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Urban Planning Function of Green Places

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Abstract:

This article discusses the main aspects of improvement of urban areas. The role of green spaces in urban planning, as well as the relevance of landscaping the territories of residential neighborhoods.

Keywords: architecture, aesthetics, cultural genesis, ethnogenesis, autochthonous ethnic groups.

Currently, there is a pronounced tendency to increase the urban planning role of plantings. As a full-fledged constructive urban planning element, they participate in the organization of the city territory, in the formation of the urban landscape, and can be the center or axis of the spatial solution of the urban ensemble, its framing.

Urban plantings are inextricably linked with the planting tracts of the suburban area and constitute an integral system that can be classified by use, location, natural state and hygienic value.

The size of the city's green spaces characterizes the level of its improvement and convenience of living for the population.

Green spaces - city and district parks, gardens, squares, boulevards - are part of the overall greening system of the city.

It should be noted that these indicators do not take into account public green spaces in microdistricts, as well as limited-use plantings on the soils of residential buildings, plots, schools, etc., which play a large role in the overall landscaping system.

Non-residential green spaces located within urban development consist of forest parks, botanical gardens, nurseries, forest shelterbelts and other green spaces for special purposes.

Main tasks:

- a harmonious combination of technical structures and green spaces.
- restoration of disturbed areas

- organization of mass recreation for the population
- Protection of individual elements of the natural landscape.

Methods of landscape organization of territories depend on the natural properties of the area and the nature of economic activity within its boundaries. These methods should be based on the general tasks of development and transformation of the natural environment. The natural properties of the city's landscapes have a specific impact on the processes of its transformation, improvement and the nature of improvement. The system of green spaces and open spaces of the city is oriented towards improving the living environment, the best organization of mass recreation for the population, enriching the external appearance of the city and consists of intra-city and suburban plantings. Urban plantings are inextricably linked with tracts of plantings in the suburban zone, originating far outside the city, continuing in the forest park belt, penetrating into the city and reaching its central part. The uses of urban green spaces are varied. They are intended for various types of recreation and form protective and security strips.

By location relative to the city and purpose, one can distinguish suburban and suburban plantings (forests, forest parks, national parks, nature reserves, protective zones of water intakes, etc.) and urban plantings of general and limited use (parks and gardens, squares and boulevards, protective strips, plantings inside industrial and residential areas).

According to the state of the plantings, they can be divided into suburban and suburban, preserving their natural appearance, and urban, which are artificial plantings adapted for the constant presence of large masses of people on their territory and alternating with buildings. In terms of health and hygiene, plantings, regardless of their location, can be divided into 2 large groups. One is of general educational importance, the other protects people from the harmful effects of industrial emissions into the atmosphere, from industrial and transport noise.

The territorial development of the city should include the preservation, restoration and appropriate use of all valuable objects of the natural landscape - natural forests, banks, rivers, lakes, hills, etc., their organic inclusion in the planning structure of the city. The areas of green spaces for limited use and special purposes are not standardized and are determined by existing planning and other conditions.

The system of green spaces in a residential area can be divided into the following types according to the functional purpose and nature of the plantings: landscaping of the residential area; neighborhood garden; landscaping areas of kindergartens; landscaping of residential streets and pedestrian paths.

Landscaping of the residential area (yards of residential groups, stripes between the building line and the red line, utility yards, protective strips) should be 40-45% of the area of the entire residential area of the microdistrict. In the residential area, landscaping is provided for a recreation area for young children and a quiet area for adults.

The microdistrict garden may include: purely green areas; bodies of water; paths (1-2 m wide); recreation areas for adults and children; landscaped sports and utility areas. The quiet rest areas of the neighborhood garden make up 40% of the total area of the garden. There are gazebos, benches, walking alleys and areas for relaxing on the grass. The game sites are equipped with attractions, sports equipment, and a splash pool. About 80% of the entire garden area is allocated for green areas.

In hot climates, where denser buildings are recommended and green space is included in the interior of the room, the green structure of a microdistrict can be in the form of a system of green areas.

When landscaping the sidewalks of residential streets, row plantings of trees, shrubs, and flower lawns are used. Conventionally, plants can be divided into shade-forming plants; plants that help

reduce reflected radiation and ornamental plants that form shade are often planted, tall trees with a dense crown, the mass of which is capable of absorbing solar radiation to a certain extent. In addition, the permeability of the crown and the evaporation process ensure air circulation.

It is believed that the area formed by the projection of the crown in plan will be the most protected from sunlight. The location and size of this area will change throughout the day depending on the declination of the sun. It should be borne in mind that under the canopies of trees, air flows move almost unhindered. At altitude, the opposite happens, since the tops of the trees slow down the air movement. In this regard, large tracts of tall trees are recommended for one- and two-story buildings.

In three- to six-story buildings, tall trees should not be planted, since this will worsen the air exchange of the environment and increase the temperature of open spaces (loggias, galleries) facing the crown level.

Landscaping of residential areas should contribute to

- limiting the radiation of paths and playgrounds during hours of maximum overheating (at least 2/3 of the area of sidewalks, pedestrian paths, driveways and ½ of the area of children's playgrounds and quiet rest areas should be shaded);
- protection from radiation of the walls of buildings, solid fences of southern and western orientation, creating additional thermal loads on the adjacent territory during periods of overheating;
- limiting soil radiation;
- Creating optimal ventilation conditions, achieved by reducing wind speed in areas with frequent strong winds and maintaining air exchange in low-wind areas.

In terms of health and hygiene, plantings, regardless of their location, can be divided into 2 large groups. One has a general health value, the other protects a person from the harmful effects of industrial emissions into the atmosphere, from industrial and transport noise.

To improve the conditions for everyday recreation of the population, improve the urban microclimate and include elements of the natural landscape into the city, it is desirable that tracts of green spaces and other open spaces (over 0.5 km wide) divide urban development into areas whose area does not exceed 500-1000 hectares.

The territorial development of the city should include the preservation, restoration and appropriate use of all valuable objects of the natural landscape - natural forests, banks, rivers, lakes, hills, etc., their limited inclusion in the planning structure of the city.

The selection of assortment is determined based on a complex set of requirements that take into account the climatic conditions of the area, the intended purpose of the object, the natural features of the planted area, and the architectural and planning situation. Sometimes there are increased requirements for the speed of tree growth, for their windproof or noise-proofing ability, certain soils require appropriate species, etc. Detailed information about the grouping of plants according to climatic and other characteristics is contained in the specialized literature. Below are brief recommendations for selecting plants that have the greatest urban planning significance. Information on tree sizes is given in table.

Insolation conditions. Light-loving species: birch, oak, pear, ash-leaved maple, red maple, fan maple, larch, black alder, poplar, Scots and mountain pine; ash, willow, meadowsweet, comb. Shade-tolerant species: horse chestnut, hornbeam, field maple and Tatarian spruce, linden, cypress, plane tree, fir; hawthorn, cotoneaster, honeysuckle, viburnum, western thuja.

Gas resistance. The least resistant: yellow acacia, downy birch, horse chestnut, Norway maple, common spruce, sea buckthorn, downy sumac, common lilac, common pine, common rowan, common ash and Manchurian.

The most resistant: prickly and Engelmann spruce, white acacia, ailanthus, privet, honey locust, white turf, Tatarian honeysuckle, brilliant cotoneaster, Pennsylvania maple, Tatarian and ash-leaf, gooseberry, oleaster, magnolia, pomegranate, mackerel, golden currant, middle spirea, billiards, Canadian poplar (gray, black), mulberry, comb, sophora.

Noise-proof ability. Conifers: spruce, fir, thuja and other tree species that maintain a dense crown all year round. Deciduous: linden, hornbeam, mulberry, undergrowth - privet, pride, spirea.

Dustproof ability. Coniferous trees. Deciduous trees (for example, elm) with a dense crown and rough, wrinkled leaves.

Fast growth. Fast-growing species: birch, elm, honey locust, elm, ash-leaved and Tatarian maple, weeping willow, poplar, apple, black alder, bear and black walnut, bird cherry, hard-leaved and common ash, white and prickly spruce, cypress, Daurian larch, European and western, pine ordinary, Crimean, Himalayan and Bismuth, white acacia, ailanthus, barberry, euonymus, privet, hawthorn, elderberry, turf, mock orange, honeysuckle, viburnum, yellow acacia, buckthorn, oleaster, golden currant, Slow-growing species; cedar, yew, garden cherry, pear, winter and English oak, chestnut, linden, plane tree, stingy, boxwood, etc.

Drought resistance. The most resistant species to lack of moisture are: birch bark, oak, prickly and white spruce, silver and Tatarian maple, cypress, honey locust, gray walnut, Chinese poplar, Chinese acacia, amorpha, stingy, angustifolia, golden currant.

Crown transparency. The following have a transparent crown: ailanthus; common apricot: pine birch, downy; American ash, common ash, downy ash, ginkgo; white pine; pear, loose-leaved, willow; pine; cherry plum; willow; Euonymus.

The following have an opaque crown: European and Siberian fir; Norway maple, white sycamore, horse chestnut and common chestnut; black alder; arbor vitae; common hornbeam; juniper, bird cherry, spruce, oak, linden, elm, thuja occidentalis, yew berry, Siberian cedar, Berlin poplar, Turkestan, Canadian.

Plants with thorns for hedges, use for landscaping areas for children's recreation is not recommended: badamcha almond, Manchurian aralia, common apricot, acacia, yellow, prickly, whipweed, Japanese quince, angustifolia, sea buckthorn, all types of hawthorn, etc.

Plants that strengthen slopes, ravines, slopes: field maple, Tatarian, ailanthus, white alder, serviceberry, amorpha, steppe bean, Manchurian aralia, bearberry, barberry, juzgun, heather, yellow acacia, steppe birch, hornbeam, cherry, cotoneaster, hawthorn , euonymus, honey locust, sea buckthorn, etc.

Types of landings. Landscape vegetation is formed in the form of forests and groves, clumps - groups of trees and shrubs, alley plantings, hedges, clipped walls, bosquets, glades and decorative lawns and various types of flower beds.

Woodlands are used to recreate the natural landscape; they occupy an area of 1 to 4 hectares in parks and tens of hectares in forest parks. Depending on the dominant tree species, the massifs are divided into coniferous (dark and light coniferous) and deciduous (broad and small-leaved), according to composition - into pure (from the same species) and mixed, according to structure - into single-tiered and multi-tiered (crown floors are located on different height).

The choice of the main rocks of the massif determines its appearance. Spruce, fir, beech, hornbeam with dark trunks and dense foliage form gloomy shady plantings; pine, birch, larch, ash, acacia, having transparent crowns, form sunny and bright plantings.

Accompanying species improve and enrich the forest environment, emphasizing the decorative qualities of the main species through contrast or nuanced relationships: for example, spruce trees set off the whiteness of the trunk, the lightness of the crowns and the mobility of birch leaves.

In areas where high-rise buildings are built, planting tall trees should be avoided altogether, and buildings should be arranged in such a way that would provide shade. Vegetation in this case should serve decorative purposes and be used to protect against reflected radiation, which is reduced by grass and small shrubs, which also do not interfere with free air circulation.

During multi-story construction in hot, humid climates, plants are also planted away from walls and windows, since otherwise they will impede free ventilation.

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