

Land Information Ontario Data Description

Wind Turbine

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LIO Class Catalogue

Wind Turbine

Class Short Name: WINDTURB

Version Number: 1

Class Description:

A machine that captures the force of the wind usually used to produce electricity.

Abstract Class Name: SPSPNT

Abstract Class

Description:

Spatial Single-Point: An object is represented by ONE and ONLY ONE point. Examples: A cabin, bird nest, tower.

Tables in LIO Class:

Wind Turbine

WIND_TURBINE_FT

A machine that captures the force of the wind usually used to produce electricity.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	
System generated identifier, unique at the application level.				
WIND_TURBINE_TYPE	VARCHAR2 (50)	Yes	TURB_TYPE	Horizontal Axis Wind Turbine, Vertical Axis Wind Turbine, Lighter Than Air Tethered Wind Turbine, Other
The type of wind turbine. Horizontal Axis Wind Turbine (HAWT): The most common type of wind turbine where the axis of rotation is oriented horizontally. Vertical Axis Wind Turbine (VAWT): A type of wind turbine in which the axis of rotation is perpendicular to the wind stream and the ground. Lighter Than Air Tethered Wind Turbine: A type of wind turbine that is lighter than air and is tethered to the ground. It rotates around a horizontal axis in response to the wind generating electricity. Other: A type of turbine that is neither a Horizontal Axis Wind Turbine, a Vertical Axis Wind Turbine or a Lighter Than Air Tethered Wind Turbine. A description of the turbine would be captured in the Wind Turbine Type Other Description field.				
WIND_TURBINE_TYPE_OTHER_DESCR	VARCHAR2 (50)	No	TYPE_OTHER	
A description of the type of wind turbine if Other is selected as a wind turbine type.				
IN_SERVICE_DATE	DATE	Yes	IN_SERVICE	
The date when the turbine actually started to generate power.				
RATED_CAPACITY	NUMBER (3,1)	No	RATED_CAP	
The amount of power a wind turbine can produce at its rated wind speed measured in megawatts (MW). For example 0.1 MW at 20 kph. The rated wind speed generally corresponds to the point at which the conversion efficiency is near its maximum. With the variability of the wind, the amount of energy a wind turbine actually produces is a function of the capacity factor (e.g. a wind turbine produces 20% to 30% of its rated capacity over a year).				
WIND_FARM_NAME	VARCHAR2 (50)	No	WIND_FARM	
The name of the wind farm. A wind farm is defined as having 2 or more wind turbines.				
OWNER_COMPANY_NAME	VARCHAR2 (100)	No	OWNER_NAME	
The name of the company that has ownership of the wind turbine. The names of private individuals are not to be captured in this field. If a wind turbine is owned by a private individual, an entry of "Private" should be used.				
TURBINE_MANUFACTURER	VARCHAR2 (100)	No	MANUFACT	
Company that designs, manufactures, sells, erects and services the wind turbine.				
HUB_HEIGHT	NUMBER (3,0)	No	HUB_HEIGHT	
The height of the tower from the ground to the centre of the hub measured in metres.				

TOTAL_TURBINE_HEIGHT	NUMBER (3,0)	No	TOTAL_HT	
The total height of the wind turbine as measured from the ground to the highest point, including the blades, measured in metres.				
BLADE_LENGTH	NUMBER (3,0)	No	BLADE_LGTH	
The length of an individual blade from the blade root to blade tip measured in metres.				
ROTOR_DIAMETER	NUMBER (3,0)	No	ROTOR_DIAM	
The diameter of the rotor measured in metres.				
NUMBER_OF_BLADES	NUMBER (1,0)	No	NUM_BLADES	
The number of blades on a turbine.				
COMMENTS	VARCHAR2 (2000)	No	COMMENTS	
Unstructured description, additional notes, or further explanation of long length.				
CL_NON_FREEHOLD_DISPOSITION_ID	NUMBER (13,0)	No	CROWN_DISP	
A foreign key to the object in the Crown Land MNR Non-Freehold Dispositions data class that is related to the wind turbine.				
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 accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.				
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 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
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Date that the geographic feature was justified.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE
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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 Photograpy, City of Ottawa Borehole Database, ... (See SOURCE_LIST table)
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The name of the source.

SOURCE_DETAIL	VARCHAR2 (254)	Yes	SOURCE_DET	
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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	
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Unique abbreviation of the concrete class name (primary key)

SOURCE_DESCR	VARCHAR2 (2000)	No	SOURCE_DES	
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Text providing details about the source.

METHOD_DESCR	VARCHAR2 (2000)	No	METHOD	
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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	
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How the source contributes to the feature's definition.

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	
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Date/time the record was created or last modified in the source database.

LOCATION_ACCURACY_LIST

List of valid LOCATION_ACCURACYS.

Column Name	Column Type	Mandatory	Short Name	Valid Values
LOCATION_ACCURACY	VARCHAR2 (25)	Yes	ACCURACY	
The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.				
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. It 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
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Date/time the record was created or last modified in the source database.

EXPIRY_DATETIME	DATE	No	EXP_DATE
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Date/time that the record was expired from use.

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

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 Photograpy		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 Assesment 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 Reosurces	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 Transverse 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