Land Information Ontario
Data Description

OTN Trail Segment

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LIO Class Description

OTN Trail Segment

Class Short Name: OTNSEG

Version Number: 1

Class Description:

A trail segment is a line feature which defines a linear corridor through the natural or urban environment. These corridors may be single segments or form a looping system. One trail segment is distinguished from another trail segment within the same trail by having different features.

Abstract Class Name: SPSLINE

Abstract Class Description:

Spatial Single-Line: An object is represented by ONE and ONLY ONE line segment. Line segments MUST be continuous. Examples: geological fault lines, roads at a 1: 600,000 scale.

Metadata URL:

OTN Trail Segment

OTN_TRAIL_SEGMENT_FT

A trail segment is a line feature which defines a linear corridor through the natural or urban environment. These corridors may be single segments or form a looping system. One trail segment is distinguished from another trail segment within the same trail by having different features.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	

A unique numeric provincial identifier assigned to each object.

ENVIRONMENTAL_CONCERNS	VARCHAR2 (2000)	No	ENVIRON	

A description of known environmental concerns.

HAZARD_COMMENT	VARCHAR2 (2000)	No	HAZARD_COM	

Unstructured description, additional notes, or further explanation regarding sources of danger at a feature.

MIN_WIDTH_CLEARANCE_METERS	NUMBER (3,1)	No	MIN_WIDTH	

The minimum width of the trail segment. This is critical for people who use mobility devices such as strollers, walkers and wheelchairs. The average manual wheelchair has a wheelbase width of less than 28 inches(0.71 meters). If a trail narrows to 26 inches (0.66 meters), persons in a 28-inch wheelchair will know that they w ill not be able to venture past this point unless they are capable of transferring out of their chair and maneuvering their chair through this narrow location. Equestrians are another example of trail users that require a specific width, depending on the size of the horse. Defined in meters.

MIN_VERTICAL_CLEARANCE_METERS	NUMBER (3,1)	No	MIN_VERTIC	

The minimum height above the trail segment that is free from protruding objects and overhead obstructions, such as tree branches and bridges. Measured in meters.

MAX_GRADE	NUMBER (4,1)	No	MAX_GRADE	

The maximum grade of the trail segment. Grade is defined as the maximum percent grade of rise (ascent) or fall (descent) of the slope of the trail tread parallel to the path of travel. Calculated as "vertical distance/horizontal distance".

MAX_CROSS_SLOPE	NUMBER (3,1)	No	MAX_SLOPE	

The maximum cross slope on the trail segment. Cross slope is the average elevation change from one side of the trail across to the other side, measured at a right angle to the path of travel.

ON_ROAD_IND	VARCHAR2 (3)	No	ON_ROAD	'Yes', 'No'

Indicates whether a trail is On Road or Off Road. If indicator value is yes, then the trail is "On Road". If indicator value is no, then the trail is "Off Road".

TRANS_CANADA_TRAIL_IND	VARCHAR2 (3)	No	TRANS_CAN	'Yes', 'No'

Indicates whether the trail is defined as a portion of the Trans Canada Trail. The Trans Canada Trail is a shared-use

recreational trail that winds its way through every province and territory and will span approximately 18 078 kilometers. The trail will accommodate five core activities: walking, cycling, horseback riding, cross-c ountry skiing and snowmobiling.

STRUCTURE	VARCHAR2 (50)	No	STRUCTURE	'Boardwalk', 'Bridge', 'Causeway', 'Corduroy', 'Culvert', 'Gates', ... (See OTN_STRUCTURE_LIST table)

The name of the trail structure. Trail structures normally respond to user safety and environmental protection issues-not user convenience issues. In this context, almost all structures refer to passing through or across wet areas or open water such as bridges, puncheon, or boardwalks. Steps and stiles apply to passage of topographical or human -caused barriers.

STRUCTURE_DESCR	VARCHAR2 (250)	No	STRUCT_D	

A description of the trail segment structure.

SURFACE	VARCHAR2 (20)	No	SURFACE	

A description of the trail segment surface(s).

SURFACE_DETAIL	VARCHAR2 (25)	No	SURF_DET	'Aggregate or Gravel', 'Asphalt', 'Bedrock', 'Bladed', 'Boardwalk', 'Brick or Paver Stone', ... (See OTN_SURFACE_DETAIL_LIST table)

Specific description of the trail surface. The type of trail surface has a great amount of influence on the degree of access for all user groups.

FIRMNESS	VARCHAR2 (10)	No	FIRMNESS	'Paved','Hard','Firm','Soft','Very Soft','Unknown'

The firmness of the trail surface on a trail segment. Accessibility notes: Surface firmness primarily affects the amount of energy required to ambulate or propel a wheelchair across the surface. Surface stability mainly influences the amount of energy required to maneuver or turn a wheelchair through the surface. In addition, for persons that use crutches or walkers, lack of surface stability would pose a potentially hazardous situation if the devise moves while the pe rson leans on the device for support during walking.

LOCATION_ACCURACY	VARCHAR2 (25)	Yes	ACCURACY	'Not Applicable', 'Over 10,000 metres', 'Within 1 metre', 'Within 10 metres', 'Within 10,000 metres', 'Within 100 metres', ... (See LOCATION_ACCURACY_LIST table)

The degree of conformity or closeness of a measurement within the database to its true value in the world.

LOCATION_DESCR	VARCHAR2 (2000)	No	LOC_DES	

Description of the area or directions on how to get to the site.

GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	

Date/time the geometry was created or last modified in the source database.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

CLASS_DATABASE_REFERENCE

A link to an external database or an internal object in the same database.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	
A unique numeric provincial identifier assigned to each object.				
INTERNAL_EXTERNAL_FLG	VARCHAR2 (10)	Yes	INT_EXT	'Internal', 'External'
A flag indicating if the database being referenced is internal (NRVIS/LIO) or external.				
DATABASE_REFERENCE_IDENT	VARCHAR2 (50)	Yes	IDENT	
Identifier of a reference that is linked e.g. Land Use Permit Number, LIS Number, the FMF Object ID of a Concrete Class.				
CLASS_SHORT_NAME	VARCHAR2 (8)	Yes	CLASS_NAME	
Static short name that will be used by for the concrete class.				
DATABASE_REFERENCE_DETAIL	VARCHAR2 (2000)	No	DETAIL	
Details on the rationale, use, dependency, or comments on the database reference. If a dependence on other data class geometry exists, this can be identified in this field.				
RELATED_CLASS_SHORT_NAME	VARCHAR2 (8)	No	CLASS_NAME	
The static short name that is used by the related concrete class.				
EXT_REF_TYPE_CODE	VARCHAR2 (8)	No	EXT_TYPE	
The type of external database that the identifier pertains to e.g. LUPS, LIS, etc.				
TYPE_OTHER_DESCR	VARCHAR2 (60)	No	OTH_DESCR	
A full description of the type when set to "other".				
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	
Date/time the record was created or last modified in the source database.				

CLASS_JUSTIFICATION

The justification for the addition of or changes to a geographic feature.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	
A unique numeric provincial identifier assigned to each object.				
JUSTIFICATION_REASON	VARCHAR2 (2000)	Yes	REASON	
Reason for justification of the existence of a geographic feature.				
CLASS_SHORT_NAME	VARCHAR2 (8)	Yes	CLASS_NAME	
System-generated column denoting the data class which this record is part of.				

JUSTIFICATION_DATE	DATE	Yes	JUSTIF_DT	

Date that the geographic feature was justified.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

CLASS_OTHER_INFORMATION

This table allows the NRVIS/LIO users to enter local-needs type of information, currently not captured in the NRVIS or LIO database. The table content will be analysed periodically to determine if the field(s) should be incorporated into the regular data class structure.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	

A unique numeric provincial identifier assigned to each object.

FIELD_NAME	VARCHAR2 (30)	Yes	FIELD_NAME	

The attribute name for the information.

CLASS_SHORT_NAME	VARCHAR2 (8)	Yes	CLASS_NAME	

System-generated column denoting the concrete class which this record is part of.

FIELD_TYPE	VARCHAR2 (8)	Yes	FIELD_TYPE	'String', 'Integer', 'Double'

The type of field.

FIELD_VALUE_STRING	VARCHAR2 (50)	No	VALUE_S	

A field used to store character strings.

FIELD_VALUE_INTEGER	NUMBER (5,0)	No	VALUE_I	

A field used to store integer values (small numbers).

FIELD_VALUE_DOUBLE	NUMBER (10,3)	No	VALUE_D	

A field used to store decimal data with up to two decimals.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

CLASS_PARTY_ROLE

A link to an external contact database.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	

A unique numeric provincial identifier assigned to each object.

PARTY_IDENT	VARCHAR2 (25)	Yes	PARTY_ID	

An identifier for a party (group or individual). It should reference an identifier in an external database which would contain further information. The identifier should not contain personal information (i.e. Social Insurance Number, Outdoors Card Number, phone number, name etc.).

| PARTY_DATABASE | VARCHAR2 (100) | Yes | PARTY_DB | |

The database that contains the party information.

| ROLE_TYPE | VARCHAR2 (50) | Yes | ROLE_TYPE | 'Affiliated With', 'Approver', 'Authority Holder', 'Claim Holder', 'Contact', 'Contractor', ... (See ROLE_TYPE_LIST table) |

The role that an organization or an individual plays.

| CLASS_SHORT_NAME | VARCHAR2 (8) | Yes | CLASS_NAME | |

System-generated column denoting the concrete class which this record is part of.

| ROLE_DETAIL | VARCHAR2 (200) | No | DETAIL | |

Additional details about the role.

| START_DATE | DATE | No | START_DATE | |

The date when a Party starts to play a Role.

| END_DATE | DATE | No | END_DATE | |

The date when a Party ceases to play a Role.

| EFFECTIVE_DATETIME | DATE | Yes | EFF_DATE | |

Date/time the record was created or last modified in the source database.

CLASS_SOURCE

Intersection table between the data class and Source List table.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	

A unique numeric provincial identifier assigned to each object.

| SOURCE_NAME | VARCHAR2 (100) | Yes | SOURCE_NAM | 'AFFM Provincial Administrative Maps', 'Aerial Photography', 'Aerial Survey', 'Book/Publication', 'CIR Photography', 'City of Ottawa Borehole Database', ... (See SOURCE_LIST table) |

The name of the source.

| SOURCE_DETAIL | VARCHAR2 (254) | Yes | SOURCE_DET | |

What part of the source pertains to the feature. Examples: Summary data from a data base, pages in a book or atlas, figure number and page from a publication, a section of a map, record in a database.

CLASS_SHORT_NAME	VARCHAR2 (8)	Yes	CLASS_NAME

Unique abbreviation of the concrete class name (primary key)

SOURCE_DESCR	VARCHAR2 (2000)	No	SOURCE_DES

Text providing details about the source.

METHOD_DESCR	VARCHAR2 (2000)	No	METHOD

The type of method, tools, and techniques used in observing/collecting/recording the Source. It may also include a URL where users could get further information on the method used.

SOURCE_APPLICABILITY	VARCHAR2 (20)	No	APPLICABIL

How the source contributes to the feature's definition.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE

Date/time the record was created or last modified in the source database.

CLASS_SUPPORTING_MATERIAL

Material (document/file/picture) that provides more information on a geographic feature.

EXTERNAL_REF_TYPE_LIST

List of valid EXTERNAL_REFERENCE_TYPE codes.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EXT_REF_TYPE_CODE	VARCHAR2 (8)	Yes	EXT_REF_TY	

The type of external database that the identifier pertains to e.g. LUPS, LIS, Other.

EXT_REF_TYPE_DESCR	VARCHAR2 (60)	Yes	EXT_REF_TY	

Description of the type of external reference.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

LOCATION_ACCURACY_LIST

List of valid location accuracies associated to a mapped feature.

Column Name	Column Type	Mandatory	Short Name	Valid Values
LOCATION_ACCURACY	VARCHAR2 (25)	Yes	ACCURACY	

The degree of conformity or closeness of a measurement within the database to its true value in the world.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

For subscription: Date/time that the record was created in the LIO database. For publication: Date/time that the record was created in the source database.

EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date the record is no longer part of the database, or no longer valid. This is only populated in the history tables otherwise it will be null except for code tables.

OTN_STRUCTURE_LIST

Lookup table for trail structure information. Trail structures normally respond to user safety and environmental protection issues-not user convenience issues. In this context, almost all structures refer to passing through or across wet areas or open water such as bridges, puncheon, or boardwalks. Steps and stiles apply to passage of topographical or human caused barriers.

Column Name	Column Type	Mandatory	Short Name	Valid Values
STRUCTURE	VARCHAR2 (50)	Yes	STRUCTURE	

The name of the trail structure. Trail structures normally respond to user safety and environmental protection issues-not user convenience issues. In this context, almost all structures refer to passing through or across wet areas or open water such as bridges, puncheon, or boardwalks. Steps and stiles apply to passage of topographical or human-c aused barriers.

DESCRIPTION	VARCHAR2 (2000)	Yes	DESCRIPTIO	

The description of the trail structure name. Trail structures normally respond to user safety and

environmental protection issues-not user convenience issues. In this context, almost all structures refer to passing through or across wet areas or open water such as bridges, puncheon, or boardwalks. Steps and stiles apply to passage of topographi cal or human-caused barriers.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

OTN_SURFACE_DETAIL_LIST

List of valid OTN SURFACE_DETAILs.

Column Name	Column Type	Mandatory	Short Name	Valid Values
SURFACE_DETAIL	VARCHAR2 (25)	Yes	SURF_DET	

Specific description of the trail surface. The type of trail surface has a great amount of influence on the degree of access for all user groups.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

OTN_TRAILHEAD_AND_TRAIL_SEG

Index table for many to many relationship between trail segment and trailhead.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OTN_TRAIL_SEGMENT_ID	NUMBER (13,0)	Yes	SEGMENT_ID	

Unique ID for Trail Segment.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OTN_TRAILHEAD_ID	NUMBER (13,0)	Yes	TRAIL_ID	

Unique ID for Trailhead.

Column Name	Column Type	Mandatory	Short Name	Valid Values
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

ROLE_TYPE_LIST

List of valid party role types.

Column Name	Column Type	Mandatory	Short Name	Valid Values
ROLE_TYPE	VARCHAR2 (50)	Yes	ROLE_TYPE	

The role that an organization or an individual plays.

Column Name	Column Type	Mandatory	Short Name	Valid Values
ROLE_TYPE_DESCR	VARCHAR2 (2000)	Yes	DESCR	

Description of Role Type.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

SOURCE_LIST

A description of the source information that is the basis for creating or changing information about a geographic feature. In may be an observation, possibly resulting from a field survey or an adhoc report or a reference to a published or unpublished document.

Column Name	Column Type	Mandatory	Short Name	Valid Values
SOURCE_NAME	VARCHAR2 (100)	Yes	NAME	

The name of the source.

SOURCE_DATE	VARCHAR2 (50)	No	SRC_DATE	

The date of the source.

SOURCE_ORIGINATOR	VARCHAR2 (75)	No	ORIGINATOR	

The originator or author of the source. Includes the author(s) of a book; the originator(s) of a survey or project, etc.Examples: Smith, J. Smith, J. and Jones, K. Smith, J., Jones, K. and White, T. Anon. (where no author identified) OMNR (where authorship is corporate) Northwest District (lead and delivered the data collection project)

SOURCE_SCALE	VARCHAR2 (15)	No	SCALE	

The scale of the vector base or aerial photography, the cell resolution of a grid, or the pixel resolution of an image used to record the location of the feature. Examples: For a vector source or aerial photography: 1:10,000 1:20,000 1:250,000. For a grid or imagery source: 1 km, 10 m, 15 seconds.

HORIZONTAL_DATUM	VARCHAR2 (10)	No	H_DATUM	

Identifies the reference system used for defining the coordinates of points. There are three common horizontal datum systems used in Ontario: NAD83, NAD27, NAD27 with 1974 adjustment. The datum models the shape of the earth.

VERTICAL_DATUM	VARCHAR2 (30)	No	V_DATUM	

The zero surface to which elevations or heights are referred is called a vertical datum. Traditionally, surveyors and mapmakers have tried to simplify the task by using the average (or mean) sea level as the definition of zero elevation, because the sea surface is available worldwide. MSL is a close approximation to another surface, defined by gravity, called the geoid, which is the true zero surface for measuring elevations. Example: WGS-84 EGM96 Geoid.

SOURCE_PROJECTION	VARCHAR2 (40)	No	PROJECTION	

The name of a systematic representation of all or part of the surface of the Earth on a plane or developable surface.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	

Date/time the record was created or last modified in the source database.

EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

LIO Lookup Table Values:

EXTERNAL_REF_TYPE_LIST

EXT REF TYPE CODE	EXT REF TYPE DESCR	EXPIRY DATETIME
ALPS	Aggregate Licence Permit Database	
AMIS	Abandoned Mines Database	
ARFIS	Algonquin Region Forest Database	
BCD	Biological and Conservation Database	
DTDB	Digital Topographic Database	
FISHARC	Fisheries Data Archive	
FISHLIB	Fisheries Information Library	
FRI	Forest Resources Inventory Database	
IF	Internal Filing	
LIS	Land Index System	
LUP	Land Use Permit	
NADB	Natural Areas Database	
NTDB	National Topographic Database	
NWEIMS	Wetland Evaluation Information Management Database (North)	
OBM	Ontario Base Map Database	
OFIS	Ontario Fisheries Information Database	
OLI	Ontario Land Inventory	
OPDS	Ontario Petroleum Database	
OTHER	Other External Reference	
PER	Permit	
RBT	Resource Based Tourism Licence	
SFMM	Sustainable Forest Management Model	
WEIMS	Wetland Evaluation Information Management Database (South)	
^	NRVIS 2.0 Data Conversion	1999-11-05

LIO Lookup Table Values:

LOCATION_ACCURACY_LIST

LOCATION ACCURACY	EXPIRY DATETIME
Not Applicable	
Over 10,000 metres	
Within 1 metre	
Within 10 metres	
Within 10,000 metres	
Within 100 metres	
Within 1000 metres	
Within 2 metres	
Within 20 metres	
Within 200 metres	
Within 2000 metres	
Within 5 metres	
Within 50 metres	
Within 500 metres	
Within 5000 metres	
AC Accurate (to 10m)	2007-01-12
AP Approximate (to 500m)	2007-01-12
GE General (to 10,000m)	2007-01-12
MO Moderate (to 1000m)	2007-01-12
RE Reliable (to 100m)	2007-01-12
VA Very Accurate (to 2m)	2007-01-12
VG Vague (to 100,000m)	2007-01-12
^ Data Load	2007-01-12

OTN_STRUCTURE_LIST

STRUCTURE	DESCRIPTION	EXPIRY DATETIME
Boardwalk	Boardwalks are employed to cross areas that have deeper water than can be crossed by puncheon. Typical locations are where the trail has to cross a cattail area, deep marsh, or other water body that has little fluctuation in its level and flow. The distinction between a boardwalk and puncheon is that the surface of a boardwalk is constructed of boards that are perpendicular to the direction of the trail, and the entire structure is supported by posts driven or anchored into the bottom of the wetland, similar to a dock. Boardwalks do not rest on sill logs. Another distinction is that puncheon is normally less than a foot above the surrounding wetland, while a boardwalk can be 2 to 3 feet above the water; like an elongated dock. Boardwalks are a major, long-term investment, and they often cross moderately deep water, with standards as an accommodation to safety and provision of wheelchair passage.	
Bridge	Bridges are structures for crossing permanent and seasonal streams, dry ravines or gorges, and other obstacles in a safe, environmentally sensitive manner. Common sense should be used when defining a bridge. A bridge should not be confused with puncheon or boardwalks.	
Causeway	The trail tread through poorly drained areas may be elevated by using a causeway. This permanently hardens the tread to ensure a smooth walking surface. It is a technique that is useful when soils are poorly drained but do not have standing water as found in a wetland. A typical causeway is built with the width of the trail tread defined by parallel rows of rocks or logs. The defining rows also serve to retain the fill consisting of rock gravel, earth or a mixture of these materials. Medium- sized stones at the base allow water to pass under the causeway. . A ditch may be dug parallel to and on both sides of the causeway to improve drainage. This variation is often called a turnpike.	
Corduroy	Corduroy construction is basically a primitive type of puncheon. It consists of laying native logs perpendicular to the trail to harden it through areas of unstable or saturated soil. If left exposed, corduroy provides an uneven, slippery footing that is uncomfortable for the hiker.	
Culvert	Culverts are used to pass water under the trail, as an alternative to a small bridge and can be used to accommodate water flow from either spring runoff or small permanent streams. They also can be used in flat areas to provide equalizing, cross-drainage under causeway or turnpike sections, and reduce the damming effect. Culverts can be constructed of rock, logs, corrugated metal, corrugated plastic, or other suitable material.	
Gates	Pastures and other agricultural fields often occur on private lands and are separated by fences and gates or stiles are used to allow access.	

	A gate or stile can serve as a barrier to unauthorized use by horses, bicycles, and/or ORVs.	
Puncheon	Puncheon is an effective way to cross some types of bogs, shallow marshes, and wooded wetlands. It uses sawed, lumber or native logs to elevate the trail tread above wet areas that are not feasible to drain. It provides a hardened surface that lasts for many years depending on the material used. The walking surface is parallel to the direction of the trail, and the support structures (sills) rest directly on the ground.	
Stepping Stones	Stepping stones are placed to harden the trail tread across short wet areas or mud-holes. They consist of large, flat stones that are firmly set so that they do not rock; which may otherwise cause hikers to lose their balance. Stepping stones pose a barrier to accessibility and can become slick with moss and water; a falling hazard for all persons.	
Steps and Perrons	Steps and perrons (elongated steps-more like a series of connected platforms) may be required on trails due to topographical barriers-such as where an escarpment separates two moderately sloped grades.	

LIO Lookup Table Values:

OTN_SURFACE_DETAIL_LIST

SURFACE DETAIL	EXPIRY DATETIME
Aggregate or Gravel	
Asphalt	
Bedrock	
Bladed	
Boardwalk	
Brick or Paver Stone	
Concrete	
Corduroy	
Crushed Stone (fines)	
Grass	
Gravel	
Other	
Rock or Boulder	
Sand	
Skree	
Soil	
Vegetation - mown	
Vegetation - natural	
Water (Open Water)	
Wetland	
Wood - Chip or Mulch	
Wood - Decking	

LIO Lookup Table Values:

ROLE_TYPE_LIST

ROLE TYPE	ROLE TYPE DESCR	EXPIRY DATETIME
Affiliated With	This role type indicates that the related "from" Party (Individual or Group) has a relationship with the related "to" Party that is not more explicitly covered by another role type.	
Approver	This role type indicates that the related Party (Individual or Group) is one that has approved action associated with the related item. For example, if the related item is an Authority (License, permit, etc.) this would indicate the Party that approved the issuance of the Authority; if the related item is a Recommended Action this would indicate the Party that approved the initiation of the action; etc.	
Authority Holder	This role type indicates that the related Party (Individual or Group) is the one to which the Ministry has issued the related Authority (license, permit, etc.).	
Claim Holder	This role type indicates that the related Party (Individual or Group) is the one that is the registered owner of the related Mining Claim (area).	
Contact	This role type indicates that the related "from" Party (Individual or Group) is the designated point of contact for communication with the related "to" Party.	
Contractor	N/A	
Custodian	This role type indicates that the related Party (Individual or Group) is responsible for the care of the related Geographic Unit.	
Data Provider	This role type indicates that the related Party (Individual or Group) is the provider of a data source about the related Geographic Unit.	
Employee	This role type indicates that the related "from" Party (an Individual) is employed by the related "to" Party (a Group).	
Evaluator	This role type indicates that the related Party (Individual or Group) is the one who has evaluated the related Geographic Unit.	
Group Member	This role type indicates that the related "from" Party (Individual or Group) is a member of the related "to" Party (a Group). This could include membership in a Local Citizens Committee or a designated interest group.	
Information Holding Custodian	This role type indicates that the related Party (Individual or Group) is responsible for the storage and protection of the related Information Holding.	
Interested Party	This role type indicates that the related Party (Individual or Group) has a stated interest in a related Issue; or has a stated interest in plans and activities involving the related Geographic Unit.	
Issuer	This role type indicates that the related Party (Individual or Group)	

	is one that has issued the related Authority (license, permit, etc.).	
Lease Holder	This role type indicates that the related Party (Individual or Group) has occupancy rights to the related Geographic Unit for the period and according to the terms of a lease agreement.	
Manager	This role type indicates that the related "from" Party (Individual or Group) manages or directs the activities of the related "to" Party (the "to" Party reports to or is accountable to the "from" Party); or manages the operation of the related Geographic Unit (e.g., a Tourism Establishment).	
Metadata Custodian	This role type indicates that the related Party (Individual or Group) is responsible for the storage and protection of the information ABOUT the related Information Holding. Note: There is a separate role type for the custodian of the information holding itself.	
Observer	This role type indicates that the related Party (Individual or Group) is the one who made the observations in the related Information Source.	
Operator	This role type indicates that the related Party (Individual or Group) operates the related Geographic Unit facility (e.g., Tourism Establishment, Mill).	
Owner	This role type indicates that the related Party (Individual or Group) owns the related Geographic Unit (e.g., Tourism Establishment).	
Partner	This role type indicates that the related "from" Party (Individual or Group) has a partnership arrangement with the related "to" Party.	
Steward	This role type indicates that the related "from" Party (Individual or Group) is responsible for assisting the Ministry with respect to the management of resources within the related Geographic Unit.	
Supervisor	This role type indicates that the related "from Party (Individual or Group) supervises the activities of the related "to" Party.	
Verifier	N/A	

LIO Lookup Table Values:

SOURCE_LIST

SOURCE NAME	SOURCE DATE	SOURCE ORIGINATOR	SOURCE SCALE	HORIZONTAL DATUM	VERTICAL DATUM	SOURCE PROJECTION	EXPIRY DATETIME
AFFM Provincial Administrative Maps		Ministry of Natural Resources	600000				
Aerial Photography		Ministry of Natural Resources	15840				
Aerial Survey							
Book/Publication							
CIR Photography		Ministry of Natural Resources					
City of Ottawa Borehole Database	1883 - 2006	City of Ottawa	Varies		Mean Average Sea Level	Geodetic and UTM	
Digital File							
Digital Map							
Field Survey\Site Visit							
File System/Filing Cabinet Information							
Forest Resources Inventory		Ministry of Natural Resources		NAD27		UTM	
GPS Data Collection							
Hard Copy/Paper Map							
IKONOS Multispectral		Ministry of Natural Resources					
IKONOS Panchromatic		Ministry of Natural Resources					
IRS Multispectral		Ministry of Natural Resources					
IRS Panchromatic		Ministry of Natural Resources					
IRS Pansharpened		Ministry of Natural Resources					

Landsat-1,2,3 MSS		Ministry of Natural Resources					
Landsat-4,5 MSS		Ministry of Natural Resources					
Landsat-7 ETM		Ministry of Natural Resources					
Local Borehole Drilling Program Results	2006	Ministry of Northern Development and Mines			Mean Average Sea Level		
Local Knowledge							
MNDM Assessment File							
MNDM Client/Company Information							
MNR Based Observation							
MTO Engineering Reports	Varies	Ministry of Transportation	Varies		Mean Average Sea Level		
NRCan - CanVec	2008	Natural Resources Canada	50000	NAD83			
NRCan - National Hydro Network	2008	Natural Resources Canada	50000	NAD83			
NTS Map 1:250000	1970 to 2003	Department of Natural Resources	250000	NAD27			
NTS Map 1:50000	1970 to 2003	Department of Natural Resources	50000	NAD27			
Ontario Base Map 1:10000	1978 to 1995	Ministry of Natural Resources	10000	NAD27		UTM	
Ontario Base Map 1:20000	1978 to 1995	Ministry of Natural Resources	20000	NAD27		UTM	
Ontario Geological Survey Fieldwork Mapping	Varies to 2004	Ontario Geological Survey	1:50,000	NAD83	Mean Average Sea Level	Universal Transvers Mercator	
Ontario Parcel				NAD83			
OrthoImagery		Ministry of Natural Resources					
Public Observation							

Quaternary Geology Study	Varies	Ministry of Northern Development and Mines			Mean Average Sea Level		
Unknown	11-12-02						
Urban Geology Automated Information System (UGAIS)	1956-1972	Geological Survey of Canada	Varies	NAD27	Mean Average Sea Level	Universal Transverse Mercator	
Water Well Data Improvement Project	2006	Ministry of Natural Resources, Water Resources Information Program	Varies	NAD83	Mean Average Sea Level	Geodetic	
Water Well Information System (WWIS)	1899 - 2003	Ministry of the Environment, Environmental Monitoring and Reporting Branch	Varies	NAD27	Mean Average Sea Level	Universal Transverse Mercator	
Waterloo Area Geology Automated Information System (WAGAIS)	1900 - 1977	Geological Survey of Canada	Varies	NAD27	Mean Average Sea Level	Universal Traverse Mercator	
External Source from NRVIS 2							2007-01-12
Internal Source from NRVIS 2							2007-01-12
Material Source from NRVIS 2							2007-01-12
Ontario Base Map	1978 to 1995	Ministry of Natural Resources		NAD27		UTM	2007-01-12
Source Observation from NRVIS 2							2007-01-12
Unknown Imagery							2007-01-12

LIO Table Relationships for Class:

OTN Trail Segment

	------------------------------→ CLASS_DATABASE_REFERENCE.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_DATABASE_REFERENCE		
	------------------------------→ CLASS_JUSTIFICATION.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_JUSTIFICATION		
	------------------------------→ CLASS_OTHER_INFORMATION.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_OTHER_INFORMATION		
OTN_TRAIL_SEGMENT_FT	------------------------------→ CLASS_PARTY_ROLE.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_PARTY_ROLE	←------------------------------ CLASS_PARTY_ROLE.ROLE_TYPE = ROLE_TYPE_LIST.ROLE_TYPE	ROLE_TYPE_LIST
	------------------------------→ CLASS_SOURCE.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_SOURCE	←------------------------------ CLASS_SOURCE.SOURCE_NAME = SOURCE_LIST.SOURCE_NAME	SOURCE_LIST
	------------------------------→ CLASS_SUPPORTING_MATERIAL.OGF_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	CLASS_SUPPORTING_MATERIAL		
	←------------------------------ OTN_TRAIL_SEGMENT_FT.LOCATION_ACCURACY = LOCATION_ACCURACY_LIST.LOCATION_ACCURACY	LOCATION_ACCURACY_LIST		
	←------------------------------ OTN_TRAIL_SEGMENT_FT.STRUCTURE = OTN_STRUCTURE_LIST.STRUCTURE	OTN_STRUCTURE_LIST		
	←------------------------------ OTN_TRAIL_SEGMENT_FT.SURFACE_DETAIL = OTN_SURFACE_DETAIL_LIST.SURFACE_DETAIL	OTN_SURFACE_DETAIL_LIST		
	------------------------------→ OTN_TRAILHEAD_AND_TRAIL_SEG.OTN_TRAIL_SEGMENT_ID = OTN_TRAIL_SEGMENT_FT.OGF_ID	OTN_TRAILHEAD_AND_TRAIL_SEG		