Nova Scotia Civic Address File Web Service

User Guide for Developers

Version 1
2006

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Purpose

This document details the specific input requirements and outputs of the Nova Scotia Civic Address File (NSCAF) Web Service. It will not get into any detail regarding SOAP and the many options for connecting to and accessing the Web Service. The web service can be found at:

http://142.176.62.103/GEONOVA_WS/CivicAddressPointRange.asmx.

Terminology

Collection - A grouping or listing of structures, for instance if you want to return all of the municipalities then the GetMunicipalities method returns a collection of Municipality structures.

Structure - A complex data type that is made up of simple and other complex data types. For example the GetCapabilities method returns a collection of "Method" structures which is made up of some simple data type fields and a complex data type field called Parameters. The reason for this is that there is an unknown amount of parameters for each method, so they are put into their own structure that can have as many records as there are parameters for a method.

Format

The documentation for each Method in the Web Service conforms to a common format which includes the returned attributes and structures, the acceptable input values, comments, and tables showing input parameter values and the resulting XML document.

Methods that return geometry change their return structures based on the geometry type requested. The geometry return options for the method will be listed below the main method structure. Geometry is returned in GML form. GML is Geography Markup Language; a form of XML tailored specifically to allow for the inclusion of location based data. It will list the geometry input value (0, 1, 2 or 3) and the resulting GML data type. GML structures are listed in their own section after the web service methods are described.

Note about the web service main page

The Methods listed at http://142.176.62.103/GEONOVA_WS/CivicAddressPointRange.asmx and the ability to supply parameters, invoke the method and see XML results is a debugging tool for the web service development. This functionality has been exposed for testing purposes but it

is not really meant to be an interface to the service. There are limitations with this interface; for example service exceptions are not returned ("The page cannot be displayed" is returned instead).

GetCapabilities

Returns

The GetCapabilities method returns a collection of methods and parameters from the web service. The methods and parameters are returned in a "Method" structure with the following make up.

Method Structure

Attribute/Structure	Data Type
Version	Number
Name	String
Description	String
Parameters	Parameter Structure

Parameter Structure

Attribute/Structure	Data Type
Name	String
AcceptedValues	String
Required	Boolean
DefaultValue	String
Description	String

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
VERSION	A valid version num	O	1	

Comments

This simple method can be used by a developer using the web service to determine the available methods and input values of the web service.

Sample Request & Results

Input

Parameter	Value
Version:	1

Output

This XML document has only 1 Method structure expanded to show the components that make up the Method Structure. There are many Methods and Parameters not displayed here because they are collapsed as you can see.

```
  <?xml version="1.0" encoding="utf-8" ?>
- <MethodCollection xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <Method>
  <Version>1</Version>
  <Name>GetMunicipalities</Name>
  <Description>The GetMunicipalities method returns a collection of
'Municipality' structures. As with all methods that return geometry
information the structure changes depending on the input value of the
geometry parameter.</Description>
- <Parameters>
- <Parameter>
  <Name>Version</Name>
  <Required>true</Required>
  <DefaultValue>1.0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_CODE</Name>
  <AcceptedValues>0 or valid MUN_CODE</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>MUN_NAME</Name>
  <AcceptedValues>PartialMunName</AcceptedValues>
  <Required>false</Required>
  <Description>PartialMunName accepts the use of wildcard character
%</Description>
  </Parameter>
- <Parameter>
  <Name>GEOMETRY</Name>
  <AcceptedValues>GeometryTypes = 0-2</AcceptedValues>
```

```
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description>Type 3 doesn’t work because MUN is not maintained as
it’s own layer – it’s the sum of the GSAs</Description>
  </Parameter>
  </Parameters>
  </Method>
- <Method>
  <Version>1</Version>
  <Name>GetGSAs</Name>
  <Description>The GetGSAs method returns a collection of
'GeneralServiceArea' structures. As with all methods that return
geometry information the structure changes depending on the input value
of the geometry parameter.</Description>
- <Parameters>
- <Parameter>
  <Name>Version</Name>
  <Required>true</Required>
  <DefaultValue>1.0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_CODE</Name>
  <AcceptedValues>PartialMunName</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_NAME</Name>
  <AcceptedValues>0 or a Valid MUN_CODE</AcceptedValues>
  <Required>false</Required>
  <Description>Used to qualify the GSAs to return. PartialMunName
accepts the use of wildcard character %</Description>
  </Parameter>
- <Parameter>
  <Name>GSA_KEY</Name>
  <AcceptedValues>0 or a Valid GSA KEY</AcceptedValues>
  <Required>true</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>GSA_NAME</Name>
  <AcceptedValues>PartialGSAName</AcceptedValues>
  <Required>true</Required>
  <Description>PartialGSAName accepts the use of wildcard character
%</Description>
  </Parameter>
- <Parameter>
  <Name>GEOMETRY</Name>
  <AcceptedValues>GeometryTypes = 0 - 3</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
  </Parameters>
  </Method>
- <Method>
```

```
  <Version>1</Version>
  <Name>GetStreets</Name>
  <Description>The GetStreets method returns a collection of 'Street'
structures. As with all methods that return geometry information the
structure changes depending on the input value of the geometry
parameter.</Description>
- <Parameters>
- <Parameter>
  <Name>Version</Name>
  <Required>true</Required>
  <DefaultValue>1.0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_CODE</Name>
  <AcceptedValues>0 or a Valid MUN_CODE</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>MUN_NAME</Name>
  <AcceptedValues>PartialMunName</AcceptedValues>
  <Required>false</Required>
  <Description>Used to qualify the Streets returned. PartialMunName
accepts the use of wildcard character %</Description>
  </Parameter>
- <Parameter>
  <Name>GSA_KEY</Name>
  <AcceptedValues>GSANameList or PartialGSAName</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>GSA_NAME</Name>
  <AcceptedValues>PartialGSAName</AcceptedValues>
  <Required>false</Required>
  <Description>Used to qualify the Streets returned. PartialGSAName
accepts the use of wildcard character %</Description>
  </Parameter>
- <Parameter>
  <Name>STR_KEY</Name>
  <AcceptedValues>0 or a Valid STR KEY</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description>Partial name is used when WILDCARD=Y</Description>
  </Parameter>
- <Parameter>
  <Name>STR_NAME</Name>
  <AcceptedValues>PartialStreetName</AcceptedValues>
  <Required>false</Required>
  <Description>PartialStreetName accepts the use of wildcard character
%</Description>
  </Parameter>
- <Parameter>
  <Name>STR_TYPE</Name>
  <AcceptedValues>Street Type (string)</AcceptedValues>
```

<Required>false</Required>
<Description />
</Parameter>
- <Parameter>
<Name>F_STR_TYPE</Name>
<AcceptedValues>French Street Type (string)</AcceptedValues>
<Required>false</Required>
<Description />
</Parameter>
- <Parameter>
<Name>STR_DIR</Name>
<AcceptedValues>Street Direction (string)</AcceptedValues>
<Required>false</Required>
<Description />
</Parameter>
- <Parameter>
<Name>NAME_CODE</Name>
<AcceptedValues>Name Code (numeric)</AcceptedValues>
<Required>false</Required>
<Description />
</Parameter>
- <Parameter>
<Name>GEOMETRY</Name>
<AcceptedValues>GeometryTypes = 0, 2 & 3</AcceptedValues>
<Required>false</Required>
<DefaultValue>0</DefaultValue>
<Description />
</Parameter>
</Parameters>
</Method>
- <Method>
<Version>1</Version>
<Name>GetCivicAddress</Name>
<Description>The GetCivicAddress method returns a collection of 'CivicAddress' structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter.</Description>
- <Parameters>
- <Parameter>
<Name>Version</Name>
<Required>true</Required>
<DefaultValue>1.0</DefaultValue>
</Parameter>
- <Parameter>
<Name>MUN_CODE</Name>
<AcceptedValues>0 or a Valid MUN_CODE</AcceptedValues>
<Required>false</Required>
<Description />
</Parameter>
- <Parameter>
<Name>MUN_NAME</Name>
<AcceptedValues>PartialMunName</AcceptedValues>
<Required>false</Required>
<Description>Used to qualify the Civic Addresses returned. PartialMunName accepts the use of wildcard character %</Description>
</Parameter>
- <Parameter>

```
  <Name>GSA_KEY</Name>
  <AcceptedValues>0 or a Valid GSA KEY</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>GSA_NAME</Name>
  <AcceptedValues>PartialGSAName</AcceptedValues>
  <Required>false</Required>
  <Description>Used to qualify the Civic Addresses returned.
PartialGSAName accepts the use of wildcard character %</Description>
  </Parameter>
- <Parameter>
  <Name>STR_KEY</Name>
  <AcceptedValues>0 or a Valid STR KEY</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>STR_NAME</Name>
  <AcceptedValues>PartialStreetName</AcceptedValues>
  <Required>false</Required>
  <Description>Used to qualify the Civic Addresses returned.
PartialStreetName accepts the use of wildcard character %</Description>
  </Parameter>
- <Parameter>
  <Name>STR_TYPE</Name>
  <AcceptedValues>Street Type (string)</AcceptedValues>
  <Required>false</Required>
  </Parameter>
- <Parameter>
  <Name>F_STR_TYPE</Name>
  <AcceptedValues>French Street Type (string)</AcceptedValues>
  <Required>false</Required>
  </Parameter>
- <Parameter>
  <Name>STR_DIR</Name>
  <AcceptedValues>Street Direction (string)</AcceptedValues>
  <Required>false</Required>
  </Parameter>
- <Parameter>
  <Name>CIVIC_NUM</Name>
  <AcceptedValues>0 or StreetNumber</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description />
  </Parameter>
- <Parameter>
  <Name>UNIT_NUM</Name>
  <AcceptedValues>Unit Number (string)</AcceptedValues>
  <Required>false</Required>
  <Description>Numeric unit numbers work, they’re handled as
strings.</Description>
  </Parameter>
- <Parameter>
  <Name>GEOMETRY</Name>
```

```
  <AcceptedValues>GeometryTypes = 0 - 1</AcceptedValues>
  <Required>false</Required>
  <DefaultValue>0</DefaultValue>
  <Description>2 & 3 don't make sense</Description>
  </Parameter>
  </Parameters>
  </Method>
- <Method>
  <Version>1</Version>
  <Name>ValidateCivicAddress</Name>
  <Description>The ValidateCivicAddress method returns a value of
either 'True' or 'False'. There are no return structures for this
method because the method just returns a simple boolean value based on
the existence of the Civic Address data being queried (against the
official civic address tables).</Description>
- <Parameters>
- <Parameter>
  <Name>Version</Name>
  <Required>true</Required>
  <DefaultValue>1.0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_CODE</Name>
  <AcceptedValues>Valid MUN_CODE</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid MUN_CODE or MUN_NAME is
required</Description>
  </Parameter>
- <Parameter>
  <Name>MUN_NAME</Name>
  <AcceptedValues>Municipality Name</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid MUN_CODE or MUN_NAME is
required</Description>
  </Parameter>
- <Parameter>
  <Name>GSA_KEY</Name>
  <AcceptedValues>Valid GSA KEY</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid GSA_KEY or a GSA_NAME is
required</Description>
  </Parameter>
- <Parameter>
  <Name>GSA_NAME</Name>
  <AcceptedValues>GSA Name</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid GSA_KEY or a GSA_NAME is
required</Description>
  </Parameter>
- <Parameter>
  <Name>STR_KEY</Name>
  <AcceptedValues>Valid STR KEY</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid STR_KEY or a Street Name is
required</Description>
  </Parameter>
- <Parameter>
```

```
  <Name>STR_NAME</Name>
  <AcceptedValues>Street Name</AcceptedValues>
  <Required>true</Required>
  <Description>Either a valid STR_KEY or a Street Name is
required</Description>
  </Parameter>
- <Parameter>
  <Name>STR_TYPE</Name>
  <AcceptedValues>Street Type (string)</AcceptedValues>
  <Required>false</Required>
  <Description>Can be left blank</Description>
  </Parameter>
- <Parameter>
  <Name>F_STR_TYPE</Name>
  <AcceptedValues>French Street Type (string)</AcceptedValues>
  <Required>false</Required>
  <Description>Can be left blank</Description>
  </Parameter>
- <Parameter>
  <Name>STR_DIR</Name>
  <AcceptedValues>Street Name</AcceptedValues>
  <Required>false</Required>
  <Description>Street Direction (string)</Description>
  </Parameter>
- <Parameter>
  <Name>CIVIC_NUM</Name>
  <AcceptedValues>StreetNumber</AcceptedValues>
  <Required>true</Required>
  <Description />
  </Parameter>
- <Parameter>
  <Name>UNIT_NUM</Name>
  <AcceptedValues>Unit Number (string)</AcceptedValues>
  <Required>true</Required>
  <Description>Can be left blank</Description>
  </Parameter>
  </Parameters>
  </Method>
- <Method>
  <Version>1</Version>
  <Name>GetAddressRange</Name>
  <Description>The GetAddressRange method returns a collection of
address range objects.</Description>
- <Parameters>
- <Parameter>
  <Name>Version</Name>
  <Required>true</Required>
  <DefaultValue>1.0</DefaultValue>
  </Parameter>
- <Parameter>
  <Name>MUN_CODE</Name>
  <AcceptedValues>Valid MUN_CODE</AcceptedValues>
  <Required>true</Required>
  <Description>A valid MUN_CODE is required</Description>
  </Parameter>
- <Parameter>
  <Name>GSA_KEY</Name>
```

```
  <AcceptedValues>Valid GSA KEY</AcceptedValues>
  <Required>true</Required>
  <Description>A valid GSA_KEY is required</Description>
  </Parameter>
- <Parameter>
  <Name>STR_NAME</Name>
  <AcceptedValues>Street Name</AcceptedValues>
  <Required>true</Required>
  <Description />
  </Parameter>
- <Parameter>
  <Name>STR_TYPE</Name>
  <AcceptedValues>Street Type (string)</AcceptedValues>
  <Required>false</Required>
  <Description>Can be left blank</Description>
  </Parameter>
- <Parameter>
  <Name>NAMECODE</Name>
  <AcceptedValues>NAMECODE (number)</AcceptedValues>
  <Required>false</Required>
  <Description>Can be left blank</Description>
  </Parameter>
  </Parameters>
  </Method>
- <Method>
  <Version>1</Version>
  <Name>GetStreetDirections</Name>
  <Description>The GetStreetDirections method returns a collection of
lookup objects containing the available street
directions.</Description>
  <Parameters />
  </Method>
- <Method>
  <Version>1</Version>
  <Name>GetStreetTypes</Name>
  <Description>The GetStreetTypes method returns a collection of
str_type objects containing the available street types.</Description>
  <Parameters />
  </Method>
  </MethodCollection>
```

GetMunicipalities

Returns

The GetMunicipalities method returns a collection of “Municipality” structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter.

Municipality Structure

Attribute/Structure	Data Type
Mun_Code	String
Mun_Name	String
Short_Mun_Name	String
Co_Name	String
Geometry	GML (based on input)

Geometry options

Input option	GML
0 - No geometry returned (default)	Nothing returned
1 - Point	GML.CenterOf
2 - Bounding box	GML.BoundingBox

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
VERSION		O	1	
MUN_CODE	0 or a Valid MUN_CODE	O	0	
MUN_NAME	PartialMunName	O		PartialMunName accepts the use of wildcard character %
GEOMETRY	Geometry Types=0-2	O	0	Note: Geometry type 3 is not available for this method.

Comments

MUN_CODE is used to identify a look up list of possible municipality codes. PartialMunName is search string that is used to find a municipality. Geometry Types refers to the geometry options listed in Web Services Specification document; the list is included in the Geometry structures section at the end of this document.

Sample Request and Results

Input

Parameter	Value
Version:	1
MUN_CODE:	cu
MUN_NAME	
GEOMETRY	1

Output

This XML document extract shows a Municipality structure with the simple fields as they are listed above.

```
<?xml version="1.0" encoding="utf-8" ?>
- <Municipalities xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <Municipality>
  <Mun_Name>Municipality of the County of Cumberland</Mun_Name>
  <SHORT_MUN_NAME>Cumberland County</SHORT_MUN_NAME>
  <Mun_Code>CU</Mun_Code>
  <CO_NAME>Cumberland County</CO_NAME>
- <centerOf xmlns="http://www.opengis.net/gml">
- <Point srsName="EPSG:2961">
- <coord>
  <X>411585.7995</X>
  <Y>5053000.0005</Y>
  </coord>
  </Point>
  </centerOf>
  </Municipality>
  </Municipalities>
```

GetGSAs

Returns

The GetGSAs method returns a collection of “GeneralServiceArea” structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter. A GSA is General Service Area; essentially a civic community that is comprised entirely within a municipality.

GeneralServiceArea Structure

Attribute/Structure	Data Type
GSA_Key	Number
GSA_Name	String
Co_Name	String
Mun_Code	String
Mun_Name	String
Geometry	GML (based on input)

Geometry options

Input option	GML
0 - No geometry returned (default)	Nothing returned
1 - Point	GML.CenterOf
2 - Bounding box	GML.BoundingBox
3 - Co-ordinates	GML.BoundingCoords

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
Version		R	1.00	
Mun_Code	0 or a Valid MUN_CODE		0	
Mun_Name	PartialMunName	O		PartialMunName accepts the use of wildcard character %
GSA_Key	0 or a Valid GSA_KEY	O	0	
GSA_Name	PartialGSAName	O		PartialGSAName accepts the use of wildcard character %
Geometry	GeometryTypes=0–3	O	0	

Comments

PartialMunName and PartialGSAName are search strings that are used to find a GSA, they are used when the wildcard parameter is set to yes. GeometryTypes refers to the

geometry options listed in Web Services Specification document; the list is included in the Geometry structures section at the end of this document.

Sample Request & Results

Input

Parameter	Value
Version:	1
MUN_CODE:	cu
MUN_NAME	
GSA_KEY	1
GSA_NAME	Black%
GEOMETRY	0

Output

This XML document extract shows a GeneralServiceArea structure with the simple fields as they are listed above.

```
  <?xml version="1.0" encoding="utf-8" ?>
- <GSAs xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <GeneralServiceArea>
  <GSA_KEY>96</GSA_KEY>
  <GSA_NAME>Black River Road</GSA_NAME>
  <CO_NAME>Cumberland County</CO_NAME>
  <MUN_CODE>CU</MUN_CODE>
  <MUN_NAME>Municipality of the County of Cumberland</MUN_NAME>
  </GeneralServiceArea>
  </GSAs>
```

GetStreets

Returns

The GetStreets method returns a collection of “Street” structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter. Individual segment ids will be returned in the GID property of its corresponding line string.

Street Structure

Attribute/Structure	Data Type
Str_Key	Number
Str_Name	String
Str_Type	String
F_Str_Type	String
Str_Dir	String
Namecode	String
Mun_Code	String
Mun_Name	String
GSA_Key	Number
GSA_Name	String
Co_Name	String
Geometry	GML (based on input)

Geometry options

Input option	GML
0 - No geometry returned (default)	Nothing returned
2 - Bounding box	GML.BoundingBox
3 – Co-ordinates	Segments Structure

Segments Structure

Attribute/Structure	Data Type
Segments	GML.MultiLineString

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
VERSION		R	1.00	
Mun_Code	0 or a Valid MUN_CODE	O	0	
Mun_Name	PartialMunName	O		PartialMunName accepts the use of wildcard character %
GSA_Key	0 or a Valid GSA_KEY	O	0	
GSA_Name	PartialGSAName	O		PartialGSAName accepts the use of wildcard character %

Str_Key	0 or a Valid STR_KEY	O	0	
Str_Name	PartialStreetName	O		PartialStreetName accepts the use of wildcard character %
Str_Type	PartialStreetType	O		PartialStreetType accepts the use of wildcard character % PartialStreetName accepts the use of wildcard character %
F_Str_Type	PartialFrenchStreetType	O		PartialFrenchStreetType accepts the use of wildcard character %
Str_Dir	PartialStreetDir	O		PartialStreetDir accepts the use of wildcard character %
Name_Code	Valid Namecode	O		
GEOMETRY	GeometryTypes=0,2&3	O	0	

Comments

PartialMunName, PartialGSAName, PartialStreetName, PartialStreetType, PartialFrenchStreetType, PartialStreetDir are search strings that are used to find a GSA. GeometryTypes refers to the geometry options listed in Web Services Specification document; the list is included in the Geometry structures section at the end of this document.

Sample Request & Results

Input

Parameter	Value
Version:	1
MUN_CODE:	cu
MUN_NAME	
GSA_KEY	
GSA_NAME	black river road
STR_KEY	
STR_NAME	trans canada

STR_TYPE	
F_STR_TYPE	
STR_DIR	
NAME_CODE	
GEOMETRY	3

Output

This XML document extract shows a Street structure with the simple fields as they are listed above.

```
  <?xml version="1.0" encoding="utf-8" ?>
- <Streets xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <Street>
  <STR_KEY>9600003</STR_KEY>
  <STR_NAME>Trans Canada</STR_NAME>
  <STR_TYPE>Hwy</STR_TYPE>
  <F_STR_TYPE />
  <STR_DIR />
  <NAMECODE>10</NAMECODE>
  <MUN_CODE>CU</MUN_CODE>
  <MUN_NAME>Municipality of the County of Cumberland</MUN_NAME>
  <GSA_KEY>96</GSA_KEY>
  <GSA_NAME>Black River Road</GSA_NAME>
  <CO_NAME>Cumberland County</CO_NAME>
- <Segments>
- <MultiLineString srsName="EPSG:2961"
xmlns="http://www.opengis.net/gml">
+ <lineStringMember>
+ <lineStringMember>
+ <lineStringMember>
- <lineStringMember>
- <LineString gid="9600005" srsName="EPSG:2961">
- <coord>
  <X>423586.187</X>
  <Y>5061297.116</Y>
  </coord>
- <coord>
  <X>423711.9</X>
  <Y>5061375.3</Y>
  </coord>
- <coord>
  <X>423886.9</X>
  <Y>5061483</Y>
  </coord>
- <coord>
  <X>423891.9</X>
  <Y>5061485.9</Y>
  </coord>
- <coord>
```

```
  <X>424043.7</X>
  <Y>5061579.1</Y>
  </coord>
- <coord>
  <X>424201.5</X>
  <Y>5061676.1</Y>
  </coord>
- <coord>
  <X>424339.8</X>
  <Y>5061745.5</Y>
  </coord>
- <coord>
  <X>424519.1</X>
  <Y>5061817.2</Y>
  </coord>
- <coord>
  <X>424625.8</X>
  <Y>5061857.2</Y>
  </coord>
- <coord>
  <X>424676.2</X>
  <Y>5061876.2</Y>
  </coord>
- <coord>
  <X>424678.2</X>
  <Y>5061877.2</Y>
  </coord>
- <coord>
  <X>424810.1</X>
  <Y>5061926.7</Y>
  </coord>
  </LineString>
  </lineStringMember>
+ <lineStringMember>
  </MultiLineString>
  </Segments>
  </Street>
  </Streets>
```

GetCivicAddress

Returns

The GetCivicAddress method returns a collection of "CivicAddress" structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter.

CivicAddress Structure

Attribute/Structure	Data Type
Civic_Num	Number

Unit_Num	String
Bldg_Name	String
Bldg_Use	String
Postal_Code	String
PntID	Number
SegID	Number
Mun_Code	String
Short_Mun_Name	String
Mun_Name	String
GSA_Key	Number
GSA_Name	String
Co_Name	String
Str_Key	Number
Str_Name	String
Str_Type	String
F_Str_Type	String
Str_Dir	String
Namecode	Number
Geometry	GML (based on input)

Geometry options

Input option	GML
0 - No geometry returned (default)	Nothing returned
1 – Point	CivicAddressPoint and InterpolatedPoint

CivicAddressPoint / InterpolatedPoint Structure

Attribute/Structure	Data Type
Point	GML.Point

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
VERSION		R	1.00	
Mun_Code	0 or a Valid MUN_CODE	O	0	
Mun_Name	PartialMunName	O		PartialMunName accepts the use of wildcard character %
GSA_Key	0 or a Valid GSA_KEY	O	0	

GSA_Name	PartialGSAName	O		PartialGSAName accepts the use of wildcard character %
Str_Key	0 or a Valid STR_KEY	O		
Str_Name	PartialStreetName	O		PartialStreetName accepts the use of wildcard character %
Str_Type	PartialStreetType	O		PartialFrenchStreetType accepts the use of wildcard character %
F_Str_Type	PartialFrenchStreetType	O		PartialFrenchStreetType accepts the use of wildcard character %
Str_Dir	PartialStreetDir	O		PartialFrenchStreetType accepts the use of wildcard character %
Civic_Num	0 or a Valid CIVIC_NUM	O	0	
Unit_Num	Valid Unit Number	O		
Namecode	Valid Namecode	O		
GEOMETRY	GeometryTypes=0-1	O	0	2&3 don't make sense

Comments

PartialMunName, PartialGSAName, PartialStreetName, PartialStreetType, PartialFrenchStreetType, PartialStreetDir are search strings that are used to find a Civic Address. GeometryTypes refers to the geometry options listed in Web Services Specification document; the list is included in the Geometry structures section at the end of this document.

Sample Request & Results

Input

Parameter	Value
Version:	1
MUN_CODE:	hx
MUN_NAME	
GSA_KEY	

GSA_NAME	hammonds plains
STR_KEY	
STR_NAME	glen torridon
STR_TYPE	
F_STR_TYPE	
STR_DIR	
CIVIC_NUM	
UNIT_NUM	
NAME_CODE	
GEOMETRY	0

Output

This XML document extract shows a CivicAddress structure with the simple fields as they are listed above.

```
<?xml version="1.0" encoding="utf-8" ?>
- <CivicAddresses xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <CivicAddress>
  <CIVICNUM>21</CIVICNUM>
  <UNIT_NUM />
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100574</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
  <SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
  <MUN_NAME>Halifax Regional Municipality</MUN_NAME>
  <GSA_KEY>3061</GSA_KEY>
  <GSA_NAME>Hammonds Plains</GSA_NAME>
  <CO_NAME>Halifax County</CO_NAME>
  <STR_KEY>306100023</STR_KEY>
  <STR_NAME>Glen Torridon</STR_NAME>
  <STR_TYPE>Crt</STR_TYPE>
  <F_STR_TYPE />
  <STR_DIR />
  <NAMECODE>1</NAMECODE>
  </CivicAddress>
- <CivicAddress>
  <CIVICNUM>43</CIVICNUM>
  <UNIT_NUM />
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100559</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
```

<SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
<MUN_NAME>Halifax Regional Municipality</MUN_NAME>
<GSA_KEY>3061</GSA_KEY>
<GSA_NAME>Hammonds Plains</GSA_NAME>
<CO_NAME>Halifax County</CO_NAME>
<STR_KEY>306100023</STR_KEY>
<STR_NAME>Glen Torridon</STR_NAME>
<STR_TYPE>Crt</STR_TYPE>
<F_STR_TYPE />
<STR_DIR />
<NAMECODE>1</NAMECODE>
</CivicAddress>
- <CivicAddress>
<CIVICNUM>60</CIVICNUM>
<UNIT_NUM />
<BLDG_NAME />
<BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
<POSTAL_CODE />
<PNTID>306100542</PNTID>
<SEGID>306100046</SEGID>
<MUN_CODE>HX</MUN_CODE>
<SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
<MUN_NAME>Halifax Regional Municipality</MUN_NAME>
<GSA_KEY>3061</GSA_KEY>
<GSA_NAME>Hammonds Plains</GSA_NAME>
<CO_NAME>Halifax County</CO_NAME>
<STR_KEY>306100023</STR_KEY>
<STR_NAME>Glen Torridon</STR_NAME>
<STR_TYPE>Crt</STR_TYPE>
<F_STR_TYPE />
<STR_DIR />
<NAMECODE>1</NAMECODE>
</CivicAddress>
- <CivicAddress>
<CIVICNUM>65</CIVICNUM>
<UNIT_NUM />
<BLDG_NAME />
<BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
<POSTAL_CODE />
<PNTID>306100548</PNTID>
<SEGID>306100046</SEGID>
<MUN_CODE>HX</MUN_CODE>
<SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
<MUN_NAME>Halifax Regional Municipality</MUN_NAME>
<GSA_KEY>3061</GSA_KEY>
<GSA_NAME>Hammonds Plains</GSA_NAME>
<CO_NAME>Halifax County</CO_NAME>
<STR_KEY>306100023</STR_KEY>
<STR_NAME>Glen Torridon</STR_NAME>
<STR_TYPE>Crt</STR_TYPE>
<F_STR_TYPE />
<STR_DIR />
<NAMECODE>1</NAMECODE>
</CivicAddress>
- <CivicAddress>
<CIVICNUM>75</CIVICNUM>
<UNIT_NUM />

```
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100522</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
  <SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
  <MUN_NAME>Halifax Regional Municipality</MUN_NAME>
  <GSA_KEY>3061</GSA_KEY>
  <GSA_NAME>Hammonds Plains</GSA_NAME>
  <CO_NAME>Halifax County</CO_NAME>
  <STR_KEY>306100023</STR_KEY>
  <STR_NAME>Glen Torridon</STR_NAME>
  <STR_TYPE>Crt</STR_TYPE>
  <F_STR_TYPE />
  <STR_DIR />
  <NAMECODE>1</NAMECODE>
  </CivicAddress>
- <CivicAddress>
  <CIVICNUM>85</CIVICNUM>
  <UNIT_NUM />
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100533</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
  <SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
  <MUN_NAME>Halifax Regional Municipality</MUN_NAME>
  <GSA_KEY>3061</GSA_KEY>
  <GSA_NAME>Hammonds Plains</GSA_NAME>
  <CO_NAME>Halifax County</CO_NAME>
  <STR_KEY>306100023</STR_KEY>
  <STR_NAME>Glen Torridon</STR_NAME>
  <STR_TYPE>Crt</STR_TYPE>
  <F_STR_TYPE />
  <STR_DIR />
  <NAMECODE>1</NAMECODE>
  </CivicAddress>
- <CivicAddress>
  <CIVICNUM>105</CIVICNUM>
  <UNIT_NUM />
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100515</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
  <SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
  <MUN_NAME>Halifax Regional Municipality</MUN_NAME>
  <GSA_KEY>3061</GSA_KEY>
  <GSA_NAME>Hammonds Plains</GSA_NAME>
  <CO_NAME>Halifax County</CO_NAME>
  <STR_KEY>306100023</STR_KEY>
  <STR_NAME>Glen Torridon</STR_NAME>
  <STR_TYPE>Crt</STR_TYPE>
  <F_STR_TYPE />
```

```
  <STR_DIR />
  <NAMECODE>1</NAMECODE>
  </CivicAddress>
- <CivicAddress>
  <CIVICNUM>469</CIVICNUM>
  <UNIT_NUM />
  <BLDG_NAME />
  <BLDG_USE>_UNKNOWN Land Use Code</BLDG_USE>
  <POSTAL_CODE />
  <PNTID>306100585</PNTID>
  <SEGID>306100046</SEGID>
  <MUN_CODE>HX</MUN_CODE>
  <SHORT_MUN_NAME>HRM</SHORT_MUN_NAME>
  <MUN_NAME>Halifax Regional Municipality</MUN_NAME>
  <GSA_KEY>3061</GSA_KEY>
  <GSA_NAME>Hammonds Plains</GSA_NAME>
  <CO_NAME>Halifax County</CO_NAME>
  <STR_KEY>306100023</STR_KEY>
  <STR_NAME>Glen Torridon</STR_NAME>
  <STR_TYPE>Crt</STR_TYPE>
  <F_STR_TYPE />
  <STR_DIR />
  <NAMECODE>1</NAMECODE>
  </CivicAddress>
  </CivicAddresses>
```

ValidateCivicAddress

Returns

The ValidateCivicAddress method returns a value of either “True” or “False”. There are no return structures for this method because the method just returns a simple Boolean value based on the existence of the Civic Address data being queried (against the official civic address tables {Namecode = 1}).

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
Version		R	1.00	
Mun_Code	Valid Mun_Code	O		
Mun_Name	MunicipalityName	O		Used to qualify the Civic Addresses returned. One of either Mun_Code or Mun_Name is required.
GSA_Key	Valid GSA_Key	O		

GSA_Name	GSAName	O		Used to qualify the Civic Addresses returned. One of either GSA_KEY or GSA_Name is required.
Str_Key	Valid Str_Key	O		
Str_Name	StreetName	O		Used to qualify the Civic Addresses returned. One of either Str_Key or Str_Name is required.
Str_Type	StreetType	O		Used to qualify the Civic Addresses returned. If the street has a street type, it is required.
F_Str_Type	FStreetType	O		Used to qualify the Civic Addresses returned
Str_Dir	StreetDir	O		Used to qualify the Civic Addresses returned. If the street has a street direction, it is required.
Civic_Num	StreetNumber	R		
Unit_Num		O		Used to qualify the Civic Addresses returned. If the address has a unit number, then it is required.

Comments

Valid input values for Mun_Code or Mun_Name, GSA_Key or GSA_Name, Str_Key or Str_Name and CIVIC_NUM must all be supplied. There may be multiple hits on the address depending on the criteria supplied. For example if Unit_Num is not included and the address exists with several unit numbers then the query would find more than one hit in the official civic address tables. The method would still just return a "True" value. If you want to see the hits you can use the GetCivicAddress method.

Sample Request & Results

Input

Parameter	Value
Version:	1
MUN_CODE:	hx

MUN_NAME	
GSA_KEY	
GSA_NAME	hammonds plains
STR_KEY	
STR_NAME	glen torridon
STR_TYPE	crt
F_STR_TYPE	
STR_DIR	
CIVIC_NUM	
UNIT_NUM	

Output

The resulting XML document just has one value; either true or false.

```
<?xml version="1.0" encoding="utf-8" ?>
  <boolean
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">true</b
oolean>
```

GetStreetDirections

This method returns a collection of lookup objects containing the possible values for Street Direction.

Lookup Structure

Attribute/Structure	Data Type
ObjectID	Number
Description	String

Output

This XML document extract shows a Lookup structure with the simple fields as they are listed above.

```
<?xml version="1.0" encoding="utf-8" ?>
- <Lookups xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <Lookup>
  <ObjectID>9</ObjectID>
  <Description>Branch</Description>
  </Lookup>
```

```
- <Lookup>
  <ObjectID>1</ObjectID>
  <Description>E</Description>
  </Lookup>
- <Lookup>
  <ObjectID>14</ObjectID>
  <Description>EB</Description>
  </Lookup>
- <Lookup>
  <ObjectID>10</ObjectID>
  <Description>Exten</Description>
  </Lookup>
- <Lookup>
  <ObjectID>15</ObjectID>
  <Description>IB</Description>
  </Lookup>
- <Lookup>
  <ObjectID>4</ObjectID>
  <Description>N</Description>
  </Lookup>
- <Lookup>
  <ObjectID>13</ObjectID>
  <Description>NB</Description>
  </Lookup>
- <Lookup>
  <ObjectID>5</ObjectID>
  <Description>NE</Description>
  </Lookup>
- <Lookup>
  <ObjectID>6</ObjectID>
  <Description>NW</Description>
  </Lookup>
- <Lookup>
  <ObjectID>16</ObjectID>
  <Description>OB</Description>
  </Lookup>
- <Lookup>
  <ObjectID>3</ObjectID>
  <Description>S</Description>
  </Lookup>
- <Lookup>
  <ObjectID>11</ObjectID>
  <Description>SB</Description>
  </Lookup>
- <Lookup>
  <ObjectID>7</ObjectID>
  <Description>SE</Description>
  </Lookup>
- <Lookup>
  <ObjectID>8</ObjectID>
  <Description>SW</Description>
  </Lookup>
- <Lookup>
  <ObjectID>2</ObjectID>
  <Description>W</Description>
  </Lookup>
- <Lookup>
```

```
  <ObjectID>12</ObjectID>
  <Description>WB</Description>
  </Lookup>
  </Lookups>
```

GetStreetTypes

This method returns a collection of lookup objects containing the possible values for Street Types.

Lookup Structure

Attribute/Structure	Data Type
ObjectID	Number
Description	String

Output

```
<?xml version="1.0" encoding="utf-8" ?>
- <Str_Types xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <Str_Type>
  <ObjectID>28</ObjectID>
  <STR_TYPE>Abbey</STR_TYPE>
  <Describe_>Abbey</Describe_>
  <Status>Legacy</Status>
  <Origin>1</Origin>
  <Origin_Description>English</Origin_Description>
  </Str_Type>
- <Str_Type>
  <ObjectID>29</ObjectID>
  <STR_TYPE>Acres</STR_TYPE>
  <Describe_>Acres</Describe_>
  <Status>Legacy</Status>
  <Origin>1</Origin>
  <Origin_Description>English</Origin_Description>
  </Str_Type>
  </Str_Types>
```

GetAddressRange

Returns the valid address ranges for a selected street from the database.

Returns

The GetAddressRange method returns a collection of "AddressRange" structures. As with all methods that return geometry information the structure changes depending on the input value of the geometry parameter.

AddressRange Structure

Attribute/Structure	Data Type
FromEven	Number
ToEven	Number

Inputs

Parameter	Accepted Value(s)	Required /Optional	Default Value	Description
Version		R	1	
Str_Name	Valid Street Name	R		
Str_Type	Valid Street Type	R		
Mun_Code	Valid Mun_Code	R		
GSA_Key	Valid GSA_Key	R		
Namecode	Valid Namecode	R		

Sample Request and Results

Input

Parameter	Value
Version:	1
MUN_CODE:	hx
STR_NAME	glen torridon
STR_TYPE	crt
GSA_KEY	3061
NAMECODE	1

Output

This XML document extract shows a Municipality structure with the simple fields as they are listed above.

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
- <AddressRangeCollection xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://142.176.62.103/Geonova_WS/CivicAddressPointRange">
- <AddressRange>
  <FromEven>2</FromEven>
  <ToEven>110</ToEven>
  </AddressRange>
- <AddressRange>
  <FromOdd>1</FromOdd>
  <ToOdd>109</ToOdd>
  </AddressRange>
  </AddressRangeCollection>
```

Exception Structure

There is a ThrowException method on the web service main page but it doesn't show the service exception structure as you would expect. Please refer to the '**Note about the web service main page**' section at the top of this document. The Web Service methods return a Soap Exception structure when there is a problem with the input parameters or parameter values. The Soap Exception thrown has the following property values:

Property	Value
Message	The Message property of the original exception.
Code	Server Fault Code
Actor	The URL of the XML Web service method.
Detail	A null reference (Nothing in Visual Basic), but an empty detail element is present in the fault element.

Geometry Structures

Valid input options for the geometry parameters are as follows:

Code	Geometry Type	Point	Line	Polygon
0	No geometry returned (default)	N	N	N
1	Point	Y	N	Y(centroid)
2	Bounding box	N	Y	Y
3	Co-ordinates	Y	Y (segments)	Y

Depending on the input option and the output geometry type (point, line or polygon) the geometry object(s) returned vary. Below are the GML objects listed throughout the method structure documentation above and the subtype objects that make them up.

GML.Coord

Attribute/Structure	Data Type

X	Decimal
Y	Decimal
Z	Decimal

GML.Point

Attribute/Structure	Data Type
Coord	GML.Coord
Coordinates	GML.Coordinates

GML.BoundingBox

Attribute/Structure	Data Type
Box	GML.Polygon

GML.CenterOf

Attribute/Structure	Data Type
Point	GML.Point

GML.LinearRing

Attribute/Structure	Data Type
CoordCollection	GML.Coord
Coordinates	GML.Coordinates

GML.outerBoundaryIs

Attribute/Structure	Data Type
LinearRing	GML.LinearRing

GML.innerBoundaryIs

Attribute/Structure	Data Type
LinearRing	GML.LinearRing

GML.Polygon

Attribute/Structure	Data Type
outerBoundaryIs	GML.outerBoundaryIs

GML.LineString

Attribute/Structure	Data Type
GID	String
CoordCollection	GML.Coord
coordinates	GML.coordinates

GML.LineStringMember

Attribute/Structure	Data Type
LineString	GML.LineString

GML.MultiLineString

Attribute/Structure	Data Type
MultiLineString	GML.LineStringMember Collection