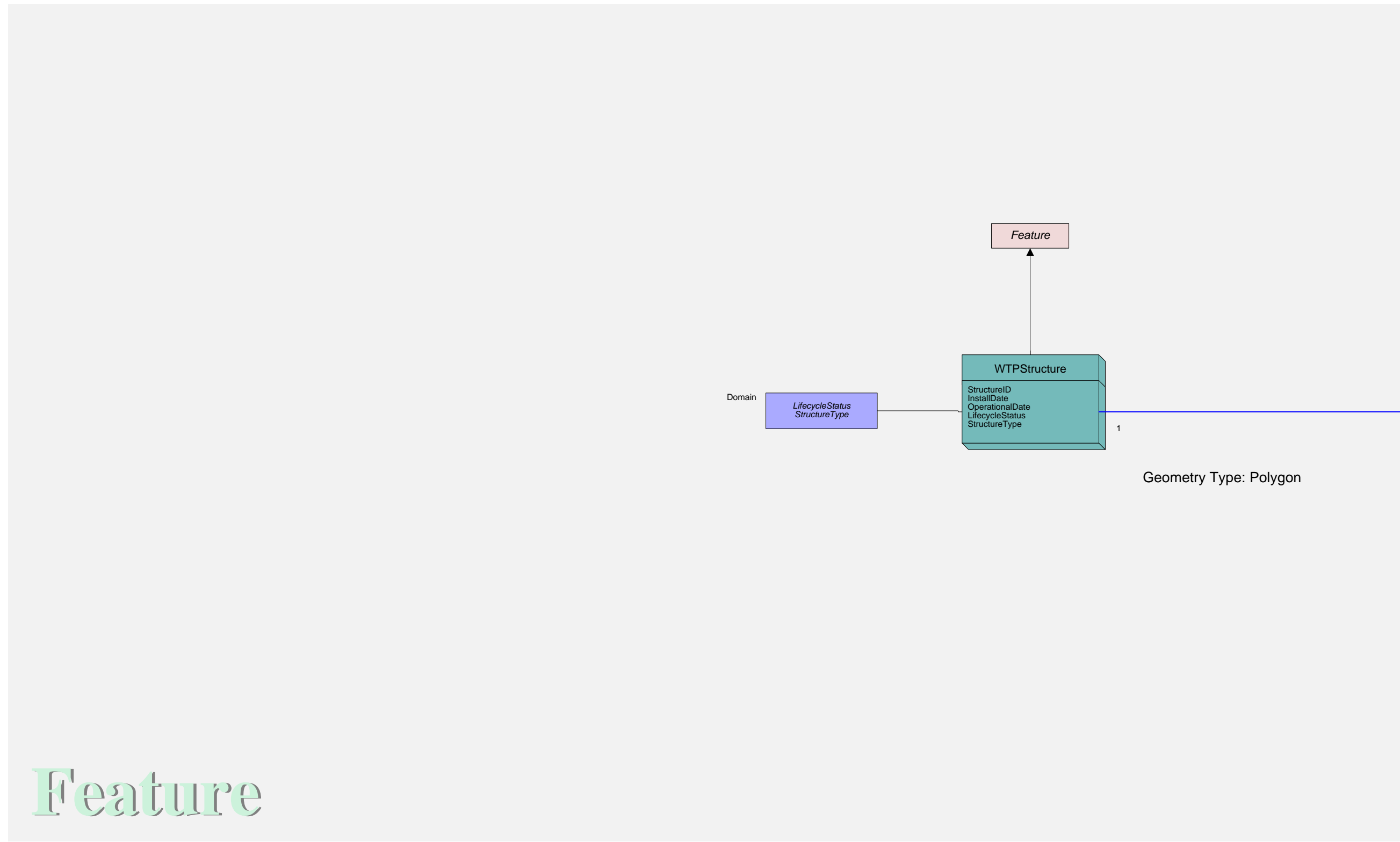


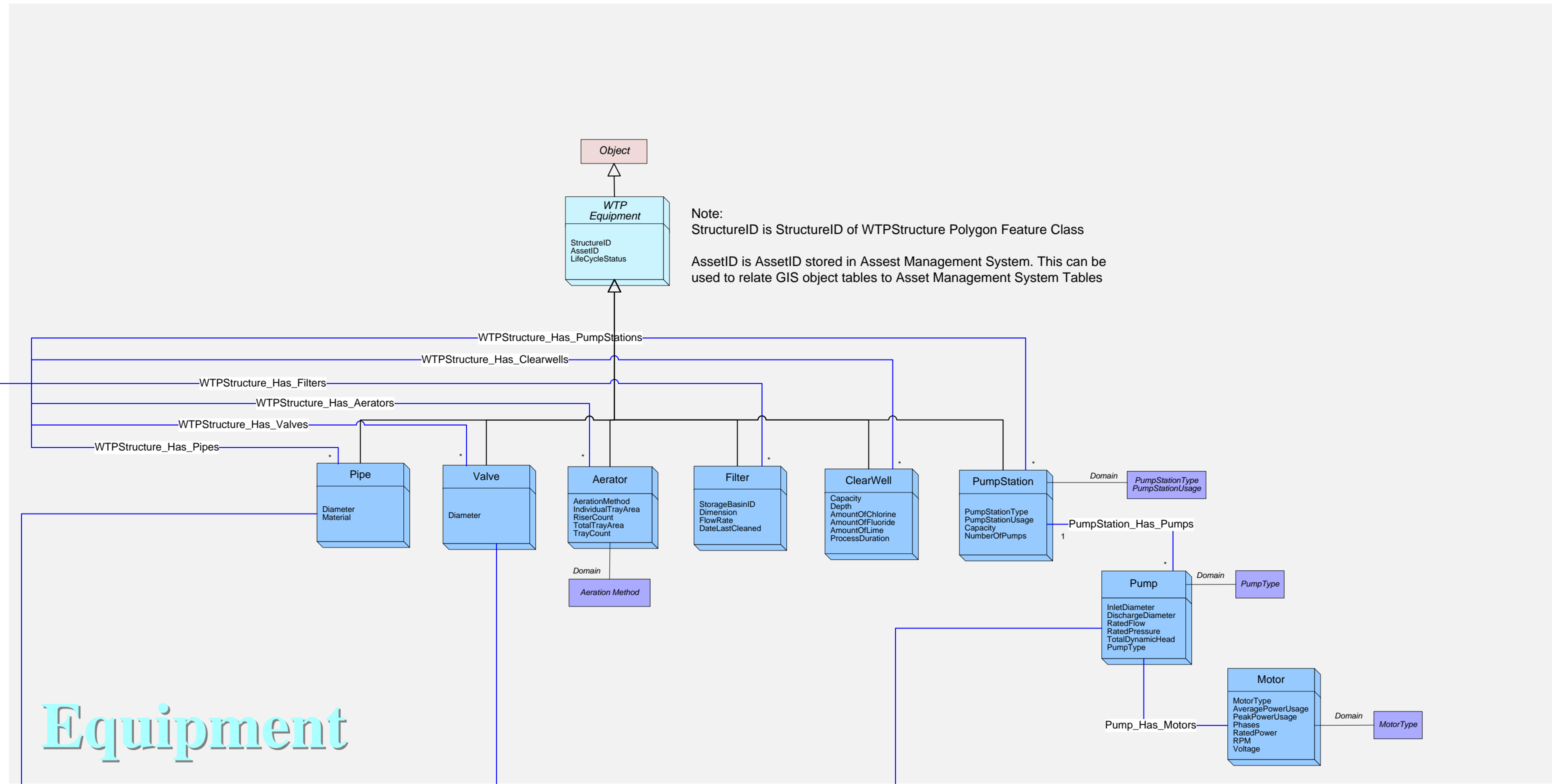


Water Treatment Plant Data Model (Conceptual) – Hybrid

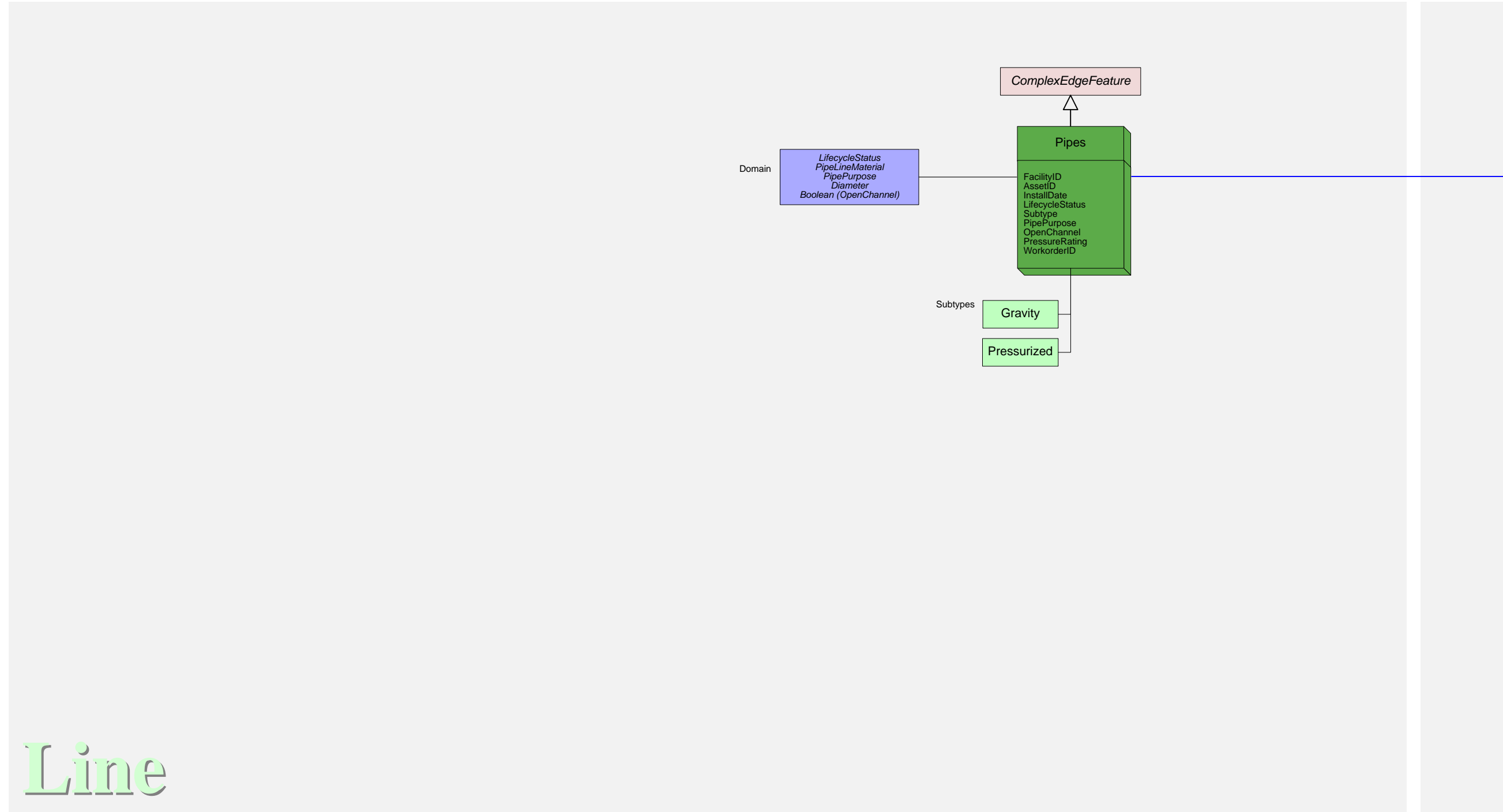
Version 1.0



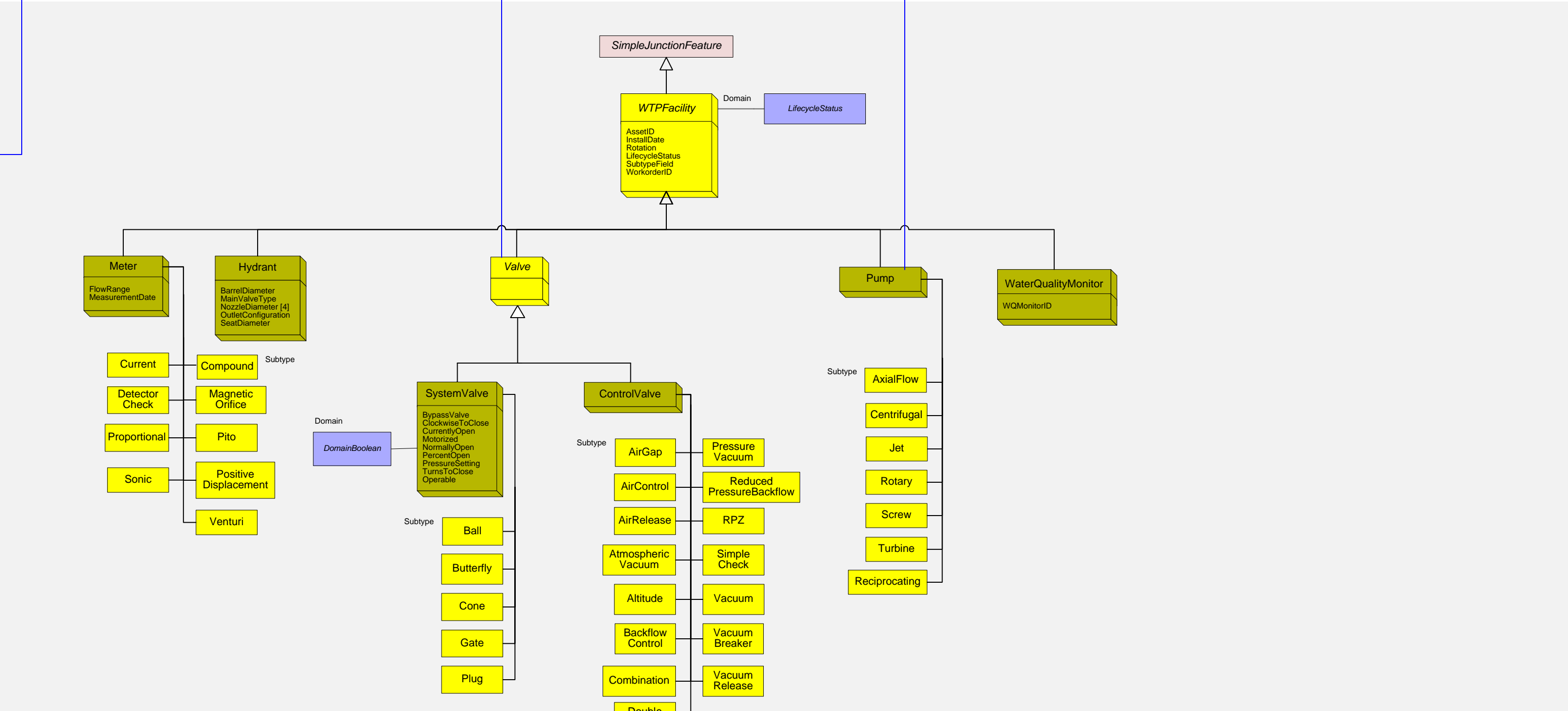
Feature



Equipment



Line



Facility

Domains

LifecycleStatus

Domain: WTPLifecycleStatus
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Proposed: esriFieldTypeString = Proposed
 Active: esriFieldTypeString = Active
 Abandoned: esriFieldTypeString = Abandoned
 Removed: esriFieldTypeString = Removed

PipeMaterial

Domain: WTPPipeMaterial
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Cast Iron: esriFieldTypeString = CI
 Poly Vinyl Chloride: esriFieldTypeString = PVC
 Adhesia Concrete: esriFieldTypeString = AC
 Clay: esriFieldTypeString = Cl
 Wood: esriFieldTypeString = Wo
 Unknown: esriFieldTypeString = Link
 Other: esriFieldTypeString = Oh

AerationMethod

Domain: WTPAerationType
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Diffuser: esriFieldTypeString = Diffuser Aeration
 Spray: esriFieldTypeString = Spray Aeration
 Multiple: esriFieldTypeString = Multiple-ray Aeration
 Cascade: esriFieldTypeString = Cascade Aeration
 AirLifting: esriFieldTypeString = Air Lifting Aeration

PumpType

Domain: WTPPumpType
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Axial: esriFieldTypeString = Axial Flow
 Centrifugal: esriFieldTypeString = Centrifugal
 Jet: esriFieldTypeString = Jet
 Rotary: esriFieldTypeString = Rotary
 Screw: esriFieldTypeString = Screw
 Turbine: esriFieldTypeString = Turbine
 Reciprocating: esriFieldTypeString = Reciprocating

PumpStationUsage

Domain: WTPPumpStationUsage
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Water: esriFieldTypeString = Water
 Chemical: esriFieldTypeString = Chemical Meter
 Effluent: esriFieldTypeString = Effluent Sludge

PumpStationType

Domain: WTPPumpStationType
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Wet-pit: esriFieldTypeString = Wet-pit
 Dry-pit: esriFieldTypeString = Dry-pit

MotorType

Domain: WTPMotorType
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Induction: esriFieldTypeString = Induction
 Synchronous: esriFieldTypeString = Synchronous
 VariableSpeed: esriFieldTypeString = Variable Speed

Diameter

Domain: WTPDiameter
 Field Type: - unspecified = esriFieldTypeDouble
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Min: esriFieldTypeDouble = 1
 Max: esriFieldTypeDouble = 48

StructureType

Domain: WTPStructureType
 Field Type: - unspecified = esriFieldTypeString
 Merge Policy: - unspecified = esriMPTDefault
 Split Policy: - unspecified = esriSPTDuplicate
 Intake: esriFieldTypeString = Intake Structure
 Raw: esriFieldTypeString = Raw Water Storage
 PumpStation: esriFieldTypeString = Pump Station
 Precipitation: esriFieldTypeString = Precipitation Basin
 Coagulation: esriFieldTypeString = Coagulation Basin
 Flocculation: esriFieldTypeString = Flocculation Basin
 Clarifier: esriFieldTypeString = Clarifier
 ClearWell: esriFieldTypeString = Clear Well
 Sedimentation: esriFieldTypeString = Sedimentation Basin
 Filtration: esriFieldTypeString = Filtration Basin
 Effluent: esriFieldTypeString = Effluent Basin
 Reservoir: esriFieldTypeString = Reservoir/Tank
 TreatmentPlant: esriFieldTypeString = Treatment Plant
 Laboratory: esriFieldTypeString = Laboratory
 ChemicalBuilding: esriFieldTypeString = ChemicalBuilding
 Administration: esriFieldTypeString = Administration Building
 Maintenance: esriFieldTypeString = Maintenance Building
 Other: esriFieldTypeString = Other

About this diagram

This diagram is not just for programmers. Understanding this object model will give many users the conceptual insight to make better geographic databases.

How to read this diagram

Types of Classes
ESRI Object Class cannot be used to create new objects but is a specification for instances of subclasses (through type inheritance).
Abstract Class is a class for which no instances may be created. In a class diagram you indicate that a class is abstract by showing its title in italics.
Feature Class is a class for objects that inherit from the feature class. Feature classes can also be associated with Coded Value Domains and Subtypes.

Types of Relationships
Associations represent relationships between classes. They have defined multiplicities at both ends.
Type Inheritance defines specialized classes of objects which share properties and methods with the superclass and have additional properties and methods.
Instantiation specifies that one object from one class has a method with which it creates an object from another class.

Type Inheritance

The objects below show an example of type inheritance for the object class StandByPower. Tables for the class StandByPower are created from the objects that inherit from the ESRI Object Class.