

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

**O. M. BEKETOV NATIONAL UNIVERSITY
of URBAN ECONOMY in KHARKIV**



Methodical recommendations
for conducting practical classes and organizing independent work on an academic
discipline

**“ARCHITECTURAL DESIGN OF BUILDINGS AND STRUCTURES:
**** CATEGORY HOTEL FOR 200–400 PLACES”**

*(for applicants of the first (bachelor) level of higher education
full-time study in specialty 191 – Architecture and urban planning)*

**Kharkiv
O. M. Beketov NUUE
2024**

Methodical recommendations for conducting practical classes and organizing independent work on an academic discipline “Architectural design of buildings and structures: **** category hotel for 200–400 places” (for applicants of the first (bachelor) level of higher education full-time study in specialty 191 – Architecture and urban planning) / O. M. Beketov National University of Urban Economy in Kharkiv ; comp. : O. V. Smirnova, V. A. Koshel. – Kharkiv : O. M. Beketov NUUE, 2024. – 46 p.

Compilers : O. V. Smirnova,
V. A. Koshel

Reviewer PhD in Architectural sciences M. A. Votinov

Recommended by the department of architecture of buildings and structures, record № 1 on August 28, 2023

CONTENTS

Introduction.....	4
1 The purpose and objectives of the course project	5
2 The content of the project.....	5
3 Peculiarities and sequence of the project	7
3.1 The content of the report and the methods of its implementation	8
3.2 The sequence of execution and design of the clause №1	9
3.3 The sequence of execution and design of the clause №2	13
3.4 The sequence of execution and design of the clause №3	18
4 Architectural and planning solution of hotels.....	19
5 Constructive systems of hotels	24
6 Architectural and artistic features of hotels	27
7 Graphic design of the project	29
References	30
Glossary	31
Appendices	33

INTRODUCTION

Hotel complexes are environmental objects with volumetric and spatial structure, intended for accommodation and service of tourists (Appendix A). Modern hotels are designed considering few factors (Appendix B). They are designed to create comfortable conditions for overnight stay provide few additional services for visitors. Due to development of tourism, building of hotels is becoming more and more widespread in the world. A full-fledged tourism industry, to which the hotels belong, affects the socio-economic development of tourism. The feature of tourism (incoming, outgoing, internal) is that it affects to the economy through demand and consumption of tourists. The specificity of tourist consumption is that the product is not delivered to the consumer, but the tourist consumer arrives at the place of production and consumption of goods and services. It is because of this tourism stimulates the economic activity of the country or a separate region. The income of hotels, food enterprises, transport enterprises, sports objects, shopping and entertainment complexes, cultural institutions are raising, the development of household service enterprises, communication, auto-service services are stimulated. Demand for local crafts is raising, which serves the purposes of advertising this region. Turnover of trade enterprises is raising. The fact that tourism provides significant revenues to state and local budgets is also of great importance because of the taxes of resort enterprises, as well as resort, customs, and other fees. Due to positive results the tourism industry continues to grow worldwide. Currently, the improvement of the formation of hotel complexes is at the initial stage of empirical development and needs more attention, considering the demands placed on modern tourism and its main objects.

The methodical recommendations provide the material necessary for the execution of practical tasks, the development of a course project and the organization of independent work by students during learning of the discipline “Architectural design of buildings and structures: **** category hotel for 200–400 places”.

1 THE PURPOSE AND OBJECTIVES OF THE COURSE PROJECT

Main purpose of the project is the formation of the theoretical and practical foundation of the general training of an architect student, which consists of the development of three-dimensional, compositional, and planning solution.

Task of the academic discipline “Architectural design of buildings and structures: **** category hotel for 200–400 places” is the mastery of knowledge and skills related to pre-project analysis of the design area and development of the concept of an architectural object; mastering the method of variant development of the volume-planning solution of an architectural object; development of the master plan and landscaping project of the designed territory.

2 THE CONTENT OF THE PROJECT

The course project involves the development of the hotel project and the landscaping of the area adjacent to it.

Scope of the project – 3–4 format A1.

Content of the course project:

1. Schemes of pre-project analysis (S 1 : 2000) (Appendix C):

– scheme of the designed site in the city structure;

– scheme of the designed area in the structure of the district;

– scheme of functional organization of the territory and transport and pedestrian connections (existing condition);

– scheme of functional organization of the territory and transport and pedestrian connections (project proposal);

2. Photofixation;

3. Reference plan (S 1 : 500). The drawing is executed on a topographical survey with the application of urban planning restrictions (red lines, sanitary, water protection, monument protection zones). The boundaries of the territory of the project area are clearly distinguished, the wind rose, and all conventional marks are shown. (Appendix D).

4. Master plan (S 1 : 500). A drawing of the planning of the project area, which

should demonstrate the overall result of the project solution should be made. It is necessary to apply the existing system of regulations (red lines, sanitary, water protection, monument protection zones etc.), show the wind rose. This drawing shows in detail the planning organization and landscaping of the territory, the system of transport and pedestrian communications, as well as those changes that are introduced to the existing situation under the project. The general contour of the new facility should be clearly displayed on the territory. The master plan can be combined with the opened plans of the first floor of the project building, or the roof of the building. The drawing must have conditional marks and an explication (Appendix F).

5. Floor plans (S 1 : 200) include plan on mark ± 0.000 and plan on mark + (indicating the level mark). Floor plans of the building must contain detailed information about the functional and planning organization of the designed object. The planning of the building must meet the requirements of the chosen functional purpose and be developed and formalized in accordance with the current State Building Regulations. Placement of plans on the general exposition should be arranged in a certain sequence, depending on the level marks of the floors. On the plans, you need to show coordination axis, put level marks, general overall dimensions and dimensions in axis, indicate the areas of all premises (the mark is placed in the lower right corner of the room, emphasized by the main solid line; measurement accuracy to hundredths of a square meter). An explanation with the names of the premises is attached to each drawing (Appendix I).

6. Elevations (S 1 : 200) indicating the extreme coordination axis and marking the height of the main structural elements and all levels of the building. The elevations of the building are presented in different projections and clearly demonstrate the general compositional construction of the architectural plasticity of the object (plastics of the volume and plastics of the surface of the volume). On the facades, the general dimensions in axes are placed.

7. Section (S 1 : 200) on the stairs without a detailed viewing of structural units. Sections of the building demonstrate the internal spatial organization and reveal the general structural system of the building. In accordance with the current state

standards for the design of drawings, the coordination axes, the dimensions between the axes of the supporting structures, the overall dimensions in the axes, and the height marks of all the main structural elements are indicated on the section. If it necessary, sections can be combined with elevation projections.

8. Visualizations of the project proposal of the hotel (general view of the object and view perspectives) the corresponding graphics should contain perspective images of the design object, which provide an opportunity to visually consider the general three-dimensional organization of the object from different perspectives. Fully display the original design solution, which is full of maximum individuality and uniqueness of the architectural form. The images must clearly display the general compositional, volumetric, and spatial idea of the formation of the new building. An idea that organically fits into the general context of the chosen territory. The new object must have a modern, expressive form, which has a compositional connection with the environment and can organically take its place in the overall solution of a complete building on the selected territory (Appendix M).

9. Technical and economic indications.

3 PECULIARITIES AND SEQUENCE OF THE PROJECT

The course project is executed based on the task issued by the project supervisor. The task is executed based on the initial data issued by the teacher.

First, it is worth deciding on the location of the hotel and its connections with other components of the city master plan.

The next step is the execution of pre-project analysis schemes of the territory mastering relative to planning restrictions and visual perception of the environment, highlighting the unique properties of the situation. When developing a hotel project, it is necessary to solve a set of tasks such as developing a conceptual solution of the building according to modern design requirements; organization of rational functional zoning of interior and exterior spaces (with the possibility of future transformation), which ensures satisfying of various needs of visitors; organization of the movement of visitors in the structure of the premises; the choice of receptions of formation and

creation of an expressive architectural and artistic image of the hotel. It is important to analyze the current state and modern trends in hotel design and take into account the influence of a number of factors.

Sequence of project execution:

1. Acquaintance with the task and features of the selected site for design.

Learning of methodological recommendations and literature on this issue.

2. Execution of the report on the topic of the project.

3. Execution of schemes of pre-project analysis of the territory for placement of the hotel (S 1 : 2000).

4. Execution of the reference plan (S 1 : 1000 or 1 : 500).

6. Development of a sketch of the master plan of the hotel (S 1 : 1000 or 1 : 500). Sketch approval.

7. Execution of drawings according to the approved sketch of the general plan of the hotel cleanly, using certain computer programs.

8. Development of plans, facades, section of the hotel (S 1 : 200).

9. Execution of perspective and perspective sketches.

10. Designing the exposition of the project (Appendix P). If desired, the student can make a video presentation of his/her project.

11. Project protection.

3.1 The content of the report and the method of its implementation

The main purpose of writing a report – acquainting students with literary sources and the normative base for designing hotel complexes.

The report on the topic: "Hotel complex" executing according to the following plan:

1. Introduction (general information about the actuality of the creation and features of the formation of modern hotel complexes).

2. Section 1 Classification of hotel complexes (classification of hotels by functional purpose, size (capacity), categories).

3. Section 2 Organization of the territory of hotel complexes (functional composition and transport and pedestrian organization of the hotel territory).

4. Section 3 Functional and planning requirements for the hotel (residential premises, public premises, a block of catering premises, premises of service and trade points, premises of entertainment and informational services, physical culture and health facilities, block of the group of administration premises, commercial and warehouse premises).

5. Section 4 Compositional and artistic solution of hotel buildings.

6. Section 5 Constructions and materials of hotel buildings (construction types and planning scheme types, materials of supporting and enclosing constructions, vertical and horizontal communications, fire safety requirements).

7. Appendices (analogues analysis).

8. References.

Each section of the report should contain illustrations.

3.2 The sequence of execution and design of the clause №1

The following drawings must be presented on clause №1 (Appendix C):

- scheme of the location of the project area in the city structure;
- scheme of placement of the project area in the structure of the district;
- photo fixation (2-4 photos of the site from different angles);
- scheme of the functional organization of the territory and transport and pedestrian connections (existing condition);
- scheme of the functional organization of the territory and transport and pedestrian connections (project proposal).

Scheme of the location of the project site in the city structure illustrates a general map of the city with its borders. The boundaries of the historical core of the city should be highlighted on the map. Indicate the location of the selected quarter for designing a new object. The scheme should clearly show how the quarter is located relative to the historical core of the city. Make all conditional marks for the scheme.

Scheme of placement of the project area in the structure of the district illustrates the part of the city that directly surrounds the quarter where the hotel building is planned. Territorially, the scheme should not cover the entire administrative district of the city. It is enough to place the chosen quarter for design

in the center of the scheme and add 2 or 3 quarters adjacent to it on all 4 sides. The scheme should be highlighted: city highways, regional highways, residential streets. Mark each of these positions with a certain conditional mark. It is also necessary to mark public transport stops and metro stations (mark all exits of the subway station to the street that are on the scheme boundaries) and indicate the radiuses of access to them from the site selected for the project.

To form a certain imagination, regarding the organization of the existing infrastructure of the specified district, large objects should be highlighted, which are located on the territory of this district, and mark their functional affiliation by color:

- administrative buildings;
- higher educational institutions;
- general educational institutions;
- special educational institutions;
- preschool institutions;
- medical and preventive institutions;
- sports facilities;
- sacred objects;
- cultural and entertainment facilities;
- objects of trade;
- multifunctional architectural complexes;
- architectural ensembles.

Scheme of the functional organization of the territory and transport and pedestrian connections (existing condition) executed on a topographic survey. It provides information about the functional organization of the quarter and the organization of road and pedestrian traffic inside it. The scheme displays the entire territory of the selected quarter within the streets. Existing buildings in the quarter are highlighted by different colors, according to their functional affiliation, and the area around the buildings is highlighted in color according to their function (the area stands out in the same color as the building, but a shade lighter).

The following functions of objects can be detected on the scheme:

- administrative function;
- residential function;
- health care function;
- sacred function;
- trading function;
- trade and entertainment function;
- educational function;
- studying and upbringing function;
- cultural and entertainment function;
- business function;
- exposition and exhibition function;
- sports and health function;
- production function;
- recreational function;
- household service function;
- utility function.

It is necessary to analyze the traffic and mark it on the diagram:

- streets with a high level of traffic intensity;
- streets with low traffic intensity;
- one-way traffic (show direction);
- two-way traffic;
- intra-quarter entrances;
- internal passages.

Highlight public transport stops, if they are on the territory of the quarter, or on the other side of the street. Indicate the type of transport, mark transport parking lots, parking lots.

It is necessary to analyze the pedestrian traffic routes and mark them on the scheme:

- transit pedestrian traffic;
- targeted pedestrian traffic;

– entrances to buildings.

All conventional markings on the schemes, and especially markings of transport and pedestrian connections, should stand out well and clearly stand out on the sheet, but at the same time not very bright open colors should be used, more muted, restrained colors should be used.

Scheme of the functional organization of the territory and transport and pedestrian connections (project proposal) performed on topographic survey in two variants. Two alternative variants of the project solution of the new object in the structure of the quarter are offered. On this scheme, the same notations as on the previous diagram with the existing position should be displayed. In addition, it is necessary to make a project proposal of the hotel on the selected territory. Based on the preliminary analysis of the existing situation, on the above mentioned schemes, a part on the territory of the quarter where the hotel will be located should be chosen and highlighted with color the territory of it, according to its new function. On this area, you need to highlight the general shape of the hotel building, which should be large-scale in relation to the buildings, which surround it (“spot” in the form of a new object, highlighted in the same color as its territory, but a tone darker). In accordance with the inclusion of the hotel to the structure of the quarter, it is necessary to correct and make changes to the functional organization and the organization of transport and pedestrian connections on the territory of the quarter.

The general appearance of the three-dimensional model with variants of the project proposal of the hotel is also performed in two variants. a simple three-dimensional model of the territory of the quarter in general masses should be made. All the buildings of the quarter should be displayed in the form of the most simplified volumes, which repeat the shape of the building on the topographic survey in plan. The simplified volume of buildings must be divided by floor levels. These buildings must be highlighted in color according to their functional purpose. And the territory around the buildings that belong to them should be highlighted by the color. (highlight the territory with the same color as the building, but one tone lighter than the building). After that, you need to develop a model of the hotel building in a

simplified form, which compositionally will organically fit into the existing building of the quarter. Or it is possible to make an offer of the volume of the hotel in contrast with the surroundings. The shape of the hotel building should be modern and expressive. But at the same time, it is necessary to make a proposal of the reorganization of the existing building with the inclusion of a new original object. This will provide an opportunity to build a new integrated overall building composition. To develop a more reasonable design solution for the hotel building, it is necessary to collect as much additional information as possible about the building of the selected quarter. This will form a better imagination of the existing organization of this quarter and provide an opportunity to better understanding the existing system of regulations (restrictions) regarding the development of the hotel building. When protecting the enclosure, it is necessary to have information about the presence of architectural monuments, historical monuments, and their protection zones on the territory of the quarter or their absence. Have information about other town planning restrictions on the territory of the quarter. Have a clear imagination of the floor height of the selected quarter and the immediate surroundings along its perimeter, the physical condition of the buildings and the general nature of the topography of the entire quarter. It is also necessary to try to identify the individual characteristics of the selected quarter in relation to various aspects of its construction.

3.3 The sequence of execution and design of the clause № 2

At the clause №2 the following drawings must be presented (Appendix J):

- scheme of the master plan (functional organization of the territory of the designed object);
- horizontal and vertical functional organization of the hotel (floor zoning schemes);
- three-dimensional model of the functional organization of the hotel (general view of the object).

Scheme of the master plan (functional organization of the territory of the designed object) is developed on a topographic survey in S 1: 500. This scheme defines the boundaries of land acquisition of the site in relation to the design of the

hotel. It is necessary to show a part of the quarter, to clearly define the boundaries of the territory belonging to the hotel. If available, it is necessary to determine urban planning restrictions on the site (red lines, sanitary, water protection, monument protection zones, etc).

Based on the analysis of all normative requirements for the organization of the hotel territory, develop a scheme for the functional organization of the chosen territory. The scheme should show the corrected version of the project proposal of the hotel in the structure of the quarter (clarify the general contour, check the proportions of the hotel in relation to the scale of the existing building). Different functional zones, that needs to be placed on the territory around the hotel, should be highlighted on the diagram with colored translucent fills. Areas of functional zones marked on the scheme by color, and their correlation must meet all normative requirements. The general contour of the hotel building should be clearly visible on the scheme. Inside the contour, white fill should be made. On all sides of the hotel contour, entrances to the building should be marked (main and secondary entrances). Transport and pedestrian routes should be laid on the scheme. Show entrances to the territory, mark turning areas for cars, surface parking lots, entrances to underground parking lots, etc. The area of the site is determined by the design task or the project, considering the conditions of placement, the character of the urban environment, functional composition, and category of the hotel.

There are several characteristic methods of location of hotels:

- in the city center;
- on the territories adjacent to the center;
- in the center of residential districts and microdistricts;
- on the edge of the city;
- outside the city.

Architectural and landscape criteria should also be submitted to sites for the placing of hotels: existence of landscaping, water surfaces, relief. It is desirable that a park, garden, or square was located near the hotel.

In the composition of the territory should be provided:

- orderly platforms in front of entrances to public and residential premises (at the rate of at least 0,2 per resident);
- parking lots, in particular for temporary parking of cars and buses;
- internal through passages, entrances to the main and other entrances to the hotel, entrances to the underground parking lot (7 m wide for two-way traffic);
- utility area isolated from the guest area, with a driveway for cargo transport with a width minimum 4,5 m and a turning area minimum 12 m × 12 m;
- sports grounds at the rate of 8–10 m per place;
- children's playgrounds, canopies with an area of 5 m and 2,5 m per child; the number of children on the playground should be 5–8 % of the total number of places in the hotel.

It should be considered when planning and building hotels:

- the intensity of use of the territory, differentiated for the central core of the city, urban nodes, areas adjacent to the highway and between highways;
- the quantitative correlation of territories or funds of different functional purposes, corresponding to the functional and planning entity;
- requirements for the protection of historical and cultural monuments, preservation of historical planning and buildings;
- requirements for environmental protection and territories of the natural complex;
- sanitary and hygienic standards and fire safety requirements.

During the designing hotels, transport and pedestrian connections should be clearly considered. It is recommended to place sites for hotel accommodation within walking distance of public transport stops (within a radius of 700 m). Hotels must have open parking spaces for cars. In the underground and basement floors of hotels, it is allowed to place parking lots for the keeping and parking of cars with the condition of placing a non-residential floor between the parking lot and the residential part of the hotel. The number of seats is accepted according to the state building regulations. Sites for buses must be accepted at the rate of one bus for every

100–150 seats in the hotel, the area is 75 m² per bus. The number (%) of parking spaces depending on the hotel category: 1, 2, 3-star hotel – 20; 4, 5-star hotel – 25.

During the developing of the horizontal and vertical functional organization of the hotel floor zoning schemes are being implemented. A sketch planning solution of the first floor of the hotel is created (S 1 : 200) with axial marking, which immediately indicates the selected structural scheme of the building and the features of its general construction. On the axial marking, the general dimensions of the building's housing in the axes should be indicated and the dimensions between the axes should be noted. On the plan, it is necessary to develop a functional organization of the building's internal premises, which are connected into functional blocks. All functional blocks must be marked on the plan with different colors. Each block has main and auxiliary premises. On the plan, all rooms belonging to a certain block should be highlighted with the same color. Formation and filling of the functional blocks (list of premises, their number, area, etc) must meet all normative requirements specified in the DBN. Hotels may include the following functional groups of premises and services:

- reception and lobby;
- residential;
- cultural and recreational;
- physical culture and health;
- medical care;
- household service;
- food enterprises;
- trade enterprises;
- business activity;
- administration and operation services;
- service premises;
- built-in attached enterprises and institutions.

Functional schemes of hotels are built considering complex technological processes occurring in hotels. The most important functional premises of the

developed hotel are:

- block of reception and auxiliary premises;
- block of premises of a residential group;
- block of food premises;
- block of administration premises;
- a block of utility rooms.

The presence of residential and reception-lobby groups of premises is necessarily. The composition of additional rooms that increase the comfort of the hotel is not standardized and accepted according to the design task or according to the project. The residential part of the hotel should be functionally and planned separated. The spatial structure of hotels should provide a clear division of the flow of guests, service personnel and visitors of blocks of public purpose which work for the settlement where the hotel is located. The floor number of the hotel is determined from the number of its above-ground floors, together with the attic and technical floors, as well as the basement floor, if the top of its floor is higher than the average planning assessment of the land by at least 2 m. The rooms must be located on the above-ground floors. It is necessary to provide a reserve of single and double rooms with appropriate equipment, the width of passages and doorways, as well as devices for the unhindered movement of disabled people through horizontal and vertical communications.

The plans must clearly define all horizontal and vertical communications (corridors, stairs, elevators). They are elements that connect all functional units, both on a separate floor and on all floors of the building vertically. The placement of communications and the requirements for their design must accord with the normative requirements specified in the DBN. Sketch planning solution of the second (typical) floor of the hotel (S 1 : 200) is performed according to the same requirements as the solution of the first floor. If the architectural solution of the hotel requires the inclusion of additional floors, that have a different functional and planning structure, they should be performed in the form of a reduced and simplified plan scheme (S 1 : 400).

Vertical functional organization of the hotel building performed in the form of simplified schemes of facades (S 1 : 200). They show the floors of the building, which have a color marking according to the functional filling of the premises, which facing to the facade of the building. Blocks of vertical communications should be highlighted on facade schemes, which facing to the facade, indicate level marks. Facade solutions must be coordinated with planning schemes, where the organization of functional blocks of the hotel is developed.

Three-dimensional model of the functional organization of the hotel performed in general masses. All functional blocks of the hotel should be displayed in the form of maximally simplified volumes, which repeat the designed functional zones on the building plans. The model must be organized by laying of the floors. It must be performed on the existing relief of the selected area, to make a connection between the territory and the environment. Functional blocks should be highlighted by color, according to their functional organization in the plans and on the facades. It is necessary to make all conditional markings for the color model. In addition to the functional organization, the model should display the general compositional, volumetric and spatial idea of the formation of the hotel, which organically fits into the general context of the chosen territory. It is necessary to create an expressive modern form of the building, which has a compositional connection with the building on the selected territory. In addition, the finished three-dimensional functional scheme can be divided into separate floors and a more visual model of the functional organization of each floor of the hotel can be made. Such a model can be added to the final composition of the final work along with the planning solutions to strengthen the informational and visual impression of the project solution.

3.4 The sequence of execution and design of the clause № 3

On the clause № 3 the following drawings must be displayed (Appendix N):

1. The scheme of the project area in the city structure.
2. The scheme of the project area in the structure of the district.
3. Scheme of the functional organization of the territory and transport and pedestrian connections (existing condition).

4. Scheme of the functional organization of the territory and transport and pedestrian connections (project proposal).
5. Photo fixation.
6. Reference plan (S 1 : 500).
7. General plan (S 1 : 500).
8. Floor plans (S 1 : 200).
9. Elevations in axes (S 1 : 200).
10. Section (S 1 : 200).
11. Visualization of the project proposal (general view of the object and view perspectives).

4 ARCHITECTURAL AND PLANNING SOLUTION OF HOTELS

A hotel is the main enterprise of the hotel industry, the purpose of which is accommodation, service, provision of rest and food for visitors. The global hotel industry includes about 350,000 hotels with more than 1.6 million modern rooms (Appendix E). The spatial planning, functional and constructive solution of the hotel should be technically, economically, functionally rational, and compositionally expressive (Appendix G, H). This is achieved based on a systematic approach to the formation of an architectural object, socio-technical, architectural-construction, engineering-technical, sanitary-hygienic, economic tasks are solved at the same time to create an expressive visual composition of the spatial and planning solution of the building.

Residential premises take up about 50 %. No more than 50 rooms can be located on one floor in hotels with a capacity of 200 or more. The choice of the form of the plan is influenced by urban planning features of the building area, its size and shape, sanitary-hygienic and fire protection requirements, technical and economic considerations, as well as the creative idea of the architect. The residential group consists of a sleeping group, utility service rooms, as well as living rooms-halls, which are mostly connected with halls. The rooms should be in a zone with minimal noise impact and be isolated from noises and smells from the kitchen. Based on the

analysis of hotel design and construction practices all the variety of rooms can be reduced to the following main types: one-room numbers for 1 person; one-room numbers for 2 persons.; one-room numbers for 3–4 people; numbers with increased comfort with 2 rooms or more (lux and apartments). The planning solution of the residential part of the hotel, as a rule, is based on the use of a corridor planning system. The length of the corridor and the building is determined by the size of the site and fire regulations.

Public premises are also have a great importance in planning of hotel. The main functions of the lobby and reception group are: reception, registration and accommodation of visitors, paying them off, issuance of various certificates regarding the hotel, storage and transportation of luggage. The lobbies have the following main areas: intensive pedestrian traffic, extensive pedestrian traffic, recreational and auxiliary. Clear zoning should be maintained in the lobby, which minimizes the intersection of flows of guests, staff, occasional visitors, and ways of delivering luggage to rooms and buses. In large hotels, the reception-lobby group is sometimes separated into a separate block or a separate building, where all commercial and domestic premises can be concentrated. The layout of the elevators has a great importance. Elevators are combined in groups of several in each. Locations of groups of elevators should provide the shortest ways of getting to the numbers. The recommended composition of the premises of the reception-lobby group includes wardrobe, storage room, doorman's room, communications department, administrator's room, porter's room, security room, canopy terrace, registry office, staff rooms, WC.

Block of public catering premises designed in accordance with the requirements of the formation of this group of structures. Estimated rate of space for one seat in the hall – 1,8 m² per person. In hotels of higher categories, it is allowed to increase the area of restaurant halls for 15–20 %. If the dining room and restaurant are in the main building, as a rule, they are located on the first floor. In the case of the location of food enterprises on the upper floors, it becomes difficult to place the kitchen and deliver products.

Catering enterprises in hotels must be divided into:

- opened (publicly available, but with preferential service for hotel residents, who have access both from the hotel and from the city in which the hotel is located);
- closed, serving only residents of it.

Among the main criteria for choosing a location for catering enterprises should be the following:

- the character of trade and production activity;
- location;
- contingent of served customers (guests);
- product assortment (specialization);
- capacity;
- service form;
- service delivery time;
- service level.

The tendency to consider the restaurant group of premises in resort and tourist hotels as one of the places for possible leisure activities, caused the appearance of such new types of restaurants as part of this group, such as restaurants of national kitchen, grill restaurants, variety shows, wine and beer cellars, dance bars, disco bars.

Premises of service and trade points are also part of hotels (according to their capacity and category). Household service premises, as a rule, are designed separately and placed directly at the hotel lobby. The household service premises include a hairdresser's, a clothing repair and ironing workshop, small shoe repair workshop, reception point for dry cleaning and laundry, rental point for cultural and household items, taking orders for photo works.

Premises of entertainment and informational services can also be included in the structure of hotels. These can be a universal hall for holding congresses, cultural events, etc.; premises for sectional meetings, negotiations, exhibition hall (salon) for the organization of exhibitions, demonstrations of works of art intended for sale; a sauna with a bar and a gym; massage room; the hall of gaming machines; room (hall) for table tennis, etc. For hotels of the category 5* as part of the cultural

and recreational group of premises, it is allowed to provide premises for the service of children. In resort hotels, according to the design task, swimming pools, Finnish baths, winter sports halls can be provided. During the location of the buildings of higher-class hotels on the seacoast, it is allowed to provide swimming pools (in a device for heating seawater) the area of the water mirror near 250 m².

Description of the main premises of informational and entertainment services:

– conference halls – equipped with seats that are equipped with devices for listening to simultaneous interpretation, lighting devices, folding tables. The addition is a lobby and rooms for sectional meetings, auxiliary and technical rooms;

– negotiations halls – equipped with tables for meetings, devices for listening to simultaneous interpretation, lighting devices, audio and video equipment;

– billiard rooms – are located in the halls on the floors, which are equipped with billiard tables, the height of which is adjustable; illuminators, racks for cues, cabinets, shelves for balls. The table is in the middle of the room. The distance from the wall to the table is at least 1,5 m;

– night clubs – are designed to show spectacular programs and are built according to the type of variety show with the possibility of arranging seats in the form of an amphitheater, with a dance floor, dressing rooms, facilities for props, lighting equipment, etc.;

– rooms for children's entertainment – these are one or two rooms equipped with special furniture for children and have separate areas for games.

The summer facilities of cultural and recreational purpose include a summer movie theater with a stage, calculated for 115 % of the hotel's residents, as well as a dance floor at the rate of 20–30 % of residents based on the norm of an area of 2 m² per person. The premises of cultural and recreational purposes include: conference hall; backstage at the hall; room for artists; film equipment room; movie theater with cabins for simultaneous interpretation, a bowling alley (without a bar) with a billiards room, a library with a reading room, living rooms, storerooms. The premises of summer facilities include summer movie theater, stage, pay office, film projection

room, room for artists, dance floor, radio station, library, club and game rooms, instructor's room.

Physical culture and health premises also belong to the composition of hotels. In hotels of higher categories, it is necessary to provide sports and health centers with sports halls and gyms, in hotels of the category 5* – swimming pool with sauna, in hotels of the category 4* – sauna. Physical culture and health premises include: solarium, swimming pool, sauna, massage room, gym, sports hall, training rooms and rooms for safety briefings. The simultaneous capacity of sports halls or gyms is accepted as not less than 10 % of the hotel's capacity, saunas – no less than 1 %. The area of the water mirror of the swimming pool is accepted as 0.55 m per 1 place in the hotel. On the territory of hotels of categories 4* and 5* depending on the possibilities of the site it is allowed to provide planar physical culture and health buildings, the number and set of which are determined by the design task. In hotels of the category 4* and 5* a medical office should be provided in the physical culture and health facilities: for a capacity of up to 500 seats – 16 m², with a larger capacity – up to 36 m². To provide wellness services, the hotel must have certain objects and tools (outdoor swimming pool, sports and game areas, gym, skating rink, etc.).

Block group of administration premises located, as a rule, on the first or second floor of the hotel. The administration premises should have a comfortable connection with the residential blocks, the lobby group, and the catering group. The administrative premises include the premises of the director and his deputies, the chief engineer, the rooms of the personnel department, the planning department, the supply department, the accounting department, etc. In hotels for 50–400 people, the area of the administrative block is calculated at the rate of 0,12–0,18 m² per one bed. Communication is carried out by means of a system of messages consisting of corridors, stairwells, and elevators. In tall hotel buildings, a vertical communication system is developed, the main role of which is performed by a complex of elevators. The width of the corridor is calculated in such a way that two people with suitcases in their hands can easily disperse in it. Hence, the width of the one-sided corridor is at least 1,3–1,4 m, and the width of the two-sided corridor is 1,6–2,0 m (if the door

opens inside the room). Lobby group of premises – the zone of extensive pedestrian traffic includes pedestrian approaches to the auxiliary premises of the wardrobe, sales kiosks, telephones. The planning solution of the lobby in each hotel is individual. The lobbies are decided to be compact, extended along the facade of the building or have a “deep” or mixed composition. The main premises of the lobby group are located around the lobby or near it. Usually, a special rest and waiting area is organized in the lobby, which is placed outside the main traffic flows and allocated.

Premises for utility and storage purpose exist in hotels of any type. These are premises for service personnel, household workshops, warehouses, laundry for dirty and clean linen, etc. Service and economic premises of hotels should, as a rule, be grouped according to the functions they perform. Central laundry rooms must be blocked with communications of laundry lines. One of the most important utility rooms of the hotel is the central linen room for clean and dirty linen. They should be independent rooms isolated from each other. Much attention is paid to the location and equipment of technical premises and installations. In large multi-story hotels, an entire technical floor is allocated for the furnishing of machinery and various sanitary and technical departments. Boiler rooms, air conditioning rooms, ventilation chambers, meter rooms, battery rooms, transformer rooms, as well as repair workshops for energy, sanitary and technical, locksmith, carpentry and other groups are located here.

5 CONSTRUCTIVE SYSTEMS OF HOTELS

The main structures of hotel buildings include bases, frames, walls, overlaps, coverings, and vertical communications.

Bases according to the constructive scheme can be:

- strip, located along the entire length of the walls in the form of a continuous strip under the rows of columns;
- columnar, arranged under individual supports, sometimes under walls;

– solid, which are a monolithic slab under the entire area of the building or part of it and are used for particularly heavy loads on individual walls or supports, as well as insufficiently strong soils at the base;

– pile in the form of separate rods sunk into the ground for the purpose of transferring loads from the building through them to the foundation.

According to the nature of the work under the influence of the load, the foundations are divided into solid ones, whose material works mainly in compression and in which bending deformations do not occur, and flexible, working mainly on bending. For the arrangement of solid foundations, masonry of irregularly shaped natural stone (rubble or rubble slab stone) is used. Reinforced concrete is mainly used for flexible foundations.

Walls are the most important structural elements of houses, which serve not only as vertical structures that enclose, but often also basic elements, on which overlaps and coverings base. According to the type of materials used, the walls can be stone (from artificial and natural stones), wooden, soil and synthetic materials. According to the nature of the work, the walls are basic, self-supporting, and hinged. According to the construction and method of construction, stone walls are divided into four groups: from small artificial elements (small stones); from large stones (blocks); monolithic and large-panel.

Internal supports for the construction of the overlap or covering of buildings from small-sized elements are individual pillars (made of brick or stone), reinforced concrete, metal, and asbestos-cement risers. The cross-section of such vertical brick supports is chosen depending on the magnitude of the transferred load, the distances between the supports, the number of floors in the building, its purpose, and the general design solution.

Overlaps, like walls, are the main structural element of buildings, they divide them into floors. According to the location in the building, overlaps can be inter-floor, attic, and above-basement. Depending on the constructive solution, ceilings can be: beam, in which the main supporting element is beams, on which decking, rolls and other overlap elements are laid; slabs, consisting of load-bearing slabs or floors,

which rest on the vertical supporting supports of the building or on the crossbars and purlins; beamless, consisting of a slab connected to a vertical support by a supporting capital. Depending on the used material of the main supporting elements, which directly transfer the load to the walls and beams, overlaps are made of reinforced concrete, wooden and steel beams.

The floors are arranged on the overlaps directly on the ground (for the first floors of buildings without basements and basements). According to the method of installation, the floors can be monolithic, made of artificial and rolled materials. The type of floor is determined by the material from which it is made (board, parquet, linoleum, ceramic tiles, cement, etc.).

Spatial coatings differ from planar ones in that the thin plate of the shell works mainly on compression, and tensile efforts are rationally concentrated in contour elements, and all these elements work in different planes. The main types of spatial coverings are shells, folds and tents hanging and pneumatic. According to the structure of the shell, there are smooth, wavy, ribbed and mesh. They can be made both monolithic and prefabricated. In addition to reinforced concrete, asbestos cement, metal, and plastic are used in prefabricated structures.

The main vertical communications of hotel buildings include stairs, ramps, and elevators. The most common of them are stairs, which by purpose can be divided into main, service, auxiliary and emergency; depending on the constructive solution – on one-, two- and three- stairway, as well as multi- stairway; by the shape of the stairs – to rectilinear with a turn or with branches, curvilinear, oval, and spiral. Depending on the location, stairs are divided into external and internal, which, in turn, are divided into closed and open. The main staircase can be open, service and auxiliary – closed. Closed stairs, surrounded by capital walls, are called stairwells, and differ in their location in the hotel plan and the organization of natural lighting. Smoke-free (emergency or fire) stairs are provided in hotels with a height from the ground to the planning mark of the floor of the upper floor of 26,5 m and above. Ramps are flat inclined structures without steps, in hotels they are designed under the conditions of service for people with limited physical abilities. When designing ramps, their

carrying capacity and width calculation are determined similarly to stairs, their slope on the paths of people's movement is taken: inside the building – no more than 1:6; outside – 1:8. Elevators in hotels are divided by purpose into passenger, cargo-passenger, cargo, and service elevators. Schemes of the location of elevators: single-row; multi-row; perimeter; island; inside the stairwell (no more than two elevators with a building height of up to 26,5 m).

6 ARCHITECTURAL AND ARTISTIC FEATURES OF HOTELS

Modern hotel architecture is designed to create comfortable conditions for guests to stay and provide them few additional services. The project solution of the hotel should have an expressive silhouette and the plasticity of the volumes that it includes, in addition, the building should accord to the image of modern architectural objects of similar purpose, as well as having signs of an architectural ensemble (proportional relations of parts among themselves and relations with surrounding objects, uniform scale characteristics, combining stylistic features, material, color solutions, etc.).

Basic principles of hotel design:

- a building (or a complex of buildings and structures) must organically fit into the environment, preserving the features of the surrounding landscape;
- take into account natural and climatic factors: air temperature and humidity, amount of precipitation, insolation, wind speed and direction, etc.;
- architectural, structural, and planning solutions of the hotel should not be too expensive. Planning should ensure the economy of its exploitation.

The compositional methods of forming hotels can be varied.

With the centralized composition of the hotel, all groups, except for the utility one, are placed in one building. Such a composition is typical for hotel enterprises located within the city in a limited space and makes it possible to compactly place various communications;

With the block composition of the hotel, the main groups of premises (residential group, groups of restaurants, cultural and mass service, and recreation)

are in separate buildings connected by passages. This composition is used in the design of buildings of sanatorium-resort institutions (especially year-round operation);

With the pavilion composition of the hotel, the main groups of rooms are in separate pavilion buildings that are not connected to each other. The advantage of the pavilion composition is the maximum approximation of vacationers living in separate houses to the natural environment. But such a composition requires a significant extension of communication and engineering networks.

Architectural solutions of hotels in the form of a composite massif are used – buildings with many wings in the shape of a quadrangle, horseshoe, etc. Hotels located in picturesque places most often have a small number of floors. This creates an opportunity for visitors to be in contact with the surrounding nature. A certain disadvantage of the compositional solution of hotel facades is the correct scale characteristics of the building. When designing a hotel in an urban environment with wide highways, large areas of squares and residential complexes, solutions are needed with an increase in the scale of the hotel building, which plays a special role in the building. The scale characteristic of the hotel building is decided by the account:

- increasing the length or height of the building;
- use of the high part of the building with a flat surface of the walls;
- a continuous grid of windows.

The listed methods are used for high-rise hotels that are dominant in the environment. They often perform the main urban planning function in the building of a large section of a highway, a district, or sometimes an entire city. In general, the complex consideration of urban planning requirements leads to the limitation of the number of floors of hotels and significantly affects their volumetric and spatial composition.

The architectural and artistic solution of the hotel can be determined by the surrounding buildings (application of stylization in the case of placement next to valuable architectural objects) or be formed freely using modern design trends (when

placed in an area with low-value buildings). In both cases, the outward of the hotel should reflect its functional purpose (Appendix K). The combination of different parts of the hotel can be achieved by the inclusion to its planning structure of recreational and communication spaces of general use, which should include recreational halls, atrium spaces, galleries, internal covered and partially open courtyards, terraces, green roofs, etc. Food facilities (cafes, bars, buffets, etc.) can also perform a connecting function. The creation of atriums large in area and height, often landscaped, allows to make an original solution of the architectural and spatial organization of hotels and their interiors (Appendix L). Thus, the outward of the hotel is determined by its volume-planning decision, which should clearly display the internal content, structure of the building and its urban planning value.

7 GRAPHIC DESIGN OF THE PROJECT

The computer graphic design of the project should help to reveal the volumetric and spatial solution, the architectural, planning, and artistic idea of the organization of the hotel more clearly. For a better disclosure of the idea, it is worth considering the ways of graphic presentation of the project, so that the finished exposition was performed at a high level. On the general plan the rose of the winds, the horizontal relief, the network of streets and driveways (in red lines) with the imaging of the roadway, the location of the main volume of the hotel, utility areas, car parking spaces, recreational areas with green spaces and small architectural forms should be displayed. On the sheet, you need to place an explanation, conventional marks, as well as technical and economic indicators. In general, the final design of the project exposition should be done in a color scheme (Appendix P). For design, it is recommended to use several computer programs with the opportunity for students to demonstrate various graphics and prepare a 3D video presentation of their project proposal.

REFERENCES

1. Alfakhri D. The Role of Aesthetics and Design in Hotelscape: A Phenomenological Investigation of Cosmopolitan Consumers / Alfakhri D., Harness D., Nicholson J., Harness T. // *Journal of Business Research*. – Vol. 85. – 2018. – P. 523–531.
2. Dong J. Study on the Formal Beauty of Plants in Interior Design / Juan Dong // *International Conference on Advances in Social Sciences and Sustainable Development*, Atlantis Press. – 2018. – Vol. 206. – P. 392–396.
3. Hou H. Tourists' Perceptions of Green Building Design and Their Intention of Staying in Green Hotel / Wu H. // *Tourism and Hospitality Research*, 0 (0). – 2020. – Vol. 21. Issue 1. – P. 1–14.
4. Kirillova K. Workplace Design and Well-being: Aesthetic Perceptions of Hotel Employees / Kirillova K., Fu X., Kucukusta, D. // *The Service Industries Journal*. – 2020. – Vol. 40.– P. 27–49.
5. Lee S. A. Investigating the Importance of Positive Hotel Design [Electronic resource] / Ally Lee // *International Journal of Hospitality Management*. – Electronic text data. – 2020. – Vol. 88. – Regime of access: <https://www.sciencedirect.com/science/article/abs/pii/S027843192030075X?via%3DiHub>, free (date of the application: 20.12.2023). – Header from the screen.
6. Frida Ramstedt. *The Interior Design : handbook* / Ramstedt Frida. – Germany : Cologne : Particular Books, 2020. – 240 p.
7. Nanu L. The Effect of Hotel Lobby Design on Booking Intentions: An Intergenerational Examination / Luana Nanu, Faizan Ali, Katerina Berezina, Cihan Cobanoglu // *International Journal of Hospitality Management*. – Electronic text data. – 2020. – Vol. 89. – Regime of access: <https://www.sciencedirect.com/science/article/abs/pii/S0278431920300827>, free (date of the application: 22.12.2023). – Header from the screen.

GLOSSARY

Attic floor – floor in the attic space. In classic building, a story built above the wall cornice. The facade of this floor is completely or partially formed by the surface of an inclined or polygonal roof. The area of the horizontal part of the ceiling of the premises must be at least half of the floor area, and the height of the walls to the bottom of the sloping part of the ceiling – not less than 1.6 m.

Atrium – part of the volume of the house in the form of a multi-light space, usually developed vertically and galleries on the floors, which are rooms for different purposes. An atrium developed horizontally in the form of a multi-light passage can be called a passage.

Balcony – an open area protruding from the plane of the wall in the form of a console on the facade of the house or in the interior, fenced with railings; a platform that projects from the wall of a building and is surrounded by a railing, balustrade, or parapet.

Basement floor – a floor with a mark of the premises below the planning mark of the ground by more than half the height of the room.

Buffet – a specially equipped long table or counter for selling snacks and drinks in the lobby, dining rooms, restaurants and more, a counter for refreshments; a restaurant operated as a public convenience. Catering enterprise.

Evacuation routes – corridors, stairs, stairwells, vestibules, locks and other passages; evacuation routes provide evacuation of people who are in the building.

Finished grade level means the mean elevation of the finished surface or the ground abutting the external wall of the building or structure nearest to a public street, but shall not include any embankment created in lieu of steps.

First floor is the lower above-ground floor of a building.

Gallery – communication space in the form of a covered passage, arcade, colonnade, mezzanine or extended balcony connecting the premises or parts of the house; can be deaf, glazed and without fencing (except for railings).

Ground floor – a floor with a floor mark of the premises not lower than the planned ground mark.

Hotel – is a state or private enterprise that provides temporary housing and utility services to visiting citizens. There are general purpose hotels, tourist hotels (motels for motorists), resort hotels, etc.

Loggia – blocked and fenced in plan on three sides of the room, open to the outside space or glazed.

Passage – atrium, developed horizontally in the form of a multi-light passage; indoor gallery with a number of shops, which has access to parallel streets.

Skylight – a glazed roofing structure for illuminating the premises of a stairwell or patio.

Socle floor – a floor with a floor mark of the premises, located below the planned land mark at a height of not more than half the height of the premises.

Stage – a specially equipped part of the building, designed to show performances of various genres.

Tambour – the passage space between the doors, designed to protect against the penetration of cold air at the entrance to the building or other rooms.

Technical floor – a floor for accommodation of engineering equipment and laying of communications; the technical floor can be located in the lower part (including the technical underfloor space), in the upper part (including the technical attic) or in the middle part of the building.

Terrace – fenced open extension to the building in the form of a platform for recreation, which may have a roof; placed on the ground or above the floor below.

Underground floor – a floor with a floor mark of the premises, which is located below the planned mark of the ground for the entire height of the room.

Vestibule, lobby – a room in front of the entrance to the interior of the building, designed to receive and distribute the flow of visitors. It is used to receive and briefly accommodate a significant number of people during the loading and unloading of the building. In winter, in order to more effectively combat the cooling of the lobby between the tambour and the vestibule, a special room is arranged – the avant-vestibule.

APPENDIX A



Figure A.1 – Main characteristics of hotel complexes

APPENDIX B

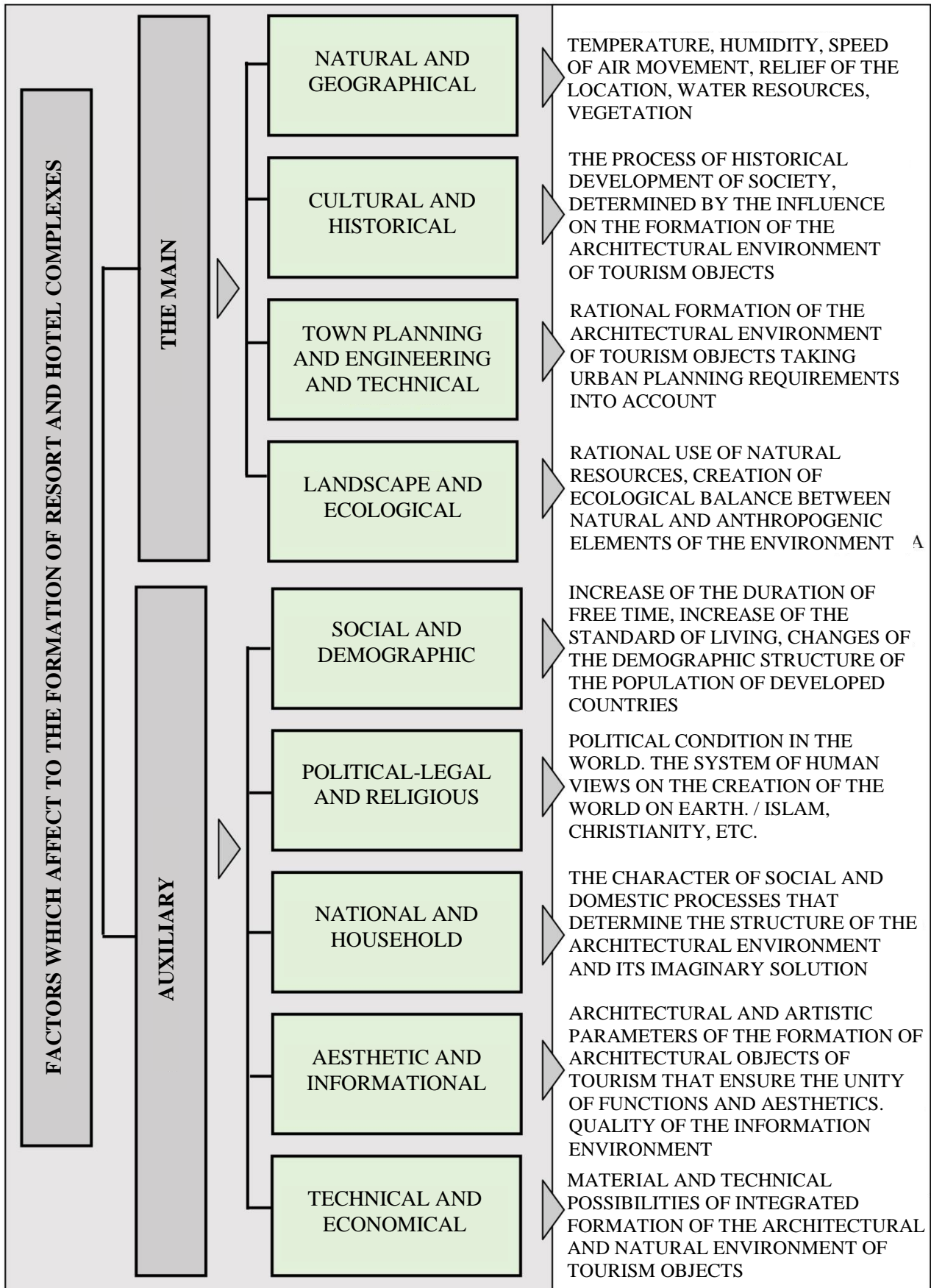


Figure B.1 – Factors affecting the formation of hotel complexes

APPENDIX C

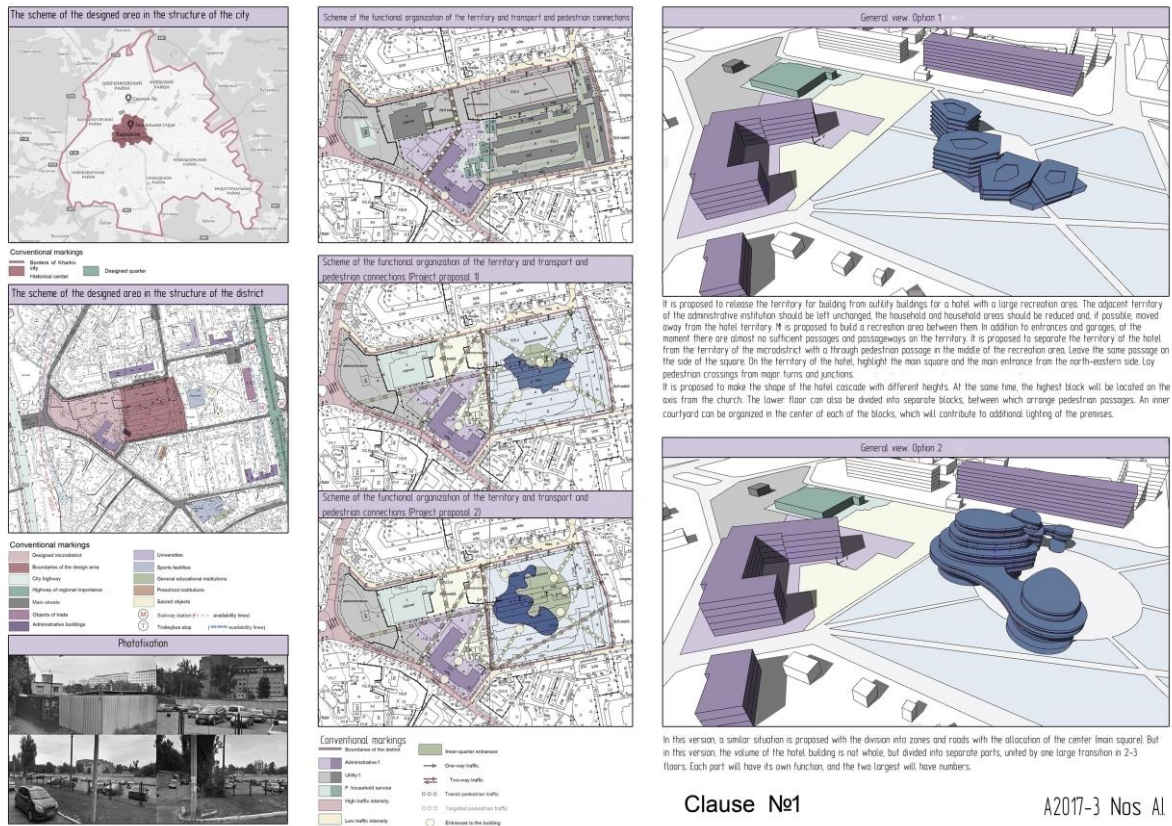


Figure C.1 – Example of design of Clause No 1

APPENDIX D

Reference plan
S 1:1000

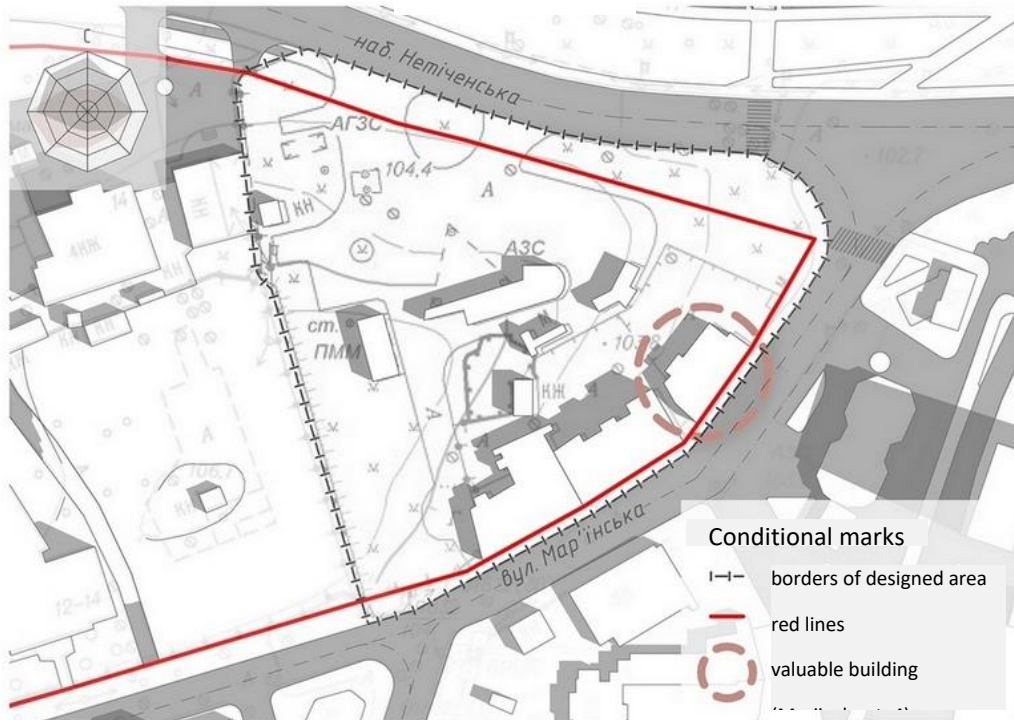


Figure D.1 – An example of a reference plan

APPENDIX E

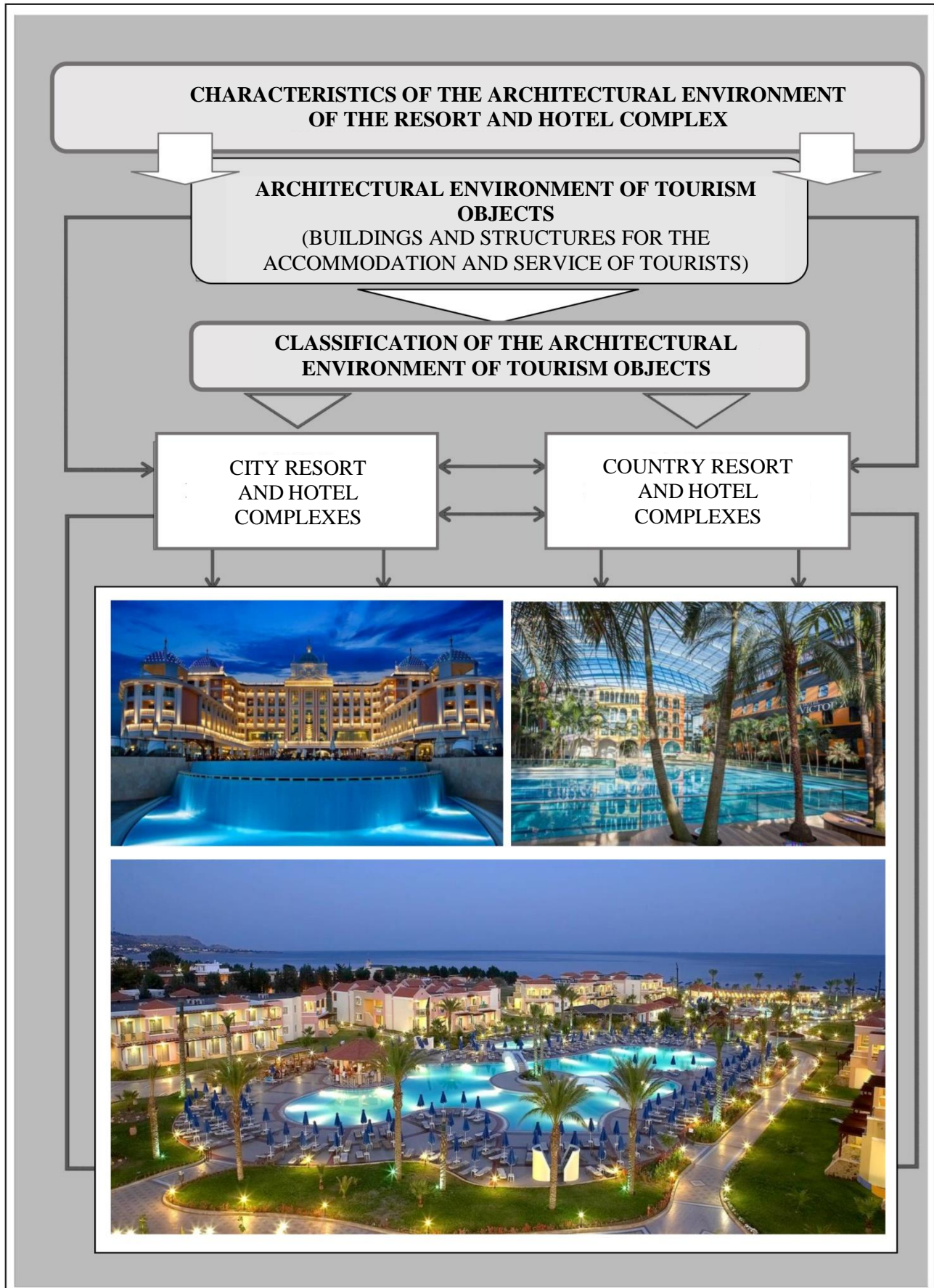


Figure E.1 – Classification of hotel complexes

APPENDIX F



Calculation of technical and economic indicators

- Building area ($S_{\text{built-up}}, \text{m}^2$).
- Total area ($S_{\text{total}}, \text{m}^2$) – the sum of the areas of all floors (including technical floors, attic, lower ground floor and basement).
- Usable area ($S_{\text{usable}}, \text{m}^2$) – the sum of the areas of all premises located in the building, as well as the sum of the areas of balconies and mezzanines in the halls, foyers, etc. (the exceptions are stairwells, elevator shafts, internal open stairs and ramps).
- Estimated area ($S_{\text{est}}, \text{m}^2$) – the sum of the areas of all premises located in the building, except for corridors, vestibules, passages, stairwells, elevator shafts, internal open stairs, as well as the sum of the areas of the premises intended for the placement of engineering equipment and engineering networks.
- Area of enclosing structures ($S_{\text{enc}}, \text{m}^2$);
- Constructive area ($S_{\text{constr}}, \text{m}^2$) – the area occupied by the construction of walls, columns, partitions, ventilation shafts and ventilation units, as well as electrical panels.
- Construction volume of a residential building ($V_{\text{constr}}, \text{m}^3$)

Figure F.1 – An example of a master plan

APPENDIX G



Figure G.1 – Functional organization of hotel complexes

APPENDIX H

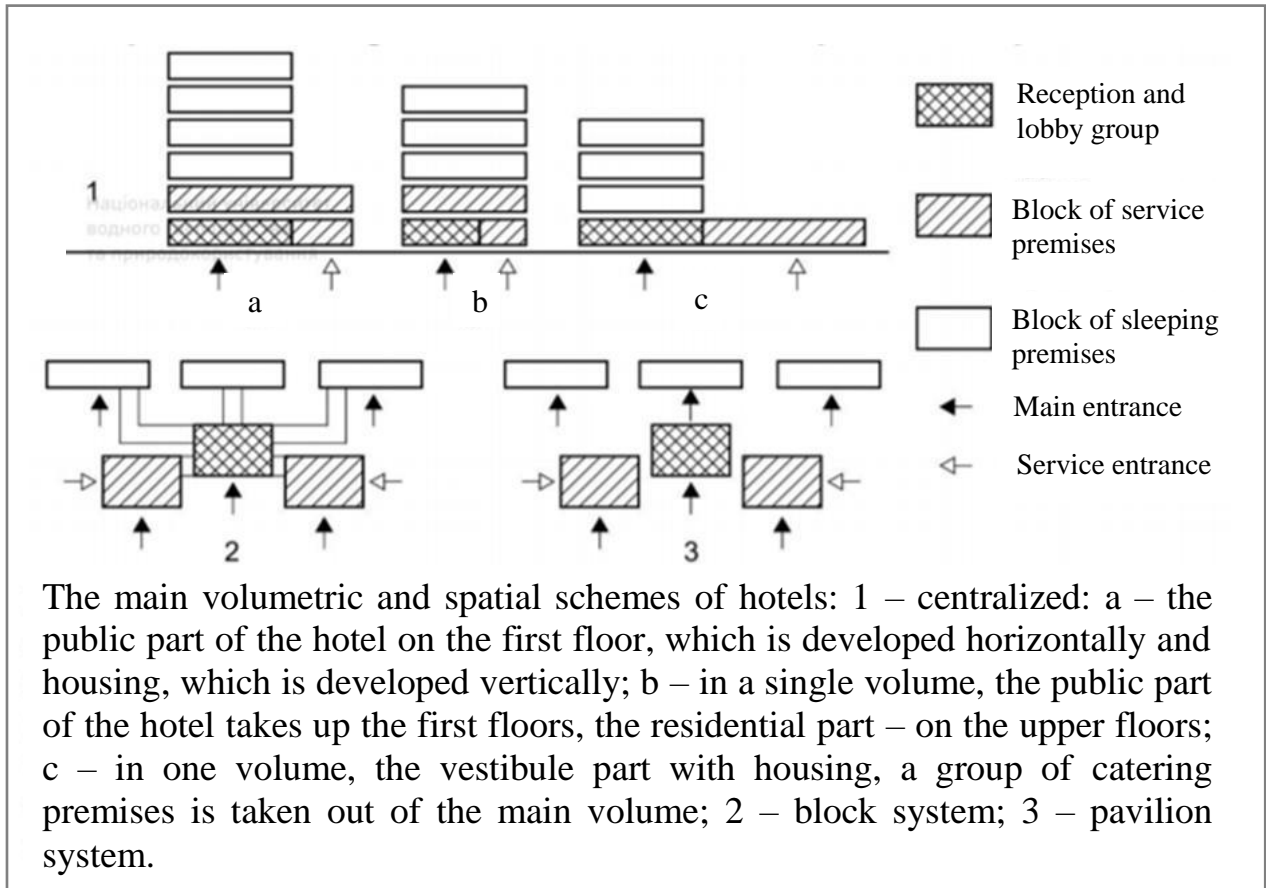


Figure H.1 – Types of compositional methods of forming hotels

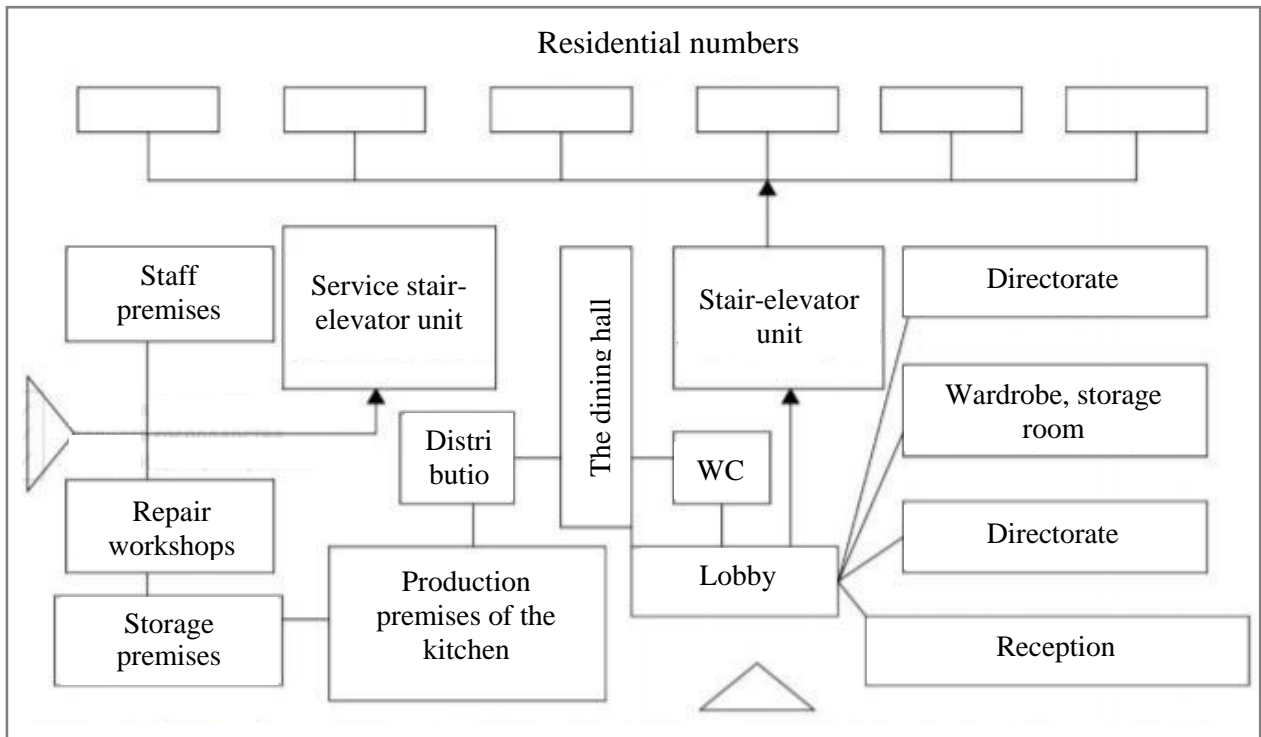


Figure H.2 – Functional scheme of the organization of a small-capacity hotel with an average level of comfort

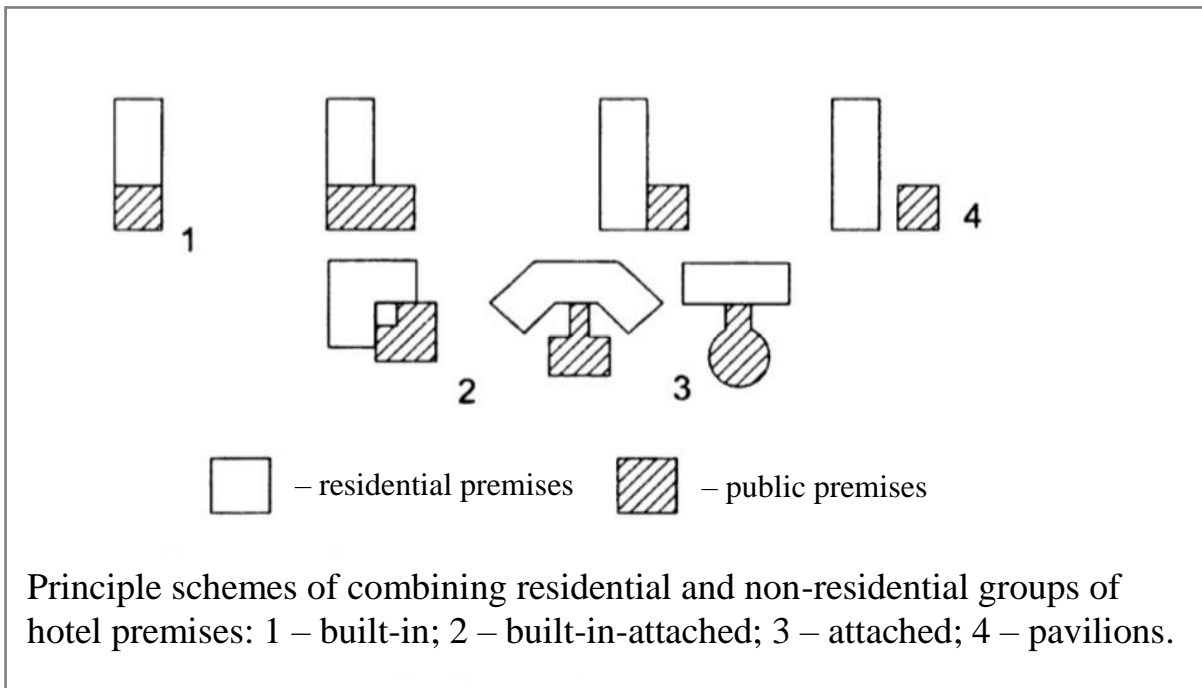


Figure H.3 – Principle schemes of combining residential and non-residential groups of hotel premises

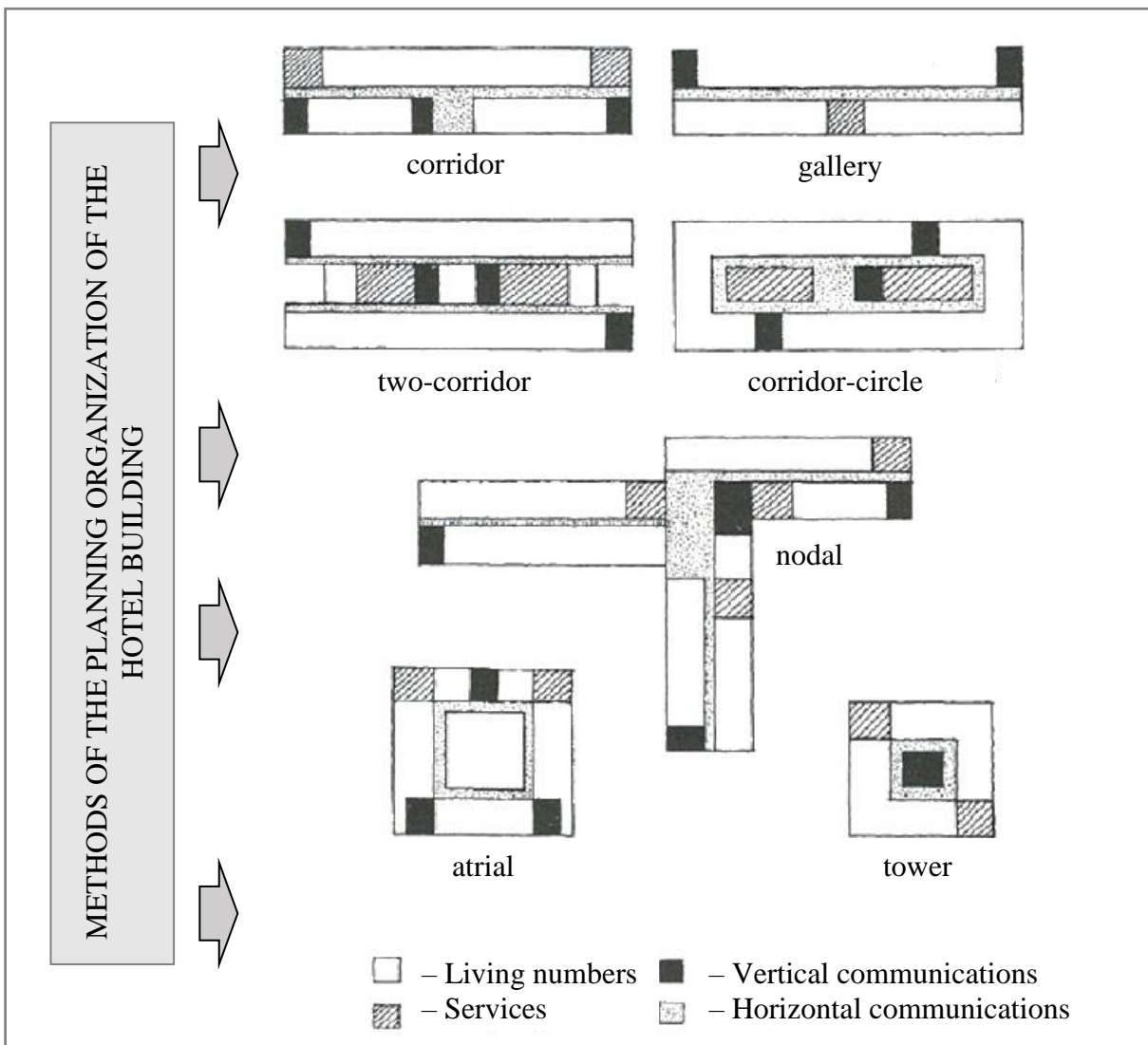


Figure H.4 – Techniques of the planning organization of hotel buildings

APPENDIX K

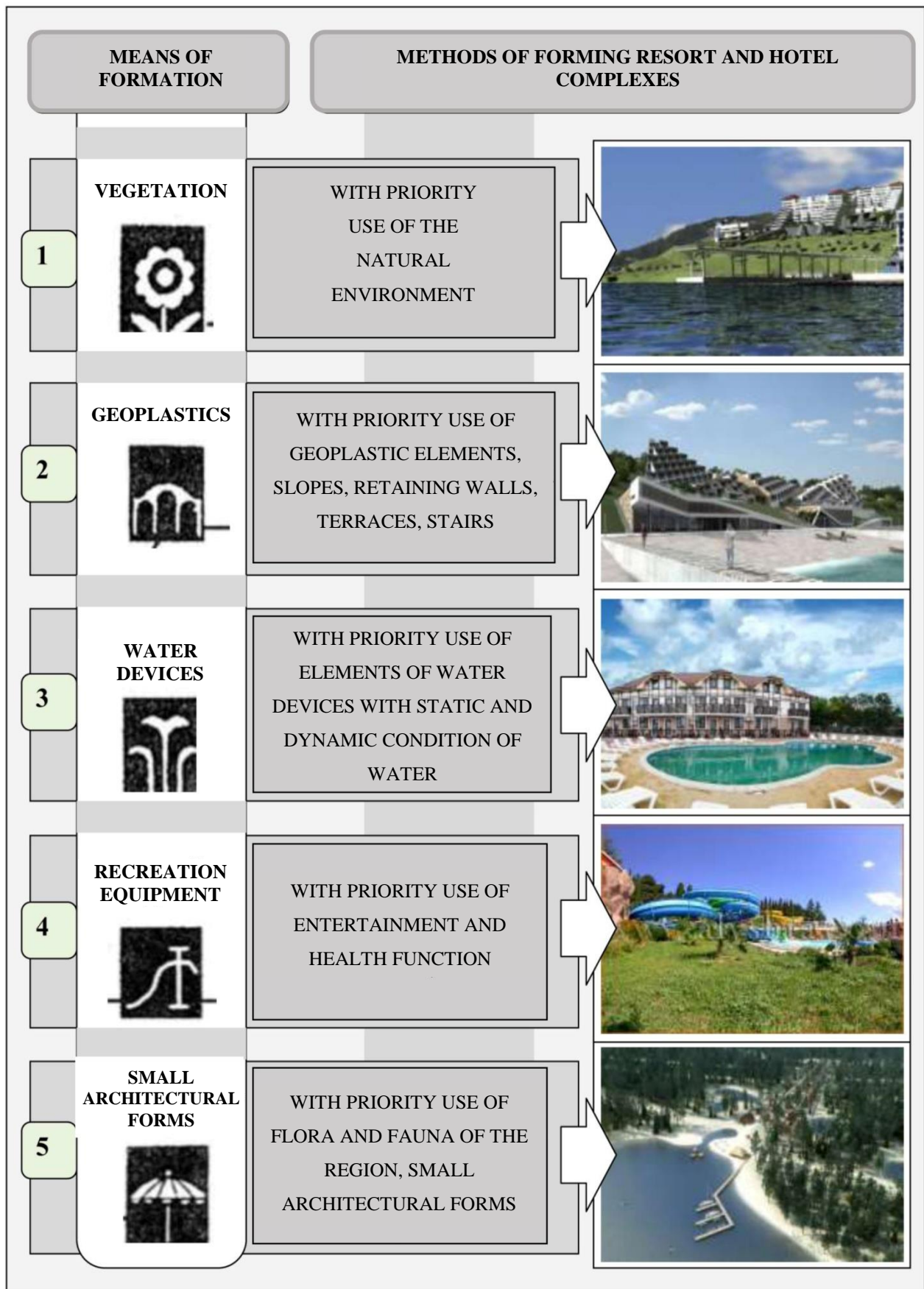


Figure K.1 – Means and methods of forming hotel complexes

APPENDIX M



Figure M.1 – An example of rendering a hotel

APPENDIX N



Figure N.1 – Example of design of clause No. 3

APPENDIX P

PROJECT OF 4-STAR HOTEL FOR 200-400 BEDS

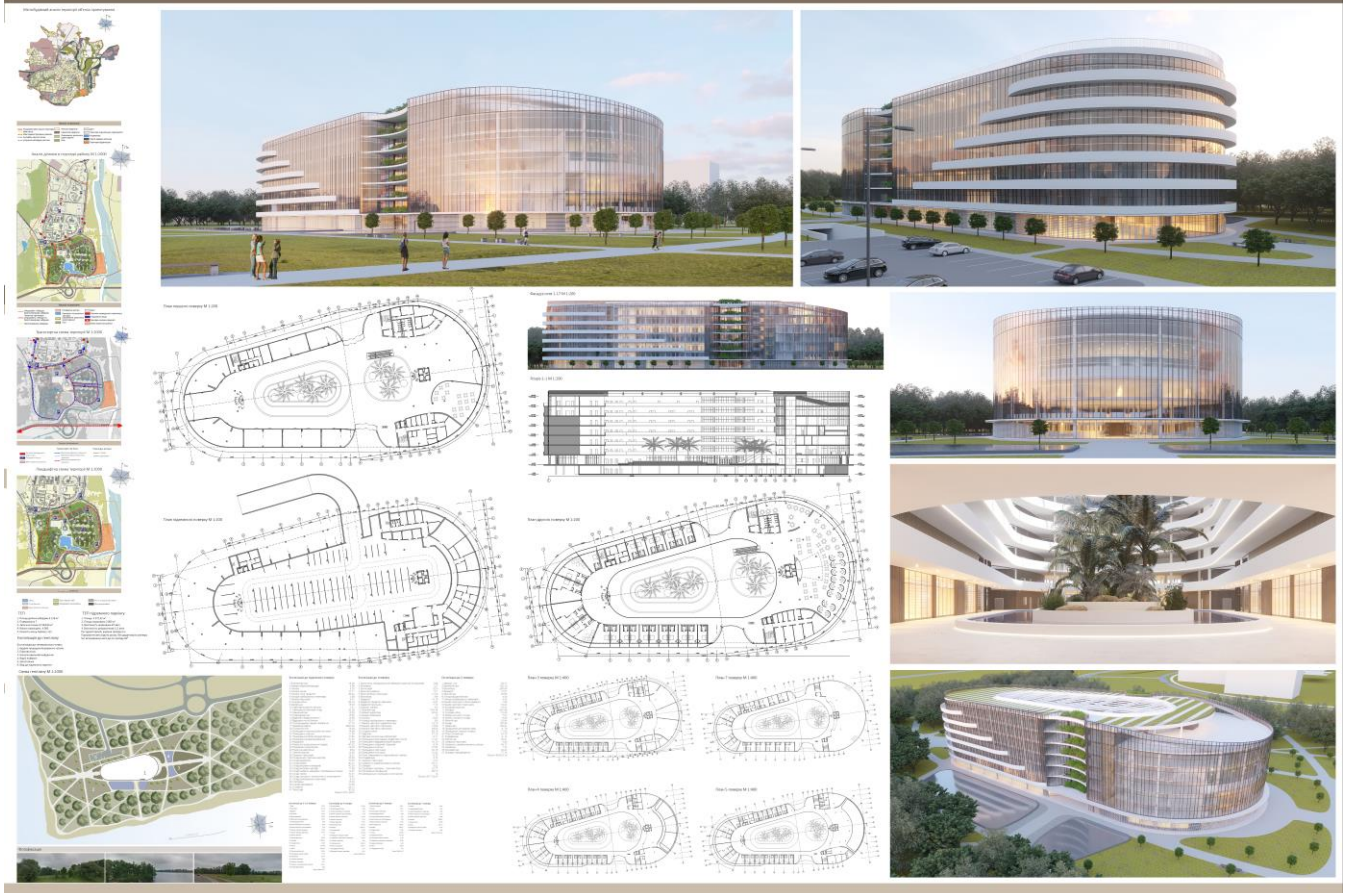


Figure P.1 – Examples of the complex design of the exposition of the project
“Architectural design of buildings and structures:
**** category hotel for 200-400 places” (variant 1)

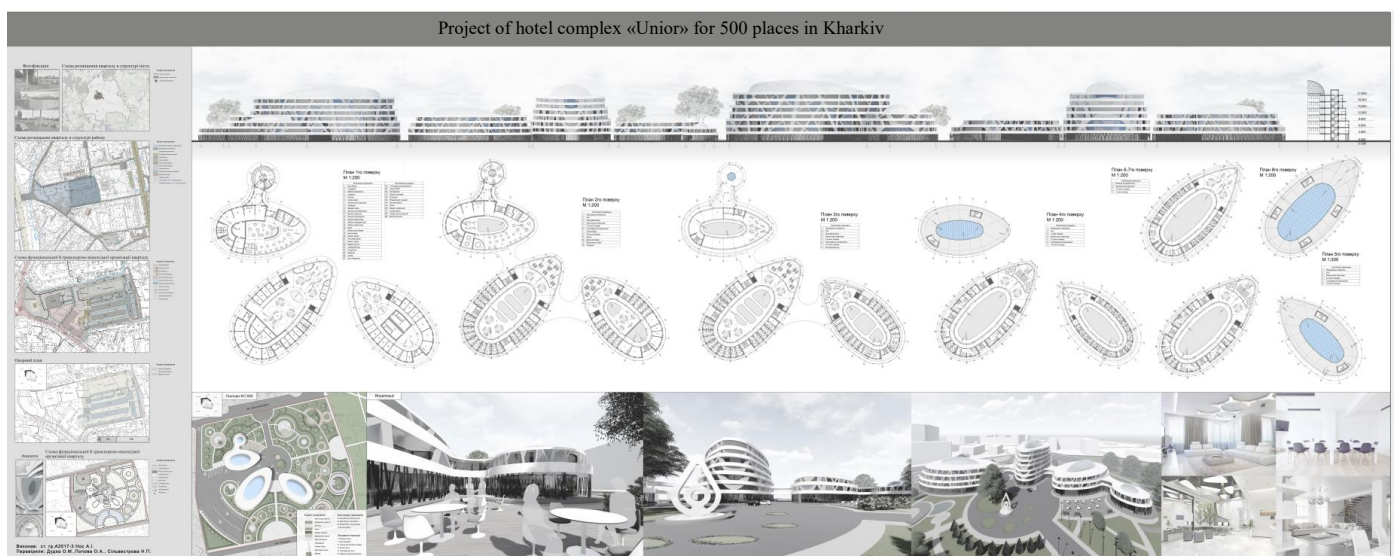


Figure P.2 – Examples of the complex design of the exposition of the project
“Architectural design of buildings and structures:
**** category hotel for 200-400 places” (variant 2)

Електронне навчальне видання

Методичні рекомендації
до проведення практичних занять та організації самостійної роботи
з навчальної дисципліни

**«АРХІТЕКТУРНЕ ПРОЄКТУВАННЯ БУДІВЕЛЬ І СПОРУД:
ГОТЕЛЬ КАТЕГОРІЇ**** НА 200–400 МІСЦЬ»**

*(для здобувачів першого (бакалаврського) рівня вищої освіти
денної форми навчання зі спеціальності 191 – Архітектура та містобудування)*

(Англ. мовою)

Укладачі: **СМІРНОВА** Ольга В'ячеславівна,
КОШЕЛЬ Владислав Андрійович

Відповідальний за випуск *Г. О. Осиченко*
За авторською редакцією
Комп'ютерне верстання *О. В. Смірнова*

План 2024, поз. 142М

Підп. до друку 12.02.2024. Формат 60 × 84/16.

Ум. друк. арк. 2,7.

Видавець і виготовлювач:
Харківський національний університет
міського господарства імені О. М. Бекетова,
вул. Маршала Бажанова, 17, Харків, 61002.
Електронна адреса: office@kname.edu.ua
Свідоцтво суб'єкта видавничої справи:
ДК № 5328 від 11.04.2017.