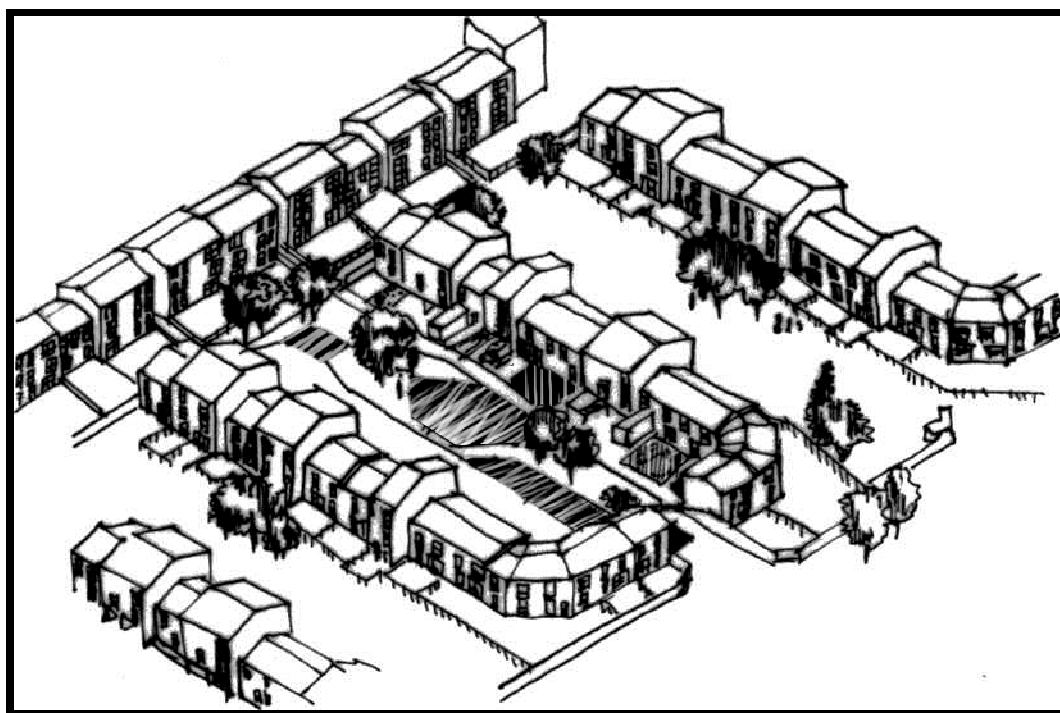


В.С. Дуцев, А.Н. Королева, А.А. Зайцев, Е.А. Алешугина

VILLAGE

Учебное пособие



Нижний Новгород
2024

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Study Guide was compiled for 2-nd year students to complete course project in the discipline “Architectural Design” in the directions 07.03.01 Architecture and 07.03.03 Design of Architectural Environment. The educational manual develops fundamental approaches to the course project implementation for the general plan of a village. The stages of project implementation, composition and requirements are considered. The works of students of the Department of History of Architecture and Fundamentals of Architectural Design are used as examples. Pic. 23, 7 references.

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Introduction

In the process of studying architectural design, it is necessary to become familiar with different areas of activity of an architect at the level of basic knowledge and skills. This attitude is consistent with the principle of architectural activity as synthesis of different functions, forms and structures in an architectural object. This object may be a park with small architectural forms, a religious, public or residential building, or some other structure that organizes architectural environment for a person in the form of a rural or urban settlement. Architectural activities are divided into design stages, different levels and aspects, defining the designer's responsibility (Town Planning Code of the Russian Federation). After becoming familiar with the design features of individual buildings and structures, you can move on to general organization of architectural environment in the form of a master plan, project planning and development of a settlement. The main problem is harmonious inclusion of a separate object into the whole structure: either a building, an ensemble or some other object in a village, city or region. Therefore, it is the architect who sets the principle of organizing architectural environment and proposes long-term development of a rural or urban settlement in an urban planning decision.

As an educational architectural and urban planning task, it is proposed to design a «Village» for 1000 inhabitants. To solve the set assignment, it is recommended to carry out a master plan combined with a planning and development project, where all sections of the project should be developed and interconnected. A professional architect - urban planner develops the architectural part in detail, and his responsibilities include bringing all parts (sections of other specialties) to unity. Therefore, an architect must know the key points of various engineering and other types of activities in order to correctly draw up an architectural and planning task, which must take into account the basic engineering, economic, environmental and other requirements. The tasks of architectural and urban planning are specified for educational purposes. It is

reflected in the educational assignment, according to which it is necessary to design only a residential area.

The work is divided into stages in architectural practice. At each stage its own goal is established and specific tasks are solved. For example, the master plan is carried out at a scale of 1:5000. Projects for detailed planning of residential areas of cities and projects for planning and development of rural settlements are carried out at a scale of 1:2000, planning of individual blocks with landscaping - M 1:500.

So that students can become familiar with the problems that an architect needs to solve in real urban planning practice, we suggest familiarizing them with general provisions for solving urban planning problems in educational project «general plan of a village».

When solving urban planning problems, an agreement is first concluded with the execution of an architectural and planning task for the design of a populated area.

A diagram of the position of the designed object in the settlement system is developed, indicating the main transport hubs and other facilities. Positions of water intake, treatment facilities (water supply and sewerage) are determined, connection points for electrical networks, places of garbage dumps, cattle burial grounds, cemeteries, various industries and sanitary zones of which may be affected to determine the boundaries of the settlement.

A reference plan is developed to document the current situation. Restrictions of man-made origin (for example, sanitary protection zones from various sources of environmental pollution), restrictions of natural origin (unsuitable and unused areas for capital construction) are recorded. In the educational project, such restrictions are: the boundary of highways (accepted to be 25 m from the edge of the road), and the boundary of the ravine. In actual design, all unsuitable and unused territories for capital construction are identified (ravines, peat bogs, karsts, etc.).

The main drawing (master plan), combined with the project for the planning and development of a settlement, determines the coordinates of the red lines within the design boundaries and the boundary of the settlement. In addition to the boundaries of the design, the village and the reserve territory, zoning of the village is shown in the master plan. Residential, public areas and streets are identified for the first and second stages and for the future. For educational purposes, we will limit ourselves to the first stage of construction (M 1: 1000) and a diagram in the form of a general situation with a reserve territory for the future (M 1: 5000).

In real design, a preliminary design is presented in several versions, from which one is selected, which is approved as the main one, and after modification based on comments, this drawing becomes a task for the detailed design of all sections of the master plan. As a result, the whole project must be presented and approved to be implemented. Educational village design is simplified, but comparable in stages and content with real architecture.

1. Goals and objectives of the course project

The purpose of architectural and urban planning is the following: to familiarize students with the basic assignments in urban planning activities and teach them how to solve some problems in urban planning practice. The following tasks need to be solved: Firstly, to learn how to work with regulatory documents in order to design in accordance with urban planning requirements. Secondly, to master methodology of architectural and urban planning, the stages of urban planning activities and the principles of zoning of territories, the rules of architectural and urban planning structuring and systematization. Thirdly, in the drawing, show a competent urban planning solution, identify the peculiarities of the village planning structure in accordance with the educational assignment.

2. Composition and stages of the course project

First, it is necessary to determine the general conditions for designing a general plan for a settlement as an urban-type settlement with estate and block

development without agricultural enterprises, i.e. like a suburban «bedroom village». This settlement status requires the use of norms and rules for the design of small towns. For educational purposes, the assignment will establish some requirements for rural settlements, which in real practice takes place in the design of suburban areas. In this case, the design stage is “a master plan combined with a planning and development project”; for educational purposes, the project is planning and development of a village in an abbreviated form of an architectural planning solution.

At the first stage of educational design, it is necessary to determine the structure of the entire village within the boundaries of a given topographical basis for the first stage (20 years) and the future (30-40 years). Next, the territory within the boundaries of the educational design is determined, conventionally called the «Central part of the village», where public facilities and part of the residential development of the entire planning structure of the village should be located. This situation occurs quite often in urban planning practice, since it is impossible to predict the development of a city and town in the long term. Therefore, in the architectural and urban planning aspect, a general trend (concept) in the long-term development of populated areas is indicated, and detailed elaboration is limited within the framework of priority construction.

According to the assignment, it is proposed to design the «central part of the village» on one of the sites defined within the boundaries of the issued topographical basis. The topographic base (M 1:5000, 1:2000, 1:1000) is larger in area than the required area for the central part of the village. Therefore, you should first propose a general planning structure of the village (M 1:2000), and then define the «central part» on it, which will be developed in detail in the educational master plan (M 1:1000). The territory of the village is located in the suburbs on the southern side of Nizhny Novgorod at the intersection of the N. Novgorod highways. «Novgorod - Arzamas» and «N. Novgorod – Kstovo», which border the village on the western and northern sides; on the southern side, parallel to the

highway «to the Kstovo», the border of the village is defined by a ravine. In addition, the territory is dissected (from south to north) by a ravine, which is recommended to be used as a recreation and sports area. The terrain of the site is proposed to be considered flat with a general slope in the south direction. There are two main options for locating the central part of the village - along the «Novgorod - Arzamas» and along the highway «N. Novgorod – Kstovo». There is existing development along the highways, which should be ignored for educational purposes.

3. General plan (study schedule) of work on the «Village» project

Work on the project is determined according to the following plan:

1. Introductory lecture and assignment for completing the course project «Village». Familiarization with the principles of calculating territory using aggregated indicators. The following topographic bases are used for design: M 1: 5000 for the diagram of the position of the designed settlement in a suburban area; M 1: 2000 to complete the clause; M 1:1000 for the master plan of the «central part of the village».

2. Clause is performed as an independent work on sheet A-2 using free technique (M 1:2000). The drawing must show the planning structure of the village, zoning of territories (streets, community center, school, sports center, park, residential blocks without drawing out buildings).

3. Students complete the abstract on sheets A-4 (8-10 sheets) or A-3 (3-4 sheets) according to the department's instruction. The abstract should present different options for the development of settlements, the organization of public centers, layouts of school and kindergarten sites, fragments of estate and block development in relation to different categories of streets and driveways.

4. The sketch-idea of the planning structure of the entire village is carried out at a scale of 1:2000 with the definition of the boundaries of the central part of the village, which will be displayed in the preliminary design (M 1:1000). The sketch idea is approved along with the presentation of the abstract.

5. The preliminary design is done in color on a tablet (55x75 cm). A preliminary and the final work should demonstrate the following:

- the inscription «VILLAGE» and the wind rose;
- situational plan (M 1:5000) with a reserve territory for the long-term development of the village;
- general plan of the central part of the village (M 1:1000);
- symbols with the actual balance of territories;
- a fragment of the general plan in the preliminary design (a public center with adjacent buildings) can be identified in the layout to show the in-depth spatial composition of the center and the main street of the village;
- corner stamp;
- the sketch drawing is done in pencil with a watercolor wash in color, and a small fragment of the public center and the main street should be outlined in ink and the shadows of buildings of different heights should be shown. In neighborhoods adjacent to a main street with a community center, it is sufficient to show the breakdown into individual lots without delineating «houses».

6. The finishing project is done in ink with watercolor wash.

4. Methodological recommendations and basic requirements

According to the assignment, it is proposed to design the central part of the village on one of the sites defined within the boundaries of the issued topographical basis. The topographic base (M 1:5000, 1:2000, 1:1000) is provided with a larger area than the required area for the project of the central part of the village. Therefore, you should first propose a general planning structure of the village (M 1:2000) and define on it a section of the «central part», which will then be developed in detail in the general plan (M 1:1000). According to the training assignment for the design of a village, it is necessary to take into account the presence of only a residential zone, which excludes production, utility and warehouse zones.

Settlement (development) consists of a residential area, including cottage and blocked buildings with land plots; public areas: public and business area with service facilities, recreational area (park, squares, boulevards, physical education and sports facilities); streets and squares. The residential area of the village per 1000 inhabitants occupies 40-50 hectares. The number of plots (number of houses) is derived from the residential area. The aggregated indicators include the area of the entire residential zone. For example, if we take the plot area for each house to be 12 acres (30x40 m), then the calculated indicator will be 0.17-0.20 hectares. Based on this indicator, we calculate the total number of plots (houses): we divide the proposed building area of 50 hectares by 0.17-0.20 hectares and get the estimated number of plots of 12 acres (250 plots). If we multiply 250 plots by 12 acres in reverse order, then the residential area will be equal to 30 hectares. The remainder of 20 hectares will be dedicated to common areas, streets and squares. Thus, depending on the size of the plots and the type of development, the number of houses in the village may vary. For educational purposes, when the priority task is a compositional solution identifying the structure of the village, the location of the public center, the ratio of cottages and blocked houses is determined individually. Note that the national average demographics do not correspond to the demographics in a specific situation, which requires an individual approach to determining the number of residents of a settlement.

A) The residential area in the educational project should be represented by residential blocks of two types:

- **estate development:** each house or cottage with dimensions of 10x10m or 12x12m in plan is located on an individual plot of six to twelve acres, that is, 30m along the street and 20 - 40m deep in the block.

- **blocked development:** each residential block is 7-8 meters along the facade, 11-12 meters along the blocking sides, the number of residential blocks in a group is from 4 to 8; a plot for one residential block is approximately 4-5 acres (sometimes the plot area can be extremely minimal). The ratio of blocked and

manor houses is determined depending on the planning structure. In estate development, it is recommended to design plots of different sizes (6-12 acres) to take into account the different needs of developers, but generally you should focus on 9 acres (30x30m). The recommended plot sizes allow for the most efficient use of the territory and compliance with fire safety standards in the conditions of individual construction. We recommend laying out 30 m wide sections along the street. According to fire safety requirements, the distance between manor houses (with wooden structures) and between groups of blocked houses is assumed to be 15 m. Between manor houses in a pair, the distance can be reduced to 6 m, two houses can be semi-detached and presented as one house for two families. Options for placing estate and blocked buildings in relation to the street are given in Appendix 1 and 3.

B) The public zone includes a public and business zone with institutions and service enterprises, a recreational zone (park, squares, boulevards, physical education and sports facilities). On the territory of the village center there are institutions of social, cultural and consumer services, and religious objects. It is recommended to group objects in one, two or three complexes. In rural and suburban settlements, all service facilities are planned to be small, which suggests grouping according to their purpose. Therefore, different blocking options are possible. For example, in one building (two-story, 15 x 18 m in plan) the following institutions can be located: administration and police, credit, financial and communications enterprises, and a reception center for the Municipal services. In another building (two-story, 15 x 36 m in plan): a club with a library (building with a hall for 300 seats), trade establishments, catering establishments. All these institutions may be in the same or different buildings, but the overall dimensions of the objects must comply with the recommendations for the assignment.

It is necessary to provide a plot in a residential area for a paramedic and midwife station with a pharmacy kiosk in a manor-type house, a plot in a residential area - 0.2 hectares.

On the territory of the public center, it is recommended to locate a separate building (12x18 m in plan) for the establishment of housing and communal services with a garage for special equipment (for garbage collection and repair work), with change houses and workshops, 1 object - 0.2 hectares. The location of housing and communal services is recommended in the economic zone of the public center. As a rule, in the economic zones of public facilities (in the center of loads in terms of engineering communications), the location of engineering structures, transformer substations (TS), boiler houses and other structures is provided. In addition, service parking areas, the location of garbage containers, and utility entrances are provided in the areas of service facilities. In the master plan and in planning and development projects, it is necessary to separate the flows of services and visitors. It is recommended that the area in front of the entrance for visitors be shown with the symbol «checkered» from the street side, and utility access should be provided from the yard in the utility area of the public center. The total territory of the center according to the assignment is 1.2-1.5 hectares.

Recreation area, park, squares and boulevards (norm 12 sq. m per person). Squares are designed in public areas next to public building sites in areas inconvenient for development. Boulevards are the main pedestrian connections between public buildings, and can be freestanding or run parallel to streets. Parks have their own zoning: an entrance node, a main pedestrian path connecting the main gathering places for vacationers and sports enthusiasts, and quiet and active recreation areas. It is not recommended to divide the recreation area with transport links. It is recommended to show graphically the boundaries of the park area within its improvement in the form of a pedestrian path around the park. When laying out walking paths in a park, consider the terrain. Regular improvement of boulevards is permissible in conditions of calm terrain, but in conditions of a ravine, free routing of paths should be offered. It is also permissible to organize a reservoir in a ravine through the construction of a dam,

which will serve as a pedestrian connection between the territories separated by the ravine. Pedestrian paths more than 4–5 m wide can be used for the passage of special equipment (ambulance, police, repairs, landscaping, garbage collection, etc.). At the stage of developing master plans for villages when designing parks, boulevards and squares, the main thing is the zoning of recreation areas within the boundaries of the territory, which is reflected in the drawing by fixing the main entrances, main pedestrian connections, active and quiet recreation areas.

School and kindergarten sites; the estimated capacity of the school is 180 students per 1000 inhabitants; the plot is set at the rate of 50 sq. m per 1 student. According to the assignment, the school site is 2–2.5 hectares. The school building in the village (2-storey, 75x15 m in plan) is used not only as an educational institution, but also as a venue for community meetings, holidays, sports and other events. Therefore, the school building turns out to be the largest accent in the development of the village. The layout of the building can be a corridor with attached sports and assembly hall, or in the form of several blocks connected by passages.

The location of sports facilities may be on a school site or separated by a pedestrian boulevard. Dividing the school site and the sports center by road is unacceptable. School sports facilities can be used as community facilities. Sports grounds may be located near the school site on the border area with the park. In addition to the gyms, the school building will include a flat structure: a 30x60m area bordered by a 4m wide running track; internal turning radius of the treadmill is 16 m; on the one hand, the track should have a direct continuation for the hundred-meter run. In addition, grounds and structures (locker rooms, stands, etc.) for various sports and recreation may be adjacent to the sports core.

According to the assignment, **the kindergarten site is 0.2 hectares**. In the central part of the village, 1 or 2 kindergartens with 25 places each should be located. The dimensions of the kindergarten building are comparable to the dimensions of a two-family residential building. The location of the kindergarten

is recommended in residential areas, in the center of the greatest load. It is not recommended to locate a kindergarten close to the areas of a community center and school.

B) Highways, roads, streets (SP 30-102-99 Planning and development of low-rise housing construction).

One of the problems in urban planning is the determination of transport connections between different settlements, which entails the separation of transit and internal transport flows. Transit highways from which the village is entered are external transport communications, and the allotment of their section does not include sidewalks for pedestrians. Highways are excluded from the residential area. The territory of streets within the boundaries of the village is defined in «red lines» with the presence of roadways, lawns and sidewalks. Entry and exit is via the main village street. It is necessary to provide two entrances and exits at a distance of at least 400 m from each other, which is recommended by the rules for locating public transport stops. If the second entrance/exit does not fall within the design boundaries (M 1:1000), then the main village street is graphically terminated by an arrow indicating, for example, «to the N. Novgorod – Kstovo highway»; both entrances and exits are shown on the situational plan (M 1:5000). The entrance and exit to the village is the beginning of the main general street of the village, and according to the instructions it should be no closer than 150 meters from the intersection of transit highways.

The streets in the village differ in their importance, and this is determined by their layout and the difference in transverse profiles:

- **the main general street** of the village should connect the village with other settlements through transit highways, and it, as a rule, connects objects of general village significance (objects of public use); Public transport stops are located on the general village street at intervals of approximately 400 m.

- **a residential street** separates and connects residential areas with a community center located on the main street. The length of residential streets is

unlimited if they are looped, and the length of dead-end streets is no more than 150 m. Pedestrian paths with a width of 5.5 meters between the fences of areas are used as an «emergency» passage to ensure the passage of special equipment (fire trucks, ambulances, police, etc.).

- **intra-block driveways** provide connections between neighborhoods and residential groups with residential streets.

The width of the carriageway of the street is a multiple of the width of the traffic lane (3.5 m) and depends on the intensity of traffic: for the main street we take three lanes (11.5 m); for a residential street - two lanes (7m), for travel - 1-2 lanes. For single-lane traffic, it is necessary to provide (passing platforms) for widening the road to the width of a traffic lane with a length of 15 m and at intervals of 75 m and turning areas at a dead end (12x12 m). The turning radius is assumed to be 12 m for streets and 3-6 m for driveways to houses.

The width of lawns depends on the width of the utility corridor and green spaces. The width of the lawn on each side of the road for the main street is 4-6 m, for residential streets and driveways – 3-4 m.

Sidewalk width: for the main street - 3-4 m, for a residential street - 1-2 m, for local driveways - 1 m (or absent due to the low volume of vehicle traffic).

Access to houses from highways is prohibited. Between the residential development and the highway, an additional local driveway is provided for access to houses facing the highway. In this case, the building line is determined along the border of the sanitary zone from the highway (according to the specification, the zone is set 25 m wide from the edge of the roadway of the highway to the development regulation boundary, that is, to the «building line»). The most favorable situation occurs when the border of the sanitary zone is determined along the «red line».

Entrances to houses are assumed to be 3.5 m wide, the turning radius is 3-6 m; in a blocked building, one entrance can be designed for two residential blocks.

Street profiles and fragments of street development are given in Appendix 1 and 3.

The purpose of the general plan is the structure of the village, where all elements of zoning of the territory are fixed within their boundaries, indicating the areas of the plots, which should be reflected in the balance of the territory. In the drawing, the boundaries of different territories are identified graphically, by designating the street network of different meanings. Therefore, the zoning of the village is carried out together with the organization of transport and pedestrian connections. It is recommended to direct the movement of vehicles and pedestrians towards a public building. It is not recommended to use a regular grid of streets and boulevards everywhere in conditions of relatively complex terrain. In order for the main street and the center of the village to be identified compositionally, the compositional core can be designed in a rigid geometric form, and the outskirts can be presented in the form of a free layout, or vice versa.

The «red line» is the boundary separating the street area from the building area and public areas. In the cross-section of the streets, the red line runs along the outer edges of the sidewalks delimiting the territory of the streets and other residential areas.

The «building line», as a rule, runs along the edge of the blind area of buildings no closer than 6 meters from the red line, so that cars can be parked on the plot in front of the house.

Requirements for the abstract (assigned)

- 4-6 versions of different village layouts should be presented;
- fragments of manor and block development territories with an adjacent street are presented graphically on a scale of 1:1000 with the location of street elements and plots with houses (3-4 houses);
- a site for a kindergarten with landscaping and a school with sports facilities;
- options for estate and block-type buildings;
- options for community centers in villages;

- options for park area.

The abstract must be completed by the deadline for approval of the sketch-idea and is evaluated within the group.

Requirements for the preliminary design

The requirements for the preliminary design, which is approved by the cathedral commission, are identical to the requirements for the final drawing, but the preliminary design is carried out in pencil and color. Inking and shading is only required in the area of the community center with adjacent buildings to identify the main street of the village. In neighborhoods adjacent to a main street with a community center, it is sufficient to show the breakdown into individual lots without delineating «houses».

It is recommended to show the depth-volumetric composition of the public center surrounded by buildings along the main street of the village through layout (material of the student's choice).

Requirements for a demonstration drawing (finish version)

- The drawing is done on a 75x55 cm tablet using ink and watercolor wash.
- The name of the project is «**VILLAGE**».

-**The «wind rose»** is usually located in the upper left corner of the drawing, oriented strictly north. However, in an educational project, different drawing layouts are allowed. Using the «wind rose», which shows the prevailing direction of winds in a particular area, the boundaries of the sanitary protection zone from sources of pollution are determined, which influences the choice of sites for development (Appendix No. 5).

- Present **the situation plan** on a scale of 1:5000 as a diagram of the location of a village with a reserve territory in the suburbs of N. Novgorod; identify the central part in the overall structure of the village. The drawing is done in ink graphics. The introduction of color is necessary only to identify the planned central part of the village, and the reserve is shown in black and white graphics without color. Zoning is shown in general in red lines.

- It is necessary to present on a scale of 1:1000 a master plan of the central part of the village «**master plan**», where, in addition to the planning structure, the following should be shown: the border of the village; boundary of the designed part of the village; border of the reserve territory; ravine border. There is a ravine on the territory of the village, which cannot be built up with permanent buildings, but a park area, part of a school site and sports grounds can be proposed there. It is necessary to mark the upper edge of the ravine as the boundary of the approaching development. It is necessary to identify the structure of the residential zone: territories with plots of estates and blocked buildings; public areas of varying importance; streets of different significance (the main street of the village, residential streets and driveways). Symbols of different territories should differ graphically and in color to identify the village structure. The main thing in the color scheme of the village layout is color scheme division into three main types, so that the following territories are in the zoning of the village:

- a) residential areas of estate and blocked buildings,
- b) public facilities areas,
- c) streets areas.

It is recommended to highlight the main zones - residential, public and streets - in contrast to each other, and their components should have a nuanced difference in color. For example, the territories of manor and block buildings may have a nuanced difference in color, but they are contrastingly different from the territory of public institutions and streets. The areas of parks, squares and boulevards should be slightly different in color from other public areas, including areas for sports, schools and kindergartens, which may also differ slightly in color from each other. The landscaping of public areas (park, boulevard, public garden) and streets (lawns) should be contrastingly different in color, since they belong to different residential zones. Streets of different significance differ in profile width. Elements of streets (roadway, lawn and sidewalk) should have a nuanced difference in color so that the red-lined street looks like a single whole. The

introduction of color beyond the border of the designed part of the village (M 1:1000) is not recommended. The choice of color scheme should ensure clarity of perception of the concept of the general plan of the village, in the structure of which the zoning and interrelation of the main and accompanying elements of the overall composition are clearly readable. In the zoning of the territory of the village, the following must be identified: the compositional core (community center, park or school) and the main, secondary (transport and pedestrian) connections between different zones and objects. To identify places where people gather together (areas in front of public buildings entrances). Such areas are shown graphically in a box.

Squares and walkways can be further identified by color or be white. To reveal the depth-spatial composition and show the differences in height of buildings, a shadow is shown from each object in demonstration drawings. The size of the shadows is taken as follows: one or two-story manor and blocked buildings - 6 mm; public objects – from 6 to 12 mm in M 1:1000. It is recommended to build shades on the south, southwest or southeast side.

- **Symbols** (Appendix No. 5) are combined with the «territory balance» table, where the areas of territories should be indicated. For example, in the first line «residential area» the sum of areas is indicated; and then, in the line designating the estate development, the area of its territory is indicated, then the designation of the blocked development, respectively, its area, etc. It is permissible to use one color in some areas symbols. For example, you can enter one common color designation for kindergartens and «Medical and midwifery station». It is acceptable to introduce one common color designation for the school and sports grounds, a common color designation for the park, boulevard and public gardens. However, there must be one common color scheme to designate these common areas.

- **Explication** of public facilities. Since different institutions can be located in the same building (for example, administration, police, post office, etc.), they are designated by one number.

6. Brief overview of the main regulatory documents

To complete the educational project «Village», you should familiarize yourself with the regulatory documents. **The Town Planning Code** of the Russian Federation sets out the basic provisions on the basis of which town planning problems should be solved. Therefore, familiarization with the contents of the code will allow the student to understand the general structure of urban planning legislation and determine the place of a particular problem in it, i.e. rules for designing small settlements.

The structure of the code is presented as follows:

1. General Provisions.
2. Powers of state authorities of the Russian Federation, state authorities of constituent entities of the Russian Federation, local governments in the field of urban planning activities.
3. Territorial planning.
4. Urban zoning.
5. Territory planning
6. Architectural and urban planning design, construction, reconstruction of capital construction projects.
7. Information support for urban planning activities.
8. Responsibility for violations of legislation on urban planning activities.
9. Features of the implementation of urban planning activities in the constituent entities of the Russian Federation - the federal cities of Moscow and St. Petersburg.

The structure of the Town Planning Code is presented in a consistent detail of urban planning activities from general principles of planning and zoning to specific provisions that relate to the specific design of individual urban and rural

settlements. Therefore, for educational village design, special attention should be paid to Chapters 5 and 6.

The set of rules: **Building Regulations - SP 42. 13330. 2011** and **SNiP 2.07.01-89** presents mandatory and recommended rules and regulations for urban planning of urban and rural settlements. In a comparative analysis of previous (SNiP) and subsequent (SP) regulatory documents, trends in changes in urban planning policy are determined. Typically, the base points remain the same, but the parameter calculations change.

References:

1. Town Planning Code of the Russian Federation. Text with changes and additions for 2008. – M.: Eksmo. 2008. – 192 p. - (Russian legislation)

2. Set of rules: SP 42. 13330. 2011, Urban planning. Planning and development of urban and rural settlements.

3. SNiP 2.07.01-89. Urban planning. Planning and development of urban and rural settlements/Gosstroy of the USSR. – M.: TsITP Gosstroy USSR, 1989. – 56 p.

4. 711.4 B50 chz1 ntl; Vinshu, I.A. Architectural and planning organization of rural settlements: textbook. for universities in the specialty «Architecture and planning of rural populations. Places» / I.A. Vinshu. – Moscow: Stroyizdat, 1986. – 279 pp.: ill.

5. 728.8 K61 chz1 ntl; Kolodin, K.I. Formation of objects of the suburban environment: textbook in the direction 603100 «Architecture» / K.I. Kolodin. - Moscow: Architecture-S, 2004. – 256 p. ill.

6. Project of a village in the Nizhny Novgorod region: [situation. pl., pl. floors, house designs] // Architectural Bulletin. – 2008. - No. 5(104). – pp. 136-137.

7. 711.4 M77 ntl; Monastyrskaya, M.E. Cottage development in European urban planning of the second half of the 19th-20th centuries: monograph / M.E.

Monastyrskaya; Saint Petersburg. architecture-builds univ. - St. Petersburg:
SPbGASU, 2017. -492 p., [8] l.: ill. – Bibliography: p. 352-369.

Examples of single-family houses, cross-section of streets and driveways
development

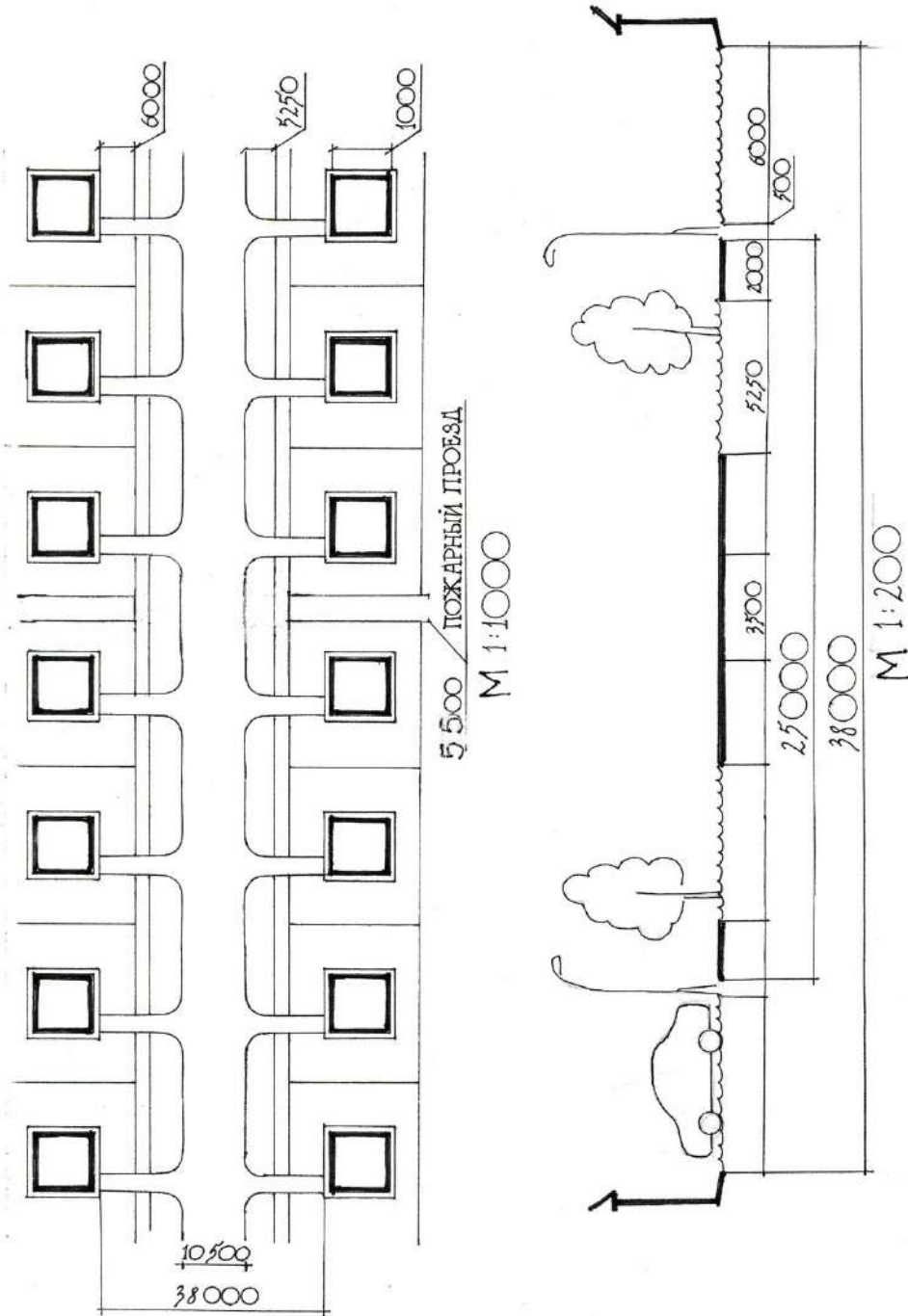


Fig. 1. The main street of the village. Example of single-family houses and cross-section of the street development

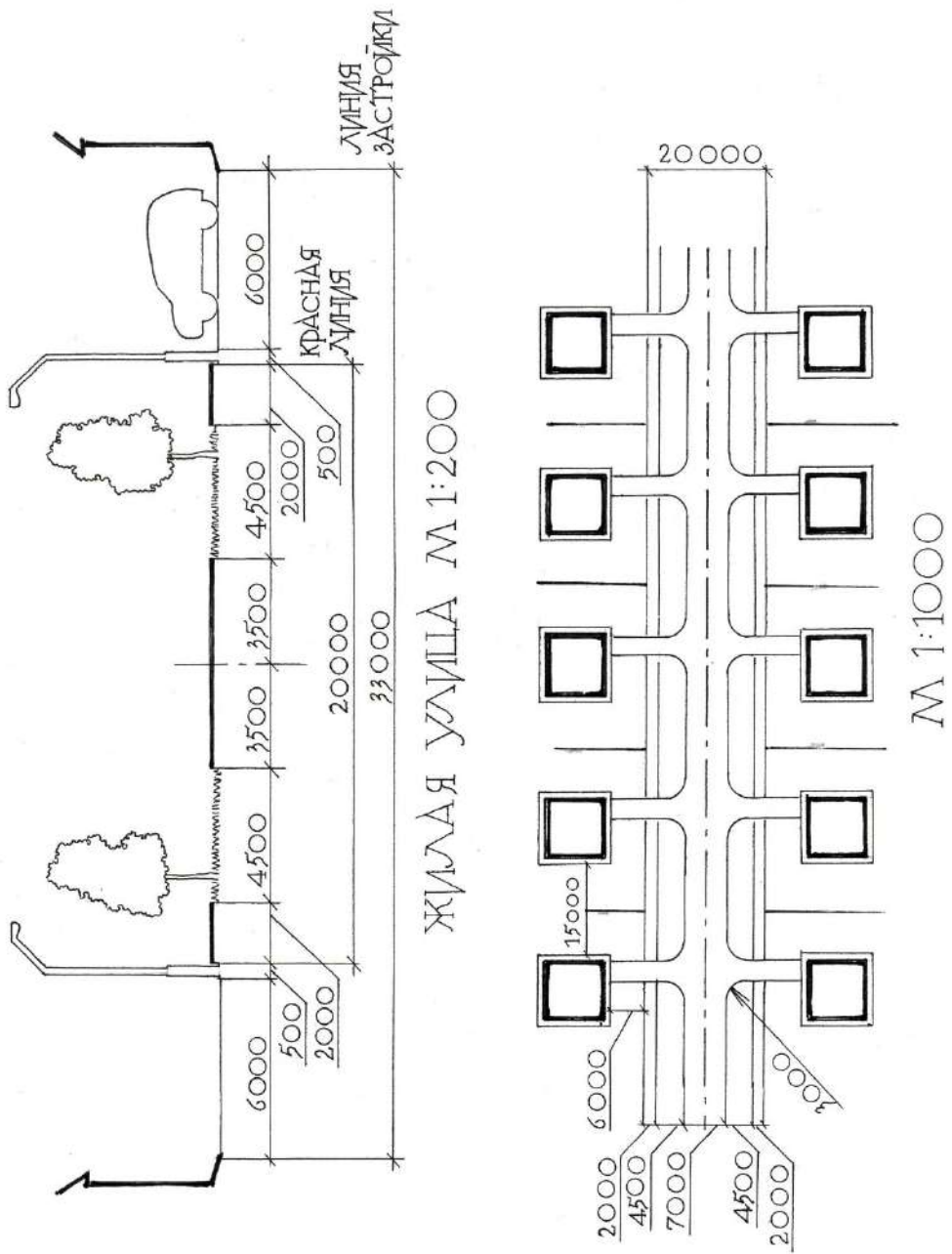
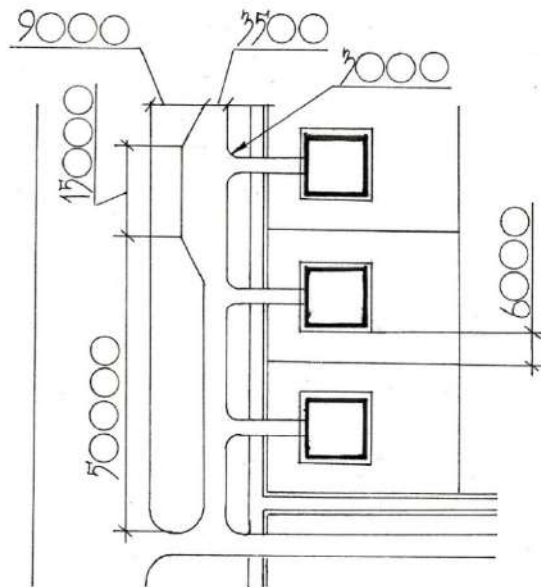
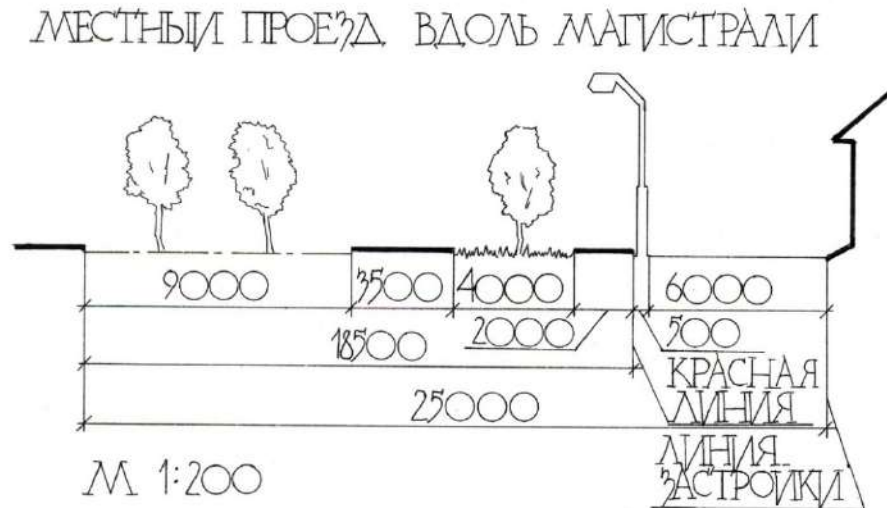


Fig. 2. A residential street. An example of single-family houses development.
Cross street profile



М 1:1000

Fig. 3. Local travel along transit motorways. Cross-section of the driveway and example of the development

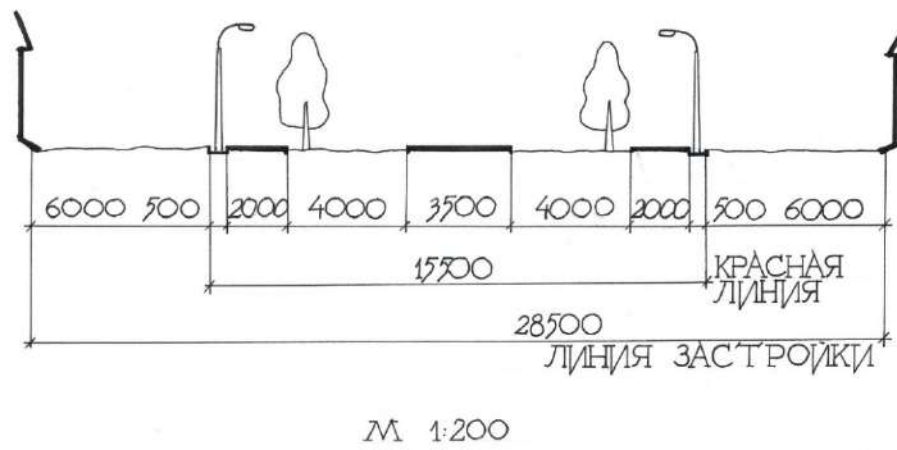
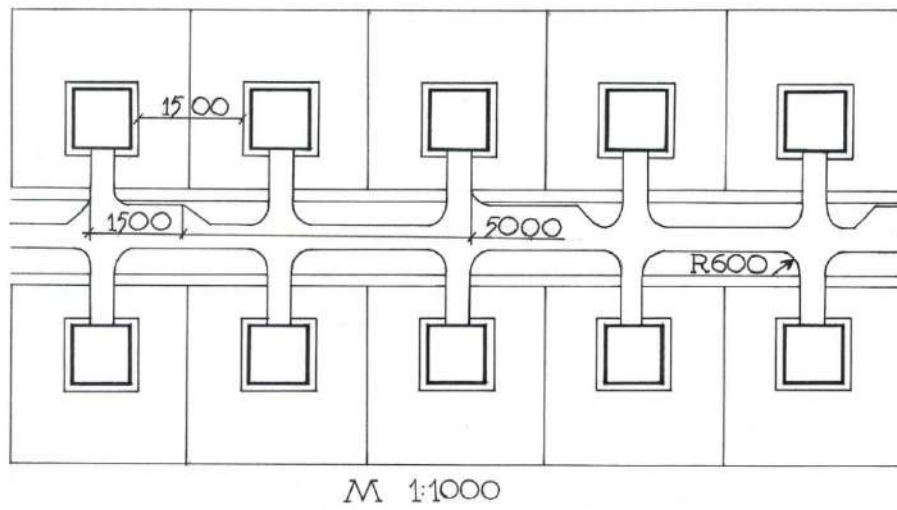


Fig. 4. One-lane driveway. Example of a driveway cross-section development

Schemes of turning areas for dead-end streets and car parks

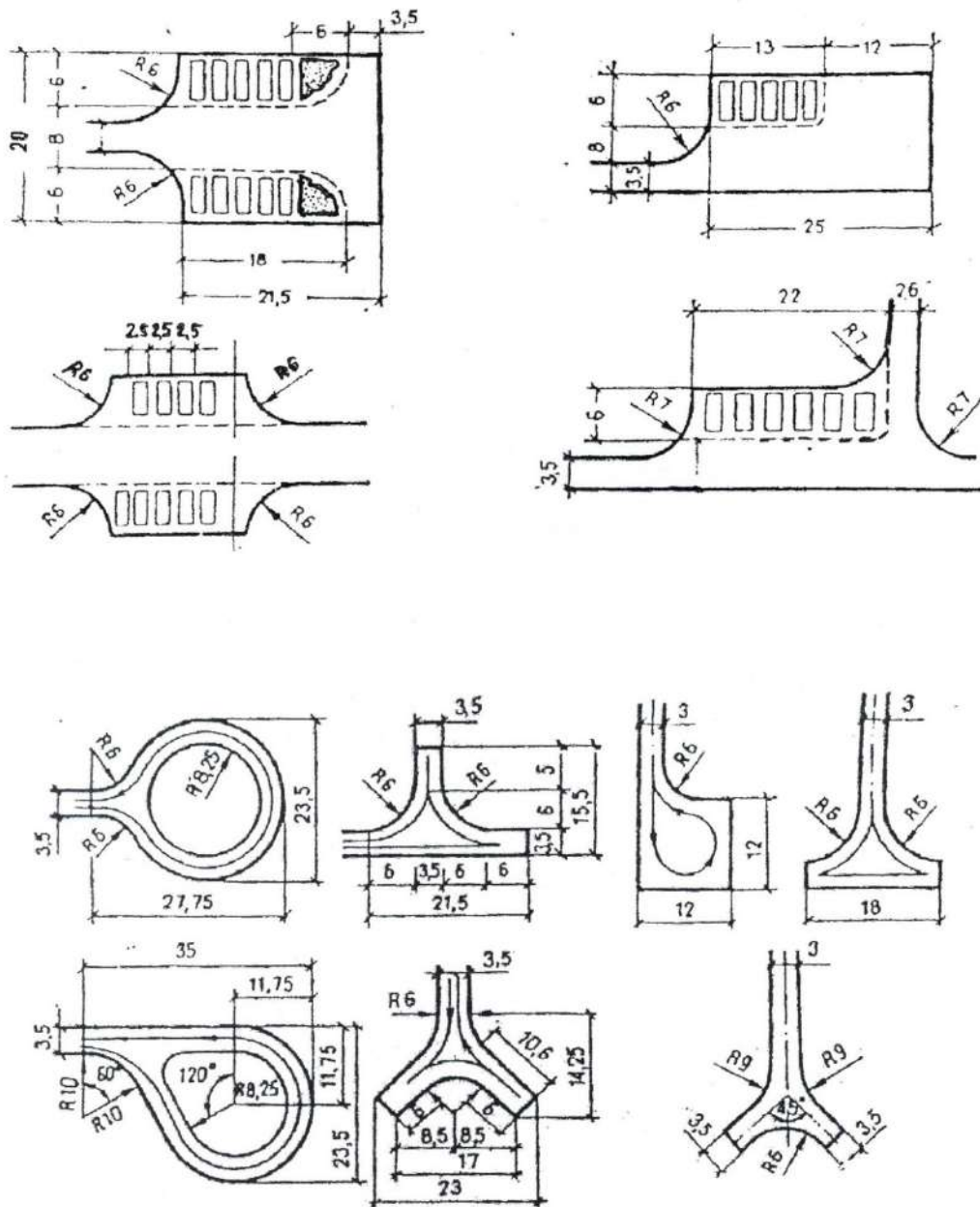


Fig. 5. Schemes of parking lots and turning areas of dead-end streets

An example of a dead-end street with two-family houses development, an example of a blocked development

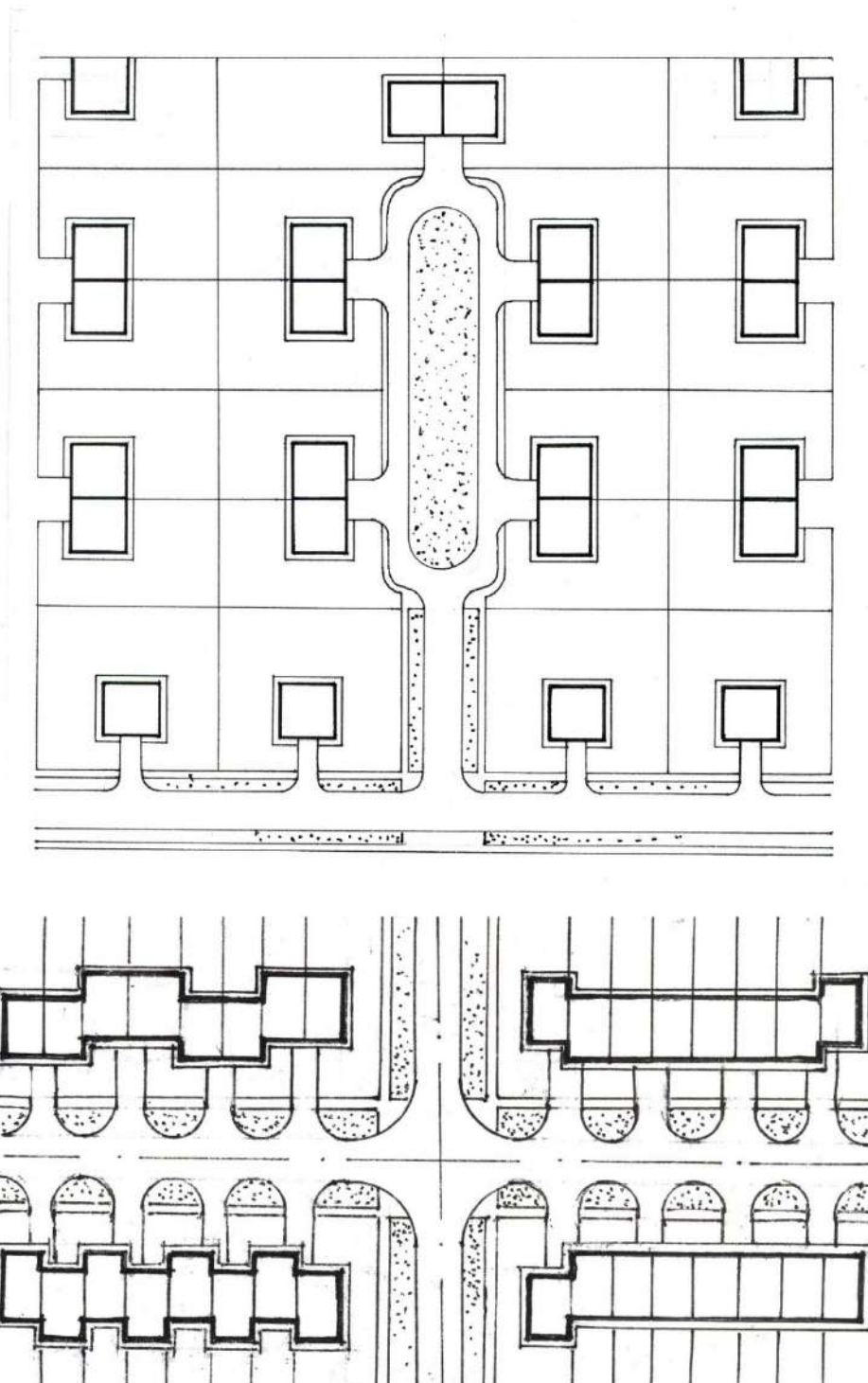
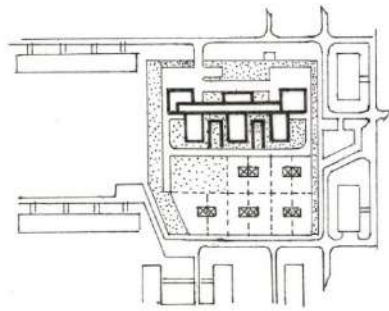
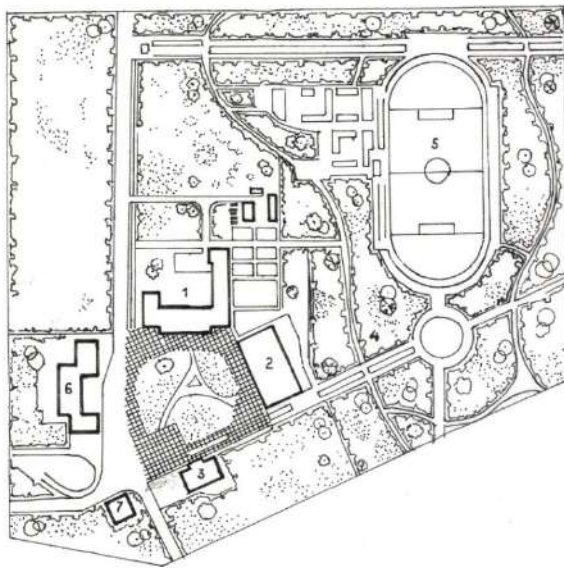


Fig. 6. An example of a dead-end street (driveway) with two-family houses development. Example of blocked development (number of blocks: maximum – 8, minimum – 4)

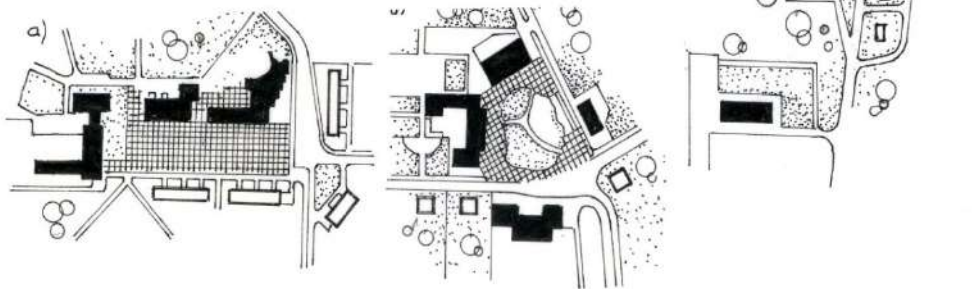
Examples of community centers of villages, school sites, kindergartens planning



Примеры генпланов участков с размещением пристраиваемых объемов к реконструируемым зданиям школы в квартале 81 Хорошево-Мневники детских садов типа VI-13



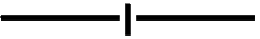



Объединенный участок школы и Дома культуры в селе Кодяки: 1 – средняя школа; 2 – Дом культуры; 3 – сельсовет и почта; 4 – парк; 5 – стадион; 6 – торговый центр; 7 – 4-этажный жилой дом



Примеры композиционно-пространственных решений застройки центров поселков
а – прямоугольная площадь; б – площадь неправильной формы; в – центральная улица

Fig.7. Examples of community centers of villages, school sites, kindergartens planning

Symbols indicating the village territory balance
Example of symbol design

Legend	Residential zone	Square (in ha)
	Territory of estate development	
	Blocked construction area	
	Street area	
	Territory of the public center (with housing and communal services)	
	Territory of kindergartens and first aid stations	
	Territory of the school and sports facilities	
	Territory of the park, squares and boulevards	
	Village border	
	Boundary of the designed part of the village	
	Border of the reserve territory	
	Border of the edge of the ravine	

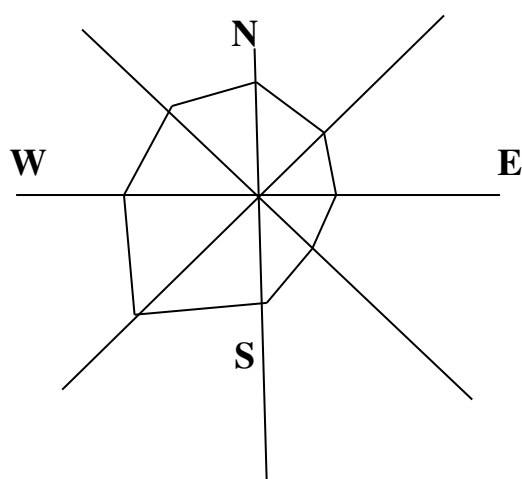
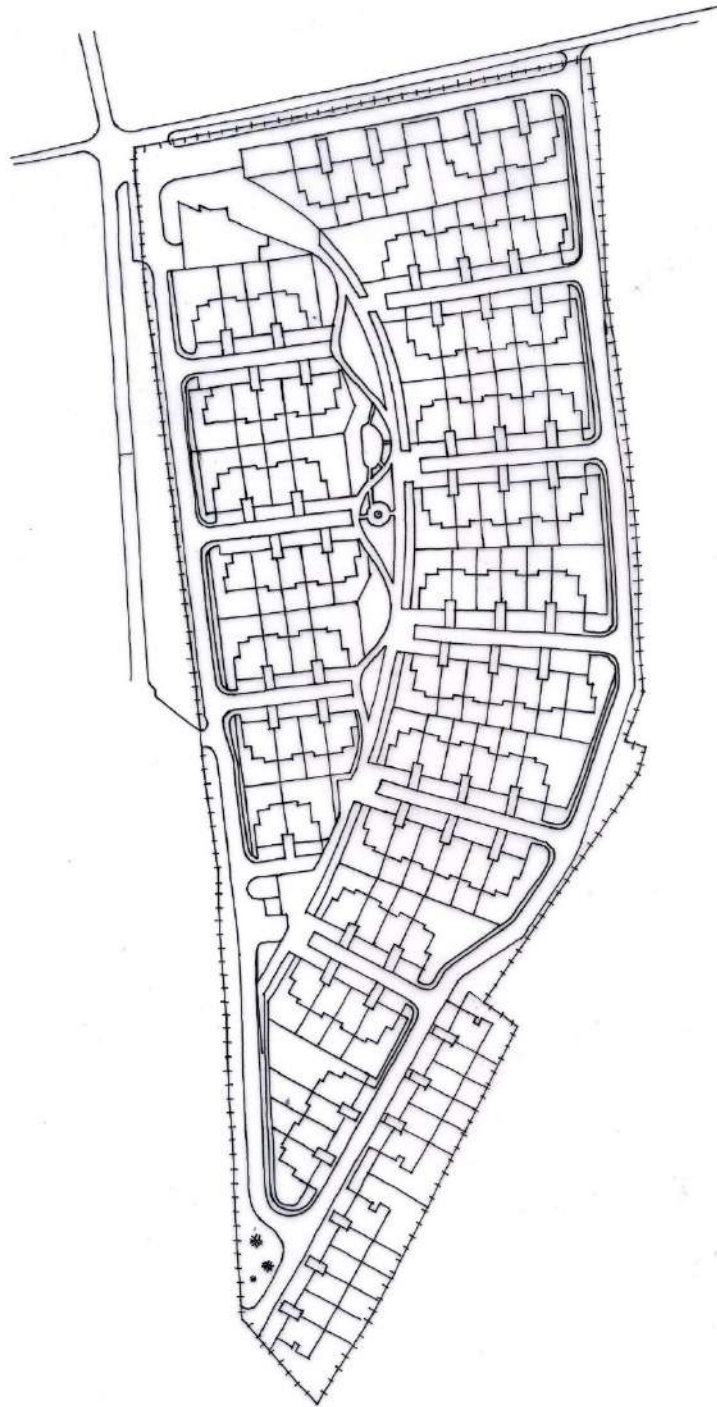


Fig. 8. Average annual compass rose of wind

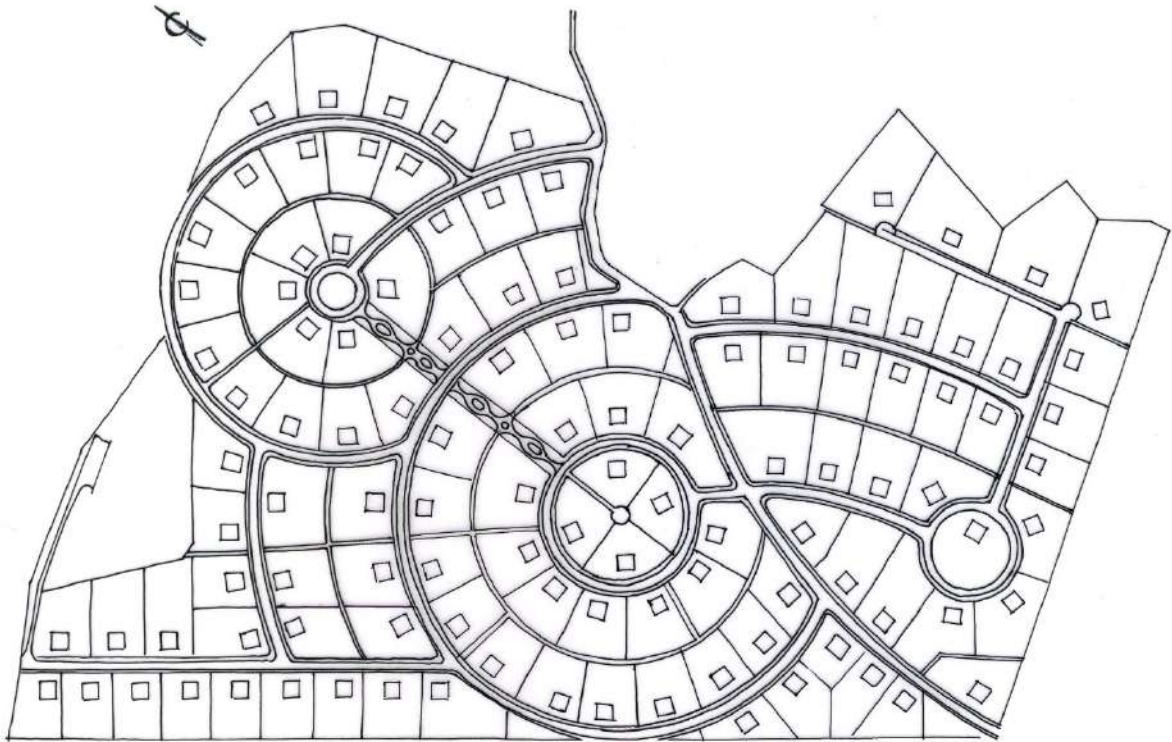
Examples of village planning



КОТТЕДЖНЫЙ ПОСЕЛОК « БАРВИХА-СЛУВ »

АРХ: А. АСАДОВ; Е. ВЛОВИН; Т. КОНОВАЛОВА; Ю. БАТАЛОВА; А. АСАДОВ; В. БИНДЕМАН.
ЖУРНАЛ «ПРОЕКТ РОССИЯ» №381

Fig. 9. Village layout

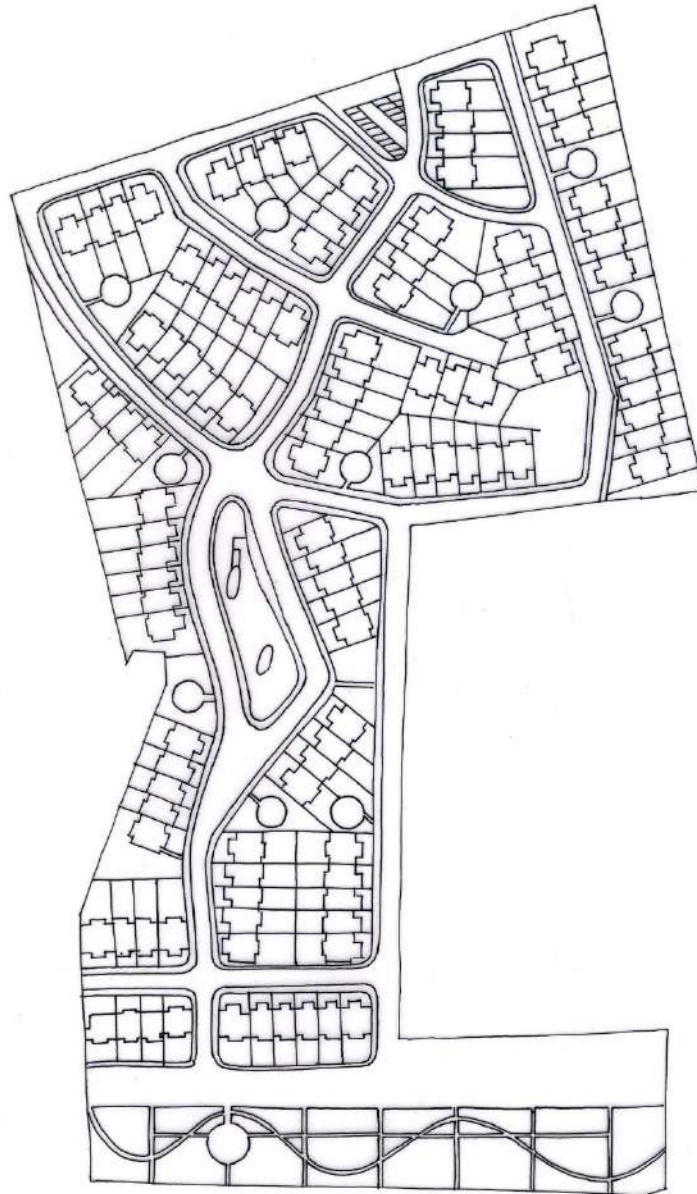


КОТТЕДЖНЫЙ ПОСЕЛОК
 «СОЛНЕЧНЫЙ ГОРОД»
 ЧКАЛОВСКИЙ РАЙОН НИЖЕГОРОДСКОЙ ОБЛАСТИ.
 [WWW.LANDAN.RU]



ПРИМЕР ВЫПОЛНЕНИЯ РАЗВЕРТКИ ПО ГЛАВНОЙ УЛИЦЕ

Fig. 10. Village layout. Main street section



ПОСЕЛОК «СТАРАЯ РИГА» 2004Г.

АРХ: ИЗМАЙЛОВ А.В.; КОВАЛЕВА А.Г.; ЖЕЛЕЗНОВ П.В.
 (ЖУРНАЛ «ПРОЕКТ РОССИЯ» № 38)



ПРИМЕР ВЫПОЛНЕНИЯ РАЗВЕРТКИ ПО УЛИЦЕ.

Fig. 11. Village layout. Street section



Fig. 12. Village layout

ПРОЕКТ
ПЛАНИРОВКИ
ДАЧНОГО ПОСЕЛКА
«СОЛНЕЧНЫЕ ДАЛИ»
(WWW.SLDALI.RU)



Fig. 13. Village layout



КОТТЕДЖНЫЙ ПОСЕЛОК «КЛУБ 2071»

АРХ: С.СКУРАТОВ; А.РОМАНОВ; Е.КУЗНЕЦОВА.
[ЖУРНАЛ «ПРОЕКТ РОССИЯ» № 38]

Fig. 14. Village layout

ПРОЕКТ ДЛЯ КЛУБА «МОНОЛИТ»
НОВОРИЖСКОЕ ШОССЕ

АРХ: М. БЕЛОВ
[ЖУРНАЛ «ПРОЕКТ РОССИЯ» № 38]

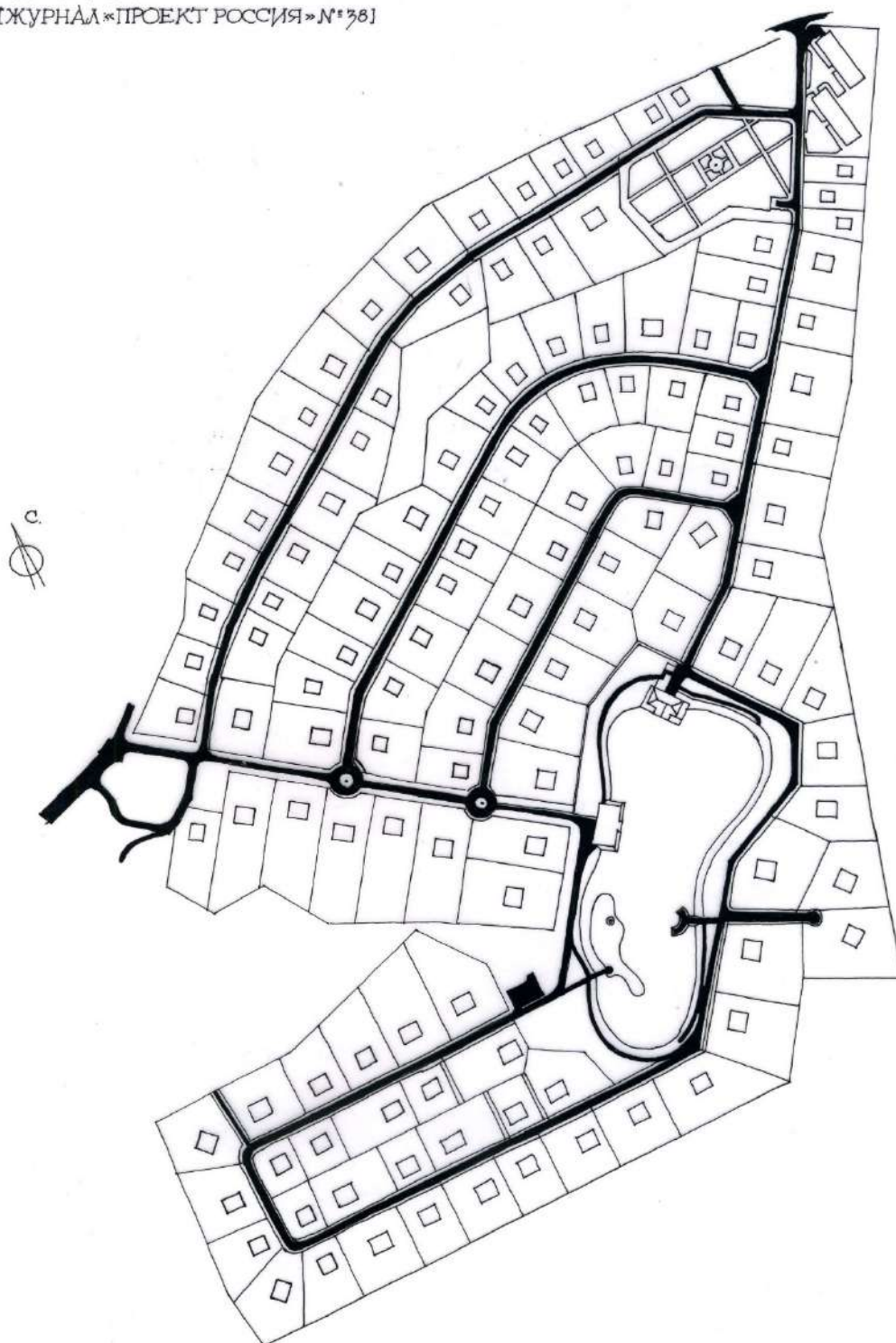


Fig. 15. Village layout

Examples of course projects «Village»

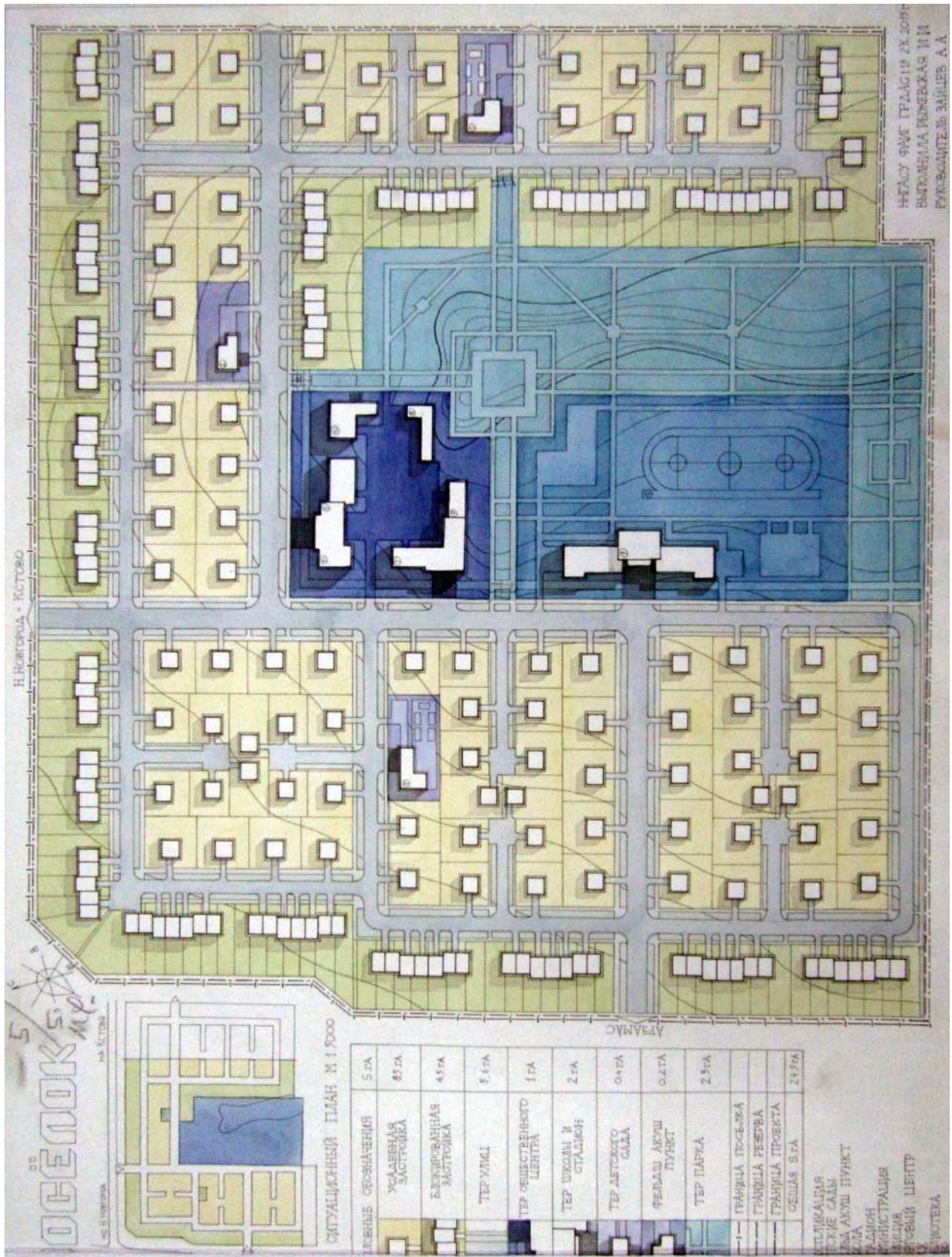


Fig. 16. Village layout

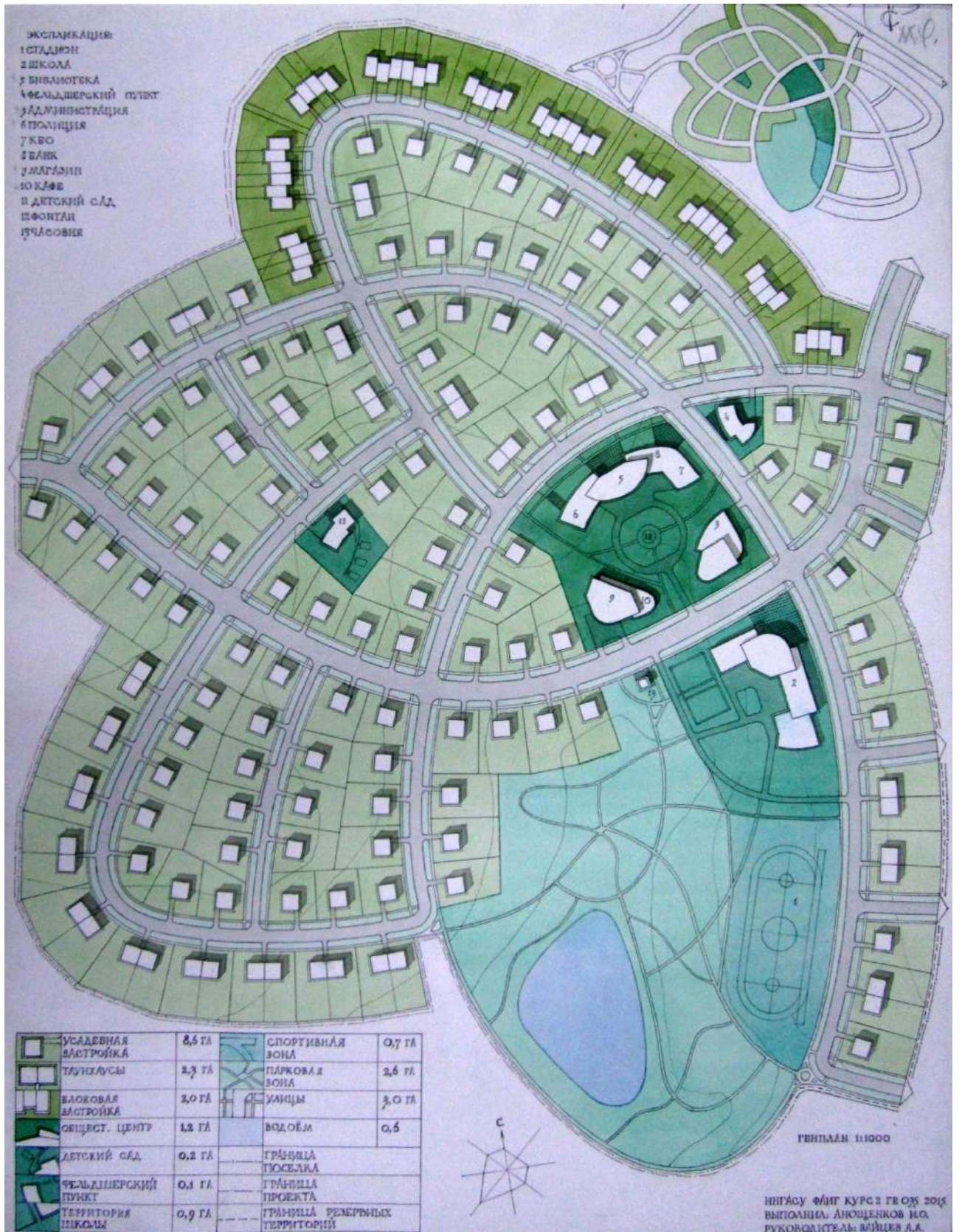


Fig. 17. Village layout

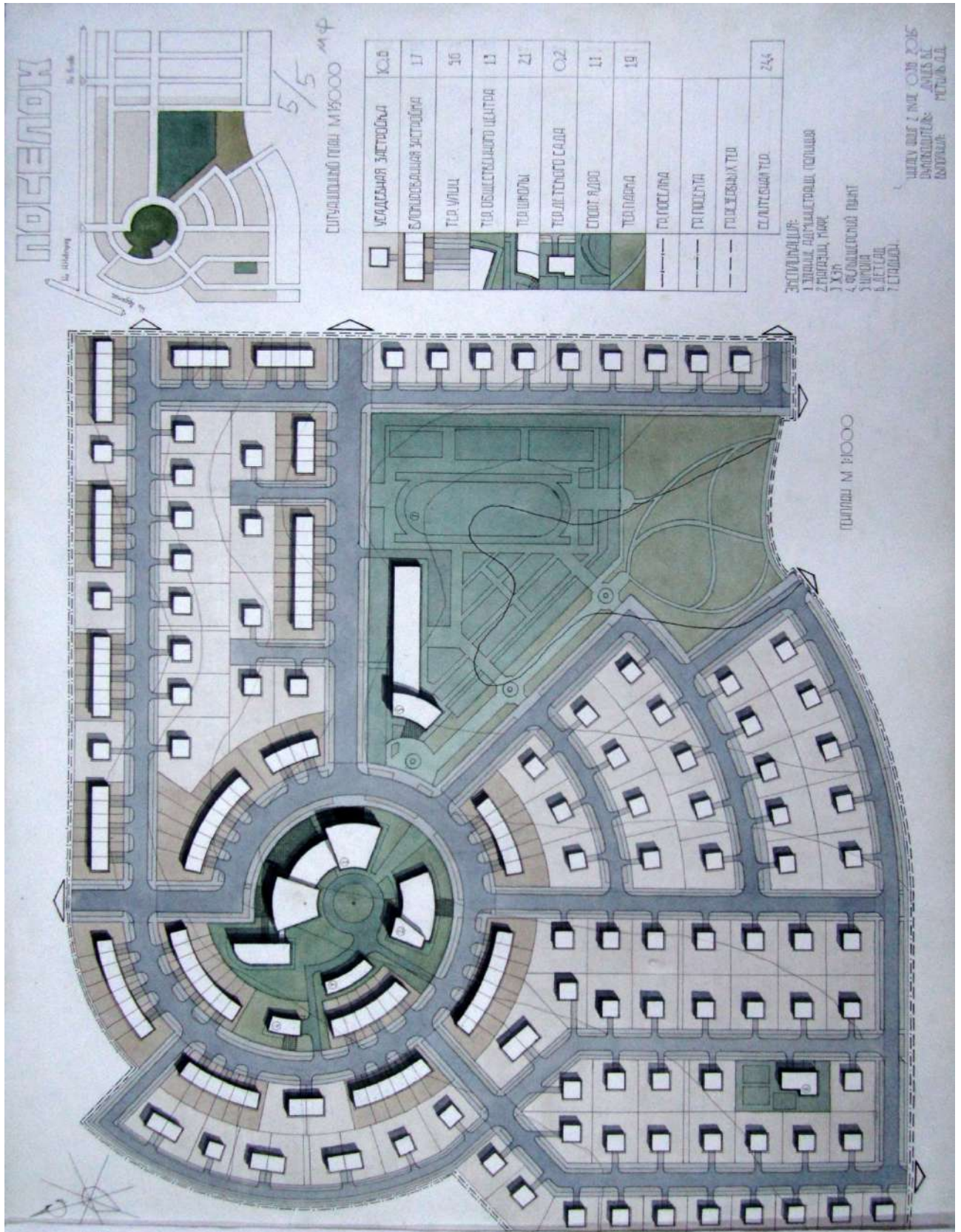


Fig. 18. Village layout

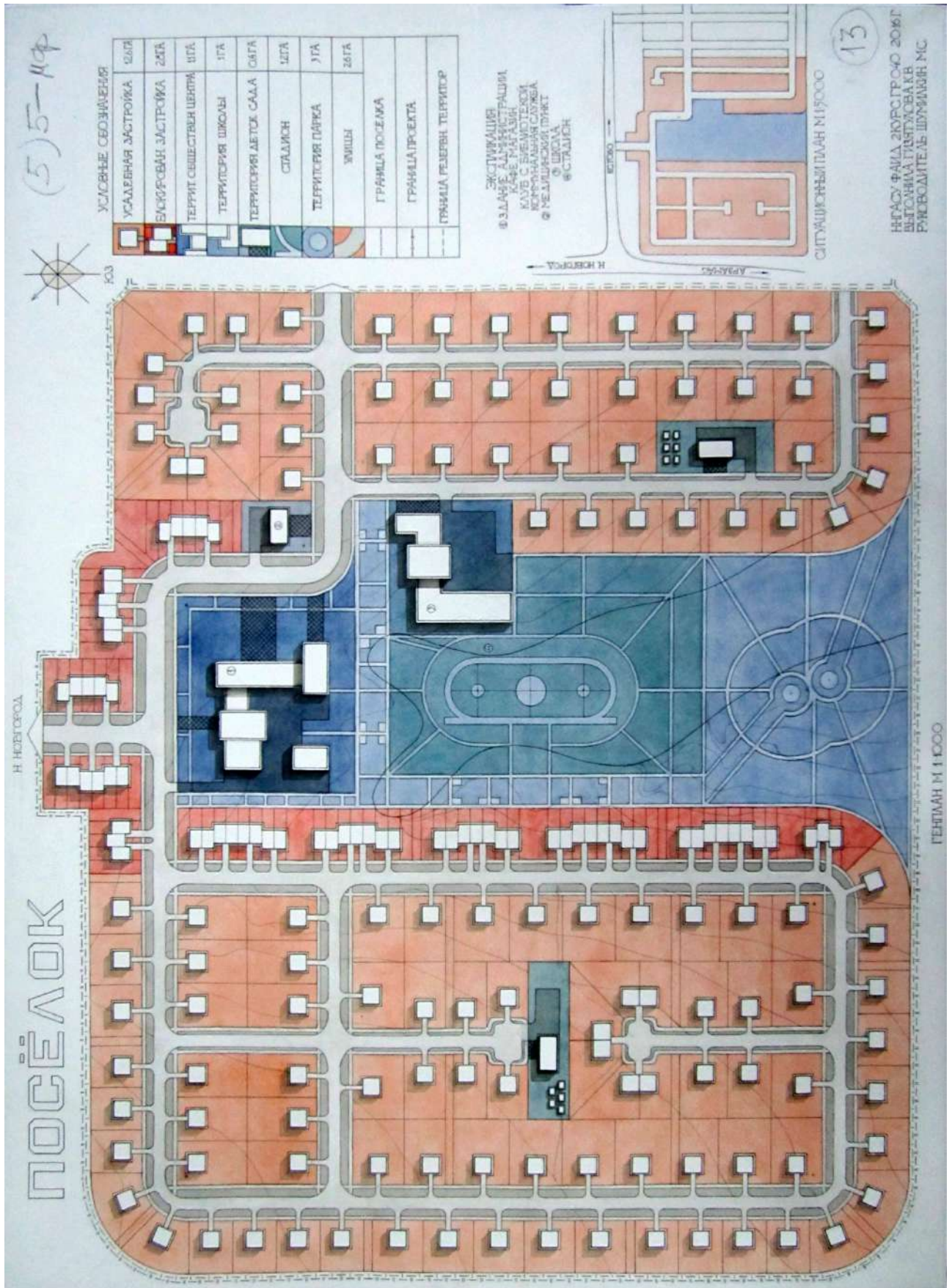


Fig. 19. Village layout



Fig. 21. Village layout

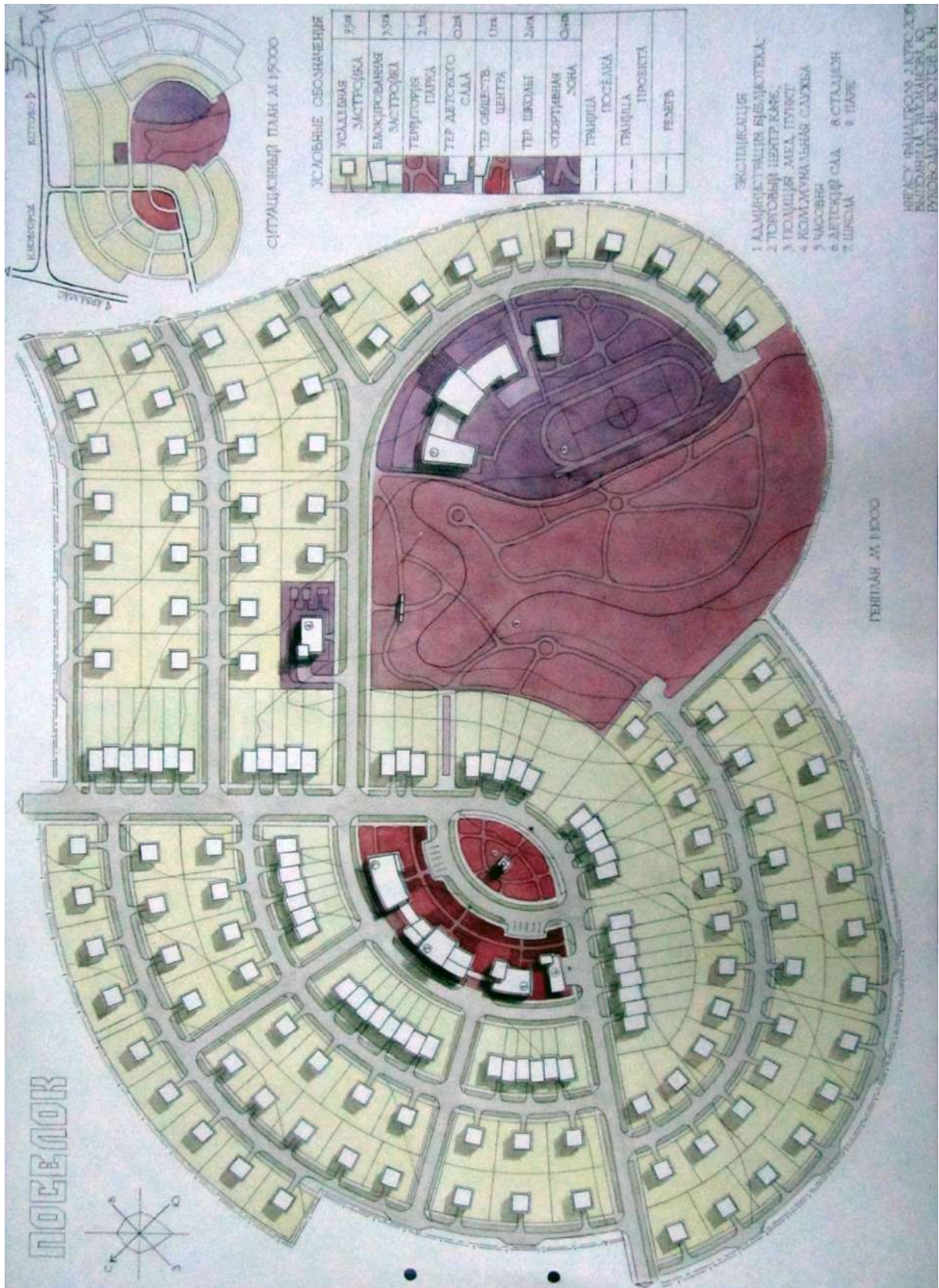


Fig. 22. Village layout

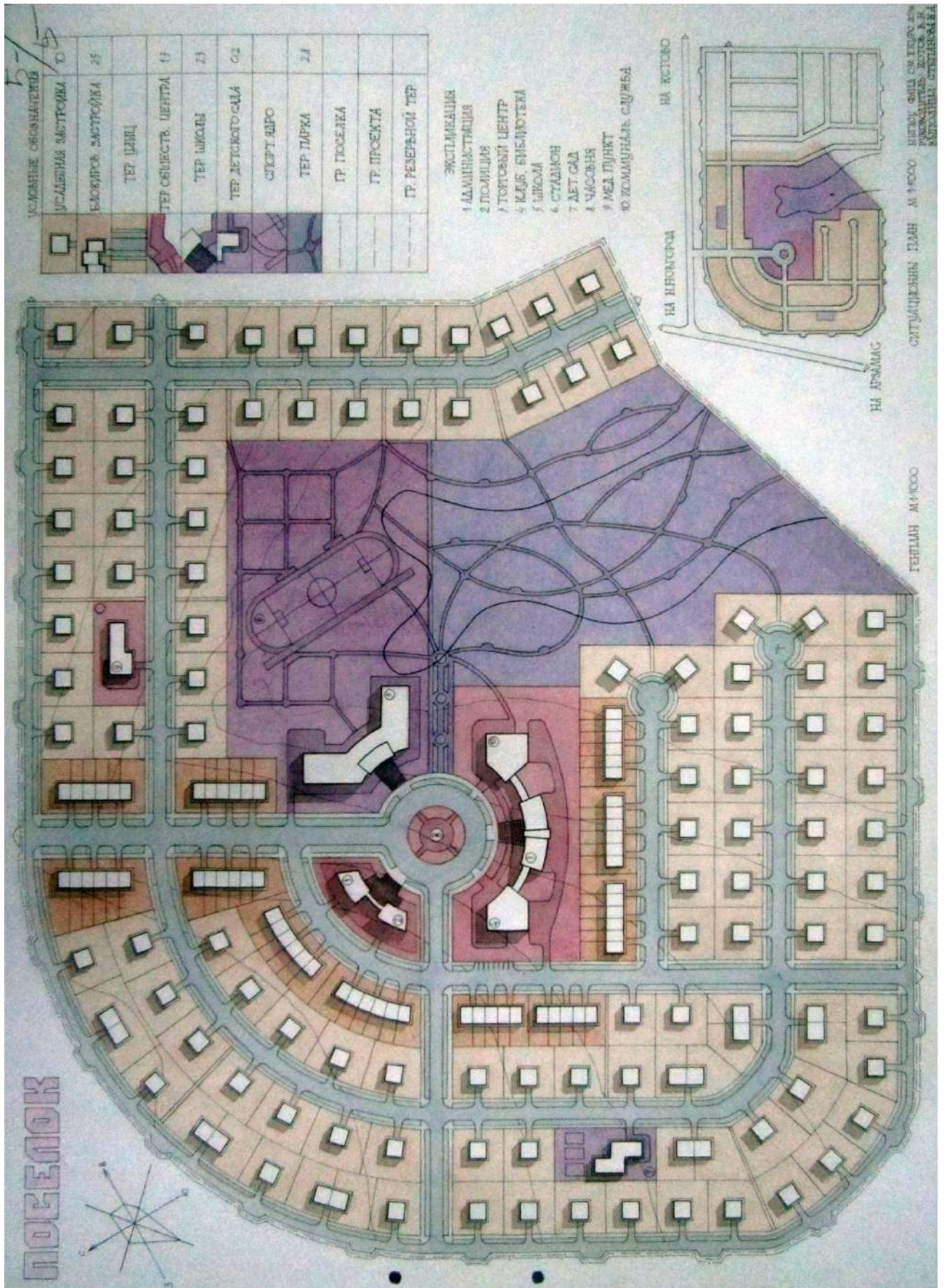


Fig. 23. Village layout

Дуцев Виктор Сергеевич
Королева Алла Николаевна
Зайцев Алексей Александрович
Алешугина Елена Анатольевна

VILLAGE

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