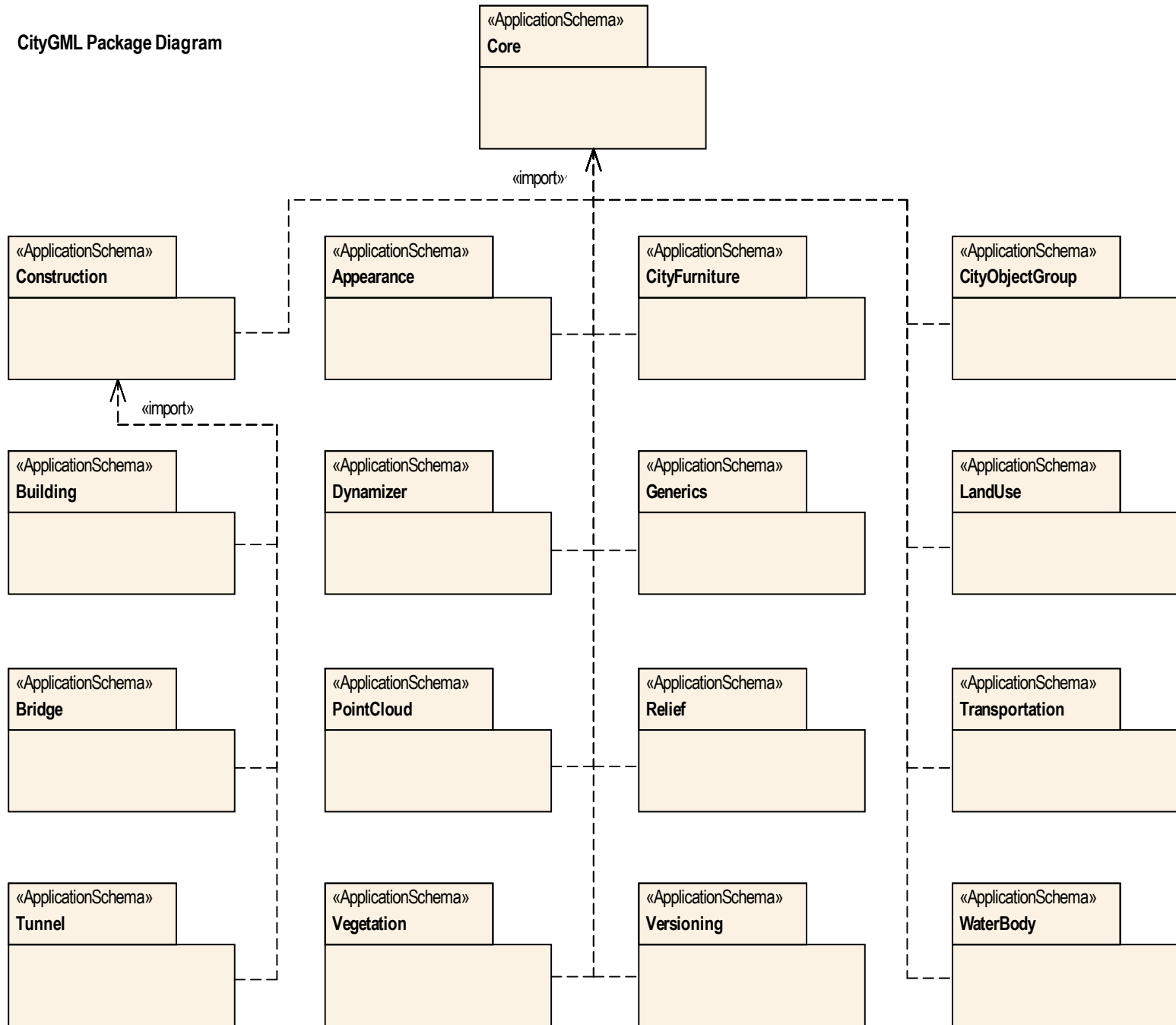
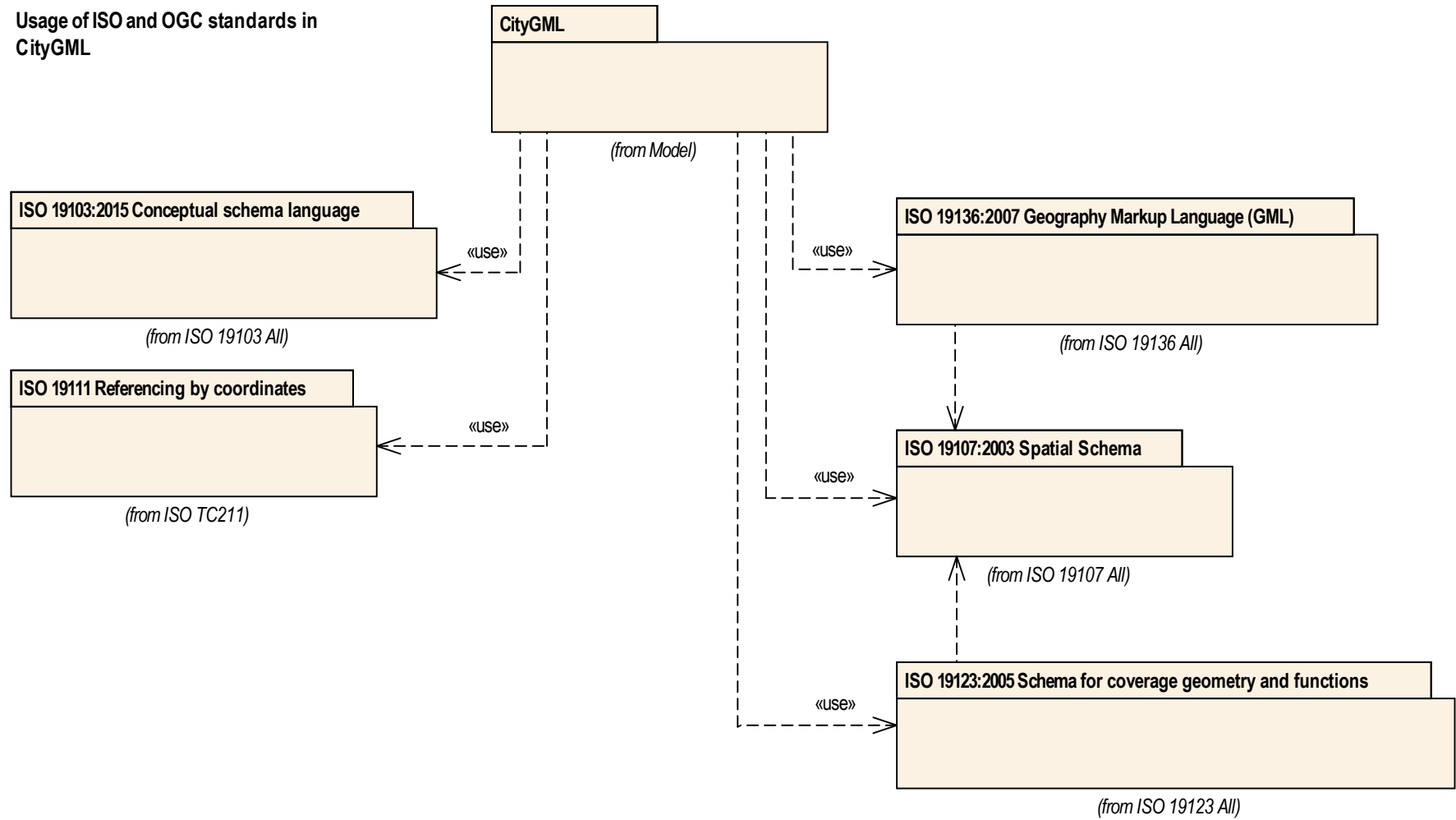
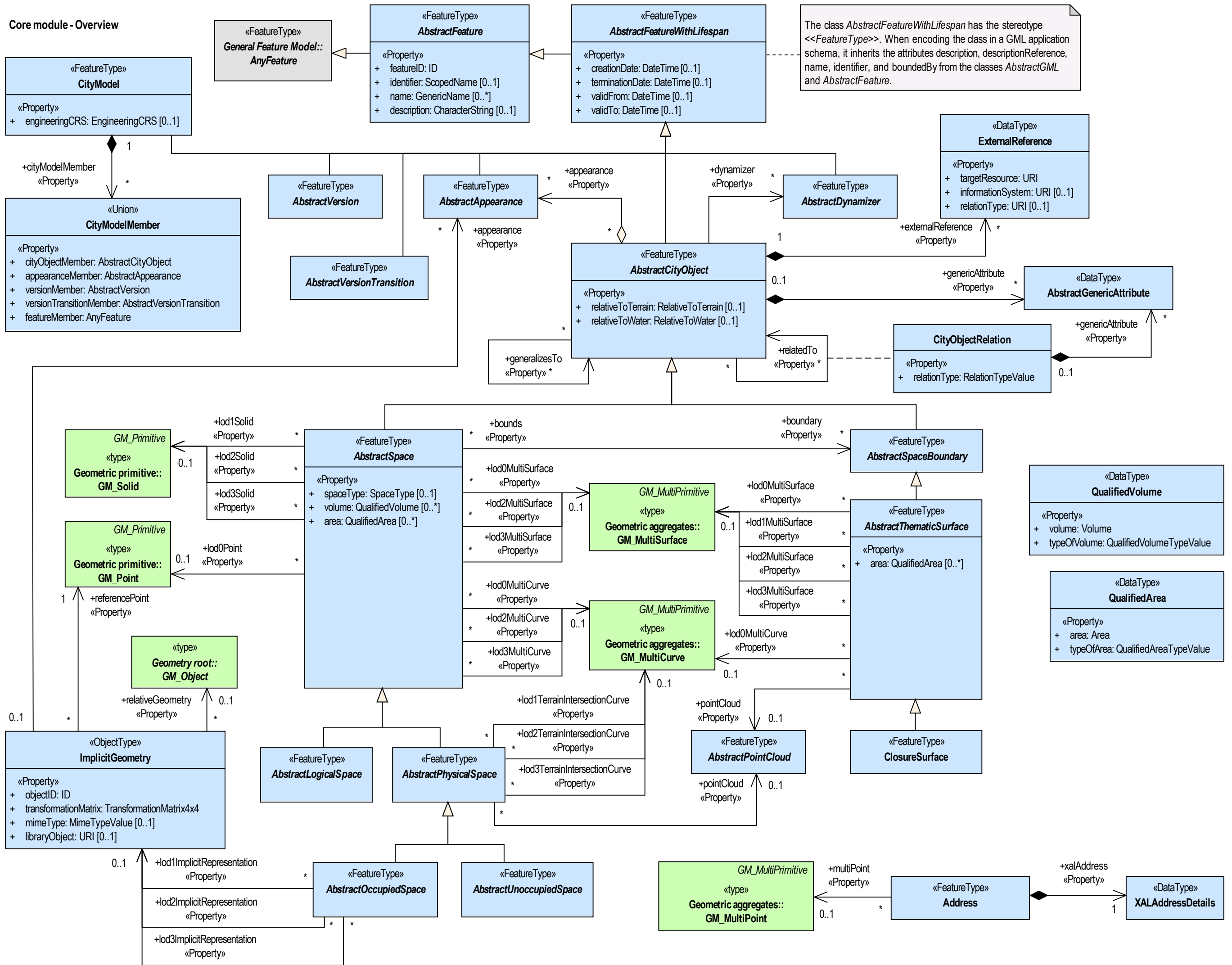


CityGML Package Diagram

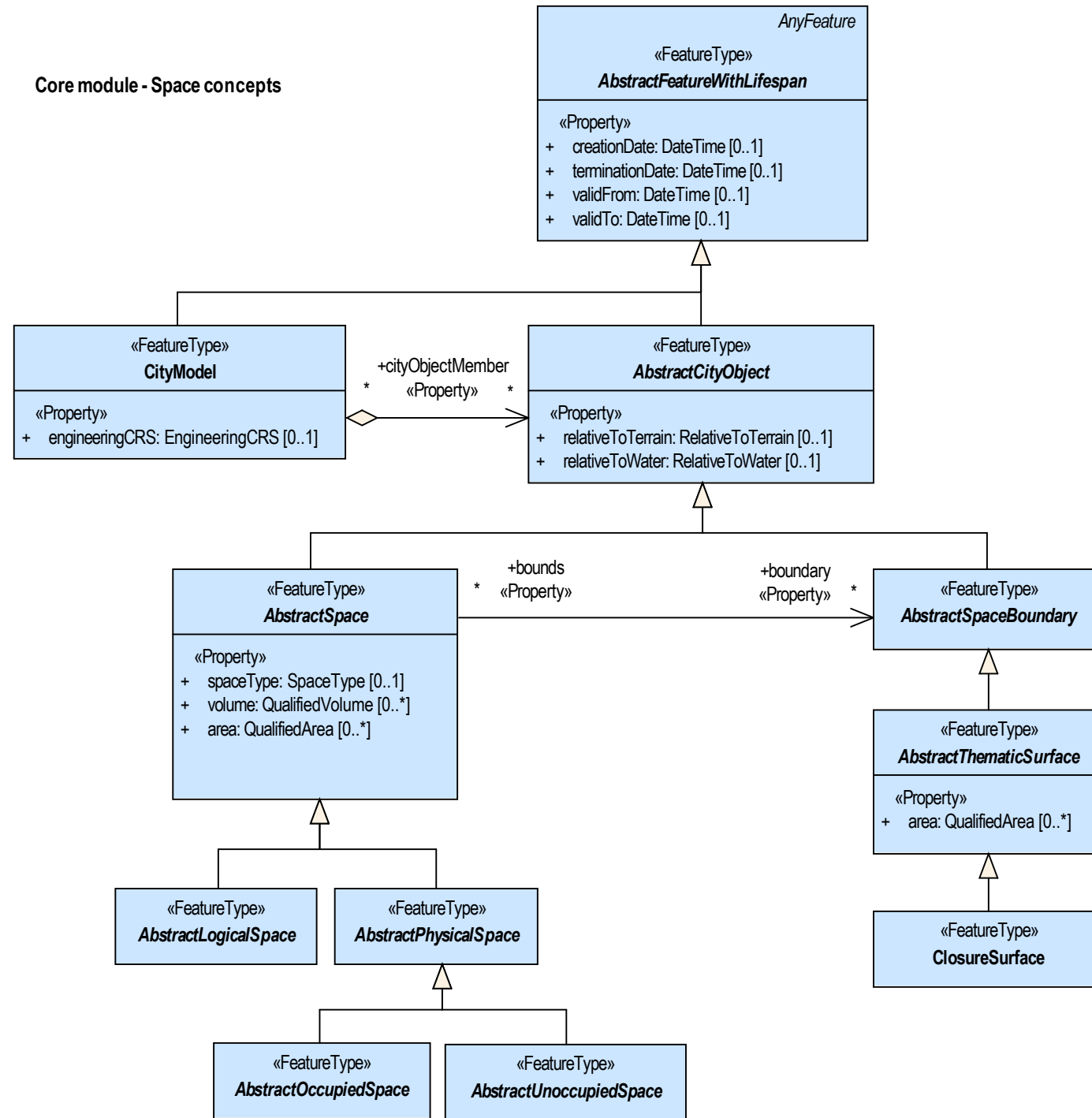


Usage of ISO and OGC standards in CityGML

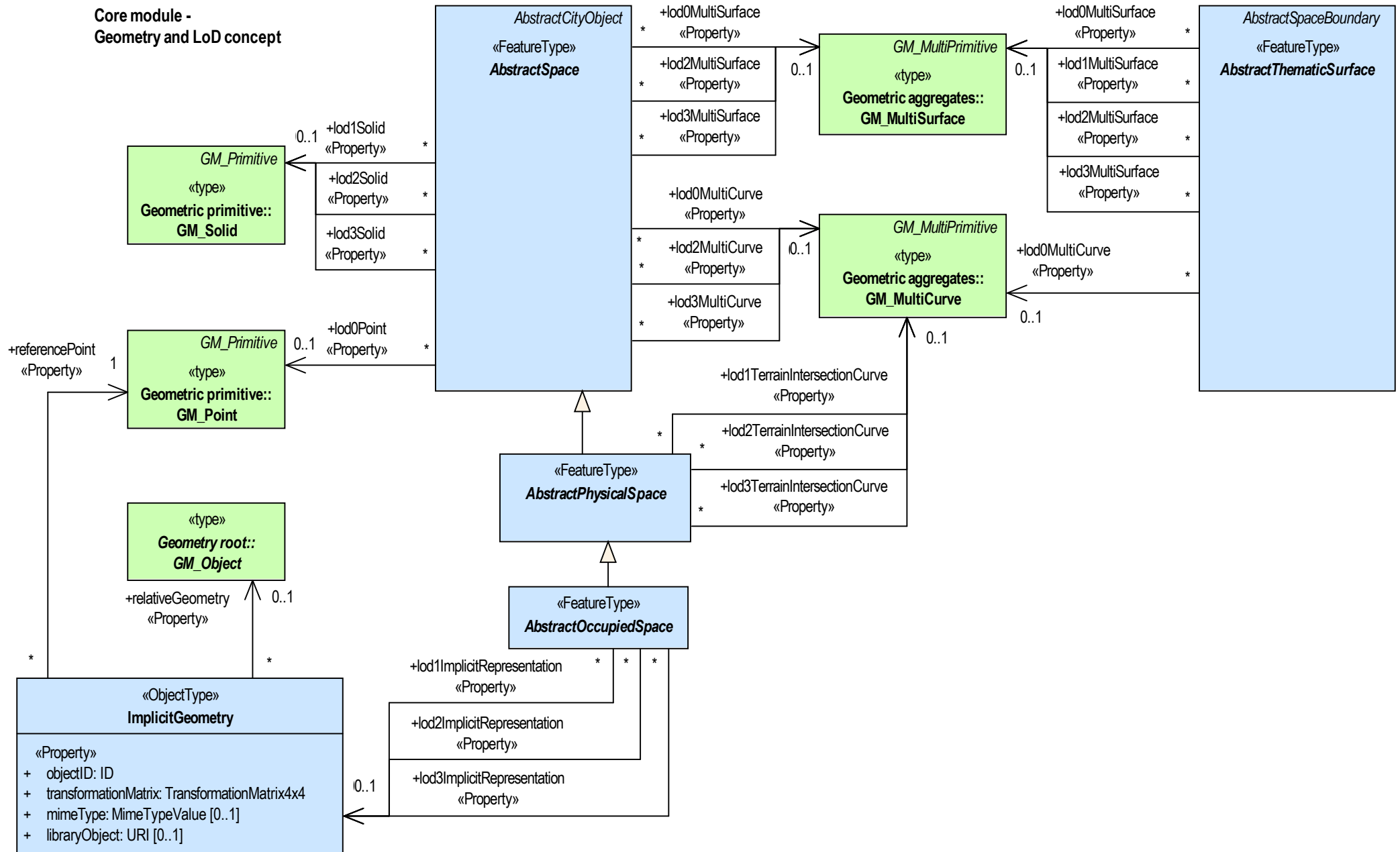




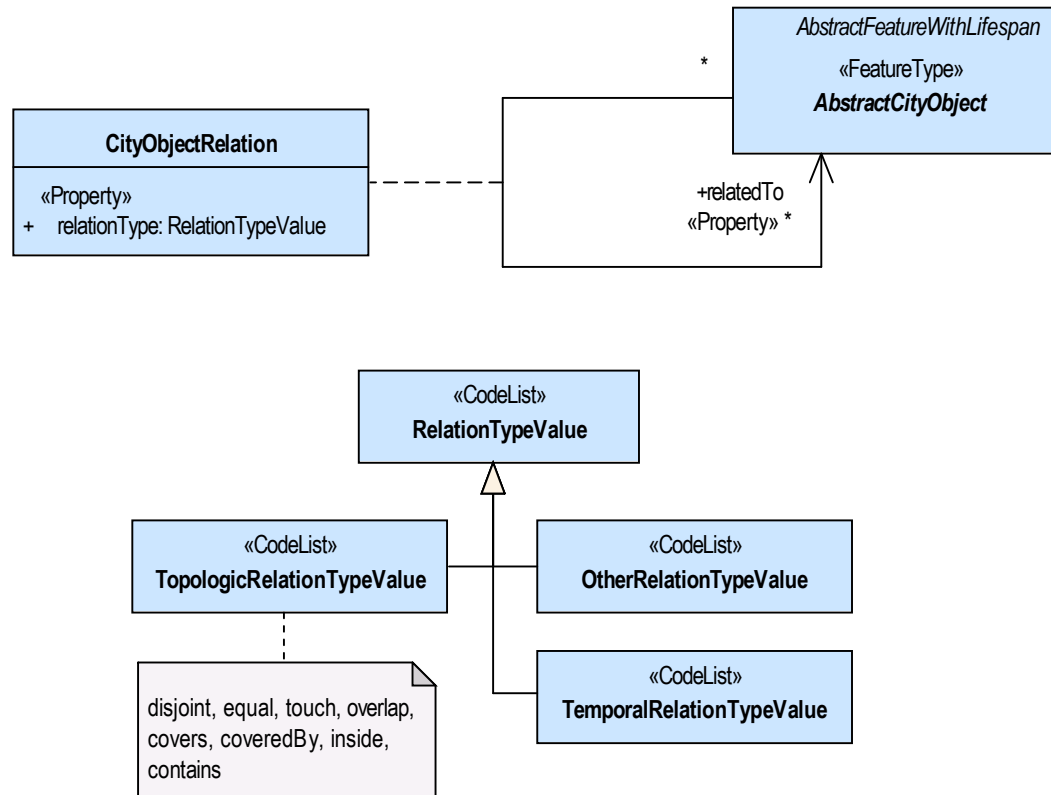
Core module - Space concepts



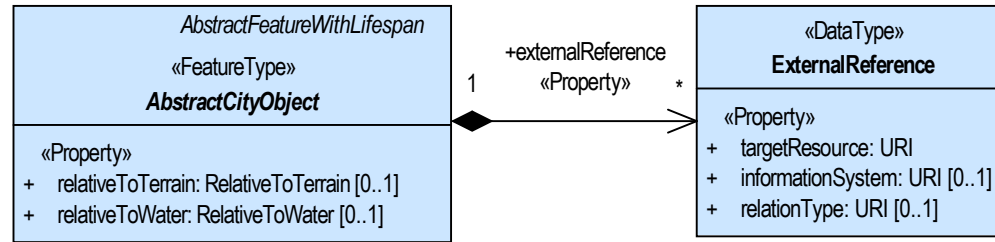
Core module - Geometry and LoD concept



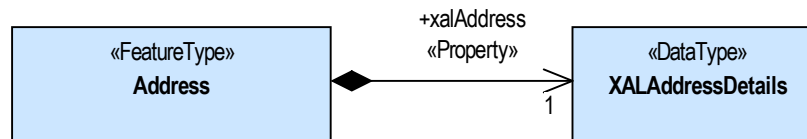
Core module - City object relations



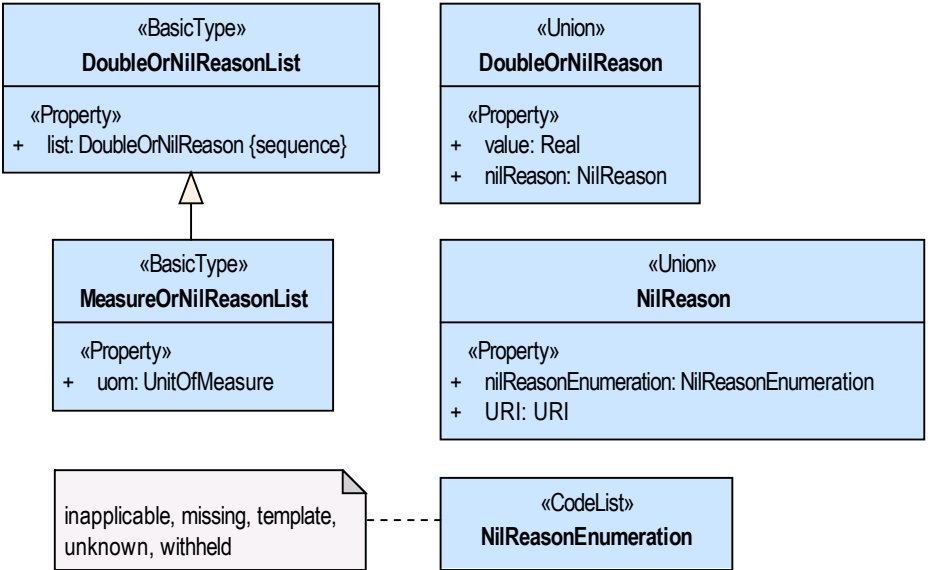
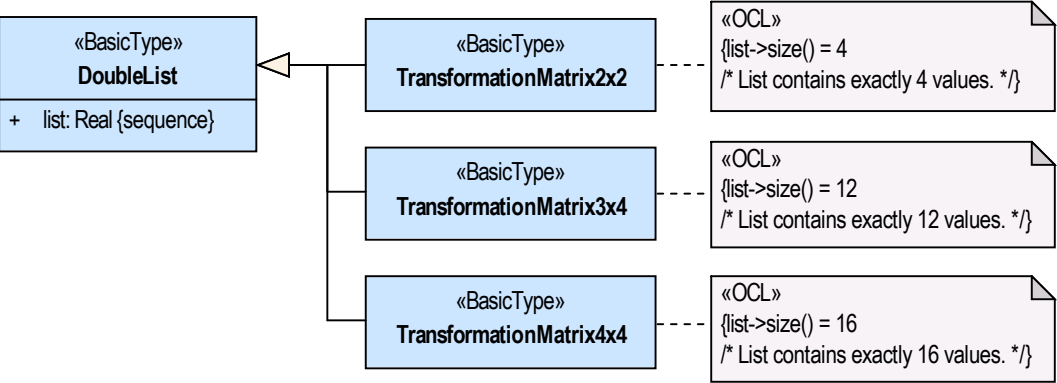
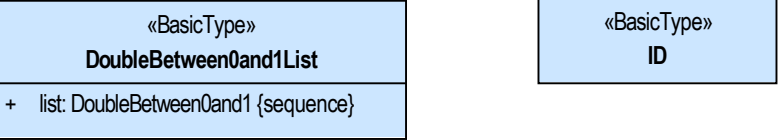
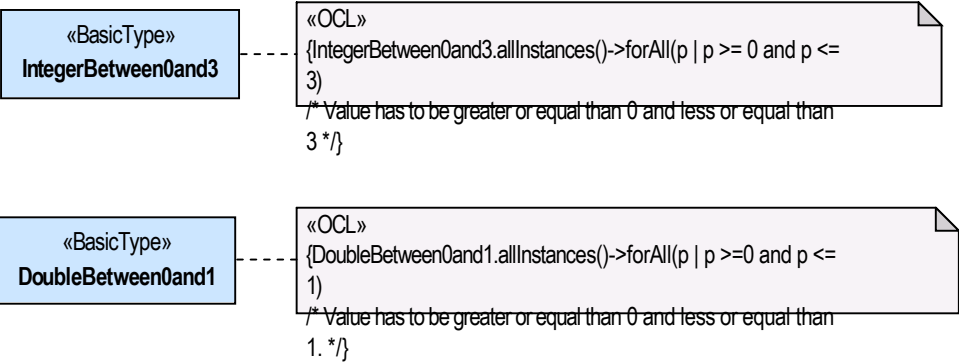
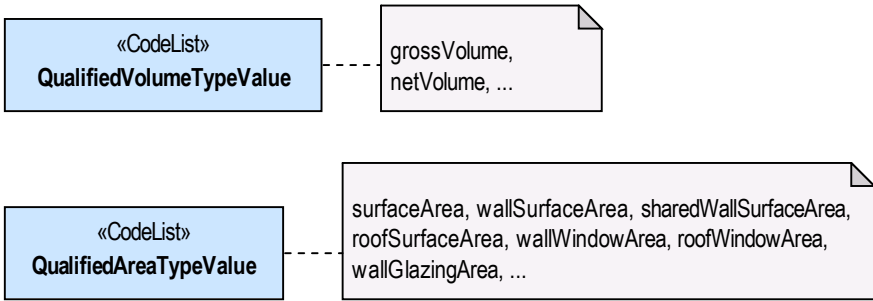
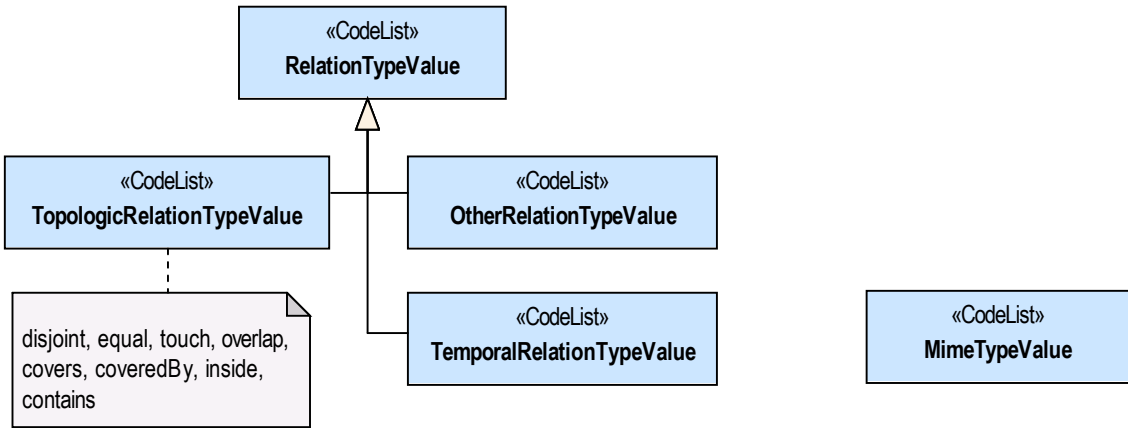
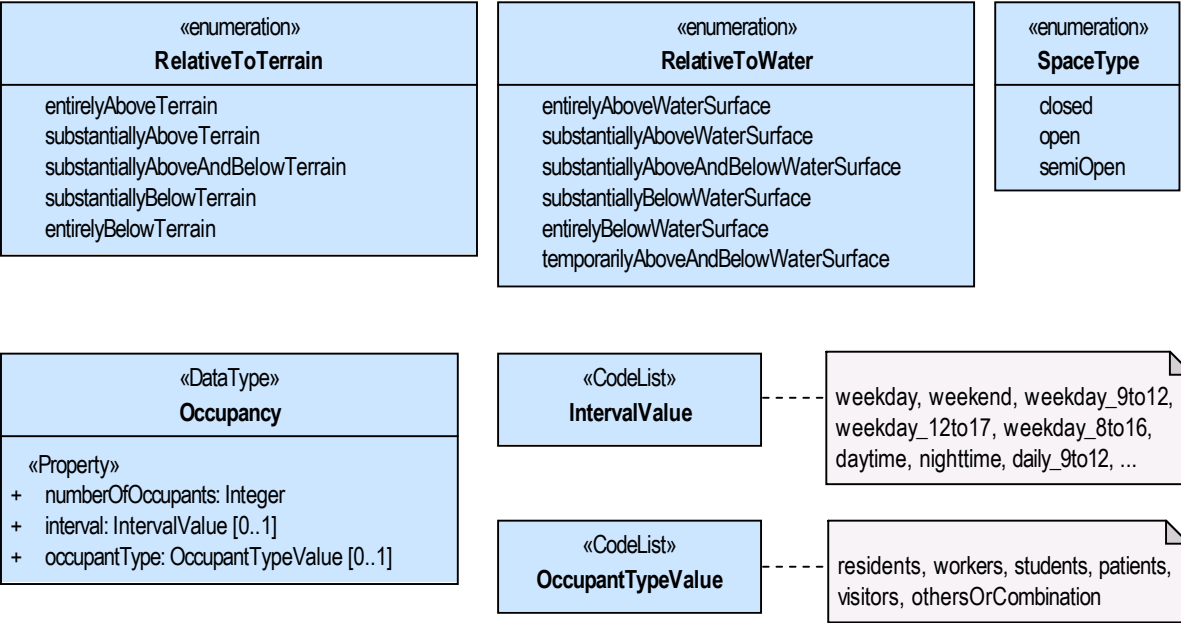
Core module - Miscellaneous

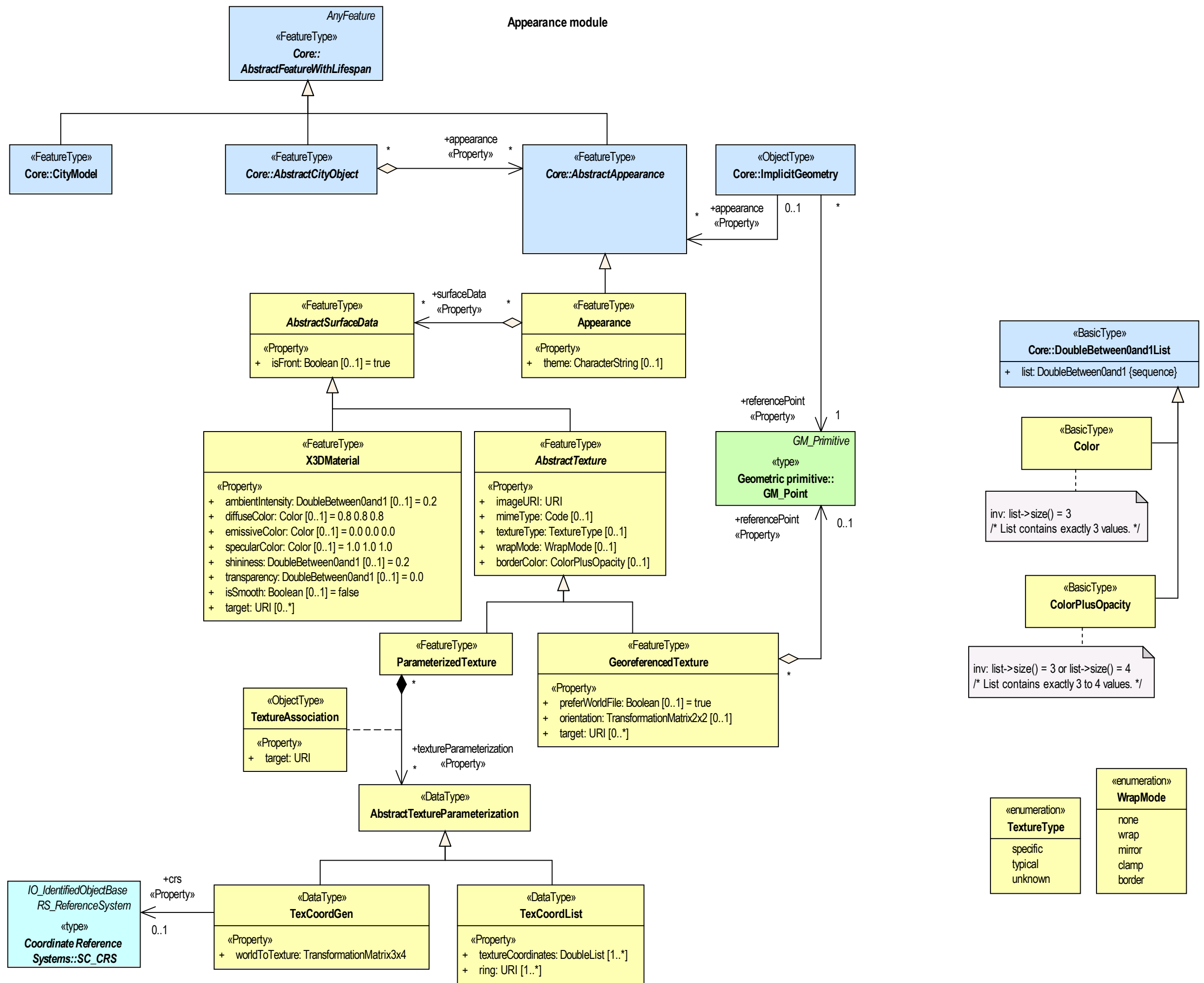


ExternalReference is now extended by an optional **relation Type** which can link to some external definition of the type of relation (e.g. the *sameAs* relation from OWL). Hence, **ExternalReferences** can now be used to express relations similar to RDF.

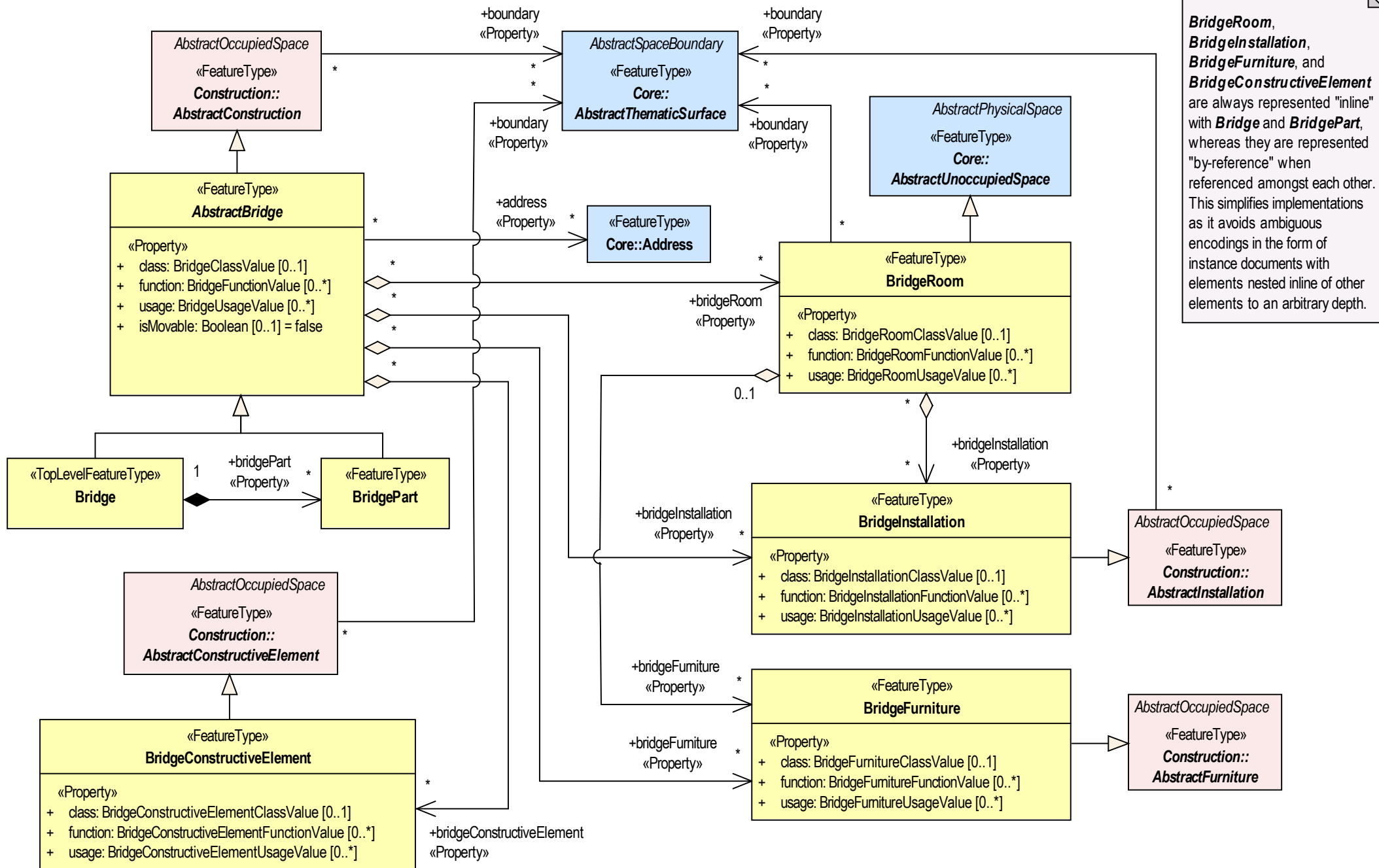


Core module - Basic Types, Enumerations, and Code lists

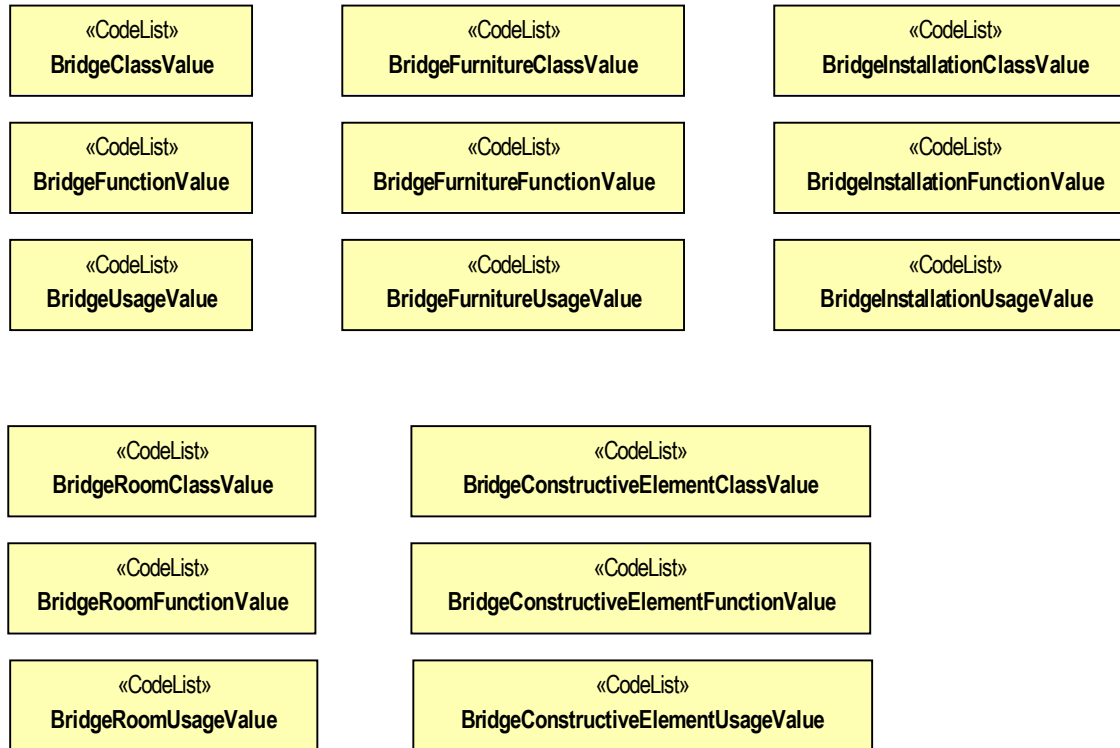




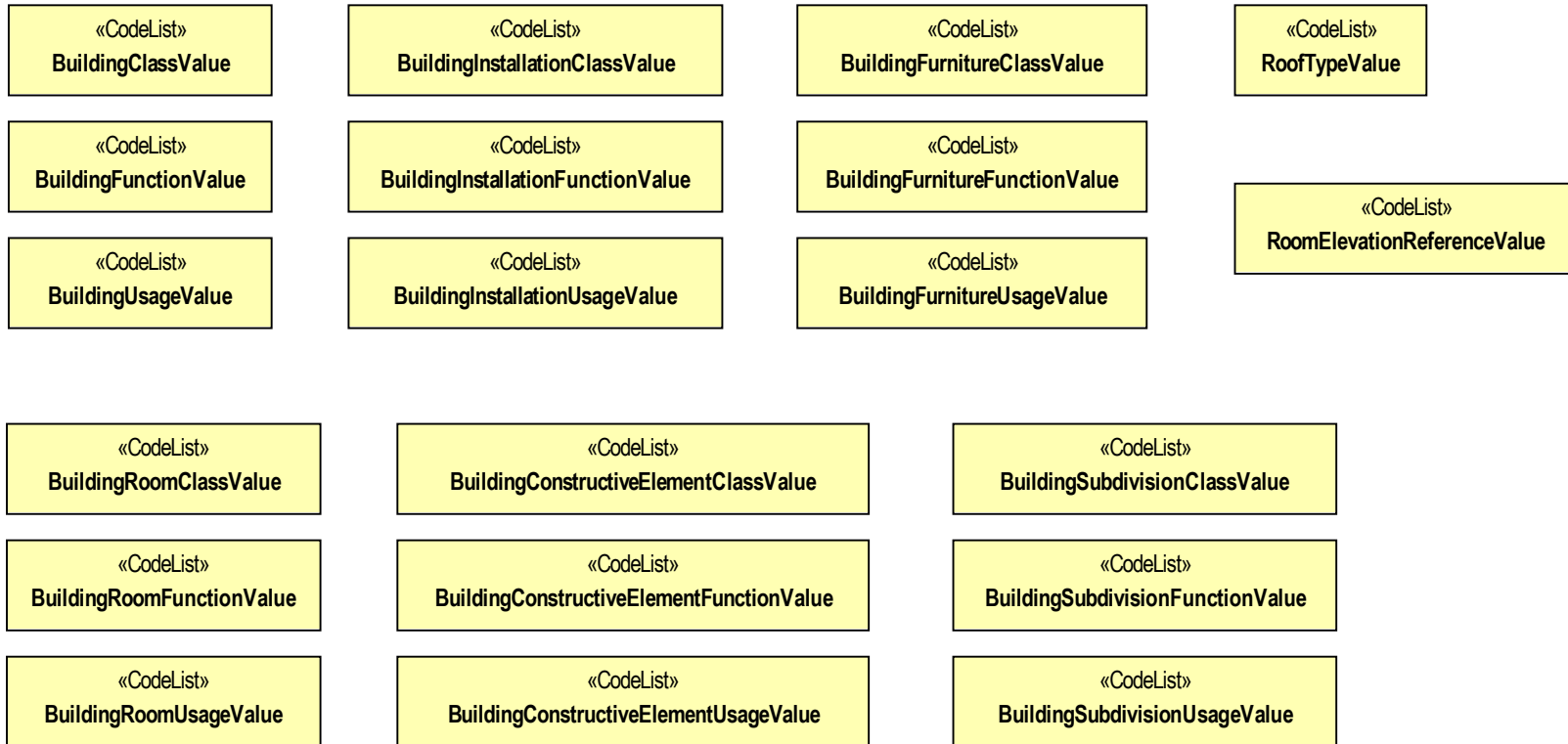
Bridge module



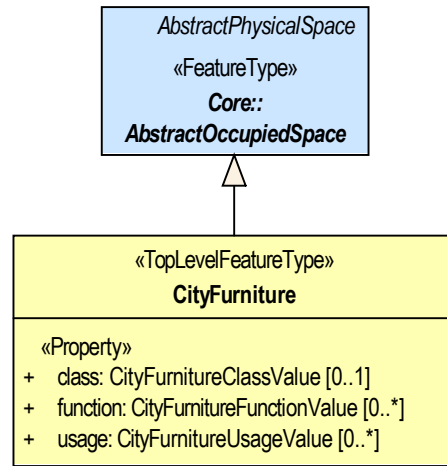
Bridge module - Code lists



Building module - Code lists



CityFurniture module



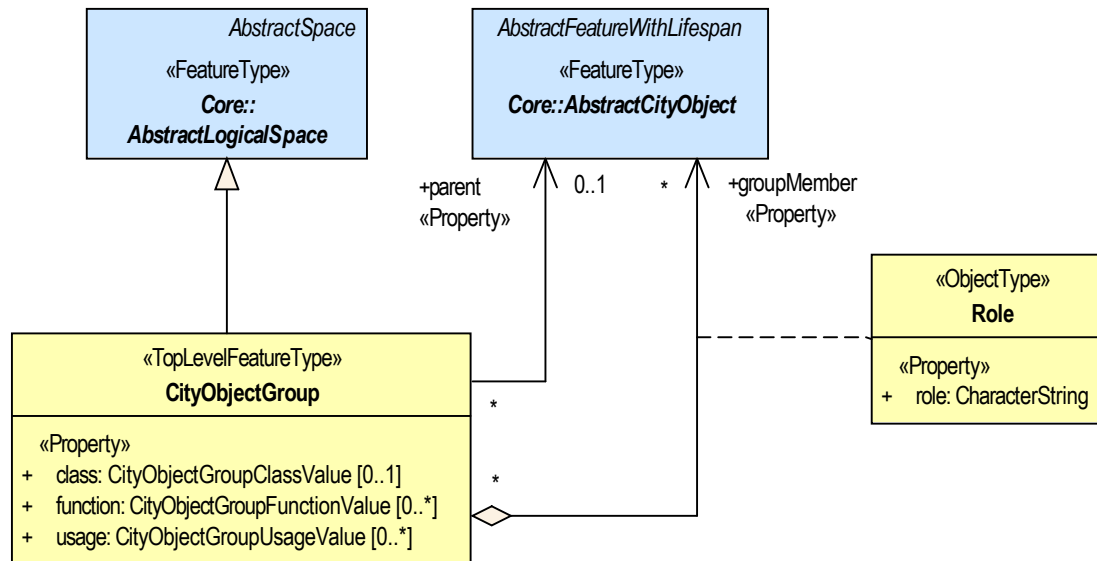
CityFurniture module - Code lists

«CodeList»
CityFurnitureClassValue

«CodeList»
CityFurnitureFunctionValue

«CodeList»
CityFurnitureUsageValue

CityObjectGroup module



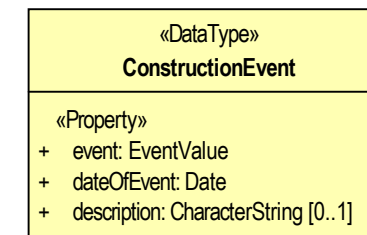
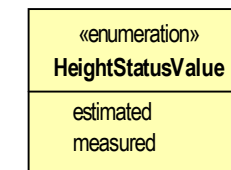
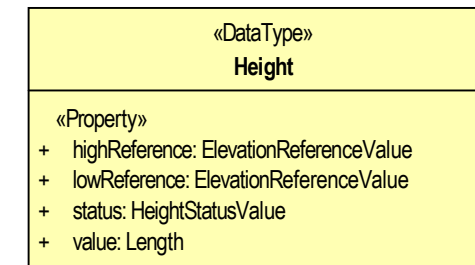
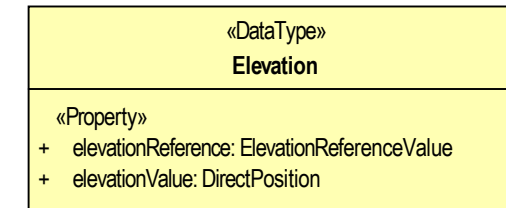
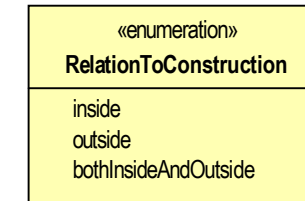
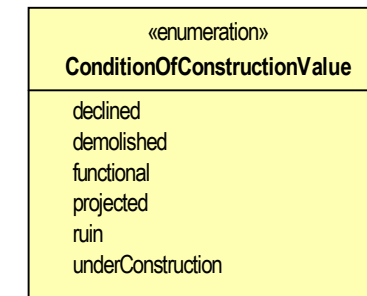
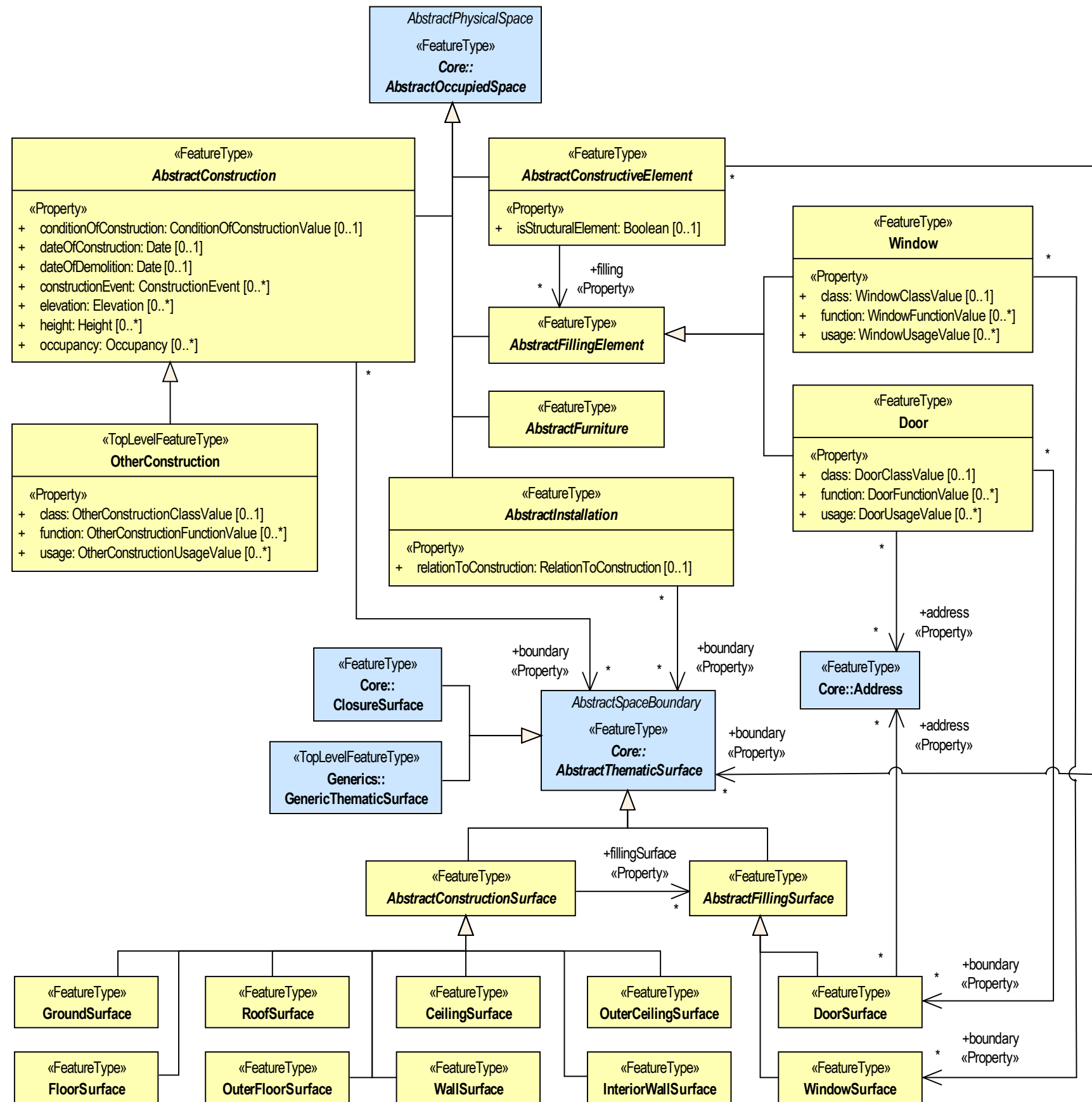
CityObjectGroup module - Code lists

«CodeList»
CityObjectGroupClassValue

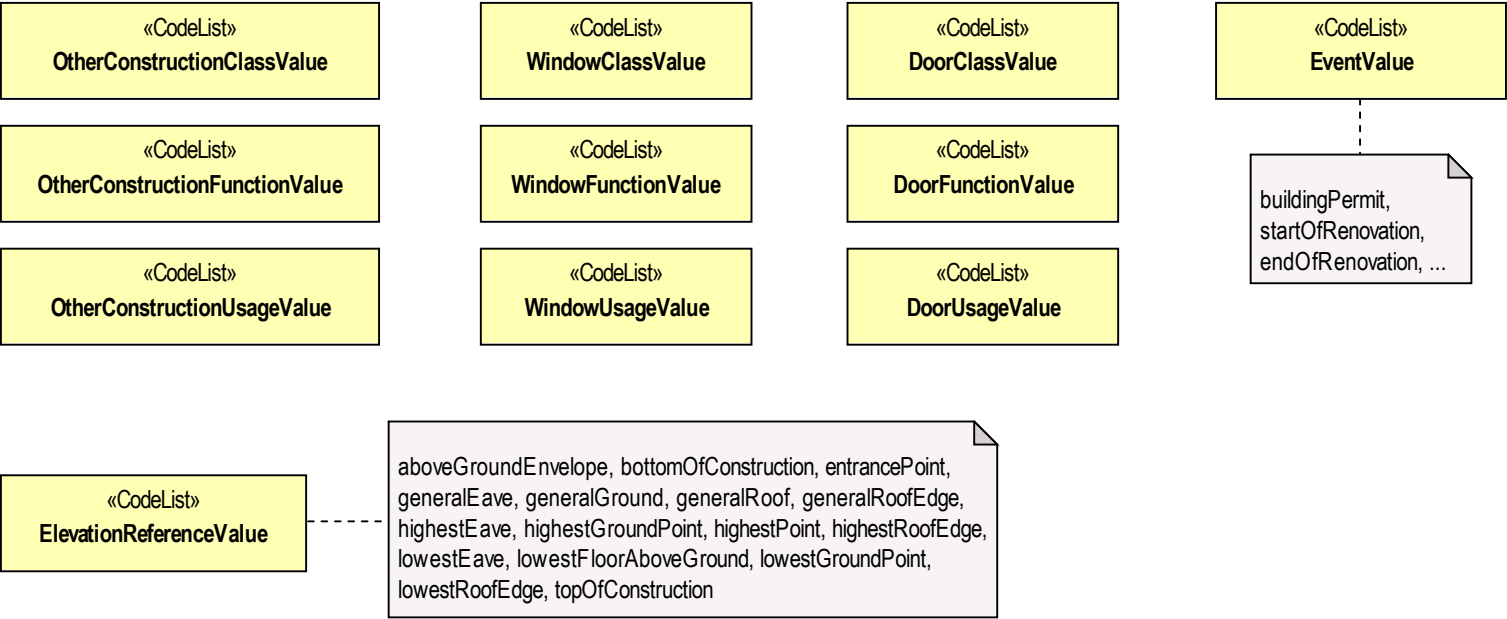
«CodeList»
CityObjectGroupFunctionValue

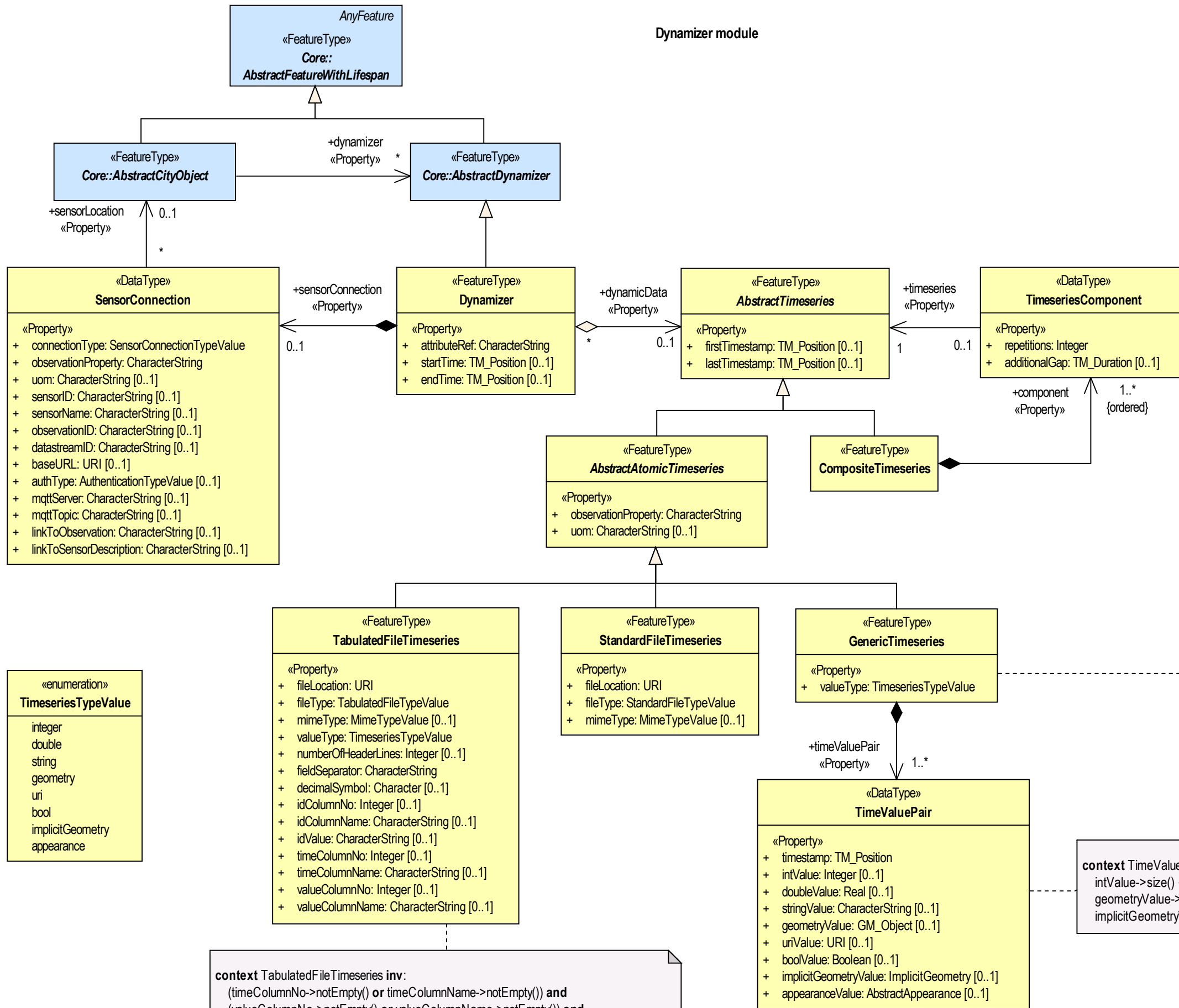
«CodeList»
CityObjectGroupUsageValue

Construction module



Construction module - Code lists



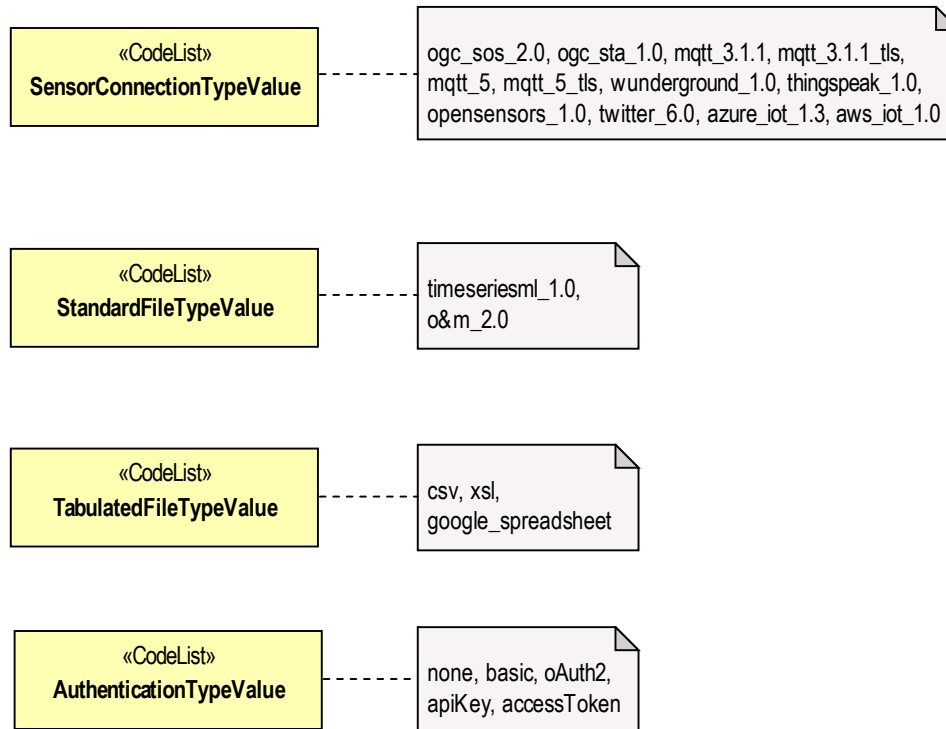


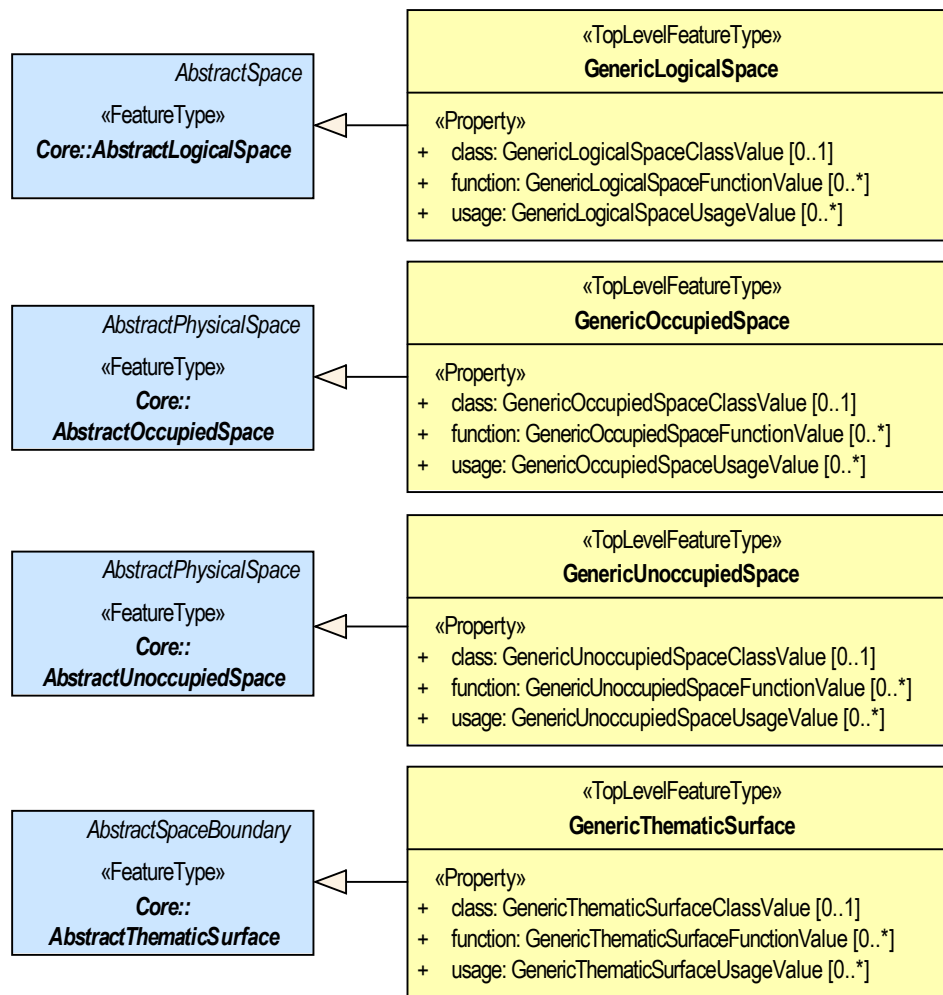
context GenericTimeseries **inv:**
 if valueType = TimeseriesTypeValue::integer then
 TimeValuePair->forAll(c|c.intValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::double then
 TimeValuePair->forAll(c|c.doubleValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::string then
 TimeValuePair->forAll(c|c.stringValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::geometry then
 TimeValuePair->forAll(c|c.geometryValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::uri then
 TimeValuePair->forAll(c|c.uriValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::bool then
 TimeValuePair->forAll(c|c.boolValue->size()=1)
 else
 if valueType = TimeseriesTypeValue::implicitGeometry then
 TimeValuePair->forAll(c|c.implicitGeometryValue->size()=1)
 else
 TimeValuePair->forAll(c|c.appearanceValue->size()=1)
 endif
 endif
 endif
 endif
 endif
 endif
 endif
endif

context TimeValuePair **inv:**
 intValue->size() + doubleValue->size() + stringValue->size() +
 geometryValue->size() + uriValue->size() + boolValue->size() +
 implicitGeometryValue->size() + appearanceValue->size() = 1

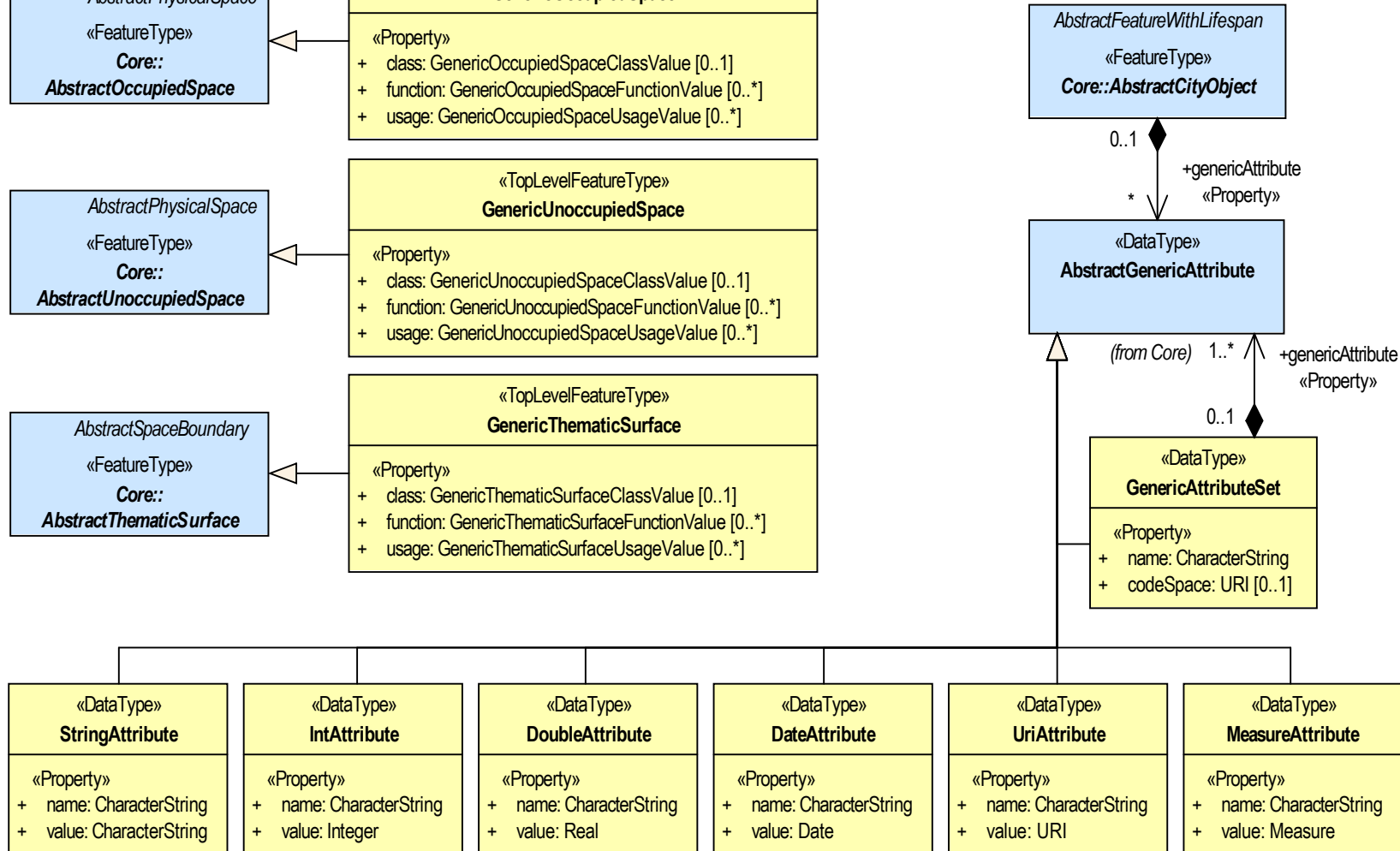
context TabulatedFileTimeseries **inv:**
 (timeColumnNo->notEmpty() or timeColumnName->notEmpty()) and
 (valueColumnNo->notEmpty() or valueColumnName->notEmpty()) and
 (idValue->notEmpty() implies idColumnNo->notEmpty() or idColumnName->notEmpty())

Dynamizer module - Code lists





Generics module



Generics module - Code lists

«CodeList»
GenericLogicalSpaceClassValue

«CodeList»
GenericOccupiedSpaceClassValue

«CodeList»
GenericUnoccupiedSpaceClassValue

«CodeList»
GenericThematicSurfaceClassValue

«CodeList»
GenericLogicalSpaceFunctionValue

«CodeList»
GenericOccupiedSpaceFunctionValue

«CodeList»
GenericUnoccupiedSpaceFunctionValue

«CodeList»
GenericThematicSurfaceFunctionValue

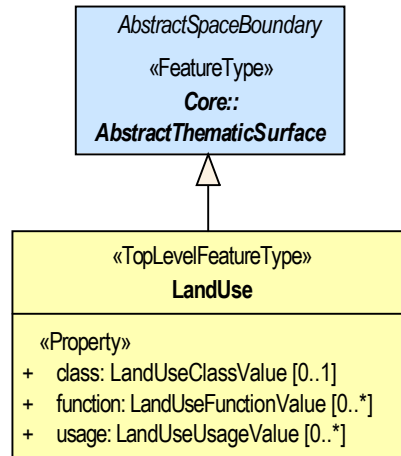
«CodeList»
GenericLogicalSpaceUsageValue

«CodeList»
GenericOccupiedSpaceUsageValue

«CodeList»
GenericUnoccupiedSpaceUsageValue

«CodeList»
GenericThematicSurfaceUsageValue

LandUse module



LandUse module - Code lists

«CodeList»

LandUseClassValue

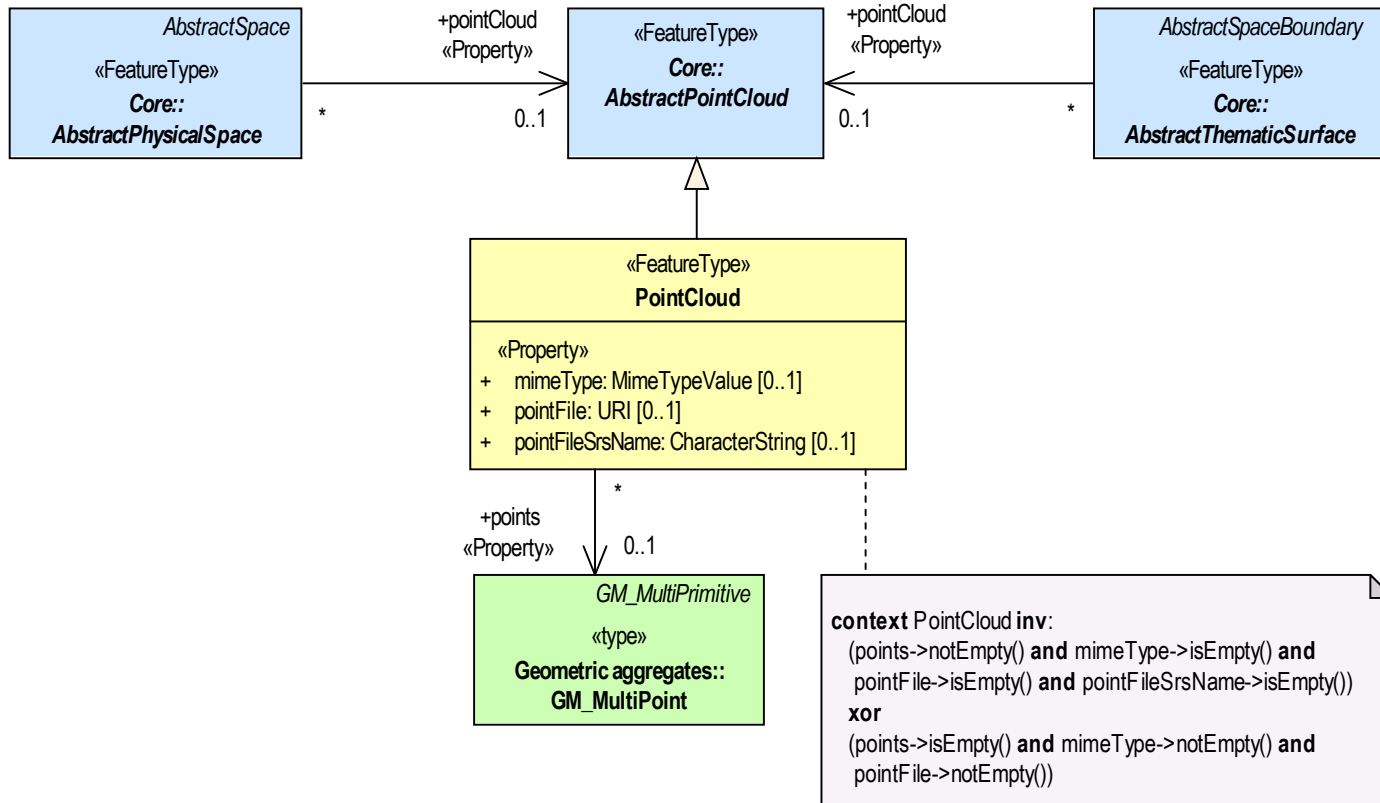
«CodeList»

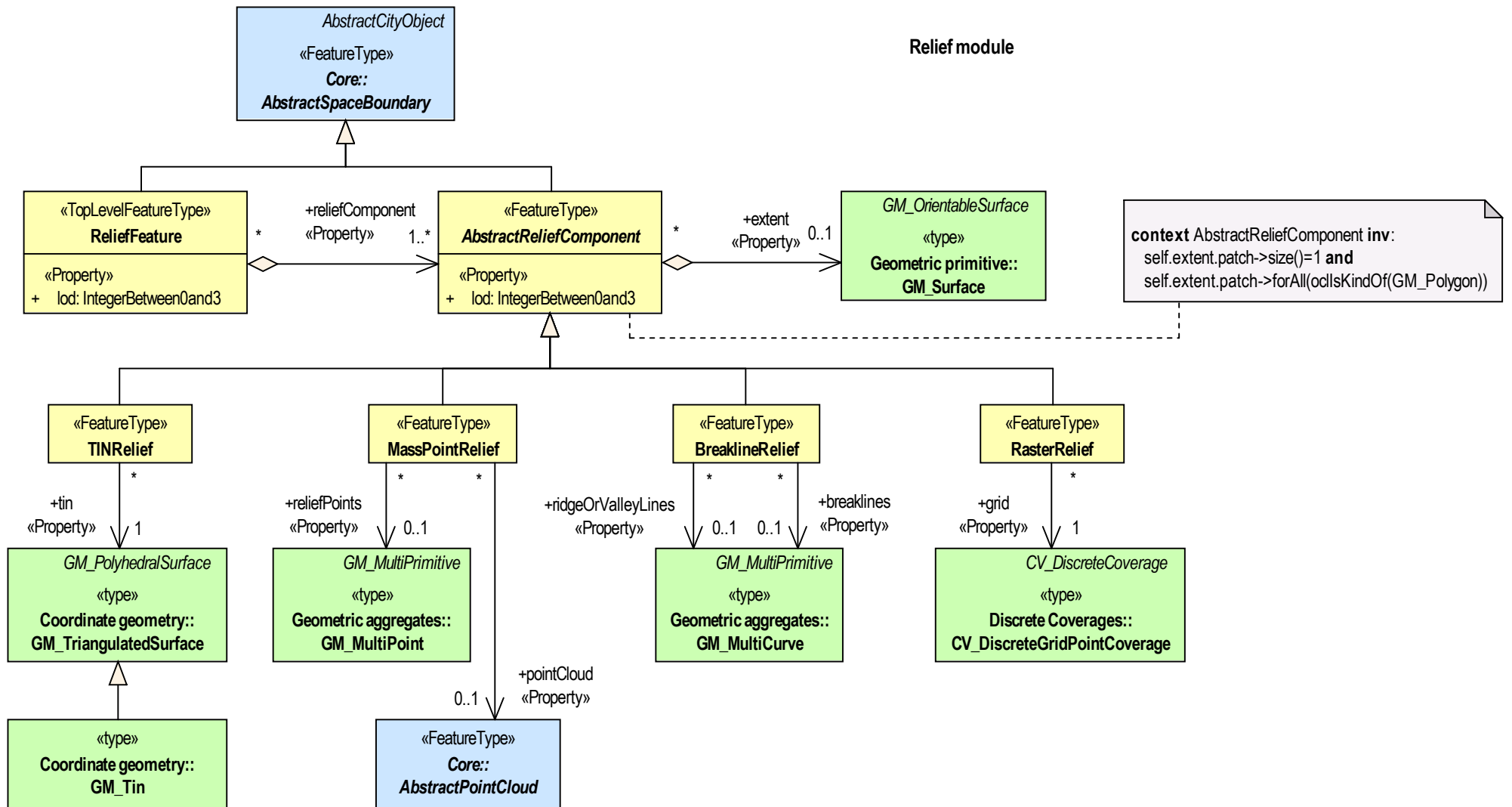
LandUseFunctionValue

«CodeList»

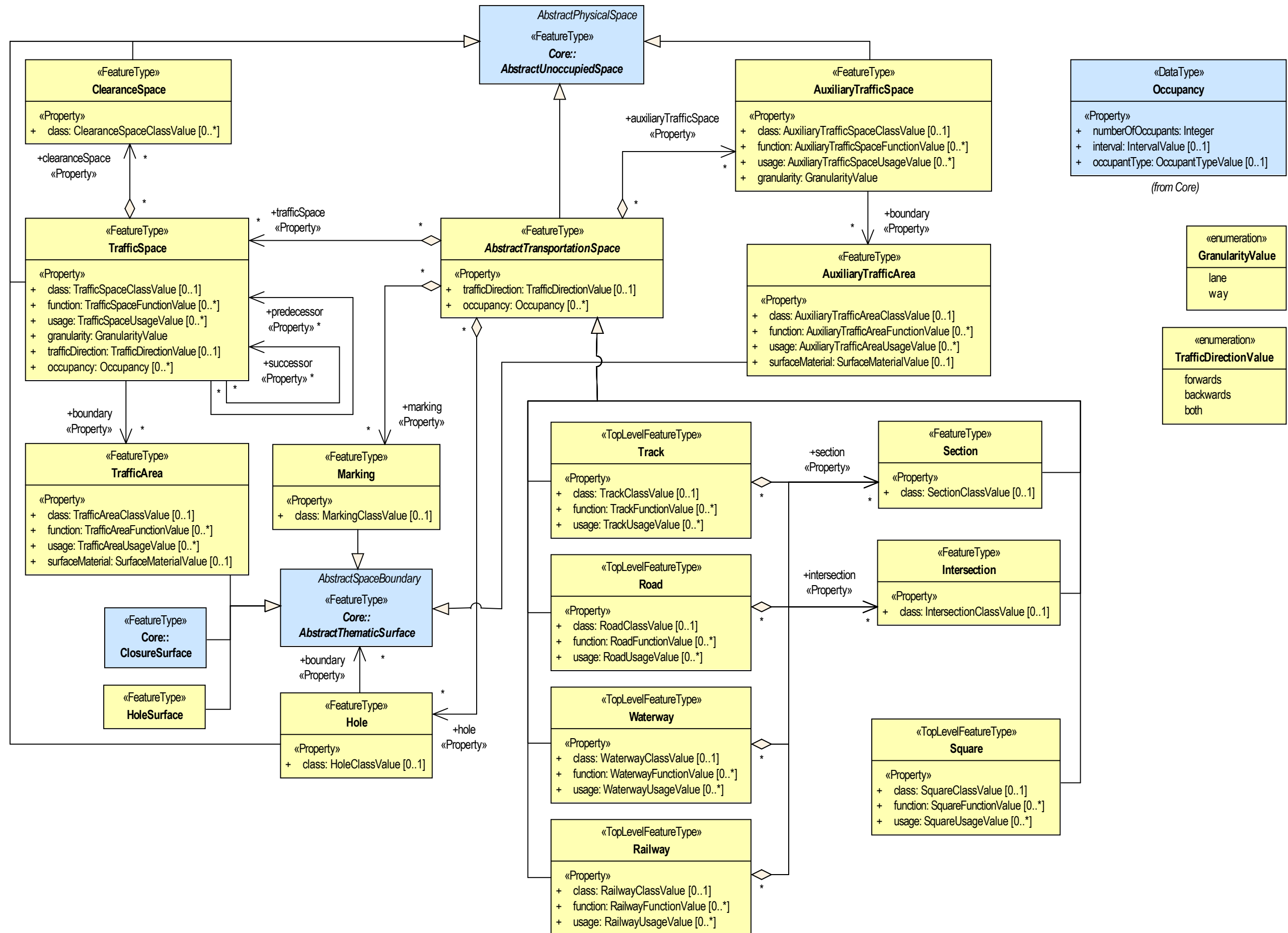
LandUseUsageValue

PointCloud module

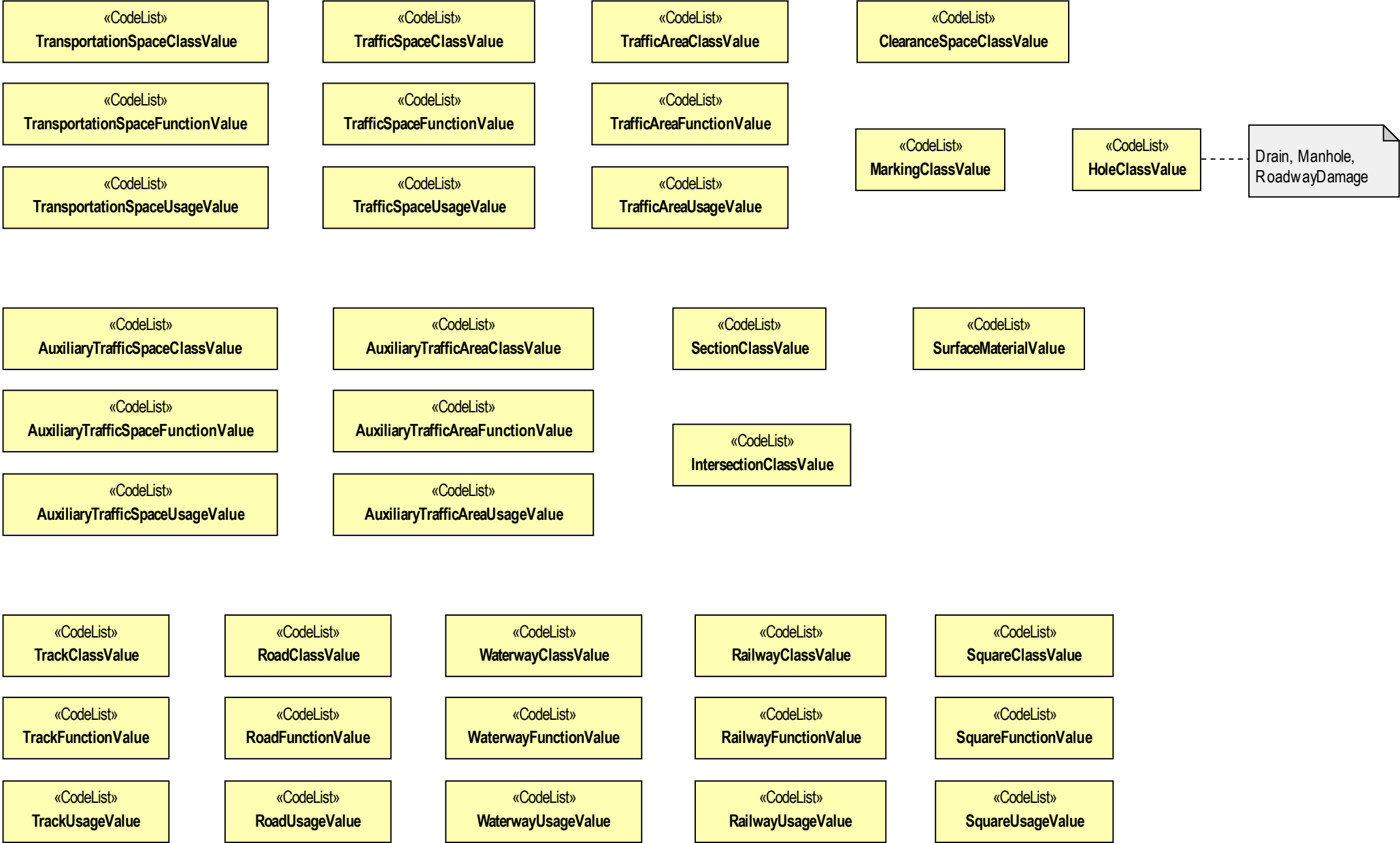




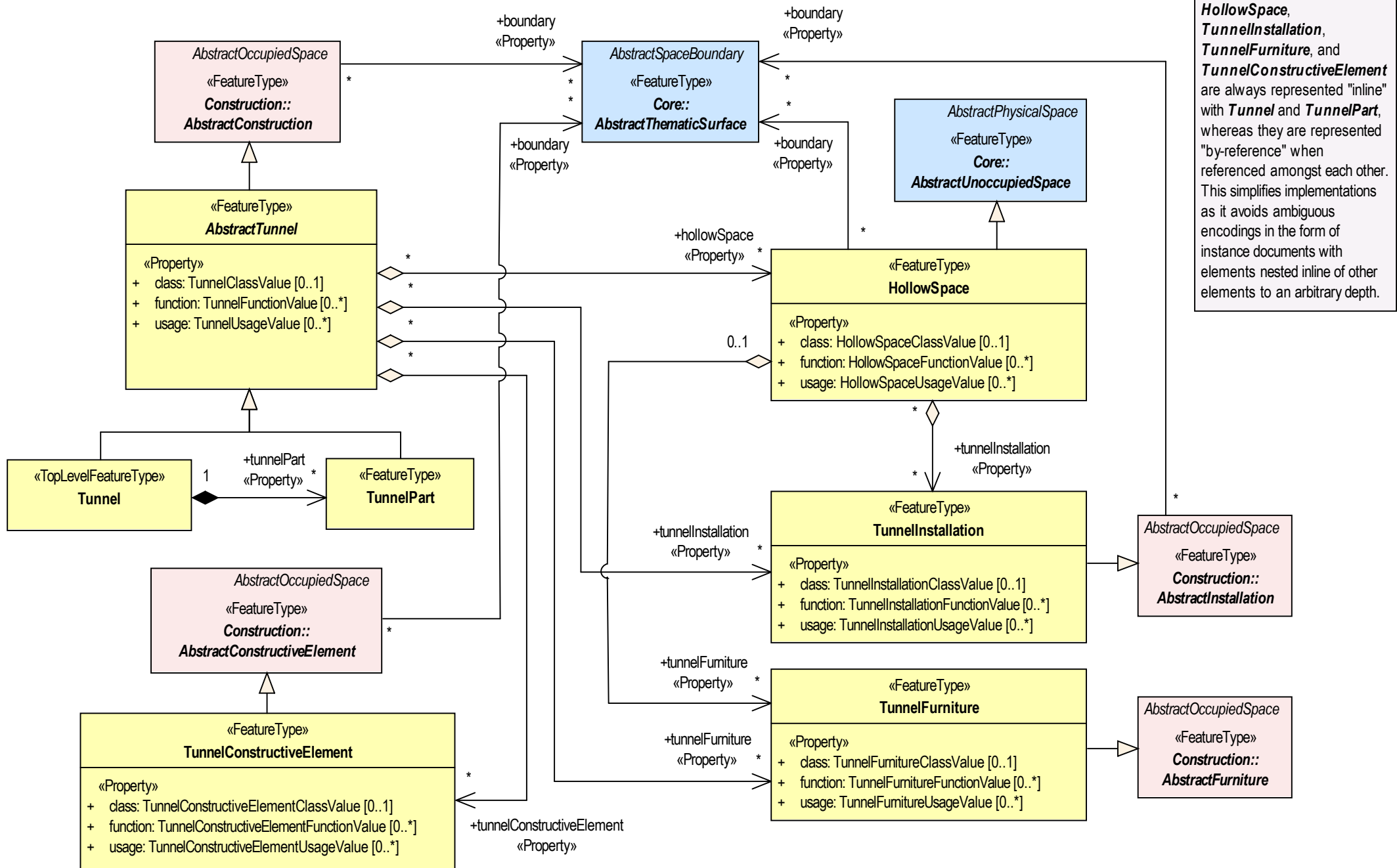
Transportation module



Transportation module - Code lists



Tunnel module



Tunnel module - Code lists

«CodeList»
TunnelClassValue

«CodeList»
TunnelInstallationClassValue

«CodeList»
TunnelFurnitureClassValue

«CodeList»
TunnelFunctionValue

«CodeList»
TunnelInstallationFunctionValue

«CodeList»
TunnelFurnitureFunctionValue

«CodeList»
TunnelUsageValue

«CodeList»
TunnelInstallationUsageValue

«CodeList»
TunnelFurnitureUsageValue

«CodeList»
HollowSpaceClassValue

«CodeList»
TunnelConstructiveElementClassValue

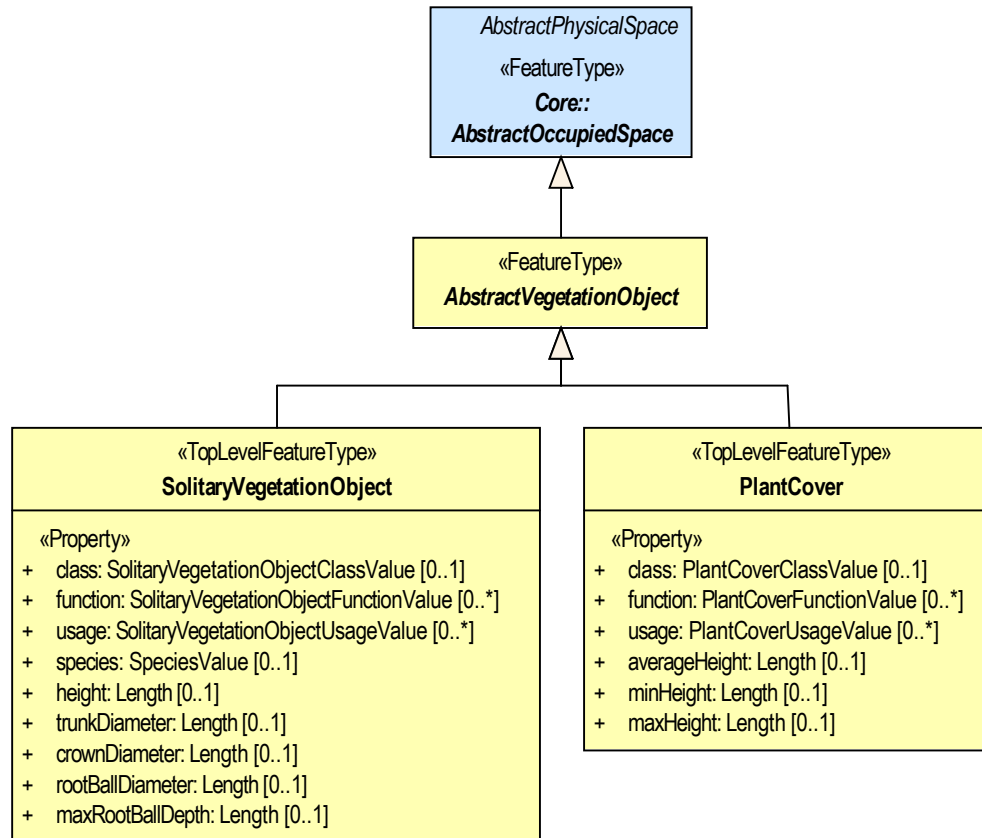
«CodeList»
HollowSpaceFunctionValue

«CodeList»
TunnelConstructiveElementFunctionValue

«CodeList»
HollowSpaceUsageValue

«CodeList»
TunnelConstructiveElementUsageValue

Vegetation module



Vegetation module - Code lists

«CodeList»
SolitaryVegetationObjectClassValue

«CodeList»
SolitaryVegetationObjectFunctionValue

«CodeList»
SolitaryVegetationObjectUsageValue

«CodeList»
PlantCoverClassValue

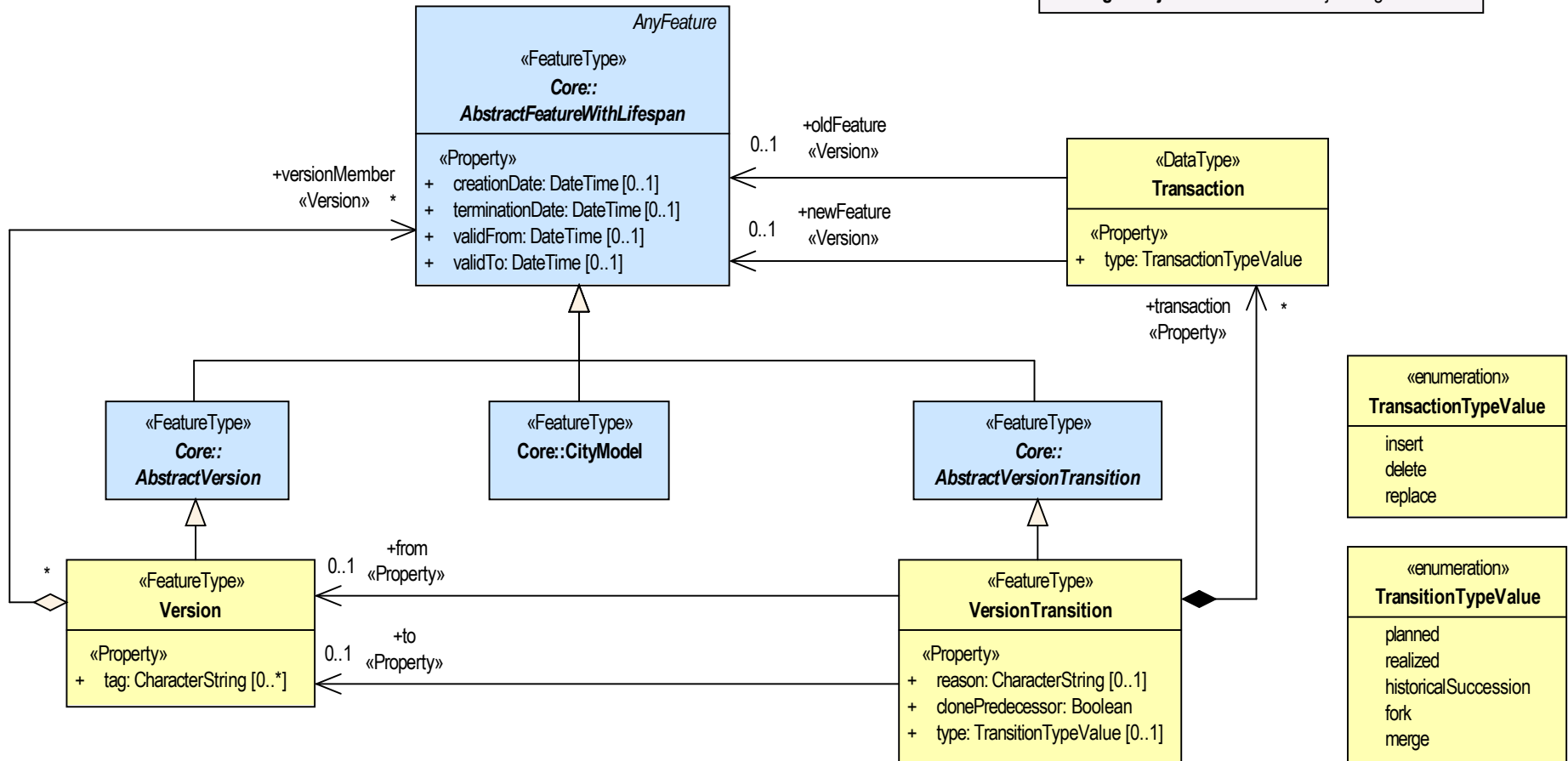
«CodeList»
PlantCoverFunctionValue

«CodeList»
PlantCoverUsageValue

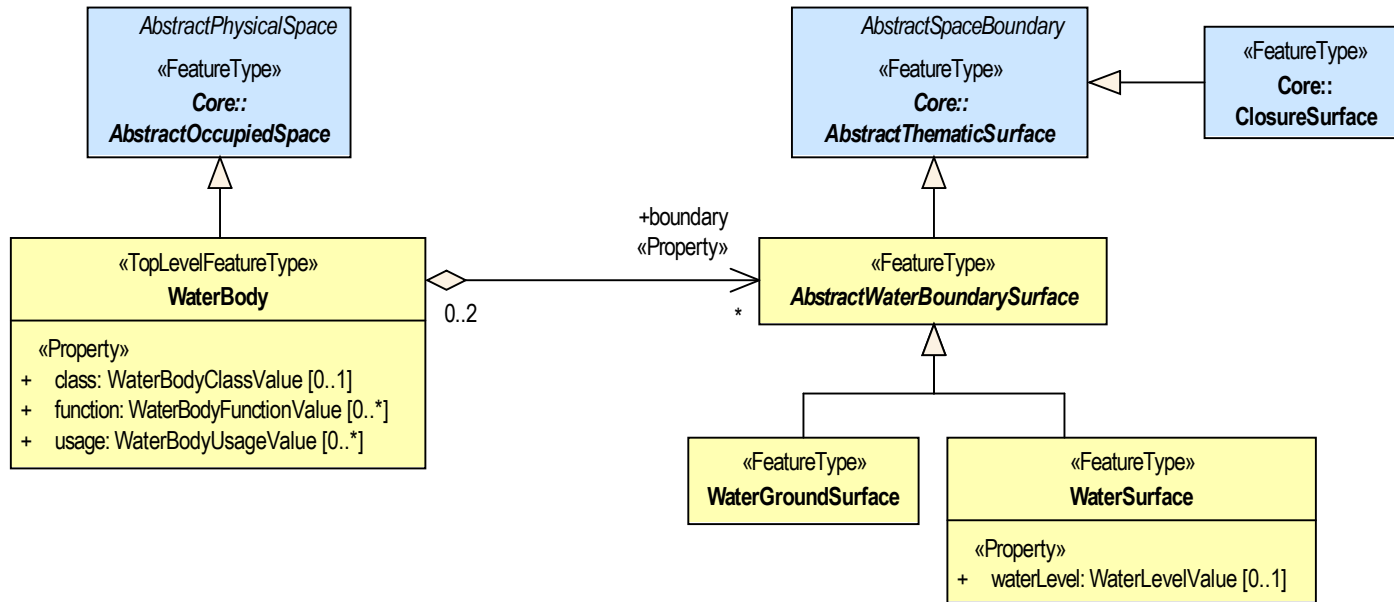
«CodeList»
SpeciesValue

Versioning module

The stereotype **«Version»** is adopted from INSPIRE. The stereotype is used for association roles to express that the **association refers to a specific version of the target object** and not to the object in general.



WaterBody module



WaterBody module - Code lists

«CodeList»
WaterBodyClassValue

«CodeList»
WaterBodyFunctionValue

«CodeList»
WaterBodyUsageValue

«CodeList»
WaterLevelValue