All Fields marked with * are mandatory.

Change Request #:	**282**
Assigned OGC Document #:	**13-028**
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Document Name/Version:	*City Geography Markup Language (CityGML) Encoding Standard / 2.0
OGC Project Document:	*12-019

If this is a revision of a previous submission and you have a Change Request Number, then check here: ☐

Enter the CR number here: [ ]

Enter the Revsion Number that you are revising here: [ ]

Title:	* [CityGML SWG] Enforce LOD1 and LOD2 buildings to be Solid
Source:	*Geonovum
Work item code:	
Category:	* C (Functional modification of feature)

Reason for change:	* Enforce LOD1 and LOD2 buildings to be Solid
Summary of change:	* All the surfaces of a LOD1 and a LOD2 building should form one or more closed volumes together, represented by the GML type Solid, even if CityGML permits buildings to be modelled with the Multisurface type. This is because a solid is the only way a building can be represented as a volume. A LOD1 building (Building or BuildingPart) can only be represented with a solid. A LOD2 building can be represented by a mixture of a solid and other geometry types such as a multisurface for a roof overhang and a curve for an antenna.

	Clarification: A GML:Solid is a composition surface which is again modelled as a collection of adjoining surfaces. Taking delivery of a file made up of solids, therefore, does not mean that individual surfaces can no longer be accessed as these have been modelled as a part of the solid geometry in LOD2. Being able to access individual surfaces can be particularly useful for visualisation purposes, for example in order to give a roof another texture or colour. By contrast, if the LOD1 and LOD2 representations have been modelled as multisurfaces, then there is no topological connection between the surfaces and the solid is also not explicit. If the surfaces of a multisurface geometry form a closed entity/whole, however, then a solid (a composite surface) can be formed. A multi surface is not invariably closed, which is why we recommend that the file be taken delivery of as solid geometry.
Consequences if not approved: 🔵	No validation is possible on volumes.
Clauses affected: 🔵	* LODX Buildings
Additional Documents affected: 🔵	
Supporting Documentation: 🔵	
Comments: 🔵	
Status: 🔵	Assigned ⇕
Assigned To: 🔵	CityGML SWG ⇕
Disposition: 🔵	Referred ⇕