Traffic Risk Zones

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MaantieRiskiluokitus – Risk classification for roads

Feature attribute	Description
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PvSuoja	Groundwater protection level (see below)
MuutosPvm	Date when changes has been made

RautatieRiskiluokitus – Risk classification for railroads

Feature attribute	Description
Vaksuluokka	Traffic risk zone class (see below)
MuutosPvm	Date when changes has been made

Spesific feature attribute descriptions:

2. Feature attributes' descriptions in detail

VaksuPaaLuokka	Main traffic risk zone class in VAKSU database
A Maanpeite	A Land cover
B Maanpeite, kallio	B Land cover, cliffs
C Maanpeite	C Land cover
W Avovesi	W Open water

YmpRiski – Ympäristöriskin arviointiohje (*guideline for evaluating associated environmental risks)*

Suuri ympäristöriski, suuri ympäristöterveysriski *(High environmental risk, High environmental health risk)*
Merkittävä ympäristöriski *(Significant environmental risk)*
Kohonnut ympäristöriski (erityisesti sade- ja sulamiskautena) (*Elevated environmental risk (especially during rainy weather and snow melting season))*
Suuri pohjaveden pilaantumisriski *(High pollution risk for ground waters)*
Merkittävä pohjaveden pilaantumisriski *(Significant pollution risk for ground waters)*
Kohonnut pohjaveden pilaantumisriski *(Increased pollution risk for ground waters)*

PvSuoja – Pohjavesisuojaus – Ground water protection

0 = no protection
1 = road area protected with constructions, but there is no available description of used

methods or the method used to protect the bottom of the ditch is not classified as below:

2 = compressed soil layers
3 = bentonite, canvas or bentonite carpets
4 = at least 15 cm thick layer of mixed bentonite and soil
5 = thick, at least 1 mm plastic membrane
6 = thin plastic and soil sealing

7 = bentonite carpet and plastic
8 = bentonite soil and plastic
9 = no evaluated

VaksuLuokka – Traffic risk zone classes
AI, AII, AII, BI, BII, BIII, CI, CII, CIII, WI, WII, WIII (see text below)

The risk classification has four main categories and each of the main categories has three sub-categories. Each category has certain physical conditions and pollution risks described as follows:

Soil classes A, B and C are determined based on the soil quality and local topography. Class A includes gravel and sand areas, having good permeability and poor retention of liquids. The rough parts of eskers and terminal moraines belong to this category. The risk for ground water contaminations is especially high in the class AI.

Class AIII represents the joining areas of ground water bodies, where liquids can flow along the ground water flow or surface water flow to the ground water basin. Rocky areas and cliffs bordering to the ground water areas are classified to this class.

Areas having a particle size similar to fine sand belong to B-class. This class has a moderate permeability, and soil can retain some liquids. Areas included in this class are e.g. the borders of ground water areas and sandy moraines. The ground water pollution risk is similar to the class A.

A- and B- area's classes I and II are separated by the ground water level. If the groundwater is less than 6 meters below surface soil the area belongs to AI class. Areas, where the ground water level is deeper than six meters, belong to the AII class. This classification based on 6 meter limit reflects the available technology used to mitigate the pollution damages on ground water areas.

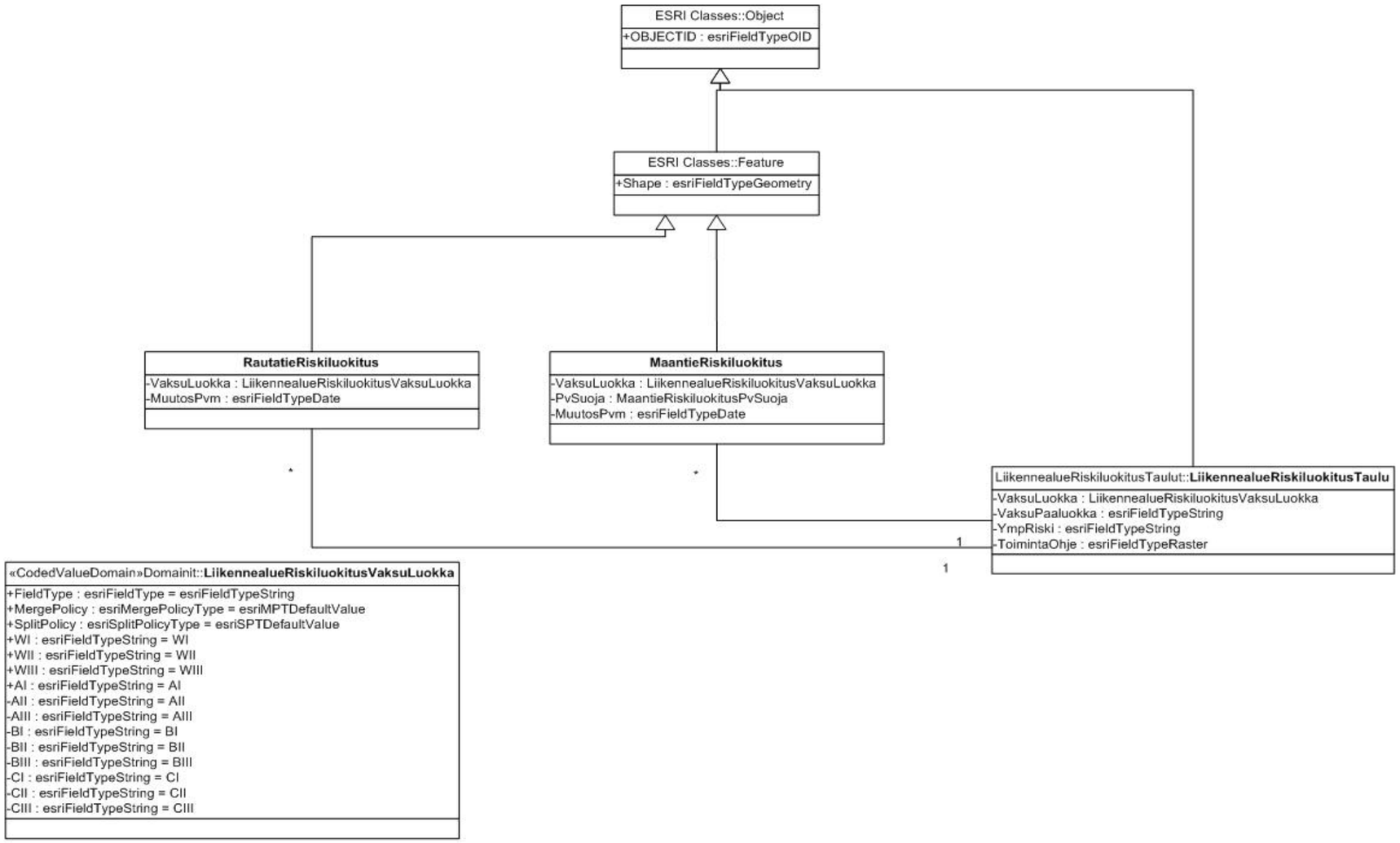
BIII areas are gradient areas so they include moraines and rocky areas. Liquids spilled on the BIII areas will most likely flow according to the gradient so that the pollution risk focuses on the water passages, surface waters or water absorption plants along the gradient.

Class C includes areas with dense soils and poor permeability. These include also the peat lands and artificial surfaces. CI class includes clay soils near ground water areas, when there can be confined aquifers running under the low permeability clay layers. CII class is common in urban areas and on highways, including the artificially sealed areas (crossings, traffic lines) as well as gently sloping or flat clay, silt and fine-grained moraines. C-class represents relatively low pollution risk areas; the greatest risk being the contamination of ground waters in CI areas.

Class W differs from the other main classes. In Class W areas the pollution risk is concentrating on surface waters. In class W the driftin of dangerous substances can be fast; pollutants can end directly to the surface waters or flow through open water passages. Class WII represents exposed ground water sources including closed ground water bonds on eskers.

The aim of the risk classification is to give one risk class per part of the road. However, in some cases it is justified to give two parallel classes for the same part of the road. Typical such situation is a ground water area with open water passages. Depending on the situation the pollution risk can concentrate on the open water, ground water or both at the same time. If the permeability of the soil is low e.g. due to the frost or high liquid amount, the risk for open water pollution can be higher than risk for the ground water pollution.

3. UML-model



«CodedValueDomain»Domainit::**MaantieRiskiluokitusPvSuoja**

+FieldType : esriFieldType = esriFieldTypeInteger
+MergePolicy : esriMergePolicyType = esriMPTDefaultValue
+SplitPolicy : esriSplitPolicyType = esriSPTDefaultValue
+Ei suojausta : esriFieldTypeString = 0
+Tieympäristö on suojattu rakenteellisesti, mutta tapaa ei ole selvitetty tai tapa, jolla ojanpohja on käsitelty, ei ole mikään PvSuoja-domainin mukaisista tavoista : esriFieldTypeString = 1
-Tiivistetty maakerros : esriFieldTypeString = 2
-Bentoniitti ja kuitukankaat (bentoniittimatto) : esriFieldTypeString = 3
-min. 15 cm kerros bentoniitin ja maan sekoitusta : esriFieldTypeString = 4
-Paksu, min. 1 mm muovikalvo : esriFieldTypeString = 5
-Ohut muovi ja maatäviste : esriFieldTypeString = 6
-Bentoniittimatto ja muovi : esriFieldTypeString = 7
-Bentoniittimaa ja muovi : esriFieldTypeString = 8
-Ei inventoitu : esriFieldTypeString = 9