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Government of Ontario

Information & Technology Standards

Government of Ontario IT Standard (GO-ITS)

Number 72

Geospatial Metadata Standard

Version # : 2.0

Status: Approved

Prepared for the Information Technology Standards Council (ITSC) under the delegated authority
of the Management Board of Cabinet

Foreword

Government of Ontario Information Technology Standards (GO-ITS) are the official publications on the guidelines, preferred practices, standards and technical reports adopted by the Information Technology Standards Council (ITSC) under delegated authority of the Management Board of Cabinet (MBC). These publications support the responsibilities of the Ministry of Government and Consumer Services (MGCS) for coordinating standardization of Information & Information Technology (I&IT) in the Government of Ontario. Publications that set new or revised standards provide enterprise architecture guidance, policy guidance and administrative information for their implementation. In particular, GO-ITS describe where the application of a standard is mandatory and specify any qualifications governing the implementation of standards.

1. Introduction

1.1 Background and Purpose

This GOITS is for Geospatial Metadata Basic Content Requirements to promote uniformity across clusters/ministries and to improve communication among clusters/ministries and all former Schedule I and IV provincial government agencies, and from the government to the broader public sector and other external partners while retaining the flexibility for clusters/ministries to pursue program-specific objectives.

Metadata is "information about information". This standard is for the description of the various data bases and information holdings that the cluster/ministry or all former Schedule I and IV provincial government agency collects, uses and/or distributes. This information - "description, about other information holdings, is known as Metadata" It tells people about your data and/or information holdings.

The objectives of the standard are to:

(a) Increase internal and public awareness of what geospatial information holdings (data-sets) the various clusters/ministries and associated former Schedule I and IV agencies have.
(b) Improve information sharing and customer service.
(c) Promote a consistent recording and use of Geospatial Metadata.
(d) Reduce duplication of work and data storage.

The GO-ITS 72 was approved in 1996 and was based, at that time, on the ISO draft 1996-05-22 (ISO 15046-15). In July 2003, the ISO standard for Geospatial Metadata was approved as the ISO 19115. Subsequent to the approval of the ISO standard, a North American Profile Working Group (NAPWG) was formed to develop a profile of the ISO 19115 for use in Canada and the United States. The North American Profile of the ISO 19115 (NAP:ISO 19115) was put out for review and comment in February 2007. The closing date for the review was March 16th, 2007. The responses were reviewed by the NAP-WG and the necessary changes were made to the profile. The final draft was presented to the Canadian General Standards Board (CGSB) and the American National Standards Institute (ANSI). The CGSB intends to adopt the standard as the Canadian Profile and ANSI to adopt it as the US Profile.

The elements that comprise the NAP: ISO 19115 have been used in revising the GO-ITS 72. All elements have been accounted and the source standard has been cited. Extensions have been made to comply with the Common Metadata Element Standard (GO-ITS 46).

The revision of the GO-ITS 72 to adhere to the NAP:ISO 19115 will ensure that the geospatial information holdings throughout the OPS can be catalogued thoroughly and that the metadata will be compliant with the standards being implemented in the broader geospatial metadata community. The implementation of one common metadata standard will enable the OPS to share and exchange metadata and ultimately, by virtue of discovery, our data products.

1.2 Scope

1.2.1 In Scope

- Geospatial information holdings created by, maintained by and/or owned by OPS clusters/ministries

1.2.2 Out of Scope

- Immediate implementation of the standard in OPS geospatial metadata repositories and applications

1.3 Applicability Statements

1.3.1 Organization

Government of Ontario IT Standards and Enterprise Solutions and Services apply (are mandatory) for use by all ministries/clusters and to all former Schedule I and IV provincial government agencies under their present classification (Advisory, Regulatory, Adjudicative, Operational Service, Operational Enterprise, Trust or Crown Foundation) according to the current agency classification system.

Additionally, this applies to any other new or existing agencies designated by Management Board of Cabinet as being subject to such publications, i.e. the GO-ITS publications and enterprise solutions and services - and particularly applies to Advisory, Regulatory, and Adjudicative Agencies (see also procurement link, OPS paragraph). Further included is any agency which, under the terms of its Memorandum of Understanding with its responsible Minister, is required to satisfy the mandatory requirements set out in any of the Management Board of Cabinet Directives (*cf*. Operational Service, Operational Enterprise, Trust, or Crown Foundation Agencies).

As new GO-IT standards are approved, they are deemed mandatory on a go-forward basis (Go-forward basis means at the next available project development or procurement opportunity).

When implementing or adopting any Government of Ontario IT standards or IT standards updates, ministries and I&IT Cluster must follow their organization's pre-approved policies and practices for ensuring that adequate change control, change management and risk mitigation mechanisms are in place and employed.

For the purposes of this document, any reference to ministries or the Government includes applicable agencies.

1.4 Requirements Levels

Within this document, certain wording conventions are followed. There are precise requirements and obligations associated with the following terms:

Must	This word, or the terms "REQUIRED" or "SHALL", means that the statement is an absolute requirement.
Should	This word, or the adjective "RECOMMENDED", means that there may exist valid reasons in particular circumstances to ignore the recommendation, but the full implications (e.g., business functionality, security, cost) must be understood and carefully weighed before

1.5 Recommended Versioning and/or Change Management

Modifications during the life of the standard must be approved by the organizational owners of the document.

The organizational owners of this standard are:

Ministry of Natural Resources Science and Information Resources Division Geographic Information Branch, Information Access Section	Anne Halverson Manager	anne.halverson@ontario.ca
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Ministry of Natural Resources Science and Information Resources Division Geographic Information Branch Land Information Ontario/Information Access Section	Shari MacDonald Metadata Administrator	shari.macdonald@ontario.ca

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Changes (i.e. all revisions, updates, versioning) to the standard <u>require authorization from the responsible organization</u>.

Once a determination has been made by the responsible organization to proceed with changes, the Standards Section, Technology Adoption Branch, OCCTO, will coordinate and provide assistance with respect to the approvals process.

1.6 Publication Details

All approved Government of Ontario IT Standards (GO-ITS) are published on the ITSC Intranet web site. Please indicate with a checkmark below if this standard is also to be published on the public, GO-ITS Internet Site.

Standard to be published on both the OPS Intranet and the GO-ITS Internet web site (available to the public, vendors etc.)	✓

2. Technical Standards and Specifications

2.1 Standard implementation requirements

The elements described in sections 2.2 – 2.22 are based on the element set developed for the NAP:ISO 19115. Items referenced but not included in the GO-ITS 72:

- NAP Registry Code Lists
- Diagrams
- NAP:ISO 19115 Annexes
- Definitions

To gain access to these, please contact the Canadian General Standards Board (see Appendix A – Informative References)

2.2 Metadata Record Information – MD_Metadata

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 2: Metadata record information

Purpose: To identify both the attributes of the metadata and the associated components used in describing the resource

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description / Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.2.1	M	5.2.1	File Identifier	Used to uniquely identify the metadata file.	Free Text : CharacterString	\<Identifier\> 3.9
2.2.2	M	5.2.2	Language	Combination of language code and country code representing the language of the metadata.	CodeList: napMD_LanguageCountryCode *Language Code*: alpha(3) complying with ISO639-2T *Country code:* alpha(3) complying with ISO3166-1	\<Language\> 3.10 Please refer to GO-ITS 46 for details on the use of Has Translation/Is Translation Of refinements and Relation where the

						resource is available in multiple languages
2.2.3	M	5.2.3	Character Set	Indicates the character coding standard used for the metadata.	CodeList: napMD_CharacterSetCode	
2.2.4	C	5.2.4	Parent Identifier	Used to relate one metadata record to another in the metadata hierarchy structure. Must be a unique identifier.	Free Text : CharacterString **Conditional:** Conditional on the Hierarchy Level where a higher level metadata record exists in the hierarchy.	\<Relation-\> Refinement: \<Is Part of\> 3.15.4
2.2.5	M,R	5.2.5	Hierarchy Level	Used to indicate which level in the hierarchy is relevant to the metadata being provided.	CodeList: napMD_ScopeCode	\<Type\> 3.19
2.2.6	M,R	5.2.6	Contact	Contact responsible for the metadata content.	CI_ResponsibleParty (see 2.16)	\<Contact\> 3.2 Implemented in 2.16
2.2.7	M	5.2.7	Date Stamp	Creation date of the metadata.	Date (see NAP:ISO19115 - B.4)	
2.2.8	M	5.2.8	Metadata Standard Name	Refers to the metadata standard or profile used.	Free Text : CharacterString	
2.2.9	O	5.2.9	Metadata Standard Version	Refers to the version of the metadata standard or profile used.	Free Text : CharacterString	
2.2.10	O	5.2.10	Dataset URI	A Uniform Resource Identifier that can be used to point to the resource for which the metadata was created.	Free Text : CharacterString	

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2.2.11	C,R	5.2.11		Locale	Indicates other languages used within free text descriptions in the metadata.	PT_Locale (see NAP:ISO19115 - 6.2 Local and free text attributes) **Conditional:** Required when more than one language is used in free text descriptions. Character Set shall be set to "utf8."	
2.2.12	M,R	5.2.12		Identification Information Section	Identifies essential information about the resource(s) and/or service(s) being described in the metadata.	MD_DataIdentification (see 2.3.1) and/or SV_ServiceIdentification (see 2.3.2)	<Description> 3.7 <Title> 3.18 <Title-> Refinement: Alternative> 3.18.1 Implemented in 2.3.1 and/or 2.3.2
2.2.13	O,R	5.2.13		Constraint Information Section	Identifies any access and/or use constraints related to the metadata or resource	MD_Constraints (see 2.4.1) and/or MD_LegalConstraints (see 2.4.2) and/or MD_SecurityConstraints (see 2.4.3).	<Rights> 3.16 Implemented in 2.4.2
2.2.14	O,R	5.2.14		Data Quality Information Section	Reports on the quality of the resource.	DQ_DataQuality (see 2.5)	

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2.2.15	O	5.2.15	Metadata Maintenance Information Section	Captures information relating to the extent and frequency of metadata updates.	MD_MaintenanceInformation (see 2.6)	
2.2.16	O,R	5.2.16	Spatial Representation Information Section	Represents vector and/or grid spatial objects used in the dataset.	MD_GridSpatialRepresentation (see 2.7.1) and/or MD_VectorSpatialRepresentation (see 2.7.2) and/or MD_Georectified (see 2.7.3) and/or MD_Georeferenceable (see 2.7.4)	
2.2.17	C,R	5.2.17	Reference System Information Section	Captures the spatial and/or temporal reference systems used in the resource.	MD_ReferenceSystem (see 2.8) **Conditional**: If Spatial Representation Type in MD_DataIdentification (see 2.3.1.7) is "vector", "raster" or "tin."	
2.2.18	O,R	5.2.18	Content Information Section	Provides for description of feature catalogue, grid data cell information, and the suitability of an image.	MD_FeatureCatalogueDescription (see 2.9.1) and/or {MD_CoverageDescription (see 2.9.2) or MD_ImageDescription (see 2.9.3)}	
2.2.19	O,R	5.2.19	Portrayal Catalogue Information Section	Enables reference to a portrayal catalogue which includes standards for displaying a resource.	MD_PortrayalCatalogueReference (see 2.10)	
2.2.20	O	5.2.20	Distribution Information Section	Allows the capture of distribution information for the resource.	MD_Distribution (see 2.11)	<Publisher> 3.13

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						Implemented in 2.11
2.2.21	O,R	5.2.21	Application Schema Information Section	Permits capture of details on the conceptual schema of a dataset.	MD_ApplicationSchemaInformation (see 2.12)	

2.3   Identification Information (Mandatory ,Repeatable)

2.3.1 Data Identification - MD_DataIdentification and/or SV_ServiceIdentification (see 2.3.2)

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 3: Data Identification

Purpose: To document the data identification and/or service identification information for a resource. Data identification captures information specific to the resource and service identification captures information on a Web Service that utilizes the resource**.**
Where only metadata for a service is being entered, it is not necessary to include data identification information for each of the datasets utilizing the service.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.1.1	M	5.3.1.1	Citation Section	Resource(s) citation information.	CI_Citation (see 2.14)	<Title> 3.18 Implemented in 2.14
2.3.1.2	M	5.3.1.2	Abstract	Brief description of the resource(s) content.	Free Text : CharacterString	<Description> 3.7
2.3.1.3	O	5.3.1.3	Purpose	Reason for developing the resource(s).	Free Text : CharacterString	
2.3.1.4	O,R	5.3.1.4	Credit	Acknowledgement to contributors of resource(s).	Free Text : CharacterString	<Contributor> 3.3
2.3.1.5	M,R	5.3.1.5	Status	Current status of the resource(s).	CodeList: napMD_ProgressCode	

2.3.1.6	O,R	5.3.1.6	Point Of Contact Section	Contact and contact information for the persons(s) and/or organization(s) associated with the resource(s).	CI_ResponsibleParty (see 2.16)	<Contact> 3.2 Implemented in 2.16
2.3.1.7	O,R	5.3.1.7	Spatial Representation Type	Spatial representation method used for geographic information.	CodeList: napMD_SpatialRepresentation TypeCode	
2.3.1.8	O,R	5.3.1.8	Spatial Resolution Section	Equivalent scale and ground distance information used to provide awareness of spatial data density of dataset.	MD_Resolution (see 2.3.3)	
2.3.1.9	M,R	5.3.1.9	Language	Three letter alpha code representing the language(s) of the dataset	Free Text : CharacterString complying with ISO639-2T	
2.3.1.10	O,R	5.3.1.10	Character Set	Name of the character coding standard used in the dataset.	CodeList: napMD_CharacterSetCode	
2.3.1.11	C,R	5.3.1.11	Topic Category	Theme(s) used to categorize the subject matter of the dataset.	CodeList: napMD_TopicCategoryCode Conditional: Required when Hierarchy Level type is: dataset (see 2.2.5)	<Subject> 3.17
2.3.1.12	O	5.3.1.12	Environment Description	Information describing the data producers processing environment for the dataset including software used, filename, file size and operating system.	Free Text : CharacterString	

2.3.1.13	C,R	5.3.1.13	Extent Section	Information relating to the geographic extent, temporal extent and temporal/spatial boundaries as they relate to the dataset.	EX_Extent (see 2.13) **Conditional:** If Hierarchy Level (see 2.2.5) is set to "dataset", either Geographic Bounding Box (see 2.13.3) or Geographic Description (see 2.13.4) is required.	<Coverage> 3.4 Implemented in 2.13
2.3.1.14	O	5.3.1.14	Supplemental Information	Additional information used to describe the dataset.	Free Text : CharacterString	
2.3.1.15	O,R	5.3.1.15	Resource Maintenance Information Section	Information relating to dataset update frequency, scope of updates and person/organization responsible for updating the dataset.	MD_MaintenanceInformation (see 2.6)	
2.3.1.16	O,R	5.3.1.16	Graphic Overview Information Section	Graphic file name, file type and description of the graphic illustrating the dataset.	MD_BrowseGraphic (see 2.3.5)	
2.3.1.17	O,R	5.3.1.17	Descriptive Keywords Assigned Section	Word or phrase used to describe resource(s) and categorize based on subject matter. Thesaurus source can also be cited.	MD_Keywords (see 2.3.6)	<Subject> 3.17 Implemented in 2.3.6
2.3.1.18	O,R	5.3.1.18	Applicable Resource Constraints Section	Access and use constraints associated with the resource(s).	MD_Constraints (see 2.4.1) and/or MD_LegalConstraints (see 2.4.2) and/or MD_SecurityConstraints (see 2.4.3)	<Rights> 3.16 Implemented in 2.4.2

| 2.3.1.19 | O,R | 5.3.1.19 | Aggregation Information Details Section | Information pertaining to the aggregate dataset including citation, type and activity leading to the creation of the aggregate dataset. | MD_AggregateInformation (see 2.3.7) | <Is Part Of> 3.15.4 Implemented in 2.3.7 |

2.3.2   Service Identification – SV_ServiceIdentification

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 4: Service Identification

Purpose: To capture metadata for a service including type, version and operations performed by the service.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.2.1	M	5.3.2.1	Citation Section	Resource(s) citation information.	CI_Citation (see 2.14)	<Title> 3.18 Implemented in 2.14
2.3.2.2	M	5.3.2.2	Abstract	Brief description of the resource(s) content.	Free Text : CharacterString	<Description> 3.7
2.3.2.3	O	5.3.2.3	Purpose	Reason for developing the resource(s).	Free Text : CharacterString	
2.3.2.4	O,R	5.3.2.4	Credit	Acknowledgement to contributors of resource(s).	Free Text : CharacterString	<Contributor> 3.3
2.3.2.5	M,R	5.3.2.5	Status	Current status of the resource(s).	CodeList: napMD_ProgressCode	
2.3.2.6	O,R	5.3.2.6	Point Of Contact Section	Contact and contact information for the persons(s) and/or organization(s) associated with the resource(s).	CI_ResponsibleParty (see 2.16)	<Contact> 3.2 Implemented in 2.16
2.3.2.7	M	5.3.2.7	Service Type	The name of the service type from a service registry.	GenericName (see NAP:ISO19115 - B.8)	

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2.3.2.8	O,R	5.3.2.8	Service Type Version	Service type version.	Free Text : CharacterString	
2.3.2.9	O	5.3.2.9	Access Properties	Information on service availability including hours of access, fees, processing time and ordering instructions.	MD_StandardOrderProcess (see 2.11.4)	
2.3.2.10	O,R	5.3.2.10	Extent Section	Information relating to the geographic extent, temporal extent and temporal/spatial boundaries as they relate to the dataset.	EX_Extent (see 2.13)	\<Coverage\> 3.4 Implemented in 2.13
2.3.2.11	M	5.3.2.11	Coupling Type	Type of coupling that exists between the service and the associated data.	CodeList napSV_CouplingType	
2.3.2.12	O,R	5.3.2.12	Coupled Resource Section	Further defines a tightly coupled association between the service and the data.	SV_CoupledResource (see 2.3.8)	
2.3.2.13	O,R	5.3.2.13	Resource Maintenance Information Section	Information relating to dataset update frequency, scope of updates and person/organization responsible for updating the dataset.	MD_MaintenanceInformation (see 2.6)	
2.3.2.14	O,R	5.3.2.14	Graphic Overview Information Section	Graphic file name, file type and description of the graphic illustrating the dataset.	MD_BrowseGraphic (see 2.3.5)	
2.3.2.15	O,R	5.3.2.15	Descriptive	Word or phrase used to describe resource(s) and	MD_Keywords (see 2.3.6)	\<Subject\>

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			Keywords Assigned Section	categorize based on subject matter. Thesaurus source can also be cited.		3.17 Implemented in 2.3.6
2.3.2.16	O,R	5.3.2.16	Applicable Resource Constraints Section	Access and use constraints associated with the resource(s).	MD_Constraints (see 2.4.1) and/or MD_LegalConstraints (see 2.4.2) and/or MD_SecurityConstraints (see 2.4.3)	<Rights> 3.16 Implemented in 2.4.2
2.3.2.17	O,R	5.3.2.17	Aggregation Information Details Section	Information pertaining to the aggregate dataset including citation, type and activity leading to the creation of the aggregate dataset.	MD_AggregateInformation (see 2.3.7)	<Is Part Of> 3.15.4 Implemented in 2.3.7
2.3.2.18	O,R	5.3.2.18	Operates On Section	Information relating to the dataset(s) on which the service operates.	MD_DataIdentification (see 2.3.1)	
2.3.2.19	M,R	5.3.2.19	Contains Operations Section	Describes operations performed by and the results that can be expected from the service.	SV_OperationMetadata (see 2.3.9)	

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2.3.3 Spatial Resolution – MD_Resolution

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 5: Resolution

Purpose: To specify the level of detail used in the dataset pertaining to scale or ground distance.

Conditionally Mandatory: Either equivalent scale or distance shall be entered.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.3.1	CO1	5.3.3.1	Equivalent Scale Section	Detail expressed as the numerical scale of a comparable hardcopy map or chart.	MD_RepresentativeFraction (see 2.3.4)	
2.3.3.2	CO1	5.3.3.2	Distance	Ground sample distance.	Distance (see NAP:ISO19115 - B.7)	

2.3.4 Representative Fraction – MD_RepresentativeFraction

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 6: Representative Fraction

Purpose: To capture the scale or ratio relating to unit distance on a map or cartographic object indicating the distance on the ground measured in the same units.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.4.1	M	5.3.4.1	Denominator	As a fraction, the denominator is the number below the line where the numerator is equal to 1.	Integer (see NAP:ISO19115 - B.13) Value must be greater than 0.	

2.3.5 Browse Graphic – MD_BrowseGraphic

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 7: Browse Graphic

Purpose: To provide descriptive information about an illustration of the resource(s).

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.5.1	M	5.3.5.1	File Name	File name of the graphic illustrating the dataset.	Free Text : CharacterString	
2.3.5.2	O	5.3.5.2	fileDescription	Description of illustration contained in the graphic file.	Free Text : CharacterString	
2.3.5.3	O	5.3.5.3	fileType	File format of the graphic.	Free Text : CharacterString	

2.3.6 Keywords

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 8: Keywords

Purpose: To assign associated words or phrases to describe the resource and, if desired, categorize the keyword and cite the authoritative source.

Note: Use of a controlled vocabulary is highly recommended.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.6.1	M,R	5.3.6.1	Keyword	Words or phrases used to describe the resource.	Free Text : CharacterString	\<Subject\> 3.17
2.3.6.2	O	5.3.6.2	Type	Categories used to group keywords relating to theme, temporal, stratum, place and/or discipline.	CodeList napMD_KeywordTypeCode	
2.3.6.3	O	5.3.6.3	Thesaurus Name Section	Name of registered authoritative source from which keyword was selected.	CI_Citation (see 2.14)	

2.3.7 Aggregation Information – MD_AggregateInformation

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 9: Aggregation Information

Purpose: To provide information on the name, type and initiative leading to the creation of an aggregate dataset.

Conditionally Mandatory: Either Aggregate Dataset Name or Aggregate Dataset Identifier shall be entered. Refer to NAP:ISO19115 standard for more information on when to use an aggregate, hierarchy or series.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.7.1	CO1	5.3.7.1	Aggregate Dataset Name Section	Aggregate dataset citation information.	CI_Citation (see 2.14)	<Relation:Refinement: Has Part> 3.15.3 <Relation:Refinement: Is Part Of> 3.15.4
2.3.7.2	CO1	5.3.7.2	Aggregate Dataset Identifier Section	Aggregate dataset identification.	MD_Identifier (see 2.22)	<Relation> 3.15
2.3.7.3	M	5.3.7.3	Association Type	Provides the justification for the correlation of two datasets.	CodeList napDS_AssociationTypeCode	Determines implementation of GO-ITS 46 3.15.3 or GO-ITS 46 3.15.4 under Aggregate Dataset Name 2.3.7.1

| 2.3.7.4 | O | 5.3.7.3 | Initiative Type | Initiative under which the aggregation dataset was created. | CodeList napDS_InitiativeTypeCode | |

2.3.8 Coupled Resource - SV_CoupledResource

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 10: Coupled Resource

Purpose: To further define the tightly coupled association between the service and the data.

Note: It is recommended that where an Identifier is given, the respective Identifier exists under MD_Identification:Citation.Identifier.Code and similarly where an Operation Name is provided that it is also given under SV_OperationMetadata:Operation Name.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.8.1	M	5.3.8.1	Identifier	Name of dataset or the identifier of the associated dataset to which the service is tightly coupled.	Free text: (CharacterString)	
2.3.8.2	M	5.3.8.2	Operation Name	Service operation name.	Free text: (CharacterString)	

2.3.9 Operation Metadata – SV_OperationMetadata

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 11: Operation Metadata

Purpose: Describes operations performed by and the results that can be expected from the service and includes information on how the service can be accessed.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.9.1	M	5.3.9.1	Operation Name	Unique identifier for the operation.	Free text: (CharacterString)	
2.3.9.2	M,R	5.3.9.2	DCP Code	Means by which the operation has been implemented. For example; XML, CORBA, JAVA, COM, SQL, and/or Web Services.	Codelist nap_DCPList (DCP: Distributed Computing Platforms)	
2.3.9.3	O	5.3.9.3	Operation Description	Information on the purpose of the operation and the results obtained from the operation.	Free text: (CharacterString)	
2.3.9.4	O	5.3.9.4	Invocation Name	Name used to call the operation on all DCPs.	Free text: (CharacterString)	
2.3.9.5	M,R	5.3.9.5	Connect Point Section	Service interface access reference details.	CI_OnlineResource (see 2.20)	
2.3.9.6	O,R	5.3.9.6	Depends On Section	Operations required prior to calling the service. List indicates alternate or parallel predecessor paths.	SV_OperationMetadata (see 2.3.9)	
2.3.9.7	M	5.3.9.7	Parameters Section	Values required in order to summon the interface.	Sequence<SV_Parameter> (see 2.3.10)	

2.3.10 Parameter - SV_Parameter

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 12: Parameter

Purpose: Describes operations performed by and the results that can be expected from the service and includes information on how the service can be accessed.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.3.10.1	M	5.3.10.1	Name	Parameter name used by the service.	MemberName (see NAP:ISO19115 - B.15)	
2.3.10.2	O	5.3.10.2	Direction	Indicates whether the parameter is used as input, output or both.	<Enumeration> SV_ParameterDirection	
2.3.10.3	O	5.3.10.3	Description	Provides information on the purpose and function of the named parameter.	Free text: (CharacterString)	
2.3.10.4	M	5.3.10.4	Optionality	Indicates whether parameter is optional or mandatory. Default is mandatory.	Free text: (CharacterString)	
2.3.10.5	M	5.3.10.5	Repeatability	Indicates whether parameter values can be repeated.	Boolean (see NAP:ISO19115 - B.2)	
2.3.10.6	M	5.3.10.6	Value Type	Class used for the value type.	Type (see NAP:ISO19115 - B.23)	

2.4 Constraint (O,Repeatable) – MD_Constraints and/or MD_LegalConstraints and/or MD_SecurityConstraints

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 13: Constraint Information

Purpose: To provide use, access, legal and/or security constraints with respect to the resource(s).

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description / Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.4.1		5.4.1	Constraint Information	Use constraints affecting the resource or metadata.	MD_Constraints Consists of element reference(s): 2.4.1.1	
2.4.1.1	O,R	5.4.1.1	useLimitation	Limits with respect to suitability of resource or metadata for use.	Free text: (CharacterString)	<Rights> 3.16
2.4.2		5.4.2	Legal Constraints	Legal prerequisites or restrictions affecting the use of and access to the resource or metadata.	MD_LegalConstraints Consists of element reference(s): 2.4.2.1 – 2.4.2.4	
2.4.2.1	O,R	5.4.2.1	useLimitation	Limits with respect to suitability of resource or metadata for use.	Free text: (CharacterString)	<Rights> 3.16
2.4.2.2	O,R	5.4.2.2	accessConstraints	Restrictions on access to the resource or metadata to ensure privacy protection, intellectual property rights and any other special restrictions.	CodeList napMD_RestrictionCode	<Rights-> Refinement: Access Rights> 3.16.1 and/or

					<Rights-> Refinement: Sensitivity> 3.16.2 and/or <Rights-> Refinement: Intellectual Property> 3.16.3
2.4.2.3	O,R	5.4.2.3	useConstraints	Restrictions on the use of the resource or metadata to ensure privacy protection, intellectual property rights and any other special restrictions.	CodeList napMD_RestrictionCode	<Rights-> Refinement: Access Rights> 3.16.1 and/or <Rights-> Refinement: Sensitivity> 3.16.2 and/or <Rights-> Refinement: Intellectual Property> 3.16.3

2.4.2.4	C,R	5.4.2.4	otherConstraints	Any other legal prerequisites or restrictions which would limit access to the resource or metadata.	Free text: (CharacterString) **Conditional**: If Other Constraints is selected from the napMD_RestrictionCode CodeList, then, this element must be completed.	\<Mandate\> 3.12
2.4.3		5.4.3	Security Constraints	Constraints limiting access and use of the resource or metadata to address security concerns.	MD_SecurityConstraints Consists of element reference(s): 2.4.3.1 – 2.4.3.5	
2.4.3.1	O,R	5.4.3.1	useLimitation	Limits with respect to suitability of resource or metadata for use.	Free text: (CharacterString)	
2.4.3.2	M	5.4.3.2	classification	Resource or metadata security classification code.	CodeList napMD_classificationCode	\< Rights-\> Refinement: Sensitivity\> 3.16.2
2.4.3.3	O	5.4.3.3	userNote	Information to supplement the classification level assigned to the resource or metadata.	Free text: (CharacterString)	
2.4.3.4	O	5.4.3.4	classificationSystem	Security classification system name.	Free text: (CharacterString)	
2.4.3.5	O	5.4.3.5	handlingDescription	Supplementary information regarding the security restrictions imposed on the handling of the resource or metadata.	Free text: (CharacterString)	

2.5 Data Quality Information (O,Repeatable) – DQ_DataQuality

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 14: Data Quality

Purpose: To provide attributes and components that describe the data quality as specified by data quality scope.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.1	M	5.5.1	Scope Section	Extent of characteristics relating to the data for which quality information has been reported. For Attribute Level 'Dataset', Report and/or Lineage Section shall be provided.	DQ_Scope (see 2.5.4)	
2.5.2	CO1, R	5.5.2	Report Section	Information captured to quantify the quality of the resource as defined by the scope. If Scope is reported and Lineage has not been reported.	DQ_CompletenessCommission (see 2.5.5) and/or DQ_CompletenessOmission (see 2.5.6) and/or DQ_ConceptualConsistency (see 2.5.7) and/or DQ_DomainConsistency (see 2.5.8) and/or DQ_FormatConsistency (see 2.5.9) and/or DQ_TopologicalConsistency (see 2.5.10) and/or DQ_AbsoluteExternalPositionalAccuracy (see 2.5.11) and/or DQ_GriddedDataPositionalAccuracy (see 2.5.12) and/or DQ_RelativeInternalPositionalAccuracy (see 2.5.13) and/or	

					DQ_ThematicClassificationCorrectness (see 2.5.14) and/or DQ_NonQuantitativeAttributeAccuracy (see 2.5.15) and/or DQ_QuantitativeAttributeAccuracy (see 2.5.16) and/or DQ_AccuracyOfATimeMeasurement (see 2.5.17) and/or DQ_TemporalConsistency (see 2.5.18)	
2.5.3	CO1	5.5.3	Lineage Section	Captures information on the events or source data used to construct the data as defined by the scope or indicates lack of knowledge about lineage. If Scope is reported and Report has not been provided.	LI_Lineage Consists of element reference(s): 2.5.3.1 – 2.5.3.3	
2.5.3.1	O	5.5.3.1	Statement	Data producer's knowledge of the dataset lineage described in general terms.	Free text: (CharacterString)	
2.5.3.2	O,R	5.5.3.2	Source Section	Sources used in the development of the dataset.	LI_Source (see 2.5.22)	
2.5.3.3	O,R	5.5.3.3	Process Step Section	Events or transformations to a dataset including processes used for maintenance.	LI_ProcessStep (see 2.5.23)	

2.5.4 Scope (M) – DQ_Scope

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 15: Scope

Purpose: Extent of characteristics relating to the data for which quality information has been reported.

M – Mandatory **O** – Optional **CO1** – Conditionally Mandatory where one of two or more is required **R** – Repeatable **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.4.1	M	5.5.4.1	Level	Hierarchy Level of data identified in the scope.	CodeList napMD_ScopeCode	
2.5.4.2	O	5.5.4.2	Extent Section	Horizontal and/or vertical and temporal extent of the resource.	EX_Extent (see 2.13)	<Coverage> 3.4 Implemented in 2.13
2.5.4.3	C,R	5.5.4.3	Level Description Section	Level of data, as specified by scope, described in detail.	MD_ScopeDescription (see 2.5.19) **Conditional:** Level Description must be completed if the level is identified as anything other than 'dataset' or 'series'.	

2.5.5 Completeness Commission (O,Repeatable) - DQ_CompletenessCommission

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 16: Completeness commission

Purpose: Quality information relating to excess data in the dataset beyond the defined scope.

M – Mandatory **O** – Optional **CO1** – Conditionally Mandatory where one of two or more is required **R** – Repeatable **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.5.1	O,R	5.5.5.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.5.2	O	5.5.5.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.5.3	O	5.5.5.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.5.4	O	5.5.5.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.5.5	O	5.5.5.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.5.6	O	5.5.5.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

| 2.5.5.7 | O,R | 5.5.5.7 | Date Time | Completion date and time of test. | DateTime (see NAP:ISO19115 - B.5) | |
| 2.5.5.8 | M /max 2 | 5.5.5.8 | Result Section | Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels. | DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21) | |

2.5.6 Completeness Omission (O,Repeatable) – DQ_CompletenessOmission

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 17: Completeness omission

Purpose: Data that is absent from the dataset as defined by Scope.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.6.1	O,R	5.5.6.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.6.2	O	5.5.6.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.6.3	O	5.5.6.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.6.4	O	5.5.6.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.6.5	O	5.5.6.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.6.6	O	5.5.6.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.6.7	O,R	5.5.6.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.6.8	M /max 2	5.5.6.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.7 Conceptual Consistency (O,Repeatable) - DQ_ConceptualConsistency

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 18: Conceptual Consistency

Purpose: To document the adherence to conceptual schema rules. Conceptual consistency may include descriptions on the level to which the resource complies, for example feature types, feature attributes, and the relationship between features.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description / Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.7.1	O,R	5.5.7.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.7.2	O	5.5.7.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.7.3	O	5.5.7.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.7.4	O	5.5.7.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.7.5	O	5.5.7.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.7.6	O	5.5.7.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

| 2.5.7.7 | O,R | 5.5.7.7 | Date
Time | Completion date and time of test. | DateTime (see NAP:ISO19115 - B.5) | |
| 2.5.7.8 | M /max 2 | 5.5.7.8 | Result
Section | Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels. | DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21) | |

2.5.8 Domain Consistency (O,Repeatable) – DQ_DomainConsistency

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 19: Domain Consistency

Purpose: To document adherence of the attributes values of a resource to specified values in the conceptual schema.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.8.1	O,R	5.5.8.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.8.2	O	5.5.8.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.8.3	O	5.5.8.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.8.4	O	5.5.8.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.8.5	O	5.5.8.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.8.6	O	5.5.8.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.8.7	O,R	5.5.8.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.8.8	M /max 2	5.5.8.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.9 Format Consistency (O,Repeatable) – DQ_FormatConsistency

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 20: Format Consistency

Purpose: To document the extent to which the data, as described by the scope (see 1.5.1), is stored in agreement with the physical data structure.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.9.1	O,R	5.5.9.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.9.2	O	5.5.9.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.9.3	O	5.5.9.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.9.4	O	5.5.9.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.9.5	O	5.5.9.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.9.6	O	5.5.9.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.9.7	O,R	5.5.9.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.9.8	M /max 2	5.5.9.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.10 Topological Consistency (O,Repeatable) – DQ_TopologicalConsistency

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 21: Topological Consistency

Purpose: To document the accuracy of the explicitly encoded topological characteristics of the dataset, as defined the scope.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.10.1	O,R	5.5.10.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.10.2	O	5.5.10.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.10.3	O	5.5.10.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.10.4	O	5.5.10.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.10.5	O	5.5.10.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.10.6	O	5.5.10.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.10.7	O,R	5.5.10.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.10.8	M /max 2	5.5.10.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.11 Absolute Positional Accuracy (O,Repeatable) - DQ_AbsoluteExternalPositionalAccuracy

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 22: Absolute Positional Accuracy

Purpose: To describe procedures, methods and results of the positional measurement in the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.11.1	O,R	5.5.11.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.11.2	O	5.5.11.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.11.3	O	5.5.11.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.11.4	O	5.5.11.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.11.5	O	5.5.11.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.11.6	O	5.5.11.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

| 2.5.11.7 | O,R | 5.5.11.7 | Date Time | Completion date and time of test. | DateTime (see NAP:ISO19115 - B.5) | |
| 2.5.11.8 | M /max 2 | 5.5.11.8 | Result Section | Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels. | DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21) | |

2.5.12 Gridded Data Positional Accuracy (O,Repeatable) - DQ_GriddedDataPositionalAccuracy

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 23: Gridded data positional accuracy

Purpose: To document the extent to which gridded data position values compare to values accepted as being true.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.12.1	O,R	5.5.12.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.12.2	O	5.5.12.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.12.3	O	5.5.12.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.12.4	O	5.5.12.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.12.5	O	5.5.12.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.12.6	O	5.5.12.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.12.7	O,R	5.5.12.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.12.8	M /max 2	5.5.12.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.13 Relative Positional Accuracy (O,Repeatable) - DQ_RelativeInternalPositionalAccuracy

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 24: Relative positional accuracy

Purpose: To document the extent to which all features, as defined by scope, meet a defined proximity threshold.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.13.1	O,R	5.5.13.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.13.2	O	5.5.13.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.13.3	O	5.5.13.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.13.4	O	5.5.13.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodType Code	
2.5.13.5	O	5.5.13.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.13.6	O	5.5.13.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.13.7	O,R	5.5.13.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.13.8	M /max 2	5.5.13.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.14 Thematic Classification Correctness (O,Repeatable) - DQ_ThematicClassificationCorrectness

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 25: Thematic classification correctness

Purpose: To compare classes or attributes assigned to features or feature attributes against a recognized repository of features that pertain in a particular context.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.14.1	O,R	5.5.14.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.14.2	O	5.5.14.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.14.3	O	5.5.14.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.14.4	O	5.5.14.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.14.5	O	5.5.14.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.14.6	O	5.5.14.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.14.7	O,R	5.5.14.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.14.8	M /max 2	5.5.14.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.15 Non-Quantitative Attribute Accuracy (O,Repeatable) - DQ_NonQuantitativeAttributeAccuracy

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 26: Non-Quantitative attribute accuracy

Purpose: To document the level to which non-quantitative attributes reflect the stated requirements.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.15.1	O,R	5.5.15.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.15.2	O	5.5.15.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.15.3	O	5.5.15.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.15.4	O	5.5.15.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodType Code	
2.5.15.5	O	5.5.15.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.15.6	O	5.5.15.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.15.7	O,R	5.5.15.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.15.8	M /max 2	5.5.15.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.16 Quantitative Attribute Accuracy (O,Repeatable) - DQ_QuantitativeAttributeAccuracy –

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 27: Quantitative attribute accuracy

Purpose: To document the level to which qualitative attributes reflect the stated requirements.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.16.1	O,R	5.5.16.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.16.2	O	5.5.16.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.16.3	O	5.5.16.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.16.4	O	5.5.16.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethod TypeCode	
2.5.16.5	O	5.5.16.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.16.6	O	5.5.16.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.16.7	O,R	5.5.16.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.16.8	M /max 2	5.5.16.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.21)	

2.5.17 Accuracy of a Time Measurement (O,Repeatable) - DQ_AccuracyOfATimeMeasurement

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 28: Accuracy of a time measurement

Purpose: To document the accuracy of the temporal references of an item by capturing error of time measurements.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.17.1	O,R	5.5.17.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.17.2	O	5.5.17.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.17.3	O	5.5.17.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.17.4	O	5.5.17.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.17.5	O	5.5.17.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.17.6	O	5.5.17.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 214)	

2.5.17.7	O,R	5.5.17.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.17.8	M /max 2	5.5.17.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.18 Temporal Consistency (O,Repeatable) - DQ_TemporalConsistency

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 29: Temporal consistency

Purpose: To document, if reported, the accuracy of ordered events or sequences.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.18.1	O,R	5.5.18.1	Name Of Measure	Data quality test name applied to data.	Free Text : CharacterString	
2.5.18.2	O	5.5.18.2	Measure Identification Section	Identifier code for a registered standard procedure.	MD_Identifier (see 2.22)	
2.5.18.3	O	5.5.18.3	Measure Description	Description of the measure applied to ensure the quality of the data.	Free Text : CharacterString	
2.5.18.4	O	5.5.18.4	Evaluation Method Type	Code used to indicate the method type used in evaluating the quality of the data.	CodeList napDQ_EvaluationMethodTypeCode	
2.5.18.5	O	5.5.18.5	Evaluation Method Description	Description of the method type used to evaluate the data.	Free Text : CharacterString	
2.5.18.6	O	5.5.18.6	Evaluation Procedure Section	Citation information for the evaluation procedure.	CI_Citation (see 2.14)	

2.5.18.7	O,R	5.5.18.7	Date Time	Completion date and time of test.	DateTime (see NAP:ISO19115 - B.5)	
2.5.18.8	M /max 2	5.5.18.8	Result Section	Data quality test value(s) or outcome(s) from data quality measures applied against acceptable/specified quality conformance levels.	DQ_QuantitativeResult (see 2.5.20) and/or DQ_ConformanceResult (see 2.5.21)	

2.5.19 Scope Description - MD_ScopeDescription

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 30: Scope Description

Purpose: To describe in detail the level of data, as specified by the scope.

Conditionally Mandatory: One and only one of the elements must be present.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.19.1	CO1	5.5.19.1	Attributes	Value type, domain of values and cardinality of the attributes to which the information applies.	Set<GF_AttributeType> (see NAP:ISO19115 B.9)	
2.5.19.2	CO1	5.5.19.2	Features	Value type, definition and abstraction of the features to which the information applies.	Set<GF_FeatureType> (see NAP:ISO19115 B.10)	
2.5.19.3	CO1	5.5.19.3	Feature Instances	Value type, definition and abstraction of the feature instances to which the information applies.	Set<GF_FeatureType> (see NAP:ISO19115 B.10)	
2.5.19.4	CO1	5.5.19.4	Attribute Instances	Value type, domain of values and cardinality of the attribute instances to which the information applies.	Set<GF_AttributeType> (see NAP:ISO19115 B.9)	
2.5.19.5	CO1	5.5.19.5	Dataset	The dataset to which the information applies.	Free Text: (CharacterString)	
2.5.19.6	CO1	5.5.19.6	Other	Other category, outside of those provided, which is used to classify the information.	Free Text: (CharacterString)	

2.5.20 Quantitative Result - DQ_QuantitativeResult

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 31: Quantitative result

Purpose: To provide values or information on value(s) gathered from the application of a data quality measure.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.20.1	O	5.5.20.1	Value Type	Data quality result reported as a value type.	RecordType (see NAP:ISO19115 B.18)	
2.5.20.2	M	5.5.20.2	Value Unit	Data quality result reported as a value unit such as area, volume, angle, length, scale, time, or velocity.	UnitOfMeasure (see NAP:ISO19115 B.24)	
2.5.20.3	O	5.5.20.3	Error Statistic	Information on statistical method employed to estimate error in value.	Free Text: (CharacterString)	
2.5.20.4	M,R	5.5.20.4	Value	Quantitative value(s) for the object measured as determined by the evaluation procedure employed.	Record (see NAP:ISO19115 B.17)	

2.5.21 Conformance Result - DQ_ConformanceResult

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 32: Conformance Result

Purpose: To document the outcome of evaluations against a set acceptable quality level as performed on the value(s).

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.21.1	M	5.5.21.1	Specification Section	Citation information for the user requirement or specification utilized during the evaluation of the data.	CI_Citation (see 2.14)	
2.5.21.2	M	5.5.21.2	Explanation	Description of the meaning of conformance in terms of the result.	Free Text: (CharacterString)	
2.5.21.3	M	5.5.21.3	Pass	Conformance result failure(0) or pass(1).	Boolean (see NAP:ISO19115 B.2)	

2.5.22 Source - LI_Source

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 33: Source

Purpose: To document source data used to create the data as defined by the scope.

Condition: Highly recommend the use of *description* **or** *sourceCitation* and *sourceExtent*.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.22.1	O, C	5.5.22.1	Description	Description of the source data used to create the data.	Free Text: (CharacterString)	
2.5.22.2	O	5.5.22.2	Scale Denominator Section	Value of denominator in the fraction or ratio on source map.	MD_RepresentativeFraction (see 2.3.4)	
2.5.22.3	O	5.5.22.3	Source Reference System Section	Source data spatial reference system.	MD_ReferenceSystem (see 2.8)	
2.5.22.4	O, C	5.5.22.4	Source Citation Section	Source data citation information.	CI_Citation (see 2.14)	
2.5.22.5	O,R, C	5.5.22.5	Source Extent Section	The spatial, horizontal and/or vertical, and the temporal extent of the source data.	EX_Extent (see 2.13)	

2.5.23 Process Step - LI_ProcessStep

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 34: Process Step

Purpose: To document events, modifications or the maintenance of the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.5.23.1	M	5.5.23.1	Description	Information on the event and processes carried out on the data.	Free Text: (CharacterString)	
2.5.23.2	O	5.5.23.2	Rationale	Purpose or requirement for performing the process on the data.	Free Text: (CharacterString)	
2.5.23.3	O	5.5.23.3	Date Time[1]	Single date and time when process was completed.	DateTime (see NAP:ISO19115 B.5)	
2.5.23.4	O,R	5.5.23.4	Processor Section	Contact information for person(s) and organization(s) associated with performing the process.	CI_ResponsibleParty (see 2.16)	

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[1] *dateTime* cannot capture duration

2.6 Maintenance Information - MD_MaintenanceInformation

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 35: Maintenance Information

Purpose: To document information about the scope and frequency of changes to resources or metadata records.
Note: Obligation is Optional when documenting metadata maintenance information; Optional and Repeatable when capturing resource or service maintenance information.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description / Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.6.1	M	5.6.1	Maintenance And Update Frequency	Code indicating the frequency of changes and additions to the resource after initial completion.	CodeList napMD_MaintenanceFrequencyCode	
2.6.2	O	5.6.2	Date Of Next Update	Next schedule revision date for the resource.	Date (see NAP:ISO19115 B.4)	
2.6.3	O	5.6.3	User Defined Maintenance Frequency	Period of maintenance other than those already defined.	TM_PeriodDuration (see NAP:ISO19115 B.21)	
2.6.4	O,R	5.6.4	Update Scope	Code indicating the scope of data intended for scheduled maintenance.	CodeList napMD_ScopeCode	
2.6.5	O,R	5.6.5	Update Scope Description Section	Supplemental information about the extent or range of the resource.	MD_ScopeDescription (see 2.5.19)	
2.6.6	O,R	5.6.6	Maintenance Note	Additional comments on specific requirements surrounding the maintenance of the resource.	Free Text: (CharacterString)	

| 2.6.7 | O,R | 5.6.7 | Contact

Section | Contact information for person(s) and organization(s) associated with maintaining the metadata. | CI_ResponsibleParty (see 2.16) | <Contact>
3.2
Implemented in 2.16 |

2.7 Spatial Representation Information (O,Repeatable)

MD_GridSpatialRepresentation (see 2.7.1) and/or
MD_VectorSpatialRepresentation (see 2.7.2) and/or
MD_Georectified (see 2.7.3) and/or
MD_Georeferenceable (see 2.7.4)

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 36: Spatial Representation Information

Purpose: To document vector and/or grid spatial objects used in the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.7.1		5.7.1	Grid Spatial Representation	Details on grid spatial objects contained in the dataset.	MD_GridSpatialRepresentation Consists of element reference(s): 2.7.1.1 – 2.7.1.4	
2.7.1.1	M	5.7.1.1	Number Of Dimensions	Total number of independent spatial-temporal axes.	Integer (see NAP:ISO19115 B.13)	
2.7.1.2	M	5.7.1.2	Axis Dimension Properties	Details on the spatial-temporal axes including the axis name, elements along the axis and the degree of detail.	Sequence<MD_Dimension> (see 2.7.5)	
2.7.1.3	M	5.7.1.3	Cell Geometry	Identifying information distinguishing grid data as point or cell.	CodeList napMD_CellGeometryCode	

2.7.1.4	M	5.7.1.4	Transformation Parameter Availability	Signifies the availability of parameters for transformation between image coordinates and geographic or map coordinates. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.7.2		5.7.2	Vector Spatial Representation	Details on vector objects contained in the dataset.	MD_VectorSpatialRepresentation Consists of element reference(s): 2.7.2.1 - 2.7.2.2	
2.7.2.1	O	5.7.2.1	Topology Level	Code used to indicate the level of topology in the dataset.	CodeList napMD_TopologyLevelCode	
2.7.2.2	O,R	5.7.2.2	Geometric Objects Section	Information on the number and type of geometric objects used in the dataset.	MD_GeometricObjects (see 2.7.6)	
2.7.3		5.7.3	Georectified Grid Information	Details on the grid used to georectify the data.	MD_Georectified Consists of element reference(s): 2.7.3.1 - 2.7.3.11	
2.7.3.1	M	5.7.3.1	Number Of Dimensions	Total number of independent spatial-temporal axes.	Integer (see NAP:ISO19115 B.13)	
2.7.3.2	M	5.7.3.2	Axis Dimension Properties Section	Details on the spatial-temporal axes including the axis name, elements along the axis and the degree of detail.	Sequence<MD_Dimension> (see 2.7.5)	

2.7.3.3	M	5.7.3.3	Cell Geometry	Identifying information distinguishing grid data as point or cell.	CodeList napMD_CellGeometryCode	
2.7.3.4	M	5.7.3.4	Transformation Parameter Availability	Flag indicating the availability of parameters for transformation between image coordinates and geographic or map coordinates. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.7.3.5	M	5.7.3.5	Check Point Availability	Flag indicating that geographic position points exist for the purpose of testing the accuracy of the georeferenced grid data. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.7.3.6	O, C	5.7.3.6	Check Point Description	Detailed information on the geographic position points used to test the accuracy of the georeferenced grid data **Condition:** Required where Check Point Availability is Yes (1).	Free Text: (CharacterString)	
2.7.3.7	M	5.7.3.7	Corner Points	At least two of the four corner points along one diagonal are required to represent the earth's location in the coordinate system defined by the Spatial Reference System (SRS) and the grid coordinates of the cells at opposite ends of the grid coverage along two diagonals in the grid spatial dimension.	Sequence<GM_Point> (see NAP:ISO19115 B.12)	
2.7.3.8	O	5.7.3.8	Center Point	Represented as a point, the earth's location in the coordinate system defined by the Spatial Reference System (SRS) and the grid coordinate of the cell halfway between opposite ends of the grid.	GM_Point (see NAP:ISO19115 B.12)	
2.7.3.9	M	5.7.3.9	Point In Pixel	A point in a pixel that corresponds to the Earth's location of the pixel.	CodeList napMD_PixelOrientationCode	

Last Review Date: 2008-03-20
Next Review Date: 2009-03

2.7.3.10	O	5.7.3.10	Transformation Dimension Description	A basic description of the transformation.	Free Text: (CharacterString)	
2.7.3.11	O,2	5.7.3.11	Transformation Dimension Mapping	Details on which grid axes are spatial axes.	Free Text: (CharacterString)	
2.7.4		5.7.4	Georeferenceable Grid Information	Dataset georeferencing information.	MD_Georeferenceable Consists of element reference(s): 2.7.4.1 – 2.7.4.9	
2.7.4.1	M	5.7.4.1	Number Of Dimensions	The integer value representing the number of independent spatial-temporal axes.	Integer (see NAP:ISO19115 B.13)	
2.7.4.2	M	5.7.4.2	Axis Dimension Properties Section	Information pertaining to the spatial-temporal axes which includes the axis name, the elements along the axis and the degree of detail.	Sequence <MD_Dimension> (see 2.7.5)	
2.7.4.3	M	5.7.4.3	Cell Geometry	Information identifying the grid data as either point or cell.	CodeList napMD_CellGeometryCode	
2.7.4.4	M	5.7.4.4	Transformation Parameter Availability	Value used to indicate if parameters for transformation between image coordinates and geographic or map coordinates is available. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	

2.7.4.5	M	5.7.4.5	Control Point Availability	Value used to indicate the existence control point(s). Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.7.4.6	M	5.7.4.6	Orientation Parameter Availability	Value used to indicate if orientation parameters are available. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.7.4.7	O	5.7.4.7	Orientation Parameter Description	Information on the parameters used to describe sensor orientation.	Free Text: (CharacterString)	
2.7.4.8	M	5.7.4.8	Georeferenced Parameters	Grid data georeferencing parameters or terms.	Record (see NAP:ISO19115 B.17)	
2.7.4.9	O,R	5.7.4.9	Parameter Citation Section	Parameter reference citation information.	CI_Citation (see 2.14)	

2.7.5 Dimension - MD_Dimension

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 37: Dimension

Purpose: To provide dimension name, size, and resolution details.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.7.5.1	M	5.7.5.1	Dimension Name	Name of axis.	CodeList napMD_DimensionNameTypeCode	
2.7.5.2	M	5.7.5.2	Dimension Size	Integer value representing the number of elements along the axes.	Integer (see NAP:ISO19115 B.13)	
2.7.5.3	O	5.7.5.3	Resolution	Measure of detail in the grid dataset.	Measure (see NAP:ISO19115 B.14)	

2.7.6 Geometric Objects - MD_GeometricObjects

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 38: Geometric Objects

Purpose: To list, by geometric object type, the number of objects used in the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.7.6.1	M	5.7.6.1	Geometric Object Type	Code value representing point or vector objects used to locate zero, one, two or three dimensional locations in the dataset.	CodeList napMD_GeometricObjectTypeCode	
2.7.6.2	O	5.7.6.2	Geometric Object Count	Value as an integer indicating the total number of vector or point objects contained within the dataset.	Integer (see NAP:ISO19115 B.13)	

2.8.1 Reference System Information (C,Repeatable) - MD_ReferenceSystem

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 39: Reference System Information

Purpose: To identify the reference system used in the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.8.1	M	5.8.1	Reference System Identifier Section	Identifies the Reference System used.	RS_Identifier (see 2.8.2)	

2.8.2 Reference System Identifier - RS_Identifier

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 40: Reference System Identifier

Purpose: To provide details on the reference system used in the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.8.2.1	O	5.8.2.1	Authority Section	Information on the party responsible for maintaining the reference system resource.	CI_Citation (see 2.14)	
2.8.2.2	M	5.8.2.2	Code	An alphanumeric code used to identify the source reference system. For example: "epsg."	Free Text: (CharacterString)	
2.8.2.3	O	5.8.2.3	Code Space	Reference system identifier or namespace in which the code is valid. For example: "http://www.epsg.org/databases/epsg-v6_12.zip"	Free Text: (CharacterString)	
2.8.2.4	O	5.8.2.4	Version	Version of the cited reference system. For example: "6.12"	Free Text: (CharacterString)	

2.9 Content Information (O,Repeatable)

MD_FeatureCatalogueDescription and/or
MD_CoverageDescription and/or
MD_Image

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 41: Content Information

Purpose: To provide details on the content of the dataset.

Note: Including features under 2.9.1.4 permits access to items normally listed in a Feature Catalogue. In the event that the Feature Catalogue is inaccessible, the items can still be viewed through the metadata record.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.9.1		5.9.1	Feature Catalogue Description	Section provides information on the feature catalogue or the conceptual schema.	MD_FeatureCatalogueDescription Consists of element reference(s): 2.9.1.1 – 2.9.1.5	
2.9.1.1	O	5.9.1.1	Compliance Code	Code indicating compliance with ISO19110 for the named feature catalogue. Compliant (1) Not compliant (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.1.2	O,R	5.9.1.2	Language	Languages and character coding standards used within the catalogue.	Free Text: (CharacterString)	
2.9.1.3	M	5.9.1.3	Included With Dataset	Code indicating whether the feature catalogue is included with the dataset. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.1.4	M,R	5.9.1.4	Feature Types	An identifier and/or generic name of feature as listed in the catalogue.	GenericName (see NAP:ISO19115 B.8)	

2.9.1.5	M, R	5.9.1.5	Feature Catalogue Citation Section	Citation information relating to the feature catalogue.	CI_Citation (see 2.14)	
2.9.2		5.9.2	Coverage Description	Information pertaining to the content of grid data cells.	MD_CoverageDescription Consists of element reference(s) : 2.9.2.1 – 2.9.2.3	
2.9.2.1	M	5.9.2.1	Attribute Description	A description of the attribute described by the measurement value.	RecordType (see NAP:ISO19115 B.18)	
2.9.2.2	M	5.9.2.2	Content Type	Description of the type of information represented by the cell value.	CodeList napMD_CoverageContentTypeCode	
2.9.2.3	O,R	5.9.2.3	Dimension Section	Description about the dimensions of the cell measurement value.	MD_RangeDimension (see 2.9.4) and/or MD_Band (see 2.9.5)	
2.9.3		5.9.3	Image Description	Details of image characteristics.	MD_ImageDescription Consists of element reference(s) : 2.9.3.1 – 2.9.3.15	
2.9.3.1	M	5.9.3.1	Attribute Description	A description of the attribute described by the measurement value.	RecordType (see NAP:ISO19115 B.18)	
2.9.3.2	M	5.9.3.2	Content Type	Description of the type of information represented by the cell value.	CodeList napMD_CoverageContentTypeCode	
2.9.3.3	O	5.9.3.3	Illumination Elevation Angle	Angle captured to represent the illumination elevation which is measured in degrees clockwise from the target plane at intersection of the optical line of sight with the Earth's surface.	Real (see NAP:ISO19115 B.16)	

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2.9.3.4	O	5.9.3.4	Illumination Azimuth Angle	Angle captured to represent the illumination azimuth which is measured in degrees clockwise from true north at the time the image is taken.	Real (see NAP:ISO19115 B.16)	
2.9.3.5	O	5.9.3.5	Imaging Condition	Code selected to represent conditions affecting the image.	CodeList napMD_ImagingConditionCode	
2.9.3.6	O	5.9.3.6	Imaging Quality Code Section	Statement of the image quality.	MD_Identifier (see 2.22)	
2.9.3.7	O	5.9.3.7	Cloud Cover Percentage	Based on the spatial extent of dataset, the percentage obscured by clouds.	Real (see NAP:ISO19115 B.16)	
2.9.3.8	O	5.9.3.8	Processing Level Code Section	Statement of the image processing levels applied.	MD_Identifier (see 2.22)	
2.9.3.9	O	5.9.3.9	Compression Generation Quantity	Total count of compression cycles performed on the image.	Integer (see NAP:ISO19115 B.13)	
2.9.3.10	O	5.9.3.10	Triangulation Indicator	Indicates whether triangulation has performed on the image. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	

2.9.3.11	O	5.9.3.11	Radiometric Calibration Data Availability	Indicates whether radiometric calibration information to generate the radiometrically calibrated standard data product is available. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.3.12	O	5.9.3.12	Camera Calibration Information Availability	Indicates whether constants are available for camera calibration corrections. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.3.13	O	5.9.3.13	Film Distortion Information Availability	Indicates whether Calibration Reseau information is available. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.3.14	O	5.9.3.14	Lens Distortion Information Availability	Indicates whether lens aberration correction information is available. Yes (1) No (0)	Boolean (see NAP:ISO19115 B.2)	
2.9.3.15	O,R	5.9.3.15	Dimension Section	Description about the dimensions of the cell measurement value.	MD_RangeDimension (see 2.9.4) and/or MD_Band (see 2.9.5)	
2.9.4		5.9.4	Dimension	Description about the dimensions of the cell measurement value.	MD_RangeDescription Consists of element reference(s) : 2.9.4.1 – 2.9.4.2	
2.9.4.1	O	5.9.4.1	Sequence Identifier	Unique number identifying the instances of bands of wavelengths on which a sensor operates.	MemberName (see NAP:ISO19115 B.15)	

2.9.4.2	O	5.9.4.2	Descriptor	Information describing the range of a cell measurement value.	Free Text: (CharacterString)	
2.9.5		5.9.5	Band	Information about the range of wavelengths in the electromagnetic spectrum.	MD_Band Consists of element reference(s) : 2.9.5.1 – 2.9.5.10	
2.9.5.1	O	5.9.5.1	Sequence Identifier	Unique number identifying the instances of bands of wavelengths on which a sensor operates.	MemberName (see NAP:ISO19115 B.15)	
2.9.5.2	O	5.9.5.2	Descriptor	Information describing the range of a cell measurement value.	Free Text: (CharacterString)	
2.9.5.3	O	5.9.5.3	Max Value	Within the designated band, the value of the longest wavelength the sensor is capable of collecting.	Real (see NAP:ISO19115 B.16)	
2.9.5.4	O	5.9.5.4	Min Value	Within the designated band, the value of the shortest wavelength the sensor is capable of collecting.	Real (see NAP:ISO19115 B.16)	
2.9.5.5	O	5.9.5.5	Units	Sensor wavelengths, expressed in units.	UomLength (see NAP:ISO19115 B.25)	
2.9.5.6	O	5.9.5.6	Peak Response	Floating point value specifying the wavelength at which the response is highest.	Real (see NAP:ISO19115 B.16)	
2.9.5.7	O	5.9.5.7	Bits Per Value	Maximum number, expressed as an integer, of significant bits in the uncompressed representation for the value in each band of each pixel.	Integer (see NAP:ISO19115 B.13)	
2.9.5.8	O	5.9.5.8	Tone Gradation	Number, expressed as an integer, of discrete numerical values in the grid data.	Integer (see NAP:ISO19115 B.13)	

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| 2.9.5.9 | O | 5.9.5.9 | Scale Factor | Scale factor, expressed as a floating point value, applied to each cell value. | Real (see NAP:ISO19115 B.16) | |
| 2.9.5.10 | O | 5.9.5.10 | Offset | The physical value, expressed as a floating point number, corresponding to a cell value of zero. | Real (see NAP:ISO19115 B.16) | |

2.10 Portrayal Catalogue Information (O,Repeatable) - MD_PortrayalCatalogueReference

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 42: Portrayal Catalogue Information

Purpose: To provide information to identify and locate information for the portrayal catalogue. A portrayal catalogue could be defined as a collection of defined symbols used to depict, to humans, features on a map.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.10.1	M,R	5.10.1	Portrayal Catalogue Citation Section	Portrayal catalogue bibliographic reference citation.	CI_Citation (see 2.14)	

2.11 Distribution Information (O) – MD_Distribution

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 43: Distribution Information

Purpose: To provide information on the distributor and the options available for obtaining the resource.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.11.1	O,R	5.11.1	Transfer Options	Information describing the means and media by which the resource may be obtained from the distributor.	MD_DigitalTransferOptions Consists of element reference(s) : 2.11.1.1 – 2.11.1.4	
2.11.1.1	O	5.11.1.1	Units Of Distribution	Description of the distribution units for the data/dataset. For example – layers, tiles, geographic areas	Free Text: (CharacterString)	
2.11.1.2	O	5.11.1.2	Transfer Size	Expressed as megabytes, the floating point number representing the size of the transfer unit in the specified format.	Real (see NAP:ISO19115 B.16)	
2.11.1.3	O,R	5.11.1.3	On Line	Information about online sources for obtaining the data/dataset.	CI_OnlineResource (see 2.20)	
2.11.1.4	O	5.11.1.4	Off Line Section	Information describing the media available through offline distribution.	MD_Medium (see 2.11.8)	

2.11.2	C,R	5.11.2	Distributor	Data distributor information.	MD_Distributor Consists of element reference(s) : 2.11.2.1 – 2.11.2.2	
2.11.2.1	M	5.11.2.1	Distributor Contact Section	Party responsible for the distribution of the dataset.	CI_ResponsibleParty (see 2.16)	\<Publisher> 3.13 Implemented in 2.16
2.11.2.2	O,R	5.11.2.2	Distribution Order Process Section	Process, instructions and fees associated with obtaining the resource.	MD_StandardOrderProcess (see 2.11.4)	
2.11.3	C,R	5.11.3	Distribution Format	Describes the format used by the distributor.	MD_Format Consists of element reference(s) : 2.11.3.1 – 2.11.3.5	
2.11.3.1	M	5.11.3.1	Name	The name of the data transfer format available for distribution.	Free Text: (CharacterString)	\<Format> 3.8
2.11.3.2	M	5.11.3.2	Version	The version of the format (number, date, etc.) available for distribution.	Free Text: (CharacterString)	
2.11.3.3	O	5.11.3.3	Amendment Number	Number of amendment on the format version.	Free Text: (CharacterString)	
2.11.3.4	O	5.11.3.4	Specification	The name of a subset, product specification or profile of the available format.	Free Text: (CharacterString)	
2.11.3.5	O	5.11.3.5	File Decompression Technique	Recommended algorithms or processes to apply to uncompress resources distributed in compressed formats	Free Text: (CharacterString)	

2.11.4 Standard Order Process - MD_StandardOrderProcess

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 44: Standing Order Process

Purpose: To provide the process, instructions and fees associated with obtaining the resource.

Note: It is advised that at least one of the elements under MD_StandardOrderProcess be provided.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.11.4.1	O	5.11.4.1	Fees	Information reflecting the terms and any fees associated with obtaining the data/dataset.	Free Text: (CharacterString)	
2.11.4.2	O	5.11.4.2	Planned Available Date Time	The date and time that the resource will be available.	DateTime (see NAP:ISO19115 B.5)	
2.11.4.3	O	5.11.4.3	Ordering Instructions	Any instructions, terms, and services provided by the distributor of the resource.	Free Text: (CharacterString)	
2.11.4.4	O	5.11.4.4	Turnaround	Average expected turnaround time for filling an order for the resource.	Free Text: (CharacterString)	

2.11.5 Medium - MD_Medium

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 45: Medium

Purpose: To provide details on the medium available for distribution via data transfer.

Note: It is advised that at least one of the elements; Name, Density, Volumes, Medium Format or Medium Note shall be provided.   If Density Units is provided, then Density must also be provided.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.11.5.1	O	5.11.5.1	Name	Name of the medium type available for use in distribution.	CodeList napMD_MediumNameCode	
2.11.5.2	O,R	5.11.5.2	Density	The density at which the data is recorded expressed as a floating point value.	Real (see NAP:ISO19115 B.16)	
2.11.5.3	C	5.11.5.3	Density Units	The recording density units of measure. **Condition:** If recorded, Density is also required.	Free Text: (CharacterString)	
2.11.5.4	O	5.11.5.4	Volumes	The total number of recorded items on the media.	Integer (see NAP:ISO19115 B.13)	
2.11.5.5	O,R	5.11.5.5	Medium Format	The format method used to write to the medium identified.	CodeList napMD_MediumFormatCode	
2.11.5.6	O	5.11.5.6	Medium Note	Additional information describing limitations or requirements with respect to using the medium.	Free Text: (CharacterString)	

2.12 Application Schema Information (O,Repeatable) - MD_ApplicationSchemaInformation

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 46: Application schema information

Purpose: To provide information about the application schema used in the development of the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.12.1.1	M	5.12.1.1	Name Section	Citation information for the application schema used.	CI_Citation (see 2.14)	
2.12.1.2	M	5.12.1.2	Schema Language	Identification of the schema language used in the development of the dataset.	Free Text: (CharacterString)	
2.12.1.3	M	5.12.1.3	Constraint Language	Formal language used to describe constraints in the application schema.	Free Text: (CharacterString)	
2.12.1.4	O	5.12.1.4	Schema ASCII	ASCII file of the full application schema.	Free Text: (CharacterString)	
2.12.1.5	O	5.12.1.5	Graphics File	Graphics file of the full application schema.	Binary (see NAP:ISO19115 B.1)	
2.12.1.6	O	5.12.1.6	Software Development File	Software development file of the full application schema.	Binary (see NAP:ISO19115 B.1)	

2.12.1.7	O	5.12.1.7	Software Development File Format	The software dependent format used for the application schema software dependent file.	Free Text: (CharacterString)	

2.13 Extent Information - EX_Extent

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 47: Extent information

Purpose: To provide information relating to the geographic extent, temporal extent and temporal/spatial boundaries as they relate to the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.13.1	O	5.13.1	Description	Description of the spatial and temporal extent of the resource.	Free Text: (CharacterString)	<Coverage-> Refinement: Jurisdiction> 3.4.1[2] OR <Coverage-> Refinement: Spatial> 3.4.2[2] OR <Coverage-> Refinement: Temporal> 3.4.3[2]

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[2] Please refer to GO-ITS 46 for definitions and recommended best practices.

2.13.2	O,R	5.13.2	Bounding Polygon	The boundary enclosing the dataset expressed as the closed set of x/y coordinates where the last point in the polygon replicates the first point of the polygon.	EX_BoundingPolygon Consists of element reference(s) : 2.13.2.1 – 2.13.2.2	
2.13.2.1	O	5.13.2.1	Extent Type Code	Indicates whether the area defined by the bounding polygon includes an area covered by the data or an area where data is not present. Inclusion (1) Exclusion (0)	Boolean (see NAP:ISO19115 B.2)	
2.13.2.2	M,R	5.13.2.2	Polygon	The bounding polygon as represented by sets of points.	GM_Object (see NAP:ISO19115 B.11)	
2.13.3	O,R	5.13.3	Geographic Bounding Box	The bounding box coordinates representing an approximation of the geographic position of the dataset.	EX_GeographicBoundingBox Consists of element reference(s) : 2.13.3.1 – 2.13.3.5	
2.13.3.1	O	5.13.3.1	Extent Type Code	Indicates whether the area defined by the bounding box coordinates includes an area covered by the data or an area where data is not present. Inclusion (1) Exclusion (0)	Boolean (see NAP:ISO19115 B.2)	
2.13.3.2	M	5.13.3.2	West Bound Longitude	The most west coordinate of the dataset extent expressed in decimal degrees. (longitude)	Decimal (see NAP:ISO19115 B.6)	
2.13.3.3	M	5.13.3.3	East Bound Longitude	The most east coordinate of the dataset extent expressed in decimal degrees. (longitude)	Decimal (see NAP:ISO19115 B.6)	

2.13.3.4	M	5.13.3.4	South Bound Latitude	The most south coordinate of the dataset extent expressed in decimal degrees. (latitude)	Decimal (see NAP:ISO19115 B.6)	
2.13.3.5	M	5.13.3.5	North Bound Latitude	The most north coordinate of the dataset extent expressed in decimal degrees. (latitude)	Decimal (see NAP:ISO19115 B.6)	
2.13.4	O,R	5.13.4	Geographic Description	Identifier used to describe the geographic extent.	EX_GeographicDescription Consists of element reference(s) : 2.13.4.1 – 2.13.4.2	
2.13.4.1	O	5.13.4.1	Extent Type Code	Indicates whether the area defined by the bounding box includes an area covered by the data or an area where data is not present. Inclusion (1) Exclusion (0)	Boolean (see NAP:ISO19115 B.2)	
2.13.4.2	M	5.13.4.2	Geographic Identifier Section	Unique name which is established and maintained by an authority and used to identify a geographic area.	MD_Identifier (see 2.22)	
2.13.5	O,R	5.13.5	Temporal Element	The time period for which there is content in the dataset.	EX_TemporalExtent Consists of element reference(s) : 2.13.5.1	
2.13.5.1	M	5.13.5.1	Extent	Period of time for the content of the dataset.	TM_Primitive (see NAP:ISO19115 B.22)	

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2.13.6	O,R	5.13.6	Spatial Temporal Element	The dataset extent with respect to the spatial boundaries and date and/or time.	EX_TemporalExtent Consists of element reference(s) : 2.13.6.1 – 2.13.6.2	
2.13.6.1	M	5.13.6.1	Extent	Period of time for the content of the dataset.	TM_Primitive (see NAP:ISO19115 B.22)	
2.13.6.2	M,R	5.13.6.2	Spatial Extent Section	Description of the dataset spatial extent in respect to the temporal extent.	EX_BoundingPolygon (see 2.13.2) and/or EX_GeographicBoundingBox (see 2.13.3) and/or EX_GeographicDescription (see 2.13.4)	
2.13.7	O,R	5.13.7	Vertical Element	The vertical domain of the dataset as described through the minimum and maximum extent values.	EX_VerticalExtent Consists of element reference(s) : 2.13.7.1 – 2.13.7.3	
2.13.7.1	M	5.13.7.1	Minimum Value	The value of the lowest vertical extent contained in the dataset.	Real (see NAP:ISO19115 B.16)	
2.13.7.2	M	5.13.7.2	Maximum Value	The value of the highest vertical extent contained in the dataset.	Real (see NAP:ISO19115 B.16)	
2.13.7.3	M	5.13.7.3	Vertical CRS	Coordinate system used as the reference system for measuring vertical extent.	SC_CRS (see NAP:ISO19115 B.19)	

2.14 Citation - CI_Citation

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 48: Citation

Purpose: To provide bibliographic information with respect to the specified resource.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description / Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.14.1	M	5.14.1	Title	Name by which the cited resource is recognized.	Free Text: (CharacterString)	<Title> 3.18
2.14.2	O,R	5.14.2	Alternate Title	Acronym for or other language name with which the cited resource is known. For example: "DCW" would be an alternative title to "Digital Chart of the World"	Free Text: (CharacterString)	<Title-> Refinement: Alternative> 3.18.1
2.14.3	M,R	5.14.3	Date Section	Cited resource reference date and identification of resource state. For example: Creation, publication or revision.	CI_Date (see 2.15)	<Date> 3.6 Implemented in 2.15
2.14.4	O	5.14.4	Edition	Version of the resource cited.	Free Text: (CharacterString)	<Version> 3.20
2.14.5	O	5.14.5	Edition Date	Reference date of the edition.	Date (see NAP:ISO19115 B.4)	<Date> 3.6 Implemented in 2.15

2.14.6	O,R	5.14.6	Identifier Section	Unique value identifying an object within a namespace.	MD_Identifier (see 2.22)	<Identifier> 3.9
2.14.7	M,R	5.14.7	Cited Responsible Party Section	Identification of party or parties responsible for the resource.	CI_ResponsibleParty (see 2.16)	<Creator> 3.5 Implemented in 2.16
2.14.8	O,R	5.14.8	Presentation Form	The mode(s) in which the resource is available.	CodeList napCI_PresentationFormCode	<Format> 3.8
2.14.9	O	5.14.9	Series Section	Details on the series or collection of which the cited resource is a part.	CI_Series (see 2.21)	
2.14.10	O	5.14.10	Other Citation Details	Other information not included elsewhere which is necessary to complete the citation.	Free Text: (CharacterString)	
2.14.11	O	5.14.11	Collective Title	Details on the combined resource of which this resource is a part. Information may include other available volumes in the series.	Free Text: (CharacterString)	
2.14.12	O	5.14.12	ISBN	The International Standard Book Number (ISBN) assigned by an ISBN authority to a publication. For example: a book, pamphlet, CD ROM or other digital or electronic publication.	Free Text: (CharacterString)	<Identifier> 3.9
2.14.13	O	5.14.13	ISSN	The International Standard Serial Number (ISSN) assigned by an ISSN authority to a serial publication. For example: a periodical, a newspaper or a monographic series.	Free Text: (CharacterString)	<Identifier> 3.9

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2.15 Date - CI_Date

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 49: Date

Purpose: To provide the reference date and the described event that occurred on that date.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.15.1	M	5.15.1	Date	Date for the cited reference.	Date (see NAP:ISO19115 B.4)	\<Date\> 3.6*
2.15.2	M	5.15.2	Date Type	The event used for the date referenced.	CodeList napCI_DateTypeCode	**Defined as:** \<Date-\>Refinement: Created\> 3.6.1* and/or \<Date-\>Refinement: Issued\> 3.6.2* and/or \<Date-\>Refinement: Modified\> 3.6.3*

*Please refer to GO-ITS 46 for comments and required encoding scheme.

2.16 Responsible Party - CI_ResponsibleParty

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 50: Responsible Party

Purpose: To identify the party responsible for and their role with respect to the resource.

Conditionally Mandatory: At least one of Individual Name, Organization Name or Position Name shall be provided.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.16.1	CO1	5.16.1	Individual Name	The individual[3] responsible for fulfilling the identified role with respect to the resource.	Free Text: (CharacterString)	As determined by GO-ITS Ref. 2.16.5 Any of: <Contact> 3.2 <Contributor> 3.3 <Creator> 3.5 <Publisher> 3.13*
2.16.2	CO1	5.16.2	Organization Name	The organization responsible for fulfilling the identified role with respect to the resource.	Free Text: (CharacterString)	

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[3] Personal names should be avoided wherever possible as they change more frequently than position name or organization. Personal names used in a database or metadata record may make that record private as defined by various FIPPA regulations .

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2.16.3	CO1	5.16.3	Position Name	The position responsible for fulfilling the identified role with respect to the resource.	Free Text: (CharacterString)	
2.16.4	O	5.16.4	Contact Info Section	Contact information for the individual, organization and/or position responsible for the resource.	CI_Contact (see 2.17)	
2.16.5	M	5.16.5	Role	Role performed by the responsible party.	CodeList napCI_RoleCode	

2.17 Contact - CI_Contact

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 51: Contact

Purpose: To provide contact information for an individual or organization.

Note: At least one of Phone, Address or Online Resource shall be provided.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.17.1	O	5.17.1	Phone Section	Contact telephone numbers for organization or individual.	CI_Telephone (see 2.18)	
2.17.2	O	5.17.2	Address Section	Email and physical address to contact individual or organization.	CI_Address (see 2.19)	
2.17.3	O	5.17.3	Online Resource Section	Description of online access points where the resource(s) can be obtained. Includes URL, protocol, resource name, description and means by which resource can be accessed.	CI_OnlineResource (see 2.20)	
2.17.4	O	5.17.4	Hours Of Service	Time period (including time zone) during which the organization or individual can be contacted.	Free Text: (CharacterString)	
2.17.5	O	5.17.5	Contact Instructions	Additional instructions on how contact can be made and when contact can be made with the individual or organization.	Free Text: (CharacterString)	

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2.18 Telephone - CI_Telephone

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 52: Telephone

Purpose: To capture telephone numbers used to contact the responsible individual or organization.

Note: Voice or Facsimile is required.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.18.1	O,R	5.18.1	Voice	Voice telephone number of the organization or individual.	Free Text: (CharacterString)	
2.18.2	O,R	5.18.2	Facsimile	Facsimile number to a facsimile machine belonging to the individual or to the organization.	Free Text: (CharacterString)	

2.19 Address - CI_Address

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 53: Address

Purpose: To document the physical and email address where the organization or individual may be contacted.

Note: At least one of the address attributes shall be provided.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.19.1	O	5.19.1	Delivery Point	The address line of the location.	Free Text: (CharacterString)	
2.19.2	O	5.19.2	City	The city name of the location	Free Text: (CharacterString)	
2.19.3	O	5.19.3	Administrative Area	The state or province of the location.	Free Text: (CharacterString)	
2.19.4	O	5.19.4	Postal Code	The postal code or ZIP code of the location.	Free Text: (CharacterString)	
2.19.5	O	5.19.5	Country	The country code of the physical location.	Free Text: (CharacterString)	
2.19.6	O,R	5.19.6	Electronic Mail Address	The organization or individual's electronic mailbox address.	Free Text: (CharacterString)	

2.20 Online Resource - CI_OnlineResource

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 54: Online resource

Purpose: To document online access points where resource(s) can be obtained.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.20.1	M	5.20.1	Linkage	Internet address, using a Uniform Resource Locator (URL) or similar address scheme to access the online resource. For example: www.isotc211.org	URL (see NAP:ISO19115 B.26)	
2.20.2	M	5.20.2	Protocol	The protocol used to make a connection. For example: http, ftp, etc.	Free Text: (CharacterString)	
2.20.3	O	5.20.3	Application Profile	Application profile name that can be used with the online resource.	Free Text: (CharacterString)	
2.20.4	O	5.20.4	Name	Online resource name.	Free Text: (CharacterString)	
2.20.5	O	5.20.5	Description	Online resource description including what it is and what it does.	Free Text: (CharacterString)	
2.20.6	O	5.20.6	Function	Online resource code indicating the function that the online resource performs.	CodeList napCI_OnlineFunctionCode	

2.21 Series - CI_Series

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 55: Series

Purpose: To document information on the series publication or aggregate dataset of which the dataset is part.

Note: Use clause 1.2.4 to reference a parent record. Refer to NAP:ISO19115 Appendix D for clarification on the use of hierarchy levels.
<u>BP:</u> To cross-reference to a parent record, use clause 1.2.4. For clarification on the use of hierarchy levels, refer to Appendix D.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.21.1	O	5.21.1	Name	The name of the publication series or aggregate dataset of which the dataset is a part.	Free Text: (CharacterString)	<Relation-> Refinement: Is Part Of> 3.15.4
2.21.2	O	5.21.2	Issue Identification	Identification of the series' issue.	Free Text: (CharacterString)	
2.21.3	O	5.21.3	Page	Page number(s) on which the article was published.	Free Text: (CharacterString)	

2.22 Identifier - MD_Identifier

For detailed diagrams of entities, attributes and relationships please refer to: NAP:ISO19115 -> Figure 56: Identifier

Purpose: To uniquely identify an object within a namespace.

Note: The attribute Authority contains the namespace and the Code contains the ID. An example of this would be the 1:50 000 map sheet of Canada which is identified by the code "21E05". The authority for this would be "National Topographic System".

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.22.1	O	5.22.1	Authority Section	Party or organization responsible for the reference.	CI_Citation (see 2.14)	
2.22.2	M	5.22.2	Code	Code value identifying an object in the namespace.	Free Text: (CharacterString)	

2.23 OPSExtension

Purpose: To capture information on the physical location of a dataset, the intended audience of the dataset and the retention schedule identifier associated with the dataset.

M – Mandatory   **O** – Optional   **CO1** – Conditionally Mandatory where one of two or more is required   **R** – Repeatable   **C** – Conditional

GO-ITS Ref. #	M, O, CO1 R	NAP:ISO 19115 Clause Number	Element or Section Name	Component/Element or Section Description Intended Purpose	Field Definition (type, constraint, related Code Value List)	Relates to Common Metadata Element Standard GO-ITS 46
2.23.1	O	N/A	Location	The physical location of the dataset. For example: 300 Water Street., 3rd Floor North Tower, IAS Section, Cabinet 123, 2nd drawer	Free Text: (CharacterString)	<Location> 3.11
2.23.2	O	N/A	Audience	Audience to which the resource is intended and will be useful.	Refer to: http://www.tbs-sct.gc.ca/im-gi/mwg-gtm/aud-aud/docs/2003/schem/schem_e.asp for Government of Canada (GoC) Audience Scheme	<Audience> 3.1
2.23.3	O	N/A	Records Retention Schedule ID	Unique identifier used to identify the applicable records retention schedule.	Free Text: (CharacterString) Guidance on records retention schedules is available at: http://www.archives.gov.on.ca/english/rimdocs/guidlist.htm	<Records Retention Schedule ID> 3.14

3. Related Standards

3.1 Impacts to Existing Environment

Impacted Infrastructure (includes Common Components and other applications)	Describe Impact	Recommended Action (alternatively provide a page number where details can be found)
Ontario Land Information Directory (OLID)	OLID is based on the GO-ITS 72 (1996) which had substantially fewer elements to offer than the revised standard (2007). There is no impact on the existing application as the implementation of the standard in applications is out of scope. However, a recommendation has still been offered.	Development of a new tool or an upgrade to the existing tool to comply with the revised standard.
ESRI ArcCatalog	ArcCatalog is a component of ArcGIS. It can be used to capture metadata. This is third-party software which provides support for NAP:ISO19115 and ISO 19115 metadata standards although it has been customized to include ESRI elements. This tool does not validate the contents of a metadata record to ensure that mandatory elements have been satisfied. This type of validation must be done outside of the tool.	As the ArcCatalog software does not enforce mandatory elements as described in the revised GO-ITS 72, it is not recommended that the tool be used to house metadata. However, the tool could be used as an interim repository and then the XML imported to a corporate repository and be validated.

4. Contact Information

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5. Acknowledgements

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7. Copyright Information

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Appendix A: References

1. Normative References

North American Profile of ISO 19115:2003 - Draft NAP:ISO 19115

Government of Ontario Information Technology Standard (GO-ITS) 46 – Common Metadata Elements Standard Version 1

2. Informative References

Canadian General Standards Board - http://www.pwgsc.gc.ca/cgsb/home/index-e.html
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Archives of Ontario - http://www.archives.gov.on.ca/

Freedom of Information and Protection of Privacy Act (FIPPA) - http://www.accessandprivacy.gov.on.ca/english/act/index.html

Federal Geographic Data Committee - http://www.fgdc.gov/

Open Geospatial Consortium - http://www.opengeospatial.org/