Retrospective Development of the Central Part of Komsomolsk-on-Amur, Khabarovsk Territory

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Abstract. The strategy for updating the architectural environment of the city, proposed as part of the long-term integrated development program of Komsomolsk-on-Amur, sets the task of renovating public spaces. The need to reorganize the territory of the city center makes the question of studying the history of the development of the area relevant. The article is considered the detailed planning projects for the central part of the city of Komsomolsk-on-Amur in 1970-1980, which were not implemented for a number of reasons. Analysis of archival sources allows us to understand the significance of this territory, assess the potential for its use, and make conclusions about the specifics of possible construction.

1. Introduction

In 2014 during the master plan adjustment project, it was proposed the formation of the modern core of Komsomolsk-on-Amur, and, accordingly, a new strategy for the development of urban areas according to three possible options. These proposals were rejected by the city administration [1] due to the “unattainability” of the task – the head of the department of urban architecture referred to the small funding and the fact that such a development scenario wasn't in the interests of citizens [2]. This aspect seems controversial, since the options announced in 2014 as a project proposal were based on the main problem of the development of the architectural and spatial environment of Komsomolsk-on-Amur – the lack of a formed city center.

The question of organizing the citywide core was at various historical stages in the evolution of the planning structure of Komsomolsk, which is still being unresolved today – in the floodplain of the Silinki River, an area of more than 500 hectares is undeveloped. The idea of a systematic development of the city from two existing districts (the zone of attraction of the KnAAPO and ASZ plants) towards each other, with a gradual merger into a single complex, was in all master plans developed for Komsomolsk (1939, 1954, 1967, 1987).

Changes made to the general plan of Komsomolsk by the Central Research and Design Institute for Urban Planning of the Russian Academy of Architecture and Construction Sciences in 2017 outlined a new vector for the development of public spaces in the city structure. In accordance with the long-term development plan [3], architectural and urban planning projects for Komsomolsk-on-Amur
Community centers were developed. Competitive bids defined the concept of uniform urban development of the Central and Lenin districts [4]. However, this did not solve the problem of forming a public urban space.

The object of the study was the area coinciding with the geometric center of the city Komsomolsk-on-Amur. The subject of research is determined – the specifics of the development of this territory. In the course of the study, the following methods were used: field examination, comparison, graph-analytical analysis. The territorial boundaries of the study were established – the floodplain of the Silinka River, the areas within the borders of Kirova, Sovetskaya, Kalinina, Permskaya Streets. The chronological boundaries of the study are due to the period of the creation of detailed planning projects for this territory – the 1970-1980s.

The aim of the work was to study the history of the development of the central part of Komsomolsk-on-Amur, methods for resolving the urban development problem of creating a city-wide center. The objectives of the study are as follows: 1. analysis of archival documents, identifying the nature of construction in the area; 2. awareness of the importance of this territory in the planning structure of Komsomol; 3. the formation of the idea of the necessary building quality of the center of the modern Far Eastern city.

2. The project of the detailed planning of the Silinsky planning district of 1972

After the development by the Ministry of Construction of Heavy Industry Enterprises, the Territorial Design Institute "Khabarovskpromproekt" in 1970, the scheme of the industrial node Silinka in Komsomolsk-on-Amur [5], the question about organizing the development of the Silinsky planning district was discussed. The detailed planning project was drawn up in 1972 by the research and development Design Institute for the development of master plans and urban development projects of the LenNIIP urban development under the direction of architects Lomovtsev V.A. and Kirillov V.A. [6].

The projected area is located on both banks of the Silinka River. From the southeast, the area is limited by Komsomolskoe Highway, from the southwest by Kirova Street, from the northwest by the designed regional highway and from the north-east by the designed Dugovaya Street. The total area of the projected area is 343 hectares. The left bank of the Silinka River (about half of the district) is occupied by the largest natural forest park, in which a large mass of relict taiga has been preserved. This territory is intended by the city planning project for the organization of a city park of culture and rest, which was supposed to be a citywide park along as the park located in accordance with the 1967 master plan along the banks of the Amur River in the central part of the city.

There are a number of sections of communal-warehouse organizations and industrial enterprises, a quarter of capital construction and 12 quarters of estate on the projected area in the 1970s. According to the project, the 6-storey capital buildings were to be preserved and included into the second microdistrict of the new construction site. Manor buildings, due to their technical imperfections (wear and tear over 60%), were to be demolished for the first microdistrict and the dispensary zone. The total area for the complex of dispensaries is 12 hectares by the project. The location of this zone was planned to the south of the first microdistrict near the Komsomolskoe Highway. Residential buildings are designed with a higher percentage of 9-storey houses, with the inclusion of 5-storey brick houses and several houses of 12-14 floors, used to identify and emphasize the silhouette of the buildings. The houses are designed mainly for high-rise buildings in order to satisfy the normative density, to give more architectural expressiveness to the building, which formed the closure of the prospects for the main highways to the right and the left parts of Silinka in Komsomol. The developed silhouette of microdistricts should be perceived from various points of the Leninsky district, actively uniting architecturally divided parts of the city.

The city sports complex, taking into account the requirements of the project, is located in the southeastern part of the territory of the planning district between Komsomolskoye Highway and Dugovaya Street. A wide esplanade with a parterre leads from the projected wide entrance area to the main sports core. The city sports complex was supposed to include a spectacular (the capacity of the
stands was calculated equal to 30 thousand seats) and training zones. The area around the stadium assumed a convenient connection with emergency exits at Komsomolskoye Highway and Dugovaya Street. The space of the square was supposed to open onto the water surface of the created pond with various coastal scenes, the dominant of the coastal landscapes would be an island on the water surface of the pond. Designed alleys and paths were closely connected the area with the road network of the City Park of Culture and Rest.

The main objectives of the planning decision of the Silinsky Park were the organization of recreation of the population, the creation of normal conditions for the functioning of the park on the basis of the rational use of the natural landscape, taking into account existing plantings and water spaces. The following principles are laid down in the project: integrated organization of various park areas; creating a convenient connection between them both with the city and with each other. A cultural, educational and entertainment zone is provided along the left bank of the Silinka River by the project. A children's recreation area is designed in the southeastern part of the park near the main entrance, from the east it is limited by a sports area. The administrative and economic zone was planned in the northwestern part of the park, on the right bank of Silinka. The zone of rest according to the plan should be adjacent to Dugovaya Street and the continuation of Sovietskaya Street in the left part of the floodplain of Silinka and along the right bank of the river.

Natural conditions and the situation predetermined the planning decision of the park. The structure of the plan attracted to Silinka is built on a system of specialized centers, among which the main one stands out, decided in a single volume, accommodating a movie and concert hall. According to the architect's plan, this structure was supposed to dominate the landscapes from the side of the river and its right bank, complete the prospects of many park alleys. The architectural idea of the structures of other centers is subordinated. Planning centers are interconnected by a system of main walking alleys and a bridge across the Silinka river at the square of mass meetings. The main entrance to the City park was supposed at the bridge across the Silinka river on the Komsomolskoye Highway, emphasizing the water and planning axis of the park with this and the entire structure of the coastal strip. It was planned that the exhibition part, completing the ensemble of a regular garden, stretching along the river, would have an independent entrance from the continuation of Sovietskaya Street. The clear organization of the centers is contrasted with the picturesque layout of the zone of rest and walking. The issue of the adjacent location of landscapes of open and half-closed spaces with floodplain taiga areas cut by a network of paths is resolved by the project. The creation of an architecturally-organized landscape is based on the transformation of the existing large massif of the taiga, as well as by planting breeds of mainly local flora on treeless territories, revealing the most attractive aspects and natural features of the locality.

The project is proposed a seasonal variation in the use of the park and the adjacent area of the sports complex. A fountain and a splashy pool have been designed on the territory of the park. In the southwestern part of the reservoir, the project is proposed the construction of a station for boats. In winter, the inner water system was supposed to be suitable for speed skating and mass ice-skating. In order to practice skiing, taking into account the connection of the water and alley systems with the forest park in the valley of Silinka river, it was planned to create a ski center in winter.

In the architectural and planning system of the city, the park of culture and rest should become an independent architectural and artistic ensemble, in which large park structures, decorative and sculptural decoration and small forms of park architecture would organically combine with the forms of the natural landscape. The dominant feature of the park landscape should be hills and steep right bank of the river unfolding from open spaces, the river valley of Silinka and the shores of an inner water reservoir. These long-range plans would be framed in the form of picturesque or regularly processed first and middle plans of landscapes of the park.

The implementation of the project would require the construction of hydraulic structures and works on the territory of Silinsky Park. The Silinka River, flowing through the park, is a complex system of channels, its valley is marshy and does not have a clearly defined shape.
During the summer-autumn rain floods and due to the significant natural slope of the river valley, the flow rate reaches high rates. This circumstance, as well as the absence of a clearly defined permanent channel and weak resistance to erosion of incoherent gravel-pebble soil, causes sharp deformations of the river channel, which moves along the valley during each significant flood, erodes the banks and deposits large quantities of gravel brought from the upper sections of the river. To create a permanent water surface in the park in the riverbed, the project is provided for the construction of a blocking reinforced concrete dam. It was assumed that the reservoir will be filled during the passage of floods, the rest of the time the necessary flow will be provided in the reservoir.

The park is located in the central part of the city territory, that's why the attachment of the coastal slopes of Silinka was given special importance. On the left bank at the locations of the exhibition and concert halls at a length of 300 m, a fastening in the form of retaining walls was designed. The rest of the left bank and the right bank of the reservoir should have been flattened and sprinkled with a layer of coarse pebbles. To provide sufficient depth for swimming and boating, the bottom of the reservoir was proposed to be deepened, providing a minimum depth of 2 m, the excavated soil should be used to raise coastal areas, to backfill old channels and Silinka channels.

The next step to improve the condition of the park territory was planned to drain it. The territory of the park is a flat lowland with difficult runoff of surface and groundwater. The waters of the streams, falling into the overgrown lowland, stagnate and swamp it. To eliminate bogging, according to the project, the streams should be straightened and deepened, given a longitudinal slope, which ensures free movement of water without siltation. On the place of a swampy lowland at the base of a hundred streams, a park pond was designed. It was assumed that, as a decorative element of the park, the reservoir will fulfill an important function – to drain the adjacent territory.

**Figure 1.** On the left is a mock-up of the detailed planning project of the Silinsky planning district in1972; on the right – a modern view of the territory within the same boundaries, photo by the author.

3. **The project of the detailed planning of the Leninsky district in 1976**

The project was made by LenNIIP urban planning institute in 1976 under the direction of architect Molitvin L.P. [7]. The functional zoning of the territory of the Leninsky district in Komsomolsk-on-Amur was planned in accordance with the general plan of 1967, the projected territory was divided into the following functional zones: residential, park, sports and the center of the planning district. The traffic in the region was organized by the project in the following areas: citywide highway with continuous traffic mode – Komsomolskoye Highway, citywide highways with regulated traffic mode – Odesskaya Street (modern Victory Prospect) and Sovetskaya, district highways – Dugovaya, Kalmina, Sovetskaya Streets.

The center of the planning district was planned at the intersection of Komsomolskoye Highway and Odesskaya Street. The authors of the project divided the territory of the center into the following zones: 1. cultural and educational, which should include a library, cinema, music, art and choreographic school and the design club that was supposed to be expanded; 2. shopping area along
Odesskaya Street. The intersection of the two main streets is indicated by the placement of the main urban accent on it – a high-rise hotel with a well-developed basement and ground floor, accommodating numerous shops. A modern building should adjoin to the hotel with difficult architecture of universal halls, which with its main facade would form its own square from the Komsomolskoye Highway, and would organize the square together with the hotel building at the closure of Dugovaya Street. At the intersection of Komsomolskoe Highway and Moscovskaya Street a building for catering was planned.

The architectural and spatial composition of the mentioned zones of the center in the project is complemented and enhanced by the residential zone of the center, consisting of groups of 12-14-storey residential buildings, combined on the ground floor with service blocks and built-in attached children's preschool institutions. The introduction of housing in the center should enrich its architectural and spatial expressiveness and ensure its functioning not only in the daytime, but also in the evening.

It was assumed that the population of the projected area for the estimated period would be 42.2 thousand people. For this purpose the project is forming a new building scheme, which was supposed to be located west of the Odesskaya Street and delimited by a highway of regional significance into two microdistricts.

The territory of the first microdistrict is decided by semi-closed groups of residential houses linked into a single compositional structure, forming a regular development of adjoining city highways. Otherwise, the second microdistrict is decided, the development of which is proposed by several freely located groups of houses that are regular only from the side of the city highway. The main pedestrian direction should be completed within the second microdistrict with a complex of houses with increased floors. At the same time, the pedestrian green esplanade naturally fitted into the existing green massif of the second microdistrict and combined with wide greenery through free-standing groups of high-rise buildings with the greenery of the park.

The sports zone is planned as a continuation of the center of the district closely connected to the park territory. A large sports arena with western stands with a capacity of 20 thousand spectators is opened towards the center of the district, forming a finished composition from the intersection of Odesskaya Street and Komsomolskoye Highway. On the north side, the stadium complex is underlined by the athletics arena and swimming pool. Training and children playgrounds, a children's sports school were designed from the east of the stadium. Two broad approaches to the sports complex are planned from Komsomolskoye Highway and from the center of the district, and a large parking has been designed from the entrance. With the park, which in the future should acquire the role of the city’s largest, the sports complex is connected by a wide street along the Komsomolskoye Highway, as well as a network of smaller paths – with all the most important areas of the park.

The basic principles of architectural and spatial solutions of the design of the park were the following: the creation of the necessary functional areas of the park, ensuring in each of them good conditions for recreation and customer service; creation of a convenient system of transport and pedestrian connections, both with the city and with individual areas of the park itself; preservation of existing and laying of new green spaces with the correct selection of them according to decorative qualities and wind protection. The correlation of the landscaping group of the Silinsky park allowed the transformation of the forest territory into a park without causing damage to the green. This circumstance dictated the zoning of the park by the intensity of use of its individual zones. In the design of the park’s layout for attendance, the following are clearly distinguished: 1. a reserved area based on the existing array with a minimum number of tracks and a minimum load of visitors; 2. An active recreation area (areas free of forests), with a sports city complex, free time houses, a children's sector of the park here, this zone mainly gravitates to city highways that enclose the park from the north and southeast (Komsomolskoye Highway and Dugovaya Street); 3. a buffer zone, consisting of a beach complex, a system of open lawns and outdoor areas, pavilions for quiet games, this zone should become a transition from an active recreation area to a reserved area and thereby protect it from excessive attendance.
In accordance with this concept, functional zoning of the park has been proposed. The zone of cultural events designed on the square at the main entrance to the park and along the Silinka river is represented by a complex architecture of a multifunctional construction of a leisure house, which was supposed to include a cinema hall, an exhibition hall, a lecture hall, a library, a playroom, and an inventory rental station. According to the project, alleys should diverge from the entrance area to various zones of the park and to the stadium. The eastern alley is oriented to the bank of the Silinka River, where it was planned to build a multistorey building of a restaurant and cafe overhanging the river, the further direction of the alley was laid to the dance hall and boat station, then this alley branched out into a network of smaller park roads and paths that meandering led to the arboretum, to the western and northwestern entrance, forming a developed system of playgrounds and lawns for relaxation. An administrative and economic zone with a directorate, workshops, garages, stocks of inventory and equipment, greenhouses and a nursery was designed at the northwestern entrance to the park, it was also planned to place a small parking lot for visitors to the park. From the main entrance to the park, a wide alley should lead the visitor to the central distribution platform with a round rose garden and a monument, then the pedestrian paths are dispersed in the direction of all the main functional areas of the park, the longest and widest alley is oriented to the northern part of the park, where it was assumed that the children's area with the pioneer house and pavilions, sites for classes and leisure. The children's sector was planned by an amphitheater around the reservoir, which was proposed to be created on the site of the existing swamp (with the necessary hydraulic engineering measures).

Figure 2. On the left is a mock-up of the project of a detailed layout of the Leninsky district in 1976; on the right – a modern view of the territory within the same boundaries, photo by the author.

4. The project of the detailed planning of the Parkovy housing estate in 1983
The main architectural and planning idea of the Komsomolsk-on-Amur master plan of 1967 was to solve the problem of the city getting out to the Amur River, so its picturesque bed served as the main compositional axis for building the city plan, which is submitted to a network of city streets. The main city highway running parallel to the river Amur and linking both urban areas, is Lenin prospect in the Central (Rightsilinsky) district and Komsomolskoe Highway in the Leninsky (Leftsilinsky) district.

The development of a detailed planning project for the Parkovy residential area is due to the development of the industrial base of the city and an increase in its population. According to the Gorstat Department, the population of Komsomolsk-on-Amur for January 1, 1982 was 266.3 thousand people. The territory of the Parkovy housing estate, whose housing block is designed for 38 thousand people, was proposed to be developed by the end of the 1990s. This area should become a link between two large, already established parts of the city. The project was completed by LenNIIP Institute in 1983 under the direction of architects Kutepov Yu.N., Felgenaler S.M., Belitskaya N.B. [8]. The sketch of the buildings was previously considered in the Department of the Construction and
Architecture of the Khabarovsk Regional Executive Committee and the Executive Committee of the Komsomolsk-on-Amur in June 1981.

The designed area is part of the Silinsky planning area on the left bank of the Silinka river, which borders it from the west; from the north-west is the territory of the city park; from the north – the center of the Leftsilinsky planning district; from the south – an industrial enterprise, which in the development plans was to function together with the Scientific Research Institute and residential microdistricts in a new quality – as an industrial and residential complex.

A distinctive feature of the district was that the housing estate was designed for the resettlement of workers of a new enterprise, the construction of which was to be carried out simultaneously with the construction of residential and cultural facilities.

The total area covered by the construction is 200 ha. The main tasks of designing were: placement of residential groups, a complex of a research institute and a vocational school; creation of a prefactory area; organization of relations in the residential area with the industrial zone, with the center of the administrative district and the Silinsky park. At the time of building, the territory adjacent to the Komsomolskoye Highway from the south was occupied by 1-2-storey wooden and frame-but-filled houses, which in their technical condition are of no value. The projected area is located at flooded elevations, therefore, for the implementation of residential development, it was supposed to carry out the soil washing up to the level of +25.0 m.

Functional zoning of the territory of the projected area was carried out in development of the general plan of the city and in accordance with the detailed plan of the center of the Leninsky district. The architectural and planning composition of the buildings was built by the authors of the project by solving four zones: the public zone of the center of the Leninsky district, the green zone of the Silinsky park, the industrial and training zone, and the residential zone. It was planned to link all these zones together with a system of pedestrian directions and boulevards. The center of the planning district was located at the intersection of two city highways – Komsomolskoye Highway and Odesskaya Street (modern Victory prospect) – the main highways of the Leftsilinsky part of the city. It was supposed to accommodate the main urban accent – a high-rise hotel with numerous service institutions and a universal hall. Cultural and educational zones were planned along Odesskaya Street, north of the hotel. A large sports arena with western stands was to be opened towards the center of the district and connected to the park with a wide street along Komsomolskoye Highway. The area of Silinsky Park adjoins the Komsomolskoye Highway and the projected area, which in the future was supposed to become the most saturated with cultural objects. An industrial enterprise is located at the confluence of the Silinka river in the river Amur. Predzavodskaya Square in accordance with the project should have been formed: from the south – the entrance hub with administrative high-rise buildings, from the west – a vocational school, from the north – a complex of a research institute.

The residential zone was planned south of Silinsky Park and Komsomolskoye Highway as close to industrial buildings as possible, which had all the prerequisites for creating a production and residential complex – a new social and architectural formation. For housing construction of the district, standard designs of 5-storey brick residential buildings of the 85 series, 9-storey panel residential buildings of the 97 series, as well as a small number of individual buildings based on the brick series, have been adopted. The designed residential street, oriented to the industrial area, divided the residential area into two microdistricts. The construction of the first microdistrict, overlooking the wide boulevard laid in the project towards the Amur River, was decided by a clear rhythm of 14-storey and 9-storey long houses. The placement of 12-storey single-section buildings inside the microdistrict is due to the desire to enrich the architecture of the inner part of the microdistrict and the main pedestrian direction to the center of the district and to the industrial enterprise, in addition, these accents would be clearly visible from the highways and create a second plan, diversifying the perception. Considering the nature of the terrain, the flat topography and the outline of the highways, both microdistricts were decided in the project by semi-closed, linked into a single compositional structure, groups of residential buildings, forming a regular development of adjoining city highways. It
was assumed that these groups of buildings will create a cozy landscaped environment of courtyard spaces and sufficient protection from the north and south wind directions.

The district occupies a responsible urban planning position, being at the entrance to the Leninsky district from the Central and flanking a large kilometer stretch of the Silinsky park. At the exit from the new bridge over the Silinka river an interesting high-rise residential building is designed, which, was supposed to meet visitors according to the design. Further, a calm development of three long 9-11-storey residential buildings should close the territory of the park and prepare the observer for the perception of a high-rise accent – a hotel. The volumetric-spatial composition of the buildings in the project is designed in such a way as to emphasize the orientation of the district to the city center and to the water area of the Amur river.

Figure 3. On the left is the main scheme of the detailed planning of the residential area "Parkovy" in 1983; on the right – a modern view of the territory within the same boundaries, photo by the author.

5. Conclusion
It is difficult to imagine the center of a modern city built up with cottages — this fact contradicts the norms of building density and, in general, the basic principles of the intensive use of urban areas. However, in Komsomolsk-on-Amur, one of the largest industrial hubs of the Far Eastern Federal District, due to the historical features of the development of the city structure, this is exactly the situation. It should be noted that the emergence of cottage villages in the center of Komsomolsk is a phenomenon associated with the spontaneous growth of the city in the 1950-1960s. In the general plan, approved in 1967, these territories were withdrawn for capital development.

The issue of improving the planning structure of the city through the formation of central public spaces is addressed in many design developments created by Komsomolsk-on-Amur. The problem of organizing a city-wide center is indicative in the sense of the socio-cultural level of population development. The formation of a comfortable urban environment, meeting the goals of maintaining a stable socio-economic background, is of particular importance in the conditions of the existence of a modern industrial city.

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