

Standardization of urban landscaping at the planning level: Russian practice

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Abstract. The object of the study, which is the basis of this article, is the improvement of urban areas at the planning level, and its aspect is the Russian practice of technical regulation (standardization). The relevance of the topic is related to the fact that the improvement of urban areas is defined in Russia as an integral element in the strategic direction of improving the comfort of the urban environment. At the same time, the issues of standardization of landscaping in the context of the preparation of territorial planning documents and documentation on the planning of the territory are considered for the first time. The purpose of the study was to identify ways to improve the standardization of landscaping in urban planning design. To achieve it, a review of the main literary sources was carried out, a selection of regulatory, technical and methodological documents that establish or should establish requirements in the designated area of urban development activity was carried out. The main subject normative legal acts are also considered in conjunction. The analysis of regulatory documents showed their insufficient effectiveness (the presence of significant defects). Their systematic consideration and the experience of the expert work of the author allowed to identify shortcomings in the considered segment of public administration and recommend ways to eliminate them, as well as to propose to ensure the introduction of amendments and additions to the considered documents on standardization.

1 Introduction

Currently, landscaping of territories (LT) is declared as an integral element of the urban environment, and activities in this area are included in the federal project "Formation of a comfortable urban environment" as a key component [1]. In turn, providing comfort along with the safety of human life conditions in the interests of present and future generations according to the Urban Planning Code of the Russian Federation constitute the essence of sustainable development of the territory, which is provided on the basis of territorial planning, urban zoning and territory planning (hereinafter referred to as urban planning, urban planning) [2].

A number of directions and activities of LT of urban and other settlements are fixed in the sectoral construction Strategy: synchronization with the implementation of the model of integrated development of territories, with new housing construction, infrastructure

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modernization program, improvement of the regulatory framework, etc. [3]. It also includes a special section on improving the system of technical regulation (standardization), and also outlines areas for improving urban planning design within the framework of the new urban planning policy (synchronization of "urban planning documentation", optimization of its preparation, etc.).

At the same time, a number of shortcomings were noted in the Strategy, both in the construction rationing system and in the LT system, which objectively indicates the relevance of the chosen research topic, the results of which are reflected in the article. Additionally, this is also indicated by the fact that the Codes of Rules (CR) on landscaping are included in subsection 30 of the national Register of CR "Urban Planning", <https://www.faufcc.ru/technical-regulation-in-constuction/formulary-list/>.

The scientific foundations of the national model of integrated urban improvement were laid back in pre-revolutionary Russia by the famous architect-urban planner V.N. Semenov. Conceptually, LT is considered quite widely, in the context of city planning and urban planning (city management), including as the basis of the garden city model [4]. Already outside of the mentioned contexts, the LT design methodology developed more utilitarianly (even with the inclusion of elements of "technical improvement") in the Soviet period [5]. At the same time, the vector of complexity in LT was preserved (the allocation of a functional "green" zone, the design of a suburban zone, etc.). Measures for landscaping and engineering preparation of the territory were an integral element of the detailed planning project [6].

In the recent period, the emphasis is on the topic of landscaping of courtyards and scientific research in this direction is extensive (for example, see [7], as well as the work of A. S. Puzanov and other specialists of the Institute of City Economics Foundation, <https://urbaneconomics.ru/?ysclid=le2rmf3psa268720025>). Among the modern "urban planning" directions, it is possible to distinguish urban-ecological approaches to LT (Chistyakova S.B. et al. [8]).

The noted utilitarianism of the view of LT was maximally manifested in the edition of the "new" Urban Planning Code, which actually leveled the aspect of the complexity of LT and its role at the planning level [2]. Despite this, there is a request in the scientific community to recreate such a role of LT [9, 10]. At the same time, it should be recognized that in all the reviewed scientific publications, the topic of standardization of LT for the purposes of urban planning design is not properly disclosed.

A preliminary review of trends in the development of legislation indicates that the incorporation of landscaping into urban development activities (obviously in order to support the federal project mentioned above) was carried out relatively recently by making additions to [2] in 2017 and that it is fragmentary. On the other hand, one of the fundamental requirements is subordination of the content of any regulatory and technical document (RTD) to the norms of legislation [11]. These circumstances allowed us to assume (as a kind of working hypothesis) the insufficient effectiveness of this segment of standardization in relation to the planning level.

The purpose of the study, respectively, was to identify areas for improving standardization documents in terms of LT, in relation to the planning level. To achieve it, it is planned to solve such tasks as identifying the features of the standardization segment under consideration, identifying and analyzing defects in the RTD (including those caused by deficiencies in legal regulation), formulating proposals for improving the RTD, as well as generally improving the efficiency of activities in the field of standardization.

2 Materials and Methods

Within the framework of the study, a review of literary sources and documents on standardization was carried out with a general assessment of the situation and certain negative trends in the field of standardization of the creation of landscaping objects in urban planning design. For this purpose, a selection of subject documents (sets of rules, other regulatory and methodological documents) has been formed. Their assessment with a systematic view of the problem was of a formal nature (compliance with the requirements of legislation and the requirements of the fundamental GOST [12]). The practice of the author's expert activity as part of the Technical Committees of Rosstandart (Subcommittee 9 "Urban Planning" TC 465 "Construction" and TC 507 "Urban Planning") is also taken into account. As a result, relevant proposals are given to improve standardization in the field of urban development under consideration. The relevance and novelty of the research is connected with the consideration of issues from the standpoint of the peculiarities of standardization of the LT sphere specifically in relation to the planning level.

3 Results

First, it is advisable to identify the areas of intersection of subjects and spheres of regulation of "landscaping" and "urban planning", based on the norms [2], the provisions of other basic regulatory legal acts (RLA) and the requirements of the RTD. First of all, it should be borne in mind that by federal legislation, LT issues are attributed to the powers of local self-government bodies that adopt the relevant (local) rules for the improvement of territories (RIT) [13]. At the same time, in some cases, some powers of legal regulation are exercised by regional authorities, including when this happens as part of the redistribution of powers by transferring them to regions from the local level, which is allowed by law. At the same time, regional RLAs do not always comply with the norms [2] (in our opinion, this is due to the shortcomings of the relevant federal legal regulation, the low level of state legal monitoring and supervision). For example, the Moscow legislation on landscaping [14] regulates the creation and maintenance of a consolidated plan of underground utilities and structures, as well as the performance of engineering surveys (ES), which is the subject of legislation on urban development (only in 2022 separate changes were made to [14], mitigating this conflict).

In these conditions, special regulatory and methodological documents began to be adopted at the federal level [15]. The purpose of their development is to unify approaches and provide practical assistance on the ground to persons authorized to perform LT. RTDs are also accepted, which, however, also have a recommendatory character now (they are not mandatory for use) [16].

A stricter and more harmonious system is observed in the legal regulation of urban relations, including the part of them that concerns the issues of landscaping (see also above). Urban planning legislation refers to the subject of joint jurisdiction, while regional-level RLAs are required to be adopted only in accordance with [2]. Note that this basic legislative requirement is not always fulfilled, for example, the urban Planning Code of the city of Moscow [17] introduces the concept of integrated landscaping zones, which are absent in [2].

If we turn to the composition of "landscaping", resulting from the normative disclosure of the scope of this concept, then according to the basic (special) CR 82.13330.2016 "Landscaping" is disclosed as a set of measures for engineering preparation for landscaping, paving, lighting, placement of small architectural forms and objects of monumental art, aimed at improving functional, sanitary, ecological and aesthetic condition of the site (with the text of this and other joint ventures noted in the article, it is available

through the Register of Joint Ventures at the link above). The definition of this term in the composition [2] appeared a few months after the entry into force of CR 82. It considers LT in a different way, purely by reference, namely as an activity for the implementation of a set of measures established as part of the RIT. Despite the dubiousness from the standpoint of formal logic, such a definition is indicative from the point of view of emphasizing the priority of RIT (for the effectiveness of RIT in the "planning" aspect under consideration, see below).

Landscaping objects are normatively disclosed as territories of various functional purposes, where LT activities are carried out (CR 82). These include two types of territories (spaces): public and domestic, different in the mechanism of their urban planning formation. Yard (residential) territories according to [2] are formed mainly by urban planning (territorial) zoning. It is purely legal in nature, that is, it does not provide for the application of the requirements of the RTD, and in this regard are not discussed below. In contrast, public spaces (streets, squares, parks, other green areas, embankments, etc.) are often, by virtue of [2] and according to regional laws, "public" objects, primarily objects of local significance. Accordingly, the planning of their placement and education is carried out as part of the general plan of the city (urban district) with subsequent urban planning in the preparation of planning projects and land surveying projects. For the preparation of the noted documents (documentation), local or regional standards of urban planning design (SUPD) are used, which, unlike the RTD, are aimed at ensuring not safety, but comfort and relate, among other things, to "public" LT facilities (determine the maximum levels of their provision and accessibility). In addition, according to [2], the corresponding ES is performed during urban planning.

The analysis of CR 82 shows the absence of specific requirements that would be harmonized with the main RTDs in the field of urban planning, concerning, for example, the establishment of LT borders, the borders of "adjacent territories, etc. Instead, it provides a reference to the fact that when developing a RIT, the basic "planning" CR 42 should be applied in terms of "general requirements for urban planning solutions for territories of various functional purposes, as well as landscaping and engineering preparation of territories." However, as it turns out, the CR 42 itself does not contain quality requirements in this regard. They also do not contain other RTDs of subsection 30 "Urban Planning" of the Register of joint Ventures, such as CR 476, CR 396, CR 475, CR 398, which relate respectively to the urban planning design of microdistricts, streets (roads), parks and embankments. Table 1 presents the results of the analysis of these and other main joint ventures in terms of the requirements for the implementation of the LT in relation to the level of preparation of the city master plan, planning and land surveying projects (the texts of the joint venture are considered taking into account the actual changes made to the composition of the joint venture).

Table 1. The results of the analysis of the main Sets of rules regarding the requirements for the implementation of landscaping at the planning level.

№	Name of the document	Does the scope of the Joint Venture include issues of landscaping?	Availability of subject requirements/availability of a special section/ completeness of requirements	The possibility of using the document to create objects of landscaping in preparation:			Note: the presence of other defects (gaps, contradictions, duplication)
				The general plan of the city	Territory planning project	The project of surveying the territory	
1	CR 82.13330.2016 «SNiP III-10-75 Landscaping»	Includes	Available/available/ missing (a reference to CR 42 is given)	Absent	Absent	Absent	Collisions with [2] and gaps in terms of terminology disclosure, duplication with SUPD
2	CR 42.13.30.2016 " SNiP 2.07.01-89* Urban planning. Planning and development of urban and rural settlements"	Includes	Fragmentary recommendations of a general nature, for example, on the territories of green spaces/ missing/incomplete	Limited	Limited	Limited	Collisions with [2], etc. RLA, unjustified inclusion of legal requirements

3	CR 476.1325800.2020 «Territories of urban and rural settlements. Rules of planning, development and improvement of residential neighborhoods»	Includes	Fragmentary general recommendations, for example, on green areas of common use (garden, square, boulevard)/ available/incomplete (reference to CR 82 and SUPD is given)	Limited	Absent	Inconsistency with [2] and others. RLA in terms of terminology, legal requirements are included. The lack of differentiation of requirements for the layout of the territory and for landscaping. The requirements of CR 82 are duplicated
4	CR 396.1325800.2018 «Streets and roads of settlements. Rules of urban planning design»	Does not include	Individual requirements (redundancy in the improvement of the boundaries of the network laying zones)/absent/ absent	Limited (single recommendations are included according to the comments of the experts of Subcommittee 9 and TC 507)	Limited (single recommendations are included according to the comments of the experts of Subcommittee 9 and TC 507)	The proposed definition of landscaping elements according to [2] is not carried out when planning the territory
5	CR 398.1325800.2018. «Embankments. Rules of urban planning design»	Does not include (the scope of application does not correspond to the name of the joint venture in terms of "urban planning design")	Separate requirements / available (for the level of preparation of project documentation) / missing (a reference to the RIT is given)	Limited (single recommendations are included according to the comments of the experts of Subcommittee 9 and TC 507)	Limited	Some inconsistencies with [2] (in terms of LT elements, etc.), with the land and water codes (status of coastal territories), legal requirements are included

6	CR 475.1325800.2020. «Parks. Rules of urban planning design and landscaping» (taking into account Amendment 1	Does not include	Individual requirements /missing/ absent	Limited (including individual recommendations included according to the comments of experts of Subcommittee 9 and TC 507)	Limited (including individual recommendations included according to the comments of experts of Subcommittee 9 and TC 507)	Absent	Inconsistency with [2] regarding the zoning of the territory, legal requirements are included, including those that do not correspond [2]
7	CR 403.1325800.2018 «Industrial territories. Rules of landscaping design»	Includes	Separate requirements / available (for the level of preparation of project documentation) / not available	Limited	Limited	Absent	Inconsistency with [2] in terms of terminology («complex landscaping»), in terms of recommendations on «optimal «", etc.

First of all, it was found out that LT issues are not always indicated in the scope of the Joint Venture, moreover, even when the term "landscaping" is indicated in the title of the document (for example, in CR 475). A special section on LT is not always included in the joint venture. But even if there is such a section, the required subject requirements are usually absent in it (sometimes they are given only for the level of preparation of project documentation), or they are replaced by fragmentary general recommendations with references to CR 82 and SUPD. At the same time, the completeness of such requirements, as well as their validity (verification, etc.) in the composition of the considered joint ventures leaves much to be desired.

Despite the single substantive recommendations included in the Joint Venture on the comments of experts of the Subcommittee 9 and TC 507 (including the author's proposals, see above), the possibility of practical use of the joint venture to address LT issues in the preparation of the general plan of the city and the draft layout of the territory remained very limited. Unfortunately, it is not visible at all in relation to the preparation of the land surveying project, which plays an important role in the field of LT (the establishment of the project boundaries of land plots, the boundaries of "adjacent territories, easements, etc.). In our opinion, this is due in particular to insufficient knowledge of the executors and developers of the joint venture or their disregard of the norms of land and civil legislation (see also below on interdepartmental cooperation). It should also be noted that the definition of landscaping elements, the requirements for which are included in CR 396 and CR 398, according to [2] is not included in the subject of territory planning.

The situation is complicated not only by defects in standardization requirements, but also by the presence of such serious defects in the composition of the considered joint ventures as collisions not only with [2], but also with the norms of land and water legislation. In addition, there is both the traditional unjustified duplication of legislative norms and an unacceptable desire to close legal gaps with the technical requirements of the joint venture. Separately, it is necessary to emphasize the defects in terms of terminology disclosure: the lack of mutual linking of terms and their definitions, duplication, some contradictions with the RLA (see for example, above about the term "landscaping"). It is also unacceptable to duplicate the subject with the SUPD or attempts to give these regulations an additional legal burden.

Separately, it is also necessary to note the topic of the improvement of other, primarily industrial territories, which is extremely important in connection with the implementation of a model of integrated development of territories in cities. In this regard, it is necessary to single out CR 407 (Table 1), which is so far the only special joint venture in relation to the design of landscaping (in relation to the territory of industrial use). Accordingly, the LT aspect is declared as the scope of application of CR 407, but in it, as well as in other considered CR subject requirements for the implementation of LT at planning levels are not visible (all the requirements of CR 407 are applicable only for the local, object level). The abstract recommendation on the implementation of a certain "complex improvement", taking into account the "urban situation and optimal urban planning solutions", including on the basis of "unity of the improvement of industrial territories with the general architectural and landscape solution of urban settlements as a whole," gives little. Our doubt in this case is due to the fact that the adoption of such a "general decision" in the composition of [2] is not visible. By the way, the scope of the concept of "complex landscaping" proposed in CR 407 also differs from what was previously established for the concept of "landscaping" in [2] and CR 82. In particular, it includes elements of engineering preparation of the territory in a more explicit form, the design of which is provided for during the planning of the territory (the problems of the substantive and ontological nature of this issue are considered by the author, for example, in the article "On regulatory requirements for survey qualifications and their accounting in the educational process: planning level", which is being prepared for publication in February 2022 in the journal "Ecology of urbanized territories", as well as in the author's article [11]).

Referring to the topic of ES, it should be recognized that none of the considered joint ventures noted the correct requirements that technically detail the norm of Article 41.2 [2] that ES for the preparation of documentation on the layout of the territory are carried out in order to obtain materials necessary to justify both engineering training (organization of surface runoff, drainage of the territory, etc.) and the execution of LT [18].

Comments of a similar nature are also available to other joint ventures of subsection 30 of the Register of Joint Ventures, which partially relate to the LT topic under consideration (Joint Venture 53.13330.2011 "Planning and development of territories of horticultural (dacha) associations of citizens, buildings and structures", Joint venture 323.1325800.2017 "Residential territories. Rules for the design of outdoor lighting", CR 395.1325800.2018 "Transport hubs. Design rules").

The performed analysis allows us to conclude that the possibility of practical application of the considered joint ventures for the creation of LT objects in urban planning design looks problematic. In this regard, three new national standards (GOST) for the integrated improvement and operation of urban areas were additionally considered, <https://www.minstroyrf.gov.ru/press/razrabotany-standarty-na-kompleksnoe-blagoustroystvo-i-ekspluatatsiyu-gorodskikh-territoriy/>. Given that their content mostly echoes the Methodological Recommendations of the Ministry of Construction of Russia [8], it can be noted that the Recommendations were adopted earlier than the development of

these three subject GOST, although usually such documents detail certain RTDs. In addition, in February 2022, the State Duma recommended that the Ministry of Construction of the Russian Federation consider the possibility of finalizing these Recommendations, since they "do not fully reflect the current trends in the development of landscaping facilities", <https://stroygaz.ru/publication/regulation/chto-volnuet-deputatov-kakie-rekomendatsii-dali-minstroyu-v-gosdume/?ysclid=ldzwp8iz8q173837498>.

Many of the provisions of these three GOST are also borrowed from the methodological document "Set of Principles for the integrated development of urban areas", carried out by «Strelka» in 2019, <https://www.minstroyrf.gov.ru/docs/18283/> (currently, an attempt is being made to translate these "standards" of «Strelka» into the JV format, <https://www.дом.пф/urban/standards/printsipy-kompleksnogo-razvitiya-territorii/?ysclid=ldk7i03brn694119003>, which in our opinion is also problematic).

The first of these new standards (GOST R 70386-2022) fixes the key definitions, establishes the basic requirements and processes of complex improvement of urban areas. Once again emphasizing the importance of streamlining and consolidating terminology, we note that a number of the proposed definitions are insufficiently correct (for example, "public space [territory]"), as well as poorly harmonized with [2], CR 82 and other RTDs. The proposals for conducting a "pre-project analysis of the territory" and the implementation of ES are questionable (they are given without taking into account the norms [2]). The characteristics of the landscaping elements (see above about their place in the design) are unreasonably proposed to be determined as part of the SUPD, and with the indication that these characteristics become "mandatory for participants in the project process." It requires justification and clarification of recommendations for defining the boundaries of public spaces as the boundaries of certain "land surveying sites", for the formation of such spaces, given that this, according to [2], is carried out exclusively by planning the territory.

As part of GOST R 70387-2022, the basic requirements, the processes of development and updating of RIT are disclosed and the basic terms are also fixed (while in some discrepancy with GOST R 70386-2022, which is considered as special in terms of standardization of terminology). In our opinion, this document also requires additional harmonization with [2], for example, in terms of the fact that the placement of public spaces and parking lots should be determined during the development of RIT (in a number of regions and cities, for example in Moscow, they are classified as objects of local significance and the zones of their planned placement are also determined only by planning the territory).

The scope of GOST R 70390-2022 concerns the process of organizing civil participation in LT. It also provides the basic terms (also in some repetition or discrepancy with the special GOST R 70386-2022) and suggests a typology of public spaces, although this is not the subject of this GOST.

4 Conclusions

The performed analysis confirmed the assumption of insufficient effectiveness of the standardization segment in question in relation to the planning level, which is due to both objective and subjective reasons. In many respects, this is determined by the insufficient conceptual elaboration of the problems of LT cities, gaps and other defects of legal regulation, including the lack of proper synchronization of the development of urban planning and other ("related") legislation. The standardization system in the field of urban planning, due to its deep specificity, requires systemic and structural transformation with the introduction of other formats of standardization documents as well [5].

Of course, it is necessary to improve the procedure for planning, organizing the development and approval of RTDs, in particular, to ensure mutual interdepartmental coordination of thematic plans (in this case, for example, with the Ministry of Natural Resources of Russia) and the required consideration of RTD projects with other interested "related" expert TC (this primarily concerns TC 393 "Services (works) in the housing and utilities sector and the formation of a comfortable urban environment").

Due to the relevance and complexity of the topic under consideration, in order to increase the effectiveness of standardization, it is advisable to conduct appropriate fundamental scientific research on additional "expansion" of the conceptual and legal aspects of the problem. It is also necessary to carry out applied research work prior to the adoption or adjustment of the relevant RTDs. It was to solve the issues of conducting such studies in 2022 that a working group on urban planning was established under the interdepartmental Scientific and Technical Council of the construction industry (the author of the article is part of it).

As a priority measure of a tactical nature, it is necessary to make changes and additions to the regulatory documents discussed above in order to eliminate the specific comments noted and take into account the relevant recommendations.

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