NSO

NATIONAL SPATIAL ORDER

A GREEN SYSTEM IN SETTLEMENTS

Driving the development of green spaces

HANDBOOK

REPUBLIC OF SLOVENIA
MINISTRY OF NATURAL RESOURCES AND SPATIAL PLANNING

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DIRECTORATE FOR SPATIAL PLANNING AND CONSTRUCTION

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“Green space connects.”

How important green spaces are in our daily lives, we often only realise when they are scarce or have not been designed to serve our needs. Caring for a garden, a green playground close to home, a walk along the river, through a city park or forest, a rest on a bench under a tree, or a walk home along a leafy street is experienced by each individual in his or her own way. There is no doubt that green spaces in settlements have an impact on the quality of life and health of their residents. Green spaces provide a variety of functions, from preserving biodiversity to improving air quality, regulating urban climatic conditions and storm water run-off, providing possibilities for quality leisure activities, contributing to the spatial development of settlements, and the list could go on and on.

With the amendment of the spatial planning legislation in 2017, one of our key objectives was to improve the practices and delivery of spatial planning processes at both strategic and implementation level. A new approach to national spatial planning rules can help us to immediately approach spatial planning in a better and more unified way. That is why the Ministry of the Environment and Spatial Planning has already started to reform the rules and prepare expert tasks, particularly in those areas where they are lacking in practice. The management and planning of green spaces is certainly one of the topics that deserves our attention.

Comprehensive management of green spaces in settlements is essential to ensure quality green spaces. Integrated green space planning has been established in spatial planning practice for many years – by planning green systems in urban settlements, municipalities address and plan green spaces in their settlements in an integrated and coherent way. However, the multi-faceted nature of green spaces means that we need to continuously strive to ensure that the green system approach is properly implemented – that we provide enough green spaces in settlements, that they are of good quality, multi-functional and interconnected, well managed and maintained.

As part of the national spatial order, the handbook supports or builds on the already established approach to the design of green urban systems by providing specific recommendations for the planning of green spaces in settlements. I would like to see as many municipal planners, building designers, land-use planners, mayors and spatial planning administrators as possible opening it, skimming through it, and reading it. I hope that with this and, of course, the other handbooks of the national spatial order, we will be able to achieve the goals and aspirations we have set ourselves in the field of spatial planning.

Barbara Radovan,
Director-General of the Spatial Planning, Construction and Housing Directorate

Table of Contents

Abbreviations Used

CC-SI	uniform classification of types of construction
DIN	standard of the German Institute for Standardisation
NSP	national spatial plan (DPN)
NLO	national spatial order (DPR)
E.N.A.	European Nurserystock Association
LMU	Land management unit (also spatial management unit) (EUP)
LSF	Open Living areas Factor (FBP)
FLL	Guideline for the planning, execution and upkeep of green roof sites (FLL)
BF	built-up area factor
GAF	green area factor (FZP)
LDC	Landscape development concept (KZ)
MESP	Ministry of the Environment and Spatial Planning (MOP)
MSS	Municipal Spatial Strategy (OPP)
MSP	Municipal Spatial Plan (OPN)
MDSP	Detailed Municipal Spatial Plan (OPPN)
CGSA	Commpact Green Space Area (OSP)
GSA	green space as an articulating element (Pč)
GSC	green space as a connecting element (Pp)
RSP	Regional Spatial Plan (RPP)
MDR	area with a multifunctional development regime for simultaneous uses (RZM)
GSRA	green system regime area (RZS)
SIST DIN	de Default Foreign standard
SIST EN	Default European standard
SDSS	Spatial Development Strategy of Slovenia (SPRS)
UDC	urban development concept (UZ)
GA	green areas (as planned land use designation code) (Z)

List of Tables and Figures

List of tables

List of figures

1 Introduction

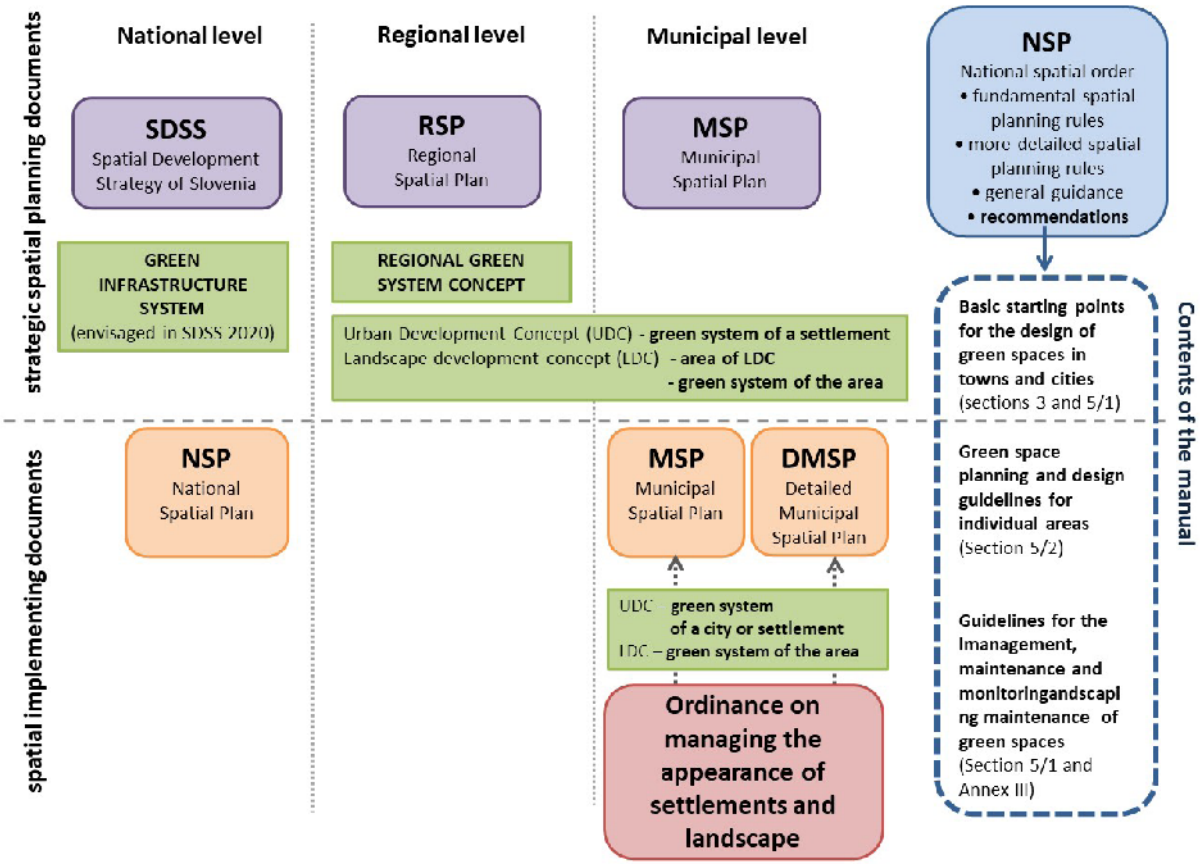
The quality of life and environment in settlements is directly linked to the condition of open spaces, especially green spaces, which contribute significantly to the quality of life, the preservation of the natural environment, the structure and perception of space in settlements, the health of residents and quality of leisure activities.

Ensuring that green spaces which fulfil various functions are of sufficient quality is linked to their integrated planning and management. This handbook therefore focuses on defining specific guidelines and more detailed rules for green space planning and management for individual development areas (see diagram below). However, it should be highlighted that the guidelines always follow from the design of the green urban system – the integrated green space planning in urban area. The guidelines provided are intended to improve the quality of spatial planning and its implementation at the local level, while the task also presents a holistic approach to integrated landscape planning in urban space, emphasising the importance of the integrity and complexity of green space planning and design from the strategic to the implementation level.

A Green System in Settlements Handbook: Green Space Planning and design Guidelines addresses the key topics of green space planning and design. It starts by defining the significance and different aspects of green spaces in settlements – from the ecological, social, morphological to the economic. It provides basic starting points for green space planning and the meaning, objectives and fundamental elements of an urban green system. Furthermore, it defines types of green spaces according to their function and spatial characteristics, as well as their public accessibility. In the following, it provides guidelines for the development of green spaces, specifically general guidelines for the planning, design, management, maintenance and monitoring of green spaces, as well as more detailed rules and guidelines for the planning and management of specific types or areas of green space. These are primarily intended to define spatial implementation conditions and other planning determinants at the implementation level.

Annex I sets out in more detail the starting points and the multi-layered character of planning of green systems and green spaces. Annex II shows the principles and standards of good practice for management of green spaces. Annex III proposes graphic symbols for the representation of the elements of the green system in planning documents at the implementation level.

Figure 1: The content of the handbook providing support for green space planning in the spatial planning system

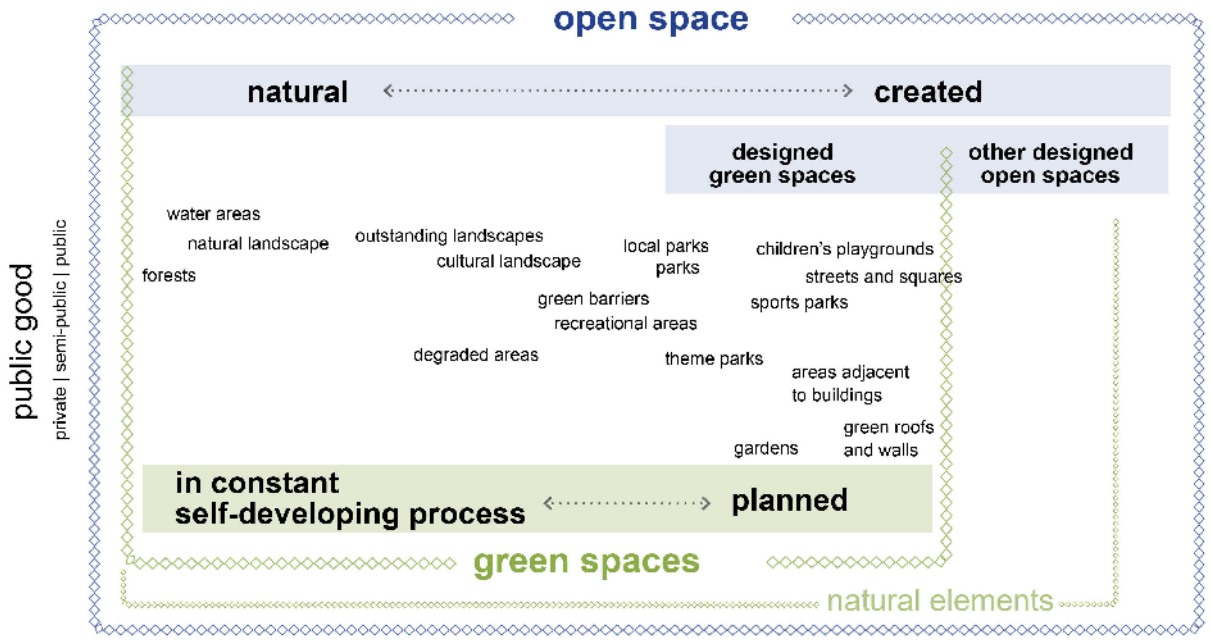


2 The Importance of Green Spaces in Urban Areas

Green space (also urban green space) is the open space of a city or settlement, the character of which is defined by vegetation and other natural features. These are all surfaces that exhibit a certain degree of naturalness, regardless of ownership, function and position in space. Their characteristics make an important contribution to the quality of the living and natural environment, the image and structure of a settlement, and meet the everyday, recreational and leisure needs of its inhabitants.

The term "green and public open spaces" is often used in spatial planning, as it is difficult to draw a clear line as to when a particular open space should be classified as green space and when it should not. So, when the presence of natural elements, especially vegetation, but also others (e.g. water) is such that the space functions as a multifunctional ecosystem in the different functions of a green space, it contributes to biodiversity, mitigating heat islands, allowing contact with nature, etc. Both, the scale of development and the spatial context are very important.

Figure 2: Green spaces are an integral part of open space



Green spaces are distinguished from other types of open space by certain distinctive features, which derive both from the character and features of the natural elements and the natural processes associated with them, and from the diversity of their origins and their various and multiple concurrent functions.

Understanding and taking into account the characteristics of green spaces is important for their effective and appropriate planning and long-term management. Green spaces are inevitably subject to natural processes that have a permanent (continuous over time) and significant impact on them (depending also on the type of their natural elements and the design of the space). Integrated planning of green spaces in cities and towns means always assessing their potential and functions from several perspectives simultaneously and in relation to the local spatial, environmental, social and economic context.

2.1 Aspects of Green Spaces

Ecological Aspects of Green Spaces

Ecological aspects relate to the quality of the human environment (protecting and ensuring the quality of the air, sound environment, water, and climate conditions in the city) and the natural environment in the city (ensuring biodiversity and appropriate conditions for maintaining existing natural qualities of the areas, plant and animal habitats). In particular, it is about creating conditions for ecological balance in the wider urban area, for the quality of the living environment and other processes related to urban ecology – regulating the drainage regime in the urban area, promoting the self-cleaning capacity of natural systems, and creating conditions for protection against natural disasters, such as flooding, erosion processes etc.

Green spaces are ecosystems and provide so-called ecosystem services, defined as the potential benefits that people derive from ecosystems. Regulating and cultural ecosystem services are particularly important in the design of green spaces in cities and towns. From an ecological point of view, the former are the most important, as they are linked to natural mechanisms that regulate climate and mitigate extremes, mitigate the harmful effects of humans on the environment, the circulation of water and nutrients, water regulation, flood risk reduction, heat islands in urban areas and so on.

To ensure effective ecological provision, it is very important that green spaces are properly interconnected to form a coherent system, to ensure their integrity and enhance their effectiveness, and to better protect them from the loss of the natural features that provide ecosystem services**.**

Social Aspects of Green Spaces

Social aspects define the benefits that people derive from green spaces to meet social, recreational, cultural, spiritual, and other needs related to satisfaction, health and well-being and environmental identity. In defining ecosystem services, these benefits are defined as part of cultural ecosystem services.

The starting points for evaluating the social aspects of green spaces are the needs of people which are related to urban green spaces and public open spaces. These are very diverse and range from certain basic needs that are common to all people to specific needs that depend on the wider social, cultural, economic, and political environment. They are related to the provision of social interaction, meeting and socialising, and opportunities for creative pursuits, activities and recreation, relaxation and rest in natural surroundings, aesthetic enjoyment, diversity of space and experience, coherence and identification with space – the taking on of identity.

Because of their natural characteristics, green spaces are also urban spaces that allow people to connect with nature, which has been identified by numerous studies as one of the most important aspects of well-being, health and quality of life, work and other activities in cities and towns.

Research shows the important role of green spaces as places of common interest and interaction between residents. They have an important potential to create social cohesion and communities, to weave social bonds and to shape relationships. They are important as a socialising and networking environment for specific age groups – children, adolescents and the elderly. As public or publicly accessible spaces, they also support the conditions for achieving social or urban justice.

Different levels of planning are important to ensure social aspects. At the strategic level, green space planning ensures that the scale, content, and functions of green spaces are appropriate to the local social and spatial context, public accessibility and equitable provision of the city or town. At the implementation level, the green space design guidelines ensure that green spaces are adequately laid out, equipped, located and directly accessible, as well as maintained and managed.

Morphological Aspects of Green Spaces

Morphological aspects define how green spaces articulate and co-shape urban space. In relation to green spaces as city-forming elements, the size and visual prominence (morphological quality) of the individual components are important, as well as their interconnectedness and their overall influence on spatial structure, image and identity. The distribution of green spaces makes an important contribution to the relationship between the open and built space of the city, which underpins the basic experience of urban space. At the same time, green spaces act as protection zones to demarcate and reduce harmful impacts between conflicting land uses.

At the strategic level, these aspects are the basic macro-level features of the green system, such as green wedges, green rings, green belts, circular connections, linear connections and similar. At the level of detailed spatial planning, volume ratios are also important, for example the floor area size and shape of the green space in relation to the height of the surrounding development, the height and volume of the tree canopy in relation to the size of the open space or the height of the surrounding development.

Economic Aspects of Green Spaces

Economic aspects identify the potential of green spaces to increase the economic attractiveness and value of both the wider urban area and its constituent parts (e.g. neighbourhoods). Well planned and designed green spaces increase the attractiveness of the living environment, which can have an impact on property values. Parts of settlements with adequate green spaces and open spaces are also more attractive for business activities, as they generate a greater flow of service users. High-quality green spaces and other open spaces also make cities more competitive, offering a higher quality of life and attracting a better-educated workforce.

Green spaces benefit specific urban activities, such as urban tourism and related activities (sports, festivals, gastronomy, etc.). In cities with a high proportion of green spaces, developing and maintaining them can create additional jobs.

The management and maintenance of green spaces also offers opportunities for introducing new business models (e.g. public-private partnerships) and changing user habits (maintenance of spaces with residents' participation; willingness to contribute financially to a higher standard, etc.).

The economic benefits of green spaces can also be expressed through the valuation of ecosystem services, which allows the financial value of individual green spaces to be determined according to their different ecosystem services.

The economic aspects also cover aspects of the costs and financing methods for the implementation, management, and maintenance of green spaces, as well as the financing options and methods to be identified through green space action plans at both strategic and implementation level. The definition of economic aspects also includes the definition of priorities, the expected standard of green space "services", the promoters and the stages or phasing of development. To this end, analyses should be carried out on possible sources of funding, the level and timing of available funding, and the variations in the quality of green space "services".

3 Green Space Planning

The needs and planning opportunities for green spaces depend on a number of factors, such as settlement size, population, population density, but also on their wider role and functions, the structure and characteristics of the area. The relatively small size of Slovenian towns and cities should also be taken into account when defining approaches and guidelines for integrated planning of urban green spaces at national level. The transfer of good practices and experience from abroad must be adapted to this.

Basic starting points for green space planning and design:

- The primary purpose of designing green spaces in settlements is to ensure the appropriate residential, spatial and environmental quality of the settlement area. The relevance of specific green spaces for the planning of a given settlement is always defined and considered in social, ecological, and economic terms, as well as in structural-morphological terms.
- In addition to the type of settlement, the planning of green spaces in the context of the development of existing towns and settlements should also take into account the social and spatial local context and the adequacy of green spaces, which should be assessed on the basis of previous analyses of the situation and the already established provision of green spaces in the area.
- Green space planning is an integral part of both the implementation and strategic levels of spatial planning. This can be done at city, municipal or regional level, as a green system for the city, town, area or region. The planning level of the green system depends on the type of settlement (urban green system is mandatory for all cities and urban settlements), the landscape and other spatial characteristics of the area, and the decision on the necessary common spatial planning area. When several levels of the green system overlap spatially, they need to be coordinated with each other.

3.1 Integrated Green Space Planning

Successful planning, management and maintenance of green spaces requires an assessment of each specific situation in a city or smaller settlement. It is essential to identify spatial potentials and problems and to identify needs and wishes of all groups of inhabitants, the economic possibilities and potentials of an urban area together with the possibilities for public-private partnership and the possibilities for improvement and maintenance.

The Green System

The term “urban green system” refers to the integrated planning and management of green spaces in urban areas, i.e. the landscape components of settlements. The green system is one of the most important aspects of planning, as it is an integral part of the fabric of a settlement and contributes to its image, identity and functioning, as well as to the quality of its living environment. It is an important content of spatial plans (e.g. urban development concept, municipal spatial plan), linking the various natural, semi-natural and created green and other open spaces into a meaningful and distinctive spatial whole, with the aim of ensuring long-term efficient and sustainable urban development and a quality

living environment. It is an overall planning category of public interest which, depending on the specific spatial situation, the size and functions of the settlement and the size of the municipality. It can also be established at municipal, inter-municipal or regional level. The green system as defined and applied in Slovenia is the same as the so-called green infrastructure approach – an internationally established concept for strategic planning of green spaces. In urban and settlement planning, both are integrated ways of designing, arranging and managing different aspects of landscapes, open and green spaces to achieve quality of life, support sustainable mobility and energy efficiency.

The basic purpose of a green system is to integrate and link individual green spaces which are very different in terms of spatial characteristics and program into a recognisable spatial and semantic whole, thereby increasing their effectiveness in all aspects: socio-functional, morphological-structural, ecological and, indirectly, economic. The components of the green system of a settlement are the individual parts of the open space, which, although they differ in their purpose, structure, degree of naturalness and appearance, are in a mutually connecting relationship and as a whole respond to the different needs of the inhabitants with regard to the use and experience of the open space of cities and settlements.

The objectives of green system design are:

- to improve spatial and functional connections between green spaces within the city (settlements) and in the hinterland;
- to respond adequately to the needs of residents for the use of green spaces in the city and its hinterland and to create the spatial conditions for quality leisure time;
- to ensure that green spaces are equally provided or adequately distributed and accessible to all residents, and the variety of different types of green spaces is available from which residents can choose;
- to contribute to improving the image, visibility and articulation of the urban area;
- to establish the green system as an overarching planning category for the provision of green and open spaces of the city or settlement and realisation and promotion of public interests
- to contribute to improving the overall environmental condition of urban areas and the quality of the living environment (improving climatic conditions, reducing noise, dust particle concentrations, etc.);
- to contribute to climate regulation and mitigation of extremes, environmental impact mitigation, water and nutrient cycling, water regulation, flood risk reduction and heat island reduction in urban areas;
- to integratethe consideration of nature aspects in a settlement and to ensure minimum ecological conditions for urban habitats and to adequately protect areas important for their survival;
- to activate all the spatial and contextual potentials of the city (settlement) and to create the conditions for a quality development of these areas;
- to permanently protect green and open spaces identified as crucial elements to the green system from change of spatial use.
- to set a basis for defining the legal, organisational and financial means to establish, manage and maintain a urban green system of city or settlement.

At the strategic level, the green system defines a vision, objectives, priorities, a typology of green spaces, a starting point for local guidelines and an action plan for long-term development of green spaces in specific settlement. At the implementation level, we define a short-term implementation action programme and local standards and guidelines (for specific types of green spaces, land management unit (LMU) , green regime areas, for the management and maintenance of all green spaces, and for the analysis and monitoring of the condition of green spaces). We also specify additional guidelines and regime areas. For all green spaces, we also follow generally accepted guidelines for development and maintenance.

Elements of a Green System

A green system is a conceptual design plan of green spaces at the level of settlements or in a wider area, usually consisting of areas – zones, as well as different spatial features – linear and point elements. Together, the elements of a green system form also a network of public green spaces in a city or town, or a municipality and/or region. The components of a green system are an important entity of an area's identity.

Green system areas are larger areas of land with a green space function (e.g. green wedges extending from the hinterland towards the centre of a settlement or compact areas of green space within a settlement) and the hinterland or hinterland of a green belt. The guidelines for green spaces should be defined according to the specific situation, as well as specific regimes to ensure and/or revitalise the functions of green spaces in these areas (emphasising the preservation and management of green spaces, carrying out a review of the situation in relation to specific provisions for the construction of buildings, defining the regime for areas of urban forests and areas of agricultural areas with a complementary recreational function, etc.)

Linear elements are usually wider longitudinal green features (green ring, green corridor, green belt, green axis, etc.) that connect two or more other elements of the green system or divide specific areas. **Spatial connecting features** (connecting open spaces within the city and to its hinterland, etc.) are usually wide treelines or longitudional green areas, which also include connecting recreational paths (connecting green belts). Linear connecting elements are also the water bodies and river banks or lake shores that accompany water bodies in and outside urban centres, which are classified according to the nature of the development as landscape and urban waterside space. They are also important recreational connections that bring people into contact with the water. All waterside spaces are primarily green longitudional landscapes. They should be linked to the settlement centres and to the hinterland. **Elements of spatial articulation** (green barriers, linear green spaces, protection zones) are small or large green spaces that separate parts of a settlement or other spaces from each other and may also be intended to reduce harmful environmental impacts in space. An example is the green buffer zones between settlements and intensive agricultural areas (e.g. intensive orchards and vineyards, hop fields), which are designed to create quality living conditions from the point of view of human health. The elements of articulation are also green demarcating (separating) belts between settlements, which are intended to prevent the coalescence of settlements, thus preserving the distinctiveness of settlements and their identity. In addition, green belts along settlements support ecological connectivity in space, provide migration routes for wildlife and can also act as connective features. Where a green longitudinal element is dominant or prominent in the morphological structure (the overriding spatial connection), it is called a green **corridor**. The guidelines for the linear elements of the green system focus on the integrated management of these areas and the maintenance or re-establishment of their coherence and connectivity (functional, ecosystem, morphological).

Point elements are individual green spaces of urban and local importance. Green spaces of urban significance are, for example, a central city park or other park of urban significance (thematic park etc.), a forest with highly prominent social functions, a waterside area with highly prominent social functions, a central cemetery, a central recreational area. Green spaces of local importance are, for example, a local park, a local theme park, a local recreation centre, a local cemetery, etc. The basic guideline focuses on the equitable provision or adequate distribution and accessibility of these green system elements in relation to the overall space of the settlement.

Common guidelines for individual elements of the green system (mainly zones, but also for linear and point elements) are usually defined as a separate regulation unit – the area of green system policy area. In terms of content, the area can be divided into several categories depending on the priority given to

the features to be valued (areas for the protection of landscape features and recreational use, areas for the protection of ecological values, areas for the development and reconstruction of areas to ensure a quality living environment). More specific guidelines for the elements of the green system are defined for each type of green space.

Graphical Representations of the Green System

The nature of green space planning in the Regional Spatial Plan, the Municipal Spatial Strategy and the Municipal Spatial Plan (MSP) requires the use of graphical representations and drawings that allow the presentation of content at several levels, from the strategic to the implementation level.

At the strategic level, all those general aspects of the green system that define the integrity and morphology of its design, the key elements of connectivity and distribution of green spaces for equivalence of supply, and the way in which it is integrated into the wider area and higher levels of planning shall be shown. At the strategic level, the illustrations complement and support the spatial development objectives and spatial development concepts for the area under consideration, as defined by the regional or municipal spatial plan, together with the general orientations for settlement development, comprehensive redevelopment and spatial planning. In principle, there are two types of strategic-level illustrations, namely:

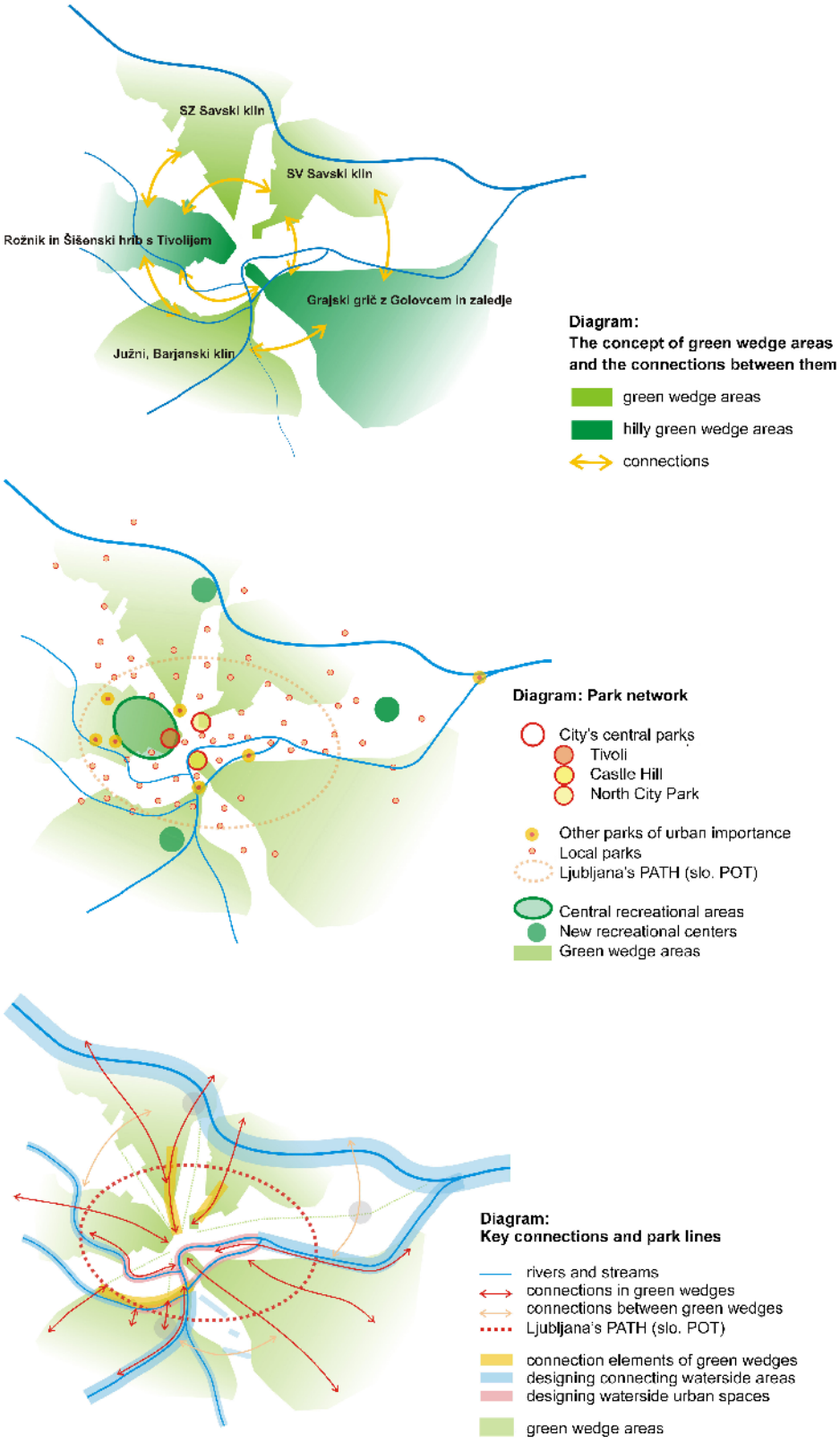
1. **Schematic diagrams** showing the basic elements of a green system:
   - a morphological scheme plan, within which the basic elements of the green system are defined;
   - the plan of green space provision;
   - a key connection framework, defining the basic connecting pathways within the system and how it fits into the wider context (regional green system, green infrastructure).

   They may also designate settlement edge areas, areas of connections and developments of regional importance as well as areas which have to be planned through Landscape development concept.

2. A **graphical representation of the design of the city's green system on an appropriate cartographic basis**, which is the basis for determining the land use designations and guidelines for the UDC and defines:
   - key morphological and ecological elements of the green system, such as the green wedge, the green ring, the green corridor, the green belt, the green system hinterland, the programme core, the network of local parks;
   - key functional elements of the green system, such as urban riversides, recreation areas, urban park, local park, thematic park line;
   - equivalence of the provision of certain types of green spaces in the area under consideration according to the needs of different users (e.g. residents, visitors, employees); the graphical representation shall include a representation of the coverage of the prescribed public pedestrian accessibility by individual types of green spaces that provide everyday use for the quality of life (playgrounds, parks, areas for outdoor recreation and sports activities, allotment gardens, dog parks, etc.);
   - typological breakdown of green spaces; these can be shown as zones, networks, trajectories or layers (e.g. network of parks, playgrounds, residential landscapes, waterside space).

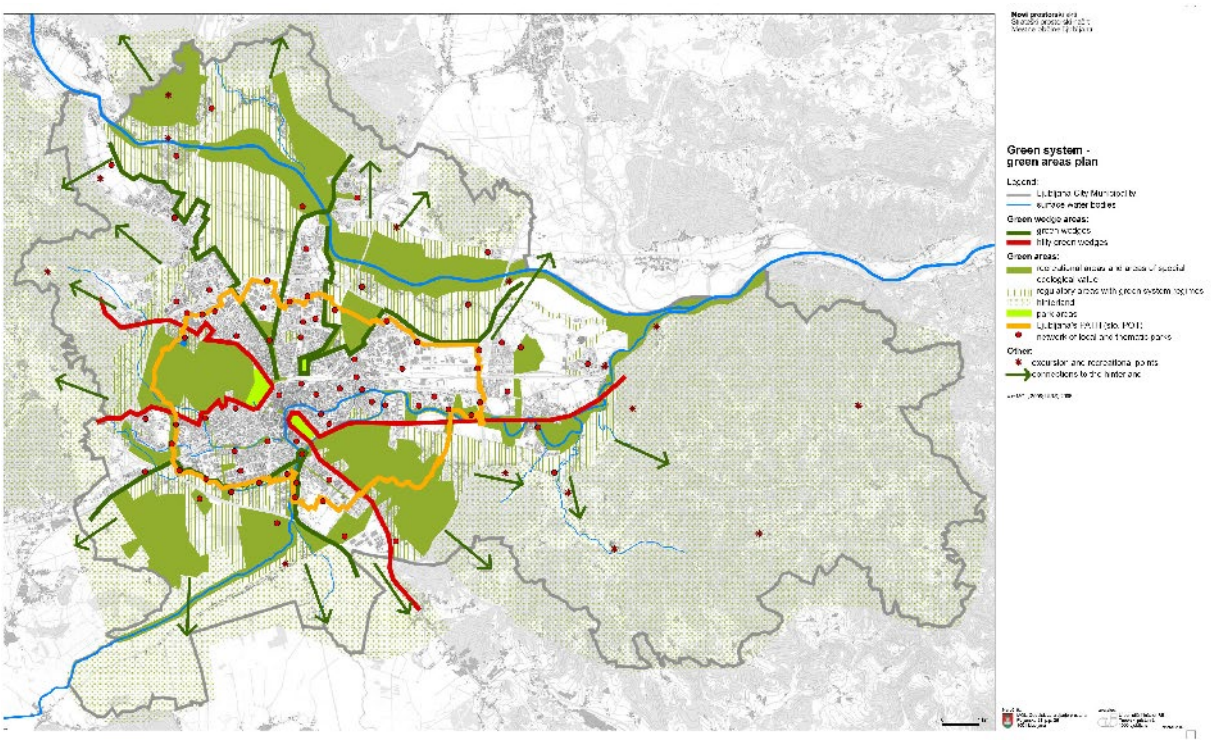
For the strategic planning level, the graphic signs shall be defined in a manner consistent with other displays at this level. The spatial content of the strategic level displays is carried forward to the more detailed planning level (see Annex III for a proposal of graphic symbols).

Figure 3: Example of graphical representations of the green system as a strategic starting point for the development of green spaces for the Municipality of Ljubljana



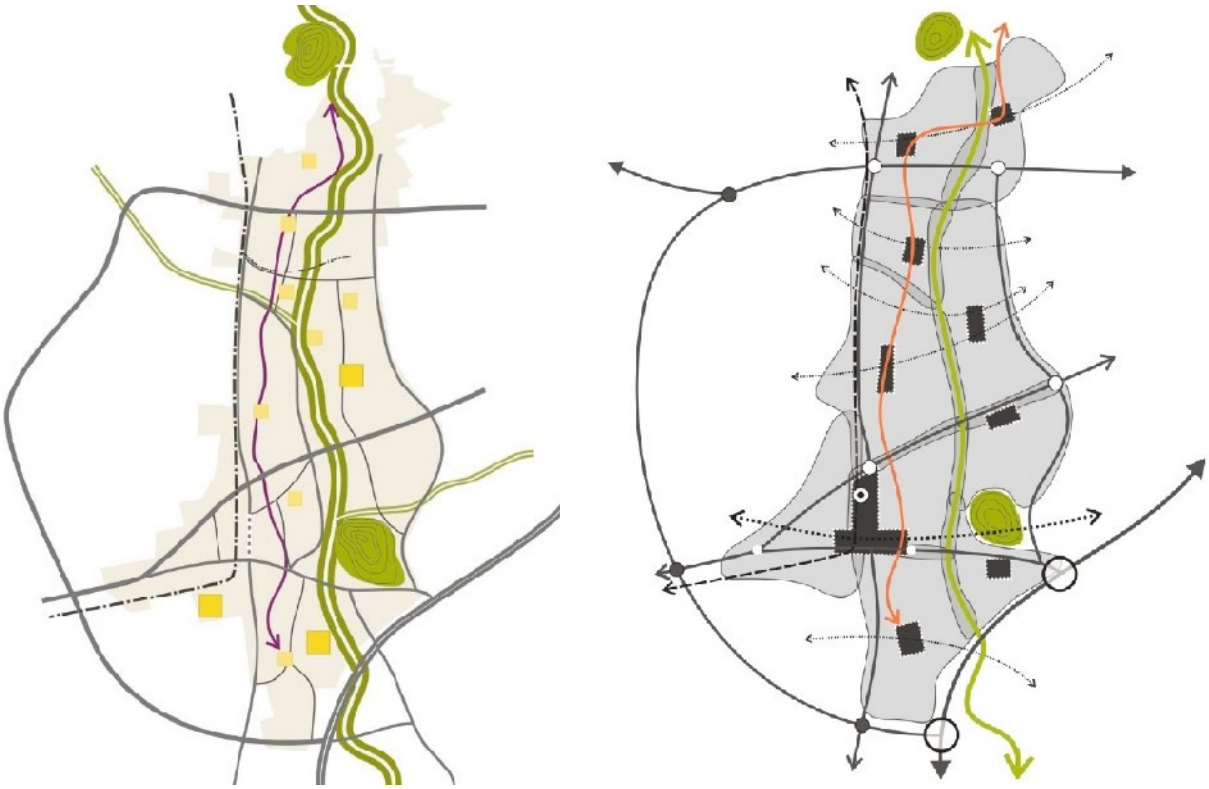
Various schematic illustrations are used to make the different aspects of the green system more transparent.

Figure 4: Example of a graphical representation of a thematic map of the green system as a starting point for land-use planning – a map of the Ljubljana green system at strategic level



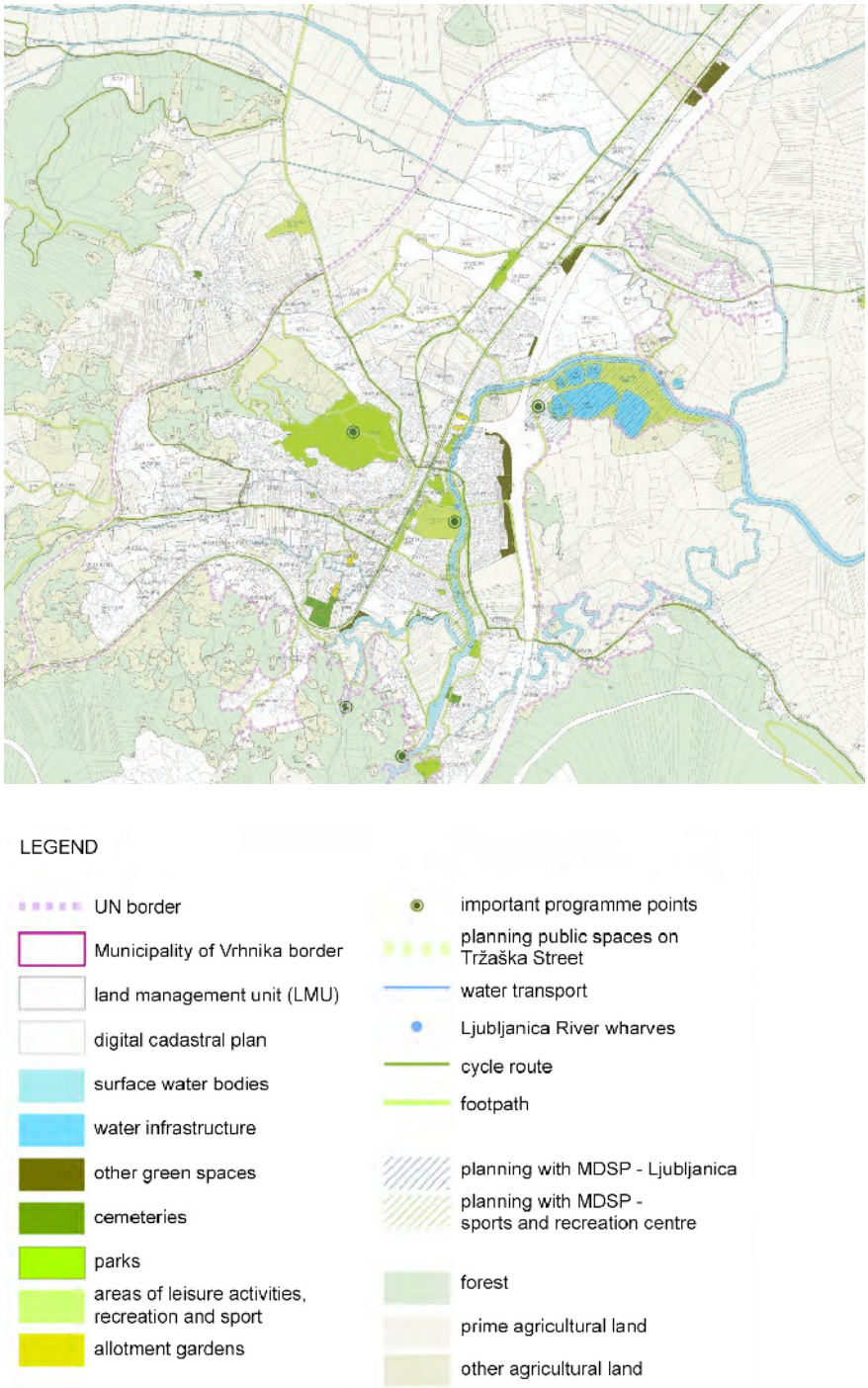
Green wedge areas are outlined, consisting of larger areas of green space (including agricultural, woodland, waterside space) together with areas that are regulated by the green system regime or where we are adapting the provisions for development to ensure the long-term preservation of the functions of the green system as an integral part of the wider green infrastructure. Two of the green wedges are more pronounced (relief, forest cover) and therefore more prominent. The map schematically shows the individual recorded elements of the green system (urban parks, local parks, important recreational areas), which form a network of local parks, which is essential for the even provision of green spaces throughout the city. The major connecting linear features are also drawn (waterside areas with landscape and urban character, circular connecting green features (the route around the city) and the hinterland and the connections between the green spaces in the urban area and the hinterland.

Figure 5: Examples of a green system with a linear element



Left: Design of the green system of the town of Domžale showing the green axis along the Kamniška Bistrica River and point elements – sports centres and district parks (source: Domžale MSP, Urban Plan of the Town of Domžale – conceptual part). Right: Green axis along the Kamniška Bistrica River shown in the Domžale development concept (source: Ordinance on the Domžale MSP)

Figure 6: Example of the different elements of a green system – a more detailed view of Vrhnika's green system



Larger areas (green spaces, green hinterland) and linear and point elements (connecting recreational routes, programme points) are marked. The mapping matrix maps each major type of public green space (parks, cemeteries, recreation and sports areas, allotment gardens and other green spaces) as well as water features (standing and flowing water, water infrastructure, planned water transport and harbour developments). The plan also shows the areas to be further developed through the MDSPs, where the green system elements are of high importance, which is important for the proper transfer of strategic decisions to the implementation level.

4 Typology of Green Spaces

Green spaces within settlements can be planned or represent a state of preservation, which can be natural (primordial in the sense of areas of landscape trapped in the urban fabric) or created through other uses (e.g. agriculture, water management). All types of green spaces, planned and unplanned, and their interconnectedness are important for the quality of urban space and the environment.

Typologically, green spaces can be classified on different bases: for example, according to ownership or public accessibility, or according to design structural characteristics, spatial occurrence, accessibility, origin, design character, function, predominant use.

Given the potential for defining clear design guidelines, and the possibility of linking them to regulatory processes and considerations, two approaches to the typological classification of green spaces are discussed below:

1. typology of green spaces by function and occurrence,
2. typology of green spaces in terms of public accessibility.

4.1 Typology of Green Spaces by Function and Occurrence

The typology of green spaces by function and occurrence covers all areas whose main characteristic is the presence of natural elements. Green spaces can be stand-alone facilities (such as a park, playground, square, etc.) or they can occur in conjunction with buildings, parts of buildings, infrastructure and other activities. The definition of each type of green space is based on its primary (predominant) purpose, spatial characteristics and the necessary site design for its functioning. The types of green spaces so defined are the subject of design and management guidelines in the Handbook and are also subject to all the general guidelines (Chapter 5).

The types of green spaces defined by function and appearance are:

1. Parks:
   a. Urban parks;
   b. Local parks;
   c. Park lines;
2. Public playgrounds for children and young people;
3. Green spaces in residential areas (residential landscapes):
   a. Green spaces in areas with predominantly one- and two-family dwellings,
   b. Green spaces in areas with predominantly multi-residential buildings;
4. Green spaces belonging to buildings with a programme:
   a. Outdoor areas of schools;
   b. Outdoor areas of kindergartens;
   c. Outdoor areas of homes for the elderly;
   d. Outdoor areas of healthcare facilities;
   e. Green spaces belonging to other public buildings;
   f. Green spaces within commercial and business centres;

   g. Green spaces within tourism areas;
   h. Green spaces belonging to industrial buildings and within craft zones;
5. Recreational areas;
6. Sports and recreation parks;
7. Allotment garden areas;
8. Cemeteries;
9. Theme parks;
10. Green elements of articulation;
11. Water elements and waterside spaces;
12. Urban forests;
13. Multifunctional urban agriculture zones;
14. Green spaces of special natural and cultural value;
15. Green spaces as part of transport areas:
   a. Tree-lined alleys;
   b. Walking and cycling connections;
   c. Streets in residential areas
   d. Other roads and major cross-roads;
   e. Car parks;
16. Green spaces as part of buildings – green roofs and vertical greening.

4.2 Typology of Green Spaces in Relation to Public Accessibility

Green spaces (and other open spaces) can also be typologically defined according to public accessibility and ownership, particularly in terms of their management and accessibility. Public access is not generally linked to ownership but is determined primarily by public interest and public good considerations. Depending on public accessibility, green spaces can be considered as public, semi-public, and private. The type of accessibility has a very important impact on the social functions and aspects of green spaces, especially in terms of ensuring an equal quality of life. Public accessibility has much less impact on ecological, morphological and, to some extent, economic aspects, as many of the related functions can be carried out regardless of the public accessibility of a particular area. Ownership also has an important impact on the possibilities for planning, managing, and maintaining green spaces.

Types of green spaces according to public accessibility:

1. public green spaces,
2. semi-public green spaces,
3. private green spaces.

Public green spaces are those that are in the public use and are intended for and accessible to all users on equal terms. They can be publicly or privately owned, but usually the municipality is the majority owner in settlements. They are also usually adequately designed, equipped and maintained, and their accessibility may be regulated in exceptional cases (e.g. fenced public playgrounds). Public green spaces cover only a fraction of all green spaces in cities and towns and are often smaller in scale. These green spaces are of the greatest social importance but also add to ecological, morphological and economic aspects. In cities and towns, the full extent of all green spaces is important, regardless of ownership. Public green spaces are, for example, parks, forests, riversides, areas belonging to public buildings, public playgrounds and other green spaces defined as public in planning documents and related instruments.

While **semi-public green spaces** are in the public domain and are in fact public in their content, functions, and significance, they are primarily intended for the inhabitants and/or users of a particular environment. They are publicly accessible, but their accessibility to users can be managed by means of regimes (e.g. closing and opening at certain times, accessibility only to certain users). They can be publicly or privately owned. They are usually well maintained, equipped, and serviced. Typical examples of semi-public green spaces are green spaces in neighbourhoods with apartment buildings, hospital parks and school outdoor spaces.

Private green spaces are privately owned and therefore restricted to certain users, with access restricted to others. They are usually functionally part of a private built-up or unbuilt-up area. The best example of a private green space is a home garden. In terms of green space planning, private green spaces are the most vulnerable, but they also play an important role in the quality of the living environment in cities and towns (in terms of the total amount of green space). Although they are private land, they can be encroached upon by maintenance measures in the public interest (especially in terms of safety, appearance of the development, trees), and certain natural features on private land can be designated as particularly important (e.g. large trees) and managed in accordance with local by-laws.

5 Management, Maintenance and Monitoring of Green Spaces

5.1 General Guidance

Quality of life is closely linked to the quality of people's leisure time and their experience of space and is directly related to the appropriate and high-quality management of all open space in settlements, and in particular the immediate surroundings of dwellings and areas for relaxation and recreation. The fact is that people have similar needs when it comes to the use of green spaces for quality of life, and these are not just a function of our lifestyle and social environment. They relate to the need for exercise and other outdoor activities, as well as opportunities for play, socialising, experiencing a variety of venues and direct contact with nature.

In order to **ensure equal opportunities** for quality of life in Slovenia, it is therefore reasonable to provide the inhabitants of all settlements in Slovenia that have more than 50 inhabitants with at least one common green public open space which is easily accessible to all, and which should provide opportunities for socialising, playing and co-creating the identity of the settlement.

The **even distribution of** green spaces ensures that key green spaces that are usable every day are evenly distributed in space according to the number of users or population density.

Social considerations in the design of green spaces must be reflected in their adequate quantity, spatial distribution, accessibility, quality of site designs, amenities, management, and maintenance.

The **provision of the area with** green space should be considered in relation to the different aspects of green space. The provision **according to the social aspect** thus takes into account areas intended for use by all target groups and equipped accordingly (park areas, common areas of the residential landscape, spaces adjacent to public buildings, theme parks where they are publicly accessible, etc.). Green spaces that do not meet these conditions are not included in the assessment of the provision of settlements in terms of the possibility for inhabitants to use green spaces on a daily basis. For **ecological and morphological aspects**, we consider all green spaces, regardless of public accessibility and the level of development and equipment. For the assessment of ecological suitability, we consider in particular their ecological value for biodiversity and ecosystem services, favourable climatic conditions, environmental quality and climate change mitigation, as well as their interconnectivity and connections to the natural hinterland. When selecting plant species, we prefer to use appropriate native and honey-bearing plants. **Morphological qualities** relate mainly to the shape, location, structure, distribution, connectivity, and appearance of green spaces.

To ensure the **overall quality and suitable distribution** of green spaces, their planning must be approached in a systematic and integrated way. To this end, planning needs to be carried out at different levels: at the strategic level, as green system planning, and also at the implementation level, which need to be properly linked and interdependent in terms of their content.

We establish the green system as an **overarching planning category** for the provision and realisation of public interests in the green and open spaces of the city, i.e. for all those interests that do not have

defined development holders and therefore may be accidentally or deliberately ignored or disregarded in development processes, but which are asserted in the green and open spaces of the city.

In order to ensure high-quality and professionally appropriate solutions, it is important that the design of the green system at all levels is carried out by a planner of the appropriate discipline (landscape architecture) and that all landscape and green space development in the urban area and for public facilities (including places belonging to buildings and traffic areas) is subject to the preparation of appropriate project documentation, of which a key component is a **landscape architecture plan** drawn up in accordance with the rules of the profession. Project documentation for stand-alone green spaces shall be prepared in accordance with accepted professional principles on project management.

For all larger and/or more complex areas of green space (urban parks, parkways, recreation areas, cemeteries, areas within multi-residential developments, etc.), solutions must be obtained through a **landscape design competition**.

To ensure the quality of green system planning at regional and local (urban) level (checking the appropriateness of planned interventions in terms of achieving strategic objectives), **we set up monitoring of the planning process and the implementation of** strategic objectives, the appropriateness of spatial development in relation to the vision and development objectives, with a system of reporting and follow-up of improvements, linked to implementation documents.

As part of the green system, effective implementation of planning requires the **development of an action plan** for implementation, with guaranteed integration of the different services (concrete implementation, earmarking of space for key developments).

To ensure that green spaces are properly maintained and of good quality**, we set up a system to monitor the specific condition of** green spaces in a city or town.

For effective monitoring of the situation, it is essential to produce **expert analyses and evaluations** in advance in relation to the defined development objectives of the green urban system, as well as **expert bases** for the definition of minimum requirements for green spaces and the formulation of guidelines for the selection of species, planting, maintenance, and replacement planting in the redevelopment of specific parts of the city or urban area.

To monitor the situation, we **establish appropriate databases of green spaces** and areas with a green system regime and a single register of green areas with a list of checklist contents (depending on the extent or type of green areas in the settlement; for cities, necessarily also a register of trees). We also establish a programme for periodic planned monitoring of the situation of green areas and define the provider of the planned monitoring of the situation (a professional independent body).

Establishment of the Register

In all settlements, a database of public green spaces (database, repository) with a graphical or cartographic representation of these spaces – the so-called **green space register** – should be established as one of the public infrastructure networks. The green space register is the basis for establishing a single system for the systematic monitoring and maintenance of green spaces, covering all types of public and semi-public green spaces and providing descriptive and graphical information on each green space (inventory sheet with an inventory of equipment, features, annual investment rate, operator, etc.) and the criteria for the valuation of public areas (estimated value of the elements and equipment of the public area on the basis of the depreciation rules for existing green areas or on the basis of the investment documentation for newly planned green spaces).

Table 1: Indicators for monitoring the condition of individual green spaces

provision of green spaces	Defined in terms of the number of m2 of a given type of green space per inhabitant, the radii and quality of accessibility to different types of green spaces, which are key from a social point of view. We monitor availability at the level of the whole settlement.
accessibility	The number of safe and attractive pedestrian (and cycle) accesses to each type of green space within the prescribed accessibility radius and an expert assessment of the overall public accessibility of the area.
quality of green space	It is evaluated by assessing the professional quality of the condition of plants, lawns, water features, equipment, built structures, information on the state of the environment (air, water and soil, noise) and the design and functional value of the development.
biodiversity	The assessment is based on the number of different plant and animal species or their habitats in the area (habitat types).
security	Estimated according to the condition of the equipment and the site design, and number of accidents.
maintenance	Defined in terms of frequency of maintenance and regular checks on cleanliness and maintenance.
the number of visitors to the area	Recording the number of actual users of the green space at different times.
attractiveness and suitability for use	The assessment is based on the number and structure of potential users (people living and working within the radius of accessibility of the green space), the actual number and structure of users, the number of different activities.
customer satisfaction	We use questionnaires and the state of vandalism (number of injuries and incidents of conflict).
funding	We estimate the financial resources foreseen and actually provided for the management, operation and maintenance of the green space and the green system as a whole. We monitor availability at the level of the whole settlement.

To monitor the condition of individual green spaces, we use the following scale for indicators relating to quality aspects: significant improvement (5), improvement (4), no change (3), deterioration (2) and significant deterioration (1).

The **tree register** is an additional dataset and is usually set up for cities or larger settlements. It identifies trees important in their city-forming function (key building blocks of green spaces in settlements). Trees included in the inventory may be on public or private land. The register (containing species, size, stand, vegetation, static, ownership and other data) also establishes a system for monitoring the condition of urban trees (periodic or periodic inspections).

General Guidelines for the Provision of Green Spaces

Green spaces are equipped in accordance with the function and use of each green space. Depending on the level of amenity, public green spaces fall into four categories.

Table 2: Description of the categories of the level of provision of public green space facilities

Level I: **high level of equipment**	It covers areas with intensive use and large numbers of people, central public green spaces such as urban parks, theme parks and other developments, – it means generous provision of seating elements (e.g. benches), litter bins, bicycle racks, drinking fountains, elements for adequate lighting, information equipment and other special equipment e.g. playgrounds, water motifs, shade structures, specific equipment (thematic, innovative design solutions, etc.).
Level II: **medium level of equipment**	Covers public green spaces such as local parks, recreation areas, cemeteries and allotment garden areas – means provision of fewer seating elements, litter bins, bicycle racks, drinking fountains, lighting elements, information equipment and other small-scale equipment (e.g. playgrounds, water features, pergolas).
Level III: **low level of equipment**	It covers areas whose use is less intensive, such as certain developments in connection with traffic or adjacent to industrial buildings, areas where other uses of a predominantly natural origin predominate, e.g. urban forest and multifunctional agricultural areas, etc. – it means the provision of few seating elements, litter bins, bicycle racks, information equipment and, exceptionally, lighting elements.
Level IV: the min. level of equipment	It covers areas that are minimally encroached upon because of their predominant other functions, e.g. ecologically important areas – it means provision of only individual seating elements, litter bins and information facilities.

General Guidelines for the Maintenance of Green Spaces

The maintenance of green spaces is defined in the Ordinance on Management of the Appearance of Settlements and Landscape and includes activities such as the frequency of inspections and maintenance of elements and equipment; lawn maintenance and mowing; pruning of hedges and edging; and the care of trees, shrubs and other planting; cleaning of areas, emptying of bins (see Annex II – Care and maintenance of planted areas). Maintenance is carried out in accordance with the function and use of the green spaces. Depending on the intensity or frequency of maintenance, public green spaces fall into four categories.

Table 3: Description of the categories of maintenance levels in terms of public green spaces

Level I: **very intensive care**	It covers important public green spaces, parks, playgrounds and other areas where there is a large public presence and includes: minimum weekly inspection, lawn maintenance and mowing according to the type of lawn (see Annex II), 2–3 times a year pruning of hedges and edging, care of trees, shrubs and other planting (see Annex II), care of equipment as specified in the maintenance plan or at least once a year, repair of damage to equipment within 24 hours, emptying of litter bins 2 times a week.
Level II: **intensive care**	It covers all other public green spaces in use and roadside and street linear green spaces or site designs and includes: minimum monthly inspection, lawn maintenance and mowing according to the type of lawn (see Annex II), 2 times a year pruning of hedges and edging, care of trees, shrubs and other planting (see Annex II), care of equipment as specified in the maintenance plan or in the maintenance plan or at least once a year, repair of damage to equipment within 2 days (24 hours in the event of dangerous damage), emptying of rubbish bins once a week.
Level III: **less intensive maintenance**	It covers areas that are not in use most of the time, e.g. extensive grassland, edges of recreation areas, and includes: a minimum of 2 seasonal inspections (spring and autumn), lawn maintenance and mowing according to the type of lawn (see Annex II), pruning of hedges and edging of green edges 1 time per year, care of trees, shrubs and other planting (see Annex II), care of equipment as specified in the maintenance plan or as specified in the maintenance plan (see Annex II). at least once a year, repair of damage to equipment within 1 week (24 hours in the event of dangerous damage), emptying of litter bins 2 times a month (depending on the season).
Level IV: **minimum maintenance**	It covers areas that do not need maintenance or only need to be maintained at long intervals (e.g. a few years), such as extensive green roofs, the work is adapted and carried out as needed, and inspections of these areas are carried out once a year.

The maintenance of green spaces is in the public interest, so maintenance or protection measures in the public interest can also be taken on green spaces that are not in the public ownership (security; trees). The frequency of maintenance shall be determined for different areas and periods. During the initial period after the implementation of the site designs, minor maintenance of equipment and elements is expected, while major maintenance is related to measures for the quality of the plant material. In the later stages of the established development, minor routine maintenance of the established planting is expected, and major maintenance of the equipment and elements. When designing green spaces, their maintenance is already foreseen in the project documentation. A green space maintenance plan is usually an integral part of the Landscape architecture plan for larger and/or more complex areas. The project documentation also specifies the warranty period or investment maintenance of the plant material. As a general rule, the maintenance of public green spaces is carried out by the local public utility.

5.2 Guidelines and More Detailed Rules for the Planning and Management of Specific Types of Green Space

The guidelines and more detailed rules for the design and management of specific types of green spaces are primarily intended to define spatial implementation conditions and other planning provisions at the implementation level of municipal spatial plans. Their use is usually directly linked to the strategic provisions of the green system, or to the defined vision, objectives and priorities for the spatial development of the area, which are always drawn up in the light of the local socio-economic and spatial context. At the same time, the guidelines and more detailed rules at the level of strategic spatial development planning shall be used as a starting point for analysing and assessing the state of supply of the area from different aspects of green spaces and for identifying needs, opportunities, objectives and development guidelines for improving the situation.

Regardless of the size of settlements, an integrated analysis of the spatial context and an evaluation of green spaces (condition, problems and potentials, needs for a specific type of green space, etc.) are necessary to ensure an adequate state of green spaces in all settlements, on the basis of which a typology of green spaces can be adapted at the local level, common starting points for the planning, management and maintenance of green spaces can be established, and local standards and guidelines for specific types of green spaces can be set. The main criteria identified are: supply by type of green space, accessibility, appropriate size and quality of development (expected spatial characteristics, integrity of design, quality of design, level and type of amenity, maintenance). For each type of green space, a criterion is defined as a general guideline, while for certain criteria it is possible to adapt or define guidelines tailored to the local situation (in the context of spatial planning acts). Given the diversity of Slovenian settlements and the specificities of the planning of these areas, these guidelines can only be based on appropriate professional judgement.

The following are guidelines and norms for specific types of green spaces, which can be grouped according to their occurrence: green spaces of a stand-alone character, green spaces in connection with buildings and green spaces in the context of primary and other planned land uses. The guidelines and more detailed rules are adapted to the local level or development context in the planning process. These guidelines are more detailed rules that complement the general guidelines and standards for the design and maintenance of all green spaces.

1. The guidelines and more detailed rules for green spaces, which have a distinct character, are planned as complete units, are usually publicly accessible and are generally planned as a green space land use include:

- **setting a minimum total surface area for each type of green space** (in m^2/capita) or a **minimum size of each green space within a type of green space** (in m^2) to ensure that the conditions for the proper functioning of each type of green space are met;
- **guidelines to ensure equal accessibility of** each type of green space for all inhabitants of the settlement or municipality – for **public accessibility** and **maximum distance in metres**, which also takes into account any accessibility barriers, and/or **maximum walking time**;
- The **share of natural terrain** to ensure free drainage of rainwater or contact with the subsoil;
- **forest canopy cover** – to ensure adequate microclimatic conditions and ecosystem services;
- **guidelines to ensure the quality of the development of each type of green space**, defining the expected spatial characteristics, quality, amenities;
- **quality assurance guidelines for the management and maintenance of** each type of green space, covering specific aspects of maintenance and following recommended standards;
- the level of amenity, with a scale of 1 to 4 defining areas of high, medium, low and minimum amenity according to the function and use of these areas;
- the level of maintenance, with a scale of 1 to 4 defining very intensive, intensive, less intensive and minimal maintenance, depending on the function and use of these areas.

2. Guidelines and more detailed rules for green spaces in connection with buildings include:
   - **the total share of green space** in relation to the total area of the site under consideration – the minimum total amount is defined in relation to the need for space for the qualitative performance of the functions of the site (e.g.$^{m2/building\ user}$), the type of building, the urban development concept, the design of the green system (wider space) and the local context. Only actual green spaces that are concentrated and identified as a whole shall be included in the calculation of the green space ratio, not individual intermediate green spaces smaller than 10 m^2 or narrower than 1.5 m;
   - **definition of the functions, content and quality of the development**, the expected spatial characteristics, the quality of design, the minimum extent and type of amenities, the percentage (%) of forest canopy cover (to ensure adequate microclimatic conditions and ecosystem services);
   - for residential areas, an **open living space factor** (OLSF – the ratio of open living space to the total area of the building plot intended for the construction of buildings with dwellings) is also determined, i.e. the ratio of open living space to the building plot, the area built on or intended for the construction of residential buildings, where open living space is defined as a green space or paved area intended for outdoor living and not used as a traffic, communal or other functional area (source: *Urban Terminology Glossary*); in areas within the green system, the share of green spaces in the OLSF shall be increased accordingly;
   - for areas of non-residential buildings, the ratio of green spaces on forested terrain to the total area of the building plot shall be determined, expressed as a **green space factor** or a **minimum share of natural terrain** to ensure free drainage of rainwater or contact with the subsoil; in areas within the green system, the GSF shall be increased accordingly;
   - **forest canopy cover** – to ensure adequate microclimatic conditions and ecosystem services;
   - guidelines to ensure that the **building and the associated green space are properly connected**;
   - **accessibility** guidelines for the type of area (conditions and level of accessibility);
   - guidelines to **ensure the quality of the management and maintenance of** each type of green space;
   - the level of amenity, with a scale of 1 to 4 defining areas of high, medium, low and minimum amenity according to the function and use of these areas;
   - the level of maintenance, with a scale of 1 to 4 defining very intensive, intensive, less intensive and minimal maintenance, depending on the function and use of these areas.

3. Guidelines and more detailed rules for green spaces in the context of primary planned land uses (e.g. agriculture, watercourse management, forestry) include protection regimes in terms of green space functions, or (re)development regimes as an adaptation to new circumstances, functions, needs and uses. The level of equipment and the level of maintenance shall be defined in accordance with the management plan.
4. The guidelines and more detailed rules for green spaces in other contexts (e.g. in relation to traffic areas and areas of special cultural and natural value within settlements) include provisions for the appearance of these spaces – design, equipment, maintenance, etc.

1. Parks

Parks are comprehensively landscaped and clearly identifiable self-contained areas of public open space in a settlement, intended for the widest range of users to spend leisure time, relax, recreate, and experience the landscape and other venues. They are characterised by a predominance of natural features, which cover at least 2/3 of the area of the site, good amenity, design, and spatial continuity. Park design always includes areas for people of all ages to socialise and play. This means playground areas, multi-purpose play areas (e.g. sports activities on the lawn), but can also include dog enclosures, a bowling green, outdoor fitness facilities, etc. Parks and park design consist mainly of landscape features such as lawns, planting (trees, shrubs, perennials and other plants), water features and other natural elements, complemented by paths, platforms and design elements or equipment for socialising, sitting, playing and sporting activities, as well as monuments, memorials and the like.

Parks or park developments are divided into three groups (more detailed types) according to their character: urban parks, local parks and linear parks. Their number, distribution and extent depend on the size and characteristics of the settlement, the accessibility conditions of the area, its natural and landscape features, and the number (and density) of inhabitants, as well as the number of jobs and visitors, the latter two categories far exceeding the number of inhabitants.

Equal provision of parks is important for the quality of living and working in a settlement, which means that all residents and employees should have equal and safe access to adequately landscaped and extensive parkland.

Every city should have at least one urban park.

The design for urban parks and other major park developments that are complex structures should be obtained through a public design competition, as this ensures that the solutions for the individual areas are of a professional and design quality. All park areas are subject to appropriate project documentation (landscape architecture), which usually includes an operation and maintenance plan.

In addition to the guidelines for each type of park set out below, green space design should also take into account general guidelines and standards for the design and maintenance of all green spaces, and specific guidelines for playgrounds or play areas.

Public parks are generally not fenced. Safety and protection against harmful influences from the surrounding area must be ensured by the green space design itself, for example by the design of the terrain, planting and the placement of other elements.

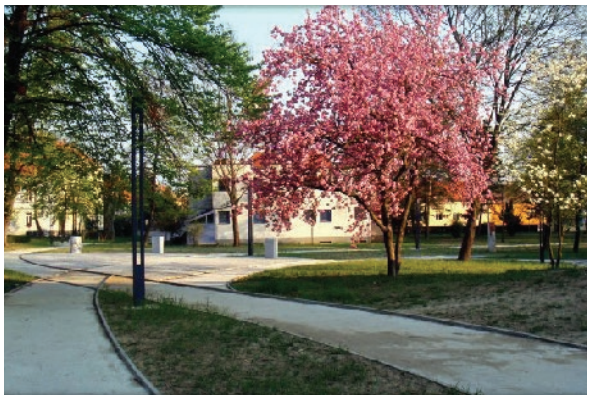
Figure 7: Examples of urban and local parks

Ljubljana urban park *(photo: J. Kozamernik)*

Ljubljana urban park *(photo: J. Kozamernik)*

Maribor urban park *(photo: Z. Jerman)*

Berlin urban park *(photo: J. Kozamernik)*



Lendava urban park *(photo: B. Jerebic)*

Local park, Portorož *(photo: Arhiv MOP)*

1.a Urban parks

Urban parks are purpose-built areas of public open space of a large scale within or on the edge of the built fabric of a settlement, intended for the use of all residents of the settlement as well as other visitors, both for everyday and occasional use. They are usually arranged as highly multifunctional spaces with a predominance of natural spatial elements and have a strong identity, and representational and design value.

green space design	The park area is clearly defined by distinctive entrances. The internal structure of the development is usually complex, with a variety of (including cultural) programme content. These are usually parks of greater design value and of representative and symbolic importance for the city as a whole. The design of the space is generally uniform, integrated and includes furnishings and elements of appropriate design value. Special type equipment (e.g. playgrounds, fitness equipment) shall also be professionally coordinated with the design language of the whole and appropriately positioned.
minimum surface area	1–3 ha or more, depending on the size of the settlement; min. 1 urban park in settlements with more than 3,000 inhabitants
natural terrain	min. 85%
accessibility	public The maximum walking distance from residential and employment areas to the nearest urban park is 15 minutes (900 m); pedestrian and cycle access routes shall be provided from the wider area. Bicycle parking facilities are available at the entrances. Equality of accessibility and usability for people with disabilities are ensured.
canopy cover	at least 30–50% of the park area in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	level of equipment I It must include a children's playground of at least 500 m^2 and spaces for socialising and activities for different age groups, such as an outdoor fitness area, games area (chess), bowling, frisbee baskets, etc. As a general rule, a minimum of 1 drinking fountain and publicly accessible sanitary facilities (either stand-alone or as part of another building) should be provided in the park area. They usually include a special area for dogs (a dog park). Supplementing with cultural content is recommended.
maintenance	maintenance level I

1.b Local parks

Local parks are purpose-built areas of public open space of a small scale within the built fabric of a settlement. It is recommended to connect them to the local centre. They are mainly intended for everyday use by local people. The site designs must have a variety of features and elements to provide social, play and everyday activities for all age groups. They are characterised by the predominance of natural spatial elements, the integrity and completeness of space and the co-creation of a local similarity – the identity of space.

green space design	It is characterised by a clear definition of the area, a less complex internal structure and good programming, a predominance of natural elements and a distinctive integrity and completeness of the space. Areas are designed in a holistic way, with furnishings and elements in harmony with the design language of the whole.
minimum surface area	500 m^2 – 1 ha, depending on the size of the settlement, density and number of inhabitants min. 1 local park in all settlements with more than 100 inhabitants
natural terrain	Min. 75%
accessibility	Public The maximum walking distance from residential and employment areas to the nearest local park is 5 minutes (300 m); pedestrian and cycle access routes shall be provided from the wider area. Bicycle parking facilities are available at the entrances. Equality of accessibility and usability for people with disabilities are ensured.
canopy cover	at least 30–50% of the park area in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment II A children's playground or play area of at least 200 m^2 and facilities for non-confrontational socialising and leisure activities for different age groups are compulsory. A special area for dogs (dog park) is also recommended.
maintenance	Maintenance level I

1.c Linear parks

Linear parks are distinctly linear public green open spaces that provide both utilitarian and connective functions. These include, for example, waterside and thematic park lines. They occur only in certain settlements (they are not typical of most settlements). A linear park may replace an urban or a local park (including several parks) where its design is in accordance with the guidelines for urban or local parks.

green space design	It is characterised as a linear (longitudinal) open space, dominated by natural elements and with a recognisable unity due to spatial design and/or programmatic features. As a general rule, a connecting footpath at least 2.5 m wide and a cycle path at least 1.6 m wide are also part of the site design. In other respects, they are identical to parks – they are intended for leisure and experiencing nature, they have a distinctive design, and they consist mainly of landscape features. The areas are designed in an integrated manner, with furnishings and elements having a uniform design character.
minimum surface area	The width of the features depends on spatial characteristics and programme, min. 20m
natural terrain	Min. 60%
accessibility	Public
	Connectivity to other public spaces (5 or 15 minute walk from housing and employment areas); adequate pedestrian and cycle access from the wider area.
canopy cover	at least 30–40% of the park area in its intended final state (depending on the climatic conditions in the region) – with a tree-line prospect and/or vegetation cluster groups
utility infrastructure	Level of equipment II Rest areas must be provided at least every 300 m along the route, preferably in combination with facilities for children's play and/or other activities, thematic highlights and programme designs providing for exhibitions, outdoor fitness, board games, bowling, frisbee baskets, a dog exercise area, etc.
maintenance	Maintenance level I

Figure 8: An example of a green spatial connecting feature

A green space as a connecting element, Copenhagen, Denmark *(photo: J. Kozamernik)*

2. Public Playgrounds for Children and Young People

Playgrounds and other public playgrounds for children and young people are specially designed publicly accessible open spaces for children and young people to play and socialise, providing safe conditions in which to grow up. They are among the mandatory public open spaces that a settlement with more than 50 inhabitants must have. Playgrounds can be separate areas or integrated into other types of green spaces or other spaces where more children and young people are expected. Playgrounds and youth facilities are therefore mandatory in parks, residential areas, nursery schools and schools.

green space design	The overall playground design includes spaces for large and small activities – play areas and areas for lingering, socialising, informal play and relaxation. Fencing of public playgrounds is not recommended, except adjacent to hazardous areas, where barriers are preferably created by relief design, planting or other (multi-purpose) features. Particular attention should also be paid to the use of appropriate plant species (due to toxicity and allergenicity), the safety zones of individual play areas and the choice of safety flooring under play areas (natural loose materials are preferred).
minimum surface area	Min. surface area 200 m^2
share of green spaces	Share of green spaces on natural terrain min. 30% of the playground area In areas with green system regime (GSRA), the share of green spaces on natural terrain shall be at least 50%.
accessibility	Public or semi-public Access routes for pedestrians and cyclists from the wider area; cycle parking, accessibility and usability for people with disabilities.
canopy cover	At least 30% of the playground in its intended final state (depending on the climatic conditions in the region); 80% of the seating and quiet play areas must be shaded (preferably naturally) during the summer months.
utility infrastructure	Level of equipment I At least three different playgrounds or at least one multi-purpose playground for different types of play and different age ranges. Larger playgrounds (exceeding 500 m^2) should have a drinking fountain nearby, for smaller playgrounds a drinking fountain is preferable. Various seating options in the shade and with a good view of the different play areas.
maintenance	Maintenance level I Regular or periodic inspection of playgrounds is necessary to ensure that they are kept clean and safe.

Figure 9: Example of a public playground

Public playground in a city park, Ljubljana
(foto: J. Kozamernik)

Public playground, Nova Gorica
(foto: J. Kozamernik)

Public playground, Berlin, Germany
(foto: J. Kozamernik)

Public playground in a residential area, Ljubljana
(foto: J. Kozamernik)

To develop playground areas and thus provide a properly designed space for children's play, appropriate project documentation must be drawn up (a key component of which is a landscape architecture plan, usually including an operation and maintenance plan). In addition to the specific guidelines and norms for playground design set out in the table below, playground design should take into account all applicable standards for playground equipment and surfaces, specific guidelines for playgrounds adjacent to specific types of buildings, and general guidelines and standards for the design and maintenance of all green spaces.

3. Green Spaces in Residential Areas

Green spaces in residential areas, or residential landscapes, are the environments in which people spend most of their daily lives and with which they particularly identify and are therefore of particular importance for ensuring the quality of living and the active use of green spaces in these areas. This type of green space covers a wide variety of green spaces: from private gardens belonging to single dwellings, to communal, public and semi-public open spaces within residential areas, to public and semi-public green spaces and other open spaces in neighbourhoods or areas with multi-apartment buildings. Typically, green spaces of this type are not usually defined by the green space (G) planned land use designation, but their design guidelines are included in the framework of the guidelines and more detailed design rules for the R (residential areas) and individual LMU designations. The definition of their extent is therefore directly linked to decisions on design regulation, which also determines the built-up area factor and the open living space factor. The minimum amount of green space in residential areas shall be determined according to the natural and built characteristics of the area, the type of construction, as well as the number of inhabitants or dwellings and accessibility conditions. Therefore, before determining the areas of the building plots of the buildings as well as the division of the area into LMU, it is also necessary to check from the point of view of adequate provision of green spaces and their accessibility in the area and alignment with the strategic guidelines for the planning of green areas of the settlement.

The guiding principles for the design of green spaces in residential areas are to ensure a uniform site design, appropriate orientation and identity of the area in relation to the local characteristics of each area, to prioritise pedestrian and cycle accessibility and to ensure equal accessibility and use of the space for all occupants of the adjacent area, to unify the skyline and to combine different, individual green spaces into larger, coherent and well-connected units, which are not usually bounded by the boundary of the building plot, nor by the LMU. It is recommended that the design, development, and maintenance of green spaces in residential areas should be carried out in consultation and cooperation with residents.

Depending on the predominant type of residential buildings in the area, two basic groups (subtypes) of green spaces in residential areas are defined for the guidelines and more detailed rules: green spaces in areas with predominantly one- and two-family dwellings and green spaces in areas with predominantly multi-family dwellings.

In addition to the specific guidelines for individual groups set out below, green space development should also take into account general guidelines and standards for the design and maintenance of all green spaces, and specific guidelines for playgrounds.

Residential landscape development may be combined with the design of parks, playgrounds and other play areas for children and young people, subject to accessibility and minimum size conditions and other minimum standards for both the residential site and the settlement as a whole.

3.a Green spaces in areas with predominantly one- and two-family dwellings

Green spaces in areas with predominantly single-family buildings include associated private gardens and common green spaces, which are publicly accessible, for the use of the inhabitants of the residential area.

green space design	In private gardens, in order to ensure the ecological and morphological quality of the wider area, larger green enclosed areas (connecting gardens) shall be provided through the appropriate definition of courtyard building boundaries, and through guidelines for the planting of at least one tree in the garden, the uniformity of fence design and the approaches in the design of the front gardens shall be ensured through guidelines for the planting of at least one tree in the garden, the uniformity of fence design and the uniformity of the approaches in the design of the front gardens. A direct connection between the building and the living area of the garden is essential for quality of life. In the common green spaces, it is mandatory to provide a children's playground of an appropriate size (according to the number of dwellings) and areas for meeting, socialising and activities for young people and other residents. The minimum standard shall be applied in areas with more than 8 one- or two-family dwellings for newly planned areas. In order to ensure provision, the norm for common green spaces shall also be provided in areas with one- or two-family dwellings. It shall be adapted according to the accessibility standard and local spatial possibilities. Larger car parks should be greened (see Section 5/2.15.e).
minimum surface area	The minimum surface area of the total green space totals 250 m^2 or 5 m^2 per residential unit, the minimum surface area of the children's play area in this case totals 80 m^2. For existing areas – including those with dispersed settlement – the norm is adapted to the local context and spatial capacity.
share of green spaces	The minimum OLSF is recommended in accordance with the density of the built-up area and the type of settlement (urban, rural): – in areas with higher density development, the OLSF shall be at least 30%; – in areas with less frequent development, the OLSF is at least 40%; 70% of these areas (OLSF) shall be green spaces on natural terrain (minimum 80% in areas with green system regime (GSRA)). Min. 1 common uniform (enclosed) green space per area with more than 15one- or two-family dwellings.
accessibility	Common green space: public or semi-public, depending on local context
	Total green space max. 10 minutes (600 m) walk from residential buildings; pedestrian and cycle access routes and connections to the wider area
canopy cover	at least 30–50% of the common commpact green spaces at least in its intended final state (depending on the climatic conditions in the region).
common area facilities	Level of equipment II Minimum of two different playgrounds for different age groups or at least one multifunctional playground per playground.
maintenance of common areas	Maintenance level II

3.b Green spaces in areas with predominantly multi-residential buildings

Green spaces in areas with predominantly multi-apartment buildings include common green spaces in residential neighbourhoods and adjacent to individual multi-apartment buildings. These are mostly small park areas intended for the daily use of the occupants and often owned by the ideal share of the ground floor owners. Ground-floor dwellings may have a strip of private gardens. These are often semi-public, but publicly accessible regardless of ownership and management. In larger green spaces, a more coherent part of the green space can also be defined as a public space owned and/or managed by the city.

green space design	Comprehensive and inclusive design, ensuring equal and varied daily use opportunities for all residents and a non-conflicting distribution of activities (use of outdoor space should not interfere with living in the buildings). Emphasis on low-maintenance design; various relief design is recommended. Bicycle parking and refuse areas shall also be included in the overall design. Ensuring safety in terms of design, choice of materials, plants and separation of motor and pedestrian traffic is important. Ensuring quality views from the dwellings, while at the same time protecting against unwanted views (ensuring privacy) and the security of the ground floor dwellings. The design ensures mitigation of adverse impacts (noise, pollution, views, protection against natural disasters) and natural solutions for rainwater harvesting, microclimatic qualities and more. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Min. total enclosed green space of 500 m^2 or a minimum of 15–25 m^2 of open living space per apartment in a multi-apartment building (depending on the local context and proximity to other green spaces). A minimum of 6 m^2 of children's play area per dwelling (minimum 80 m^2) and a minimum of 5 m^2 of sports and play area for the needs of larger children and young people (minimum 50 m^2) must be provided; where the sum of the children's play area in relation to the number of dwellings is more than 200 m^2, the minimum size of the single play area shall be 200 m^2.
share of green spaces	The minimum OLSF is recommended in accordance with the density of the built-up area and the type of settlement (urban, rural): – in areas with higher density development, the OLSF shall be at least 35%; – in areas with less frequent development, the OLSF is at least 40%; 50% of these areas (OLSF) shall be green spaces on natural terrain (minimum 70% in areas with green system regime (GSRA)).
accessibility	Public or semi-public Total green space max. 5 minute (300 m) walk from residential buildings; safe and secure access routes for pedestrians and cyclists and connections to the wider area. Play facilities for young children max. 100 m from the entrance to the building, set back from traffic routes.
canopy cover	at least 30–50% of the in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment II Mandatory provision of a playground of appropriate size (according to the number of inhabitants), but mandatory provision of at least three different playgrounds or at least one multifunctional playground for different age groups. Mandatory provision of areas for meeting, socialising, sports, and other leisure activities for adolescents, as well as for all other groups of inhabitants. It is recommended to provide gardening options of at least 1 garden plot per dwelling. Bicycle parking facilities recommended.
maintenance	Maintenance level I–II

Figure 10: Examples of green spaces next to apartment buildings.

Sports and green spaces in a large neighbourhood of apartment buildings, Ljubljana *(photo Z. Jerman)*

Park area with children's playground in a neighbourhood, Ljubljana *(photo: J. Kozamernik)*

Green spaces and a children's playground next to blocks of flats in a neighbourhood of apartment buildings, Ljubljana *(photo Z. Jerman)*

Allotment gardens in a residential neighbourhood, Lisbon, Portugal *(photo: J. Kozamernik)*

Figure 11: Recommended minimum shares of green space in areas with residential buildings

4. Green Spaces Belonging to Buildings with a Programme

The green spaces adjacent to buildings are directly related to the content and function of the buildings. They are divided into eight groups according to their purpose and characteristics, which are detailed below. They comprise purpose-built areas of public open space belonging to different types of public buildings, commercial centres and industrial areas, which have a higher proportion of natural features and a distinctive sense of integrity, design and spatial coherence.

Green spaces adjacent to buildings are primarily intended for the users of these buildings to carry out certain activities related to the function of the building, to improve the quality of the functioning of the programmes and facilities in the buildings, as well as to create an overall image and general improvement of the quality of the environment and space in the wider area.

Although green spaces belong directly to the building and are managed within the building plot, it is important to ensure their public accessibility and co-use as much as possible.

Especially for new construction in the outdoor areas of schools, kindergartens, retirement homes, hospitals and tourist areas, the design for new construction is normally obtained through a public design competition. In addition to the guidelines for each type of park set out below, green space design should also take into account general guidelines and standards for the design and maintenance of all green spaces, and specific guidelines for playgrounds or play areas.

4.a Outdoor areas of schools

The school outdoor area is all the outdoor space (functional or actual usable land) of primary, secondary, higher and higher education schools, arranged to meet the needs of the proper functioning of the school and its programmes. Schools are buildings with a public programme, and the areas outside schools are semi-public green spaces with appropriate public accessibility regimes for other users (public access outside school hours or for school use). Different accessibility regimes can be established in different parts of the school's outdoor area.

In smaller settlements, school zones can replace multifunctional public green space, given appropriate size, site design and location, and public accessibility.

Figure 12: Example of green spaces next to a school

Outdoor space of a primary school with playground, Freiburg, Germany
(photo: Z. Jerman)

Landscape design of green and sports areas in the area of primary and secondary schools, Velenje
(photo: Z. Jerman)

green space design	High quality design and integrity; particular emphasis should be placed on the design of the school access and entrance area, as well as on the educational aspects and the school's non-formal curriculum. Ensuring well-being, psycho-physical development and a healthy environment. Ensuring that the school's outdoor space is well connected to the school building and easy to use, especially outdoor classrooms and other curriculum-related open space design. At the same time, the programmes should be properly separated so that different activities running at the same time do not interfere with each other. Security should be ensured primarily through a design approach, not by fencing off the space. Ensuring equal accessibility and usability also for the disabled and differently abled. Ensuring adequate protection from noise and pollution and adequate climatic conditions for children to be outdoors (shade, wind protection). The development should also provide at least one large area of enclosed green space (minimum 500 m^2). Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	The minimum size of the outdoor space of a school shall be determined in accordance with the applicable school planning rules.
share of green spaces	GSF min. 30% (in areas with green space regime (GSRA) min. 40%), the provisions of other applicable regulations governing schools shall apply. The share of green spaces on natural terrain shall normally comprise at least 65% of the usable outdoor area.
accessibility	semi-public pedestrian and cycle access routes and connections to the wider area
canopy cover	at least. 30% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	level of equipment I The type of facilities depends on the type of school (primary, secondary, etc.). In principle, school sports (and children's) fields, outdoor classrooms, school gardens and other school-related facilities, school yards and functional accesses, and green and park areas that allow contact with nature, relaxation and various activities in the natural environment are provided. Primary schools must have a children's play area that allows for a variety of outdoor activities, includes green spaces for spontaneous play and socialising, play areas and a sports area, gives children a choice of activities, social contact and privacy, and allows for a variety of activities (common areas, outdoor classroom, play corners, etc.).
maintenance	maintenance level I a daily inspection of the playgrounds by the playground maintenance technician and a periodic inspection by the professional services (to ensure cleanliness and safety)

4.b Outdoor areas of kindergartens

The outdoor areas of kindergartens are part of the semi-public green spaces of the city and should have accessibility regimes for other users adapted accordingly (public access outside activity hours is recommended). Different accessibility regimes can be established in different parts of the outdoor area of the nursery school.

In smaller settlements, kindergarten sites can partially replace multifunctional public green space, given appropriate size, design and location, and public accessibility.

green space design	High-quality design and integrity. The focus is on educational aspects and play, as well as ensuring children's well-being, psycho-physical development and a healthy environment. Ensuring a good connection between the outside space and the building. Direct access to a properly designed outdoor space from individual playrooms is recommended. The outdoor area of the kindergarten includes, in addition to the playground, other facilities related to the kindergarten's operation, the courtyards and accesses, and all associated green and park areas. Areas for children's play and other activities should be safely separated from functional access and circulation areas and routes. The development should also provide at least one large area of enclosed green space (minimum 500 m^2). Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	The provisions of other applicable regulations governing kindergartens shall apply Min. 15 m^2 of playground per child
share of green spaces	GSF min. 30% (in areas with green space regime (GSRA (min. 40%), the provisions of other regulations governing kindergartens shall apply. Minimum 15 m^2 of play area per child, with a minimum of 65% of the play area to be green spaces on natural terrain.
accessibility	Semi-public Access routes for pedestrians and cyclists and pedestrian connections to the wider area (walks)
canopy cover	at least. 30–50% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment I A children's play area is compulsory, allowing for a variety of outdoor activities, including green spaces for spontaneous play and socialising and play areas, a choice of activities, social contact and privacy for children, and a variety of activities (common areas, outdoor classroom, play corners, etc.).
maintenance	Maintenance level I A daily inspection of the playgrounds by the playground maintenance technician and a periodic inspection by the professional services (to ensure cleanliness and safety).

Figure 13: Example of outdoor space next to a kindergarten

Outdoor space of the kindergarten, Ljubljana *(photo: Z. Jerman)*

4.c Outdoor areas of homes for the elderly

The outdoor area of the retirement homes includes all open areas of the building, together with the associated green park and recreation areas. Green spaces around the building are an important factor in achieving the quality of the overall well-being of people living in the home.

green space design	Provision of quality outdoor space for the residents (socialising, walking, resting, observing, programmes, visiting space, therapeutic garden, outdoor fitness, chess, etc.) and active and passive use of these areas. Particular attention should be paid to the design of the entrance to the facility, which should also allow the residents to sit in safety and comfort while observing what is going on. The design and equipment shall take into account the type of clients and their needs (comfortable benches with backrests, wheelchair accessible tables, suitable flooring). It is recommended that wards for people with dementia should also be provided with a safe outdoor living space, with an atrium directly accessible from the ward. It is important to use appropriate plant species (no toxic plant species, avoid allergenic plant species). The maintenance of the green areas can be partly carried out with the active participation of the residents (therapeutic garden or other parts of the green areas according to the residents' wishes and abilities). It makes sense to ensure that these semi-public spaces can be linked to the surrounding area (public green spaces, pedestrian routes, etc.). The development of nearby public spaces can complement the wider area around these facilities (e.g. by providing an outdoor fitness area). Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Min. 200 m^2 of total enclosed green space and min. 5–8 m^2 of open living space per bed (depending on the local context), taking into account the provisions of the applicable regulations.
share of green spaces	GSF min. 30%; may be less if there are park areas in close proximity (within 100 m) that are accessible to the elderly, in areas with green space regimes (RZS) min. 40%.
accessibility	Public, semi-public, private; according to the needs and requirements of the clients Good and equal accessibility of outdoor areas (functionally impaired), integration of outdoor and indoor spaces of the building, unhindered use of outdoor areas; pedestrian and cycle access routes and connections to the wider area.
canopy cover	at least. 30–50% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment I It should allow a choice of outdoor activities, social contact and privacy.
maintenance	Maintenance level II

4.d Outdoor areas of healthcare facilities

They are green spaces and other open areas next to major healthcare facilities, such as hospitals. These are park spaces of a semi-public character, intended for patients, staff and visitors to linger outdoors (space for rest, walks, rest, visits), and are an important factor in creating a favourable microclimate around the facility.

green space design	The outside areas of hospitals can be open and accessible to all or, in special cases, enclosed (e.g. in psychiatric clinics).
	When using plant material, it is imperative to avoid allergenic plant species.
	Ensuring quality views from rooms into the natural environment.
	Areas for socialising with visitors, patient walks as well as outdoor therapies (therapeutic garden, fitness equipment).
	Children's hospitals also need to provide adequate play areas.
	Car parks near institutions should be greened (see Section 5/2.15.e).
minimum surface area	Min. 300 m^2 of total enclosed green space (size of a small local park)
share of green spaces	GSF min. 25%, in areas with green space regime (GSRA) min. 35%
accessibility	Public, semi-public, private; according to patients' needs and requirements
	Accessibility of outdoor areas (functionally impaired), integration of outdoor and indoor spaces of the building, unhindered use of outdoor areas; pedestrian and cycle access routes and connections to the wider area.
canopy cover	at least 30–50% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment I
	Social contact, privacy and variety of activities
maintenance	Maintenance level II

4.e Green areas belonging to other public buildings

Green spaces adjacent to other public buildings (e.g. health centres, municipalities, administrative units, libraries) are part of the outdoor spaces of these facilities, serving the well-being of employees and contributing to the quality of the wider area. Their design can make an important contribution to the identity and overall image of a space, to the quality of views from a building, provide a favourable microclimate and complement the use opportunities for visitors, employees and passers-by.

green space design	Zasnova prilagojena vsebini objekta, lahko reprezentativnega značaja s posebnim poudarkom na vstopnem delu, a vsaj delno namenjena tudi možnosti uporabe; poudarek tudi na pogledih s stavbe. Pomembna celostna ureditev vseh zunanjih prostorov vključno z dovozi, parkirišči, območji za zbiranje smeti, osvetlitvijo ipd. ter ustrezna funkcionalna organiziranost in kakovost posameznih podprostorov. Pri ureditvi območja za sedenje in igro mora biti zagotovljena naravna senca (prednostno drevesne krošnje). Parkirišča morajo biti ozelenjena (glej poglavje 5.2.15.e).
minimum surface area	Min. 30 m² sklenjene zelene površine
share of green spaces	FZP min. 20%, na območjih z RZS min. 30%
accessibility	Javno Zagotovljena dostopnost zunanjih površin (funkcionalno ovirani), povezovanje zunanjih in notranjih prostorov objekta, neovirana raba zunanjih površin; urejene dostopne poti za pešce in kolesarje ter povezave v širše območje.
canopy cover	V predvidenem končnem stanju min. 30–50% (odvisno od klimatskih pogojev v regiji)
utility infrastructure	Stopnja opremljenosti II
maintenance	Stopnja vzdrževanja II

Figure 14: Examples of representative green spaces belonging to public buildings

Top left: Representative green areas, Berlin, Germany *(photo: J. Kozamernik)*

Top right: Representative green areas, Ljubljana *(photo: Z. Jerman)*

Left: Representative green areas, Velenje *(photo: Z. Jerman)*

4.f Green spaces within commercial and business centres

Green spaces in the outdoor areas of retail and business centres are publicly accessible areas designed for the well-being of employees and other users. There are mostly dividing strips between the different parts of the area, but in some places, there are also small play areas and open terraces of restaurants.

green space design	The integrated design of all outdoor spaces (functional organisation and quality of individual sub-spaces) is important in their design. Natural shade (preferably tree canopy) must be provided in the site design of the play area and the open terrace of the pub. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Min. 200 m^2 of total enclosed green space in small-size centres In larger shopping centres (over 5,000 m^2 gross floor area), part of the area shall be allocated for a larger common green area of at least 400 m^2. In large commercial or business zones (over 10 ha), a larger area – a local park (min. 500 m^2) – shall be provided for a common and enclosed green area on the natural terrain within the zone.
share of green spaces	GSF min. 15%, in areas with green space regime (GSRA) min. 25%
accessibility	Public Access routes for pedestrians, cyclists and people with disabilities
canopy cover	In the envisaged final state, min. 30–50% (depending on the climatic conditions in the region); design of tree-lined green prospects along the main access roads (minimum width of the linear green space with tree-line is 1.5 m); provision of shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment II
maintenance	Maintenance level II

Figure 15: Examples of green spaces next to a commercial centre.

Children's playground and green area next to a shopping centre, Ljubljana *(photo: J. Kozamernik)*

Green space in a shopping centre, Kaposvár, Hungary *(photo: Z. Jerman)*

4.g Green spaces within tourism areas

Green spaces in tourist centres can be very diverse, as they are linked to the tourism activity of the area. These are usually part of publicly accessible areas and part of areas with restricted access (regimes, entry fees).

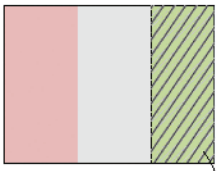
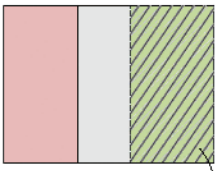
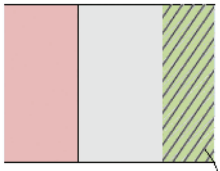
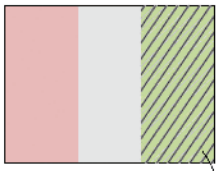
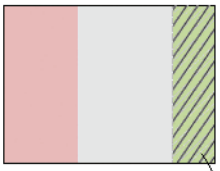
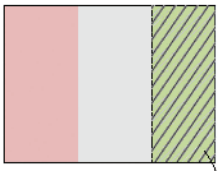
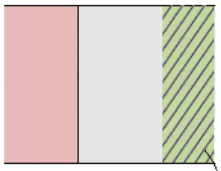
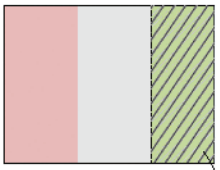
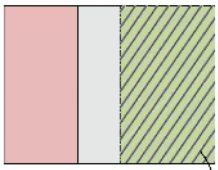
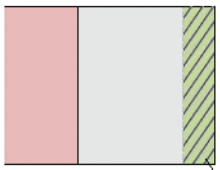
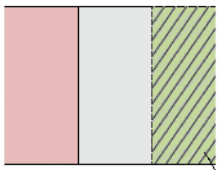
green space design	Green spaces in tourism areas are designed in accordance with the type of tourism (specific needs for the use of green spaces), the character of the area and the local context. They are designed to integrate all outdoor spaces and to create an identity that is in keeping with the local context and landscape characteristics of the area. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Min. 300 m^2 of total enclosed green space in smaller centres and next to larger accommodation facilities (hotels), if there is no other large public green space within 300 m. In larger areas for tourism (over 3 ha), a part of the area shall be set aside for a larger common green area – a park of at least 1000 m^2.
share of green spaces	GSF min. 30%, in areas with green space regime (GSRA) min. 45%
accessibility	Public or semi-public (entry fees) Access routes for pedestrians, cyclists and people with disabilities
canopy cover	In the envisaged final state, min. 30–50% (depending on the climatic conditions in the region); design of tree-lined prospects along the main access roads (minimum width of the linear green space with tree-line is 1.5 m); provision of shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment II
maintenance	Maintenance level II

4.h Green spaces belonging to industrial buildings and within industrial zones

Green spaces adjacent to industrial buildings and in craft zones (industrial, craft, logistics centres) have different functions, they can be used for signage (entrances, passageways), shading of car parks, re-development of degraded spaces, for keeping employees outdoors (breaks, socialising, joint events), creating green barriers, etc., as well as ensuring adequate microclimatic and ecological environmental quality.

green space design	In their design, it is important to integrate all outdoor spaces (functional organisation and integration of sub-spaces) and especially the greening of flat roofs (see guidelines for green spaces as parts of buildings, Section 5/2.16). Particular attention should be paid to the design of the entrance areas and the edges of the site. The redevelopment of industrial or craft zones shall take into account the existing spatial qualities, which shall be taken into account in the new design of the area (based on an analysis and evaluation of the situation). In the case of prominently exposed industrial buildings, a separation zone or green barrier of at least 10 m in width is necessary, planted with suitable vegetation (trees) in accordance with the local context and the constraints or requirements of the activity. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Min. 200 m^2 of total enclosed green space in smaller zones (in addition to other green spaces – barriers, lawns, etc.). In larger sites (over 3 ha), a minimum of 400 m^2 shall be allocated for the total and combined green area on the natural terrain within the area, a small part of which may contain program-related spatial solutions (e.g. biological treatment plant), provided that they are multifunctional. In large zones (over 10 ha), a local park (excluding a children's playground) – min. 500 m^2 – shall be provided for a common and enclosed green area on the natural terrain within the area; a small part of the green area may also contain program-related facilities (e.g. a biological wastewater treatment plant), provided that they are multifunctional.
share of green spaces	GSF min. 15%; in areas with green space regimes (GSRA) min. 30% (in these areas green roofs are also mandatory)
accessibility	Public or semi-public Access routes for pedestrians and cyclists and pedestrian connections to the wider area
canopy cover	In the envisaged final state, min. 30% (depending on the climatic conditions in the region); design of tree-lined prospects along the main access roads (minimum width of the linear green space with tree-line is 1.5 m); provision of shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment III
maintenance	Maintenance level III

Figure 16: Recommended minimum shares of green spaces adjacent to buildings with a programme

	Share of green spaces next to buildings with a programme		
	green space factor	**In areas with a green system regime**	**Enclosed green space**
a-c) Outdoor areas: – schools, – kindergartens, – old people's homes	 green spaces GSF min. 30%	 green spaces GSF min. 40%	- min. 500 m² - min. 500 m² - min. 200 m²
d) Outdoor areas of health facilities	 green spaces GSF min. 25%	 green spaces GSF min. 35%	min. 300 m²
e) Adjacent to other public buildings	 green spaces GSF min. 20%	 green spaces GSF min. 30%	min. 30 m²
f) Within commercial and business centres	 green spaces GSF min. 15%	 green spaces GSF min. 25%	min. 200–500 m²
g) Within tourism areas	 green spaces GSF min. 30%	 green spaces GSF min. 45%	min. 300–1000 m²
h) Adjacent to industrial buildings and within industrial zones	 green spaces GSF min. 15%	 green spaces GSF min. 30%	min. 200–500 m²

5. Recreational Areas

Recreation areas are larger areas with dominant landscape features that serve residents for recreation, relaxation and leisure (recreation areas). They are often not planned and newly designed, but rather comprise large parts of appropriately adjusted, with smaller design interventions, areas of existing attractive landscapes that were originally part of other land uses (forest land, agricultural land, water). They may also have infrastructure for sporting needs, which do not require the construction of covered facilities and large-scale paved areas and should not dominate as a programme. They are usually linked to the natural hinterland of a settlement, but larger areas can also have an important function in a regional context.

In addition to the guidelines for the design of recreation areas set out below, the design of recreation areas should also take into account general guidelines and standards for the design and maintenance of all green spaces and specific guidelines for playgrounds.

green space design	Adaptation to the landscape characteristics and qualities of the area is important in their management. Interventions are selective and primarily aimed at accommodating specific types of recreational activities and achieving appropriate functional organisation and integration of subspaces). They are generally located along public passenger transport corridors but can also be linked to natural hinterlands. Parking areas should be greened (see Section 5/2.15.e).
min. surface area	5 ha
share of green spaces	Min. 80%
accessibility	Public or semi-public Max. walking distance from public transport 10 minutes (600 m); pedestrian and cycle access routes and connections to the wider area; bicycle parking
canopy cover	minimum 30% of the intended final condition (depending on the climatic conditions in the region); priority to be given to the creation of tree-line prospects along recreational routes; provision of shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment II It is recommended that they include play areas for children, with a minimum size of 200 m^2 per playground.
maintenance	Maintenance level I–III The intensity of maintenance depends on the individual designs.

Figure 17: Examples of recreation areas design

Recreational area by the river, Münich, Germany *(photo: Z. Jerman)*

Recreational area, Copenhagen, Denmark *(photo: J. Kozamernik)*

Ski jumping hills, sports and recreation area Mostec, Ljubljana *(photo: M. Ilich Štefanec)*

6. Sports and Recreation Parks

Sports and recreation parks are usually self-contained, enclosed areas, specially designed and equipped for sport and recreation, with open sports fields, small sports facilities and a large share of green spaces. In these specially equipped areas, a wide variety of sport and recreation activities (multi-sports) are carried out. Sports and recreation parks can be part of the public realm in the built environment, or they can be individual, specialised and selectively accessible (commercial offer) areas, but the predominant part of the area must be publicly accessible. It is recommended that they include a children's playground.

In addition to the guidelines for the design of sports and recreation parks set out below, their design should also take into account general guidelines and standards for the design and maintenance of all green spaces, and specific guidelines for sports and children's playgrounds (where the latter are part of the design).

green space design	The integrated design of all outdoor space (functional organisation and integration of sub-spaces) is important in their design. They are generally located along public passenger transport corridors but can also be linked to natural hinterlands. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Not determined
share of green spaces	Min. 30%, in areas with green space regime (GSRA) min. 50%
accessibility	Public, semi-public, private (regimes) Max. walking distance from public transport 5 minutes (300 m); pedestrian, cycle and disabled access routes; connections to the wider area; cycle parking
canopy cover	In the envisaged final state, a minimum of 30% (depending on the climatic conditions in the region) shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment II It is recommended that they include play areas for children, with a minimum size of 200 m^2 per playground.
maintenance	Maintenance level I–III The intensity depends on the individual designs

Figure 18: Example of a sports park

Open sports fields and green spaces, Kodeljevo sports park, Ljubljana
(photo: J. Kozamernik in B. Bartol)

Open sports grounds and recreational green spaces, Koper *(MOP Arhiv)*

7. Allotment Garden Area

Allotment garden areas are purpose-built areas for gardening by local residents. In terms of the characteristics of their organisation, they are defined as **allotment gardens**, which have specifically defined, independent and tenant-specific units for gardening (tenant gardens), and as **community gardens**, where gardening is usually carried out in a cooperative way by all users. They can be combined with recreational or park areas and features in the settlement or with areas of agricultural use. The garden area must be designed (an integrated open space design, in harmony with the spatial context) and must allow for other, shared activities besides gardening, such as socialising, playing, resting, etc.

A management plan is also drawn up and adopted for the allotment garden area, involving the allotment users in the maintenance of the common areas (agreement, public-private partnership). In addition to the guidelines for the design of allotment gardens set out below, general guidelines and standards for the design and maintenance of all green spaces and specific guidelines for children's play areas (where they form part of the design of the site) should also be taken into account for communal areas.

green space design	There must be access routes to individual garden plots or beds, common facilities for socialising and the functioning of the area (common refuse, drinking water, public toilets, areas for stationary traffic, etc.), and a uniform, green periphery that gives the area a unified character and distinctive character.
	Uniform design of planned features such as tool sheds, rainwater catchment areas, composting facilities, etc.
	In areas planned for allotment gardens, food production requires prior verification of the suitability of the soil (contamination, heavy metals, other parameters).
	Rainwater harvesting tanks should be provided for watering the garden plots.
	Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	To define a distinct type of green space: 800 m^2 (20 gardening units plus common areas; min. size of each rental garden plot is 20 m^2; min. size of common areas is 100 m^2).
	Allotment gardens can also be part of other green spaces.
share of green spaces	Min. 70%
accessibility	Semi-public
	Max. distance from public transport 10 minute (600 m) walk; pedestrian and cycle access; connections to the wider area; access for utility vehicles; parking for bicycles and cars
canopy cover	Minimum 15% of the intended final state (depending on the climatic conditions in the region); trees should preferably be planted in communal areas, as they must not shade the production areas.
	Ensure that parking areas (excluding driveways) are covered by a minimum of 50% tree canopy in full growth.
utility infrastructure	Level of equipment II
	Uniform appearance of elements and equipment (fences, sheds, other equipment); priority is given to common tool sheds (typologically consistent with the local context).
	Common areas may include facilities for children's play.
	Larger allotment garden areas (exceeding 5000 m^2) must be adequately served by public utilities.
maintenance	Maintenance level II

Figure 19: Example of urban allotment gardens

Allotment gardens next to a residential neighbourhood, Lisbon, Portugal *(photo: J. Kozamernik)*

Community gardens, Graz, Austria *(photo: Z. Jerman)*

Allotment gardens in a residential neighbourhood between buildings, Freiburg, Germany *(photo: Z. Jerman)*

8. Cemeteries

Cemeteries are a specific type of public green space with specific functions and communal character, with a specific regime of use and management (cemetery regulations). As they also have important cultural, symbolic and morphological values, they are an important place for many people to visit and engage in outdoor activities. **Cemeteries shall be laid out as green areas with a greater or lesser share of natural elements** and shall be integrated into the green system. Depending on their spatial character, they are classified into **classical** and **park** cemeteries. Park cemeteries can also have the character of a quiet park area for walking and socialising. In addition to the specific guidelines for the design of cemeteries set out below, the design of cemeteries should also take into account the guidelines and standards for the communal management of cemeteries and the general guidelines and standards for the maintenance of all green spaces

green space design	Priority is given to park cemeteries, which have a high share of landscape elements and where the lawn of the burial plots replaces the sandy areas that are otherwise a feature of traditional cemeteries. The design shall emphasise integrity and quality and shall ensure an appropriate functional structure, good orientation in space, protection against undesirable influences (noise, odours, visual disturbance, etc.), appropriate character and symbolic meaning, accessibility for all, with particular emphasis on the handicapped, and ample opportunities for visitors to rest. Rest areas should be micro-climatically favourable, comfortable and offer privacy. Particular attention should be paid to the edges of the area and its contact with adjacent spaces. The design of the extension of existing cemeteries should consider the whole cemetery as a spatial unit. In planning, particular attention should be paid to the special characteristics and symbolic significance of the site (space of memory), accessibility regime, possible conservation status, etc. Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Not determined
share of green spaces	As far as possible depending on the type of cemetery
accessibility	Public Max. distance from public transport 5 minute (300 m) walk; pedestrian, cycle and disabled access routes; connections to the wider area; access for public utility vehicles; parking for bicycles and cars
canopy cover	In the envisaged final state, a minimum of 10% (depending on the climatic conditions in the region) shading of parking areas (see Section 5/2.15.e). When a cemetery is laid out or extended in an area with a GSRA, it is obligatory to provide for a park type of cemetery.
utility infrastructure	Level of equipment II Provision of communal facilities (water, electricity, sanitation, waste disposal) Appropriate urban facilities
maintenance	Maintenance level I

Figure 20: Example of different types of cemeteries.

Park section of the Žale cemetery, Ljubljana *(photo: Z. Jerman)*

An example of a classical cemetery, Koper *(photo: Z. Jerman)*

9. Theme Parks

Theme parks are usually single-function spaces with a recognisable guiding theme or activity. They are used primarily for cultural urban life, scientific work, education and training, recreation, relaxation and entertainment, as well as for aesthetic experiences. These can be botanical gardens, zoological gardens, arboretums, memorial parks, theme parks, adventure parks, exhibition parks, water parks, memorial parks, golf courses, etc.

Each theme park has its own distinct spatial character, reflecting its basic function and programme orientation, but all share certain common guidelines, which are set out below. In addition to these, general guidelines and standards for the design and maintenance of all green spaces and specific guidelines for sports and children's play areas (where these are part of the design) should be taken into account in the design of theme parks.

green space design	Theme parks do not include accommodation facilities. Access may be partially restricted (fencing, entrance fee). They are often linked to the needs of users of a specific public facility.
	The integrated design of outdoor space (functional organisation and integration of sub-spaces) is important in their design.
	Parking areas should be greened (see Section 5/2.15.e).
minimum surface area	Not determined
share of green spaces	To the greatest extent possible, depending on the type of theme park, theme parks with a predominant share of green spaces (min. 80%) shall be located in areas with green space regimes (GSRA)
accessibility	Public, semi-public (regimes), private
	Access routes for pedestrians, cyclists and people with disabilities; connections to the wider area; parking for bicycles, cars and buses.
canopy cover	In the envisaged final state, min. 20% (depending on the climatic conditions in the region); provision of shading of parking areas (see Section 5/2.15.e).
utility infrastructure	Level of equipment I
maintenance	Maintenance level I

Figure 21: Examples of theme parks

ZOO, Ljubljana *(photo: MOP archive)*

Golf course, Smlednik *(photo: M. Ilich Štefanec)*

10. Green Space as an Articulating Element

Greenspaces as elements of articulation are distinct linear features of contiguous vegetation volumes and/or areas, also known as green barriers, green belts, protective green spaces or buffer zones. These include waterside green spaces, rows of trees and other green elements (e.g. alongside infrastructure), and linear green spaces or planting between individual uses, built-up areas, neighbourhoods or between settlements. They can separate areas of mutually interfering land uses and protect them from harmful impacts (e.g. noise, impacts of intensive agricultural production), which are adapted to their vegetation composition and width.

In addition to the guidelines for the design of green spaces as articulating elements set out below, their design should also take into account general guidelines and standards for the design and maintenance of all green spaces.

green space design	They usually consist of vegetation belts of trees and/or shrubs, and may also include a watercourse, pedestrian and/or cycle connections and other infrastructure facilities.
minimum surface area	The width of the route depends on the spatial characteristics and possibilities; in the case of an element of articulation, the linear green space with planting on natural terrain shall be a minimum of 5 m wide; in the case of the provision of space for new tree-lined prospects adjacent to infrastructure facilities, the linear green space shall be a minimum of 1.5 m wide
share of green spaces	Min. 85%
accessibility	Public, semi-public, private
	Access routes for pedestrians, cyclists and people with disabilities, if the route includes a footpath or cycleway
canopy cover	At least 30% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment III–IV; depending on the function of the prospect
maintenance	Maintenance level II

11. Water Elements and Waterside Spaces

Waterside spaces include all publicly accessible coastal amenities with a predominance of natural features. Their management should always be linked to appropriate water management. They must allow public access to water areas, provide for an appropriate ecological balance of the area and incorporate flood protection and other water management measures in the design. They are always defined as a distinct type when they are not designed as park lines.

For developing and design of waterside spaces, appropriate project documentation shall be drawn up in cooperation with the competent sector, which shall include a landscape architecture plan. The management of waterside areas shall be defined in the water protection plan for each water body or water section and shall be managed in cooperation with and in coordination with the guidelines for the management of public green spaces. In addition to the specific design guidelines for waterside space design set out below, their development should also take into account the general guidelines and standards for the design and maintenance of all green spaces, as well as the guidelines of the relevant sectoral disciplines.

green space design	In these areas, it shall be possible to implement recreational facilities in the coastal zone within settlements (recreational paths, resting places, installation of other elements and equipment, water access, etc.). The design of beaches and bathing areas shall pay attention to creating the interface with the water. Natural materials shall be used as a priority, with a predominant share of lawns in the coastal area. The design should take into account the possibility of using sustainable solutions and multifunctional uses of space.
minimum surface area	The width of the design depends on the spatial characteristics and possibilities
share of green spaces	Min. 85%
accessibility	Public Access routes for pedestrians, cyclists and people with disabilities, if the route includes a footpath or cycleway
canopy cover	At least 60% in its intended final state (depending on the climatic conditions in the region)
utility infrastructure	Level of equipment II–IV
maintenance	Maintenance level II–IV

Figure 22: Examples of waterside spaces in cities

Green space along the Ljubljanica River, Fužine, Ljubljana *(photo: Z. Jerman)*

Recreational areas along the Paka River, Velenje *(photo: Z. Jerman)*

Green space along the seaside, Portorož
(photo: MOP archive)

12. Urban Forests

Urban forests are forests with a strong recreational function, usually located within or on the edge of a settlement area, and which are of particular importance for the quality of life and leisure of the inhabitants due to their proximity and accessibility. They are publicly accessible (and usually owned by the city) and are maintained and landscaped for the public to visit and use. Urban forests can provide forms of recreation that do not require the construction of large or special infrastructure facilities. Urban forests and their development are therefore subject to the preparation of appropriate project documentation, including a landscape architecture plan, in cooperation with the forestry profession. The management and maintenance of urban forests or forest areas under the regime shall be determined in a management plan that coordinates the different aspects and functions of the area. Urban forestry developments should also take into account the general guidelines and standards for the management and maintenance of all green spaces, as well as the guidelines of the relevant sectoral disciplines.

Figure 23: Example of an urban forest with a strong recreational function

Forest and the recreational trail at Golovec, Ljubljana *(photo: Z. Jerman)*

13. Multifunctional Urban Agriculture Zones

Multifunctional urban agriculture areas are agricultural areas within or on the edge of settlements which, because of their proximity to settlements and their landscape features, also have a special importance and attractiveness for the recreational activities of their inhabitants. These are usually private areas, some of which are publicly accessible in specially defined and co-developed areas. In these areas, forms of recreation are possible along existing infrastructure (e.g. field thoroughfares), and the design of new infrastructure is coordinated with landowners. For new developments in the multifunctional urban agriculture areas, we draw up the relevant project documentation. Planning should take into account approaches to sustainable solutions and multifunctional use of space. The maintenance of the recreational infrastructure is defined in a co-management plan for the area, in cooperation with the landowners, the sector and the municipality. Development within these areas should also have regard to general guidelines and standards for the management and maintenance of all green spaces and other agricultural land policies and related sectoral guidelines. The use of plant protection products should be limited in the vicinity of settlements where organic production is encouraged as a priority.

Figure 24: Example of agricultural areas within or on the edge of towns attractive for recreation

Agricultural areas attractive for recreation, Ježica, Ljubljana *(photo: J. Kozamernik)*

Agricultural areas attractive for recreation at the edge of the city, Bizovik, Ljubljana
(photo: Z. Jerman)

14. Green Spaces of Special Natural and Cultural Value

Green spaces that have an identified special natural or cultural value, where they have no other identified purpose or function (and therefore cannot be classified as other types of green space), are treated as a specific type of green space in planning. This group includes areas of special natural and ecological value within settlements, which are spatially enclosed and have a special significance from ecological and morphological aspects, as well as areas protected as cultural heritage (e.g. manor houses, castles), larger cultural heritage landscape areas if they extend into urban space (e.g. outstanding landscapes), and those recognised as important in the local context from cultural, symbolic, identity, historical and representative aspects.

Figure 25: Example of a nature reserve in a settlement

Škocjanski zatok, Koper *(photo: Z. Jerman)*

Figure 26: Example of green areas in a settlement protected as cultural heritage

Ferrari's Garden, Štanjel *(photo: M. Ilich Štefanec)*

They are defined as a specific type of green space where they are not included in other green spaces or other primary uses but have specific management requirements. New developments are subject to appropriate project documentation and maintenance is defined in the management plan.

They should be managed in an integrated way, taking into account the specific characteristics of each site and its conservation status, as well as general guidelines and standards for the management and maintenance of all green spaces, and other policies of related sectors.

The type of accessibility and amenities depends on the specific characteristics of the area and the regimes needed to protect the natural and/or cultural values of each site.

15. Green Spaces as Part of Transport Areas

Certain green elements add certain aspects of green spaces to other types of open spaces (natural absorption of rainwater, microclimate regulation, biodiversity enhancement, contact with nature, articulation of space, quality of the living environment, image enhancement). This includes green spaces in connection with transport areas, which typically comprise tree planting and other small-scale green space developments within open spaces, such as transport areas (transport infrastructure) and other built public open spaces (squares, pedestrian areas, pedestrian and cycle routes, streets and road designs and parts thereof, car parking areas, etc.). They are primarily designed to ensure safety (articulated belts) and comfort (shading, climate change mitigation) in the use of traffic areas and to improve the overall quality of public open space. Due to the linear nature of much of the traffic areas, green spaces as part of transport areas are one of the key building blocks of the green system in settlements.

In addition to traffic engineering plans, integrated transport planning includes a landscape architecture plan and other site-specific plans. The alignment of utility lines shall be adjusted in the design to take account of and allow for the planned planting. In addition to the specific guidelines for each type of space set out below, the general guidelines and standards for the design and maintenance of all green spaces and the applicable rules and specific guidelines for the construction of transport infrastructure should be taken into account when developing green spaces in conjunction with transport developments.

15.a Tree-lined alleys

Within settlements, tree plantations are planned tree prospects that usually accompany communication prospects (paths, roads) and form spatial axes. There are four basic forms of rows of trees: single one-sided row of trees (one line of trees on one side of the axis), single double-sided row of trees (one line of trees on each side of the axis), double single-sided row of trees (two lines of trees on one side of the axis) and double double-sided row of trees (two lines of trees on each side of the axis). Design of rows of trees should follow general guidelines and standards and other guidelines for site preparation, planting, tree species selection, seedling selection and quality, etc.

Figure 27: Examples of rows of trees

Row of trees by the road, Ljubljana *(photo: Z. Jerman)*

Double-sided row of trees between road and footpath, Ljubljana *(photo: J. Kozamernik)*

Multi-line row of trees, Balatonboglár, Hungary
(photo: Z. Jerman)

15.b Pedestrian and cycling connections

Pedestrian and cycling connections are linear open spaces that ensure connectivity and accessibility to all types of areas within settlements and their hinterland. They can be provided as part of roads and streets or as separate connections (footpaths, cycle routes or mixed). Green spaces along footpath and cycling routes make an important contribution to the quality, safety and pleasantness of these connections, increase the attractiveness of using them, provide a better microclimate and reduce the heat island effect in summer.

green space design	Footpaths are being developed as pavements, separated footpath routes, mixed pedestrian and cycling areas and, in residential neighbourhoods with low motorised traffic speeds, increasingly as part of the shared traffic space. Cycle connections are provided as cycle paths, lanes, trails and streets; modern approaches also take into account their provision in mixed areas (together with motorised traffic – so-called "sharrows") as connections for mixed pedestrian and cyclist traffic, and in residential neighbourhoods with low motorised traffic speeds as part of a shared transport space. Due to the linear nature of the connections, the green spaces along them are usually arranged in the form of (articulated) lawns and tree-line prospects. To ensure visibility and safety, planting between individual traffic areas shall use lower plants with a maximum finished height of 0.7 m and trees with a canopy at least 2.5 m from the ground.
minimum surface area	Linear green space widths and distribution of trees according to connection types: – pedestrian and cycle connections along thoroughfares with a speed limit of 50 km/h or more shall be separated from the carriageway by a lawn or rows of trees; minimum width of a lawn or row of trees 0.7 m, minimum width of a linear green space with a row of trees 1.5 m; – along pedestrian and cycle connections, which run separately from motorised traffic and within settlements, a minimum single-sided linear green space of at least 2.5 m wide with a single one-sided row of trees, which must provide shading; – pedestrian and cycle connections which run separately from motorised traffic and outside settlements shall be provided with a minimum of 3.0 m of linear green space on each side of the connection and a minimum of a single-sided row of trees, which shall provide shading. Pedestrian and cycling connections provided as part of shared traffic areas shall follow the guidelines for green spaces in residential streets and along other roads and parts of the road network (see Sections 5/2.15.c and 15.d).
accessibility	Public
canopy cover	As far as possible depending on the type of connection
infrastructure	Level of equipment II
maintenance	Maintenance level II

Figure 28: Examples of footpath and cycle path routes in settlements

Cycling and walking path along the road, separated by a linear green space and a row of trees, Ljubljana *(photo: Z. Jerman)*

Footpath separated from traffic in the settlement, with a row of trees, Path of memories, Ljubljana *(photo: Z. Jerman)*

Cycling and walking path separated by a linear green space and a row of trees, Ljubljana *(photo: Z. Jerman)*

15.c Streets in residential areas

Streets in residential areas are primarily used for residents to access their homes and are not intended for through traffic, with speed limits below 50 km/h, usually 30 km/h or less. Green spaces in residential streets play an important role in traffic calming through their articulated character, but they also contribute significantly to the quality and attractiveness of the street space, provide better microclimate and reduce the heat island effect in summer.

green space design	Green spaces in residential streets are usually arranged in the form of articulated and buffer lawns, green islands and tree-line prospects. They also often follow guidelines for the unified design of front yards, setting the priority for hedgerows for example. To ensure visibility and safety, planting on the streets themselves shall use lower plants with a maximum finished height of 0.7 m and trees with a canopy at least 2.5 m from the ground.
minimum surface area	Not defined; depending on the specificities of the area Minimum width of green area 0.7 m, minimum width of linear green space with row of trees 1.5 m; trees with canopy at least 2.5 m from the ground; care must be taken to maintain visibility when planting beds at junctions and roundabouts; planting in the central part of roundabouts shall be arranged in accordance with the applicable roundabout rules
accessibility	Public
canopy cover	As far as possible depending on the type of street
utility infrastructure	Level of equipment II
maintenance	Maintenance level II

Figure 29: Examples of a streets in residential areas

Residential street with a row of trees and front gardens, Freiburg, Germany *(photo: Z. Jerman)*

Linear green space with a row of trees along the road in a residential area, Ljubljana *(photo: S. P. Cvar)*

15.d Other road and major cross-roads

Other roads are roads outside residential areas that have a strong transit function and a speed limit above 30 km/h. Along these roads and at major intersections (classic junctions and roundabouts), green spaces help to break up the road body, contributing not only to the quality of the open space, but above all to safety and traffic calming.

green space design	They are usually arranged in the form of articulated and buffer lawns, green islands and tree line prospects. To ensure visibility and safety, planting between individual traffic areas shall use lower plants with a maximum finished height of 0.7 m and trees with a canopy at least 2.5 m from the ground.
minimum surface area	Not defined; depending on the specificity of the area Minimum width of the green area 0.7 m, minimum width of the linear green space with row of trees 1.5 m; trees with a canopy at least 2.5 m from the ground; care must be taken to maintain visibility when planting beds at cross-roads and roundabouts; planting in the central part of roundabouts shall be arranged in accordance with the rules in force on the zoning of roundabouts.
accessibility	Public
canopy cover	As far as possible depending on the type of road or cross-roads
utility infrastructure	Level of equipment III
maintenance	Maintenance level II

Figure 30: Example of green spaces along roads

Greening of a roundabout, Maribor
(photo: Z. Jerman)

Greening at the cross-roads, Ljubljana
(photo: Z. Jerman)

Figure 31: Example of green spaces along roads

Row of trees along the road, Izola
(photo: S. P. Cvar)

Linear green space with a row of trees, Ljubljana
(photo: Z. Jerman)

15.e Car parks

Car parks are large, enclosed parking areas at ground level for the parking of motor vehicles. Car park greening provides shading, climate mitigation and reduces storm water runoff.

green space design	Green spaces in car parks are usually arranged as dividing strips with tree line prospects, green islands with planting and as parking spaces paved with grass slabs. To ensure visibility and safety, planting of car parks shall use lower plants with a maximum finished height of 0.7 m and trees with a canopy at least 2.5 m from the ground.
minimum surface area	All car parks with 4 or more parking spaces shall be greened
accessibility	Public, semi-public, private
canopy cover	A minimum of 1 tree for every 4 parking spaces shall be provided, ensuring a minimum of 30% coverage of the parking areas without driveways with a full-grown tree canopy; the distribution of trees shall be as uniform as possible to ensure optimum shading; shading of parking spaces may also be provided by means of a green pergola instead of trees.
utility infrastructure	Level of equipment III
maintenance	Maintenance level II

Figure 32: Examples of car park greening

Shaded parking lots along a road with a row of trees, Maribor *(photo: Z. Jerman)*

Roadside car parks shaded by a linear green space with a row of trees, and unshaded car parks, Ljubljana *(photo: S. P. Cvar)*

Shaded car park, Ljubljana (*photo: J. Kozamernik)*

16. Green Spaces as Part of Buildings – Green Roofs and Vertical Greening

Green spaces as part of buildings – green roofs and vertical greening – are a type of green space that is usually part of a building. Green roofs are usually flat roofs of buildings covered with vegetation and can be extensive to intensive. Green roofs are recommended on all buildings with flat roofs. The level of equipment and maintenance, accessibility and design guidelines shall be determined in the design of the building. Green roofs can also be arranged as green terraces, which are intensively greened outdoor living areas.

Vertical greenery is overgrown with vegetation or covered walls or vertical planes of plants that delimit and/or articulate a space or are a façade element. The performance guidelines and the level of maintenance shall be determined in the design of the building.

The design of buildings with green roofs and/or terraces and vertical greenery shall be encouraged as a priority in all areas with a green system regime and in accordance with other provisions in the spatial planning documents.

Figure 33: Examples of building greening

Green roof of an apartment block with garden plots, intensive, Rotterdam, the Netherlands *(photo: Z. Jerman)*

Greened outer wall, Ljubljana *(photo: T. Čufer, 2017)*

A green roof as a pedestrian path, Paris, France *(photo: J. Kozamernik)*

Greening of an outer wall, Berlin, Germany *(photo: J. Kozamernik)*

Annexes

Annex I:
Planning of a Green System in Settlements – Rationale

The quality of urban living, of which the quality of the living environment, healthy living and quality leisure time are important elements, is directly conditioned by the quality of open space, the state of the environment and the care taken to preserve nature. Ensuring the above is directly linked to the presence, condition and quality of green spaces in settlements, which increases awareness of the importance of good quality and effective planning and management.

More leisure time and the fact that more and more people are living in multi-appartment housing and thus do not have their own green spaces (garden) has increased the importance of public open space, of which green spaces are an important and integral part. New lifestyles, needs and aspirations of the population are also developing new forms of green spaces and other public open spaces that do not yet have a clearly defined place in the planning system. Increased needs and the limited space available are also increasingly raising questions of multi-functionality, co-use, sharing and joint management of urban and suburban green spaces, especially those that are in principle the responsibility of individual sectors (e.g. forestry, agriculture, water, but also transport, tourism and the economy). All of the above therefore calls for the introduction of holistic and integral approaches to green space planning to establish green systems and/or green infrastructure for the different levels of spatial planning and the interconnection of sectors to achieve synergies in the development, action and management of the whole open space of cities and towns. This was also recognised at the European level, with the adoption of the European Landscape Convention in 2000 (signed by Slovenia in 2001 and ratified in 2003). The Convention is a fundamental framework for the integrated treatment of landscapes (including urban landscapes) and the conservation of landscape heritage across Europe, it mandates the increased integration of landscape into spatial planning and sectoral policies and programmes, and requires signatory countries to establish and implement planning, protection and management mechanisms. In addition to the Convention, the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions; Green Infrastructure – Enhancing Europe's Natural Capital is also relevant at the European level. The document sets out a new priority objective for European strategic programmes and development policies for the 2014–2020 period and is identified as one of the key and proven successful tools for understanding the value of the ecological, economic and social benefits that human society (can) derive from the natural environment and for the appropriate delivery of these benefits (ecosystem services).

In Slovenia, the spatial scope for providing adequate and high-quality green spaces is quite large. The relatively small size of Slovenian cities allows them to be directly connected to their green hinterland, and the fairly well-developed spatial planning in the past has contributed to a fairly good preservation of the planned land use areas of urban green spaces. A much bigger problem today than the quantity of green space is therefore its quality and usability, which have not been effectively guided by planning. The vast majority of green spaces in settlements are lawns and other functionally undefined spaces with a green character, which contribute only to a very limited extent to the quality of the living environment. The problem of the current state of green spaces in cities and towns is also linked to the lack of proper transfer of decisions from the strategic to the implementation level. Thus, despite the successful implementation of a modern approach to green system planning, green spaces are not activated in the subsequent planning steps, or are even completely lost in the context of the different planned land uses of which they are a part. In addition to a poorly integrated and also incomplete approach (lack of expertise and cross-sectoral cooperation, lack of clarity on the required project documentation), cities and towns also face an inefficient and unsatisfactory system of management and maintenance of green spaces. This is compounded by a lack of awareness of the importance and tools of landscape planning to reconcile interests and uses in space and thus achieve quality impacts.

The integrated design of green spaces and other public open spaces is key to ensuring their good accessibility, safety and appropriate distribution in cities and other settlements, to achieving an equitable quality of life for all inhabitants, to social cohesion, to mitigating climate change and climate extremes, to preserving biodiversity, to managing water, and to increasing the resilience of the urban environment, as well as their overall attractiveness and competitiveness.

Slovenian spatial planning practice needs to further develop appropriate tools for urban development. In recent years, most cities have drawn up new spatial planning acts containing strategic and implementation plans for their development. In addition, a range of other supporting strategies are being developed to address specific areas of development, such as sustainable urban strategies, tourism development strategies and integrated transport strategies. The review of the documents has shown that cities face a number of challenges in ensuring the coherent development of urban areas, hinterland and rural areas and ensuring the vitality of urbanised areas, which, while adequately addressed in principle at the declarative, strategic level, are often not translated into action at the implementation level. This is particularly pronounced in the area of green space planning, where the integrity of green spaces is usually completely lost in areas with different land uses and inconsistent definitions of green space types, due to the wide variety of site typologies.

In city administrations, the problem is often highlighted as a lack of communication between different sectors. While the guidelines for the preparation of the newer strategies stress the importance of cross-sectoral integration and the continuous involvement of different stakeholders in the document preparation process, cooperation between them at the operational level is still difficult and often very limited. On the other hand, cities and towns are extremely diverse in terms of size, location and other spatial characteristics, social and economic structure, as well as cultural and historical aspects. These diverse situations create very different possibilities for meeting the needs related to public green spaces.

There are also difficulties in effectively taking into account modern ideas and knowledge such as food and energy self-sufficiency, climate change adaptation, ecosystem services, sustainable solutions and green infrastructure in urban planning. Translating such approaches into planning practice is directly linked to green space planning, which must also be adequately supported in spatial planning legislation.

An important framework for a harmonised approach to green space planning in settlements is the definition of specific types of green spaces. This should also take into account the different levels of spatial planning (the design of the green system is part of strategic planning, and the guidelines for the development of green spaces in individual areas are part of the implementation planning level) and the fact that green spaces are not a single system clearly separated from other land uses. As a result, the vast majority of very important green spaces in settlements are included in other land uses, which can lead to their importance being lost at a more detailed level of planning and to the fact that green spaces are the building blocks of the green system of a town or city being overlooked.

Annex II: Applicable Principles and Good Practice Standards for Green Spaces

We apply current (European) standards, guidelines and best practice principles for the quality implementation, protection, and maintenance of green spaces (especially for playgrounds, green roofs, other outdoor play areas, sports grounds, tree protection during construction works, earthworks, planting and seeding works, lawns, maintenance of these areas, engineering and biological works, etc.). In planning, the constant updating of standards means that it is important to keep up to date with the standards that are currently in force or in use. The recommendations, guidelines and standards in force are listed in the table below.

Table 1: Implemented recommendations, guidelines and standards

subject matter	standard or directive	description
children's playgrounds	SIST EN 1176	standards for outdoor playground equipment and surfacing
	SIST EN 1177	impact attenuating playground surfacing
outdoor playgrounds, sports grounds	DIN 18034	Playgrounds and outdoor play areas – Requirements on planning and maintenance
	DIN 18035, part 4	Sports grounds – sports turf areas
green roofs	FLL – Guidelines	FLL – Guideline for the planning, execution and upkeep of green roof sites
execution of soil working	SIST DIN 18915: 2013	Soil working (Vegetation technology in landscaping) provisions for the preparation of the land prior to planting and for the deposit and storage of topsoil, for the treatment of the construction subgrade prior to the application of the growing layer the thickness of the vegetation layer for lawns (minimum 10 cm) and for trees and perennials (minimum 20 cm)
seedlings and plant care	DIN 18916	Plants and plant care (Vegetation technology in landscaping – Plants and plant care) protection of seedlings from damage (transport, storage, planting), planting time, storage of seedlings, planting procedure, support or anchoring of trees the size of the root space in relation to the tree species size of the planting pit: excavation width 1.5 × diameter of the clod
	E.N.A.	European Nurserystock Association (E.N.A, 2010) – standard for planting and seedling quality for tree planting in settlement areas, a minimum standard size of 18–20 cm (trunk circumference at 1 m) seedlings shall be used for the planting of solitary trees, seedlings of a minimum standard size of 20–25 cm (trunk circumference at a height of 1 m) shall be used
	other recommendations for planting	when carrying out construction work in the tree impact zone (the ground area below the canopy perimeter, extended by a further 1.5 m on all sides), a tree protection plan must be drawn up (part of the landscape architecture plan) in the case of paving areas adjacent to trees, adequate ground area must be provided – the opening for air and water passage must be at least 3 m^2 recommended distance of underground utility lines from tree trunks: minimum 2 m See also *Mestno drevje* (City Trees) publication (*source: Šiftar A., 2011).*
construction of lawn areas	DIN 18917	Turf and seeding (Vegetation technology in landscaping – Turf and seeding) lawn layout and maintenance according to utility and environmental specificities (ornamental lawns, utility lawns, hardy lawns and lawns in the landscape) mowing, fertilisation and aeration, condition for take-over

subject matter	standard or directive	description
engineering and biological protection works (erosion protection)	DIN 18918	Vegetation technology in landscaping – Care of vegetation during development and maintenance in green areas (Vegetation technology in landscaping – Engineering biological securing methods – Securing by seeding, planting, construction methods with living and non-living materials and components, combined construction methods.) provisions for protective construction (erosion prevention) and greening – rehabilitation of areas, timing and method of implementation of measures include technical and biotechnical measures for the surface binding of soils: construction with non-living materials or construction works, securing by construction with plants and living plant parts, securing by seeding and by planting
care and maintenance of planted areas	DIN 18919	Vegetation technology in landscaping – Care of vegetation during development and maintenance in green areas (Vegetation technology in landscaping – development and maintenance care of green areas) – maintenance procedures for plant material and lawn maintenance, fertilisation of planted areas – watering of newly planted trees is carried out at least 2 seasons after planting – fertilisation (addition of phosphorus, potassium, nitrogen) is carried out in accordance with the norms, the quantities are planned in accordance with the analysis of the existing soils – lawn mowing: usable lawns once a month, hardy lawns 1–2 times a month if needed, lawns in the landscape (flowering meadows): 2–3 times a year, fine ornamental lawns: once every 14 days during the growing season
	other expert recommendations for maintaining plantings	– periodic tree care means tree rotation care, repair of supports, pest control, watering, fertilisation, removal of branches, pruning, crown lifting, replacement of standard size trees at the time of harvesting, pruning of trees may only be carried out by a professionally qualified arborist in accordance with modern arboricultural principles – all felled or damaged trees are replaced, and in the case of major renovations, the growing medium is replaced – shrub maintenance includes shaping and/or rejuvenation pruning, thinning, weeding and other work – hedge maintenance includes pruning with cleaning at least once a year – the provision of seasonal flower beds (annuals, biennials, ornamental bulbs and tubers) must follow the rules of the profession, and the minimum plant density must ensure a minimum of 60% ground cover – care of perennials must follow the rules of the trade, with minimum weeding and hoeing, replanting, fertilisation, protection against diseases and pests, replacement of damaged or missing plants, maintenance pruning (once a year) if necessary and depending on the species
protection of trees and planting during construction works	DIN 18920	Vegetation technology in landscaping – Protection of trees, plantations and vegetation areas during construction work protection against pollution, fire, flooding, sunburn, other protection of vegetation areas, trees protecting trees from mechanical damage – it is necessary to enclose the entire root zone or canopy perimeter with an additional 1.5 m perimeter on all sides or minimum trunk protection (taped board protection) avoiding the application of material to the roots and the removal of material from the root zone, and root protection when digging trenches and construction pits (root curtain for construction pits, point foundations for the installation of urban equipment, manual trenching) necessary root protection during construction – temporary loading (surface area to be kept as small as possible, covering with drainage material and covering with a surface – e.g. wooden support) restriction of paving along existing trees (continuous paving up to 30% of root area, discontinuous paving up to 50%)

Annex III: Proposal for More Detailed Graphic Symbols

Na podlagi usmeritev in zasnov zelenega sistema na strateški ravni (glej priročnik, poglavje 3) opredelimo zelene površine na podrobnejši načrtovalski ravni. Za prenos strateških odločitev in smernic zelenega sistema v podrobnejše ravni načrtovanja so predvidene tri skupine grafičnih znakov:

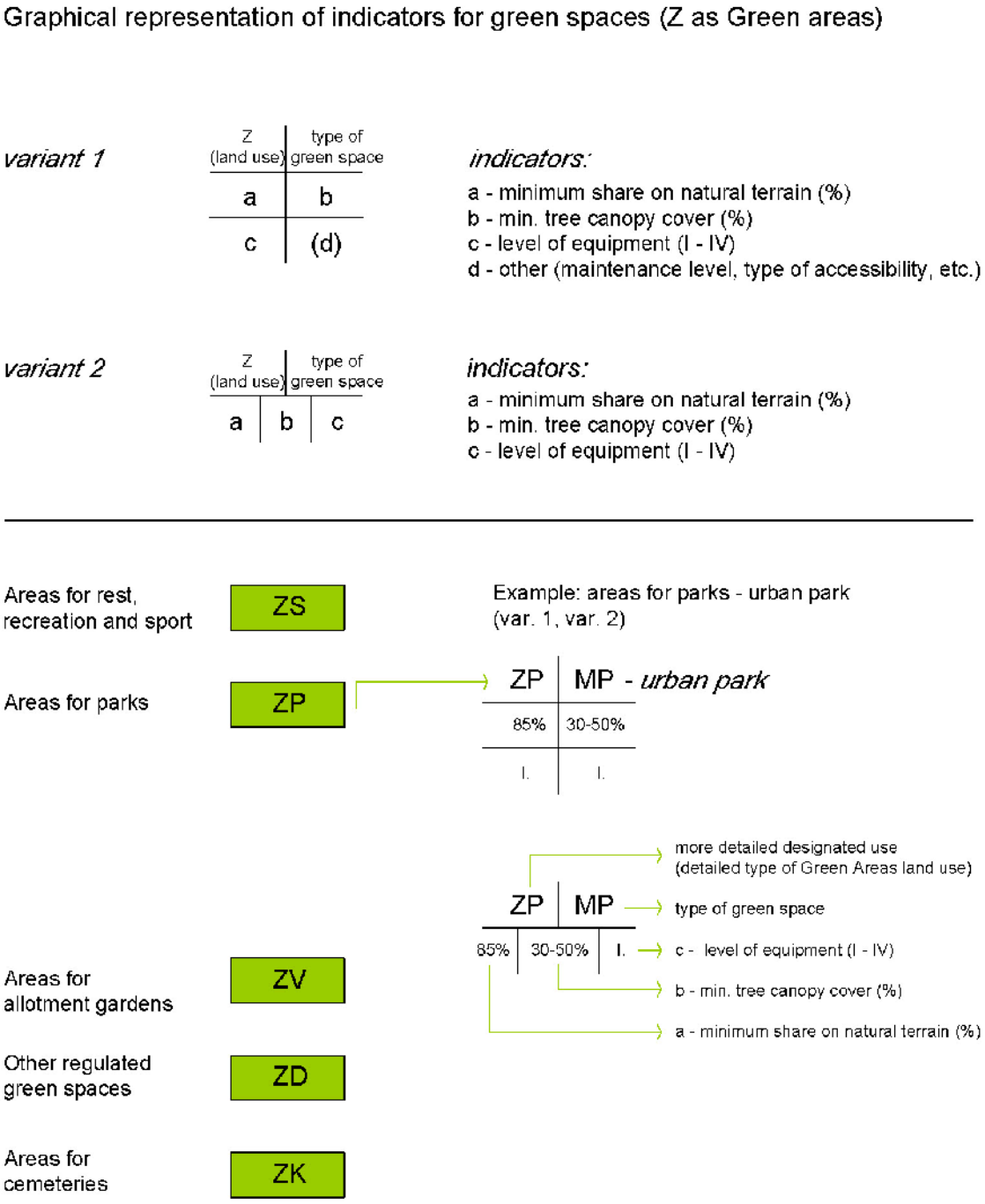
- znaki za območja zelenih površin kot samostojnih območij (objektov) – namenska raba Zelene površine (Z);
- znaki za območja zelenih površin znotraj drugih rab;
- znaki za prikaz regulacijskih elementov.

Signs for green space areas as stand-alone facilities – designated planned land use of – green spaces (G)

Green space areas are planned and shown as separate areas under the green space (G) land use designation. The level of intended use shall be further defined according to the type of green space in terms of function and character (areas for recreation, leisure and sport, areas for parks, cemeteries, allotment gardens and other landscaped green spaces), and the graphical representation shall be supplemented by a table of indicators, which must be linked to the textual explanation.

The use of the graphic symbol system illustrated below is recommended for the display of minimum parameters.

Figure 1: Signs for green space areas as separate areas (buildings) – designated use of green spaces



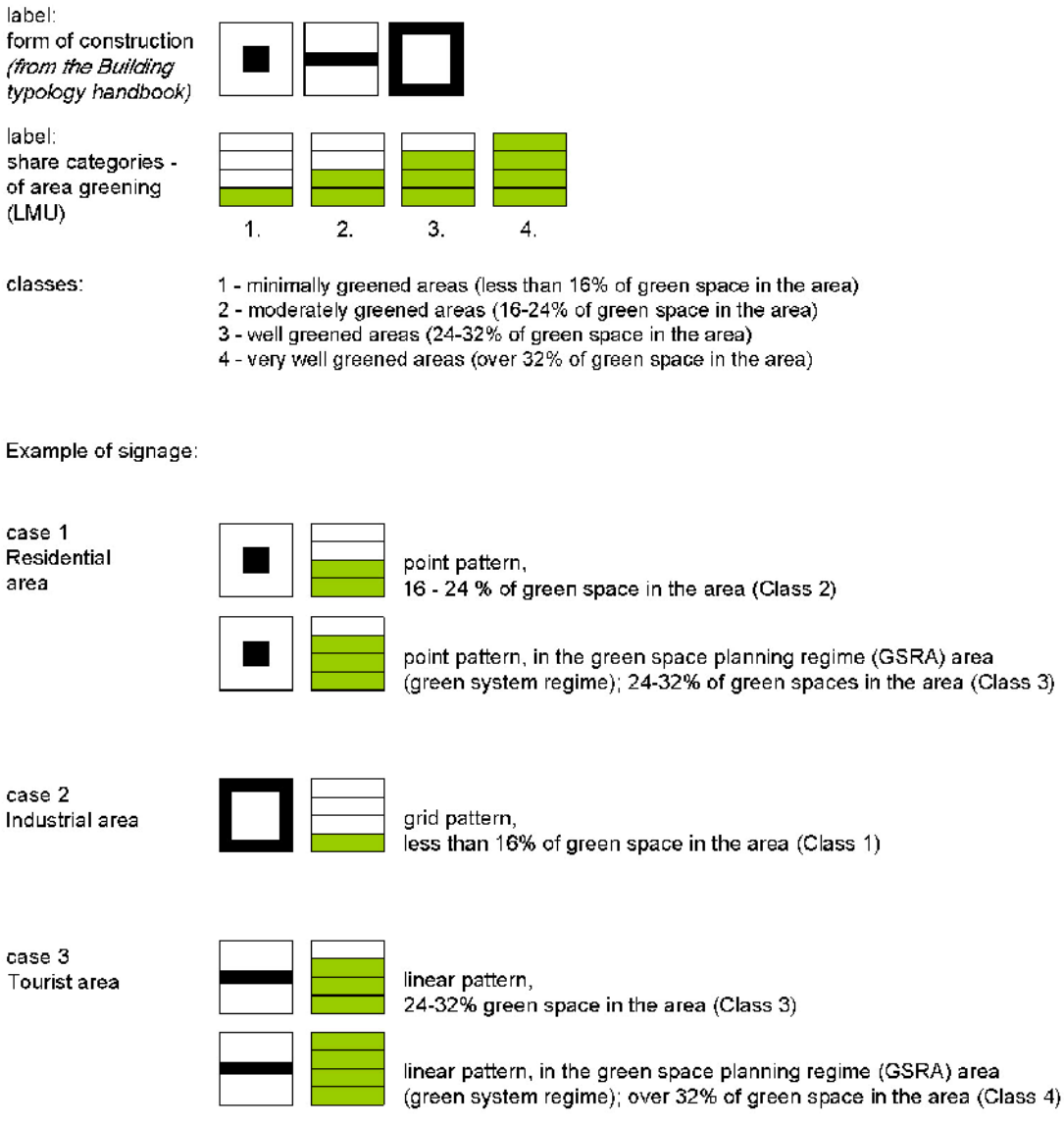
Signs for green spaces within other planned land uses

Significant (strategic) design guidelines for the development of green spaces within areas of other designated land uses are defined by specific signs. In areas within other designated uses, we aim to respect the provisions on the share of green spaces (the amount in relation to the use itself and the achievement of the desired objectives), the interlinking or coherence of green spaces, the programming baselines (the type or programmes in the areas of these green spaces), the level of amenity, etc.

Graphical signs to illustrate the extent of green areas in areas within other planned land uses shall be used to supplement the signs for built form or other areas of the LMU, depending on their content. In these examples, we show the grades of the share of high-quality green space for each LMU (by density or type of development, by use). In areas with a defined green system regime, the mapping of the green system regime shall be illustrated by the use of a sign corresponding to an appropriate increase in the amount of green space.

Figure 2: Signs for green spaces within other designated uses

Graphical representation of the share of green space areas in the LMU
(complementary signs for form of construction and other areas)



Symbols for displaying planning regulation elements

To translate the provisions of the Green System to the implementation level, the guidelines are shown as Green System Guideline Areas (regulation areas and elements). The regulation area shall be defined as the green system regime areas (GSRA) and the compact green space areas in areas within other land uses (not in GS planned land use areas), and the linear regulation elements shall be the green space as articulating element (GSAE), the green space as connecting element (GSCE) and the axis of the rows of trees.

Green system regime areas are areas with green system guidelines for the protection of landscape features and recreational use, for the protection of ecological values, for development and reconstruction, and with guidelines for a good quality living environment. This regulation area defines the land falling within the green system protection area, in which the building shall be adapted according to specific green system provisions.

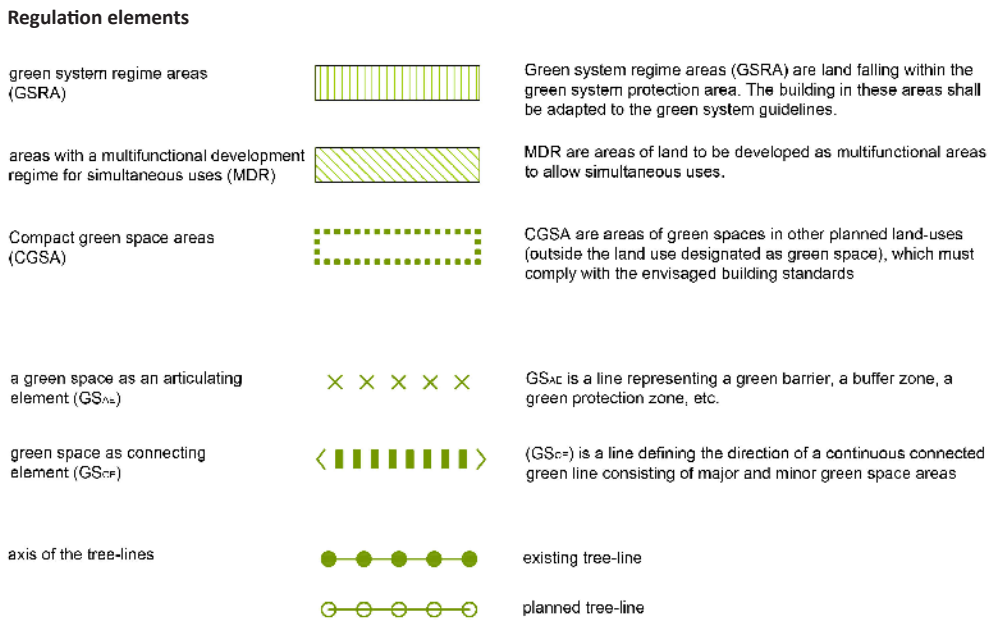
Green space as an articulating element is a marking illustrating green barriers, protection, or buffer zones. **Green space as a connecting element** is a linear element representing the direction of the green prospect. They can consist of different larger and smaller green spaces, forming a green spatial connection.

Rows of trees are shown as existing and newly planned tree-line rows. Depending on the scale of the display, single-sided and double-sided avenues shall be defined. The type of the tree line (single-row, double-row) shall be specified in the text part of the Spatial Planning Act.

The regulation elements used to demonstrate the provisions of the green system are:

- regulation areas with a green system regime (GSRA);
- regulation areas with a multifunctional development regime for simultaneous uses (MDR);
- areas of compact green space (CGSA) in individual LMU and/or across several LMUs;
- articulating green space elements in individual LMU and/or across several LMUs;
- connecting green space elements through individual LMU and/or through several LMUs;
- the regulation lines of the axis of the tree-lines.

Figure 3: Symbols for displaying regulation elements



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Terms Used

These terms are used exclusively to provide a better understanding of this manual and are not legally binding.

1. An **alley** is a street or a path with a line of trees planted along each side; see also: *a tree-line*.

2. An **arboretum** (also botanical garden) is a plantation of trees, woody and other plants – mainly of scientific, research, educational and informative interest – that is open to the public.

3. **Biodiversity** (also biological diversity) is the variety among living organisms, including diversity within species, between different species, genetic diversity and diversity of ecosystems. In nature, is preserved through the maintenance of natural balance. *(summarised in the ZON-UPB2).*

4. An element **of spatial articulation** is a linear spatial element that articulates a space (source: *Urban Terminology Dictionary*); see also: *green space element of spatial articulation*

5. **Green space ratio** (the term used in the tables, chapter 5/2) is the total share of green spaces in relation to the total area of the site under consideration.

6. **Accessibility to green spaces** is the availability of a location, measured in units of time or length, as well as in the way it is designed to ensure unobstructed and equal access for all users. In particular, we define accessibility to green spaces in terms of pedestrians (speed 4–5km/h; 5 minutes walking = 300m) or cyclists (speed = 12km/h; 5 minutes riding corresponds to 800m). When determining accessibility by public transport, in addition to the time component we also consider the number of buses per hour and the distance from the bus stop. At the implementation level, the accessibility radii are increased or modified depending on the topographical features of the terrain and the physical obstructions in the area (railway line, thoroughfare, etc.).

7. A **treeline** (a row of trees) is a linear planting of more than five trees of the same species and size at equal distances that generally allow the overlap of the canopy edges of mature trees, usually on one or both sides of a path or road, but also in the open landscape. We distinguish:
   - **line of trees** – a single row of trees planted in a line,
   - **double line of trees** – two rows of trees planted in a line,
   - **a line of trees, planted only on one side** of path or a road,
   - **double-sided line of trees (alley)** – lines of trees planted on both sides of a path or road;
   - **urban avenue** – has an important position and fulfils an articulation function in regard to the spatial structure of the city.

8. **Ecosystem services** (ES) are defined as the potential benefits an ecosystem has for people on the basis of natural characteristics and the characteristics of the area. EU documents define four different categories of ecosystem services: **provisioning ES** – benefits linked to resources that are directly used by humans for provision of food, fibre, water, raw materials and medicinal substances; **supporting ES** – benefits linked to natural processes that indirectly enable the use of natural resources, such as nutrient cycling, primary production or pollination; **regulating ES** – benefits linked to natural mechanisms that regulate climate and mitigate climatic extremes and environmental impacts, water cycling, water regulation, flood prevention, heat islands in urban areas, etc.; **cultural ES** – benefits that people receive from the natural environment that help them to meet social, recreational, cultural, spiritual and other needs related to satisfaction, health and well-being; see also: *green infrastructure.*

9. **Open living space factor** (OLSF) is the ratio between the open living space and the to-

tal area of the building plot intended for the construction of apartment buildings; open living space include green areas on natural terrain and paved areas intended for outdoor living which do not serve as traffic areas or communal functional areas (access roads, driveways, parking spaces, ecological island spaces); see also: *green space ratio, green space factor.*

10. **Green space factor** (GSF) is the ratio of green areas on the natural terrain to the total area of the building plot that is intended for construction of non-residential buildings; see also; *green space ratio, outdoor living space factor.*

11. A **functional tree** is a tree seedling with a trunk circumference of at least 18cm at a height of 1m from the ground and the trunk of which is at least 2.2m in height.

12. An **outstanding landscape** is a natural or cultural landscape of high scenic value due to its unique structure, unique land use, appropriate proportion of natural elements and/or specific settlement pattern *(source: Urban terminology dictionary).*

13. A **public area** is developed and green spaces intended for common use, such as a public road, street, passage, square, market, atrium, playground, car park, cemetery, park, lawn, recreational and similar area (*source: ZUre-P-2*); see also: *publicly accessible open space, public space, public green space*.

14. A **public green space** (publicly accessible green space) is a green space that is publicly or privately owned and is publicly accessible to all under the same conditions, e.g. green plot, park forest, waterside space; see also: *semi-public green space, private green space, residential open space.*

15. A **public space** is an indoor or outdoor space that is publicly or privately owned and is accessible to all under the same conditions, e.g. a railway station, public library, street, square, park; see also: *publicly accessible open space, outdoor living space, public space, public green space.*

16. **Publicly accessible open space** is an outdoor space within or outside settlements that is publicly or privately owned and accessible to all under the same conditions, usually it is designed and equipped with urban amenities, such as a square, park, car park, waterside area, forest, or meadow. Public green spaces are an integral part of public open spaces; see also: *public space, open space, outdoor living space, public space.*

17. The **quality of environment** is the condition of the environment or its part of which, physical, chemical, biological, aesthetic, or other characteristics are assessed in accordance with specified standards, indicators, or defined value-based criteria; see also: *quality of space.*

18. The **quality of space** is the condition of a space or its part that reflects the coherence of spatial characteristics with the values of society; the **ambient quality of space** is the characteristic of a space that demonstrates high experiential and functional values; see also: *quality of environment, spatial coherence.*

19. A **bathing area** is a natural or designed area by a body of water or a built structure intended for bathing and swimming.

20. A **landscape** is a territory as perceived by people and having distinctive natural, cultural or habitation characteristics resulting from activities and interaction between nature and people. It can be recognised as natural, cultural or urban landscape; (*source: ZUreP-2*); see also: landscape in an urban space.

21. **Landscape in an urban space** (also urban landscape) is the total area of the green spaces and open spaces in a city including the green system; see also: *green system*

22. **Landscape architecture** is a discipline concerned with the planning, design and management of landscape, spatial planning, and environmental and nature conservation that considers the structural, morphological, ecological, cultural, psychological and socio-geographical characteristics of a space *(source: Urban terminology dictionary).*

23. A **landscape feature;** see: *landscape element*.

24. A **landscape component**; see: *landscape element.*

25. **Landscape design** is an open space developed in accordance with the principles of landscape design *(source: Urban Terminology Dictionary)*; see also: *landscape design process.*

26. **Landscape development concept** is the expert basis for guiding and specifying the spatial development and protection of specific areas in the landscape when preparing spatial planning acts (in accordance with the ZUreP-2).

27. **Landscape element** (also landscape feature, landscape component) is a clearly identifiable spatial element or site development in the landscape that has a significant influence on the landscape structure, its characteristics and its appearance (e.g. lake, solitary hill, line of trees, clearing).

28. **Landscape design process** is the design of various open spaces and green spaces in urban and non-urban areas, their contents and spatial characteristics, elements and various thematic developments to ensure a good quality of life and environmental quality (*source: Urban Terminology Dictionary*); see also: *landscape design***.**

29. **A cultural landscape** is an open space with natural and man-made components and its structure, development and use are predominantly determined by human interventions and activities – it is a landscape whose formation and appearance have been influenced by people through the integration of agricultural land, forest and settlement structures; see also: *outstanding landscape.*

30. A **local park** is a small multi-purpose park design developed mainly according to the needs of local residents and is intended for leisure activities, playing and socialising of people of all age groups. Usually it is connected to a local centre or a focal activity, such as a school, a cultural house, or is a part of a larger neighbourhood; see also: *park, urban park.*

31. An **urban forest** is a publicly accessible forest that has a predominantly social and recreational function. Usually it is located within the city or its surroundings and plays an important ecological role in regulating the urban climate and ensuring the good quality of the living environment; see also: *green system, green infrastructure.*

32. An **urban park** is a public multi-purpose urban green space with a comprehensive structure and programme, usually it has a high design value and an emphasised representative-symbolic meaning; see also: *park, local park*.

33. A **multifunctional urban agriculture zone** is a multifunctional publicly accessible area of agricultural land use that is usually located within the city or its surroundings (hinterland) and plays an important ecological role in regulating the urban climate and ensuring the good quality of the living environment (recreational function); see also: *green system, green infrastructure.*

34. **Landscape architecture project** is a technical description and drawing of the landscape architectural design at various scales, defining the functional, design and landscape construction elements of the open space *(source: Urban Terminology Dictionary)*.

35. **A principle of equality in availability and accessibility** is the principle that green spaces and public open spaces in residential areas should be distributed in such a way as to ensure that all inhabitants of a town or city have an equal opportunity to use them in their daily lives.

36. **Natural element** (natural spatial feature) is a characteristic component of space that is of natural origin, such as topography, soils, hydrological network, vegetation.

37. **A natural public good** is a normatively defined component of the natural environment designated by an Act as a public good (in accordance with the ZVO-1).

38. **Compact green space areas** (CGSA) are designated areas of green space within other

planned land uses (outside the green space designation) which must comply with the envisaged building standards.

39. **Area with a multifunctional development regime for simultaneous uses** (MDR) are areas of land to be developed as multifunctional areas to allow simultaneous uses of different character; the manner of construction in these areas shall be adapted to the green system guidelines for the development of these areas.

40. **Areas with the green system regime** are areas of land that are part of a green system protection area with set guidelines intended for the protection of landscape features and recreational use, for the protection of ecological values, for landscape design and reconstruction, and guidelines for ensuring a high-quality living environment. The way in which construction is carried out in these areas shall be adapted to the green system guidelines for development of these areas.

41. A **waterside space** (also shore, coast) is a strip of land, usually along a watercourse, but also along a lake or sea, that is affected by water, e.g. its vegetation, micro-climate, soil, topography; see also: *waterside design.*

42. A **waterside design** is a shoreline, riverbank or coastal strip development that provides public access to and use of water bodies and/or protects the wider area from the undesirable impacts of water, usually with a predominance of natural features; see also: *waterside space.*

43. **Waterside vegetation** (river-side, see-side vegetation, riparian growth) is vegetation that grows in areas close to coasts, rivers and streams and is adapted to coastal or riparian micro-climatic and soil conditions.

44. **Open living areas** are green and paved areas intended for outdoor living which do not serve as traffic areas or communal functional areas (e.g. access roads, driveways, car parks, ecological island spaces); see also: *open space, public space, green space.*

45. **Open space** is the unbuilt space between buildings in a settlement; see also: *outdoor living spaces, publicly accessible open space, public space, green space.*

46. A **playground** is a specially designed and public open space with clear boundaries, designed and equipped to enable the safe play and socialisation of children. It can be a stand-alone facility or a part of a park area or other area or building (e.g. childcare facilities, schools, residential neighbourhoods, shopping centres).

47. **A park** is a comprehensively designed and developed enclosed area of public open space with a predominance of natural elements and strong identity, intended for the widest range of users for purposes of leisure, relaxation, recreation, culture, experiencing landscape and other scenes, and is equipped with paths, lawns, plantings, seating, playground and other elements according to its content and character; see also: *urban park, local park, roof park, linear parks, green space.*

48. **Park trees** are trees that are suitable for planting in urban open spaces due to their potential for creating motifs, visual appeal, and resistance to urban climate.

49. **Linear park** is a distinctly linear arrangement of open space with a high proportion of natural elements which has a connecting function and park-like characteristics.

50. **A park forest** is a forest that forms part of a parkland area with paths and urban amenities; see also: *green space.*

51. **A park cemetery** is a type of cemetery with a small proportion of paths, paved areas and high share of natural elements, with uniformly arranged graves, usually marked only by headstones, and no or little space for decoration.

52. A **cemetery** is a communal, architectural and landscaped area for the burial of the dead; see also: *park cemetery.*

53. **Tree canopy cover** means the share of the area of a given site that is covered by the canopy of the trees planted or to be planted. The canopy volume shall be defined according to the tree species or variety selected for the mature stage.

54. A **semi-public green space** is a green space in public use (depending on public or private ownership), but originally intended for the inhabitants and/or users of a particular environment. User accessibility can be managed through regimes, such as hospital parks, school outdoor area; see also: *public green space, private green space.*

55. A **wind-protection zone** is a linear design or planted vegetation that protects certain buildings or structures from the unwanted influence of the wind.

56. **Natural terrain** is outdoor surface that is naturally permeable and maintain direct contact with the geological subsoil and thus the ability to retain, drain and sink water; it is a natural habitat for plants and allows for the planting of tall vegetation.

57. A **recreational park** is a park-like area of green space, intended mainly for recreation.

58. A **recreation area** is a publicly accessible area with distinctive landscape features and an ambient quality, without major built structures and amenities, predominantly intended for recreation and leisure.

59. **Renaturation** is the restoration of a natural state, or the transformation of an anthropogenically transformed habitat to a state close to nature.

60. A **retention area** is an area of high-water retention, either natural as an essential part of river corridors or artificially developed.

61. **Green system regime (GSR);** see: *areas with green system regimes.*

62. **Spatial coherence** is the characteristic of open space area which is made up of components that are organised in such a way as to evoke a sense of order and orderliness.

63. **Nature-based solutions** are sustainable, nature-based solutions designed in a way that encourages natural processes. These are multi-functional solutions adapted to the local area, integrating natural ecosystems, for example in drainage solutions and flood protection.

64. A **promenade** is a paved open public space, usually elongated, used for walking and socialising.

65. **A walking path** is a longer circular or connecting path in a park or garden or a specially designed path in the landscape through different landscape scenic areas.

66. **Residential landscape** (open and green spaces in residential areas) is green space and other open space in residential areas that is intended for the daily use of the inhabitants, e.g. socialising, relaxation, recreation, and the creation of high-quality ambient and micro-climatic conditions, articulation and orientation in space, and the image and identity of the area; see also: *outdoor living spaces, urban space landscape, green space, green infrastructure.*

67. A **roof park** is a park design on the roof of a building, implemented as an intensive green roof, usually open to the public; see also: *green space.*

68. A **roof garden** is a green space design on the roof of a building, implemented as an intensive green roof, usually intended for and accessible only to the occupants or users of the building; see also: *green space.*

69. A **school garden** is an exterior area of a school, designed and planted for educational purposes, especially concerning gardening, plants and natural processes, and can also be used for food production.

70. A **school playground** is an exterior area of a school, designed, arranged and equipped for sports activities and/or play.

71. A **sports park** is a purpose-built area with outdoor sports fields and other facilities for sports and recreation.

72. A **sports and recreation park** is a public space for sports and recreation, with outdoor sports fields and large green spaces. It can have free or restricted access.

73. A **protection zone** (also buffer zone) is an intermediate zone or area that separates areas of mutually incompatible land use or protects against negative impacts (e.g. sound barrier protection zone, green protection zone).

74. A **theme park** is a park design adapted to a specific content, which determines its nature, design, equipment and accessibility, often directly linked to a public facility (e.g. botanical park, ZOO, memorial park).

75. A **terrace** is an outdoor flat surface raised above the ground, forming part of a building or outdoor space, which may include a roof.

76. A **vegetation type** is a grouping of plants with recognisable common characteristics, determined by natural conditions and land use, e.g. forest, grassland.

77. **Soil** is the top layer of the Earth's surface, formed by the decay of rocks and the decomposition of organic matter, which normally allows plants to grow; it is dependent on the effects of climate, relief, water conditions, bedrock, organisms, and time.

78. **A lawn** is a well-kept area in a garden or park, usually laid to grass and maintained by regular mowing.

79. **Meadow** (as an element of landscape design) is a less frequently mown grassed area that is part of a landscaped or protected cultural landscape.

80. A **tourist area** is an area predominantly devoted to tourism due to its characteristics.

81. A **tourist centre** is a tourist settlement with a number of facilities, amenities and services for tourism.

82. **Urban equipment** are elements or objects that are part of an open space design and contribute to its usability, pleasantness, and safety, such as benches, tables, playgrounds, pergolas, water features, bike racks, litter bins, marker boards, lighting, fences.

83. **Urban agriculture** (urban farming) involves the production of agricultural crops and the keeping of animals in urban areas.

84. A **paved surface** is a surface, paved or laid to withstand heavy loads, suitable for intensive use, such as walking, driving, parking.

85. A **multifunctional public space** is an area whose green space design allows for a variety of uses and activities (e.g. squares, pedestrian areas in cities, recreational forest).

86. **Vertical greening** (also green wall) is a vegetated or covered wall, including a larger vertical surface of plants, which usually bounds or articulates a space, and can be used as a vertical green barrier.

87. A **water element** is a spatial element or design whose dominant visual feature is water, for example a water feature, water mirror, ornamental pool.

88. An **allotment garden** is a small plot of land used for gardening, usually part of a wider allotment area or urban gardening area with certain statutory requirements and restrictions on development (with more detailed regulation at the local level).

89. **Temporary use of space** is the use of space in the urban and other planning areas that is not planned permanently through development projects or planned land use and spatial implementing conditions in spatial implementing documents, but enables the implementation of temporary developments or temporary performance of activities until the planned development projects or prospective developments are implemented, thus enabling the efficient use and activation of unused land and facilities *(source: ZUreP-2)*.

90. A **private green space** is a privately owned green space restricted to certain users with access restricted for others, e.g. a home garden; see also: *public green space, semi-public green space.*

91. A **protected cultural landscape** (also cultural heritage landscape) is a traditionally preserved area of cultural landscape protected as immovable cultural heritage; see also: *cultural landscape.*

92. A **healthy living environment** is an environment that provides living conditions conducive to health and well-being, consistent with the prescribed standards and value system of society; see also: *quality of space.*

93. A **green space as an articulating element** is a natural or created spatial element, composed of natural elements, which articulates (divides) space. They can be green barriers, linear green spaces or buffer zones, and other articulating elements made up of natural features. A **green space as an articulating element** as a regulation element (GSAE) is a line representing a green barrier, a buffer zone, a green buffer or green protection zone, a protection zone, etc.

94. **Green infrastructure** is a spatial and planning system of an interconnected network of green space that maintains natural values and ecosystem functions and provides associated benefits for people. The key characteristics of a green infrastructure network are the diversity of areas, the morphological or functional coherence and the multifunctionality of individual areas. Important elements of green infrastructure include all areas of open space with certain natural features, from natural to semi-natural areas, recreated or restored natural areas, designed green spaces and other open spaces important for the quality of life and health of the inhabitants, the state of the environment, ecological connectivity and the preservation of biodiversity, the resilience of space to climate change, the preservation of resources and the identity of space. Green infrastructure includes agricultural land with nature conservation value, woodland, water and waterside areas, urban green spaces as well as green roofs and green walls in settlements; see also: *green system, ecosystem services.*

95. A **green space as a connecting element** (as a regulation element; GSCE) is a line defining the direction of a continuous connected linear green space consisting of major and minor green space areas.

96. A **green space** of a town or settlement (in the urban environment it is also known as urban green space) is an open space within a settlement, the features of which are determined by its vegetation and other natural characteristics; the green spaces of a town or settlement are all areas that exhibit a certain degree of naturalness, irrespective of their ownership, function and position in space; green spaces and their characteristics contribute significantly to the quality of the living and natural environment, the image and structure of the town or settlement and meet the everyday and other relaxation and recreational needs of its inhabitants; see also: *green system, outdoor living spaces, public space, open space.*

97. A **green roof** is usually a flat roof of a building or other built structure, covered with vegetation on a specially adapted substructure to ensure the safety of the building and the growing conditions There is a distinction between **an extensive green roof –** a green roof with a thin layer of vegetation, mainly consisting of unpretentious, low-growing plants, which usually has only an ecological, energy, visual function and is less demanding to implement and maintain and **an intensive green roof –** usually a flat green roof with a thicker vegetation layer of lawns, shrubs, even trees, which may be a designed green area for residents.

98. A **green wedge** is a green area that wedges into the built fabric of a city and connects it to its green hinterland, particularly important from a climatic point of view, but also from ecological, connective and articulating aspects.

99. A **green system of** a city or town (green space system) is a planning and management approach to ensure the integrity and sustainable development of the landscape components and other open spaces with-

in a city or town, thereby ensuring effective long-term and sustainable development and a high quality living environment for people, animals and plants. Its basic aim and purpose is to integrate and link individual green spaces, which are very different in terms of spatial characteristics and content, into a recognisable spatial, functional and meaningful whole. It shall be established in the area of the city and its hinterland (or between settlements) in order to co-shape the structure and image of the city, to ensure ecological balance and to ensure equal provision and accessibility of green spaces and other open spaces to meet the needs of the inhabitants for a quality living, working and leisure environment; **definition in accordance to ZUreP-2:** a **green system** shall mean a planned system of conservation and development of green areas within habitation areas and other related green and man-made structures in physical space. It is intended to provide a high-quality living environment for people and to perform social, environmental, ecological, climate, economic, cultural, structural and design functions. A green system encompasses, inter alia: parks, children's playgrounds and other open sports grounds, urban garden areas, green areas, tree-lined avenues, trees and other natural features close to community and public economic infrastructure and buildings, riparian areas, urban and peri-urban forests.

100. **Outdoor living environment** is a part of an open space, usually in a city or settlement, that is accessible and arranged for different forms of outdoor living, such as socialising, rest and recreation.

101. The **outdoor area** of the building is the area of open space which is directly connected to the building in terms of program, design, symbolism, or other direct connection, and which together with the building forms a spatial and functional whole. It typically consists of paved areas in the function of providing various forms of accessibility and site designs for different uses, and green areas in the function of creating an ambient attractive, pleasant, and healthy environment for different uses and activities, views and microclimatic conditions. Each building type is characterised by certain types of open spaces and green areas, which differ in terms of content and function, as well as spatial design, minimum required dimensions, the way in which they need to be connected to the building and other design aspects.

102. The **school outdoor area** is a land plot that functionally and substantially belongs to the school and includes the school's sports fields, outdoor classrooms, school garden, school atrium, access and functional areas, courtyard and other school-related facilities; see also: *school garden, school playground.*

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