lines broken or ruptured during transportation projects and activities, timely action shall be taken to minimize the potential for soil and water contamination.

CON 17

There shall be no deposition of any waste at a site that does NOT have an MOE environmental compliance approval (Certificate of Approval) for a waste disposal site (Ontario Environmental Protection Act, section.40). Earth borrow material and other imported fill material to be used for transportation projects and activities shall be confirmed to be free from wastes. Any residual contaminants present in the borrow material shall be in compliance with acceptable standards and best management practices.

CON 18

Pesticides are to be applied by a person licensed under the Ontario Pesticides Act, section 5(1). Any use of a registered pesticide must be in accordance with the label on the pesticide and as allowed in the Regulations - O. Reg. 63/09, section 9. Under the province's cosmetic pesticides ban, the use of pesticides for the promotion of public health or safety in public works (e.g. highways) may be allowed in accordance with O. Reg. 63/09 [General], section 23, 24. This could include the use of a pesticide to prevent structural damage to a public work, for essential maintenance of the public work, or to allow for emergency access to the public work. The use of pesticides for the above mentioned applications does not include portions of highways that are accessed by pedestrians on a regular basis or other portions where the public is invited to stop, including rest areas.

CON 19

In order to meet the exception in CON-19, the pesticides must be applied by a licensed exterminator who is certified by a MOE approved Integrated Pest Management (IPM) accreditation body (or by an applicator working under written instructions of a person who is certified) in accordance's with O. Reg. 63/09 [General], section. 24. The owner or operator of the public work is responsible for ensuring an annual report is prepared in accordance with O. Reg. 63/09 [General], section. 25.

CON 20

Unless exempted, land exterminations are subject to public notification requirements (i.e. signs) in accordance with O. Reg. 63/09 [General], section 74-81. Areas requiring public notification include portions of highways to which

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pedestrians have access on a regular basis or other portions where the public is invited to stop, including a rest area or picnic area and may require the use of green notice signs when using certain biopesticides or lower risk pesticides.

CON 21

Prior to using a pesticide, a 'Permit to Purchase Pesticide' must be obtained. Before any water extermination can be conducted, a 'Permit to perform Water Exterminations' must be obtained from the Ministry of the Environment, (O. Reg. 63/09, section 9; Section 82). An example of where a Water Extermination Permit could be required would be for the larviciding of stormwater management ponds within the highway R-O-W for control of the mosquito-borne West Nile Virus.

CON 22

Only a licensed exterminator can use a pesticide to destroy or control plants that are poisonous to humans by touch, including poison ivy, poison sumac and giant hogweed (O. Reg. 63/09, Section 22).

CON 23

All intrusive investigations conducted on or proximate to areas of waste deposition and/or potentially contaminated property, shall be conducted with due regard for protection of the surface and subsurface environment, protection of groundwater resources from surface contamination, and prevention of aquifer cross contamination. All environmental sampling and monitoring wells shall be drilled and installed as specified in Ontario Water Resources Act and Reg. 903 of R.R.O. 1990 [Wells], section 11, and shall be decommissioned as specified in Reg. 903, section 21.

CON 24

There shall be no processing of any waste at a site that does NOT have an MOE environmental compliance approval (Certificate of Approval) for waste processing (Ontario Environmental Protection Act, section 9). An environmental compliance approval (under Ontario Water Resources Act [OWRA], section 52, shall be acquired from the Ministry of the Environment prior to construction of works for the collection, transmission, treatment and disposal of sewage.

11. Built Heritage and Cultural Heritage Landscapes

11.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

11.2 Built Heritage and Cultural Heritage Landscapes EPRs (HER)

HER 1

The services of a cultural resource heritage specialist experienced in environmental assessment work for built heritage and cultural heritage landscapes shall be engaged for transportation projects (Guideline for Preparing the Cultural Heritage Component of Environmental Assessments, 1992).

HER 2

Cultural heritage value or interest, including potential provincial significance, shall be determined based on the advice of qualified persons and with appropriate community input. The “Criteria for Determining Cultural Heritage Value or Interest” set out in O. Reg. 9/06 under the Ontario Heritage Act shall be applied to evaluate whether a property is of cultural heritage value or interest. The “Criteria for Determining Cultural Heritage Value of Provincial Significance” shall be applied to evaluate whether a property is of cultural heritage value or interest of provincial significance (Standards and Guidelines for Conservation of Provincial Heritage Properties (2010)).

HER 3

Cultural heritage resources that may be impacted by any transportation projects and activities shall be identified and managed (i.e. protected, maintained, used

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and disposed of) as per Standards and Guidelines for Conservation of Provincial Heritage Properties (2010) (Ontario Heritage Act, PART III.1).

HER4

Communities, groups and individuals with associations to a significant cultural heritage resource that may be affected by transportation projects or activities shall be provided with opportunities to participate in understanding and articulating the property's cultural heritage value and in making decisions about its future (Standards and Guidelines for Conservation of Provincial Heritage Properties (2010)).

HER 5

All other alternatives having been considered, removal or demolition of a significant cultural heritage resource shall be considered as a last resort, subject to heritage impact assessment and public engagement. Best efforts shall be applied to mitigate loss of cultural heritage value (Standards and Guidelines for Conservation of Provincial Heritage Properties, (2010)).

HER 6

In the case of a property having cultural heritage value or interest of provincial significance, obtain the consent of the Minister of Tourism and Culture before removing or demolishing buildings or structures on the property (Standards and Guidelines for Conservation of Provincial Heritage Properties, (2010)).

HER 7

If during transportation projects or activities, MTO has not evaluated a property in its care or control, and if that property contains a building or structure that is 40 or more years old, then the responsible party shall:

Prevent the building or structure from undergoing *demolition by neglect*, and

Obtain the consent of the Minister of Tourism and Culture before removing or demolishing the building or structure, or before transferring the property from provincial control.

(Standards and Guidelines for Conservation of Provincial Heritage Properties, (2010)).

12. Archaeological Resources

12.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. The information in the EPRs is not authoritative. It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

12.2 Archaeological Resource EPRs (ARC)

ARC 1

No marine or other archaeological site shall be altered unless a licensed archaeologist has completed archaeological fieldwork, on the site, and has provided a report to the Minister stating that the site has no further cultural heritage value or interest; and the report has been filed in the register (i.e. MTC has reviewed and accepted the report, and issued an acceptance letter) (Ontario Heritage Act, section.48 & 65).

ARC 2

Any areas that may be impacted by any transportation projects and activities (including land-disturbing, land-covering or capping activities) shall be assessed for archaeological potential prior to commencement of any disturbance.

ARC 3

All areas of archaeological potential that may be impacted by any activities associated with transportation projects and activities shall undergo archaeological assessment conducted by a licensed archaeologist in accordance with the Ontario Heritage Act and supporting Guidelines for Consultant Archaeologists (2011).

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Standards and guidelines.

ARC 4

Archaeological fieldwork must only be carried out (Ontario Heritage Act, section.48(1)) by a licensed archaeologists in accordance with the O.Reg 8/06 [Licences under Part VI of the Act — Excluding Marine Archaeological Sites].

ARC 5

Where an archaeological assessment determines that archaeological resources of cultural heritage value or interest are present, soil disturbance shall only be permitted on the lands containing those archaeological resources if the archaeological resources have been conserved by preservation on site, or by removal and documentation in accordance with the Ontario Heritage Act and supporting Standards and Guidelines for Consultant Archaeologists (2011).

ARC 6

A permit must be obtained from the Minister of Tourism and Culture for any archaeological site designated under the Ontario Heritage Act, section.52 and section.56, and Reg. 880 of R.R.O. 1990 [Historic Sites] and Reg. 875 of R.R.O. 1990 [Archaeological Sites].

13. Air

Note: To date, Environmental Protection Requirements for Air have not been developed. MTO has prepared the “Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (January 2012, Ontario Ministry of Transportation)” which is located on the Ontario Ministry of Transportation website. This document provides a recommended systematic and generic approach to assess and mitigate the potential air quality impacts and greenhouse gas emissions of provincial transportation undertakings for which MTO is directly responsible.

MTO will continue to work with provincial and federal government stakeholder agencies to develop Environmental Protection Requirements for Air as the federal and provincial legislative and regulatory framework for air quality and greenhouse gas emissions evolves.

14. Designated Areas

14.1 Overview

The Environmental Protection Requirements (EPRs) have been developed to help multidisciplinary teams identify environmental requirements when undertaking provincial transportation projects and activities. The legislative and policy requirements have been reorganized, synthesized and operationalized for this use. **The information in the EPRs is not authoritative.** It is provided for convenience only. Please see Section 1 for the disclaimer and detail on how to use the EPRs.

The hierarchy of environmental protection, in order of decreasing preference, is: avoidance / prevention; control / mitigation; and compensation / enhancement. Decisions on how the hierarchy of environmental protection is applied to specific provincial transportation projects and activities are made through the Ontario Environmental Assessment (EA) process, the federal EA process and individual permits, approvals and authorization. This is reflected in the EPRs by the terms “as possible” or “as feasible”.

Designated areas EPRs are provided under the following sub-factors:

- general;
- Oak Ridges Moraine;
- Niagara Escarpment;
- Greenbelt; and
- Lake Simcoe

14.2 General Designated Areas EPRs

DA 1

Designated Areas are identified in this document as geographic areas with a special or unique value which various government agencies (federal departments, provincial ministries, municipalities, conservation authorities, and others) have protected through legislation, policies, or approved land-use plans. Such areas may have a variety of ecological, recreational, and/or aesthetic features and functions that are highly valued. Examples of Designated Areas include the following: Niagara Escarpment; Bruce Trail; Trans Canada Trail; Oak Ridges Moraine; Protected Countryside Areas of the Greenbelt; Lake Simcoe Protection Plan Area; National and Provincial Parks; Designated federal

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wildlife/marine Areas; Ramsar wetlands; Remedial Action Plan areas (RAP); International Biological Program areas; World Biosphere Reserves; Designated heritage rivers; Environmentally Sensitive Areas (ESA); Environmentally Sensitive Policy Areas (ESPA); Provincially Significant Areas of Natural and Scientific Interest (ANSI); Conservation Authority parks/Open Space lands.

DA 2

Information on Designated Areas shall be identified and integrated by MTO as a key factor for transportation projects and activities.

DA 3

For transportation projects and activities, MTO shall give appropriate consideration to the specific features and functions of Designated Areas that make them significant, important, valued or unique, as articulated in legislation, policies or plans approved by the relevant authority.

DA 4

In Designated Areas with approved plans (e.g. Niagara Escarpment Plan, Greenbelt Plan, and Oak Ridges Moraine Conservation Plan), MTO transportation projects and activities shall meet, to the extent required by the legislation under which it is established, the relevant purpose, objectives and policy requirements of the plan.

DA 5

Where it is not feasible to avoid a Designated Area, MTO transportation projects and activities will be done in a manner that minimizes the extent of intrusion, minimizes visual impacts, maintains access to Designated Areas (i.e. trail or roadway access), and adjacent buffers in accordance with the relevant policies or plans.

14.3 Oak Ridges Moraine (ORM) EPRs

The Oak Ridges Moraine Conservation Act, 2001 allows for the establishment of an Oak Ridges Moraine Area and Oak Ridges Moraine Conservation Plan [ORMCP] by regulations:

- O. Reg. 1/02 [Designation of Oak Ridges Moraine Area]
- O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan]

The Act and the Plan came into effect on November 16, 2001.

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The Oak Ridges Moraine Conservation Plan [ORMCP] is an ecologically-based plan established to provide land use and resource management direction for the 190,000 hectares of land and water to protect the ecological and hydrological integrity of the moraine.

The Plan divides the Moraine into four land use designations:

Natural Core Areas protect those lands with the greatest concentration of key natural heritage features which are critical to maintaining the integrity of the Moraine as a whole.

Natural Linkage Areas protect critical natural and open space linkages between Natural Core Areas along rivers and streams.

Countryside Areas encourage agricultural and other rural uses that support the Plan's objectives by, protecting agricultural areas, providing for the continuation of agricultural and other rural land uses and normal farm practices, and maintaining the rural character of Rural Settlements.

Settlement Areas reflect a range of existing communities planning by municipalities. Urban uses and development as set out in the municipal official plans are allowed.

The Plan builds on the existing policy framework established in the Provincial Policy Statement [PPS] and continues to apply within the designation ORMCP Area. The Plan is to be read in conjunction with the PPS and all other applicable land use planning legislation, policy, regulations, and/or standards.

In addition to the other Environmental Protection Requirements, transportation projects and activities in the ORMCP Areas as mapped in Map 208 to the O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], the Ministry shall comply with the following as summarized below:

ORM 1

In Natural Core Areas, maintain and, where feasible, improve or restore the ecological integrity of the Plan Area by;

1. maintaining and, where possible, improving or restoring the health, diversity, size and connectivity of key natural heritage features, hydrologically sensitive features and the related ecological functions;
2. maintaining or restoring natural self-sustaining vegetation and wildlife habitat;
3. maintaining the quantity and quality of groundwater and surface water;

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4. maintaining groundwater recharge;
5. maintaining natural stream form and flow characteristics; and
6. protecting landform features.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section. 11(1)).

ORM 2

In Natural Linkage Areas, maintain and, where feasible, improve or restore the ecological integrity of the Plan Area, and to maintain, and where feasible, improve or restore, regional-scale open space linkages between Natural Core Areas and along river valleys and stream corridors, by;

1. maintaining, and where feasible improving or restoring, the health, diversity, size, and connectivity of key natural heritage features, hydrologically sensitive features and the related ecological functions;
2. maintaining, and where feasible improving or restoring natural self-sustaining vegetation over large parts of the area to facilitate movement of plants and animals;
3. maintaining a natural continuous east-west connection and additional connections to river valleys and streams north and south of the Plan Area:
4. maintaining the quantity and quality of groundwater and surface water;
5. maintaining groundwater recharge;
6. maintaining natural stream form and flow characteristics; and
7. protecting landform features.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.12(1)).

ORM 3

In Countryside Areas, encourage agricultural and other rural uses that support the Plan's objectives, by,

1. protecting prime agricultural areas;
2. providing for the continuation of agricultural and other rural land uses and normal farm practices; and

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3. maintaining the rural character of the Rural Settlements.

Also encourage ecological integrity in the Countryside Areas by:

1. maintaining and, where feasible, improving or restoring the ecological integrity of the Plan Area;
2. maintaining and, where feasible, improving or restoring the health, diversity, size and connectivity of key natural heritage features, hydrologically sensitive features and the related ecological functions;
3. maintaining the quantity and quality of groundwater and surface water;
4. maintaining groundwater recharge;
5. maintaining natural stream form and flow characteristics;
6. protecting landform features;
7. accommodating a trail system through the Plan Area and trail connections to it; and
8. providing for economic development that is compatible with the above.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.13(1) and (2)).

ORM 4

Transportation projects and activities of all highway projects shall be consistent with municipal watershed plans, as required by O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.24(1).

ORM 5

Any application for a mineral aggregate operation or wayside pit operation shall demonstrate that it will:

1. maintain and, where feasible, improve or restore the quantity and quality of groundwater and surface water in the Plan Area;
2. rehabilitate as much of the site as feasible;
3. maintain and, where feasible, improve or restore the health, diversity, size and connectivity of any key natural heritage features on the site or on adjacent land; and

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4. protect the geological or geomorphological attributes of any areas of natural and scientific interest (earth science) on the site or on adjacent land.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.35(1)).

ORM 6

All service and utility trenches for transportation, infrastructure and utilities shall be planned, designed and constructed so as to keep disruption of the natural groundwater flow to a minimum (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(6)).

ORM 7

All stormwater management plans shall have the objective of:

- maintaining groundwater quantity and flow and stream baseflow;
- protecting water quality;
- protecting aquatic species and their habitat;
- preventing increases in stream channel erosion; and
- preventing any increase in flood risk.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.46(1)).

ORM 8

During the planning of highways in Natural Linkage Areas and Natural Core Areas, the need for the project shall be demonstrated. Where the need for the project has been demonstrated it shall also be demonstrated that there is no reasonable alternative (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(2)(a)). The federal and provincial Environmental Assessment processes are the ways by which the above are demonstrated.

ORM 9

In Natural Linkage Areas and Natural Core Areas, transportation projects and activities shall keep required right-of-way widths and associated construction disturbance to the minimum feasible (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section. 41(2)(b)1 and 2).

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ORM 10

In Natural Linkage Areas and Natural Core Areas, Highway undertakings shall be planned and designed to coincide to the extent feasible with existing transportation, infrastructure or utility corridors such that the number of corridors is kept to a minimum – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(2)(b)2).

ORM 11

In Natural Linkage Areas and Natural Core Areas, Highway undertakings shall be planned, designed and constructed to facilitate wildlife movement – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(2)(b)3).

ORM 12

Where required along the highway, lighting shall be designed to minimize light intrusion into Natural Core Areas – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(2)(b)4).

ORM 13

Transportation projects and activity practices that are adopted shall minimize adverse effects on the ecological integrity of the Plan Area. Where avoidance is not feasible, and has been permitted through the Environmental Assessment process, the highway will be designed, constructed, and operated/maintained to minimize effects on Natural Core Areas and Natural Linkage Areas – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(2)(b)5).

ORM 14

Future highway interchanges or transit stations shall not be located within a Natural Core Area – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(3)(b)).

ORM 15

Transportation projects shall be planned and designed to protect Natural Core Areas by either avoidance, or if avoidance is not feasible and has been permitted through the Environmental Assessment process, by locating the project as close to the edge of the Natural Core Area as feasible – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(3)(c)).

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ORM 16

Transportation projects and activities shall be planned and designed to maintain, and where possible improve or restore key ecological and recreational linkages, including the ORM recreational trail system that will be established as described in Section 39 of the ORMCP if crossing a key natural heritage feature or a hydrologically sensitive feature. (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(5)(c)).

ORM 17

Transportation projects shall implement a landscape design that is compatible with adjacent natural areas and site conditions and that utilizes native plant species as much as feasible, especially along rights-of-way – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(5)(d)).

ORM 18

Long-term landscape management approaches that are adopted in transportation projects shall maintain, and where feasible improve or restore the health, diversity, size and connectivity of the key natural heritage feature or hydrologically sensitive feature – (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41(5)(e)).

ORM 19

Surface water conveyance and management works in transportation projects shall:

- keep any adverse effects on the ecological integrity of the Oak Ridges Moraine Conservation Plan Area to a minimum;
- maintain the ecological integrity of hydrological features, key natural heritage features and related vegetation protection zones;
- maintain the quantity and quality of groundwater and surface water;
- maintain stream baseflows;
- protect aquatic species and their habitat;
- prevent increases in stream channel erosion;
- prevent any increase in flood risk; and

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- be consistent with the applicable watershed plan, water budget and conservation plan.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.41, section.43, section.45 and section.46).

ORM 20

For transportation projects and activities, practices that protect water resources will be used so that:

- the removal of vegetation, grading and soil compaction is kept to a minimum;
- soil migration from the construction area is prevented;
- exposed soils are stabilized as soon as possible;
- chemical applications to suppress dust and control pests are kept to a minimum; and
- areas of impervious land use are minimized, while areas retained in a natural, undisturbed state are maximized.

(O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.42, section.43 and section.45 (2)).

ORM 21

As feasible, highway surface water conveyance and management systems should integrate a variety of measures to form a “treatment train” that provides a total, long-term suspended solids removal efficiency of at least 80-percent (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.45(6) and section.46).

ORM 22

The disposal of stormwater into kettle lakes is strictly prohibited (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.45(7)).

ORM 23

Stormwater management ponds shall not be located in key natural heritage features and hydrologically sensitive features or related vegetation protection zones (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.45 (8)).

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ORM 24

Rapid infiltration basins and/or columns are strictly prohibited. (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.47).

ORM 25

The following uses are prohibited in wellhead protection areas (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.28):

- storage of petroleum fuels, solvents and chlorinated solvents, pesticides, herbicides, fungicides, construction equipment, inorganic fertilizers, road salt and contaminants listed in Schedule 3 (Severely Toxic Contaminants) to Reg. 347 of R.R.O. 1990 [General — Waste Management]:
- generation and storage of hazardous waste or liquid industrial waste; and
- snow storage and disposal facilities.

ORM 26

The following uses are prohibited in areas of high aquifer vulnerability as shown on the map entitled Reference Map for O.Reg. 140/02 [Oak Ridges Moraine Conservation Plan]:

- generation and storage of hazardous waste or liquid industrial waste;
- snow storage and disposal facilities; and
- underground and above-ground storage tanks that are not equipped with an approved secondary containment device.

ORM 27

Highways that will be used to transport chemicals or volatile materials should be planned and designed to avoid wellhead protection areas and areas of high aquifer vulnerability (O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.42(1)(c)).

ORM 28

Transportation projects and activities shall provide for groundwater source protection in terms of both quality and quantity and recognize vulnerable or sensitive (highly vulnerable) aquifer zones and wellhead protection zones as defined by the MOE (designated Director) and in Municipal Official Plans (Ontario

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Water Resources Act, section.33. and O. Reg. 140/02 [Oak Ridges Moraine Conservation Plan], section.29 and section.42(1)).

14.4 Niagara Escarpment

The following Environmental Protection Requirements for the Niagara Escarpment are based on:

- Niagara Escarpment Planning and Development Act, c. N.2;
- Reg. 826 of R.R.O. 1990 [Designation of Area of Development Control];
- Reg. 827 of R.R.O. 1990 [Designation of Planning Area]; and
- Reg. 828 of R.R.O. 1990 [Development Within the Development Control Area].

The Niagara Escarpment Planning and Development Act established a planning process to ensure that the area would be protected. From this emerged the Niagara Escarpment Plan (NEP) which serves as a framework of objectives and policies to strike a balance between development, preservation and the enjoyment of the Niagara Escarpment. The NEP is comprised of, among other things, a purpose statement, objectives and development criteria. The purpose of the NEP is to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment. The NEP allows for transportation facilities and has objectives and criteria for such facilities in order to meet the NEP purpose. The NEP is flexible. It recognizes that transportation facilities have other constraints and that some criteria may not be feasible in every situation. The EPR for the NE were developed to clarify these objectives and criteria and recognize the flexibility of the NEP. Three groups of EPRs have been developed for the NE:

The first is the objectives of the NEP.

The second and third groups are the criteria that should be met if feasible. These groups are Development Criteria for the Transportation and Utilities (NEP, Part 2.15); and other applicable Development Criteria.

NE 1

Within the Niagara Escarpment Planning Area, no ministry shall undertake any improvement of a structural nature of any undertaking within the Area if the improvement or undertaking is in conflict with the Niagara Escarpment Plan (Niagara Escarpment Planning and Development Act, section.13(1)a). Under the

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Niagara Escarpment Plan, transportation facilities are permitted for the various land use policy area including: Escarpment Natural Area, Escarpment Protection Area, Escarpment Rural Area, and Mineral Resource Extraction Area.

NEP Objectives:

NE 2

In addition to the other Environmental Protection Requirements, during transportation projects and activities of highways located in the Niagara Escarpment, the following shall be complied with (NEPDA section.8 Objectives):

- protect the unique ecologic and historic areas;
- maintain and enhance the quality and character of natural streams and water supplies; and
- maintain and enhance the open landscape character of the Niagara Escapement by preserving the natural scenery.

Development Criteria for Transportation and Utilities (NEP, Section 2.15)

NE 3

All new and reconstructed transportation facilities must be located and designed to minimize the impact on the Escarpment environment (NEP, 2.15 Transportation and Utilities).

NE 4

Transportation facilities will only permitted in Escarpment Natural Area when deemed necessary to the public interest after all alternatives have been considered (NEP, 1.3 Escarpment Natural Areas and 2.15 Transportation and Utilities).

NE 5

Blasting, grading and tree removal should be minimized through realignment and/or the use of mitigation measures such as curbs and gutter, retaining walls and tree wells (NEP, 2.15 Transportation and Utilities).

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NE 6

Finished slopes should be graded to a slope of 2:1 or less and re-vegetated (NEP, 2.15 Transportation and Utilities).

NE 7

Large cuts or steeper slopes should be avoided. If not avoidable, then terracing or other measures should be considered to ensure that transportation facilities affecting steep slopes (e.g., Escarpment slopes, rock faces, and talus slopes) and ravines do not result in environmental damage (NEP, 2.15 Transportation and Utilities and 2.5 New Development Affecting Steep Slopes and Ravines).

NE 8

Native species of vegetation should be used for the protection of earth surfaces, and blended into the surrounding landscape (NEP, 2.15 Transportation and Utilities).

NE 9

Vegetation screens should be used (NEP, 2.15 Transportation and Utilities).

NE 10

The visual impact of highways including structures and facilities should be minimized by measures such as structural design, colouration and landscape planting to minimize the impact on the Escarpment environment (NEP, 2.15 Transportation and Utilities)

NE 11

Transportation facilities should be sited and designed to avoid or minimize the impacts on (including provide for or protect access to) parks, open space and the Bruce Trail and to avoid creating severances that could result development pressures. Where impacts to the Bruce Trail cannot be avoided, an acceptable, safe alternative must be provided (NEP, 2.15 Transportation and Utilities).

Other Applicable Development Criteria

NE 12

During transportation projects and activities, changes to the natural drainage should be avoided (NEP, 2.6 New Development Affecting Water Resources).

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NE 13

Where a potential ground or surface water pollution problem exists from transportation projects and activities, the detrimental effects and how they will be minimized shall detail through appropriate studies during the Environmental Assessment process (NEP, 2.6 New Development Affecting Water Resources).

NE 14

During transportation projects and activities, the following sediment and erosion control practices should be carried out:

1. only the smallest practical area of land should be exposed at any time;
2. when land is exposed, the exposure should be kept to the shortest practical period of time;
3. natural features such as tree groves, grades and waterways should be preserved;
4. temporary vegetation and/or mulching should be used to protect critical areas exposed;
5. final landscaping and vegetation should be installed as soon as practical following completion of construction;
6. topsoil should not be removed from the site, but rather, should be stored and redistributed as a suitable base for seeding and planting;
7. sediment control devices should be installed to remove sediment from run-off due to changed soil surface conditions during and after construction; and
8. construction in or across a watercourse or wetland should be appropriately timed to minimize impacts on fish and wildlife habitat (NEP, 2.6 New Development Affecting Water Resources).

NE 15

Water taking or stream diversions must be demonstrated to be an essential part of construction and shall be of a scale and intensity that will not adversely affect water quality, quantity and the Escarpment environment. The need and amount of water taking and/or diversions will be justified and the impact on the Escarpment environment will be mitigated (NEP, 2.6 New Development Affecting Water Resources).

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NE 16

Wetlands including a setback should be avoided during the planning, design, construction, operation and maintenance of highways (NEP, 2.6 New Development Affecting Water Resources).

NE 17

The limits of the wetland and setback shall be determined by the Niagara Escarpment Commission (NEC) (NEP, 2.6 New Development Affecting Water Resources).

NE 18

The wetland set-back should be a natural vegetative buffer.

NE 19

Highways may be located and constructed adjacent to wetlands provided it does not result in any of the following:

1. loss of water quality;
2. loss of wetland functions;
3. subsequent demand for future development that will negatively affect existing wetland functions;
4. conflict with existing site-specific wetland management practices; and
5. loss of contiguous wetland area.

(NEP, 2.6 New Development Affecting Water Resources).

NE 20

Highways may be located and constructed adjacent to significant fishery resources provided the following is demonstrated:

1. net gain/no net loss of productive capacity of fish habitat;
2. maintenance of minimum baseflow of watercourses;
3. maintenance of existing watercourses in a healthy, natural state;

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4. maintenance of vegetative buffers in accordance with the sensitivity of the fishery resource and development criteria;
5. best available construction and management practices shall be used to protect water quality and quantity, both during and after construction; and
6. treatment of surface run-off to maintain water quality and hydrological characteristics in receiving watercourses shall meet the standards established by the Ministries of Environment and Natural Resources where feasible.

(NEP, 2.6 New Development Affecting Water Resources).

NE 21

Public access to fishery resource areas shall be maintained or, wherever practicable, improved during the planning, design, construction, operation and maintenance of highways (NEP, 2.6 New Development Affecting Water Resources).

NE 22

Storm water management ponds and related infrastructure shall be designed and located to avoid streams, wetlands, Areas of Natural and Scientific Interest (Life Science), source areas, Escarpment slopes and significant watercourses (NEP, 2.6 New Development Affecting Water Resources).

NE 23

Storm water management ponds and related infrastructure shall be designed to be off-stream with bottom draw-off control structures (NEP, 2.6 New Development Affecting Water Resources).

NE 24

The water resource management policies/activities of the Ministry of Environment, Ministry of Natural Resources and Conservation Authority shall be considered for Transportation projects and activities (NEP, 2.6 New Development Affecting Water Resources).

NE 25

Natural vegetative buffers shall be maintained or established where feasible for Transportation projects and activities (NEP, 2.6 New Development Affecting Water Resources).

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NE 26

Transportation projects and activities shall not adversely affect downstream water quality, quantity, adjacent lands and riparian rights (NEP, 2.6 New Development Affecting Water Resources).

NE 27

Disturbance of wooded areas should be minimized by transportation projects and activities (NEP, 2.7 New Development Within Wooded Areas).

NE 28

In heavily treed areas, specific management details regarding the protection of existing trees will be developed. Trees to be retained should be protected by means of snow fencing, wrapping, or other acceptable means during construction (e.g. tree wells) (NEP 2.7, New Development Within Wooded Areas).

NE 29

Existing tree cover or other stabilizing vegetation shall be maintained on slopes in excess of 25 per cent (1 in 4 slope) as feasible (NEP 2.7, New Development Within Wooded Areas).

NE 30

New highways are not permitted in identified habitat of endangered (regulated) plant or animal species (NEP 2.8, Wildlife Habitat) unless a permit from the relevant authority is obtained.

NE 31

Transportation projects and activities shall:

1. minimize the impacts upon wildlife habitat, in particular, habitats of endangered (not regulated), rare, special concern, and threatened plant or animal species, as identified by on-site evaluation;
2. maintain wildlife corridors and linkages with adjacent areas (NEP, 2.8 Wildlife Habitat).

NE 32

Provincially Significant and Regionally Significant Life Science ANSIs and set-backs should be avoided during the planning, design, construction, operation and

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maintenance of highways (NEP, 2.14 Areas of Natural and Scientific Interest (ANSIs)).

NE 33

The Areas of Natural and Scientific Interest [ANSI] set-back should be a natural vegetative buffer.

NE 34

In Provincially Significant Earth Science Areas of Natural and Scientific Interest [ANSI] highway development will be considered, provided that:

1. development does not significantly alter the natural topography or geological features of the Earth Science ANSI; and
2. methods are employed to minimize the impact of the use on the values for which the site has been identified (NEP, 2.14 Areas of Natural and Scientific Interest (ANSI)).

NE 35

In Agricultural Areas (as defined in the Niagara Escarpment Plan), transportation projects and activities, shall be done in a manner consistent with EPRs AGR-1 and 3 for prime agricultural lands and prime agricultural areas.

NE 36

Where transportation projects or activities will destroy or significantly alter cultural landscapes or heritage features, actions will be taken as per EPRs HER-1 to 7 for Built Heritage and Cultural Heritage Landscapes.

14.5 Greenbelt

The Greenbelt Act provides the authority to:

- Designate a Greenbelt Area to include the Oak Ridges Moraine Area, Niagara Escarpment Plan Area and the Protected Countryside Areas) (O.Reg. 59/05 [Designation of Greenbelt Area]); and
- Establish a Greenbelt Plan (Order In Council 208/2005).

The Act and the Plan came into effect on December 16, 2004. Lands within the Protected Countryside, as shown on Schedule 1 of the Greenbelt Plan, are subject to the entirety of the Greenbelt Plan. The requirements of the Oak Ridges Moraine Conservation Plan (ORMCP) and the requirements of the Niagara

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Escarpment Plan continue to apply in their areas of application. The Protected Countryside policies of the Greenbelt Plan do not apply with the exception of 3.3 – Parkland, Open Space and Trails.

The Greenbelt Plan builds on the existing policy framework established in the Provincial Policy Statement [PPS] and continues to apply within the designated Greenbelt Area. The Greenbelt Plan is to be read in conjunction with the PPS and all other applicable land use planning legislation, policy regulations and/or standards.

Greenbelt Plan

The Greenbelt Plan recognizes the need to balance the goals of the Greenbelt with the long-term infrastructure needs that support growth. The Greenbelt Plan allows infrastructure within the Greenbelt's Protected Countryside that supports existing development within the Greenbelt or is necessary to accommodate long term growth outside the Greenbelt, subject to conditions.

The Greenbelt is a broad band of permanently protected land which:

- Protects against the loss and fragmentation of the agricultural land base and supports agriculture as the predominant land use;
- Gives permanent protection to the natural heritage and water resource systems that sustain ecological and human health and that form the environmental framework around which major urbanization in south-central Ontario will be organized; and
- Provides for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses.

There are three types of Geographic Specific Policies (Section 3) that apply to lands within the Protected Countryside:

1. Agricultural System: a continuous and permanent land base necessary to support long-term agricultural production and economic activity and is comprised of:
 - a) specialty crop areas are specifically the Niagara Peninsula Tender Fruit and Grape Area and the Holland Marsh.
 - b) prime agricultural areas as designated within municipal official plans.
 - c) rural areas are those lands outside of settlement areas which are not prime agricultural areas and are typically characterized by a mixture of

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- agricultural lands, natural features and recreational and historic rural land uses.
2. Natural System: provides a continuous and permanent land base necessary to support human and ecological health in the Greenbelt and beyond and is comprised of:
 - a) the Natural Heritage System includes areas with the highest concentration of the most sensitive and/or significant natural features and functions.
 - b) the Water Resource System is made up of both ground and surface water features and their associated functions, which provide the water resources necessary to sustain healthy aquatic and terrestrial ecosystems and human water consumption.
 3. Settlement Areas: includes Towns, Villages and Hamlets as identified in municipal official Plans.

The Greenbelt Plan also sets out General Policies (Section 4) for the Protected Countryside which include provisions for infrastructure, non-agricultural uses (e.g. recreation), natural resources (e.g. mineral aggregate, forestry, and wildlife management), cultural heritage resources, existing uses and lot creation.

General

GB 1

In addition to the other Environmental Protection Requirements, for transportation projects and activities located in the Greenbelt Plan, the ministry shall, comply with the following Environmental Protection Requirements for the Greenbelt Plan.

Plan Objectives

GB 2

Wherever feasible, during transportation projects and activities, the following shall be done:

1. maintain the network of countryside and open space areas which supports the Oak Ridges Moraine and the Niagara Escarpment;
2. sustain the countryside, rural and small towns and contribute to the economic viability of farming communities;

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3. preserve agricultural land;
4. maintain connections between lakes and the Oak Ridges Moraine and Niagara Escarpment;
5. maintain or restore and improve as practical, linkages between ecosystems and provincial parks or public lands; and
6. ensure that the development of transportation infrastructure proceeds in an environmentally sensitive manner.

(Greenbelt Act, section.5 [Plan Objectives])

GB 3

Within the Agricultural System of the Protected Countryside, lands falling in the Prime Agricultural Areas (as identified by Ministry of Agriculture and Rural Affairs and include specialty crop lands and/or Canada Land Inventory Classes 1, 2, and 3 soils) transportation projects are permitted provided MTO complies with the general policies of 2.4 – 4.7 of the Greenbelt Plan (see GB-4 to 7). (Greenbelt Plan, 3.1.3 #3).

GB 4

For all proposed expanded or new transportation corridors and facilities in the Protected Countryside, it must be demonstrated that the undertaking meets one of the following objectives:

1. it supports agriculture, recreation and tourism, rural settlement areas, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or
2. it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban growth centres and between these centres and Ontario's borders.

(Greenbelt Plan, GB Infrastructure, 1 #1)

GB 5

In the Protected Countryside, transportation projects and activities the subject to the following:

1. minimize wherever possible, the amount of the Greenbelt, and in particular the Natural Heritage System, that is traversed and/or occupied;

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2. minimize wherever possible, the negative impacts and disturbance of the existing landscape, including, but not limited to, impacts caused by light intrusion, noise and road salt;
3. where practicable, optimize existing capacity and coordination with different infrastructure services so that the rural and existing character of the Protected Countryside and the overall urban structure for southern Ontario established by the Greenbelt and any provincial growth management initiatives are supported and reinforced;
4. avoid key natural heritage features or key hydrologic features for new and expanding transportation infrastructure unless need has been demonstrated and it has been established that there is no reasonable alternative through completion of the required environmental assessment process; and
5. minimize negative impacts and disturbance on the features or their related functions, and where reasonable, maintain or improve connectivity for instances where infrastructure does cross the Natural Heritage System or intrude into or result in the loss of a key natural heritage feature or key hydrologic feature, including related landform features.

(Greenbelt Plan, GB Infrastructure, .1 #1, 4.2.1 #2a) b) c) d) e) and #3))

GB 6

In the Protected Countryside, elements of the highway or transit corridor or facility within a key natural heritage feature or key hydrologic feature or its associated vegetation protection zone may be established if the highway or transit corridor or facility:

1. Serves the agricultural sector; and
2. All reasonable efforts are made to keep such infrastructure out of key natural heritage features or key hydrologic features or the vegetation protection zones.

(Greenbelt Plan, GB Infrastructure, .1 #1, 4.2.1 #2a) b) c) d) e) and #3))

GB 7

Storm water management ponds are prohibited in key natural heritage features or key hydrologic features or their vegetation protected zones in the Protected Countryside, except for those portions of the Protected Countryside that define the major river valleys that connect the Niagara Escarpment and Oak Ridges Moraine to Lake Ontario. In these areas, naturalized stormwater management

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ponds are permitted provided they are located a minimum of 30 metres away from the edge of the river/stream and in the vegetation protection zones of any abutting key natural heritage features or key hydrologic features. (Greenbelt Plan, 4.2.3, #1, Stormwater Management Infrastructure Policies)

GB 8

In the Protected Countryside, stormwater management plans shall be designed and carried-out in a manner that avoid, minimize and/or mitigate stormwater volume, contaminant loads and impacts to receiving water courses in order to:

1. maintain groundwater quality and flow and stream baseflow;
2. protect water quality;
3. minimize the disruption of pre-existing (natural) drainage patterns wherever feasible;
4. Prevent increases in stream channel erosion;
5. Prevent any increase in flood risk; and
6. Protect aquatic species and their habitat.

(Greenbelt Plan, 4.2.3 #3 Stormwater Management)

14.6 Lake Simcoe (LS) EPRs

The Lake Simcoe Protection Act [LSPA] was established with the purpose of protecting and restoring the ecological health of the Lake Simcoe watershed. From this emerged the Lake Simcoe Protection Plan [LSPP] Lake Simcoe Protection Plan (2009). The LSPP generally applies to the Lake Simcoe watershed, which is defined in the Act as Lake Simcoe and the parts of Ontario, the water of which drains into Lake Simcoe.

- The LSPP is a standard for environmental protection and provides a roadmap to help restore and protect the health of Lake Simcoe by:
- promoting immediate action to address threats to the ecosystem, such as excessive phosphorus in the lake; and
- targeting new and emerging causes of stress to Lake Simcoe such as invasive species and climate change.

For transportation project and activities, the LSPA requires that decisions under a “prescribed instrument” conform with the applicable designated policies in the

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LSPP and have regard to the other applicable policies. The only prescribed instrument in O. Reg. 219/09 [General] applicable to transportation projects and activities is the Permit to take Water under the Ontario Water Resources Act. The LSPP states that even though Permits To Take Water under the Ontario Water Resources Act is specified as prescribed instrument, in this version of the LSPP there are no policies applicable to them. As such, there are currently no EPRs specifically for LSPA or LSPP.

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Glossary of Terms/Acronyms

AGR – Agriculture

ANSI - Areas of Natural and Scientific Interest

ANSI - Provincially Significant Areas of Natural and Scientific Interest

ARC - Archaeological Resource EPRs

CEA Act- Canadian Environmental Assessment Act

CON – Contaminated Property, Waste and Access Materials Management EPRs

DA - General Designated Areas EPRs

DFO – Department of Fisheries and Oceans Canada

EA – Ontario Environmental Assessment Act

EPRs -Environmental Protection Requirements

ESA – Endangered Species Act

ESPA - Environmentally Sensitive Policy Areas

FEA – Federal Environmental Assessment

FISH – Fish and fish Habitat

GB – Greenbelt

GEN – General Environmental Protection Requirements

GW – Ground Water

HER - Built Heritage and Cultural Heritage Landscapes EPRs

HWIN - Ministry of the Environment Hazards Waste Information Network

IEA – Individual Environmental Assessment

IPM – Integrated Pest Management

LS – Lake Simcoe

LSPA – Lake Simcoe Protection Act

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LSPP- Lake Simcoe Protection Plan

MNR – Ministry of Natural Resources

MOE – Ministry of the Environment

MTC – Ontario Ministry of Tourism, Culture and Sport

MTO – Ministry of Transportation

NE – Niagara Escarpment

NEC - Niagara Escarpment Commission

NEP - Niagara Escarpment Plan

O. Reg – Ontario Regulation

OMNR – Ontario Ministry of Natural Resources

OPSS – Ontario Provincial Standard Specifications

ORMCP - Oak Ridges Moraine Area and Oak Ridges Moraine Conservation Plan

OWRA – Ontario Water Resources Act

PEA – Provincial Environmental Assessment

PPS – Provincial Policy Statement

RAP – Remedial Action Plan

RRO – Revised Regulations of Ontario

SAC – Ministry of the Environment Spills Action Centre

SAR – Species at Risk

SARA – Species at Risk Act

SW – Surface Water

VEG – Vegetation

WET – Wetlands

WLD – Wildlife

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Construction, Operation and Maintenance**

WR – Water Resource