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Multi-Comfort House Student Contest Edition 2017

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Teachers Day in Madrid Proceedings feedback







TEACHERS DAY Madrid 2016

Proceedings feedback

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A. Introduction

During the proceedings of the "Teacher Day" in Madrid, ISOVER has organized a visit to the site which is part of the task, with participating teachers. We have asked the participants to give us a short feedback after this visit that we can share with all the students participating in this year edition. This report contains impressions and/or visions about the contest task and the site also. We have merged all this information in this document.

Following the discussions during this visit we design a statement for a better interpretation of the task, as well as a few FAQ to explain it more clear.

B. Statement

The task should be interpreted by the participants within "the letter and the spirit" of it.

In the geographical boundaries set by the task (Buildings 1 and 2 and Plot 1, 2, 3, 4) the participants are allowed to interpret the requirements according to their vision while take in to account at all stages:

- Targeting comfort of the inhabitants (with respect to Multi Comfort criteria and MADRE program)
- Increasing the attractiveness of the building and nearest surroundings for the future decades

Within the spirit of the task, participants can take a wider approach to the area, integrating in their projects the shift of the population in the decades to come while avoiding the disruption of the neighborhood.

C. Site experience summary

The neighborhood is cozy - having a "human scale" - with good infrastructure and plenty of vegetation. School, social center for elder people as well as church and playground are close by.

The park across the buildings contains mostly evergreen trees. Situated at a higher level than the street is not very easy accessible for elderly persons, the park includes benches, grass and sand ways, but no special functions can be seen.

There is no obvious need in the near future for parking places. There are plenty of spaces for car located along the streets.

The buildings are constructed from bricks with a load bearing brick walls (thick walls on the

façades and in the middle of both buildings) The most part of the inhabitants are the owners and consist in 60/70% of elder people. Lack of accessibility restricts social life of many inhabitants.

The courtyard is located among two residential buildings with access for both of them. Each apartment owns a plot in this area. This space is used as storage and is not in good conditions.

D. Site experience

1. Boriana Genova, University of Architecture, Civil Engineering and Geodesy, Bulgaria

 The living area for regeneration has medium density. There are four floors buildings. The surroundings are quite, with good infrastructure and vegetation. It can be preferable for living for elderly but also for young people and families with children.
The park near the buildings is well maintained with big trees and palms. However, there are only several benches in the two free spaces.

3. The parking places are located along the streets. The places seem to be sufficient for the needs of the residents.

4. Part of the neighboring buildings is already renovated according to the modern requirements for accessibility and energy efficiency.

5. The most serious problems facing the regeneration of the buildings are related to the several warehouses located between the buildings, the narrow stairs and the lack of lifts. The task of the contest is to resolve those problems without penalizing the owners.

6. The ground floor apartments are not protected against street crime and not well lit from the side of the courtyard. They need some interventions in order to enhance the comfort of living.

7. The inhabitants of the apartments on the top floor spend too much money for heating and cooling.

8. The construction of additional floors will result in throwing shadow on the courtyard space.

9. The buildings need an expensive renovation which would require the evacuation of the residents for a period of time. Otherwise the renovation would be only cosmetic.10. The architecture of the buildings under scrutiny is not of a special cultural value.

Therefore, there is no need for the substantial preservation of the facades. The area needs a new architectural identity.

2. Veselin N Veselinov (Arch), EU Certified Passive-House Planner, Bulgaria

The contest task is focused on the renovation of 2 residential buildings, build in 1956 as a part of a social living complex for working in the local truck and tractor factory "Pegaso", as well as the revitalization of the surrounding areas. The task can also be look at with in the frame of MAD-RE plan – the revitalization plan of Madrid.

The two brick buildings are inhabited mainly by elderly people (approx. 75% of all inhabitants) and there is a need to attract young people to live there. Based on a conversation with the local inhabitants the following information was received:

- Heating sources: gas and electricity
- In the winter the heating bills are high enough.
- Two months pro year the air-conditioners in the apartments are being used for cooling.
- The load-bearing construction is a brick wall. Load-bearing walls should be kept by the participants.
- The garden in the inner courtyard needs to be integrated in the daily life of the inhabitants.
- The balconies are closed / glazing in addition. There is a need for terraces.
- There is a need for storage spaces, since there isn't any storage in the basement.
- There is a cellar with a height of 1.40 m used to water and canalization installations.
- The exterior sun shading is added in addition to the initial situation
- There aren't any problems with parking places.

MAD-RE plan

- Scope of the plan: Social architecture connected to the existing city
- Covers 112 areas = 38% of the city population
- Scope of a renovation:
 - Comfort in living houses
 - Suitable public spaces
 - Good transport system (incl. bicycle and pedestrian transport)
 - Improvement of the energyefficiency (no energy efficiency in 70% of the houses)
 - Improvement of the accessibility:

No elevators in 40% of the buildings (the lift can be outside of the building, but it is mandatory to be on the same level of every flat).

• 50-60% potential for energy-savings

3. Anton Novikov, Assistant Professor BNTU, Minsk, Belarus

When we were arriving on the plot with bus I get the impression of nice green neighborhood around. Cozy little streets with lots of turns were really hard to drive with big bus. We were passing by the school and social center for elder people, on a way back we saw the sport playground and church.

The contrast between different types of dwellings is clearly visible in the district. The streets around are wide enough to have parking spaces on both sides. The pine trees are big giving a lot of shadow what wasn't comfortable at the cold weather but could be salvation in summer days. Everywhere around you can see that the district is old even newly reconstructed buildings nearby do not giving you the feeling of fresh blood. It was approved by the local guy who was kind enough to speak with us. He told that inhabitants of 6 out of 8 flats are elderly people. So lots of old people gives you lots of storage places around, lots of free parking space and deadly calmness. Our professor's invasion was disturbing locals, who were watching on us thru windows. We were kindly invited to see what is going on inside. The stairs are well made with natural stone and were just cleaned. The "patio" - that was most strange place in entire neighborhood. Someone told that it looks like you are inside of a prison. I had the feeling I was teleported to a rural slums. It was strange to see the place like this between two blocks, but every family seems to have their own storage place with small (really small) private yard. Even, lots of them seem to be abandoned, probably it's still important to inhabitants to have some private place. I was a bit surprised with self-made glazing on most of the balconies. It is common for cold Eastern Europe countries but it was something new to me that open balcony is not popular in Spain too. So we can see that inhabitants of these houses were always trying to take as much privacy as they were able. One more thing that I found important is the speech of the local guy. When he was asked what are most important things in reconstruction he said "sustainable and

practical".

4. Danny Windmolders and Jo Janssen, Hasselt University, Faculty of Architecture and Art, Belgium

Context

- The size and scale of the apartment blocks within the urban plan is good
- The size and scale of the apartment blocks in relation to the adjacent park is aood
- A lot of attention for public spaces in the urban area: parks and trees in the streets.
- Parking: on the edges of the streets.

Volumes and terrain

- The volumes of the contest to renovate are part of a larger area: the two volumes are a composition of 4 volumes, organized together with the adjacent.
- The terrain is sloping; consequence: stairs and entrance, internal stairs in the entrance hall, stairs to the interior area in level in the inner area.
- The park on the south side is raised to the street level
- Buildings are in design and materialization familiar, the use has a clear front façade to the street and back façade to the inner court (storages)

Current residents

- Residents are the owners. 60 to 70% are elderly. Most are locked in their apartment due lack of accessibility: this lack of access creates a social isolation. Others residents are new families with children.
- Children playing in the adjacent park(s)
- No urgent need for parking given the average age of the current residents; however, how this will be for future new residents is maybe a problem

Structure and construction

- External walls and the inner wall parallel to the front and rear are supporting.
- Current roof is a roof built over the original roof.
- Solid masonry exterior walls, thickness 40 cm. There is no insulation.
- Acoustic problems: between apartments as well external, the noise from the surrounding area.

5. Peskova Zuzana, Czech Technical University in Prague

The site in Madrid is very inspirational, with context and with real conditions. Too much limits could kill student fantasy. I think

innovative ideas and approaches are very useful for final solution.

I would appreciate that the Multi Comfort approach has both architectural part and technical part. There should be also award for technical solution. Just the architectural solution should not be overweighed

6. Taru Lindberg, Tampere University of Technology, Finland

Neighborhood and its identity

The neighborhood has built in origin for workers of Pegaso truck factory, which gives the identity for the area and its people. Nowadays the area is lacking the identity and the inhabitants are getting old. The elder people are staying inside because of the lack of elevators and accessibility, and there's no children seen either. The area appears quiet but safe. There's e.g. school, church and services for elderly nearby.

Buildings of the design task

In the design task there are two long shaped buildings, which should be renovated. The two buildings looks similar outside with terracotta colored surface and white decorations. Some of the balconies are glassed as well as some of the windows are double glassed by the inhabitants. The accesses to the staircases are more or less inaccessible so there used to be one or more steps to get in. Buildings have four floors. The long façade is not totally straight with recesses, which make the mass looking lighter from the diagonal angle of view. In the facades there is nothing special that makes the buildings unique or that should be respected according to the member of the Madrid municipality.

Courtyard

The area between the two buildings is filled with personal locked storages. There is no other outdoor area on the own site. The storage labyrinth with the central corridor is a mysterious place, which is not in good conditions as an ensemble.

Nevertheless, the storages seemed to be mentally very important for inhabitants.

Surrounding buildings

In the West there is another couple of building like the ones on the design task site. In the North the scale of the buildings is smaller with approximately two floors only and with small front gardens. In the East the buildings have been renovated with affordable budget looking façade solutions and added elevator towers. Park

In the South of the site there is a park with evergreen trees. The park is higher than the street level so it is not accessible. The local

people told that the park is mostly in use by the elder people, but the children are playing in the other park. The park is told to be important but there was not seen anybody but the garbage cleaners. The park includes benches, grass and sand ways, but no special functions can be seen.

Inhabitants

The two people met on the site told to be happy in their apartments with enough space and good floor plans. Every apartment has its own heating system, electricity or oil boiler. The most important thing mentioned is to insulate the buildings better for the coldness in winter and heat in the summer, especially in the top floor.

7. Sandra Treija, Riga Technical University, Latvia

Location

Since the district is located outside the city centre, an important factor is attainability. Subway lines, which are the most convenient and fastest connection in such a large city like Madrid, do not extend to this area. Although public transport connection is provided by bus services, the district has a weak link with the city centre and others parts of the city; respectively private cars are an important part of resident's comfort in the area. During our visit, November 10, before noon, there were plenty of private cars in the parking areas along the streets.

Neighborhood characte

The district has its own character, which is based on urban scheme of modernism period. Apartments in the buildings have sufficient light. Building scale is people friendly. Nice proportion between built -up area and open space. Lot of greenery: plants of various types and scale.

Public space

- Streets: quiet, green, clean, with parking possibilities both sides of the streets. Lighting is provided. The pavement of streets and sidewalks is renovated.
- Small public spaces (located between building groups and faced to one- story storage buildings): clean, greened with trees and bushes, but there are no benches - unclear function.
- Green Park: large overgrown trees, shady, clean, well maintained. Park layout and street furniture looks outdated. The only user was a man who walks with the dog.

Semi-private space

A courtyard is located among two residential buildings which are part of the contest

task. Closed yard is available only for the residents of both houses from the staircases of residential buildings. According the original ideas the courtyards were planned for residents' recreation and communication as a semi - public space. Currently courtyard is divided into many small private sites, which each include a small open space with high fence and small storage building. Courtyard, apparently, is only used for storage function; there are no greeneries or benches.

The overall mood

- Cozy and peacefully living environment with a last century atmosphere.
- Elder buildings and elder residents.
- Air, light and calmness are important qualities of the area.

8. Wagner Tomasz, Silesian Technical University, Poland

- The old town of Madrid (in contrast to a suburban districts) is a living space, where until the late hours of the night goes to "street life",
- Meeting places in Madrid are the architectural landmarks,
- Residential development without trade, services and culture are a kind of "sleeping spaces"

Quite obvious conclusions:

- Effective revitalization cannot be limited to the aesthetic changes;
- Competitors must provide "usage scenarios of space" of settlements;
- Aim should be presentation of possible ways, visions and concepts, which are breaking existing stereotypes;

Comments about the age structure of settlement:

- Should be strongly noted, that the aim of the project should be the attractiveness of solutions for different age groups;
- Presently 60/70% of inhabitants are old people, but the apartment belong to users, and after their death new inhabitants (theirs kin, families) of all ages;
- The current age structure of the settlement in the next few years will change;
- Housing should be attractive for different age groups.

Comments about the effective revitalization:

- Current housing does not have an attractive public space;
- Square / the park should be treated as a public space for the whole estate;
- Competition can propose a "small architecture" and "urban furniture" made

with products from Isover and Saint-Gobain instead of ready-made catalog of technical solutions

Comments about the value of the estate:

- Identity and identification is one of the most important elements of enhancing the attractiveness of the "space";
- Modern, recognizable and avant-garde architecture can make the settlement attractive for new users and residents, to increase the prices of apartments on the estate, make the space living and much more attractive

Important postulates:

- Storages area are the result of "gathering" which is characteristic for the elderly people, so the size of this should be reasonable and not increased;
- It should be possible to increase the buildings; the number of new floors should be the result of the design concept adopted by the participant
- Construction of superstructure parts should be take into account the constraints imposed by the existing building;
- 3m line of possible expansion is too narrow, in relation to the new-designed staircases and elevators – this need to be redesigned for people with disabilities).
- Limit (3m) should not be applied to the space between the buildings;
- Students should decide what should be the function of the ground floor of buildings
- Students should propose a re-modeling of one group of apartments (one section of the one characteristic level)
- In the future, one flat can be bought by RE-MADRE as the model apartment after modernization; it should be an example for other owners of apartments.

9. Tomasz Głowacki, Technical University in Wrocław, Poland

Conclusion in relation with the competition task

Provided brief, in my opinion, clearly defines competition objective. It seeks for a new concept of housing environment regeneration, using a particular example of two buildings requiring renovation and revitalization. Besides increasing habitat multi-comfort and providing accessibility for disabled, the main task is to change the neighborhood image for more attractive and comfortable for future and present inhabitants (especially young families).

Competition participants are required to take responsibility for their design decisions. Therefore they should clearly explain and justify process of putting through proposed changes in spatial, social, technical and economical aspect. In example: if it is proposed to change the function of ground floor apartments, it is necessary to indicate a new location for displaced families in chosen building.

Proposed solutions should be rational and costefficient.

In design process one should assume that number of flats of particular area and volume will not be decreased. It is desired to plan building alteration/ expansion in a way that allows inhabitants to stay in their apartments during construction works. Where particularly justified it is allowed to relocate families to apartments in a closest neighborhood.

Design proposal has to meet high standards of thermal and acoustic insulation, fire protection and sun exposure. Besides it is required to verify proposed design, including existing and new objects, in regard to Saint-Gobain Multi-Comfort Criteria.

It is essential to present correct technical solutions of proposed concept (i.e. elimination of thermal bridges).

10. Radu Andrei, Gh Asachi Iasi, Romania

The visit to the contest site revealed some new details which hopefully might help the students in their design process.

I will mix architectural information with other facts in order to provide a wider picture of the place. In this description will be included fragments of the statement of a young inhabitant. However, students should bear in mind that comfort level is to a certain extent subjective, due to the different perception, experience and even culture of the people involved. His ideas should be therefore filtered before they become new requirements or limitations for the project task.

The surroundings

The neighborhood is quiet and has human urban scale and density. Just a few from the other units which share the same height with the one involved in the competition have small shops/service areas at the ground level. Their access is resolved locally in order to adjust to the ground which has a slight slope.

The existing park is a relaxing space for the whole neighborhood. There are big trees which probably contribute to the thermal comfort of the area during the hot summers. I have observed a parrots' nest in the trees, and I assume that in the warm period birds make a nice and relaxing atmosphere. Between the building and the park there is a street used for quick access and for parking and there is a level difference of approximately 1,20 meters between the park and the street (the park is at a higher level - 7 steps of approx. 17cm).

Storage

The space between the 2 volumes is totally closed to the street. The living units in the west

part of the contest site which are similar and have also closed their interior space, using it for storage. This also can be visible from satellite view.

The storage buildings inside the courtyard are built after the completion of the initial construction, as they are made of light concrete brick in most of the cases, and have different image. They bring a bleak image to the site, being seen from the apartments' windows. The access for the storage buildings is made through a narrow open corridor which crosses the middle of the courtyard. As a general trend, many of the collective housing buildings' balconies seen here and on the trip to the site, have been closed by the inhabitants - maybe for extra storage space, or for increasing thermal comfort during summers and winters. This, of course, affects the image of the facades firstly because the initial buildings' logic is altered, and secondly because there is a lack of unity regarding the construction materials and details involved.

People

As a historical fact discovered by the Spanish organizers, the buildings are mostly inhabited by the workers of the former Pegaso factory. They are owners of their apartments, and the whole neighborhood was designed and built for them. They are mostly old people and need improved conditions of accessibility.

Comfort

The interviewed person said that inside the apartments there is a problem regarding thermal comfort, especially on the last floors of the buildings. He estimated that he uses AC 2 months per year. He considers that there is enough natural light for the interior space of the apartment.

As a personal observation, other collective housing units in the city are using window blinds most of which are often closed. In my opinion it is possible that people got used to shade in order to get the needed thermal and acoustic comfort.

Decoration

The arches present on the facades and under the balconies look like prefabricated concrete elements, some of them having small fissures in the joints.

11. Sergiu PETREA, UAUIM, Romania

Structure and construction:

- Masonry load-bearing external and internal walls - parallel on the long side and on the sides of the stairs.
- Because of the previous idea, taking into consideration to open more windows/ doors or make them bigger (for achieving a better daylight factor) should be coordinated with some structural

decisions. Usually for supporting walls there can be done openings of maximum 1/3 of its length.

- Current roof is a roof built over the original roof - ventilated area. Initial roof might be a terrace - there are some holes on the cornice that might have been use for rainwater eviction. It is important to check if there is kept the initial thermal insulation of the terrace (if any).
- A cellar with a used to water and waste eviction installations is placed under the buildings. For sure the space is divided by the load-bearing walls. The space has natural ventilation through small opening at the bottom of the exterior walls. I don't think it is insulated beneath.
- It is not clear the shape or the structure / thickness of the slabs. The balconies have a prefabricated slab (with curved shape) that should be kept. It is not clear the way they connect to the internal slab. Also some of them have small fissures in the joints.
- It is not clear if the slab had also concrete beams on the perimeter of the load bearing walls and, if any, of what dimensions. It is good to know for thermal bridges.
- We should see if is it feasible to increase the number of the stories or to put two story high openings in accordance with the structural requirements.

Comfort consideration:

- The level of comfort for the interior does not meet modern requirements: hot in summer, cold in winter (2-3 months).
- Thermal insulation of exterior skin does not meet the criteria of energy-efficient homes.
- The exterior sun shading is added in addition to the initial situation, also there are closed balconies for the same reasons.
- There are acoustic problems between apartments as also towards exterior.
- Even if the inhabitants (at least one representative) are satisfied with the current daylight interior comfort, there should be made an approach to enlarge the exterior openings because of the renovation strategy.
- Current heating sources are gas and electricity. For cooling, there are exterior air-conditioning units.

Community

- Residents are mainly owners with a high percentage of elderly - around 70%.
- · There is a lack of accessibility for old people inside and outside the buildings. External elevators and ramps should be considered.
- For couples with children there should be designed places of common use and

playgrounds.

• There is a need for further parking places based on the intervention strategy.

Open points

- There is a need for storage spaces.
- The garden in the inner courtyard needs to be given back to the social use of the inhabitants.
- The terrain has a gentle slope which should be solved from an architectural and urban point of view in the further development

12. Alexander Remizov, Architect, Russia

In my opinion renovation of buildings without relocation of tenants imposes greater restrictions on the ability of the contestants, but the restrictions do not cause damage to the creativity of the architect. Ensure that mutually contradictory constraints were linked to a large extent the case of the architect in his daily work.

In other words, it determines that the appropriate techniques and relevant materials have been applied to the relevant work.

Ability to use "freedom of action", "dream" and "idealized" in the case of unrealistic sketches is easier than linking clearly defined restrictions or requirements that the more specific the better. Without an understanding of the problem there cannot be an understanding the purpose.

When the hands are too loose, then genuinely creative qualities of the architect play too small a role.

I hope that this competition will reveal creative abilities contestants, and Madrid will get a lot of interesting ideas to implement.

13. Pavol Pokorny, Faculty of Architecture, Technical University in Bratislava, Slovakia

- One the main problem is the yard full of storage boxes
- Missing elevators
- Thinking of moving the 1st floor inhabitants to the additional +1 floor on the top of the existing structure
- No need to take care of extra parking places
- There is need to fix the structural problems of the buildings itself: o insulation.
 - o thermal bridges,
 - o windows,
 - o balconies, etc.

14. Enrique Antelo Tudela, Ph.D. (Arch.), School of Architecture, University of A Coruña, Spain

- It is clear that the elements located in zones 1, 2 and 3 must be demolished in order to improve substantially the quality of the area.
- Green area: Although the trees may be of interest, it should be allowed to be removed or replaced (partial or total) according to the orientation of the square with respect to the building to be renovated.
- It is interesting the proposal to allow the relocation of the ground floor dwellings to the "new" 4th floor to allocate other uses to the empty space.
- Maximum height of the proposal: No limit, understanding that the limits will be imposed by not decreasing the natural lightning in the building or nearby buildings.
- After the visit and the data provided by the drawings, it seems clear that the structural system of the building is based on load-bearing brick walls. Care must be taken in case of opening more windows or make them bigger.
- In order to give students more freedom, and knowing that 80% of the population are elderly people, it could be interesting to allow to redesign these dwellings (without varying their boundaries) to adapt them to the needs of this type of population (not only improve accessibility). The dwellings could be also redesigned as long as the limits of the property are not changed or their spatial quality is diminished.

15. Antonyuk Dmytro, National Academy of Fine Arts and Architecture, Ukraine

- The scale of the existing building is very "human" that is rarely achieved in modern new residential areas.
- On the plot there are enough parking places, low traffic, there is no feeling of danger from traffic (but got the impression that this is a consequence of living property).
- On the territory of a lot of greenery in public areas.
- The level of housing comfort corresponds to the financial situation living. The level of income is clearly not very high.

- In the same area are available for various types of residential buildings: apartment sectional blocked, cottages, which generally creates a sense of the diversity of the area of architecture
- The level of comfort in residential buildings does not meet modern requirements:
- The scale of the existing building is very "human" that is rarely achieved in modern new residential areas.
- On the plot there are enough parking places, low traffic, there is no feeling of danger from traffic (but got the impression that this is a consequence of living property).
- On the territory of a lot of greenery in public areas.
- The level of housing comfort corresponds to the financial situation living. The level of income is clearly not very high.
- In the same area are available for various types of residential buildings: apartment sectional blocked, cottages, which generally creates a sense of the diversity of the area of architecture
- The level of comfort in residential buildings does not meet modern requirements: hot in summer, cold in winter.
- Thermal insulation of walls, roofs, windows and doors do not meet the criteria of energy-efficient homes.
- Composition of residents predominance of older people.
- The interior of the courtyard with patios and a box for storage actually used by today's inhabitants
- Looks is archaic and does not fit the norms of modern housing: apartments adjacent to storage units, lack of lifts, ramps for the disabled and so on..
- Windows have summer shadings (balconies, terraces, balconies)

E. FAQ

- 1. Students are allowed to remove the storage spaces in Areas 1, 2 and 3, considering that additional storage facilities need to be designed for the inhabitants.
- 2. Participants are allowed to make changes in the floor plans and provide argumentation for their actions within the boundaries of each apartment.
- 3. A horizontal connection between the elevator and every apartment is an obligation.
- 4. New building elements on the façade

- 5. The function of the ground floor of the buildings can be changed, but additional living apartments has to be provided (above the existing roof) for the inhabitants, living in the existing apartments, since the inhabitants own the property of the buildings.
- 6. The maximum height of the floors above the existing roof is up to participants to decide, but a reasonable number of floors, as well as an argued explanation about the number are expected to be provided from the participants.
- 7. In case of new building elements complying with the SGMC criteria need to be provided from the participants.
- 8. The inhabitants, who are living in the existing apartments, have to continue living in the buildings after renovation. If the inhabitants are moved away from apartments during the construction an explanation of the process is expected from the participants.
- 9. 75% of the inhabitants of the buildings are old people. A single apartment is inhabited with approx. 2 persons. The requirement for new living area per inhabitant in Madrid is 30m2/person.
- 10. The preservation of the façade is not considered.
- 11. Static and structural conditions of the building are not considered, but the construction elements have to be preserved: longitudinal load-bearing brick walls (the thick walls on the façades and in the middle of both buildings).

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