Towards LADM Victoria country profile- A common methodology for creating LADM country profiles

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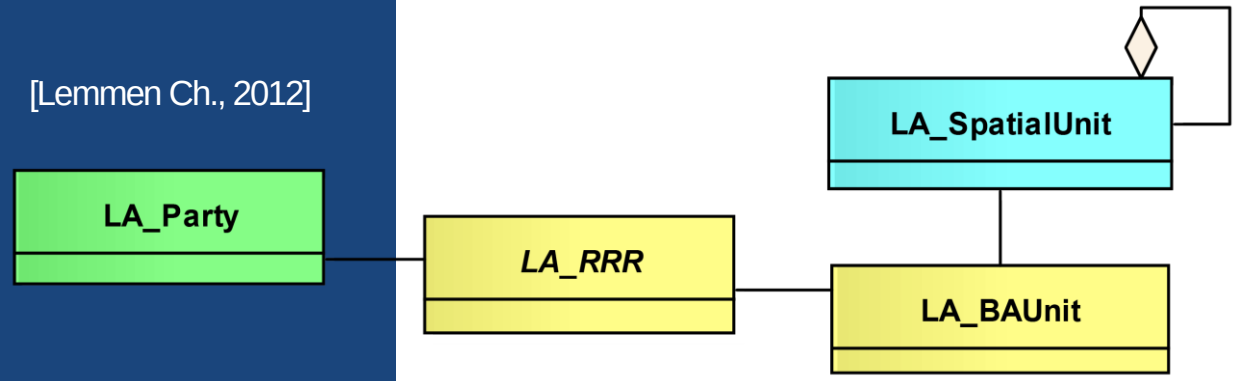
Land Administration Domain Model

LADM Design is based on

common pattern of "people – land" relationships

- ISO spatial domain standard - 19152
- abstract conceptual schema
- Model Driven Architecture
- 2D & 3D registrations
- Explicit (external) relationships with physical models
- Country profiles
- Implementation approaches
- Currently under revision

[Lemmen Ch., 2012]



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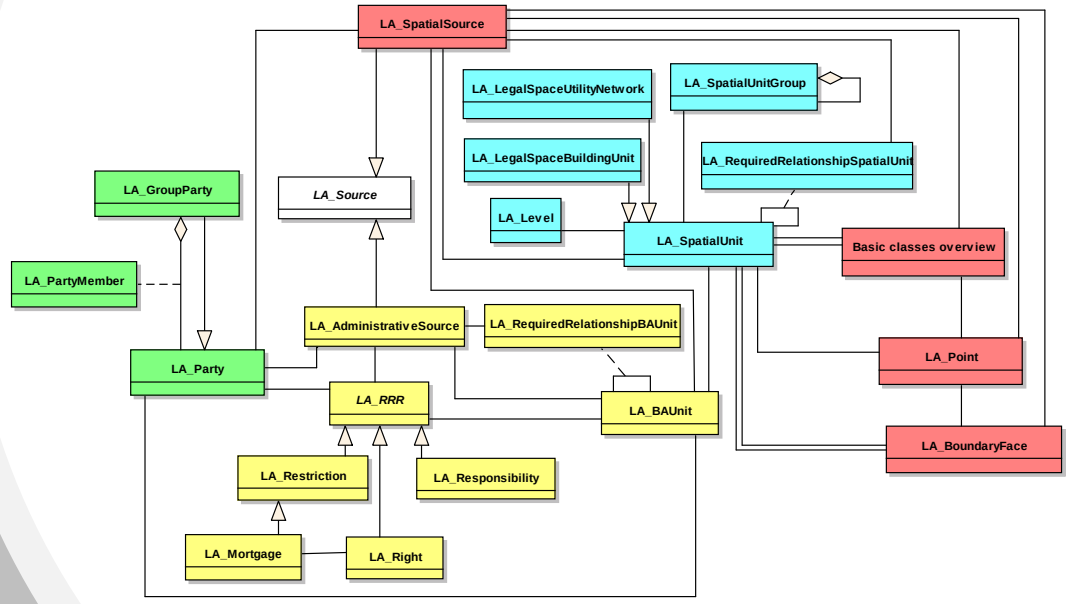
3D Cadastres

Why LADM?

- **No legal mandate or demand** by stakeholders yet for the adoption of LADM
- Victoria is in the process of digital cadastral modernisation; opportunity to **consider LADM compliance** cadastral information system
- Need to **involve a wide range of stakeholders**
- **Review numerous legislation; needs** to meet the requirements of the stakeholders
- Cadastral software vendors reluctant to adopt the LADM



A Proposed methodology

1 → Analysis of the requirements defined in relevant national law & regulations

2 → Analysis of current Land Information System

Capture concepts in the cadastral domain — 3

Mapping the corresponding classes/concepts of LADM & LIS — 4

Development of a standardized domain model based on LADM & adapted to local conditions — 5

6 → Creation of instance level diagrams with real-world use cases to test the proposed model

7 → Testing the conformity of the proposed country profile with ISO 19152

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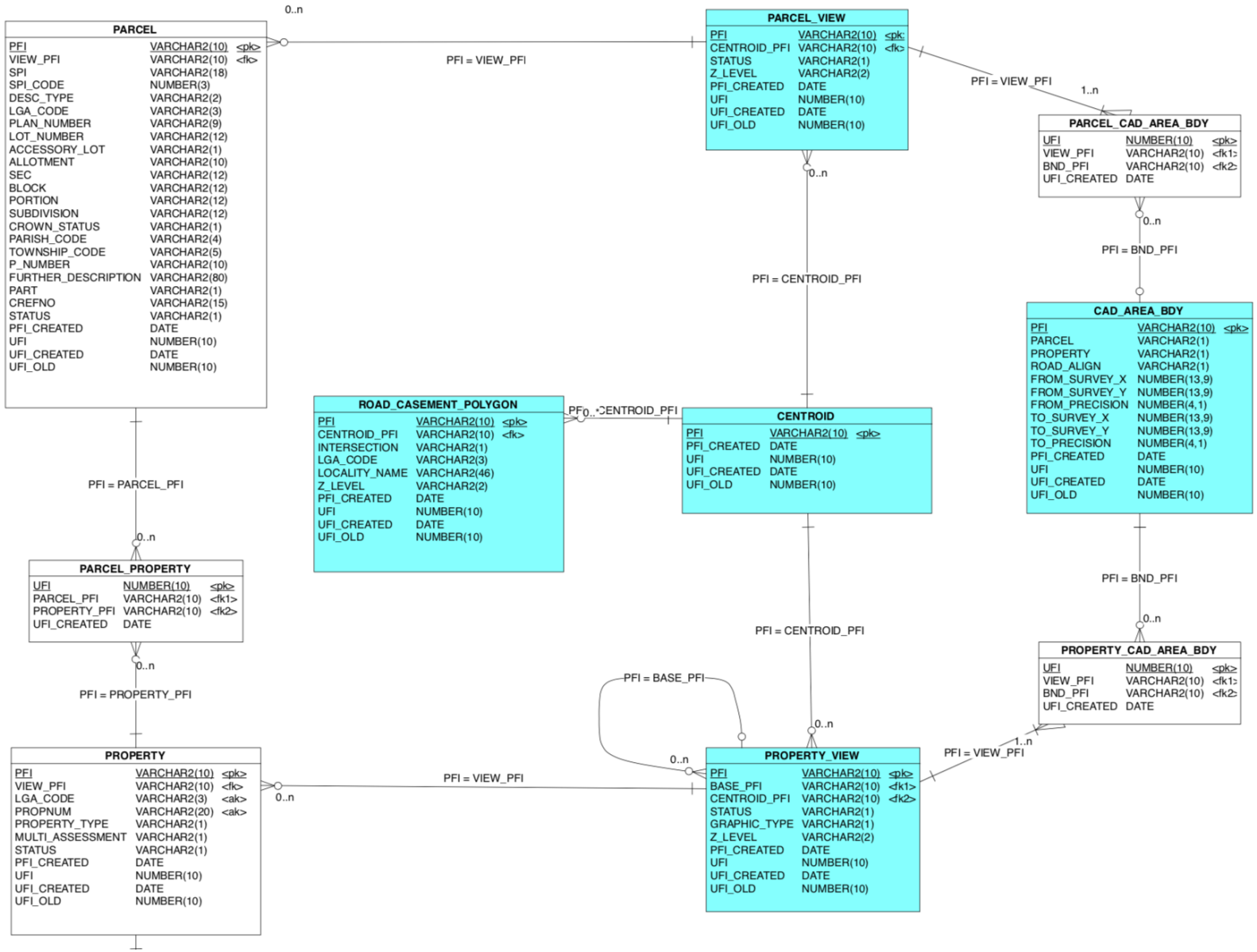
Vicmap Property



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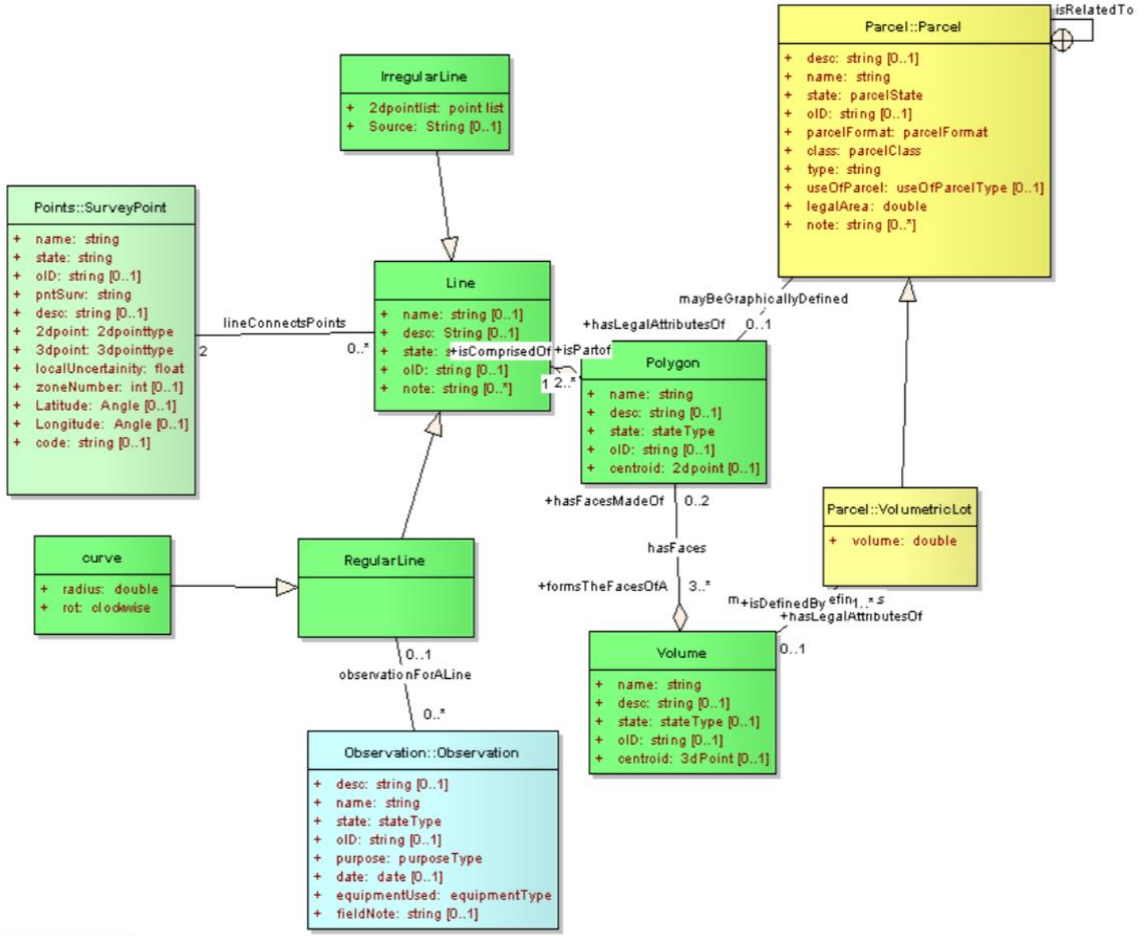
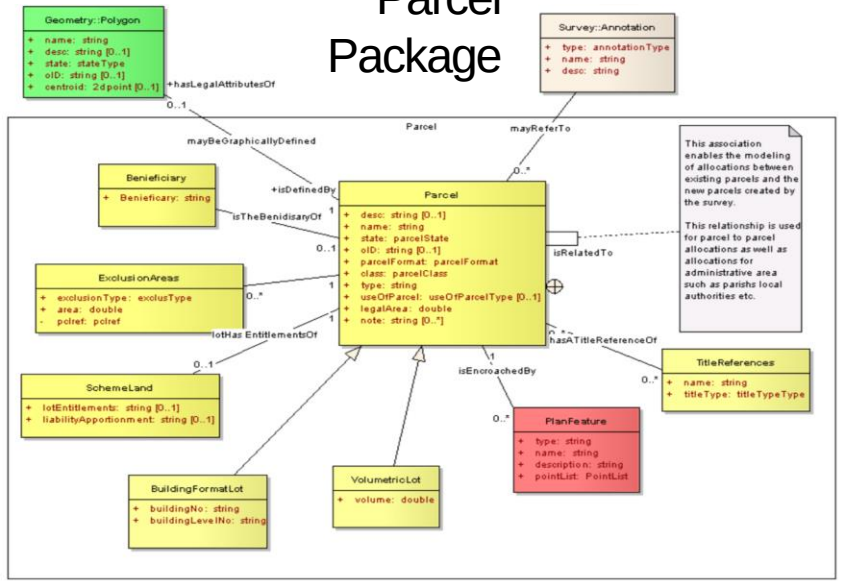
ePlan



Parcel Package



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LADM to ePlan

LADM		Victorian ePlan protocol
FOCUS ON administrative information	⇢	**FOCUS ON** surveying information
Broader scope (ISO)	→	Subset of ePlan
different types of spatial units & spatial representations	⇢	only BuildingFormatLot & VolumetricLot spatial units
temporal aspect supported	→	temporal aspect supported
linkage between legal spaces & their physical counterparts	⇢	no linkage between legal & physical notion
RRRs are handled though specific classes (LA_RRR, LA_Right, LA_Restriction, LA_Responsibility)	→	no class for handling RRRs as a separate entity from Parcels

Party Package

LADM classes	ePlan classes
LA_Party	Survey Package: SurveyHeader
	Survey Package: SurveyHeader Personnel

EXTERNAL CLASSES

LADM classes	ePlan classes
LA_ExtAddress	Parcel Package: Parcel: Location Address

Administrative Package

There is no direct association !

LADM classes	ePlan classes
LA_RRR	Parcel Package: Parcel: Title Parcel Package: Parcel class: Owner
LA_BAUnit	Parcel Package: Parcel
LA_AdministrativeSource	Survey Package: SurveyHeader: PurposeOfSurvey Parcel Package: Parcel: Title Survey Package: SurveyHeader: HeadofPower

Spatial Unit Package

LADM classes	ePlan classes
LA_SpatialUnit	Parcel Package: Parcel: Parcels Parcel package: PlanFeatures: PlanFeature
LA_SpatialSource	Survey: ObservationGroup: RedHorizontalPosition Survey: ObservationGroup: RedVerticalPosition

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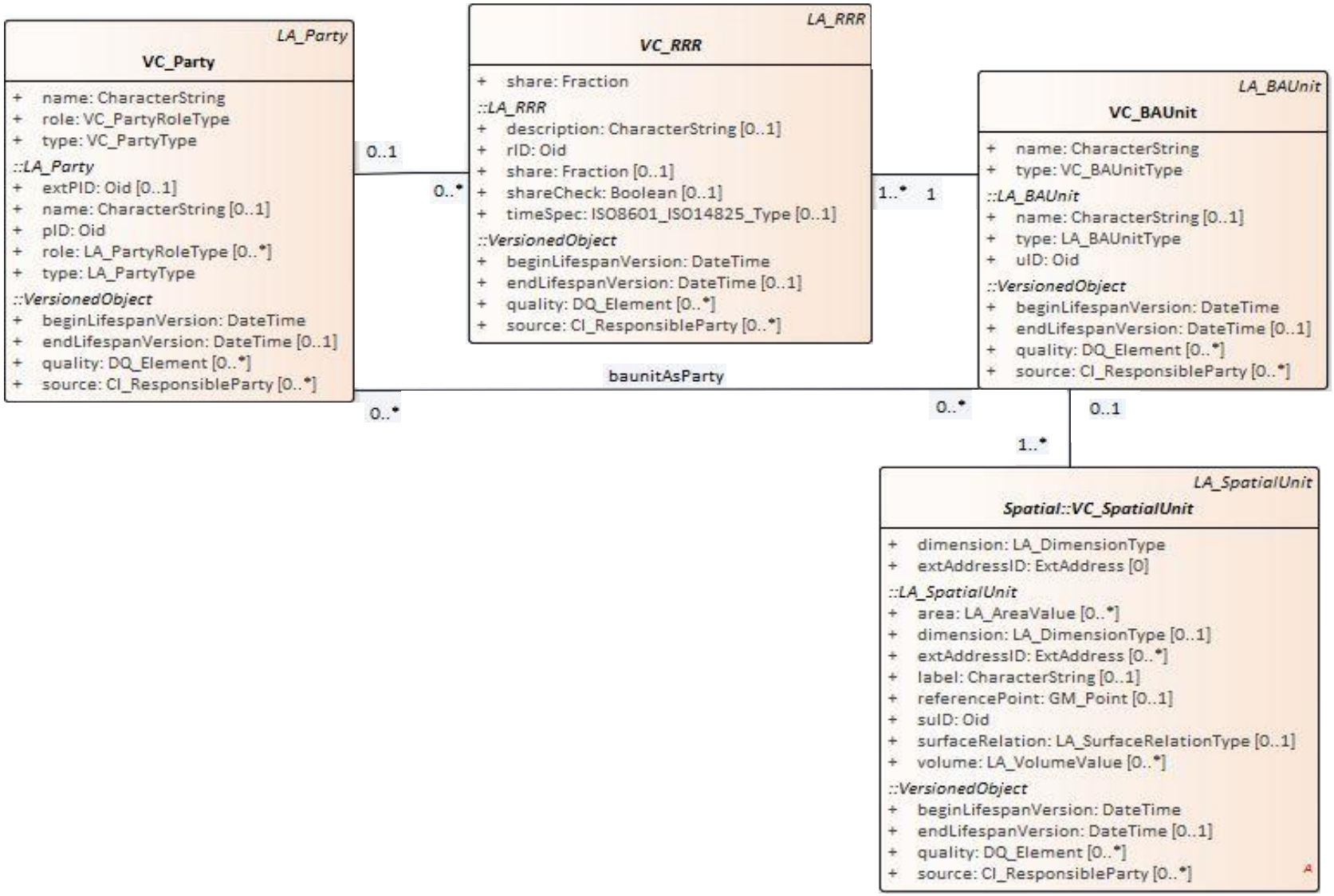
Surveying & Representation Subpackage

LADM classes	ePlan classes
LA_Point	CgPoints:CgPoint
LA_BoundaryFaceString	Parcel Package: Parcel: CoordGeom: Line Parcel Package: Parcel: CoordGeom: Irregular Line Parcel Package: Parcel: CoordGeom: Curve
LA_BoundaryFace	Polygon class Parcel Package: Parcel: VolumeGeom

Proposed LADM Victoria Fundamental Classes



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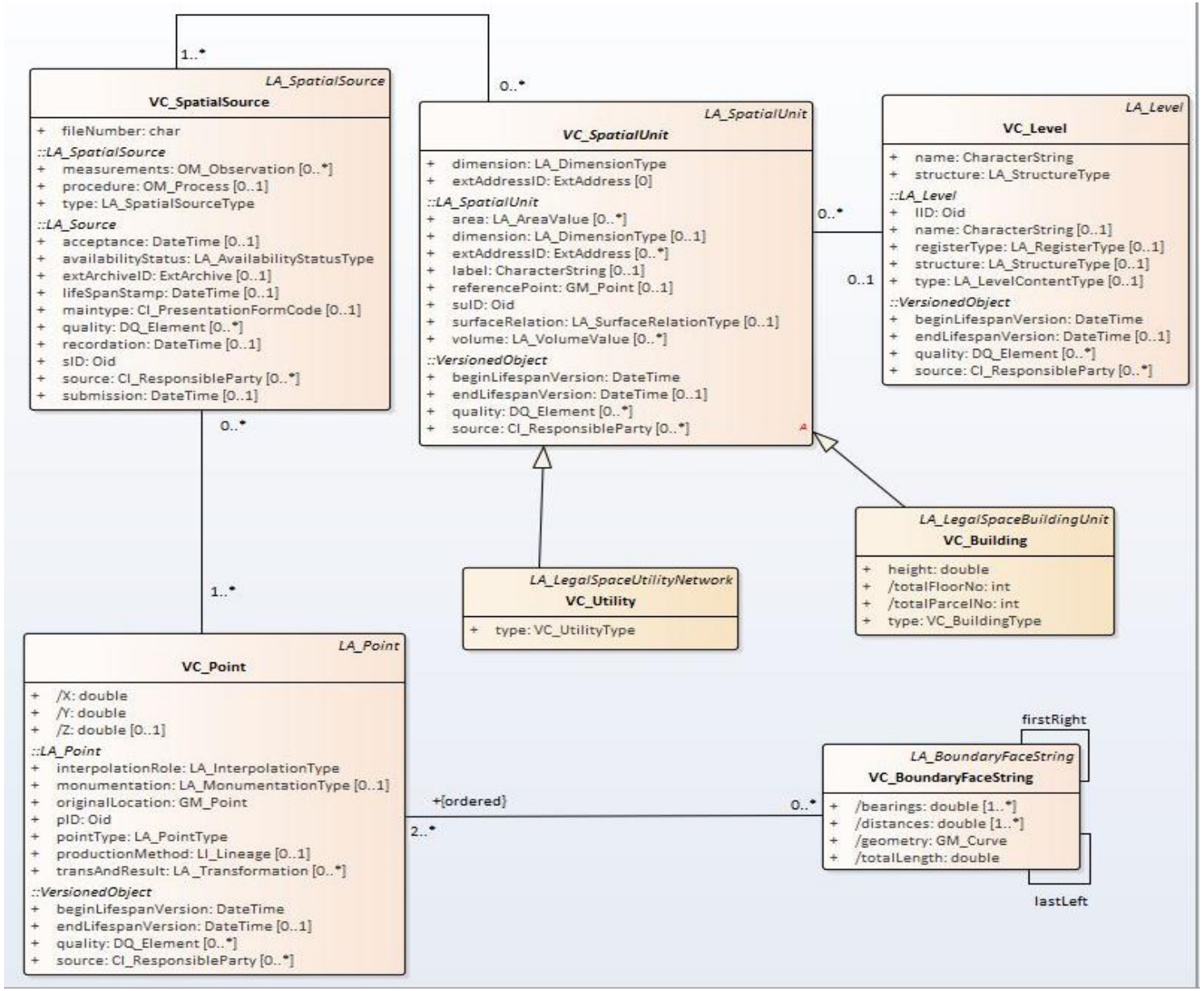
Proposed LADM Victoria spatial counterpart



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Conclusions and Discussion

- established well-functioning Cadastral Information System in Victoria
- ongoing 3D digital cadastre development
- ongoing ISO 19152 LADM revision :: new parts to be added, extended scope of the model
- crosswalk between the Victorian ePlan data model and LADM

- non-spatial & spatial components of the country profile will be designed – design of full model
- creation of instance level diagrams with real-world use cases to test the proposed model
- code lists serving the requirements of Victoria's legislative framework will be created
- conformity test of the proposed model
- focus on the 3D aspect & and test new 3D functionalities in the context of LADM revision

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THANK YOU

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