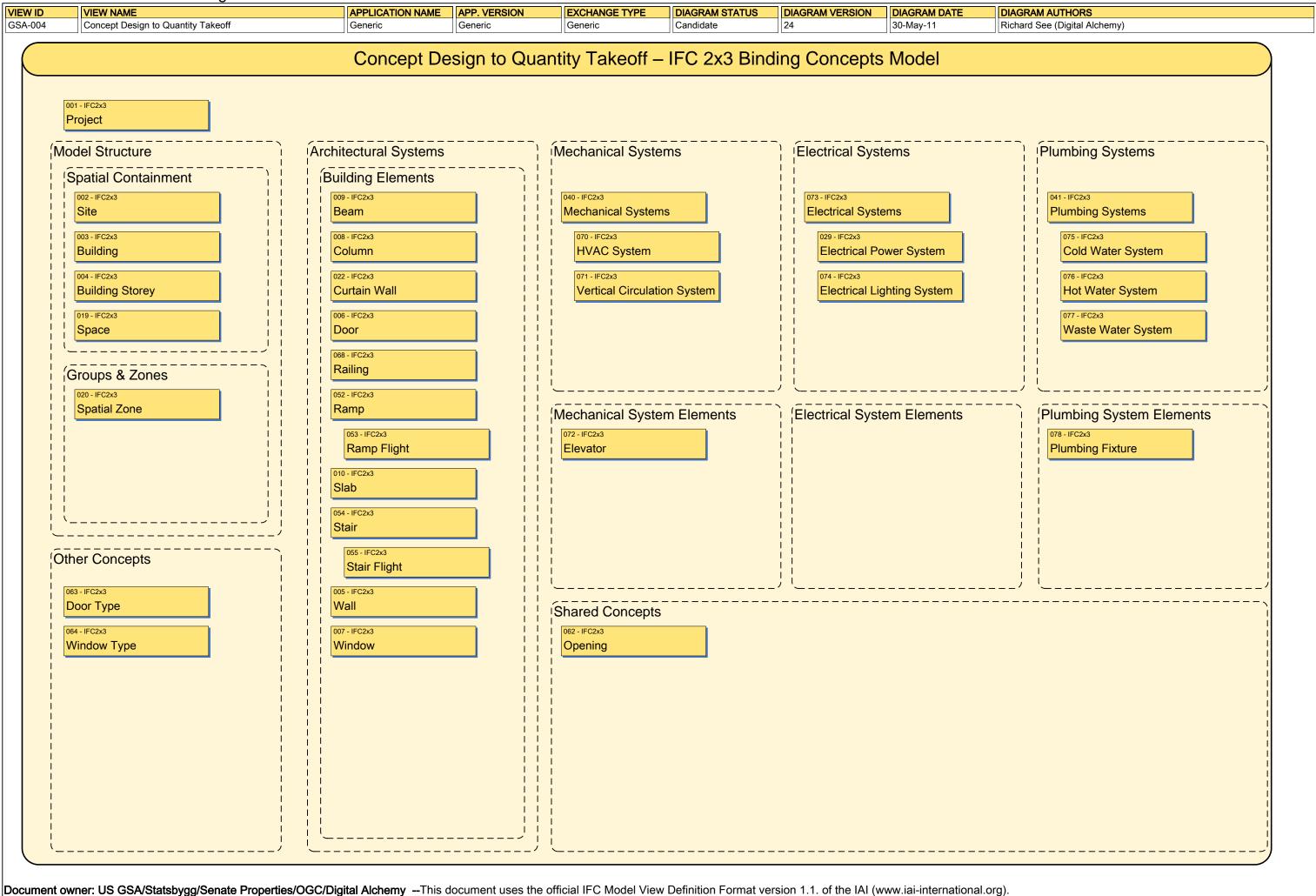
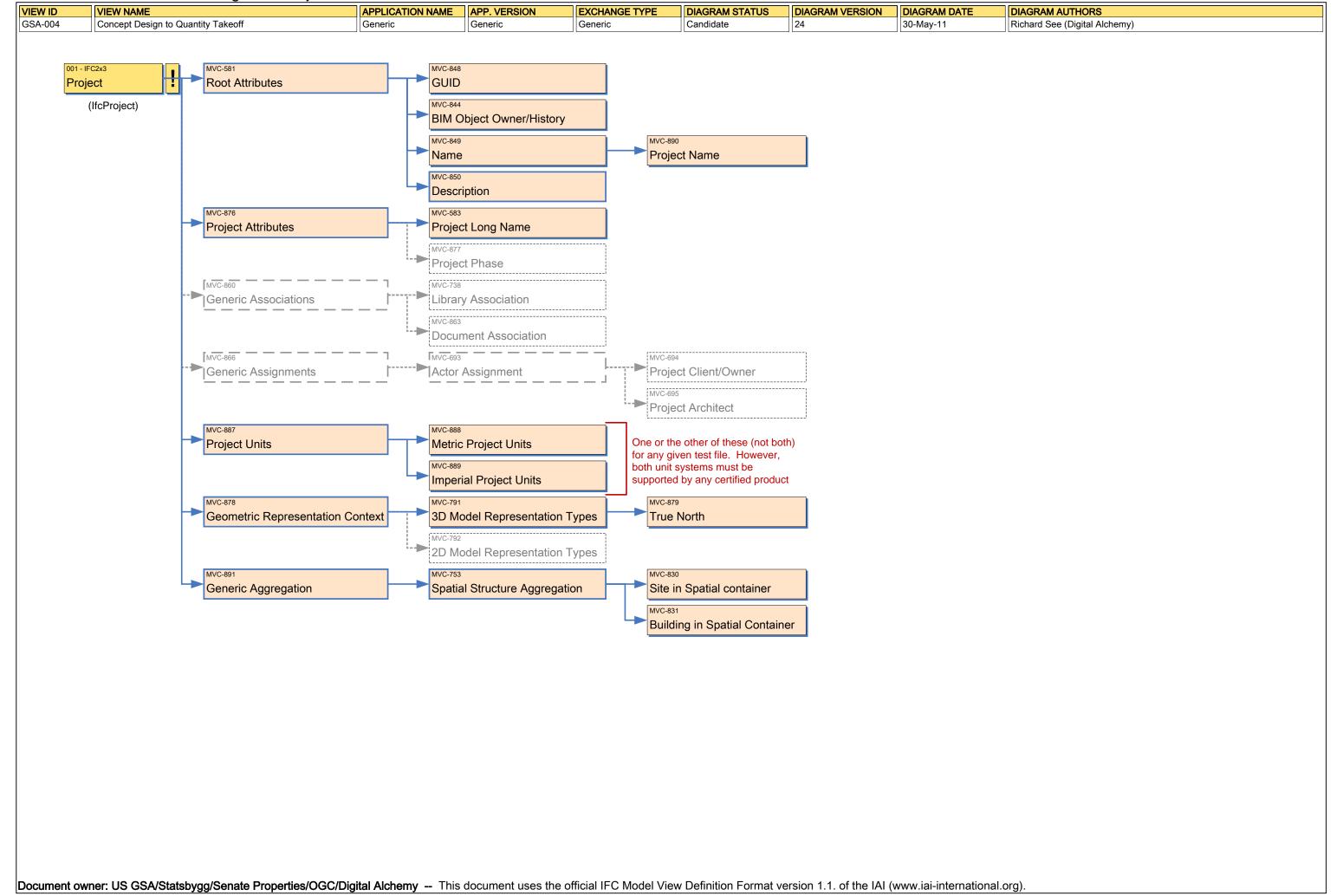
IFC Model View Definition Diagram : MVD Overview IFC2x3



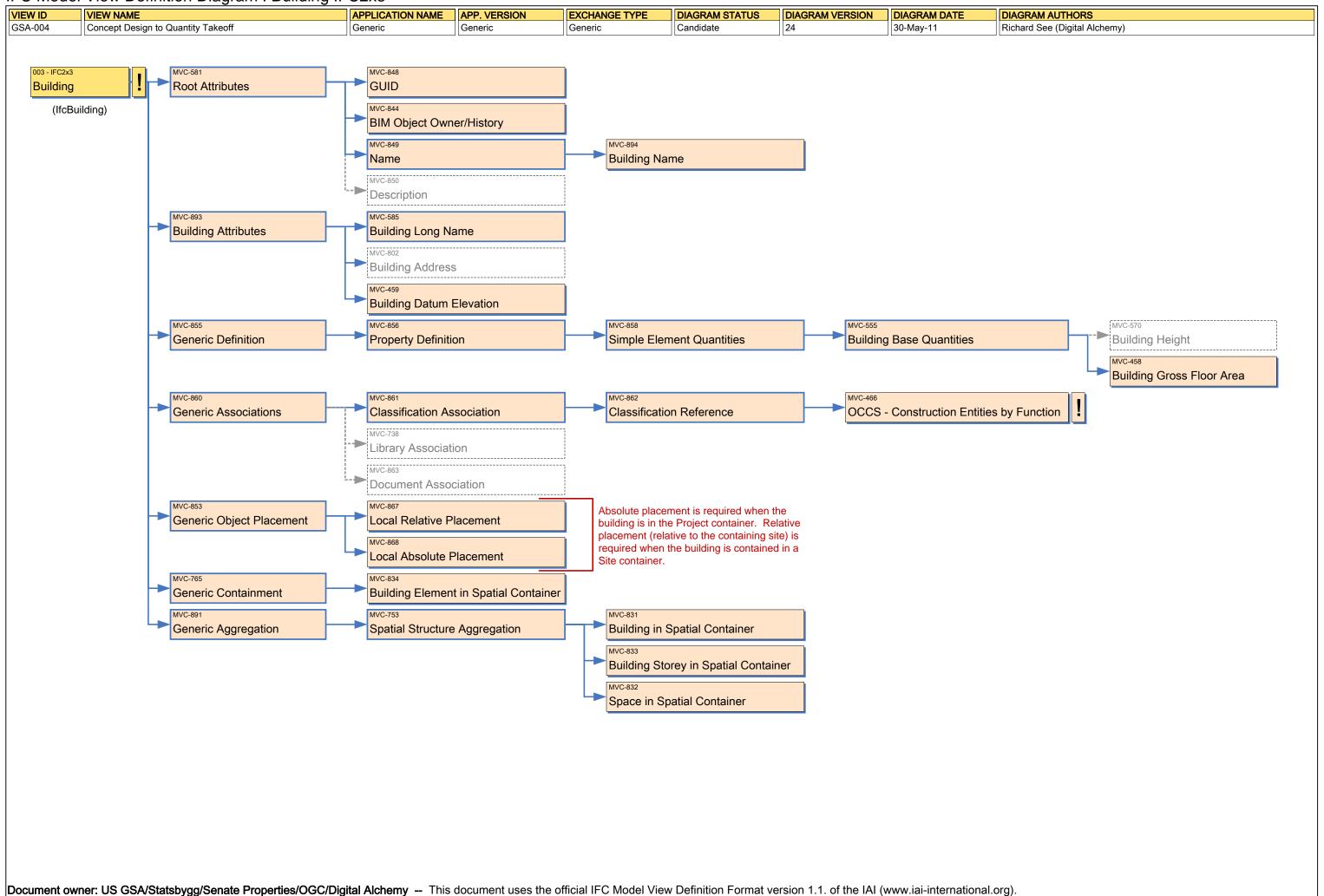


## IFC Model View Definition Diagram : Project IFC2x3

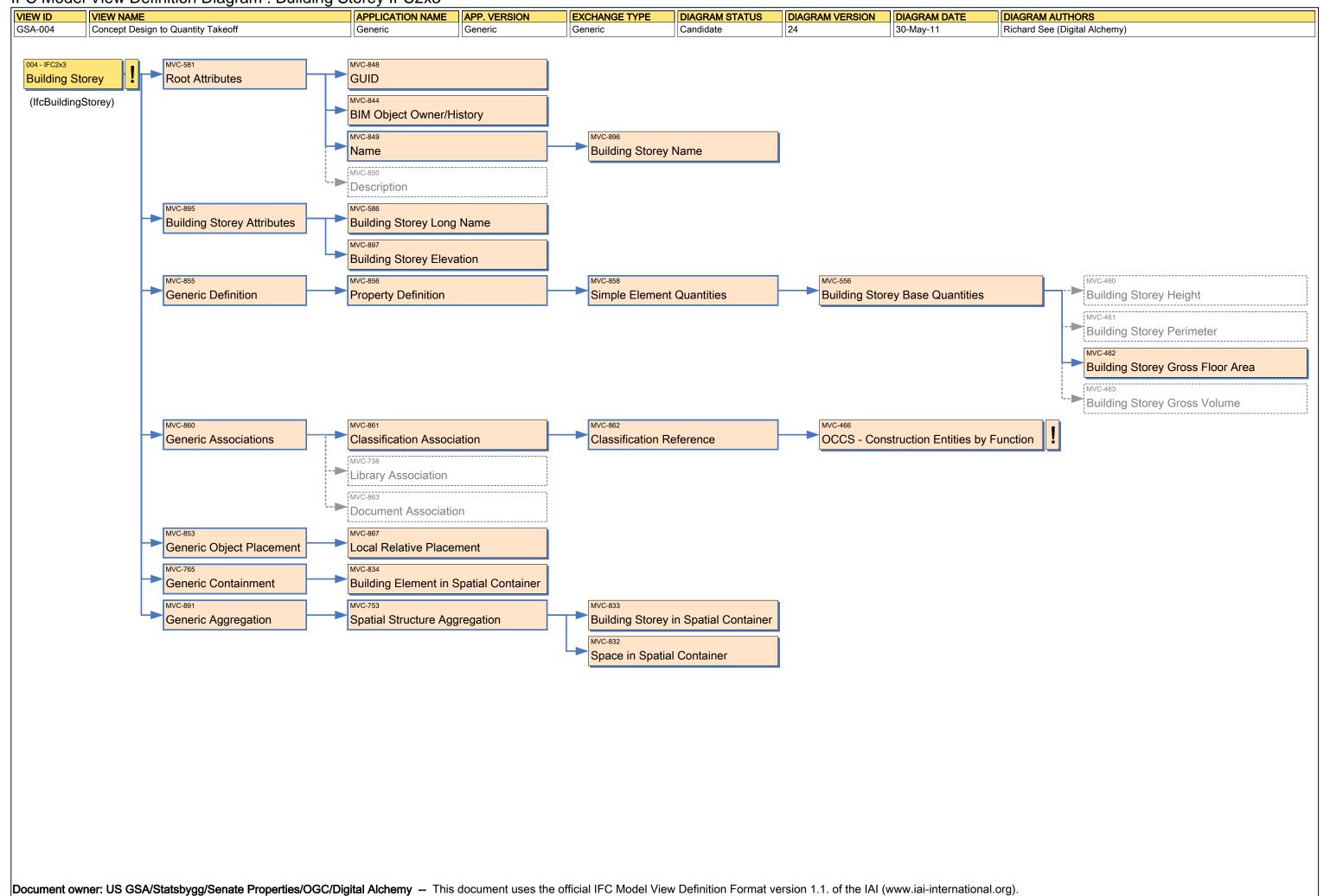


IFC Model View Definition Diagram : Site IFC2x3 VIEW NAME DIAGRAM VERSION DIAGRAM DATE APPLICATION NAME APP. VERSION DIAGRAM STATUS DIAGRAM AUTHORS EXCHANGE TYPE Concept Design to Quantity Takeoff GSA-004 Richard See (Digital Alchemy) 30-May-11 Generic Candidate 24 Generic Generic MVC-848 Root Attributes GUID (IfcSite) MVC-844 BIM Object Owner/History MVC-849 MVC-892 Name Site Name Description MVC-880 MVC-584 Site Attributes Site Long Name Site Address MVC-881 Longitude MVC-882 Latitude MVC-883 Site Reference Elevation MVC-855 MVC-856 Pset\_SiteCommon Builable Area Generic Definition Property Definition Property Set Building Height Limit MVC-858 MVC-454 MVC-554 Simple Element Quantities Site Base Quantities Site Perimeter MVC-455 Site Gross Land Area Site Excavation Cut Volume Site Excavation Backfill Volume Generic Associations Library Association MVC-863 Document Association MVC-853 Generic Object Placement Local Absolute Placement MVC-836 Shape Representation Generic Geometric Representation Bounding Box MVC-812 Geometric Curve Set Site Geometric Curve Set Foot Print MVC-869 Curve 2D Site Curve 2D MVC-809 Geometric Set Site Geometric Set Survey Points Any of these will be ccepted – in addition the BoundingBox Surface Model Facetation Face Based Surface Model MVC-872 MVC-873 MVC-811 Body Brep Brep with No Voids Brep with Voids MVC-834 Building Element in Spatial Container Generic Containment MVC-891 MVC-830 Generic Aggregation Spatial Structure Aggregation Site in Spatial container Building in Spatial Container Space in Spatial Container Document owner: US GSA/Statsbygg/Senate Properties/OGC/Digital Alchemy -- This document uses the official IFC Model View Definition Format version 1.1. of the IAI (www.iai-international.org).

#### IFC Model View Definition Diagram : Building IFC2x3



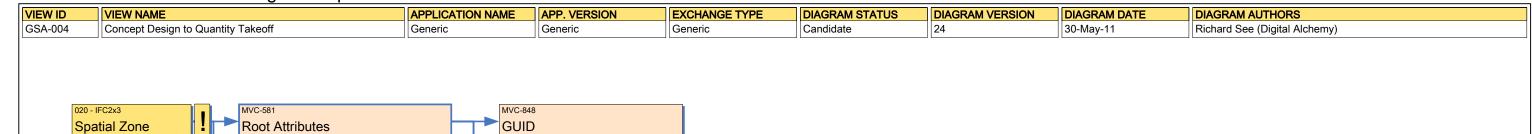
IFC Model View Definition Diagram : Building Storey IFC2x3

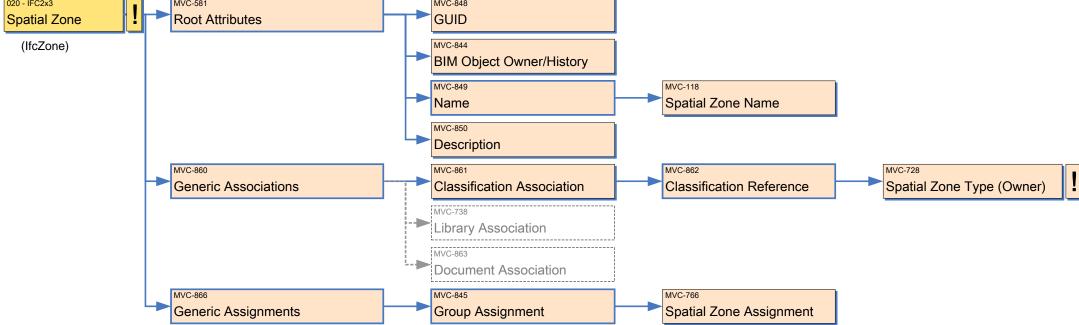


IFC Model View Definition Diagram : Space IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION DIAGRAM DATE EXCHANGE TYPE DIAGRAM STATUS DIAGRAM AUTHORS GSA-004 Concept Design to Quantity Takeoff 30-May-11 Richard See (Digital Alchemy) Generic Candidate 24 Generic Generic MVC-848 019 - IFC2x3 MVC-581 Root Attributes GUID Space MVC-844 (IfcSpace) BIM Object Owner/History MVC-849 MVC-900 Name Space Number MVC-850 Description MVC-884 MVC-899 MVC-886 Space Attributes Space Name Long name MVC-885 Space Interior or Exterior Space Datum Elevation MVC-855 MVC-856 MVC-468 Generic Definition Simple Element Quantities Property Definition Space Base Quantities Space Height Space Gross Perimeter MVC-470 Space Gross Floor Area MVC-471 Space Net Floor Area Space Gross Volume Space Net Volume MVC-860 MVC-862 MVC-465 Generic Associations Classification Association Classification Reference OCCS - Space by Function MVC-738 Library Association Document Association MVC-866 MVC-766 Generic Assignments Group Assignment Spatial Zone Assignment Generic Object Placement Local Relative Placement MVC-836 MVC-808 MVC-812 MVC-820 Space Geometric Curve Set Foot Print Geometric Curve Set Generic Geometric Representation Shape Representation Space Curve 2D ---ICurve 2D MVC-870 Bounding Box MVC-872 MVC-811 MVC-873 Body Brep Brep with No Voids MVC-874 Brep with Voids MVC-819 MVC-871 MVC-822 Any of these will be accepted – in addition to the Bounding Box Swept Solid Space Linear Extruded Solid Linear Extruded Solid MVC-875 MVC-823 Clipped Solid Space Clipped Solid Building Element in Spatial Container Generic Containment MVC-832 Generic Aggregation Spatial Structure Aggregation Space in Spatial Container



## IFC Model View Definition Diagram : Spatial Zone IFC2x3





IFC Model View Definition Diagram : Beam IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM STATUS DIAGRAM VERSION DIAGRAM DATE DIAGRAM AUTHORS **EXCHANGE TYPE** GSA-004 Concept Design to Quantity Takeoff Candidate Richard See (Digital Alchemy) 30-May-11 24 Generic Generic Generic MVC-848 Root Attributes GUID Beam MVC-844 (IfcBeam) BIM Object Owner/History MVC-849 Name MVC-850 -- Description MVC-856 MVC-855 MVC-697 Property Definition Beam Construction Type Generic Definition Pset\_BeamCommon Property Set Simple Element Quantities Beam Base Quantities Beam Length MVC-475 Beam Width MVC-476 Beam Depth MVC-477 Beam Net Surface Area - Extruded Sides Beam Cross Section Area MVC-479 Beam Gross Volume MVC-480 Beam Net Volume MVC-859 Type Definition MVC-464 MVC-860 MVC-861 MVC-862 Classification Association Classification Reference Uniformat Classification Generic Associations Generic Material Association Material List Generic Profile Name and Section Association Library Association Document Association Group Assignment System Assignment Generic Assignments \_\_\_ Generic Object Placement Local Relative Placement Shape Representation Generic Geometric Representation Foot Print Geometric Curve Set MVC-870 Bounding Box MVC-872 MVC-873 MVC-811 Body Brep Brep with No Voids Any of these will be accepted – in addition to Bounding Box MVC-874 Brep with Voids MVC-871 Swept Solid Linear Extruded Solid Clipped Solid Mapped Item Representation MVC-834 Building Element in Spatial Container Generic Containment

Back to Overview IFC Model View Definition Diagram : Column IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION DIAGRAM DATE **EXCHANGE TYPE** DIAGRAM STATUS DIAGRAM AUTHORS GSA-004 Richard See (Digital Alchemy) Concept Design to Quantity Takeoff 30-May-11 Candidate Generic Generic Generic 24 MVC-848 Root Attributes GUID Column MVC-844 (IfcColumn) BIM Object Owner/History MVC-849 Name MVC-850 Description MVC-856 MVC-857 MVC-698 Property Definition Generic Definition Property Set Pset\_ColumnCommon Column Construction Type MVC-858 Simple Element Quantities Column Base Quantities Column Height MVC-482 Column Width Column Depth Column Net Surface Area - Extruded Sides Column Gross Surface Area Column Gross Cross Section Area Column Gross Volume Column Net Volume Type Definition Uniformat Classification Generic Associations Classification Association Classification Reference Material List Generic Material Association Generic Profile Name and Section Association MVC-738 Library Association Document Association Generic Object Placement Local Relative Placement MVC-854 MVC-836 Shape Representation Foot Print Generic Geometric Representation Geometric Curve Set MVC-870 Bounding Box MVC-811 MVC-872 MVC-873 Any of these will be accepted – in addition to Bounding Box Body Brep Brep with No Voids Brep with Voids MVC-819 Swept Solid Linear Extruded Solid Clipped Solid MVC-826 Mapped Item Representation MVC-834 Building Element in Spatial Container Generic Containment

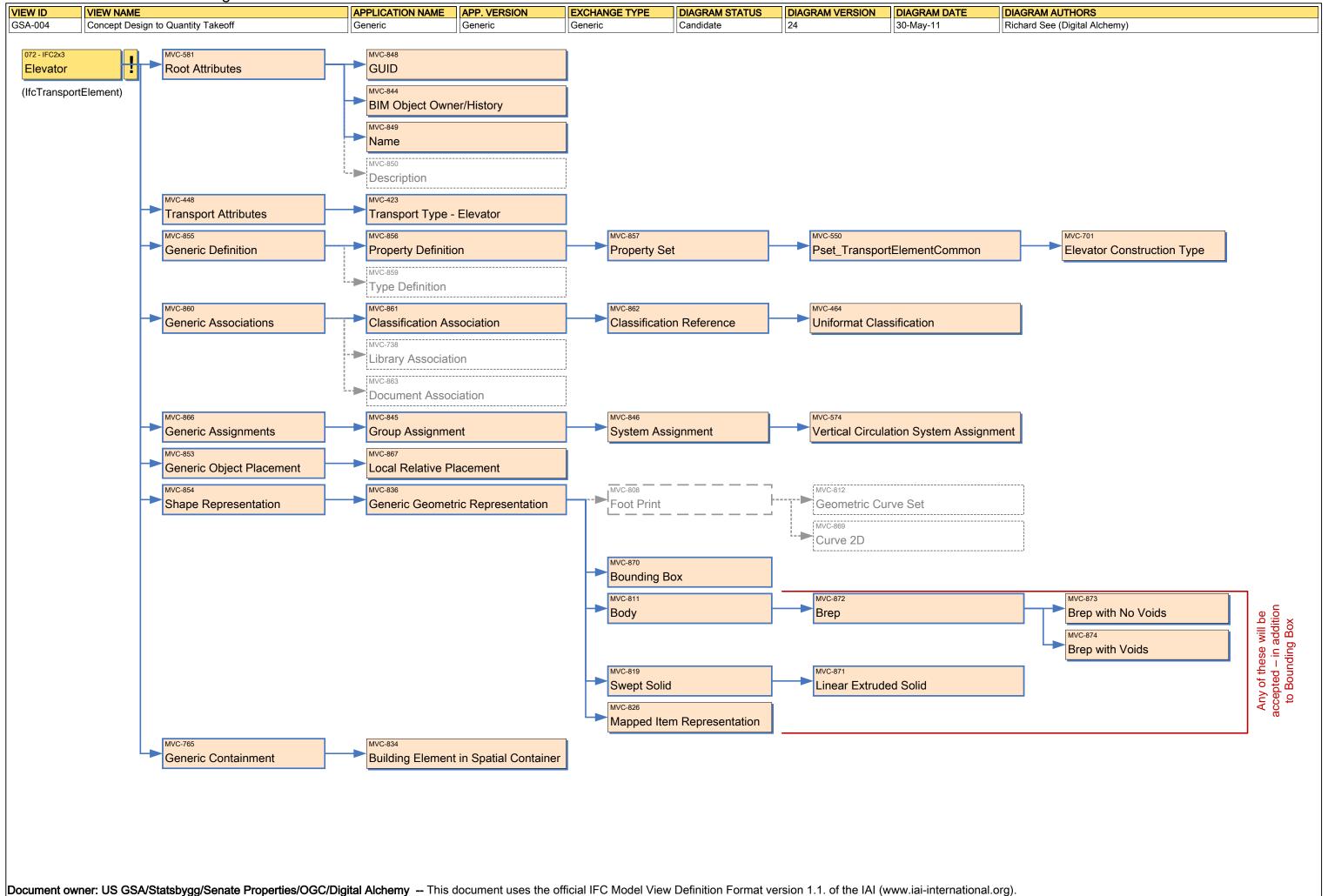
IFC Model View Definition Diagram : Curtain Wall IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION DIAGRAM DATE DIAGRAM STATUS EXCHANGE TYPE DIAGRAM AUTHORS GSA-004 Concept Design to Quantity Takeoff Candidate 30-May-11 Richard See (Digital Alchemy) Generic Generic Generic 24 MVC-848 022 - IFC2x3 Root Attributes **Curtain Wall** GUID MVC-844 (IfcCurtainWall) BIM Object Owner/History MVC-849 Name Description MVC-856 Generic Definition Property Definition Property Set Pset\_CurtainWallCommon Curtain Wall Construction Type MVC-770 Curtain Wall Is Internal/External MVC-858 MVC-493 Simple Element Quantities Curtain Wall Base Quantities Curtain Wall Gross Side Area Curtain Wall Frame Depth MVC-490 Curtain Wall Frame Thickness Curtain Wall External Corners Count MVC-492 Curtain Wall Internal Corners Count Type Definition MVC-464 Generic Associations Uniformat Classification Classification Association Classification Reference MVC-864 Generic Material Association Material List Library Association MVC-863 Document Association Generic Object Placement Local Relative Placement MVC-812 MVC-808 Shape Representation Generic Geometric Representation Foot Print Geometric Curve Set MVC-870 Bounding Box MVC-872 MVC-811 MVC-873 Body Brep Brep with No Voids MVC-874 Brep with Voids Mapped Item Representation Aggregated Shape Representation Generic Containment **Building Element in Spatial Container** Curtain Wall Frame Generic Aggregation Curtain Wall Aggregation Curtain Wall Panels Document owner: US GSA/Statsbygg/Senate Properties/OGC/Digital Alchemy -- This document uses the official IFC Model View Definition Format version 1.1. of the IAI (www.iai-international.org).

IFC Model View Definition Diagram : Door IFC2x3 VIEW ID VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION **EXCHANGE TYPE DIAGRAM STATUS** DIAGRAM DATE DIAGRAM AUTHORS GSA-004 Concept Design to Quantity Takeoff Candidate 30-May-11 Richard See (Digital Alchemy) Generic Generic Generic 24 006 - IFC2x3 MVC-581 MVC-848 Root Attributes Door GUID (IfcDoor) BIM Object Owner/History MVC-849 Name Description Door Lining Depth Generic Definition Door Lining Properties Property Definition MVC-594 Door Lining Thickness MVC-595 Door Threshold Depth MVC-596 Door Threshold Thickness MVC-603 Door Panel Properties Door Panel Operation MVC-602 Optional if Type Defines Properties Door Panel Depth MVC-604 Door Panel Width MVC-605 **Door Panel Position** MVC-772 MVC-857 MVC-700 Property Set Pset\_DoorCommon Door Construction Type MVC-773 Door Is Internal/External MVC-561 MVC-858 MVC-494 Simple Element Quantities Door Height Door Base Quantities MVC-495 Door Width MVC-500 Door Area Door Perimeter Door Frame Depth MVC-498 Door Frame Thickness Door Leaf Thickness MVC-859 Type Definition Door Type Definition Optional if Type Defines Associations **Generic Associations Uniformat Classification** Classification Association Classification Reference Material List Generic Material Association Library Association Document Association MVC-853 Generic Object Placement Local Relative Placement Foot Print Shape Representation Generic Geometric Representation Geometric Curve Set Optional if Type Defines Shape Curve 2D MVC-870 Bounding Box MVC-872 MVC-811 MVC-873 Body Brep with No Voids Brep MVC-874 Brep with Voids MVC-819 MVC-871 Swept Solid Linear Extruded Solid MVC-875 Clipped Solid This is used if Type defines shape Mapped Item Representation MVC-732 MVC-797 MVC-798 Generic Filling of Openings Building Element Fills Opening Door Fills Opening MVC-834 Building Element in Spatial Container Generic Containment Document owner: US GSA/Statsbygg/Senate Properties/OGC/Digital Alchemy -- This document uses the official IFC Model View Definition Format version 1.1. of the IAI (www.iai-international.org).

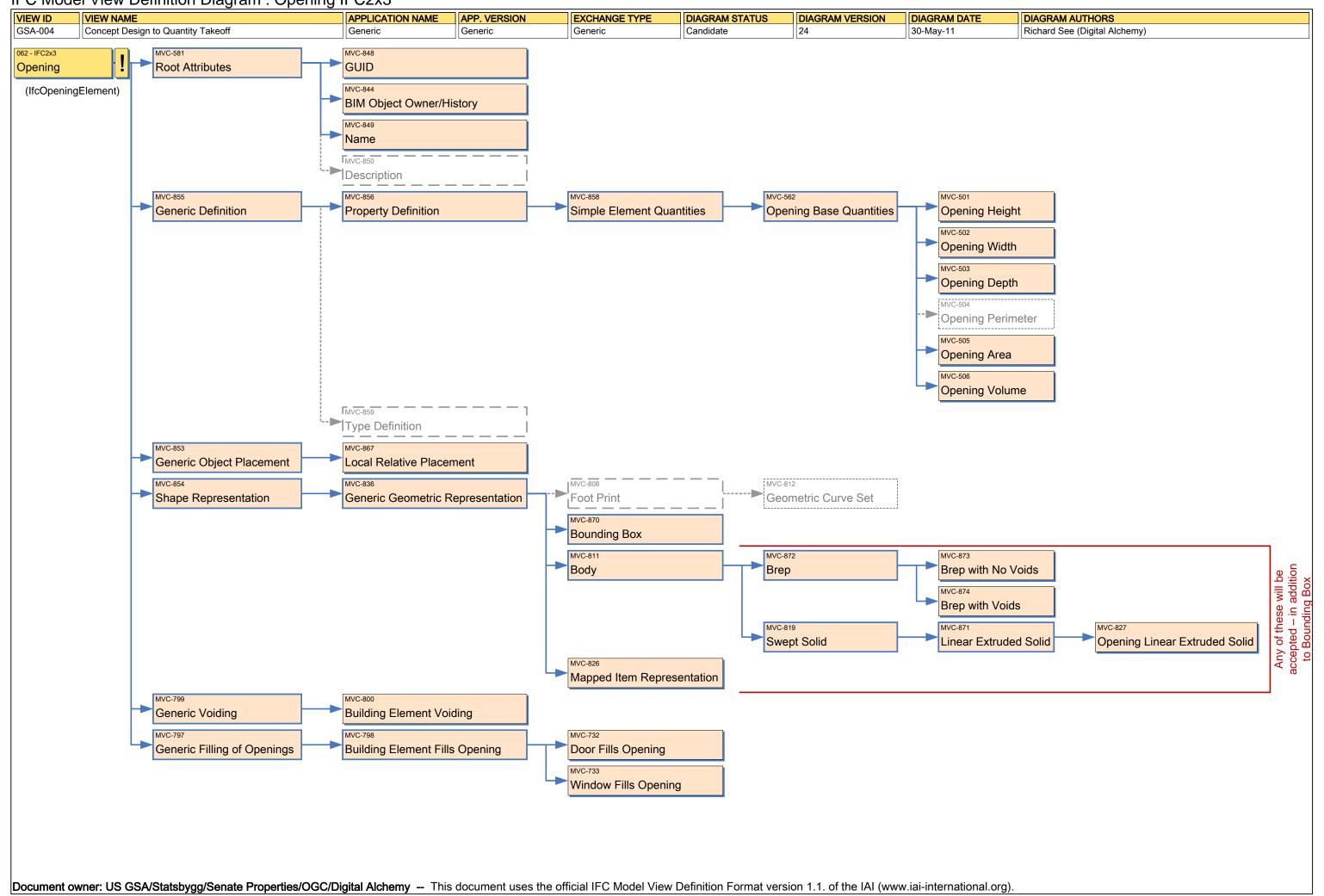
IFC Model View Definition Diagram : Door Type IFC2x3 VIEW ID **VIEW NAME** APPLICATION NAME APP. VERSION DIAGRAM VERSION **EXCHANGE TYPE DIAGRAM STATUS** DIAGRAM DATE DIAGRAM AUTHORS GSA-004 30-May-11 Concept Design to Quantity Takeoff Candidate Richard See (Digital Alchemy) Generic Generic Generic 24 063 - IFC2x3 MVC-581 MVC-848 Door Type Root Attributes GUID (IfcDoorStyle) MVC-844 BIM Object Owner/History MVC-849 Name Description MVC-619 Door Type Attributes Door Type Applicable Occurence MVC-621 Door Type Tag MVC-622 Door Type Operation Type MVC-623 Door Type Construction Type MVC-624 Door Type Parameter Takes Precedence MVC-625 Door Type Sizeable MVC-855 MVC-859 MVC-579 Type Definition Door Type Definition Generic Definition MVC-591 MVC-593 Door Lining Properties Type Definition Properties Door Lining Depth MVC-594 Door Lining Thickness MVC-595 Door Threshold Depth MVC-596 Door Threshold Thickness MVC-592 Door Panel Properties Door Panel Operation MVC-602 Door Panel Depth MVC-604 Door Panel Width Door Panel Position MVC-857 MVC-772 MVC-700 Property Set Pset\_DoorCommon Door Construction Type Door Is Internal/External MVC-858 MVC-561 MVC-494 Simple Element Quantities Door Base Quantities Door Height MVC-495 Door Width MVC-500 Door Area Door Perimeter Door Frame Depth MVC-498 Door Frame Thickness Door Leaf Thickness MVC-860 MVC-861 MVC-862 MVC-464 Uniformat Classification Generic Associations Classification Association Classification Reference MVC-864 Generic Material Association Material List Library Association MVC-863 Document Association MVC-854 MVC-836 MVC-761 MVC-607 Generic Geometric Representation Mapped Type Bounding Box Shape Representation Mapped Type Item Representation MVC-762 MVC-763 Either of these will be accepted – in addition to the Bounding Box Mapped Type Brep Mapped Type Brep Without Voids Mapped Type Brep With Voids MVC-439 MVC-443 Mapped Type Swept Solid Mapped Type Linear Extrusion MVC-442 Mapped Type Clipped Solid Document owner: US GSA/Statsbygg/Senate Properties/OGC/Digital Alchemy -- This document uses the official IFC Model View Definition Format version 1.1. of the IAI (www.iai-international.org).



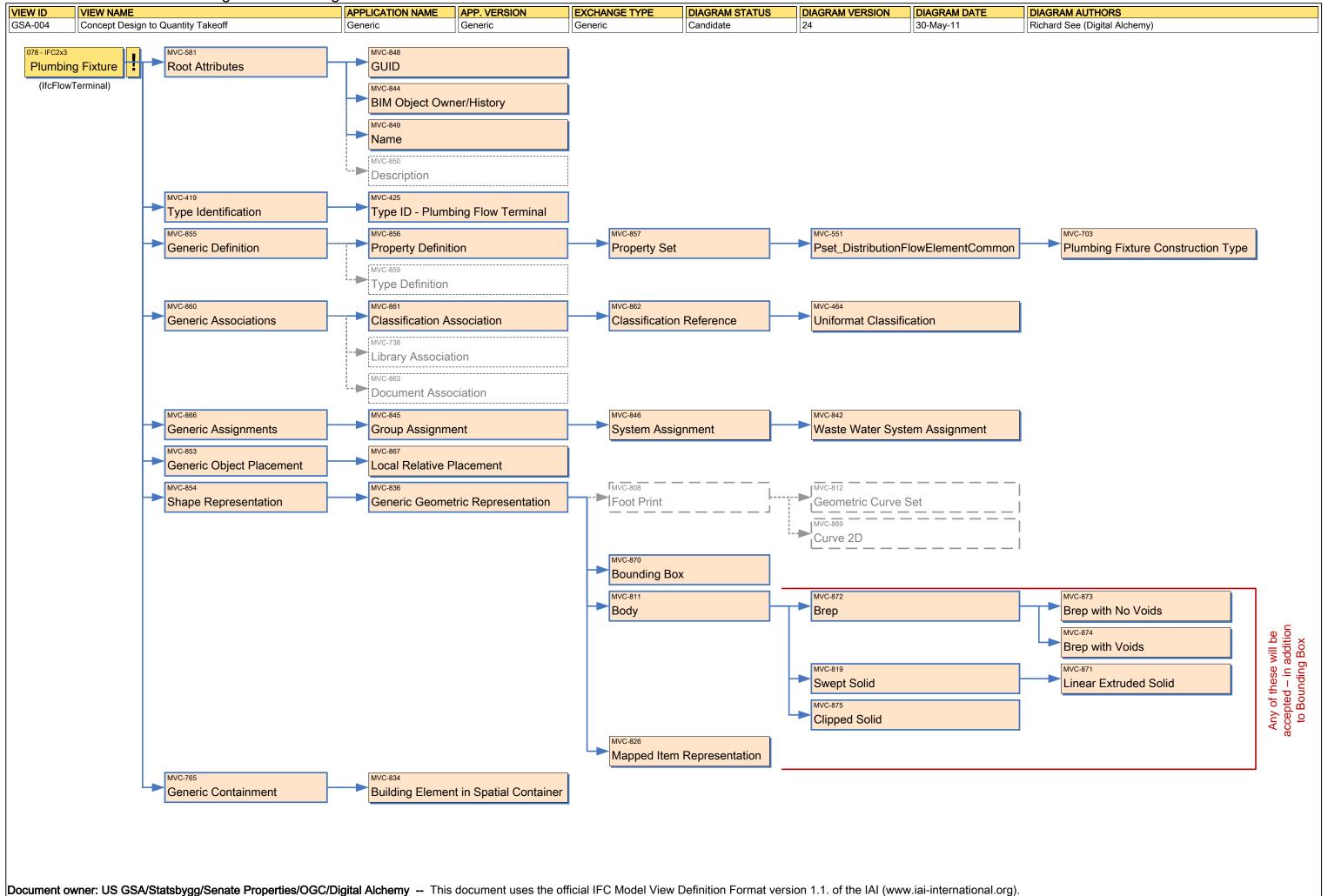
#### IFC Model View Definition Diagram : Elevator IFC2x3



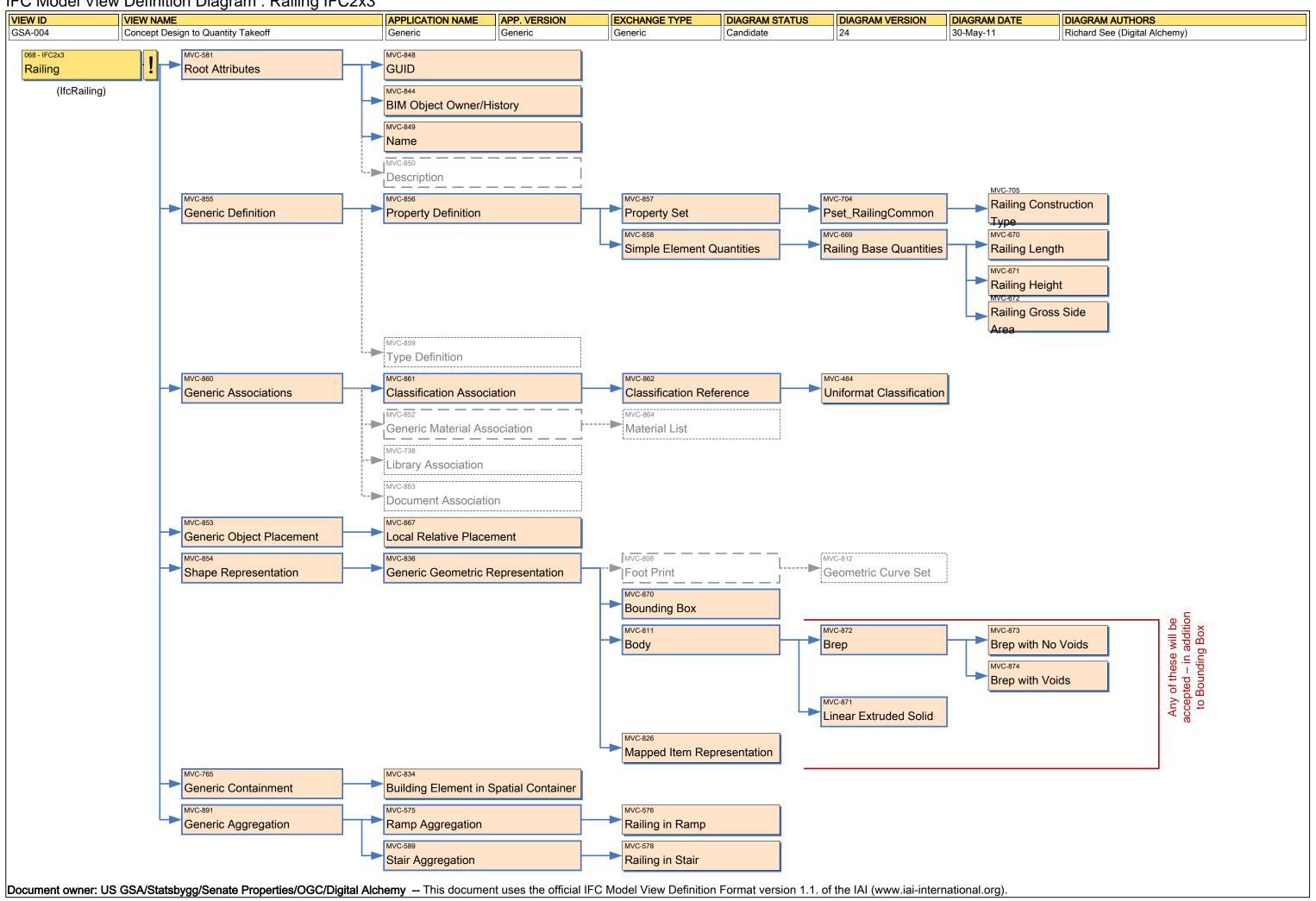
IFC Model View Definition Diagram : Opening IFC2x3



### IFC Model View Definition Diagram : Plumbing Fixture IFC2x3

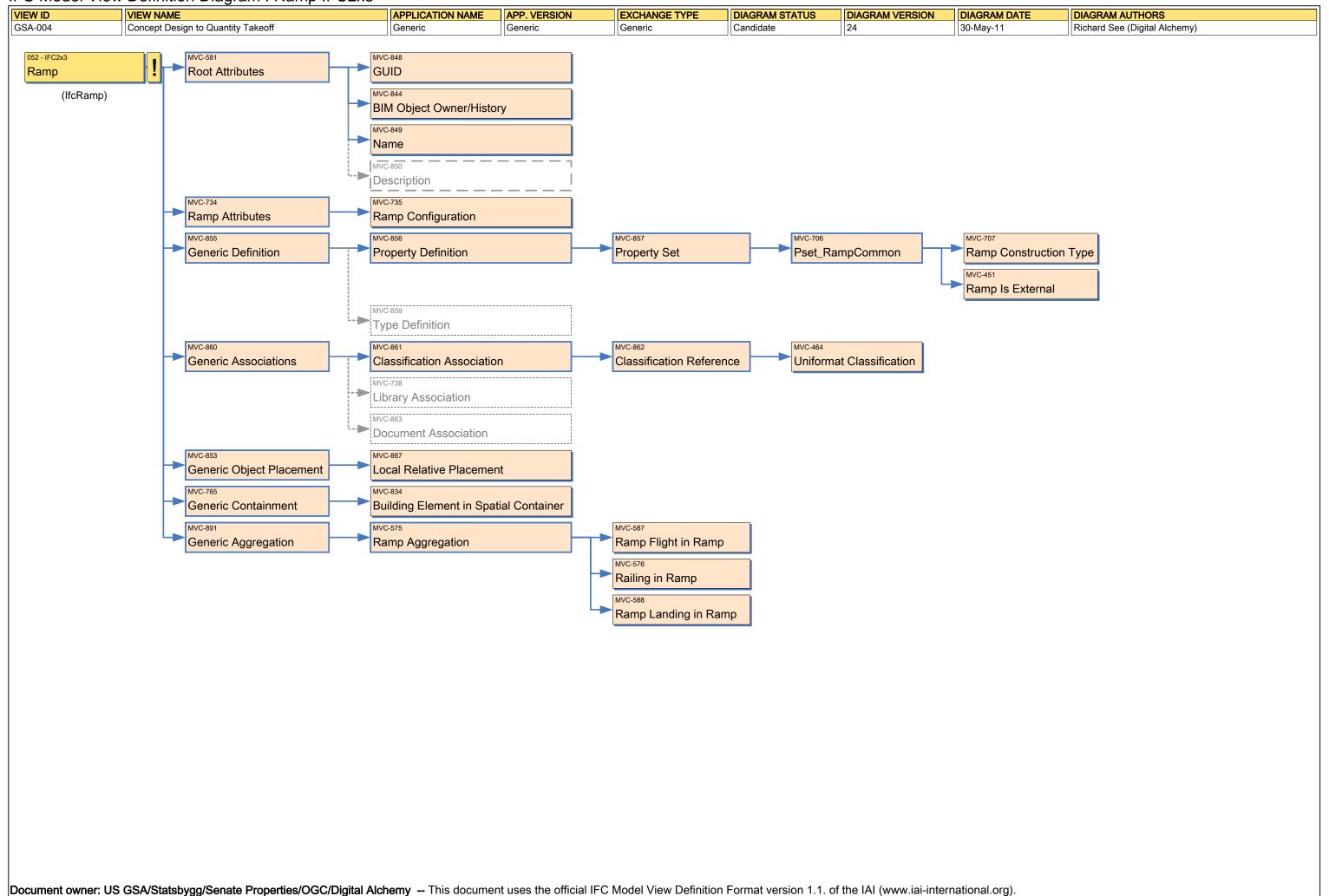


IFC Model View Definition Diagram: Railing IFC2x3





### IFC Model View Definition Diagram : Ramp IFC2x3

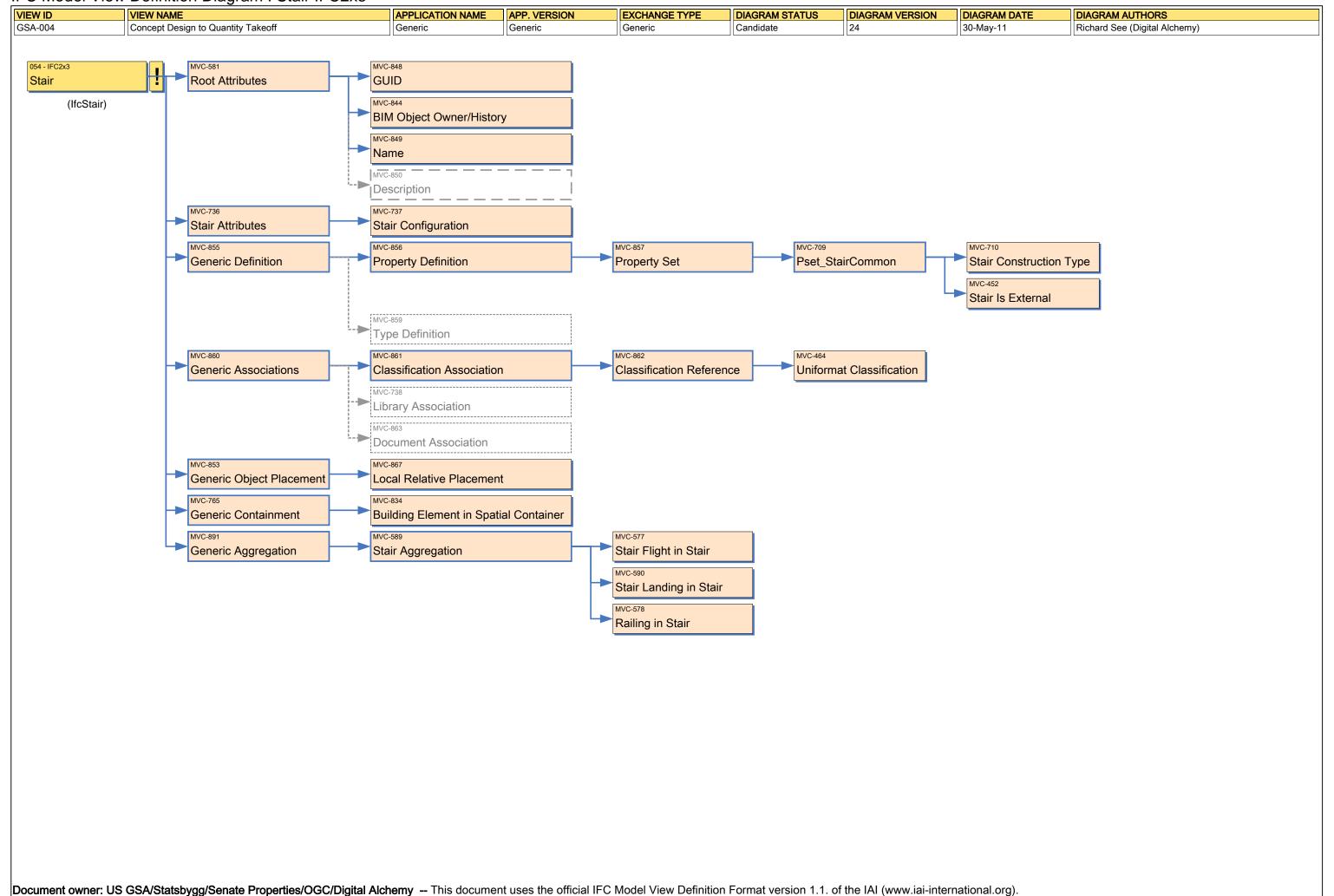


IFC Model View Definition Diagram : Ramp Flight IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM STATUS DIAGRAM VERSION DIAGRAM DATE DIAGRAM AUTHORS **EXCHANGE TYPE** GSA-004 Concept Design to Quantity Takeoff 30-May-11 Richard See (Digital Alchemy) Candidate 24 Generic Generic Generic 053 - IFC2x3 MVC-848 Root Attributes GUID Ramp Flight (IfcRampFlight) BIM Object Owner/History MVC-849 Name Description MVC-855 MVC-856 MVC-857 MVC-708 MVC-552 Pset\_RampFlightCommon Ramp Flight Construction Type Generic Definition Property Definition Property Set MVC-858 Simple Element Quantities Ramp Flight Base Quantities Ramp Flight Width Ramp Flight Length Ramp Flight Rise Ramp Flight Gross Area - Top MVC-859 Type Definition MVC-861 MVC-464 Generic Associations Classification Reference Uniformat Classification Classification Association Generic Material Association Material List Library Association MVC-863 Document Association MVC-867 MVC-853 Generic Object Placement Local Relative Placement Geometric Curve Set Shape Representation Foot Print Generic Geometric Representation MVC-870 Bounding Box MVC-811 MVC-872 MVC-873 Any of these will be accepted – in addition to Bounding Box Body Brep Brep with No Voids MVC-874 Brep with Voids MVC-819 MVC-871 Linear Extruded Solid Swept Solid MVC-875 Clipped Solid MVC-826 Mapped Item Representation Generic Containment Building Element in Spatial Container MVC-891 MVC-575 MVC-587 Generic Aggregation Ramp Aggregation Ramp Flight in Ramp

IFC Model View Definition Diagram : Slab IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION DIAGRAM DATE **EXCHANGE TYPE** DIAGRAM STATUS DIAGRAM AUTHORS GSA-004 Concept Design to Quantity Takeoff Candidate 30-May-11 Richard See (Digital Alchemy) Generic Generic Generic 24 MVC-848 010 - IFC2x3 Root Attributes Slab GUID MVC-844 (IfcSlab) BIM Object Owner/History Name Description Slab Attributes Slab Predefined Type MVC-855 MVC-856 MVC-857 MVC-702 Generic Definition Property Definition Property Set Pset\_SlabCommon Slab Construction Type Slab Is Internal/External MVC-511 Simple Element Quantities Slab Base Quantities Slab Thickness MVC-512 Slab Perimeter Slab Gross Area MVC-514 Slab Net Area MVC-515 Slab Gross Volume MVC-516 Slab Net Volume Type Definition MVC-861 MVC-862 MVC-464 Classification Reference Uniformat Classification Generic Associations Classification Association Material in Material Layer Material Layer Set Generic Material Association Material Layer Library Association Document Association Generic Object Placement Local Relative Placement MVC-854 MVC-836 MVC-812 Geometric Curve Set Foot Print Shape Representation Generic Geometric Representation MVC-870 Bounding Box MVC-811 MVC-872 MVC-873 Body Brep Brep with No Voids MVC-874 Brep with Voids MVC-819 Swept Solid Linear Extruded Solid Slab Linear Extruded Solid MVC-875 MVC-825 Clipped Solid Slab Clipped Solid MVC-826 Mapped Item Representation Generic Voiding Building Element Voiding MVC-765 Generic Containment **Building Element in Spatial Container** MVC-588 Ramp Landing in Ramp Generic Aggregation Ramp Aggregation MVC-589 Stair Aggregation Stair Landing in Stair



IFC Model View Definition Diagram : Stair IFC2x3



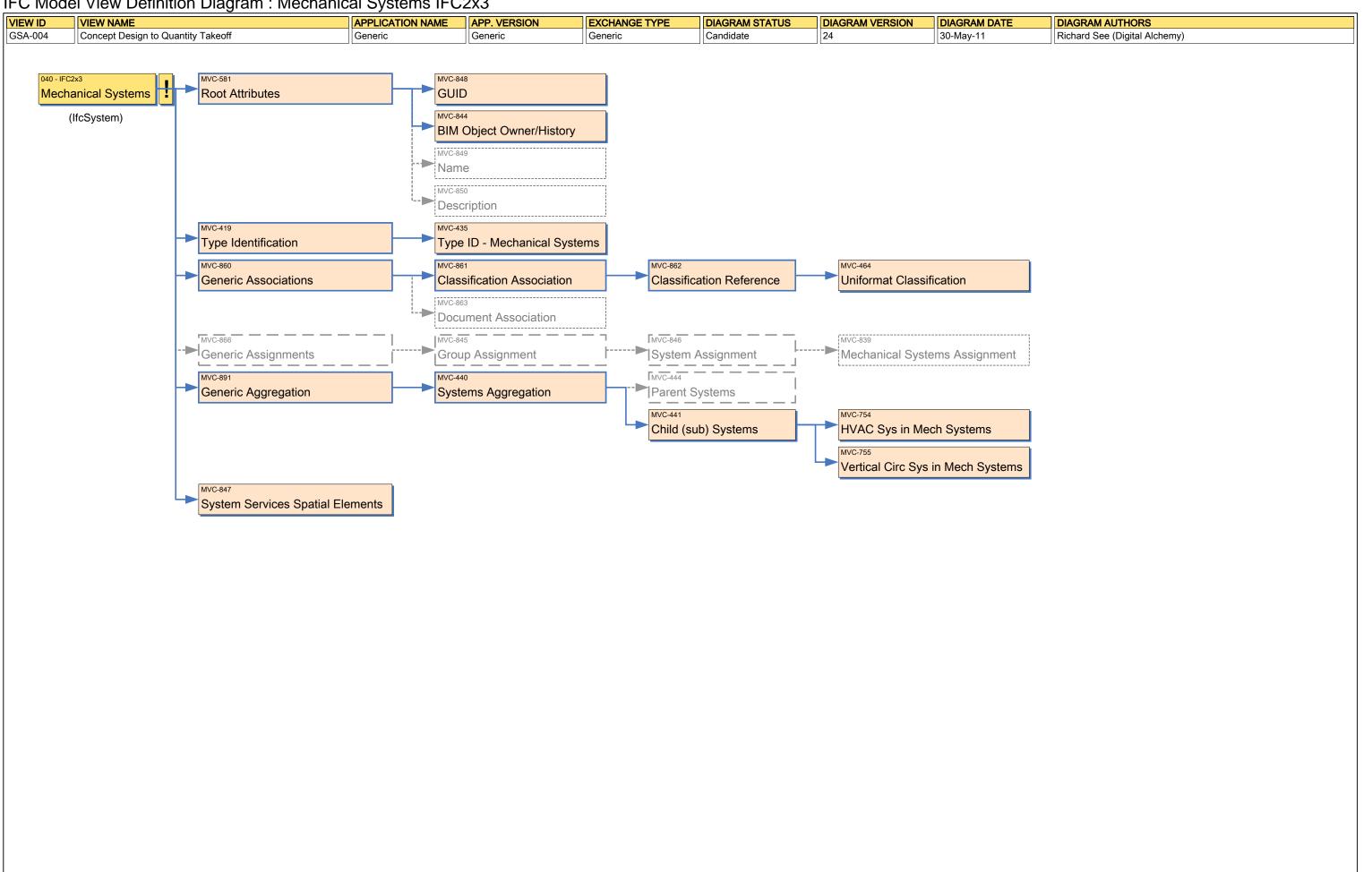
IFC Model View Definition Diagram : Stair Flight IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM STATUS DIAGRAM VERSION DIAGRAM DATE **EXCHANGE TYPE** DIAGRAM AUTHORS Candidate GSA-004 Concept Design to Quantity Takeoff Richard See (Digital Alchemy) 30-May-11 24 Generic Generic Generic 055 - IFC2x3 MVC-848 Root Attributes Stair Flight GUID MVC-844 (IfcStairFlight) BIM Object Owner/History MVC-849 Name Description MVC-856 Generic Definition Property Set Property Definition Pset\_StairFlightCommon Stair Flight Construction Type Stair Flight Number of Risers MVC-565 MVC-858 Simple Element Quantities Stair Flight Base Quantities Stair Flight Width Stair Flight Length Stair Flight Rise Stair Flight Gross Area - Treads MVC-521 Stair Flight Gross Area - Risers Type Definition MVC-860 MVC-862 MVC-464 Generic Associations Classification Reference Uniformat Classification Classification Association Generic Material Association Material List MVC-738 Library Association MVC-863 Document Association MVC-867 MVC-853 Generic Object Placement Local Relative Placement MVC-836 MVC-812 MVC-854 Shape Representation Foot Print Generic Geometric Representation Geometric Curve Set MVC-870 Bounding Box MVC-872 MVC-811 MVC-873 Body Brep Brep with No Voids Any of these will be accepted – in addition to Bounding Box MVC-874 Brep with Voids Linear Extruded Solid Swept Solid MVC-875 Clipped Solid Mapped Item Representation MVC-834 **Building Element in Spatial Container** Generic Containment Stair Flight in Stair Generic Aggregation Stair Aggregation Document owner: US GSA/Statsbygg/Senate Properties/OGC/Digital Alchemy -- This document uses the official IFC Model View Definition Format version 1.1. of the IAI (www.iai-international.org).

Back to Overview IFC Model View Definition Diagram : Wall IFC2x3 VIEW NAME APPLICATION NAME APP. VERSION DIAGRAM VERSION DIAGRAM DATE EXCHANGE TYPE DIAGRAM STATUS DIAGRAM AUTHORS GSA-004 Candidate Richard See (Digital Alchemy) Concept Design to Quantity Takeoff 30-May-11 Generic 24 Generic Generic 005 - IFC2x3 MVC-848 Root Attributes GUID Wall MVC-844 (IfcWall) BIM Object Owner/History (IfcWallStandardCase) MVC-849 Name Description MVC-712 MVC-856 Generic Definition Property Definition Property Set Pset\_WallCommon Wall Construction Type MVC-778 Wall Is Internal/External MVC-522 Simple Element Quantities Wall Height Wall Base Quantities MVC-523 Wall Length MVC-524 Wall Thickness MVC-525 Wall Gross Side Area MVC-526 Wall Net Side Area Wall Gross Volume MVC-528 Wall Net Volume MVC-859 Type Definition MVC-860 MVC-861 MVC-862 MVC-464 Classification Reference Uniformat Classification Generic Associations Classification Association MVC-545 Generic Material Association Material in Material Layer Material Layer Set Material Layer Library Association MVC-863 Document Association MVC-867 Generic Object Placement Local Relative Placement MVC-854 MVC-836 MVC-812 Shape Representation Generic Geometric Representation Foot Print Geometric Curve Set MVC-869 Curve 2D MVC-870 Bounding Box MVC-872 MVC-811 MVC-873 Body Brep with No Voids Brep MVC-874 Brep with Voids MVC-819 MVC-871 MVC-828 Wall Linear Extruded Solid Linear Extruded Solid Swept Solid hese on to MVC-829 Wall Clipped Solid Any of th in additio MVC-826 Mapped Item Representation **Building Element Voiding** Generic Voiding MVC-834 **Building Element in Spatial Container** Generic Containment

IFC Model View Definition Diagram : Window Type IFC2x3 VIEW ID VIEW NAME APP. VERSION DIAGRAM VERSION **EXCHANGE TYPE DIAGRAM STATUS** DIAGRAM DATE DIAGRAM AUTHORS Richard See (Digital Alchemy) GSA-004 Concept Design to Quantity Takeoff Candidate 30-May-11 Generic Generic Generic 24 064 - IFC2x3 MVC-581 MVC-848 Root Attributes Window Type GUID (IfcWindowStyle) MVC-844 BIM Object Owner/History MVC-849 Name Description MVC-626 Window Type Attributes Window Type Applicable Occurence ► Window Type Tag Window Type Operation Type MVC-630 Window Type Construction Type Window Type Parameter Takes Precedence Window Type Sizeable MVC-859 MVC-855 MVC-580 Type Definition Window Type Definition Generic Definition MVC-608 Type Definition Properties Window Lining Properties Window Lining Depth MVC-611 Window Lining Thickness MVC-612 Window Panel Properties Window Operation Type MVC-614 Window Frame Depth MVC-615 Window Frame Thickness MVC-613 Window Panel Position MVC-775 MVC-857 MVC-713 Window Construction Type Property Set Pset\_WindowCommon Window Is Internal/External MVC-858 MVC-530 MVC-567 Window Base Quantities Simple Element Quantities Window Width Window Perimeter MVC-534 Window Area Window Frame Depth Window Frame Thickness MVC-860 MVC-861 MVC-862 Classification Reference Generic Associations Uniformat Classification Classification Association Material List Generic Material Association MVC-738 Library Association **Document Association** MVC-836 MVC-854 Shape Representation Mapped Type Item Representation Mapped Type Bounding Box Generic Geometric Representation Mapped Type Brep Mapped Type Brep Without Voids Mapped Type Brep With Voids MVC-439 Mapped Type Swept Solid Mapped Type Linear Extrusion Mapped Type Clipped Solid Either of these will be accepted – in addition to the Bounding Box

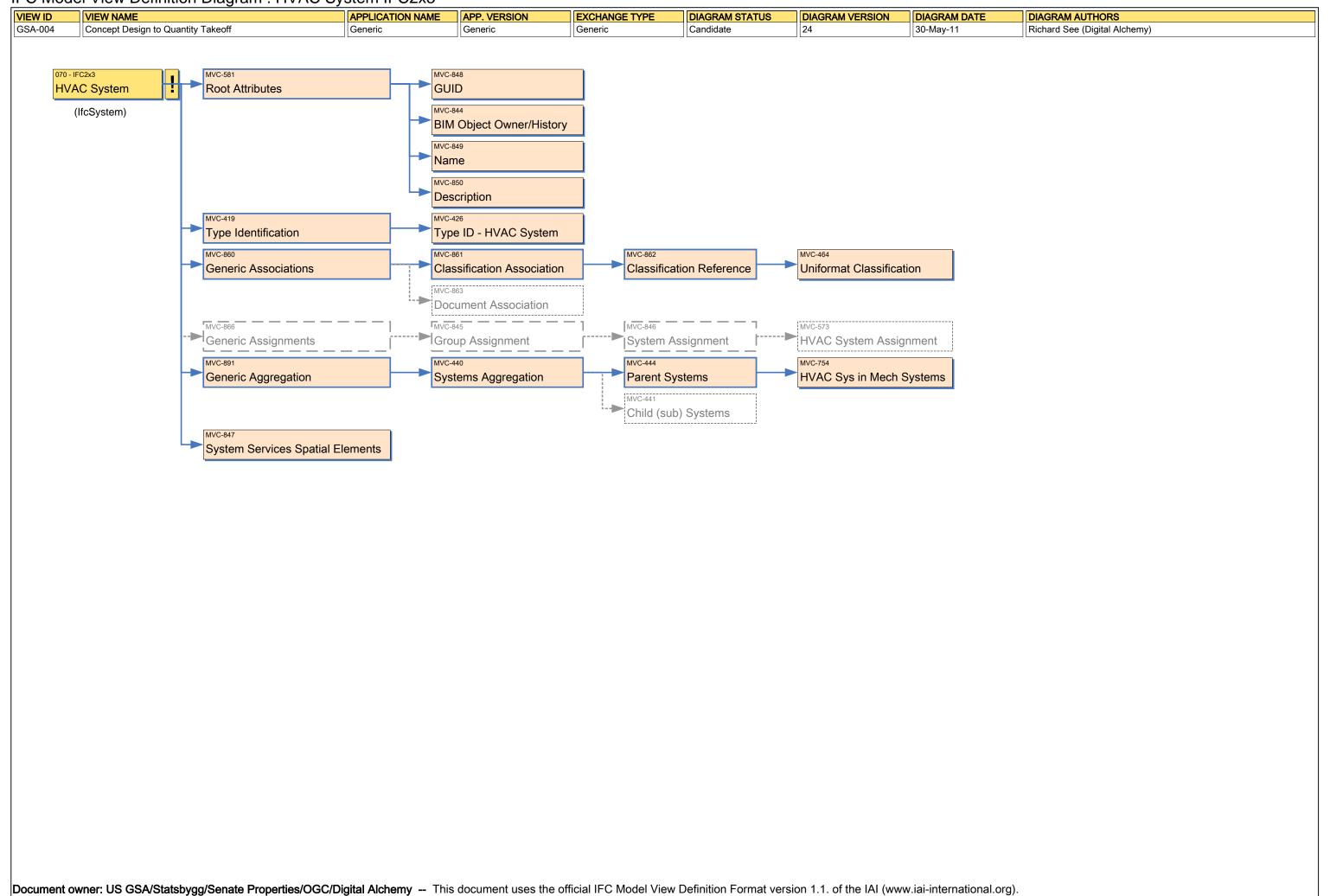


### IFC Model View Definition Diagram : Mechanical Systems IFC2x3

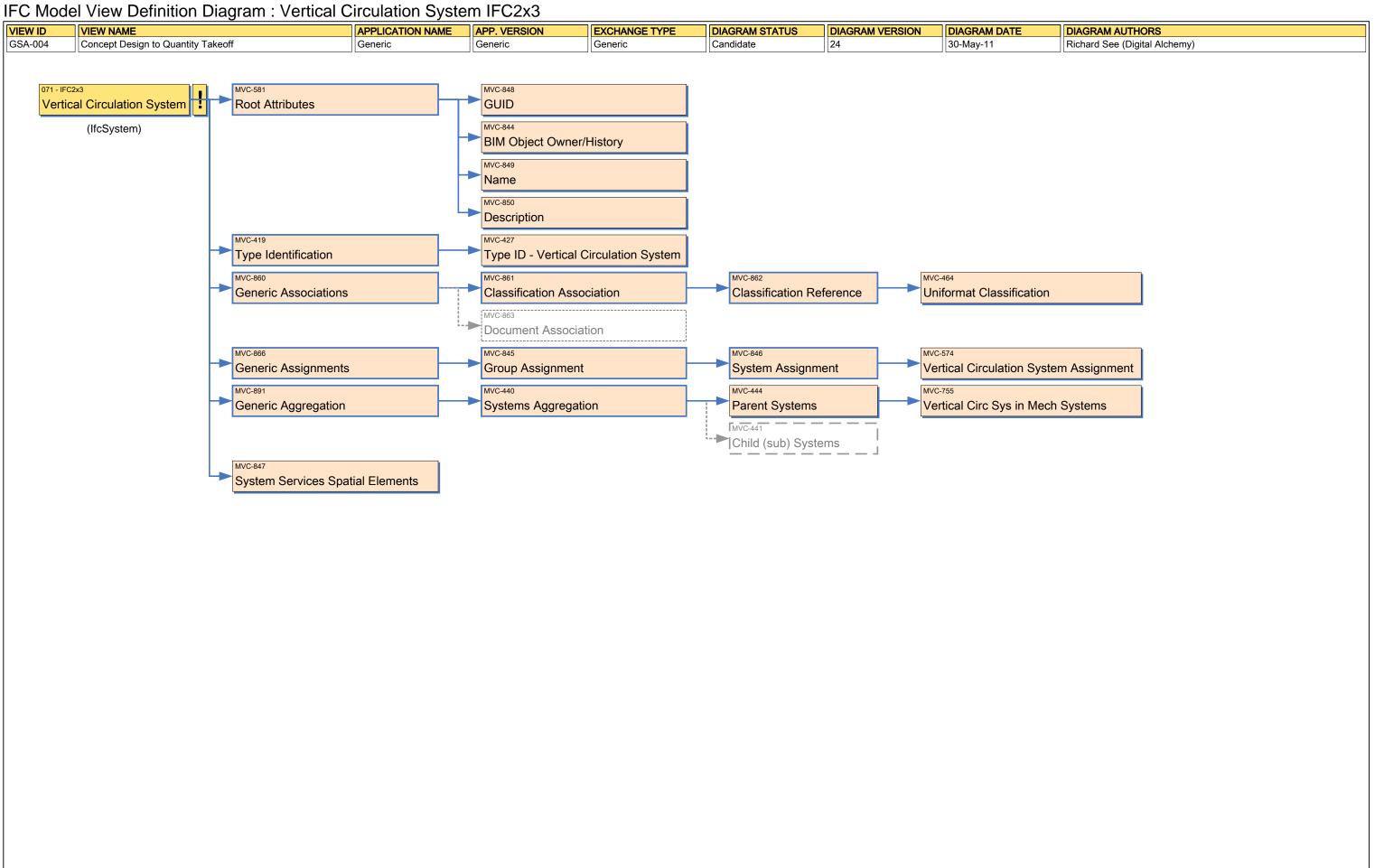




IFC Model View Definition Diagram : HVAC System IFC2x3

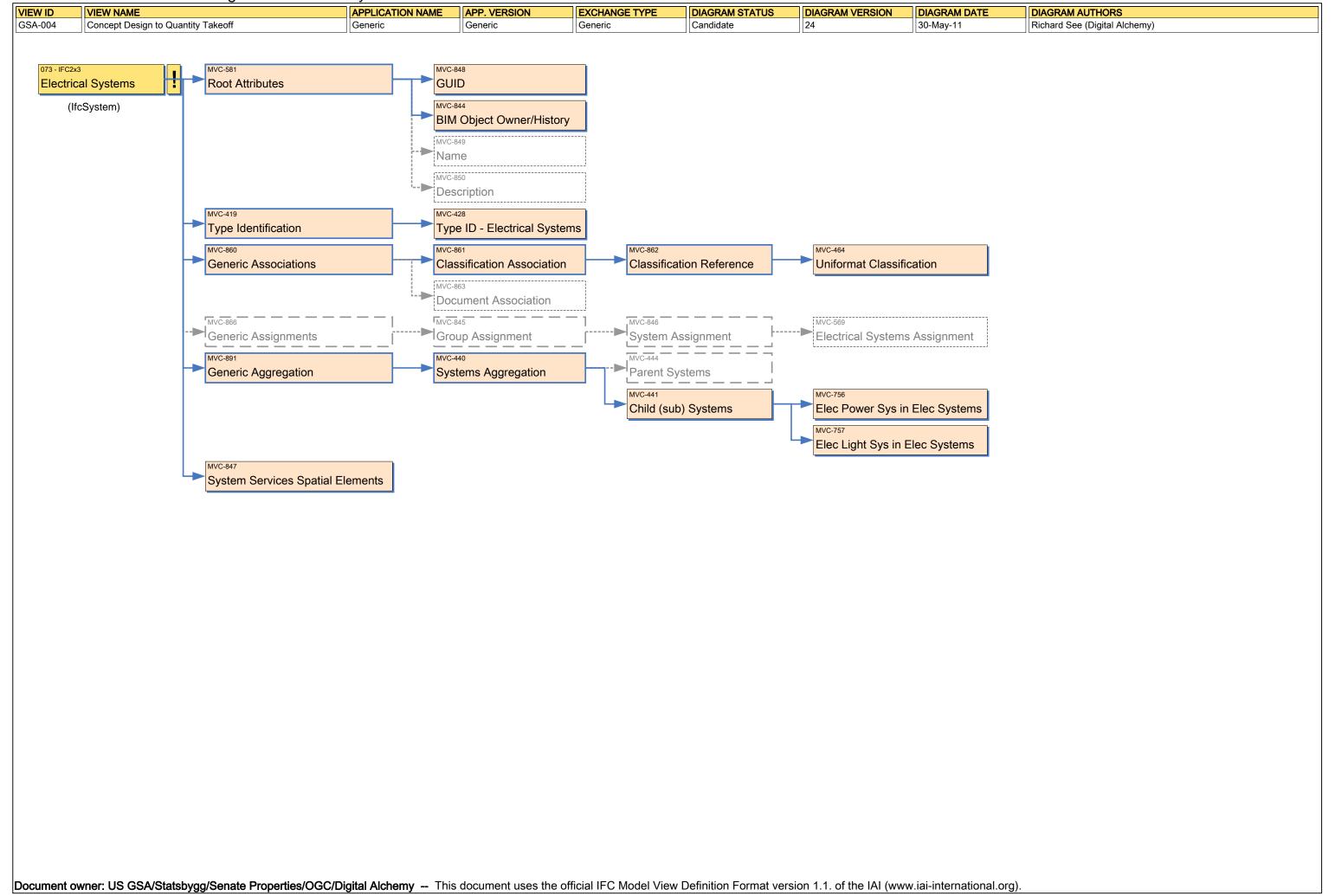




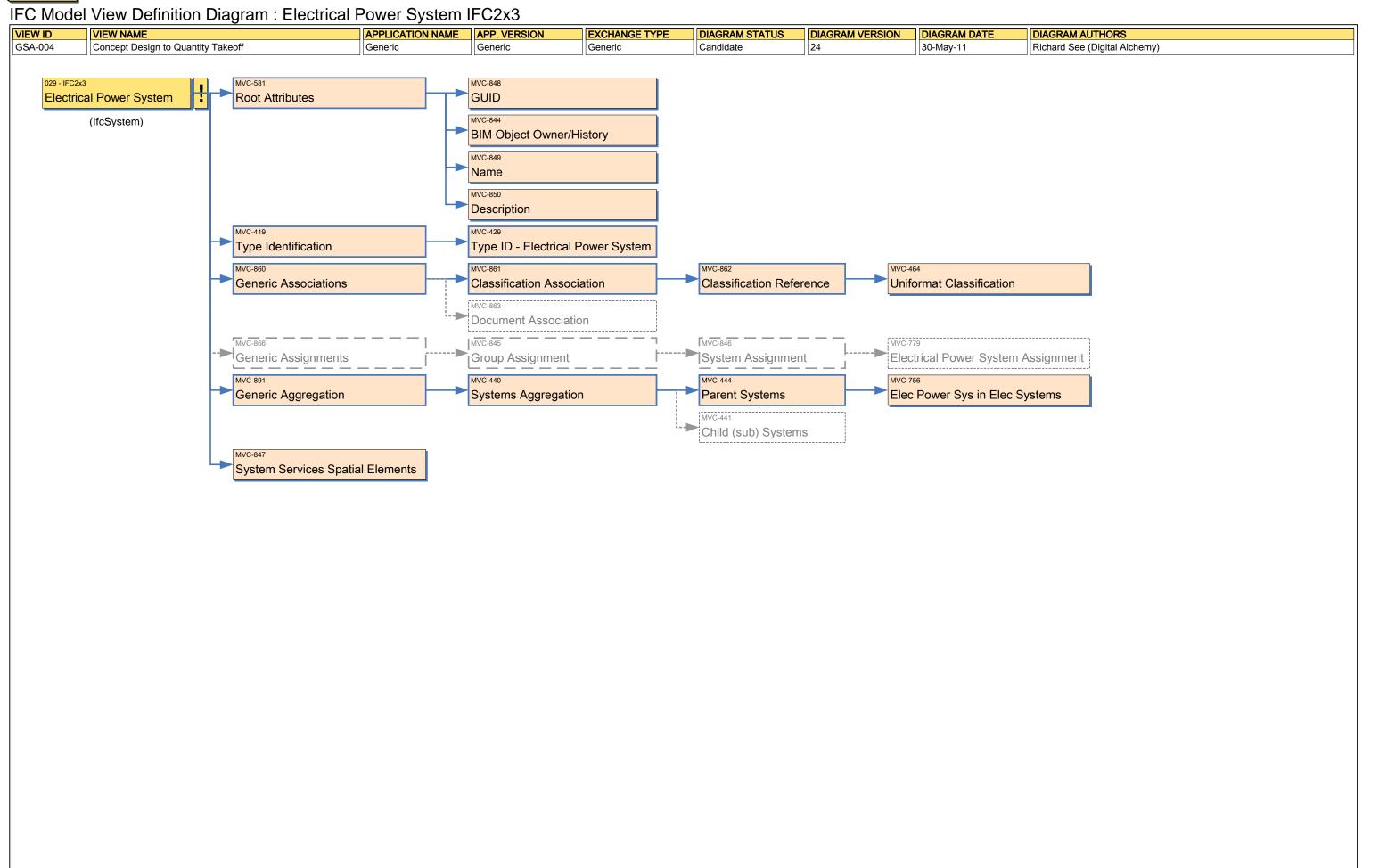




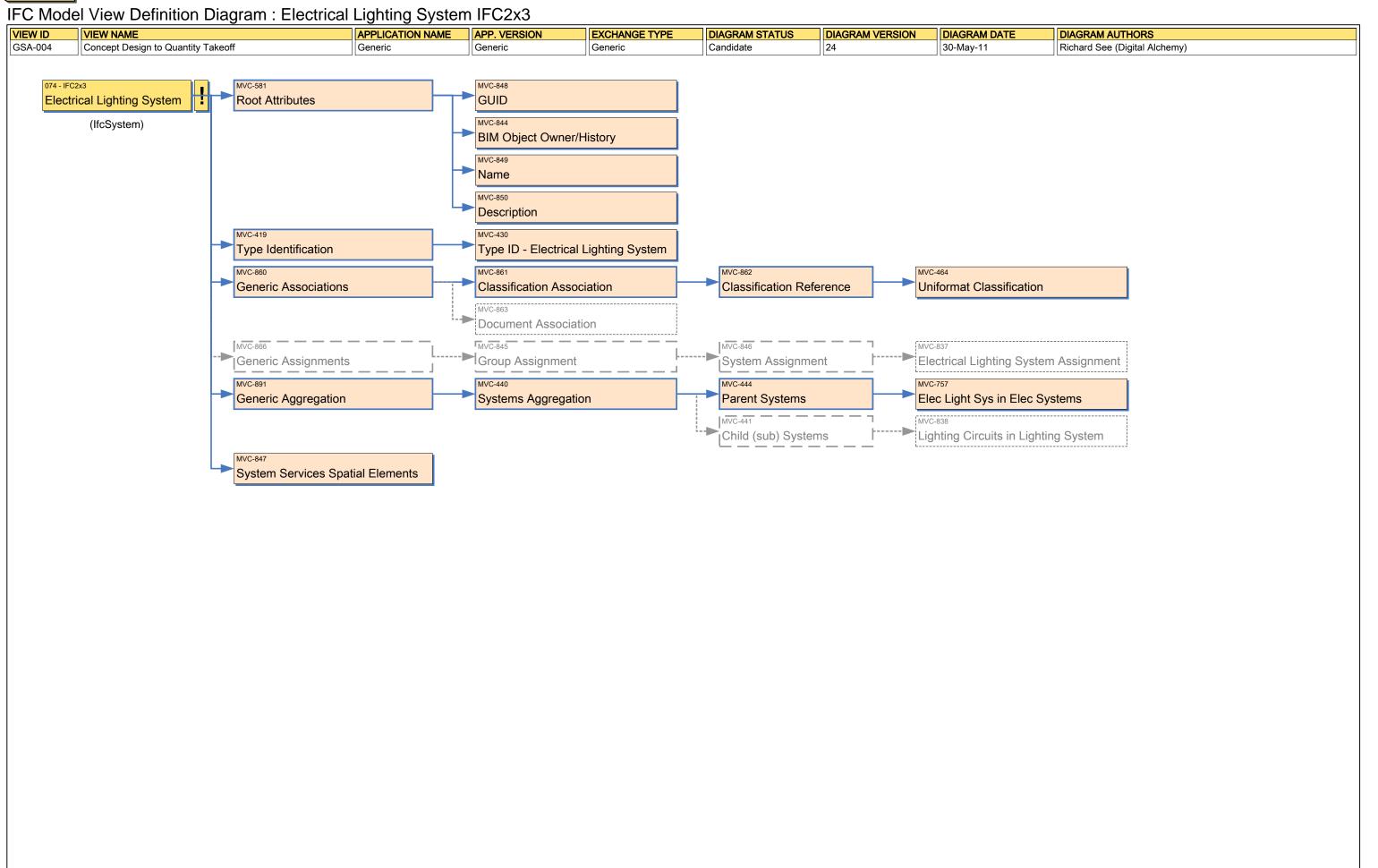
### IFC Model View Definition Diagram : Electrical Systems IFC2x3





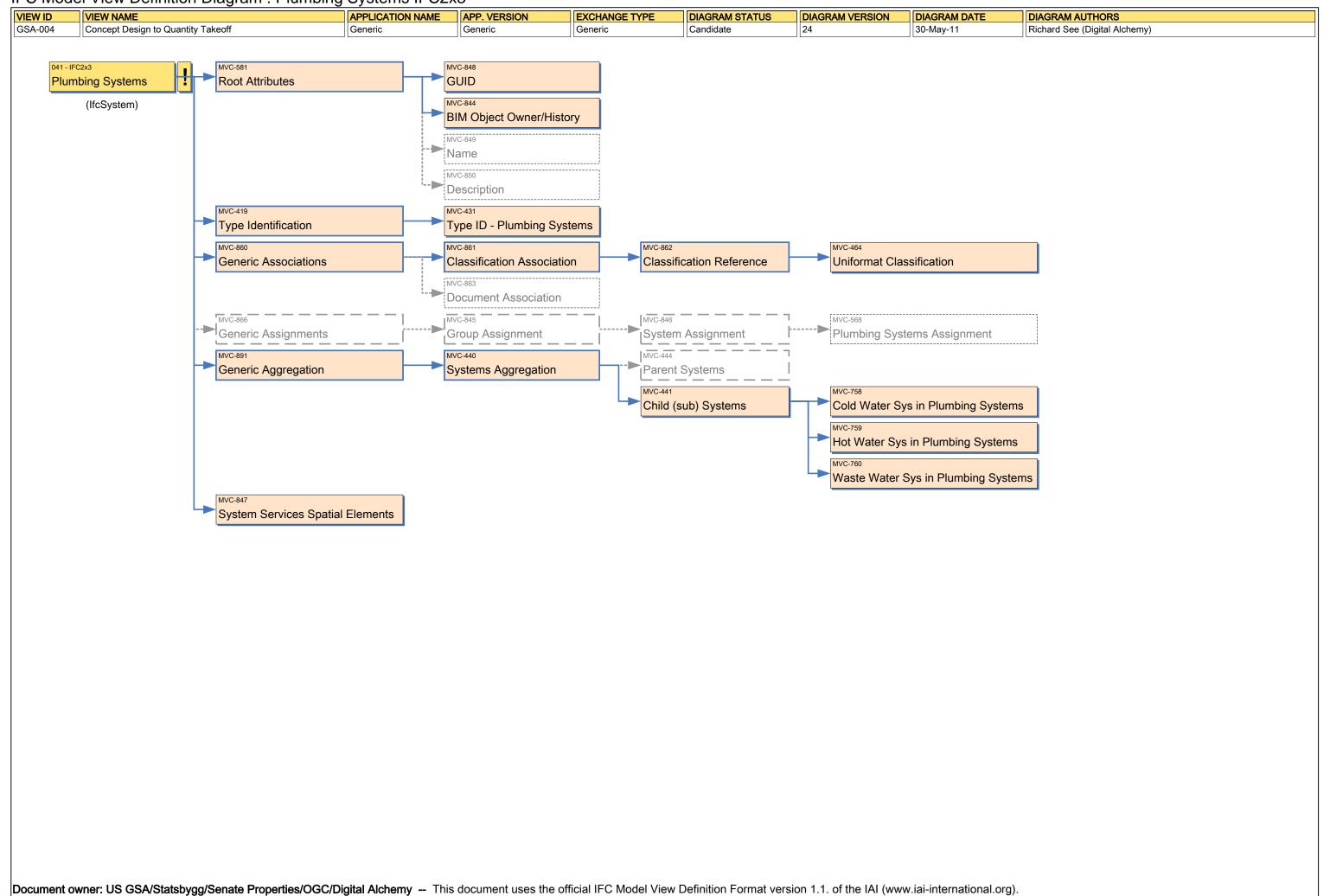




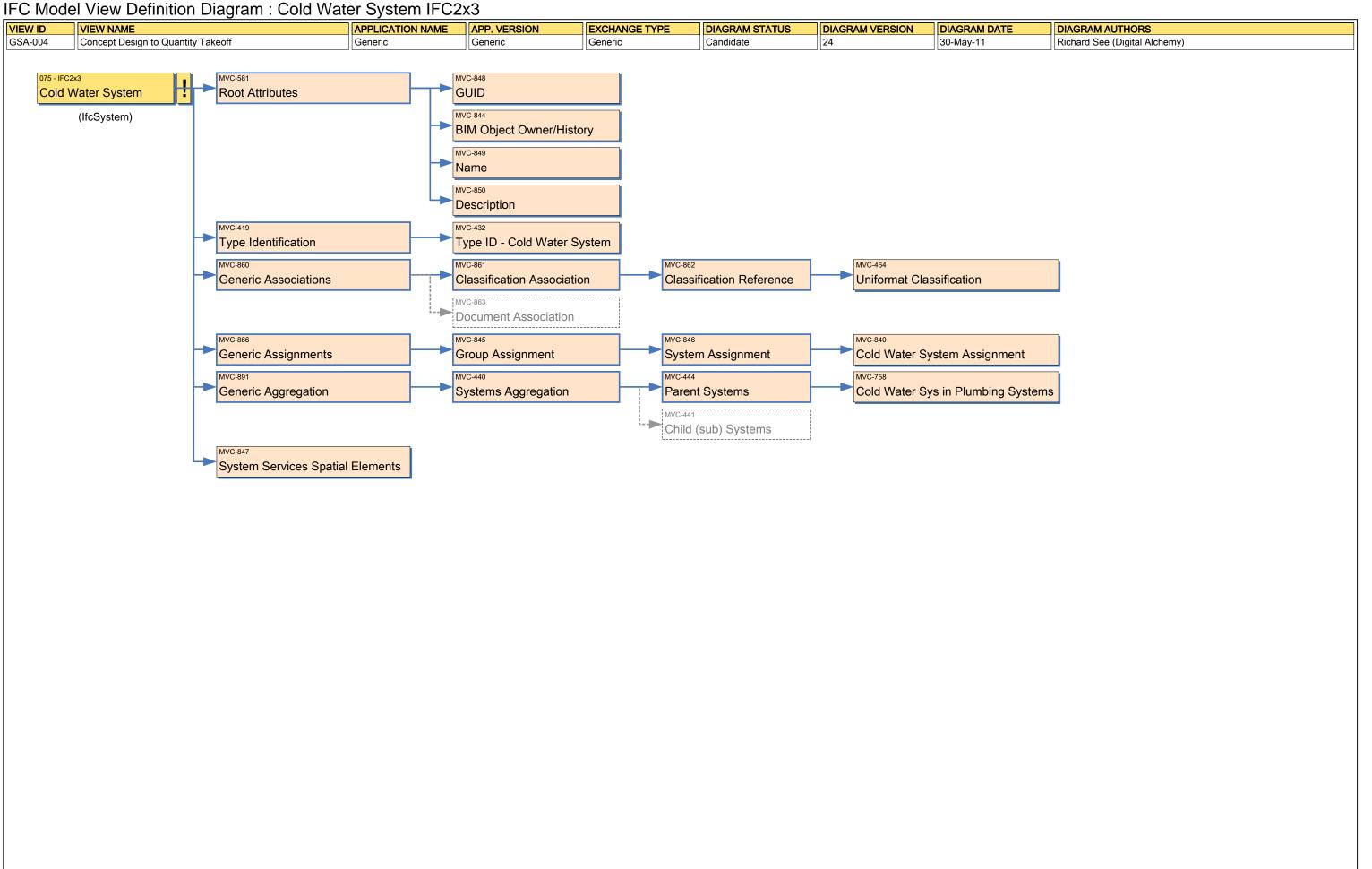




### IFC Model View Definition Diagram : Plumbing Systems IFC2x3









### IFC Model View Definition Diagram : Hot Water System IFC2x3

