



European Environment Agency



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## **ANNEX 9 to the Tender Specifications**

### **Nomenclature**

For information only	
CLC Level 1	CLC Level 2
Artificial surfaces 1	Urban fabric 1.1
	Industrial, commercial and transport units 1.2
	Mine, dump and construction sites 1.3
	Artificial, non-agricultural vegetated areas 1.4
Agricultural areas 2	Arable land 2.1
	Permanent crops 2.2
	Heterogeneous agricultural areas 2.4

Obligatory requirement			Obligatory level 4, but optional in its discrimination [4]	
MAES ecosystem types	MAES level 2	MAES level 3	MAES level 4	
Urban 1	Urban Fabric, industrial, commercial, public, military and private units 1.1	Dense to medium dense Urban Fabric (IM.D. 30-100% + industrial, commercial, public, military and private units) 1.1.1 [2]	Continuous urban fabric (in-situ based or IM.D. 80 - 100%) 1.1.1.1 [5]	
			Dense urban fabric (in-situ based or IM.D. 30-80% + industrial, commercial, public, military and private units) 1.1.1.2 [5]	
			Industrial or commercial units 1.1.1.3	
	Low density Urban Fabric (IM.D. 0-30%) 1.1.2	Transport infrastructure (all modes) 1.2	Transport infrastructure (all modes) 1.2.1	Road networks and associated land 1.2.1.1
				Railways and associated land 1.2.1.2
	Mineral extraction, dump and construction sites, land without current use 1.3	Mineral extraction, dump and construction sites 1.3.1	Land without current use 1.3.2	Port areas 1.2.1.3
				Airports 1.2.1.4
	Green urban + sports + leisure facilities 1.4	Green urban areas 1.4.1	Sports and leisure facilities 1.4.2	Port areas 1.2.3
				Airports 1.2.4
	Croplands 2	Arable land 2.1	Non-irrigated arable land 2.1.1	Mineral extraction sites 1.3.1
Greenhouses 2.1.2				
Irrigated arable land and rice fields 2.1.3				
Permanent crops 2.2		Vineyards 2.2.1	Fruit trees and berry plantations 2.2.2	Land without current use
				High stem fruit trees (extensively managed) 2.2.2.1
				Low stem fruit trees and berry plantations 2.2.2.2
				Olive groves 2.2.3
Heterogeneous agricultural areas 2.3		Annual crops associated with permanent crops 2.3.1	Complex cultivation patterns 2.3.2	Green urban areas 1.4.1
				Land principally occupied by agriculture with significant areas of natural vegetation 2.3.3
				Agro-forestry T.C.D. > 30% 2.3.4
	Agro-forestry T.C.D. < 30% 2.3.5			
Broadleaved forest 3.1	Broadleaved forest (T.C.D. > 80%) 3.1.1	Broadleaved forest (T.C.D. 50 - 80%) 3.1.2	Green urban areas 1.4.2	
			Broadleaved forest (T.C.D. 30 - 50%) 3.1.3	
			Broadleaved forest (T.C.D. 10 - 30%) 3.1.4	
			Species associations based information (cfr. EUNIS L3 based habitats) in attribute fields 3.1.x.y	
	Coniferous forest 3.2	Coniferous forest (T.C.D. > 80%) 3.2.1	Coniferous forest (T.C.D. 50 - 80%) 3.2.2	Non-irrigated arable land 2.1.1
				Coniferous forest (T.C.D. 30 - 50%) 3.2.3

For information only	
CLC Level 3	Level 4 [1]
Continuous urban fabric 1.1.1	Continuous Urban Fabric (Sealing Degree > 80%)
Discontinuous fabric 1.1.2	Discontinuous Dense Urban Fabric (Sealing Degree 50% - 80%)
	Discontinuous Medium Density Urban Fabric (Sealing Degree 30% - 50%)
Industrial or commercial units 1.2.1	Industrial or commercial units
Isolated Structures	Isolated structures
Discontinuous fabric 1.1.2	Discontinuous Low Density Urban Fabric (Sealing Degree 10% - 30%)
	Discontinuous Very Low Density Urban Fabric (Sealing Degree < 10%)
Road and rail networks and associated land 1.2.2	Fast transit roads and associated land
	Other roads and associated land
Port areas 1.2.3	Railways and associated land
Airports 1.2.4	Port areas
Mineral extraction sites 1.3.1	Airports
Dump sites 1.3.2	Mineral extraction sites
Construction sites 1.3.3	Dump sites
Land without current use	Construction sites
Green urban areas 1.4.1	Land without current use
Sports and leisure facilities 1.4.2	Green urban areas
Non-irrigated arable land 2.1.1	Arable land prevalingly without dispersed (line and point) vegetation
	Arable land with scattered (line and point) vegetation
	Greenhouses
Permanently irrigated land 2.1.2	Permanently irrigated land
Rice fields 2.1.3	Rice fields
Vineyards 2.2.1	Vineyards
Fruit trees and berry plantations 2.2.2	Orchards
	Berry fruit plantations
	Hop plantations
	Kiwi plantations
Olive groves 2.2.3	Oil-bearing rose plantations
Annual crops associated with permanent crops 2.4.1	Olive groves
Complex cultivation patterns 2.4.2	Annual crops associated with permanent crops
	Complex cultivation patterns without scattered houses
Land principally occupied by agriculture with significant areas of natural vegetation 2.4.3	Complex cultivation patterns with scattered houses
	Agricultural areas with significant share of natural vegetation and with prevalence of arable land
	Agricultural areas with significant share of natural vegetation and with prevalence of grasslands
Agro-forestry areas 2.4.4	Agricultural areas with significant share of natural vegetation and with prevalence of scattered vegetation
	Agro-forestry areas
Broadleaved forest 3.1.1	Agro-forestry areas
	Broadleaved forests with continuous canopy, not on mire
	Broadleaved forests with continuous canopy on mire
	Broadleaved forests with discontinuous canopy, not on mire
Coniferous forest 3.1.2	Broadleaved forests with discontinuous canopy on mire
	Coniferous forests with continuous canopy, not on mire
	Coniferous forests with continuous canopy on mire
	Coniferous forests with discontinuous canopy, not on mire

Forests and semi-natural areas 3	Forests 3.1
	Scrub and/or herbaceous vegetation associations 3.2
Agricultural areas 2	Pastures 2.3
Forests and semi-natural areas 3	Scrub and/or herbaceous vegetation associations 3.2
	Open spaces with little or no vegetation 3.3
	Inland wetlands 4.1
Wetlands 4	Maritime wetlands 4.2
	Marine Waters 5.2

Woodland and forest 3	Mixed forest 3.3	Coniferous forest (T.C.D. 10 - 30%) 3.2.4	
		Mixed forest (T.C.D. > 80%) 3.3.1	
		Mixed forest (T.C.D. 50 - 80%) 3.3.2	
		Mixed forest (T.C.D. 30 - 50%) 3.3.3	
		Mixed forest (T.C.D. 10 - 30%) 3.3.4	
Transitional woodland scrub 3.4	Transitional woodland scrub 3.4.1		
Damaged forests 3.5		Damaged forests 3.5.1	
Grassland 4	Managed grassland 4.1	Managed grassland 4.1.1	
	Natural grasslands prevailing without trees and scrubs 4.2	Natural grasslands prevailing without trees and scrubs (T.C.D. < 30%) 4.2.1	
		Natural grasslands with trees and scrubs (T.C.D. > 30%) 4.2.2	
Heathland and scrub 5	Moors and heathland 5.1	Moors and heathland 5.1.1	
	Sclerophyllous vegetation 5.2	Sclerophyllous vegetation 5.2.1	
Sparsely vegetated land 6	Sparsely vegetated areas 6.1	Sparsely vegetated areas 6.1.1	
	Bare soil, rock, perennial snow & ice 6.2	Beaches, dunes, sands 6.2.1	
		Bare rocks, burnt areas, glaciers and perpetual snow 6.2.2	Bare rocks 6.2.2.1
			Burnt areas 6.2.2.2
	Glaciers and perpetual snow 6.2.2.3		
Wetlands 7	Inland marshes 7.1	Inland freshwater marshes 7.1.1	
		Inland saline marshes 7.1.2	
	Peat bogs 7.2	Peat bogs 7.2.1	
		Salt marshes & salines 8.1.1	Salt marshes without reeds 8.1.1.1
			Salt marshes with reeds 8.1.1.2
Lagoons, coastal wetlands and estuaries 8	Maritime wetlands 8.1	Salines 8.1.1.3	
		Intertidal flats 8.1.2	
	Marine waters 8.3	Coastal lagoons 8.3.1	
		Estuaries 8.3.2	

Mixed forest 3.1.3	Coniferous forests with discontinuous canopy on mire
	Mixed forests created by alternation of single trees with continuous canopy, not on mire
	Mixed forests created by alternation of single trees with continuous canopy on mire
	Mixed forests created by alternation of single trees with discontinuous canopy, not on mire
	Mixed forests created by alternation of single trees with discontinuous canopy on mire
	Mixed forests created by alternation of stands of trees with continuous canopy, not on mire
	Mixed forests created by alternation of stands of trees with continuous canopy on mire
	Mixed forests created by alternation of stands of trees with discontinuous canopy, not on mire
Transitional woodland scrub 3.2.4	Mixed forests created by alternation of stands of trees with discontinuous canopy on mire
	Young stands after cutting (and/or clear cuts)
	Natural young stands
	Bushy woodlands
Pastures 2.3.1	Forest nurseries
	Damaged forests
Natural grasslands 3.2.1	Grassland (pastures and meadows) prevailing without trees and scrubs
	Grassland (pastures and meadows) prevailing with trees and scrubs
Moors and heathland 3.2.2	Natural grasslands prevailing without trees and scrubs
	Natural grasslands with trees and scrubs
Sclerophyllous vegetation 3.2.3	Heathlands and moorlands
	Dwarf pine
Sparsely vegetated areas 3.3.3	Sclerophyllous vegetation
	Sparse vegetation on sands
Beaches, dunes, sands 3.3.1	Sparse vegetation on rocks
	Beaches
	Dunes
Bare rocks 3.3.2	River banks
	Bare rocks
Burnt areas 3.3.4	Burnt areas
	Glaciers and perpetual snow 3.3.5
Inland marshes 4.1.1	Glaciers and perpetual snow
	Freshwater marshes with reeds
	Freshwater marshes without reeds
	Saline (alkali) inland marshes with reeds
Peat bogs 4.1.2	Saline (alkali) inland marshes without reeds
	Explored peat bogs
	Unexplored open peat bogs with scattered trees and scrubs, without pools
Salt marshes 4.2.1	Unexplored open peat bogs with pools communities
	Salt marshes without reeds
Salines 4.2.2	Salt marshes with reeds
	Salines
Intertidal flats 4.2.3	Intertidal flats
	Coastal lagoons 5.2.1
Estuaries 5.2.2	Coastal lagoons
	Intertidal flats

Water bodies 5	Inland waters 5.1
	Marine waters 5.2

Rivers and lakes 9	Water courses 9.1	Interconnected running water courses 9.1.1	
		Separated water bodies belonging to the river system (dead side-arms, flood ponds...) 9.1.2	
	Lakes and reservoirs 9.3	Lakes and reservoirs 9.3.1	Natural water bodies 9.3.1.1
			Artificial water bodies 9.3.1.2
Marine (other) 10	Marine (other) 10.1	Marine (other) 10.1.1	

Water courses 5.1.1	Rivers /channels
Water bodies 5.1.2	Natural water bodies
	Artificial reservoirs
Sea and ocean 5.2.3	Sea and ocean

[1] Extracted from Urban Atlas nomenclature and CLC level 4

[2] IM.D. = Imperviousness degree (Copernicus Land High Resolution Layer)

[3] T.C.D. = Tree Cover Density (Copernicus Land High Resolution Layer)

[4] Variants can be proposed for the subdivision in Level 4, as long as consistency with MAES Level 3 is maintained

[5] IM.D. or T.C.D. values can be slightly biased, whereas other in-situ data may provide more reliable information. In that case, deviation from locally averaged IM.D. or T.C.D. values is allowed.

For information purposes only		Obligatory requirement over core city areas of Urban Atlas 2012 Larger Urban Zones	For information purposes only					
UA2012		Urban Atlas 2012 based MAES nomenclature for urban in core cities of UA2012 LUZs	Colour values MAES-UA2012			Colour values UA2012		
LegendeCode	legend UA2012	Nomenclature	R	G	B	R	G	B
11100	Continuous Urban Fabric (S.L. > 80%)	Dense to medium dense Urban Fabric (IM.D 30-100% + industrial, commercial, public, military and private units) 1.1.1	191	0	0	128	0	0
11210	Discontinuous Dense Urban Fabric (S.L. : 50% - 80%)					191	0	0
11220	Discontinuous Medium Density Urban Fabric (S.L. : 30% - 50%)					255	64	64
12100	Industrial, commercial, public, military and private units					204	77	242
11230	Discontinuous Low Density Urban Fabric (S.L. : 10% - 30%)	Low density Urban Fabric (IM.D. 0-30%) 1.1.2	255	128	128	255	128	128
11240	Discontinuous Very Low Density Urban Fabric (S.L. < 10%)					255	191	191
11300	Isolated Structures					204	102	102
12210	Fast transit roads and associated land	Transport infrastructure (all modes) 1.2	149	149	149	149	149	149
12220	Other roads and associated land					179	179	179
12230	Railways and associated land					89	89	89
12300	Port areas					230	204	204
12400	Airports					230	204	230
13100	Mineral extraction and dump sites					Mineral extraction, dump and construction sites, land without current use 1.3.1	115	77
13300	Construction sites	185	165	110				
13400	Land without current use	Land without current use 1.3.2	135	69	69	135	69	69
14100	Green urban areas	Green Urban areas (T.C.D. 30 - 100%) 1.4.1.1	140	220	0	140	220	0
		Green Urban areas (T.C.D. < 30%) 1.4.1.2	170	245	50	140	220	0
14200	Sports and leisure facilities	Sports and leisure facilities (T.C.D. 30 - 100 %) 1.4.2.1	175	210	165	175	210	165
		Sports and leisure facilities (T.C.D. 30 - 100 %) 1.4.2.2	200	230	190	175	210	165
21000	Arable land (annual crops)	Arable land (annual crops) 2.1	255	255	168	255	255	168
22000	Permanent crops	Permanent crops and orchards 2.2	242	166	77	242	166	77
25000	Orchards		242	204	128	242	204	128
24000	Complex and mixed cultivation patterns	Heterogeneous agricultural areas 2.3	255	230	77	255	230	77
31000	Forests	Forests 3	0	140	0	0	140	0
23000	Pastures	Pastures 4	230	230	77	230	230	77
32000	Herbaceous vegetation associations	Heathland, scrub and herbaceous vegetation associations 5	204	242	77	204	242	77
33000	Open spaces with little of no vegetation	Open spaces with little of no vegetation 6	204	255	204	204	255	204
40000	Wetlands	Wetlands 7	166	166	255	166	166	255
50000	Water bodies	Water bodies 9	128	242	230	128	242	230

Example for relevant forest classes based EUNIS level 3

EUNIS Hab	Scientific name
Riparian woodland	G1.1 Riparian [Salix], [Alnus] and [Betula] woodland
Fluvial woodland	G1.2 Fluvial [Fraxinus] - [Alnus] and [Quercus] - [Ulmus] - [Fraxinus] woodland
Mediterranean riparian woodland	G1.3 Mediterranean riparian woodland
Broadleaved swamp woodland	G1.4 : Broadleaved swamp woodland not on acid peat G1.5 : Broadleaved swamp woodland on acid peat
Coniferous swamp woodland	G3.D : Boreal bog conifer woodland
Mixed swamp woodland	G4.1 : Mixed swamp woodland
Other natural & semi natural broadleaved woodland	G1.6 : [Fagus] woodland G1.7 : Thermophilous deciduous woodland G1.8 : Acidophilous [Quercus]-dominated woodland G1.9 : Non-riverine woodland with [Betula], [Populus tremula] or [Sorbus aucuparia] G1.A : Meso- and eutrophic [Quercus], [Carpinus], [Fraxinus], [Acer], [Tilia], [Ulmus] and related woodland G1.B : Non-riverine [Alnus] woodland G2 : Broadleaved evergreen woodland
Other natural & semi natural coniferous woodland	All remaining units in G3
Other natural & semi natural mixed woodlands	All G4 : Mixed deciduous and coniferous woodland except G4.1 & G4.F
Broadleaved plantations	G1.C : Highly artificial broadleaved deciduous forestry plantations G1.D : Fruit and nut tree orchards G5.2 : Small broadleaved deciduous anthropogenic woodlands G5.3 : Small broadleaved evergreen anthropogenic woodlands
Coniferous plantations	G3.F : Highly artificial coniferous plantations
Mixed plantations	G4.F Mixed forestry plantations
Transitional woodlands	G5.6 Early-stage natural and semi-natural woodlands and regrowth G5.7 Coppice and early-stage plantations G5.8 Recently felled areas
G5.1	Lines of trees