



MOSCOW CITY GOVERNMENT

Moscow Committee for Architecture

MOSCOW URBAN CADASTRE



GIS supported Information System

for

Sustainable Urban Development of the City of Moscow

moves to ESRI Platform

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Abstract

Political and economic transformations in Russia in the early 1990s led to the burst of private initiatives in real estate and other economic sectors as well as to the need to equip the Moscow City Government with modern IT based tools in order to manage all public and administrative information resources.

The main requirements for the system were focused on town planning and documentation, urban design and urban development control, planning of investments, support of decision-making for all authorities and on the demand to secure private and public property.

The development of such system was under great political and time pressure due to the fact of immense and unexpected economic growth since the political changes in the Russian Federation.

Under the leadership of Mr. Alexander Kuzmin, Chief Architect of the City of Moscow, and Mr. Sergej Melnichenko, Chief of the Moscow Urban Cadastre Service, the Moscow urban cadastre information system was developed and was also subsequently marked as “good practice” by UN-HABITAT Programme.

In spring 2006 ESRI Germany together with the local ESRI Distributor Data+ and the Moscow Urban Cadastre Service signed an agreement about the creation of a GIS supported Information System for sustainable urban development on ESRI International Platform to introduce it worldwide for local City and Country Governments. The cooperation project is based likewise on IT - developments and experiences of the city administrations of Moscow and Munich Bavaria.

Data Model GIS Standard and Data Interoperability

While reaching a quite acceptable state of the art in serving Moscow city administrative requirements the upcoming requests of other large cities of the Russian Federation and the International attention for this System made it necessary to promote industrial GIS Standards and to introduce Data Interoperability Standards. While there are many approaches that could be taken to achieve this result, the most practical approach is for organizations to adopt data model standards at the local level so that the integration of data at regional, national and international levels will be possible.

Relationship to GIS and Industry/Scientific Standards

These “conceptual data models” can also be thought of as “conceptual frameworks” – a set of common terminology that helps us to easily communicate complex ideas. Some examples where a complex vocabulary has developed are scientific disciplines that use taxonomies, medical terms, and engineering standards. GIS communities should not try to re-invent these concepts; they should support the adoption of existing concepts and develop standards where they do not exist.

Rights and interests in land represent a large bundle of sticks, and that bundle of sticks can be bought and sold in various ways. Each grouping, such as ownership, encumbrances, and separated rights can be thought of as a “layer” or “feature class” in a GIS system. Every separable legal right and interest is conceptually a set of polygons. This foundation is integral to cadastral data standards such as the US Federal Geographic Data Committee (FGDC) and the Open GIS Consortium (OGC) cadastral data standard. Rather than invent different modelling techniques, local government agencies are quickly moving towards the adoption of these terms and concepts in their projects. It is expected that this movement will lead to a better understanding of data being used to make decisions at the local level, and that it will also lead to the natural development of a national cadastral system over time [Steve Gris , ESRI Redlands, 2003].

Relationship to Technology Standards

The need for GIS software that supports technology standards is driven by several factors. In this paper we will focus on the two most important drivers. First, GIS systems and geographic locations are increasingly seen as essential to the IT enterprise. To support better integration, software must be standards-based from the ground up. This includes:

- ❑ Storage using relational database engines rather than proprietary file structures,
- ❑ The use of appropriate industry standards for the construction of desktop and web products,
- ❑ Adoption of current programming tools and development environments, and
- ❑ The ability to take advantage of evolving technologies to ride successive waves of core technology advances.

A second reason for support of technology standards is to simplify the exchange of data. While applications for managing data may be quite sophisticated, the needs of the majority of users are much more basic. The typical needs involve sharing simple features as defined by ISO/OGC Standards. The modern solution to this level of access is not at the physical database level, but at an application logic level that presents reliable interfaces to support high-performance systems [Steve Gris , ESRI Redlands, 2003].

Urban Data Model Content

The remaining sections of the paper address the content of a modern Urban Data Model. The six thematic groups of the Urban Data Model are shown in Figure 1.

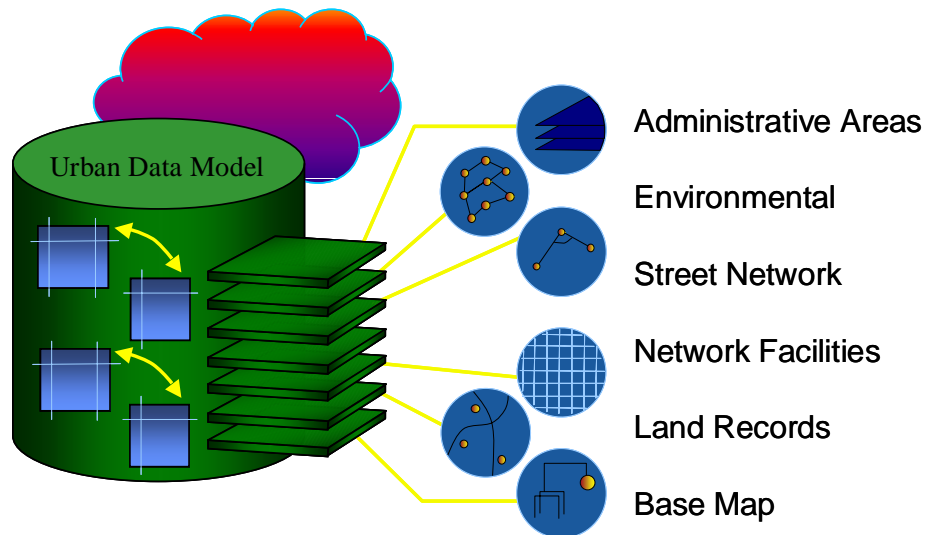


Figure 1. Thematic Groups of the Urban Data Model [Steve Gris , ESRI Redlands, 2003].

Performing Data Interoperability and System Migration requires sophisticated GIS – Tools and – Techniques. ESRI ArcGIS products meet the requirements of Standards and of generic GIS technology at best. The primarily used techniques and products are briefly mentioned as follows:

ArcGIS Data Interoperability Extension

- ❑ Allows users to integrate many different spatial data formats into their GIS analysis directly.
- ❑ Direct read for 65+ spatial data formats
- ❑ Export of 50+ spatial data formats
- ❑ Ability to diagram and model your own spatial data format
- ❑ Ideal tool for consuming new GML application schemas.

ArcIMS Data Delivery Extension

- ❑ The Data Delivery Extension for ArcIMS allows users to download spatial data in the format and projection of their choice.
- ❑ Supports over 20 formats
- ❑ Built by ESRI and Safe Software

Why use a generic GIS framework?

- ❑ Minimize application-specific system engineering
 - Less code to design, develop, and maintain
 - Allow domain experts and users to directly configure and adapt the system
- ❑ The system is more adaptable to changing requirements
- ❑ Ability to share and integrate information between systems (information interoperability)
- ❑ Development of reusable geographic information expertise, techniques, training, and talent which can move between projects.

The sheet on next page determines the Hard - and Software configuration in connection with the requirements of System Migration and to maintain Data Interoperability of a multipurpose Geodatabase.

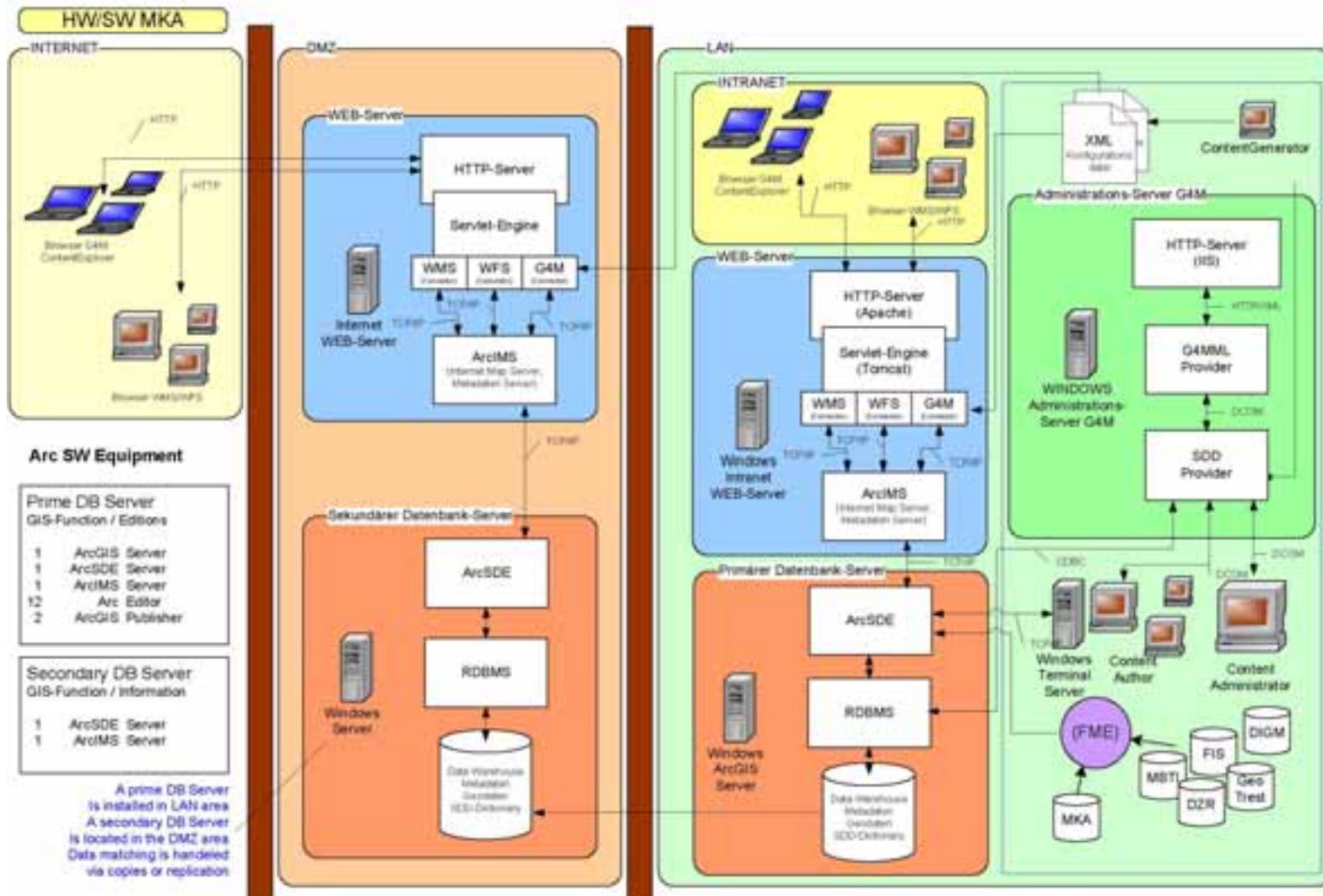


Figure 2: HW/SW Equipment for the System Moscow Urban Cadastre based on ESRI Technology

**Service of Urban Gardens
of Moscow**



The aim for the development and operation of the Urban Cadastre was to ensure timely provision of government bodies, investors, building organizations, private developers and city residents with actual, reliable and legally sound information necessary for decision-making, planning of investments, urban design and control over urban development to be exercised by the authorities and society.

Information provided by the urban cadastre includes data related to the existing situation and land-use pattern of the city, town planning regulations (restrictions) in force, on-going urban and architectural projects, town planning value of urban lands. Under the growing variety of land ownership types in Russia the urban cadastre is acting as the key mechanism enabling to achieve sustainability and transparency in the course of managing urban development in cities of any size.

Six-year experience in the application of the urban cadastre made it possible to avoid the most costly and irretrievable mistakes in city development – mistakes in urban planning; it also contributed to the rational use of budgetary resources and their concentration on the most critical directions such as improvement of the housing quality, development of engineering and transportation infrastructure, nature conservation, preservation of the historic city image with its unique landscape, and helped promote public awareness and knowledge about plans and actions proposed by the authorities towards further city development.

Experience gained in the course of the development and application of the urban cadastre was successfully replicated in a number of other cities of Russia including: Yakutsk, Gelendzhik, Yaroslavl. This experience makes it possible to conclude that the system proved to be equally efficient in large and medium-size and smaller cities.

Seminars arranged by Moscow Urban Cadastre Service with the involvement of experts in city governance from France, Germany, Denmark as well as the analysis of documents provided by the UN Human Settlements Programme showed that the urban cadastre could be very efficient in the developed countries and it is of vital importance for the transition and developing countries. Relatively low development costs for the urban cadastre (US \$ 500-1,000 per 1,000 population) on the background of its evident advantages make it possible to make optimistic forecasts concerning its wide application both in Russia and around the world.



SITUATION BEFORE THE WORK FOR THE URBAN CADASTRE BEGAN

Political and economic transformations in Russia in the early 1990s led to the burst of private initiative which alongside with positive implications was accompanied by conflicts with the interests of society. Moscow, in the first place, felt the need in the qualitative development and an acute shortage in reliable information about the city that could be accessible to the authorities and population. In the absence of a system capable to establish transparent and strict "rules of the game" and to control their observance, municipal authorities were unable to promote sustainable city development and the city population, and especially its socially disadvantaged groups, could not expect any progress in terms of the improved quality of life and realization of their rights.

KEY DATES

- December 11, 1998 – Approval of Terms of Reference to develop Urban Cadastre.
- April 7, 1999 – Issuing of the 1th cadastral report.
- September 28, 1999 – Publication of normative documents related to the Urban Cadastre.
- September 13, 2001 – Official launching of the Urban Cadastre.
- June 6, 2002 – Official presentation of the Urban Cadastre in the Kremlin.
- October 28, 2003 - Issuing of the 10.000th cadastral report.
- June 13-17, 2004 – "Moscow State Urban Cadastre as System Enabling Sustainable City Development" has been selected as a Good Practice UN-HABITAT.
- December 12, 2004 – Publication of Law "Moscow Urban Cadastre".
- January 15, 2005 – Internet distribution of cadastral information.
- May 14, 2005 - Issuing of the 15.000th cadastral report.

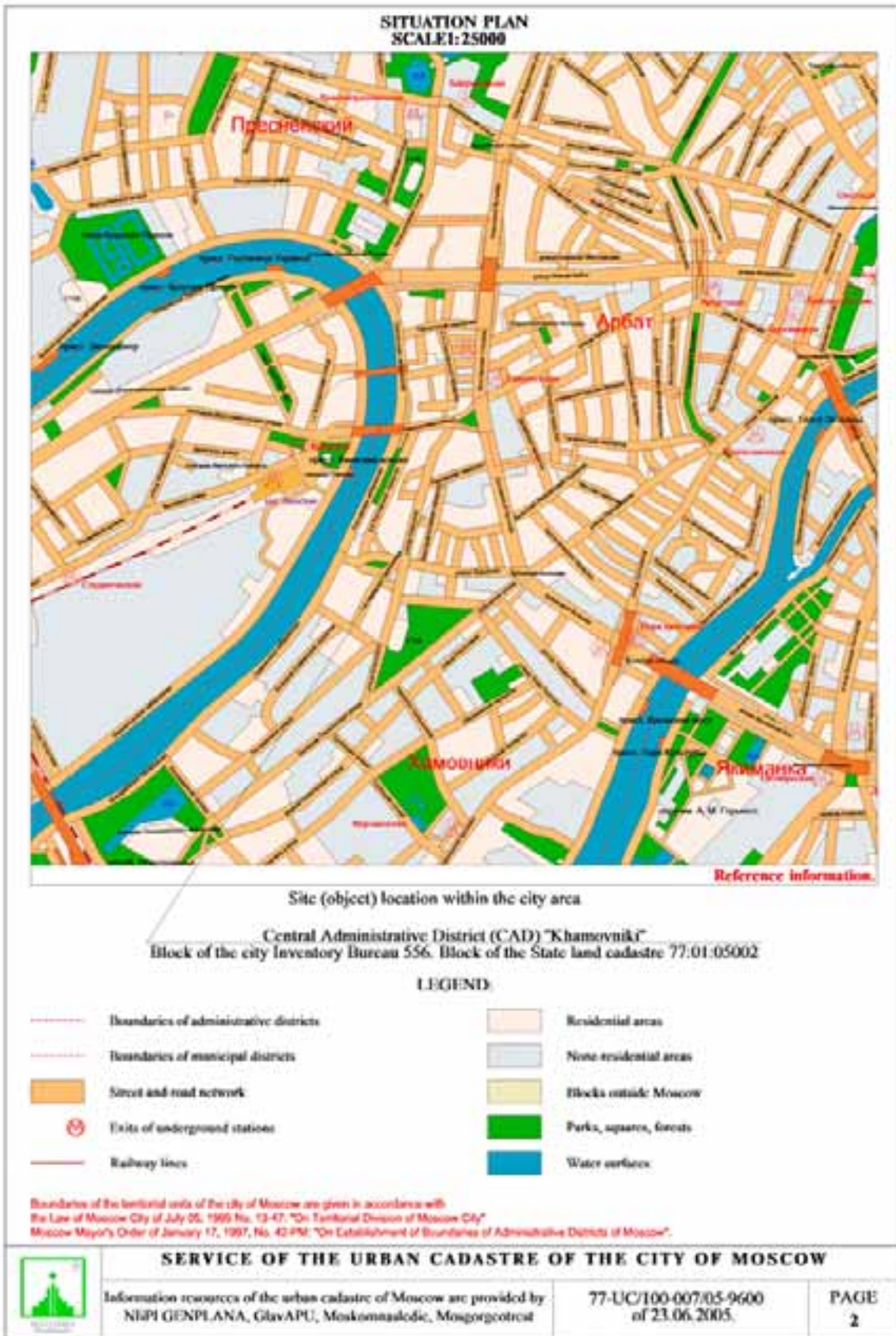


Figure 3: Moscow City Situation Plan

ESTABLISHMENT OF PRIORITIES

The Government of Moscow established the following basic priorities that serve as a basis to choose development strategy:

- provision of an optimal ratio between the interests of the rapidly-growing economic and urban development of the city, qualitative improvement of the quality of life of some categories of citizens and socially significant interests and values related to the conservation of the historic city image, support and development of public institutions (education, public healthcare, culture), strict observance of sanitary and ecological norms, conservation and development of engineering and transportation infrastructure;
- qualitative improvement of the investment climate in the city through the improved information of potential investors, provision of economic incentives for the development of construction and industry and, as a consequence, creation of new jobs and lessening of social tension;
- development of democratic mechanisms of city governance, bringing together authorities and community through better awareness of wide public about the plans of municipal authorities and involvement of public organizations and private persons in the processes of plan formulation and control.

OBJECTIVES AND STRATEGIC PRINCIPLES OF URBAN CADASTRE

The aim of the urban cadastre formulation and operation is to provide municipal authorities, investors, public organizations and private persons with full, reliable and legally sound information about town planning and environmental restrictions in force, land plots including buildings and structures located on them, on-going urban and architectural projects, town planning value of urban lands, their actual condition and use.

Urban Cadastre is a computerized information system operating on a "one window" principle. It means that an applicant could get all necessary information in one organization – Urban Cadastre Service under Committee for Architecture and Town Planning of the City of Moscow – which is provided in the form of a single document having a unified nature – a cadastral report (Images) in accordance with a unified procedure established by the city administration. Cadastral reports are also available in the electronic version.

According to the established procedure the use of cadastral information is subject to the binding principle. It means that any decision taken by the authorities with regard to the allocation or use of urban lands should obligatory take into consideration the information contained in the cadastral report.

MOBILISATION OF RESOURCES

All works for the development and initial technical equipment of the urban cadastre were carried out on the order of the state customer – Moscow Government - who also provided the necessary financial support from the resources of the city budget. Other agencies involved in the cadastre preparation included organizations under Committee for Architecture and Town Planning of Moscow and private firms that carried out some special types of works.

However, after the urban cadastre has been put into operation the Urban Cadastre Service was authorized by Moscow Government to start provision of information services on a paid basis to the organizations and persons undertaking commercial activities within the city area.

Today financial support to the urban cadastre is provided approximately in equal parts from the following two sources: city budget of Moscow and money earned from the provision of paid information services.

PROCESS

The main problem encountered in the operation of the urban cadastre is associated with the need to facilitate continuous supply of information from various organizations and departments that was supported

by the relevant documents and was sufficiently full and reliable. In the solution of this problem great assistance has been given to Urban Cadastre Service by the City Mayor, Moscow Government and deputies of Moscow City Duma.

In spite of the existing difficulties it was possible to promote the process of information collection and its constant updating to include more than 40 types of information (information resources) for the urban cadastre.



Input, checking, registration, storage and supply of cadastral information to the users were arranged on the basis of innovative information technologies using a highly-productive computer system. Graphic information is processed by the Bentley Model Server Publisher and semantic data – by the Oracle DBMS. Applied information technologies have been developed by the experts of Urban Cadastre Service. The problems that are to be addressed and that are currently under solution include collection of information about land plots and property objects in the on-line regime and on-line input of information about actual and projected changes in the state of urban facilities, initiation of the monitoring of urban objects to identify and eliminate disproportions in the regulated and actual use of urban lands.

The urban cadastre made it possible to realize a principle of equal access to the information which is manifested as a possibility of any organization or private person applied to the Urban Cadastre Service to get a cadastral report on equal terms. Over 6 years of its operation more than 15,000 users were served and there were no cases of refusal of information supply.

The cadastral information is now available on the Internet.

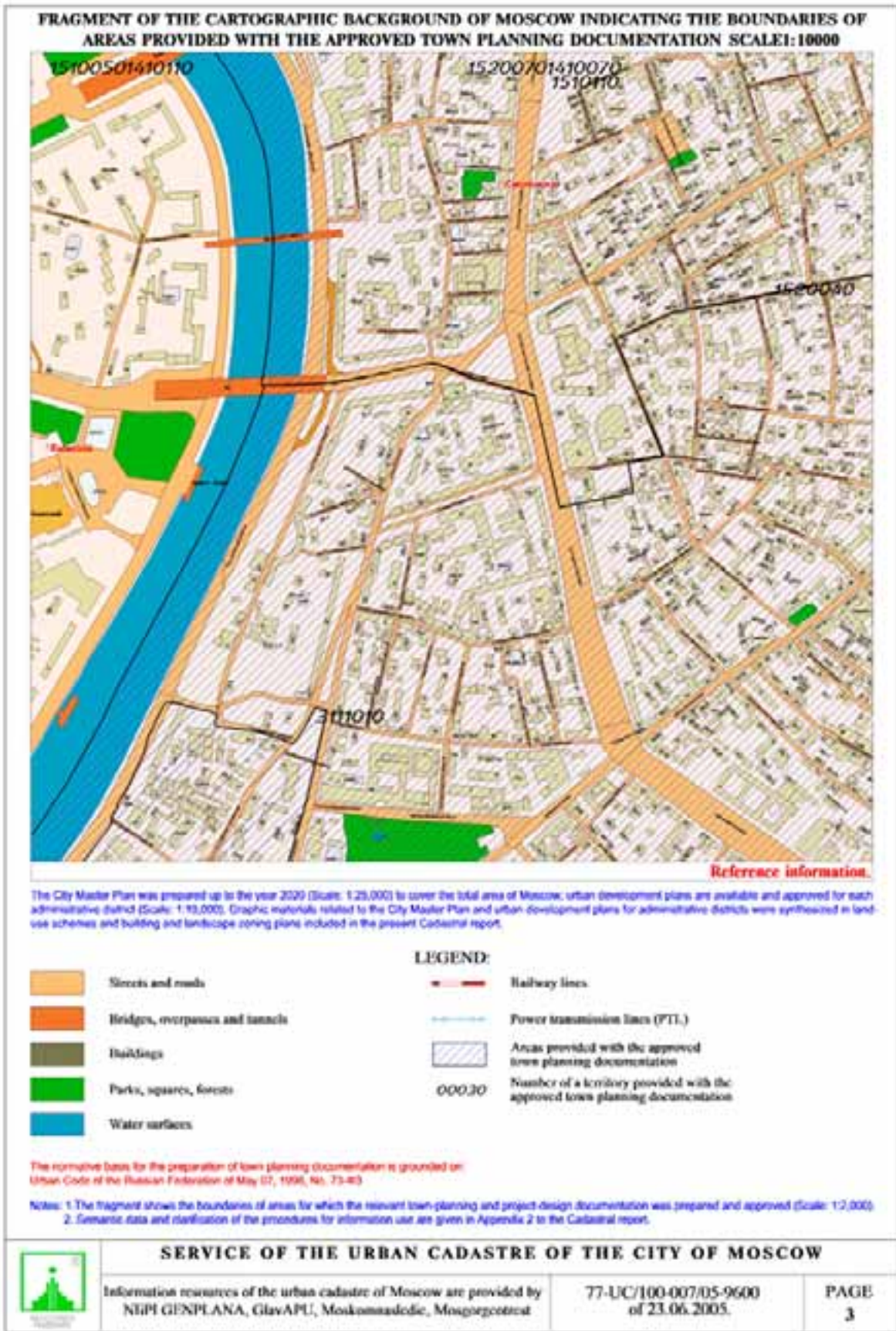


Figure 3: SCHEME OF TOWN-PLANNING DOCUMENTATION

1410070 Basic provisions of the urban concept aimed at rearrangement of the Central Administrative District area

Design stage: town-planning documentation
Name of document: Basic provisions of the urban concept aimed at rearrangement of the Central Administrative District area
Authorization document to approve the project: Resolution of Moscow Government 808 of August 24, 1993
Customer: Prefecture of the Central Administrative District
Urban cadastre registration number: 3.1.7.000016

1410110 Concept of social, economic and urban development of the West Administrative District of Moscow under the market economy conditions

Design stage: Town-planning documentation
Name of document: Concept of social, economic and urban development of the West Administrative District of Moscow under the market economy conditions
Estimated period: year 2005
Authorization document to approve the project: Resolution of Moscow Government 145 of March 24, 1992
Urban cadastre registration number: 3.1.7.000011

1510050 Urban development plan of the West Administrative District of Moscow 20-97/41

Design stage: Town-planning documentation
Name of document: Urban development plan of the West Administrative District of Moscow
Estimated period: year 2020
First stage: year 2005
Authorization document to approve the project: Resolution of Moscow Government 1031 of November 13, 2001
Customer: State Enterprise "Central Administrative Board for Town-planning Works" under Moscow Committee for Architecture
Developer: State Enterprise "Research and Design Institute for the Master Plan of Moscow"
Urban cadastre registration number: 3.1.7.000026

1510110 Urban development plan of Central Administrative District of Moscow 32-97/35

Design stage: Town-planning documentation
Name of document: Urban development plan of Central Administrative District of Moscow
Estimated period: year 2020
First stage: year 2005
Authorization document to approve the project: Resolution of Moscow Government 410 of April 24, 2001
Customer: State Enterprise "Central Administrative Board for Town-planning Works" under Moscow Committee for Architecture
Developer: State Unitary Enterprise - "Research and Design Institute for the Master Plan of Moscow"
Urban cadastre registration number: 3.1.7.000027

1520040 Urban development plan of the district of "Khamovniki" 32-00/116

Design stage: Town-planning documentation
Name of document: Urban development plan of the district of "Khamovniki"
Estimated period: year 2020
First stage: year 2005
Authorization document to approve the project: Resolution of Moscow Government 368 of May 21, 2002
Customer: State Enterprise "Central Administrative Board for Town-planning Works" under Moscow Committee for Architecture
Developer: State Unitary Enterprise - "Research and Design Institute for the Master Plan of Moscow"
Urban cadastre registration number: 3.1.7.000033

1520070 Urban development plan of Arbat District

Design stage: Town-planning documentation
Name of document: Urban development plan of Arbat District
Estimated period: year 2020
Authorization document to approve the project: Resolution of Moscow Government 632 of August 8, 2002
Customer: State Enterprise "Central Administrative Board for Town-planning Works" under Moscow Committee for Architecture
Developer: Mosproject-2 in collaboration with "Research and Design Institute for the Master Plan of Moscow"

3111010 Planning design of building estates Nos. 535, 536, 537, 542 on Savvinskaya quay (district of "Khamovniki") 32-01/450





Design stage: Town-planning documentation
Name of document: Urban development plan of Presnensky District
Estimated period: year 2020
Authorization document to approve the project: Resolution of Moscow Government 925 of November 12, 2002
Developer: State Unitary Enterprise - "Research and Design Institute for the Master Plan of Moscow"
Registration number of SUC: 3.1.7. 000038

FRAGMENT OF THE LAYOUT OF MOSCOW NATURAL COMPLEX
SCALE 1:5000



Reference information.

LEGEND:

-  Specially protected natural areas
 -  Natural complex objects
 -  Natural complex objects (the boundaries of which are not fixed by the red line acts)
 -  Water bodies
- 600681 (2,3) Number of a natural complex object (number of a region to regulate urban activity within a natural complex area)

Normative legal acts to regulate urban activity within the area of Moscow natural complex include:
 Law of the City of Moscow of October 24, 1998, No. 26: "On Regulation of Urban Activity within the Area of Moscow Natural Complex"
 Resolution of Moscow Government of October 13, 1988, No. 799 "On Implementation of Resolutions of Moscow Government of February 26, 1997 No. 117, "On Condition and Measures Aimed at the Development of Moscow Natural Complex", in particular, conservation and rehabilitation of the natural complex in the central part of Moscow"
 Resolution of Moscow Government of January 19, 1999 No. 28: "On Project Proposals to Establish the Natural Complex Boundaries Including their Description and Fixing by Red Line Acts"
 Resolution of Moscow Government of March 26, 2002 No. 203-07: "On the Approval of a Scheme of Natural Complex Objects in the Central Administrative District and Establishing of Regimes to Regulate Urban Activity"

Note: Regimes of urban activity within the natural complex area and clarification of the procedures for information use are given in Appendix 2 to the Cadastral report.



SERVICE OF THE URBAN CADASTRE OF THE CITY OF MOSCOW

Information resources of the urban cadastre of Moscow are provided by
 NIPI GENPLANA, GlavAPI, Moskomnadec, Mosgorzootrest

77-UC/100-007/05-9600
 of 23.06.2005.

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Figure 4. Layout Scheme of the natural complex

38940 Landscaped areas of housing estate

Landscaped areas of housing estate, 080, number under Resolution: 341, area: 32 ha, layout act of urban regulation lines LAURL number: 354 of 25.11.99, Regime: 2

38941 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 120, number under Resolution: 791, area: .44 ha, LAURL number: 436 of 18.10.99, Regime 2,5

38942 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 121, number under Resolution: 229, area: 2.02 ha, LAURL number: 344 of 22.11.99, 120 of 25.09.02, Regime 2,4

38948 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 114, number under Resolution: 701, area: .5 ha, LAURL number: 437 of 18.10.02, Regime 2

38949 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 053, number under Resolution: 559, area: .13 ha, LAURL number: 340 of 22.11.99, 20 of 11.03.03, Regime 2

38950 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 121, number under Resolution: 229, area: 2.02 ha, LAURL number; 344 of 22.11.99, 120 of 25.09.02, Regime 2,4

38952 Landscaped areas of street-and-road network

Landscaped areas of street-and-road network, 103, number under Resolution: 712, area: .07 ha, LAURL number: 435 of 18.10.00, 20 of 11.03.03, Regime 2,4

38954 Landscaped areas of administrative, scientific, educational and children's institutions

Landscaped areas of administrative, scientific, educational and children's institutions, 132, number under Resolution: 352, area: .32 ha, LAURL number; 356 of 25.11.99, 20 of 11.03.03, Regime 2

38955 Squares

Squares, 543, number under Resolution: 47, area: .51 ha, LAURL 112 of 25.09.02, 20 of 11.03.03, Regime 2

38957 Landscaped areas of administrative, scientific, educational and children's institutions

Landscaped areas of administrative, scientific, educational and children's institutions, 122, number under Resolution: 352, area: 0.32 ha, LAURL number: 356 of 25.11.99, 20 of 11.03.03, Regime 2

38958 Landscaped areas of housing estate

Landscaped areas of housing estate, 058, number under Resolution 627, area: 2 ha, LAURL number: 340 of 22.11.99, 112 of 25.09.02, Regime 2

38959 Landscaped areas of administrative, scientific, educational and children's institutions

Landscaped areas of administrative, scientific, educational and children's institutions, 028, number under Resolution: 353, area: .1 ha, LAURL number: 356 of 25.11.99, 20 of 11.03.03, Regime 2

38960 Landscaped areas of cultural institutions

Landscaped areas of cultural institutions, 030, number under Resolution 741, area: .02 ha, LAURL number: 475 of 30.11.00, 20 of 11.03.03, Regime 2

38963 Landscaped areas of administrative, scientific, educational and children's institutions

Landscaped areas of administrative, scientific, educational and children's institutions, 109, number under Resolution: 571, area: .1 ha, LAURL number: 340 of 22.11.99, 112 of 25.09.02, Regime 2

Regimes of town planning activity:

Regime No. 1: Within the areas and sites subject to Regime 1 no transformations of landscape, existing and historically established natural objects, parks, gardens, boulevards, squares, improvement and development objects are allowed except the transformations related to the reclamation of disturbed natural objects or restoration of historic and cultural objects.

Regime No. 2: Within the areas and sites subject to Regime 2 new landscaping and improvement, renewal of utility networks, pedestrian roads and passageways, buildings and facilities is allowed as well as limited new construction of facilities necessary for maintenance purposes and the economic activities that do not conflict with the established land use.

Regime No. 3: Within the areas and sites subject to Regime 3 rehabilitation of the lost natural or historic landscapes, water bodies, forests and other vegetation communities, parks, gardens, boulevards, squares is allowed.

Regime No. 4: Within the areas and sites subject to Regime 4 formation of new parks, gardens, boulevards, squares and facilities necessary for maintenance purposes and service of visitors is allowed.

Regime No. 5: Within the areas and sites subject to Regime 5 conservation and reconstruction of existing facilities of residential, public, business, communal and production purposes is allowed as well as construction of new objects of residential, public, business purposes provided that the following obligatory requirement is met: not less than 70% of the earth's surface is to be provided with greenery and water supply and all the aforementioned facilities are environmentally safe and do not require sanitary-protection zones and sanitary gaps.

1011 Block of intensive development use

More than 1/3 of the total area is occupied by sites of intensive development type and less than 1/3 of the area by one of the following groups of sites: other sites of developed slightly landscaped type, sites of developed landscaped type, all undeveloped sites and all non-urbanized sites in total.

1012 Block of paved development use

More than 1/3 of the total area is occupied by sites of paved development type and less than 1/3 of the area by one of the following groups of sites: other sites of developed slightly landscaped type, sites of developed landscaped type, all undeveloped sites and all non-urbanized sites in total.

1021 Block of contrast development use

More than 1/3 of the total area is occupied by sites of contrast development type and less than 1/3 of the area by one of the following groups of sites: other sites of developed landscaped type, sites of developed slightly landscaped type, all undeveloped sites and all non-urbanized sites in total.

1022 Block of improved development use

More than 1/3 of the total area is occupied by sites of improved development type and less than 1/3 of the area by one of the following groups of sites: other sites of developed landscaped type, sites of developed slightly landscaped type, all undeveloped sites and all non-urbanized sites in total.

1024 Block of contrast, low-density development use

More than 1/3 of the total area is occupied by sites of contrast low-density development type and less than 1/3 of the area by one of the following groups of sites: other sites of developed landscaped type, sites of developed slightly landscaped type, all undeveloped sites and all non-urbanized sites in total.

1101 Block of mixed development, low-density landscaping use

More than 1/3 of the total area is occupied by sites of various development, low-density landscaping types and less than 1/3 sites of other types.

2021 Block of improved undeveloped use

More than 1/3 of the total area is occupied by sites of improved undeveloped type and less than 1/3 of the area by one of the following groups of sites: other sites of undeveloped landscaped type, sites of undeveloped slightly landscaped type, all undeveloped sites and all non-urbanized sites in total.

Note: Types of landscape use of the territory sites, their symbols and adequate admissible values of the land surfaces utilization – surfaces under the buildings footings, surfaces with artificial pavement, surfaces with vegetation cover and water surfaces in per cent (%) of a site area:

- ❖ developed slightly landscaped (A): 10-100, 0-90, 0-30 (3%);
- ❖ developed landscaped (B): 10-70, 0-60, 30-70 (70%);
- ❖ undeveloped slightly landscaped (C): 0-10, 60-100, 0-30 (%);
- ❖ undeveloped landscaped (D): 0-10, 20-70, 30-70 (%);
- ❖ landscaped (E): 0-30, 0-30, 70-90 (%);
- ❖ natural (F):
- ❖ 0-10, 0-10, 90-100 (%).



Figure 6: Landscape zoning plan of Moscow

**FRAGMENT OF THE HISTORICAL AND ARCHITECTURE SURVEY PLAN OF THE
CENTRAL ADMINISTRATIVE DISTRICT OF MOSCOW, SCALE 1:5000**



Справочная информация

LEGEND:

- 1500 Number
- Object of historical and cultural heritage
 - Valuable object of the city environment
 - Discovered object of historical and cultural heritage
 - Ordinary object of the city environment
 - Disgarnisonous object of the city environment

ACTUAL INFORMATION ABOUT PROTECTION STATUS OF THE OBJECTS OF THE HISTORICAL CITY ENVIRONMENT CAN BE OBTAINED FROM THE COMMITTEE FOR CULTURAL HERITAGE OF MOSCOW
ADDRESS: #19, PIATNITSKAYA STREET, MOSCOW



SERVICE OF THE URBAN CADASTRE OF THE CITY OF MOSCOW

Information resources of the urban cadastre of Moscow are provided by
NIGPI GENPLANA, GlavAPU, Moskomnaskhodic, Mosgorgeotrest

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Figure 7: Scheme of protection status of the urban environment

FRAGMENT OF THE LAYOUT OF THE MAIN UTILITY NETWORKS AND FACILITIES OF MOSCOW
SCALE:1:2000



Reference information.

LEGEND:

- | | |
|--|--|
| ○ Wells | □ Head engineering facilities |
| — Water pipe | 4562 number of a head engineering facility |
| — Sewer system | ● central heating units, heating units |
| — Gas pipeline of high and medium pressure | |
| — Heat supply pipes | |
| — Drainage | |
| — Common collector | |
| — Cable of Mosenergo | |
| — Cable collector of Mosenergo | |
| — Telephone line | |
| — Other pipelines | |

Note: 1. The layout shows engineering communications in accordance with the information resources registered in the urban cadastre of Moscow.
2. The layout shows engineering communications with their diameters given in the legend.
3. Clarification of the procedures for information use is given in Appendix 7 to the Cadastral report.



SERVICE OF THE URBAN CADASTRE OF THE CITY OF MOSCOW

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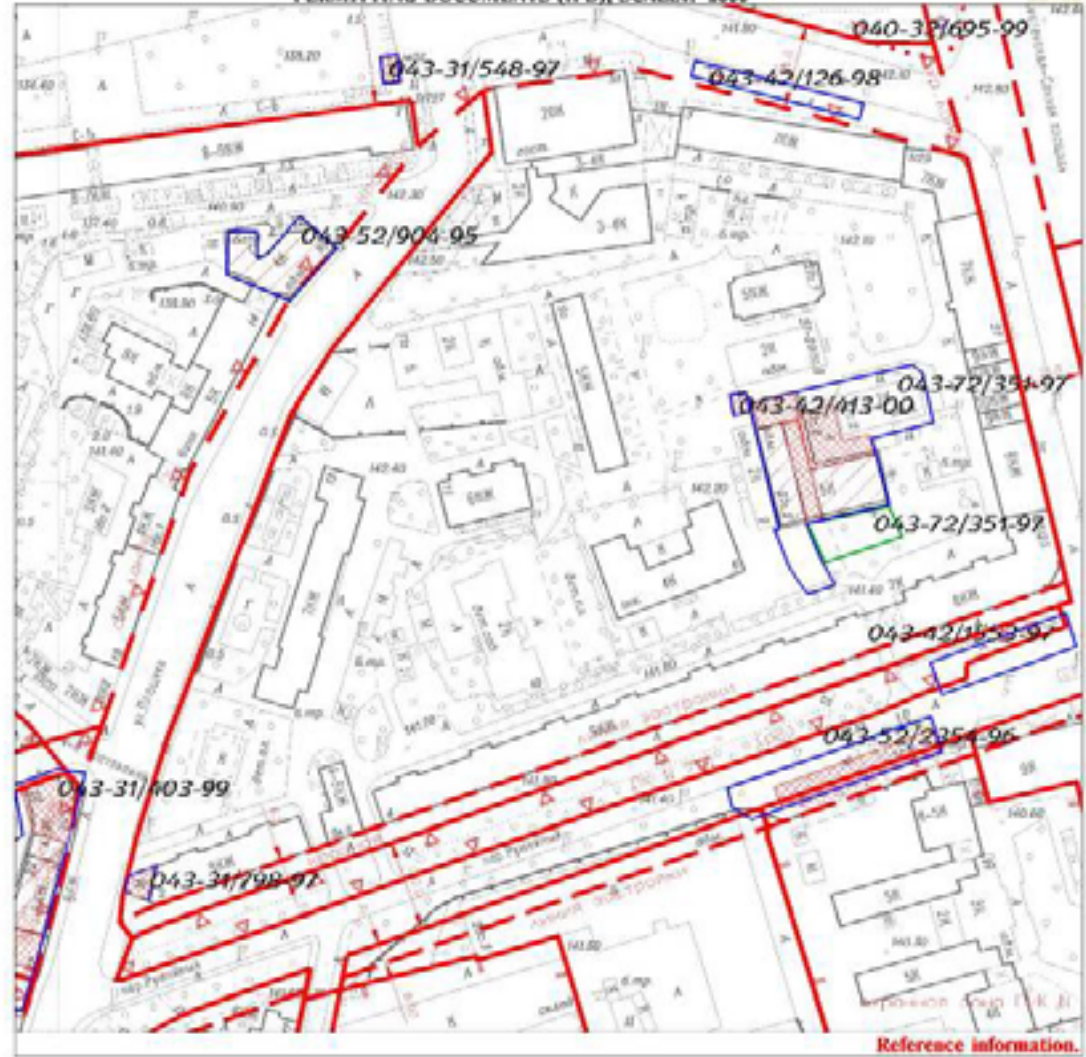
Figure 8 : Utility network and facilities

Lists of information unit

1	2	3	4
INFORMATION ON TOWN-PLANNING REGULATIONS			
Plan of territory provision with the approved town-planning, architectural-construction and initial permitting documentation			
Plan of territory provision with the approved town-planning documentation			
Development and re-organization scheme of production zones of Moscow	1:25000	3.1.1.1 as of 21.08.98	
Development scheme of city-wide centers of Moscow up to the year 2010	1:25000	3.1.1.2 as of 21.08.98	
Scheme of road and bridge construction	1:25000	3.1.1.3 as of 21.08.98	
Plan of territory provision with the approved town-planning documentation			344 registered documents
Re-organization map of production areas of Moscow implying proposals on the release of inefficiently used sites	1:10000	3.1.1.18 as of 25.04.02	
Scheme of Moscow natural complex	1:2000	3.1.1.19 as of 04.01.03	
Plan of territory provision with the approved architectural-construction documentation			
Plan of territory provision with the approved architectural-construction documentation	1:2000	3.1.2.1 as of 05.02.01	
Plan of territory provision with the approved initial permitting documentation			
Plan of territory provision with the approved initial-permitting documentation			8668 registered documents
Land-use zoning			
General land-use zoning scheme of the city area of Moscow	1:25000	3.2.0.2 as of 29.10.99	
Land-use (purpose) zoning scheme of the city area of Moscow	1:10000	3.2.0.4 as of 05.02.03	
Building zoning			
General building zoning scheme of the city area of Moscow	1:25000	3.3.0.1 as of 29.10.99	
Building (purpose) zoning scheme of the city area of Moscow	1:10000	3.3.0.3 as of 05.02.03	
Landscape zoning			
General landscape zoning scheme of the city area of Moscow	1:25000	3.4.0.1 as of 29.10.99	
Landscape (purpose) zoning scheme of the city area of Moscow	1:10000	3.4.0.3 as of 05.02.03	
Legal and normative documentation			
Urban regulation lines			
Summary plan-scheme of urban regulation lines within the city area of Moscow	1:25000	3.6.0.1 as of 21.08.98	
Plan of urban regulation lines	1:2000	3.6.0.28 as of 29.08.03	
Map of urban regulation lines	1:10000	3.6.0.29 as of 29.08.03	

Figure 9: List of information unit

FRAGMENT OF THE TOPOGRAPHIC PLAN WITH THE BOUNDARIES OF LAND PLOTS, CONTOURS OF BUILDINGS AND FACILITIES INDICATED IN ACCORDANCE WITH THE PREVIOUSLY ISSUED INITIAL PERMITTING DOCUMENTS (IPD), SCALE: 2000



Reference information.

LEGEND:

 Buildings under design (dham. red pencil)	 Demolished buildings
 Reconstruction, major overhaul (hatching red ink)	 Boundary of a land plot designated for construction (blue pencil)
 Construction of mansards (hatching black ink)	 Boundary of a land plot designated for improvement (green pencil)
 Structures proposed for demolition (dham. yellow pencil)	 Boundary of a land plot designated for compensatory planting (green pencil)
 Buildings under construction	

- Note: 1. Legend for urban regulation lines is given in Appendix 1 of the Cadastral report.
 2. The fragment does not show IPD objects under development or registration at the moment of information submission.
 3. Clarification of the procedures for information use is given in Appendix 2 to the Cadastral report.

Figure 9: Scheme of initial permitting documentation

040-32/521-01 040-32/521 04.04.2001
Kiosk (ice-cream); new construction; shopping object; area of the site: 5 sq.m; total area: 5 sq.m;

043-52/2354-96 043-52/2354 18.12.1996
Exhibition autosalon; installation of pavilions; area of the site: 0.095;

040-32/592-01 040-32/592 16.04.2001
Large-format advertising structure; installation of bulk structures; advertising objects; area of the site: 65 sq. m; total area: 65 sq. m;

043-52/904-95 043-52/904 24.07.1995
Extension with a mansard; reconstruction; number of storeys: 5;

040-32/695-99 040-32/695 29.04.1999
Cash pavilion; installation of pavilions; area of the site: 0.0050; total area: 50; number of storeys – 1;

043-72/351-97 043-72/351 03.04.1997
Administrative superstructure, mansard; reconstruction with superstructure and extension; area of the site: 9.5; total area: 1094; number of storeys: 2;

043-42/126-98 043-43/126 03.02.1998
Temporal open-air parking; installation of open-air facilities; area of the site: 0.02;

044-58/1819-96 044-58/1819 19.09.1996
Fountain; new construction; area of the site: 0.006;

043-42/1553-97 043-42/1553 03.09.1997
Office parking; installation of open-air facilities; area of the site: 0.04;

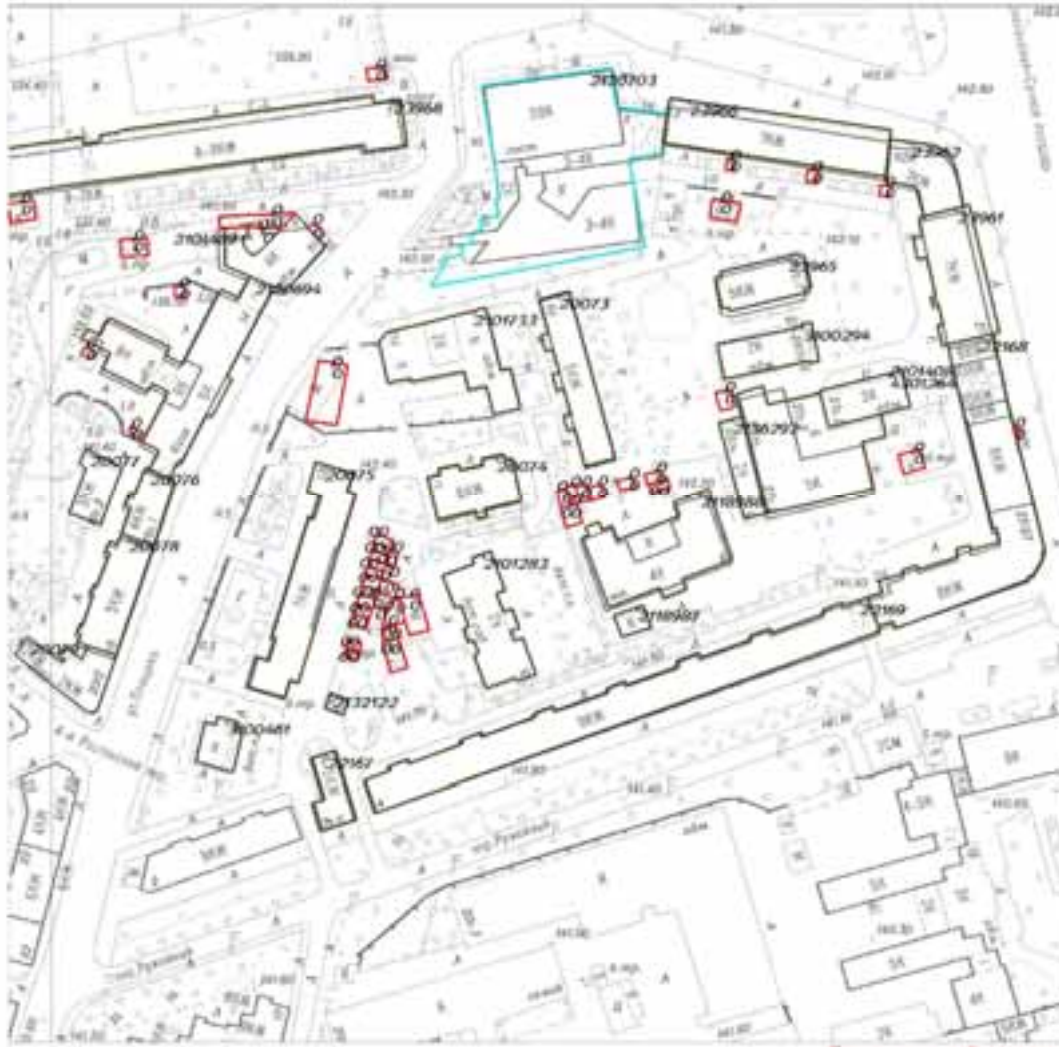
452/4-г3-95 452/4-г3 11.04.1995
Installation of pavilions

043-42/413-00 043-42/413 21.03.2000
New construction; area of the site: 0.0035; total area: 28;



Figure 10: Initial permitting documentation

FRAGMENT OF THE DIGITAL ADDRESS PLAN, SCALE:1:2000



Справочная информация.

STATE OF INHABITABLE AND UNINHABITABLE OBJECTS:

- inventory not performed
- Walls made of:
 - blocks
 - sandwich type panels
 - wood
 - panels
 - cinder concrete
 - brick
 - metal
 - other materials
 - mass armoured concrete

Note: Information is prepared on the basis of the data presented by the Bureau of Technical Inventory (BTI) of Moscow from the Address register and the Database for the cadastral objects.
Information about the state of inhabitable and uninhabitable objects that were not exposed to inventory can be obtained from the regional branch of BTI.



SERVICE OF THE URBAN CADASTRE OF THE CITY OF MOSCOW

Information is presented by the Bureau of Technical Inventory of the city of Moscow

77-UC/100-007/05-9600 of 23.06.2005.

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Figure 11: Bureau of technical inventory (BTI)

20073 Pliuschikha Street, 9-9A, build.4

Registration in AP: none; Class: residential; Number of floors (underground): 5 (0); Stuff of the walls: brick; Year of construction: 1935; Date of the last inventory: __; Building area: 708; Total area: 2667; Number of flats: 45; Prevailing destination of the area: __; Depreciation rate: 51%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 31

20074 Pliuschikha Street, 11, build.5

Registration in AP: none; Class: residential; Number of floors (underground): 6 (1); Stuff of the walls: brick; Year of construction: 1909; Date of the last inventory: 31.08.2004; Building area: 474; Total area: 2066; Number of flats: 24; Prevailing destination of the area: __; Depreciation rate: 49%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 28

20075 Pliuschikha Street, 13

Registration in AP: none; Class: residential; Number of floors (underground): 7 (1); Stuff of the walls: brick; Year of construction: 1937; Date of the last inventory: 26.10.2004; Building area: 1091; Total area: 5351; Number of flats: 30; Prevailing destination of the area: __; Depreciation rate: 49%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 6

20076 Pliuschikha Street, 16, build.1

Registration in AP: yes; Class: residential; Number of floors (underground): 4 (0); Stuff of the walls: brick; Year of construction: 1917; Date of the last inventory: 26.10.2004; Building area: 263; Total area: 897; Number of flats: 6; Prevailing destination of the area: __; Depreciation rate: 53%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 448; Number on the layout: 37

20077 Pliuschikha Street, 16, build.2

Registration in AP: yes; Class: residential; Number of floors (underground): 3 (1); Stuff of the walls: brick; Year of construction: 1917; Date of the last inventory: 12.08.2004; Building area: 282; Total area: 698; Number of flats: 9; Prevailing destination of the area: __; Depreciation rate: 40%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 488; Number on the layout: 38

20078 Pliuschikha Street, 18

Registration in AP: yes; Class: residential; Number of floors (underground): 5 (1); Stuff of the walls: brick; Year of construction: 1957; Date of the last inventory: 18.01.2000; Building area: 549; Total area: 2200; Number of flats: 50; Prevailing destination of the area: __; Depreciation rate: 36%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 488; Number on the layout: 36

20079 Pliuschikha Street, 30/2

Registration in AP: yes; Class: residential; Number of floors (underground): 3 (0); Stuff of the walls: brick; Year of construction: 1917; Date of the last inventory: 27.01.2000; Building area: 414; Total area: 1121; Number of flats: 9; Prevailing destination of the area: __; Depreciation rate: 12%; Year of the depreciation rate establishment: 2000; Position: returned to the fund after rebuilding; Registration BTI urban quarter: 488; Number on the layout: 35

22167 Ruzheinyi lane, 2, block 2

Registration in AP: none; Class: residential; Number of floors (underground): 4 (0); Stuff of the walls: brick; Year of construction: 1914; Date of the last inventory: 23.08.1983; Building area: 268; Total area: 739; Number of flats: 7; Prevailing destination of the area: __; Depreciation rate: 16%; Year of the depreciation rate establishment: 1983; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 5

22168 Smolenskaya-Sennaya Square, 23/25

Registration in AP: yes; Class: residential; Number of floors (underground): 11 (1); Stuff of the walls: brick; Year of construction: 1956; Date of the last inventory: 16.09.2004; Building area: 1869; Total area: 11858; Number of flats: 128; Prevailing destination of the area: __; Depreciation rate: 39%; Year of the depreciation rate establishment: 2000; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 43

22169 Ruzheinyi lane, 4, build. 1

Registration in AP: none; Class: residential; Number of floors (underground): 9 (1); Stuff of the walls: brick; Year of construction: 1978; Date of the last inventory: 03.11.2004; Building area: 2238; Total area: 12779; Number of flats: 167; Prevailing destination of the area: __; Depreciation rate: 13%; Year of the depreciation rate establishment: 1983; Position: object subject to registration; Registration BTI urban quarter: 556; Number on the layout: 4

Etc.



Figure 12: Agreement of information interaction

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