

MINISTRY OF REGIONAL DEVELOPMENT AND CONSTRUCTION

MD2005, Chisinau, 9, Cosmonautilor Street



SCPCSA.MD

MD2029, Str. Bacioii Noi, 19, or. Chişinău, Republica Moldova, tel. 223215, fax 228363
Cont bancar MD62EX0000000222401788MD; MFO EXMMMD22476; BC „Eximbank-
Gruppo Veneto Banca” SA fil.nr.19 Chişinău, CF 1003600007577; cod TVA: 0300841

Technical Expert Review Report No 297-07-17/T
Examination of the technical condition of the basement under the building B (02) and
under the adjacent pools on the cadastral unit No 0100213011 in Chisinau Municipality,
23 Gh. Asachi Street, in order to assess the possibility of conducting the planned
refurbishment



Technical expert review conducted at the request of: UNDP Moldova
filed with the ‘Societatea de Cercetari Stiintifice si Prospectiuni in Constructii’ S.A. [Society of Scientific Research and
Prospecting in Constructions JSC]

Technical Expert in Construction
(Certificate of ET series No 089 of 26.05.2016)

Ion Postolachi

Chisinau 2017

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1. Background

The technical expert review of the basement under the building B (02) and the pool on the cadastral unit No 0100213011, located in Chisinau Municipality, 23 Gh. Asachi Street, was conducted by the Technical Expert in Construction Ion Postolachi, certificate series 2016-ET, No 089 of 26.05.2016, issued by the Ministry of Regional Development and Construction, and by engineer Dumitru Mirza.

This expert review was conducted in July 2017, following a request submitted by UNDP Moldova to ‘Societatea de Cercetari Stiintifice si Prospectiuni in Constructii’ S.A. [Society of Scientific Research and Prospecting in Constructions JSC].

The purpose of this expert review is to examine the technical condition of the basement under the building B (02) and under the adjacent pools on the cadastral unit 0100213011 in Chisinau Municipality, 23, Gh. Asachi Street, in order to assess whether it is possible to conduct the planned refurbishment and to develop, if needed, recommendations on how to strengthen and recover the functionality of the deteriorated basement.

The following was done for the purposes of this expert review:

- the supporting elements were opened up in the presence of a representative of the beneficiary;
- the premises were analyzed visually and pictures were taken of the defects and deteriorated parts;
- the archive documents and the designs according to which the basement was previously renovated were examined;
- regulatory documents on the design of such buildings and constructions, in force when it was built, were reviewed;
- the seismic condition of the land under the examined premises were studied;

- samples were taken from the structural elements (walls) of the basement and of the pool to determine their resistance.

The contents of the Expert Review Report are put down according to the requirements in the ‘Guidelines on the Organization and Conduct of the Technical Expert Review of Buildings and Constructions’ approved by Order No 10.01.2005 of the Ministry of Regional Development and Construction of the Republic of Moldova.

1.1 Key Documents and Regulations

For the purposes of this expert review, the following documents were studied:

1. Law on Quality in Construction No 721–XIII, 02.02.1996;
2. Law on Construction Permits No 163 of 09.07.2010;
3. Law on Cadastre of Immovable Property No 1543-XIII of 25.02.1998;
4. RM Government Decision No 936 of 16.08.2006 approving the Regulation on the Technical Expert Review in Construction;
5. RM Government Decision No 285 of 23.05.96 approving the Regulation on the Acceptance of Construction Works and Related Facilities;
6. Order No 35 of 14.03.2013 of the Ministry of Regional Development and Construction approving the 2013-2020 Seismic Microzoning Map of Chisinau.
7. СНиП 2.02.01-83 „Основания зданий и сооружений” [Translation from Russian: Construction norms and rules 2.02.01-83 – ‘Foundation of Buildings and Constructions’]
8. СНиП II-7-81* „Строительство в сейсмических районах” [Translation from Russian: Construction norms and rules II-7-81* – ‘Building in Seismic Areas’]
9. NCM (Construction Rules in Moldova) F.03.02-2005 ‘Designing Buildings with Masonry Walls’
10. The cadastral files of the premises on 23 Gh. Asachi Street, Chisinau Municipality (cadastral unit No 0100213011).
11. Files of the refurbishment project No 13786-1, A (architecture) and C (constructions) – ‘Overhaul of the indoor sports hall in “Dinamo” sports club’ on

23 Gh. Asachi Street, Chisinau Municipality', developed in 2016 by 'Ruralproiect' Engineering Institute (A MMII series license, No 026516 of 13.11.2007), chief architect of the project– Ermacova (certificate series – 2015-P, No 1377), chief builder of the project – Panova (certificate series – 2016-P, No 1535 of 05.04.201).

12. Other documents.

1.2. Preliminary Data

The cadastral unit No 0100213011.02 (B) from the 'Dinamo' sports club of the Ministry of Internal Affairs of the Republic of Moldova, Chisinau Municipality, 23 Gh. Asachi Street, was built in mid 1970s of the previous century on the basis of a standard blueprint and was used according to its purpose until present. No construction blueprints and documents according to which the basement was built was kept.

The examined construction (B, according to the building layout on the ground, Annex 1) consists of the main ground-floor type block with (partial) basement, covering a total area of 806.2 m², a small pool covering 125.8 m² and a big pool covering 370.8 m². The main block consists, in its turn, of three blocks (the sports hall with the main entrance and two extensions – the locker room and other service rooms) located in parallel and separated from one another by seismic and expansion joints. The small pool is separated from the building by expansion joint.

The resistance structure of the building (of each block), under which the basement subject to this expert review is located (where the pool water treatment equipment is installed) is symmetric horizontally and vertically. The system of structural walls is mixed (load-bearing masonry walls made of small blocks of limestone and mortar consisting of cement and sand and casing made of columns and roof beams in the sports hall and where the main entrance is) and structural walls (load-bearing masonry walls made of small blocks of limestone and mortar consisting of cement and sand) for the extensions where the locker rooms and other service rooms are located. The foundation is made of reinforced concrete. The walls of the basement are masonry walls made of precast concrete blocks of 'ΦC-4'

type. The roof slab of the building (for block of the sports hall and of the main entrance) is made of precast reinforced concrete slabs with ribs resting on the roof beams and on the exterior walls (on the longitudinal direction of the building). The intermediary slab (above the basement) and the roof slabs of the extensions where the locker room and service rooms are located, are made of precast concrete hollow blocks resting on the load-bearing longitudinal walls of the building. The flat roof is covered with bitumen membranes.

According to the construction design, the resistance structure is of rigid type (each block is separate), the seismic efforts falling on the structural walls and on slabs.

According to NCM F.03.02-2005 ‘Designing Buildings with Masonry Walls’ p.5.1.1, the resistance structure of the building (the block where the sports hall and the main entrance are) can fall under para. (c) as a building with masonry walls. At the junction of structural walls, there are monolithic reinforced concrete columns, coated in masonry. The monolithic reinforced concrete belts (beams) and the columns create a spacial structure filled in with load-bearing masonry walls. According to NCM F.03.02-2005 ‘Designing Buildings with Masonry Walls’ p.5.1.1, the resistance structure of the annexes where the locker room and other service rooms are located, can be classified under para. (a) as building with masonry walls.

According to the files of the refurbishment project (from the ‘Ruralproiect’ archive) No 13786-1, A (architecture) and C (constructions) – ‘Overhaul of the indoor sports hall in “Dinamo” sports club’ on 23 Gh. Asachi Street, Chisinau Municipality’, developed in 2016 by ‘Ruralproiect’ Engineering Institute (A MMII series license, No 026516 of 13.11.2007), chief architect of the project – Ermacova (certificate series – 2015-P, No 1377), chief builder of the project – Panova (certificate series – 2016-P, No 1535 of 05.04.201), the building needs to be overhauled. The project solutions were developed on the basis of the conclusions and recommendations worked out following the technical expert review conducted by the Technical Expert in Construction, N. Pruteanu, in 2016. The aforementioned project did not cover the refurbishment of the basement (subject to this expert review, where the pool water treatment equipment is located).

According to the construction solutions laid down in compartment ‘C’, the following refurbishment works are to be conducted under the refurbishment project (No 13786-1-C):

1. Coating of the roof – made of bitumen membranes – is to be removed. The parapet walls and cornice plates are to be removed. New parapet walls are to be built (frontons), supported with columns and belts. The roof is to be a timber roof truss covered with metal tiles.
2. The protection layer of the reinforcement of floor panels of the third block in axes G-H and of the columns at the intersection of axes D-4 and E-4 is to be restored.
3. The fissures in the existing walls and slabs are to be filled in according to the forwarded tasks.
4. The deteriorated part of the external wall of the building (axe 2 in axes A-C) is to be restored.
5. A tambour is to be made of light metal elements at the main entrance.
6. Metal casings are to be suspended by the roof slabs in the sports hall in order to set up the equipment.
7. Precast deflector elements are to be installed on the roof of the sports hall. The unnecessary gaps are to be covered up with metal plates.

Geomorphologically speaking, the ground on which the constructions are built is situated on one of the upper terraces of the right versant of the Bic River. There are no dangerous physico-geological processes or other phenomena such as landslides, land settlements etc. in the area where the building is located.

According to the 2013-2020 Chisinau Municipality seismic microzoning map, validated by the Order No 35 of 14.03.2013 of the Ministry of Regional Development and Construction – the examined construction works are located in an area where the seismic intensity degree is 7, see [Annex A7](#).

During its life period, this building saw strong earthquakes, such as the earthquakes in 1977, 1986 and the earthquake doublet of 1990, with magnitudes of 7.2 degrees, 7.1 degrees and 6.7 degrees (30 May 1990) and 6.1 degrees (31 May 1990) on the Richter scale, the consequences of which couldn't be assessed during the expert review because there was no documentation to track it back.

When this technical expert review was being conducted, the refurbishment of the cadastral unit No 0100213011.02 (B), Chisinau Municipality, 23 Gh. Asachi Street,

provided for in the refurbishment project No 13786-1, developed in 2016 by ‘Ruralproiect’ Engineering Institute, hadn’t been done. The building is connected to power, heat, natural gas, water supply and sewage networks and is being used according to its purposes.

2. Results of the Examination of the Technical Condition of Buildings

As per the pre-established purpose, this expert review examined the technical condition of the load-bearing constructions of the basement under the building B (02), where the pool water treatment equipment is located, and the technical condition of the pools on the cadastral unit No 0100213011 in Chisinau Municipality, 23 Gh. Asachi Street, in relation to the planned overhaul and development, if needed, of recommendations on how to strengthen and recover the functionality of the deteriorated constructions.

The basement of the building is of a rectangular shape and of a total inside area of 58.0 m² and an inside height of 3.65 m (according to the blueprint, [Annex A2](#)). The walls of the basement are masonry walls made with precast concrete blocks of ‘ΦC-4’ type and mortar consisting of cement and sand, with joint bond. The intermediary slab (above the basement) is made of precast concrete hollow blocks resting on the load-bearing longitudinal walls of the building. There is a separate entrance into the basement from outside the building by reinforced concrete stairs and the door space made in the load-bearing exterior wall. The access stairs are surrounded by support walls made of precast concrete blocks of ‘ΦC-4’ type, protected along its perimeter by metal grating and roof made of metal elements covered with wavy asbestos cement sheets. Inside the basement there is pool water treatment equipment.

The visual examination of the technical condition of the load-bearing constructions of the basement and facilities inside it revealed that the concrete and armature of the roof slabs were deteriorated and eroded on their lower parts. The water treatment equipment (tanks, pipes, support facilities etc.), that are exposed to continuous corrosion, was deteriorated. There was water on the floor, which affects the water treatment equipment.









As mentioned in Chapter 1, Item 1.2, the small pool (125.8 m² in area) and the large pool (370.8 m² in area) have a rectangular shape and are separated by a 1.5 m wide concrete wall. According to the measurements made (see the topographic plan, [Annex A3](#)), the size of the large pool (on the inside) is 25,0x14,6 m, the depth of the pool is variable – 2.0-2.1 m, the area of the bottom of the pool varies between 143.54 and 144.0. The size of the small pool (on the inside) is 14.75x7.96 m, the depth of the pool is variable – 1.81-1.93 m, the area of the bottom of the pool varies between 144.05 and 144.2. The perimeter walls of the pools are made of masonry walls with precast concrete blocks of ‘ΦC-4’ type with monolithic reinforced concrete belts at the top. The bottom of the pools is concreted and

fitted with special elements of protection against strikes. The walls of the pools are covered on the inside with ceramic tiles. There are sidewalks on the perimeter of the pools, covered with mosaic concrete slabs.

The expert noticed that the elements of the resistance structure of the examined pools showed no evidence of degradation, deterioration or deviation from normal behaviour.

As reported by the Beneficiary, the pools are to be refurbished by covering them on the inside with special elements, in line with modern technologies, but first the resistance of the concrete wall of the pools, which will support the cover elements, needs to be determined. According to the submitted draft design ([Annex A4](#)), the inside of the pools will be covered with stainless steel plates mounted on the metal casing, which, in its turn, will be fixed to the concrete walls of the pools with anchor bolts. At the bottom of the pools, according to the new technologies, a 200 mm thick concrete layer is to be laid. The water filtration system will be fixed in it. Then, special waterproofing membranes will be applied on the walls and bottom of the pools.

As part of this expert review, on 27.07.2017 'INTERCOM' CI ICSC specialists, in the presence of the expert, took a sample from the wall of the large pool and two samples from the walls of the building basement (to compare the results), to determine the actual brand of the concrete via the non-destructive method according to GOST 22690-88.

According to the results presented in the Test Report No 754 of 28.07.2017 of 'INCERCOM' CI ICSC ([Annex 5](#)), the actual resistance of concrete for the exterior basement wall was $R=7.6$ MPa, which corresponds to class B-5 (we regard this result as null because after the sampling, the material of the wall had a non-homogeneous structure). The actual concrete resistance of pool wall was $R=20.7$ MPa, which corresponds to class B-15, and for the inner wall of the basement – the actual concrete resistance was $R=20.7$ MPa, which corresponds to class B-15, according to GOST 26633-91. The test results confirm not only the classes of the concrete required by the design, but also that its characteristics improved, which is scientifically substantiated, because under favourable conditions, the concrete continues to improve its resistance characteristics during the use of concrete and steel-concrete constructions.

3. Conclusions and Recommendations

The visual examination, the local openings made on site in order to assess the technical condition of the load-bearing constructions of the basement under the building B (02), where the pool water treatment equipment is located, and the technical condition of the pools on the cadastral unit No 0100213011 in Chisinau Municipality, 23 Gh. Asachi Street, in relation to the planned overhaul, allow for the following conclusions and recommendations to be made:

1. According to the 2013-2020 Chisinau Municipality seismic microzoning maps, validated by the Order No 35 of 14.03.2013 of the Ministry of Regional Development and Construction – the examined construction works are located in an area where the seismic intensity degree is 7, see [Annex A7](#).
2. During its life period, this building saw strong earthquakes, such as the earthquakes in [1977](#), [1986](#) and the earthquake doublet of [1990](#), with magnitudes of [7.2 degrees](#), [7.1 degrees](#) and [6.7 degrees](#) (30 May 1990) and [6.1 degrees](#) (31 May 1990) on the Richter scale, the consequences of which couldn't be assessed during the expert review because there was no documentation to track it back.
3. According to NCM F.03.02-2005 'Designing Buildings with Masonry Walls' p.5.1.1, the resistance structure of the building (the block where the sports hall and the main entrance are) can fall under para. (c) as a building with built-up walls. At the junction of structural walls, there are monolithic reinforced concrete columns, coated in masonry. The monolithic reinforced concrete belts (beams) and the columns create a spacial structure filled in with load-bearing masonry walls. According to NCM F.03.02-2005 'Designing Buildings with Masonry Walls' p.5.1.1, the resistance structure of the annexes where the locker room and other service rooms are located, can be classified under para. (a) as building with masonry walls.
4. The technical condition of the building B (02) was subject to a technical expert review conducted by the Technical Expert in Construction – N. Pruteanu, in 2016. The results of that expert review were not made available for examination. According to the files of the reconstruction project (from the 'Ruralproiect' archive) No 13786-1, A

(architecture) and C (constructions) – ‘Overhaul of the indoor sports hall in “Dinamo” sports club’ on 23 Gh. Asachi Street, Chisinau Municipality’, developed in 2016 by the ‘Ruralproiect’ Engineering Institute, the building is to be rehauled. The aforementioned project did not cover the refurbishment of the basement (subject to this expert review, where the pool water treatment equipment is located).

5. When this technical expert review was being conducted, the refurbishment of the cadastral unit No 0100213011.02 (B), Chisinau Municipality, 23 Gh. Asachi Street, provided for in the refurbishment project No 13786-1, developed in 2016 by ‘Ruralproiect’ Engineering Institute, hadn’t been done.
6. The load-bearing constructions in the basement under the building B (02), examined as part of this expert review, where the pool water treatment equipment is located, are in a **partially satisfactory** technical condition.
7. Taking into account the defects and the deterioration found during the examination of the technical condition of the load-bearing constructions of the basement and of the equipment inside, the expert review has the following findings and recommendations:
 - a) the reinforced concrete constructions (floor panels), where the armature of the casings is exposed and corroded, needs to be rehabilitated by cleaning the rust and restoring the protection layer of the armature in order to stop the degradation process and it is necessary to take measures to strengthen the load-bearing capacity of the basement floor on its entire area, as recommended in **Annex A6**.
 - b) the water treatment equipment (tanks, pipes, supporting constructions, etc.) subject, to a great extent, to continuous corrosion, will be cleaned of rust and treated with special anti-corrosion solutions after local repairs are done and highly worn-out elements are replaced (i.e. if this system will be used further on), or it will be dismantled if it is decided to replace it with a more efficient water treatment system. Removing and evacuating the existing filtering equipment and system and the water treatment equipment out of the basement is only possible by cutting to pieces their solid parts. The sizes and weight of these parts will be determined on site, taking into account the size of the entrance to the basement, the size of the staircase and whether they will be evacuated manually or by using special devices. If installing a new water

system in the basement is necessary, the expert review will comment on it once the technological design, equipment installation scheme and equipment specifications are available (sizes LxBxH, weight, etc.). Considering the accounts of the beneficiary, equipment that has the size of 2x2 m (which is larger than the entrance into the basement and than the access staircase) can only be taken there by dismantling two floorboards at the top of the basement and another two at the level of the roof of the building, to provide wider access space.

8. The expert review recommends that an efficient ventilation system be installed (as per the design) as part of the refurbishment, to allow for the safe use of the water treatment equipment (be it the existing one or the new one).
9. The elements of the resistance structure of the pools examined during this expert review (in relation to the refurbishment by lining inside areas with special elements, according to the current modern technologies), are in a **satisfactory** technical condition. According to the results presented in the Test Report No 754 of 28.07.2017 of 'INCERCOM' CI ICSC (**Annex 5** – the real concrete resistance of the pool wall was $R=20,7$ MPa, which corresponds to class B-15, according to GOST 26633-91. Considering that the inner surfaces of the walls and bottom of the pools are covered with ceramic tiles on cement-and-sand mortar, the expert review mentions that fixing the metallic casings to the concrete walls of the pools by anchor bolts **is possible** without removing the tiles. The concrete grade (B15) identified via tests will ensure the strength and stability of the load-bearing lining elements of the pools if the anchor bolts penetrate the tiles and the plaster layer and if they have the required length for anchoring directly into the concrete walls of the pools. The length of the anchor bolts and the spacing between them will be determined by the designer during implementation or will be presented in the manufacturer's technological design.
10. Laying at the bottom of the pools a 200 mm thick concrete layer, according to new technologies for the set up of the water filtering system and waterproofing membranes **is possible**.
11. Develop a project for the refurbishment and strengthening of the load-bearing constructions in the basement under the building B (02), where the pool water treatment

equipment is located, and for the refurbishment of the pools in line with the rules in force and the recommendations made in Chapter 3 of this expert review report.

12. The refurbishment design is to be developed only by licensed individuals or legal entities only after the Certificate of Urbanism is issued.
13. The refurbishment works are to be done in line with the design developed and approved as provided for by the law by the relevant bodies of Chisinau Municipality only of the Building Permit is issued.
14. If anything is found that was not described in this expert review, the experts is to be informed about for decisions to be made.

Technical Expert in Construction:

I. Postolachi

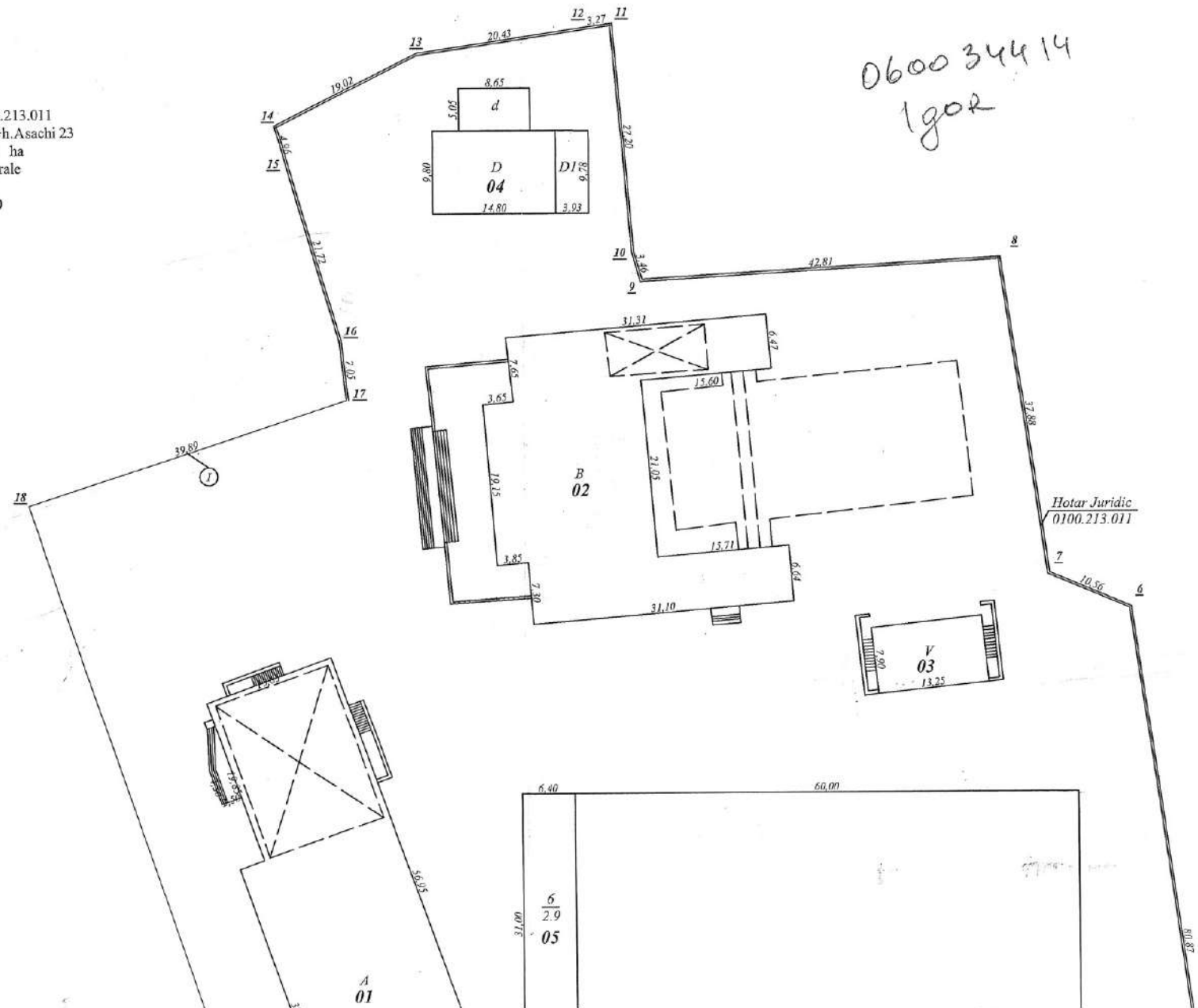
Construction Engineer:

D. Mirza

Planul Lotului

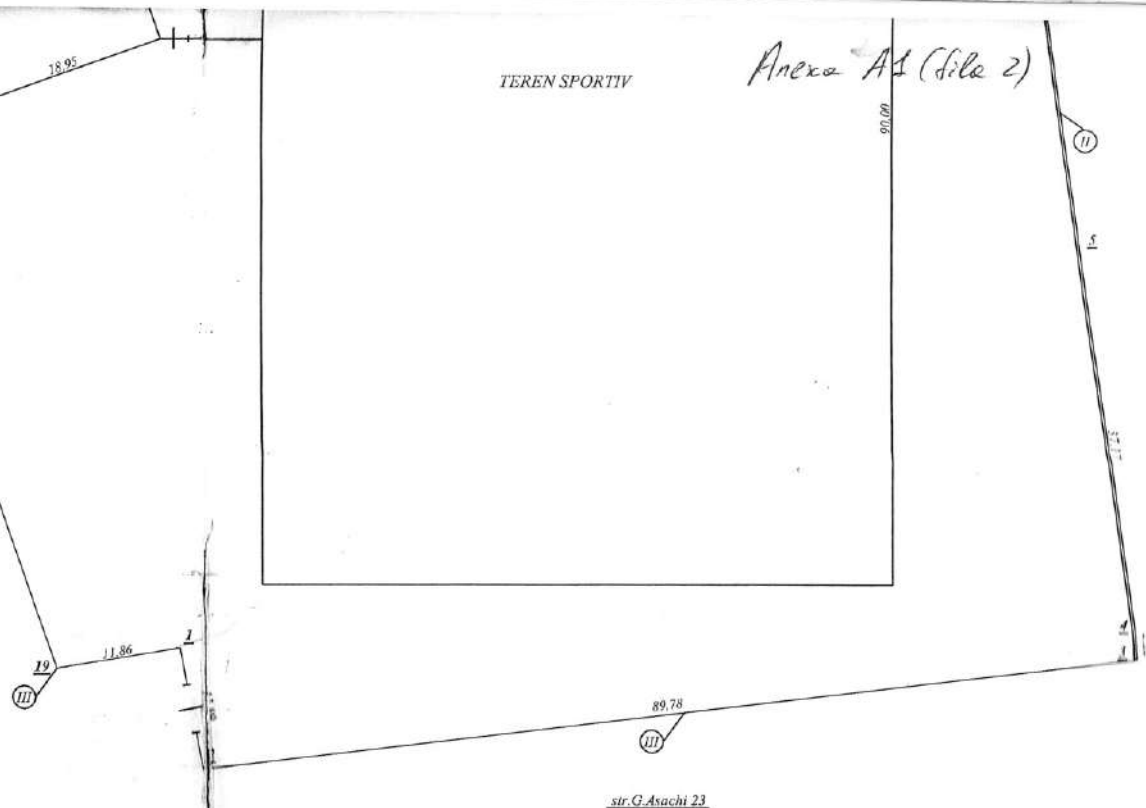
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1902



Nr.cadastral	Tipul bunului imobil	Modul de folosință	Suprafața (ha,m.p.)TXT	Suprafața (ha,m.p.)BDG	Mențiuni
0100213.011	Țeren	Pentru Construcții	1.921	1.921	
01	Construcție	Lit.A-Sala sportivă	-----	703.0	
02	Construcție	Lit.B-Bazin Bazin Mare Bazin Mic	-----	806.2 370.8 125.8	
03	Construcție subterană	Lit.V-Viceu	-----	104.7	
04	Construcție	Lit.D,D1,d-Hotel	-----	228.4	
05	Construcție	Lit.6-Clădire de gospodărie	-----	703.0 198.4	

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P. Șvel

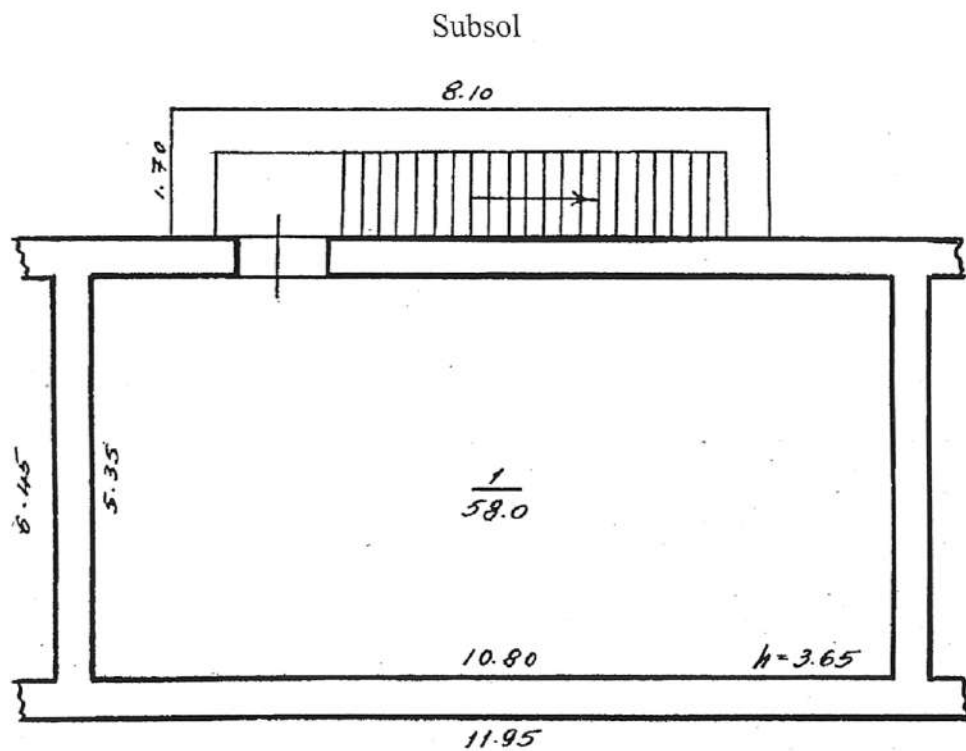


Șef OCT

Șef direcție



Agenția De Stat Relații Funciare Și Cadastru Oficiul Cadastral Teritorial Chișinău			
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Nr.cadastral 0100213011		LIT	
Numărul de inventariere		Intocmit <i>V. Gușu</i>	
Sectorul	Cartierul	lotul	Controlat <i>V. Gușu</i>
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03.04.2008			
Scara grafic 1:200			



Şef OCT

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:V. Guţu

Agentia De Stat Relații Funciare Și Cadastru Oficiul Cadastral Teritorial Chișinău					
Planul imobilului Chișinău str.G.Asachi 23					
Nr.cadastral 0100213011			LIT B	Întocmit 	
Numărul de inventariere				Controlat V.Gușu	
Sectorul	Cartierul	lotul			
Ce	24	68			

Înregistrarea tehnică a imobilelor din orașul (localitatea)

municipiul Chișinău

FIBA

m. Jan. Apr.
 6001

PENTRU CLĂDIREA PRINCIPALĂ

Cod.	B
după plan	

Fişa a fost întocmită

03.04.08

Proprietate-Imobil pe str. Gh.Asachi 23

1. Date generale ale clădirii

- | | | | |
|---------------------------|-------|------------------------------------|------|
| 1. Destinația clădirii | Bazin | 2. Anul de construcție | 1976 |
| 3. Data recepției finale | | 4. Anul ultimei reparații capitale | |
| 5. Numărul de nivele | 1 | 6. Numărul de scări | |
| 7. Numărul de apartamente | | 8. Numărul de odăi locative | |

2. Calcularea ariilor și volumelor clădirii principale, încăperilor aparte (subsolurilor demisolurilor, magazinelor mansardelor) și anexelor

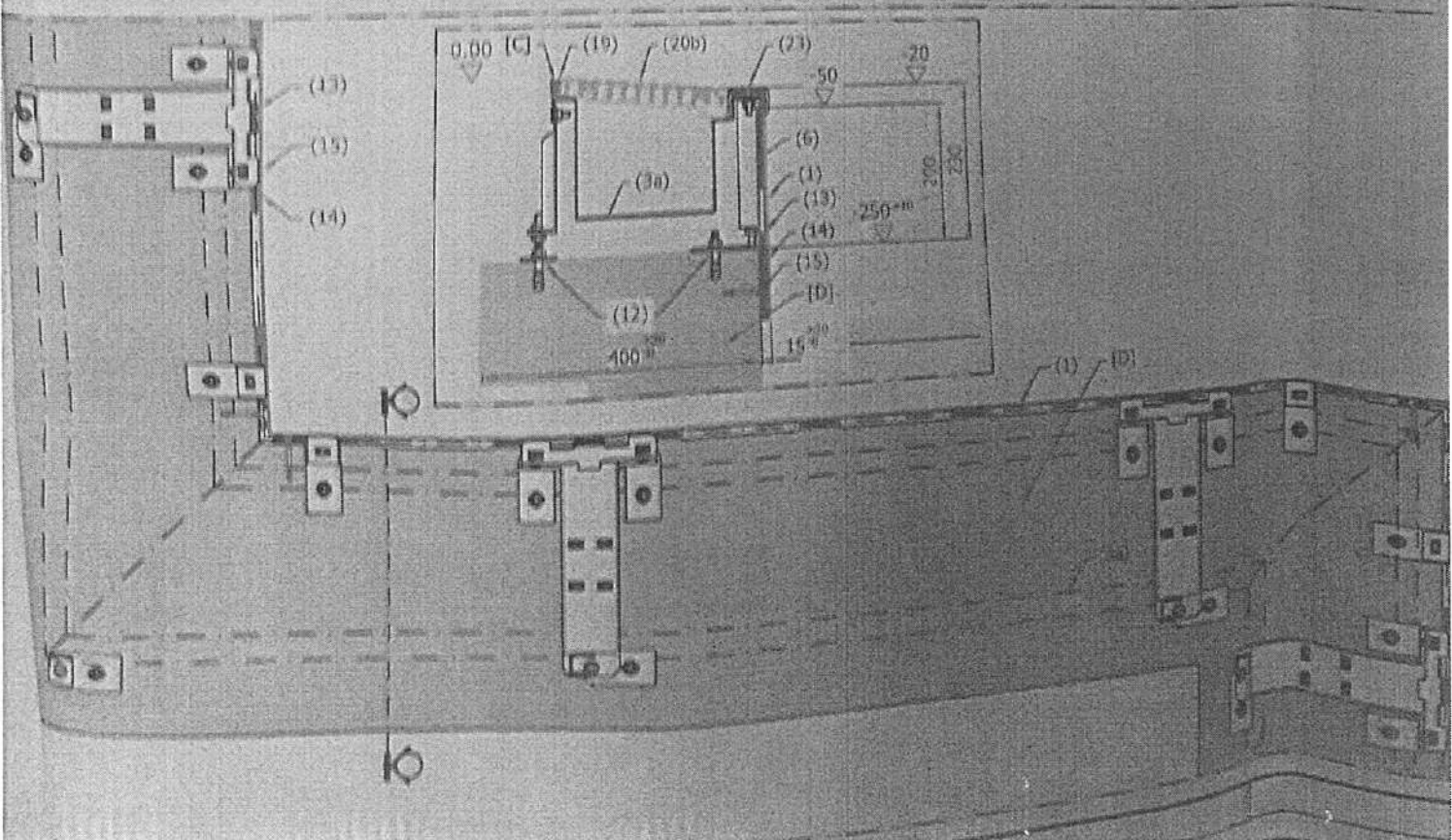
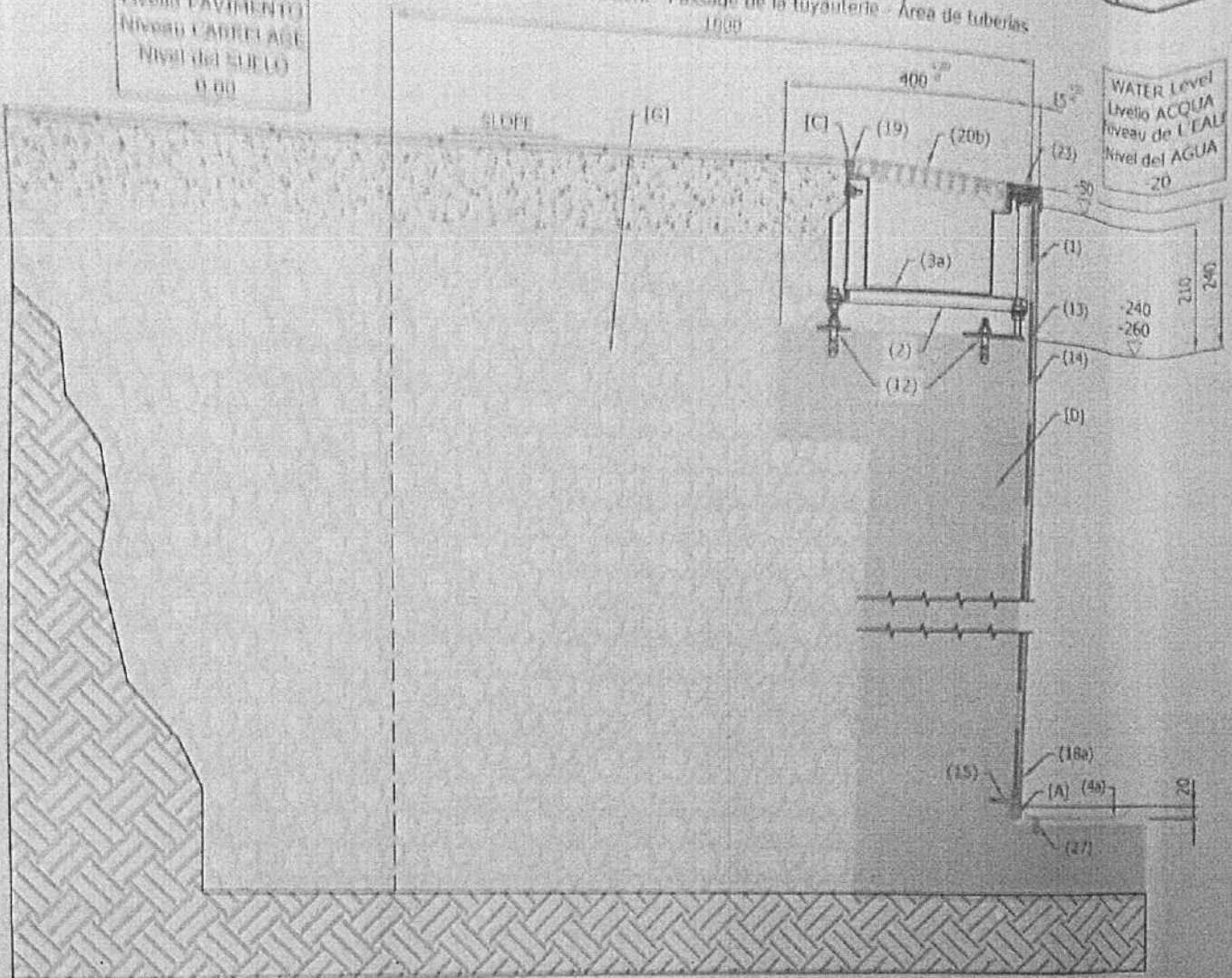
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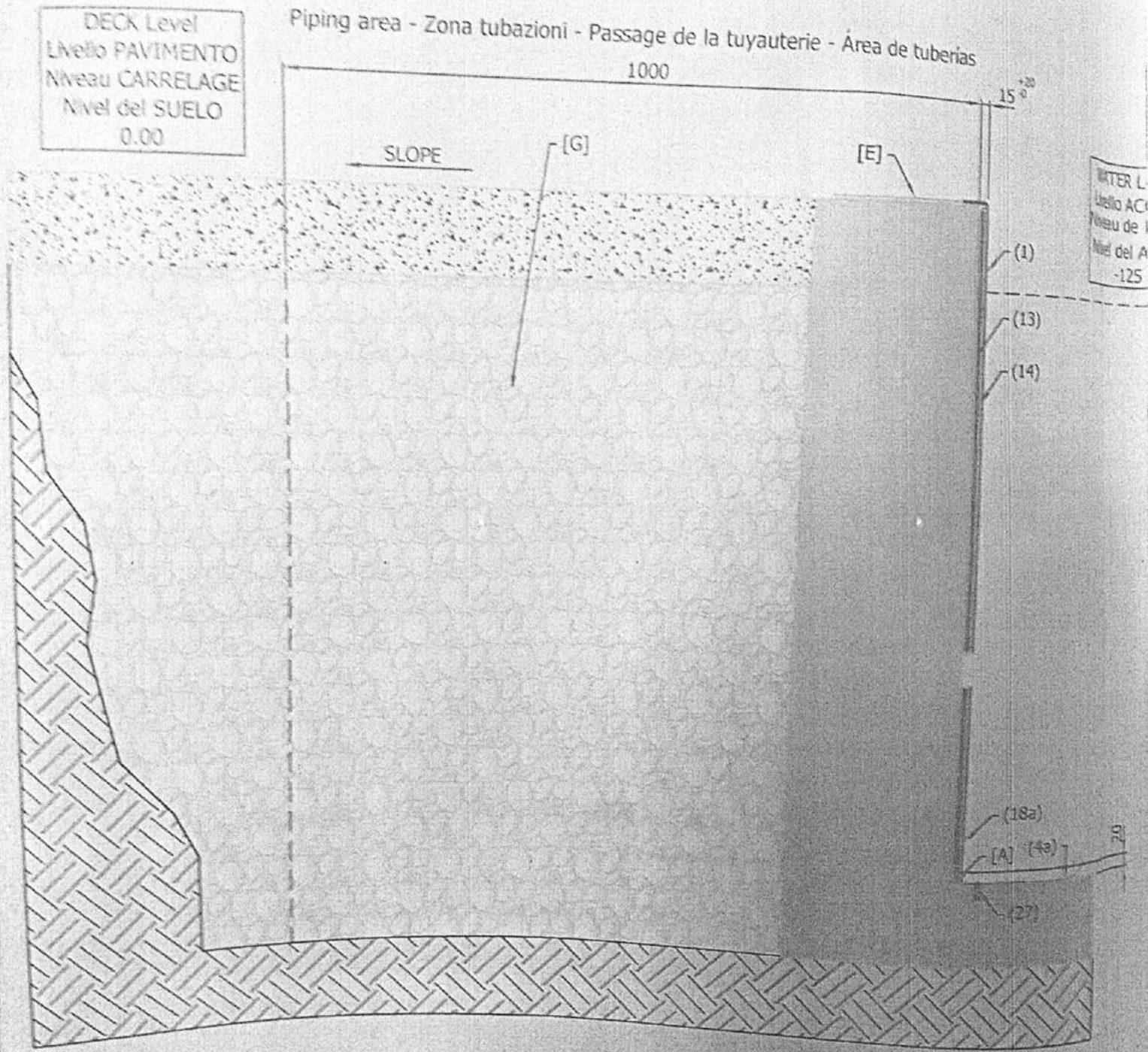
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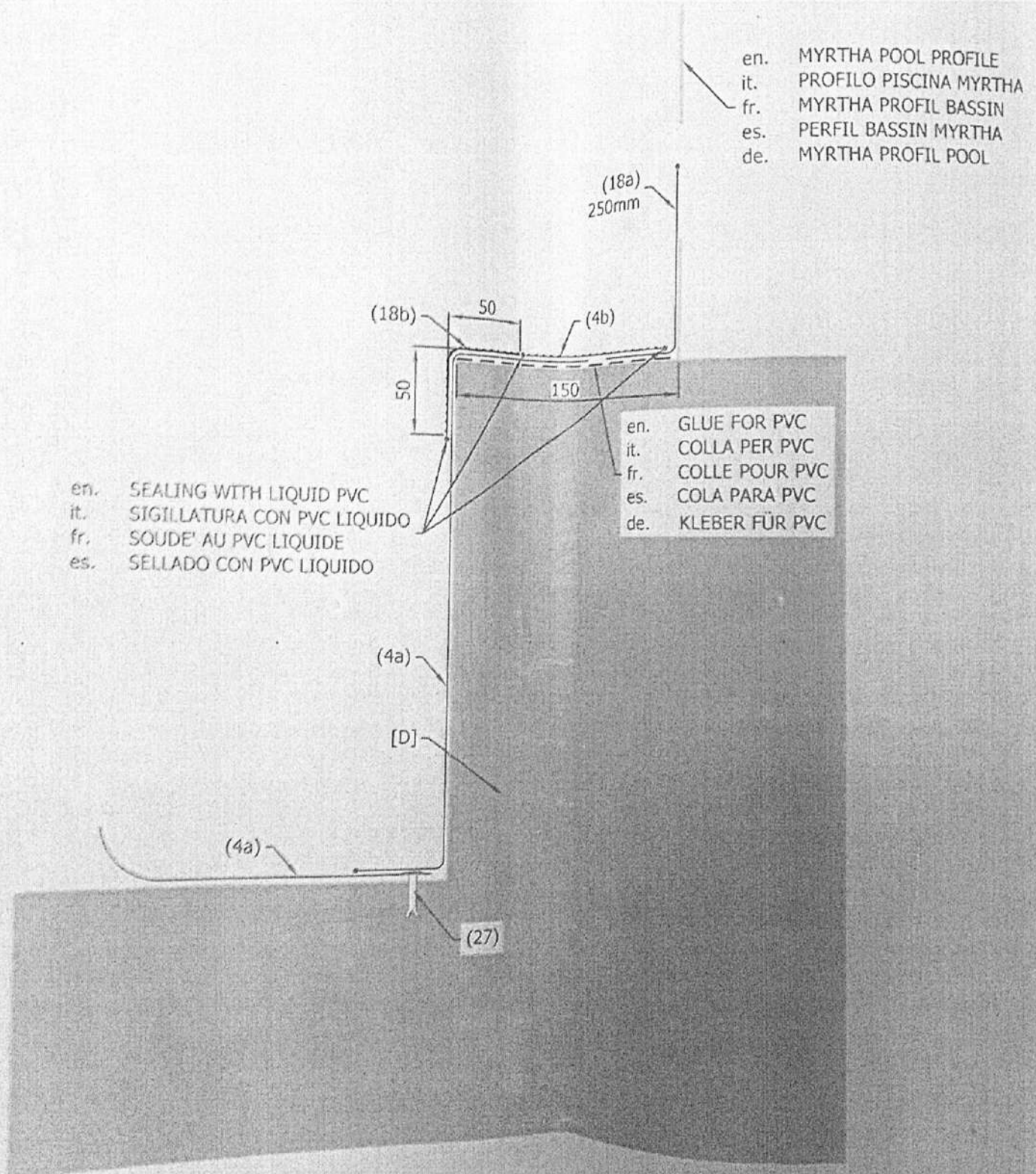
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Livello PAVIMENTO
Niveau L'ARRETEL
Nivel del SUELO
0.00

Piping area - Zona tubazioni - Passage de la tuyauterie - Area de tuberías
1000

WATER Level
Livello ACQUA
Niveau de l'EAL
Nivel del AGUA
20







Anexa A5 (file 1)

CENTRUL DE ÎNCERCĂRI
al Institutului de Cercetări Științifice în Construcții „INCERCOM” ÎS
or. Chișinău str. Independenței 6/1, 77-46-38
www.incercom.md

Denumirea produsului, ambalarea, volumul lotului, data fabricării, termenul de valabilitate (după caz): Pereți conform pag 2 (3 probe)

Solicitant: SA „SCPC” or. Chișinău str. Bănulescu Bodoni 45

Obiectul: Complex sportiv Dinamo or. Chișinău str. G. Asachi 23

Scopul încercării: determinarea mărcii betonului în construcție prin metoda nedistructivă.

Numărul și data de înregistrare a cererii solicitantului: nr.754 din 27.07.2017

Prelevarea probelor conform: GOST 22690-88 – mostrele au fost prelevate de către solicitant în conformitate cu documentele normative ale proiectului de construcție.

Locul prelevării mostrelor: or. Chișinău str. G. Asachi 23

Date de prelevare a probelor: act de prelevare a mostrelor nr.754 din 27.07.2017

Data primirii mostrei: 27.07.2017

Indicativul și denumirea documentului normativ la produs ce conțin caracteristicile pentru condițiile tehnice:

GOST 26633-91 pct. 1.3.2 „Beton greu. Condiții tehnice”

Indicativul și denumirea documentului normativ pentru metode de încercării:

GOST 22690-88 pct.4.7; pct.4.10 „Бетоны.Определение прочности механическими методами неразрушающего контроля.”

Aparatele și utilajul folosit pentru încercări:

ГПНБ-5, certificat de etalonare nr.3.2-751/2016 din 02.12.2016;

Riglă metalică certificat de etalonare nr.3.5-132/2016 din 25.08.2016.

Locul efectuării încercării: or. Chișinău str. G. Asachi 23

Condițiile la efectuarea încercărilor:

Temperatura aerului +22°C



RAPORT DE ÎNCERCĂRI
Nr.754 din 28.07.2017

Cod: RÎ-5.10

Ediția: 4

Data: 23.02.2015

Pagina: 2 / 2



Data începutului încercării: 27.07.2017

Data finisării încercărilor: 28.07.2017

REZULTATELE ÎNCERCĂRILOR

Nr	Denumirea elementelor din beton, locul efectuării încercării	Clasa după proiect	Data		Metoda de încercare GOST 22690-88		Clasa betonului GOST 26633-91
			betonării	încercării	forța de rupere cu așchiere	R,MPa	
1	Perete de subsol exterior	.-	-	27.07.2017	890	7,6	B-5
2	Perete la basein	.-	-	.-	2430	20,7	B-15
3	Perete la subsol interior	.-	-	27.07.2017	2430	20,7	B-15

Concluzie: Conform GOST 22690-88 rezistența reală a betonului în construcție este 7,6 – 20,7 MPa, ceea ce corespunde B-5 și B-20 conform GOST 26633-91.

Șeful CÎ ICȘC „INCERCOM”

Executantul



Mornealo N.

/specialist/ Stropșa I.

Un exemplar a raportului de încercări a fost înmînat:

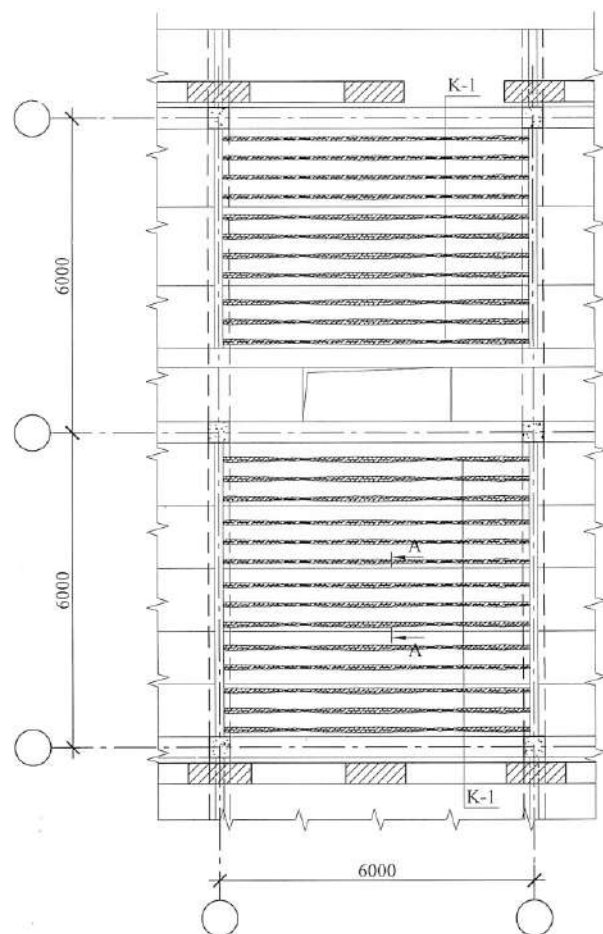
1. SA „SCPC”
2. CÎ „INCERCOM” ÎS

În atenția producătorilor, utilizatorilor și organelor de control:

Rezultatele încercărilor se referă la probele testate. Copia raportului de încercări nu este valabilă fără originalul semnăturii și a ștampilei Centrului de Încercări al Institutului de Cercetări Științifice în Construcții „INCERCOM” ÎS. Retipărirea raportului de încercări sau reproducerea fără permisiunea Centrului de Încercări al Institutului de Cercetări Științifice în Construcții „INCERCOM” ÎS este strict interzisă.

Anexa A5
(File 2)

Schema de consolidare a planșeului existent

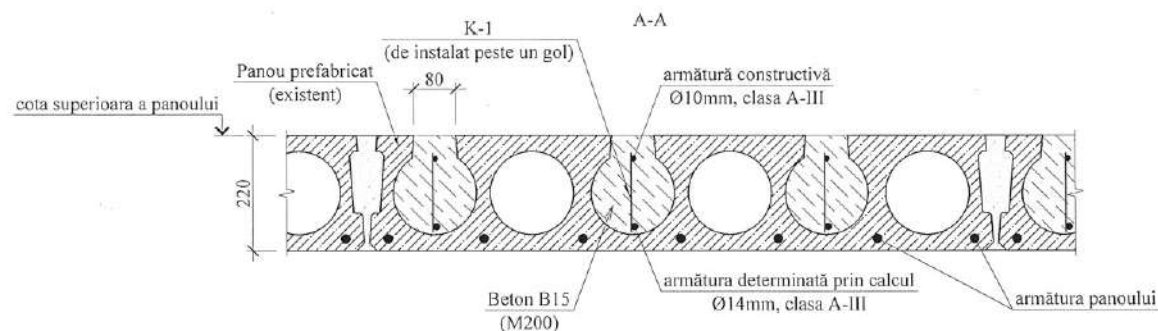


Anexa A6

Specificație

Poz.	Indicație	Denumire	Cant.	Masa un.kg	Nota
K-1		Carcasa plană K-1 L=3150	25	13.9	v. nota 1
		Beton B 15 m³	3.4		v. nota 1
		Carcasa K-1		13.9	
c 1	ГОСТ 5781-82	Ø14 A-III L=5850	1	7.1	
c 2	" "	Ø10 A-III L=5850	1	3.63	
c 3	" "	Ø 8 A-I L=190	39	0.08	

Poz. * vezi tabela elemente



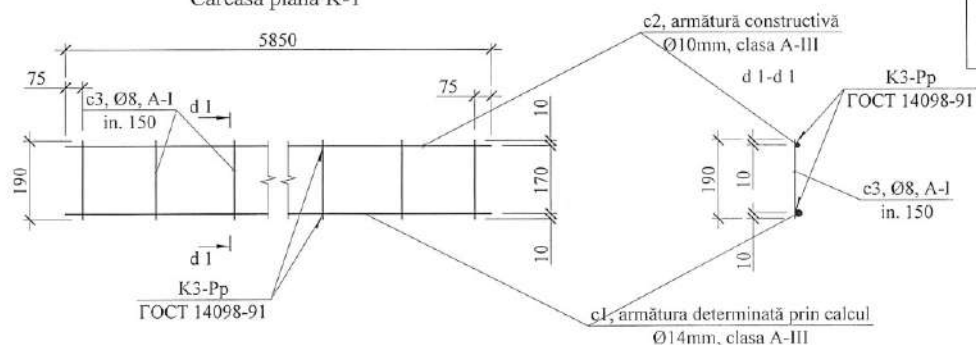
Variantă de consolidare a planșeului existent deasupra subsolului pe toată suprafața acestuia

- se scoate pardoseala existentă până la suprafața planșeului;
- se demolează stratul superior de beton (cu lățimea până la 80 mm) al planșeului existent peste un gol al acestuia pentru instalarea carcaselor plane K-1;
- golul se curăță și se spală cu apă;
- se instalează carcasa K-1 (peste un gol al planșeului existent), în poziția de proiect și se betonează golul pe lungimea indicată.

Nota:

1. Desenele date sunt prezentate ca exemplu de consolidare a planșeului. Diametrul armăturii carcaselor de consolidare se va stabili prin calcul de către proiectant, în cadrul elaborării proiectului de consolidare, reieșind din sarcinile reale care vor acționa asupra planșeului existent al subsolului. Cantitatea de armătură și beton pentru consolidarea planșeului se va preciza în proiectul de consolidare.

Carcasa plană K-1



Beneficiar: MAI al RM

Expertiza Tehnica Nr. 297-07-17/T

				Cercetarea stării tehnice a construcțiilor subsolului clădirii lit. B (02) și bazinelor acvatice adiacente, construite pe terenul cu nr. cad. 0100213011 din mun. Chișinău, str. Gh. Asachi, 23, privind examinarea posibilității efectuării reconstrucțiilor preconizate			
Expert	Postolachi I.						
Constr.	Mîrza D.						

