

Figure 6.2.6 Geological Cross Section of Line 6 - 6'

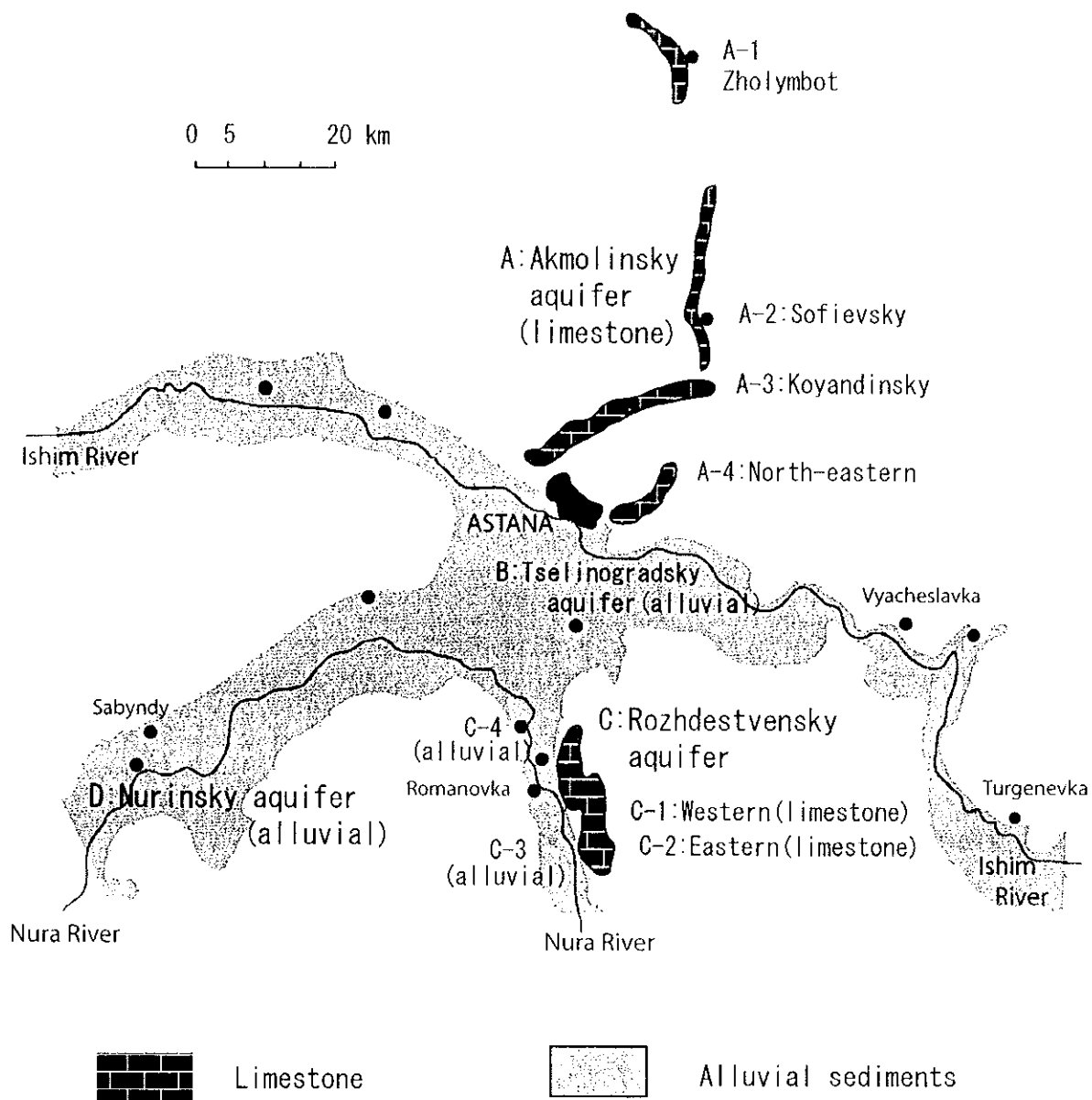


Figure 6.2.7 Groundwater Aquifers of Astana Area

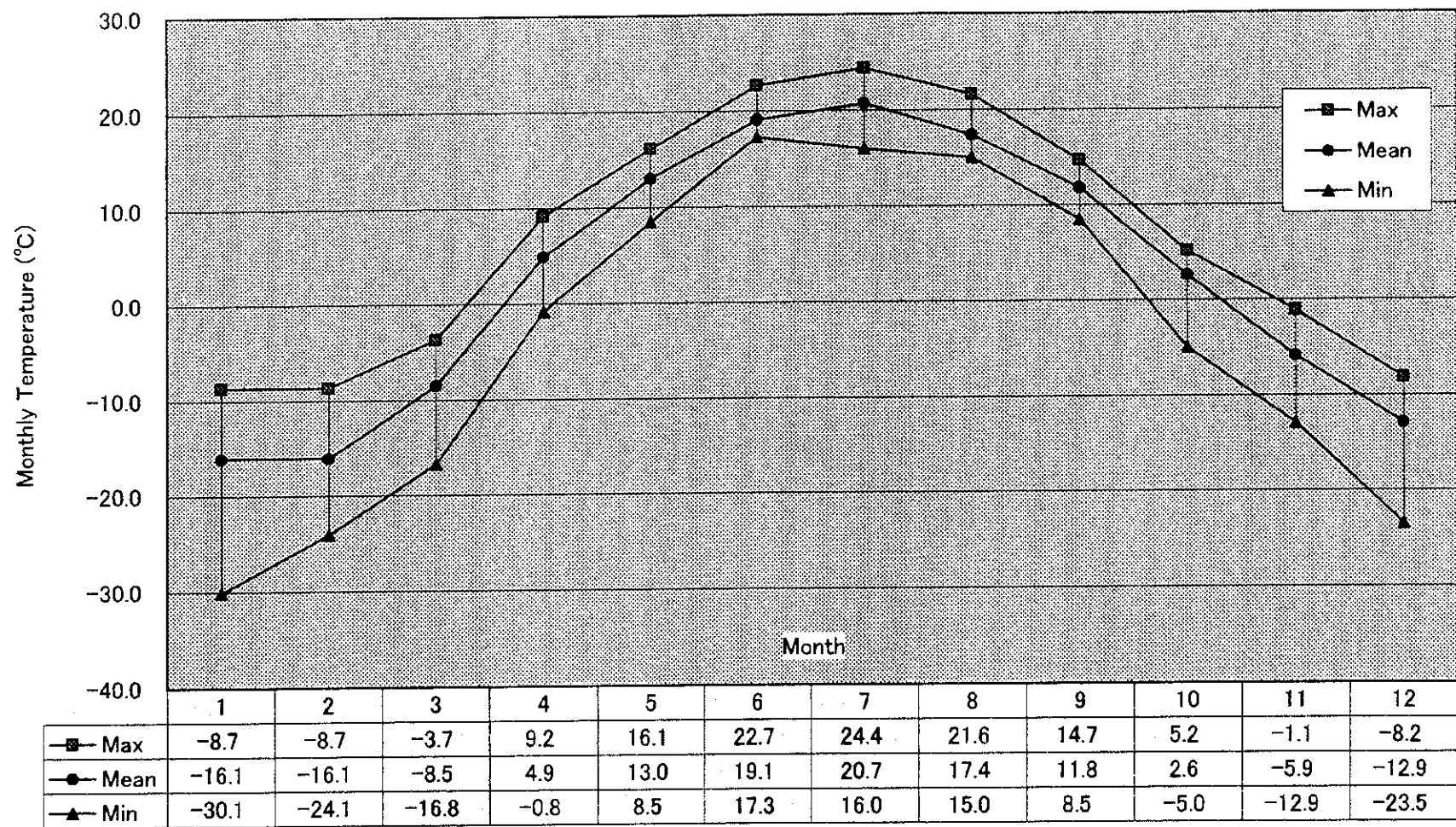


Figure 6.2.8 Monthly Air Temperature in the Period 1960-1984

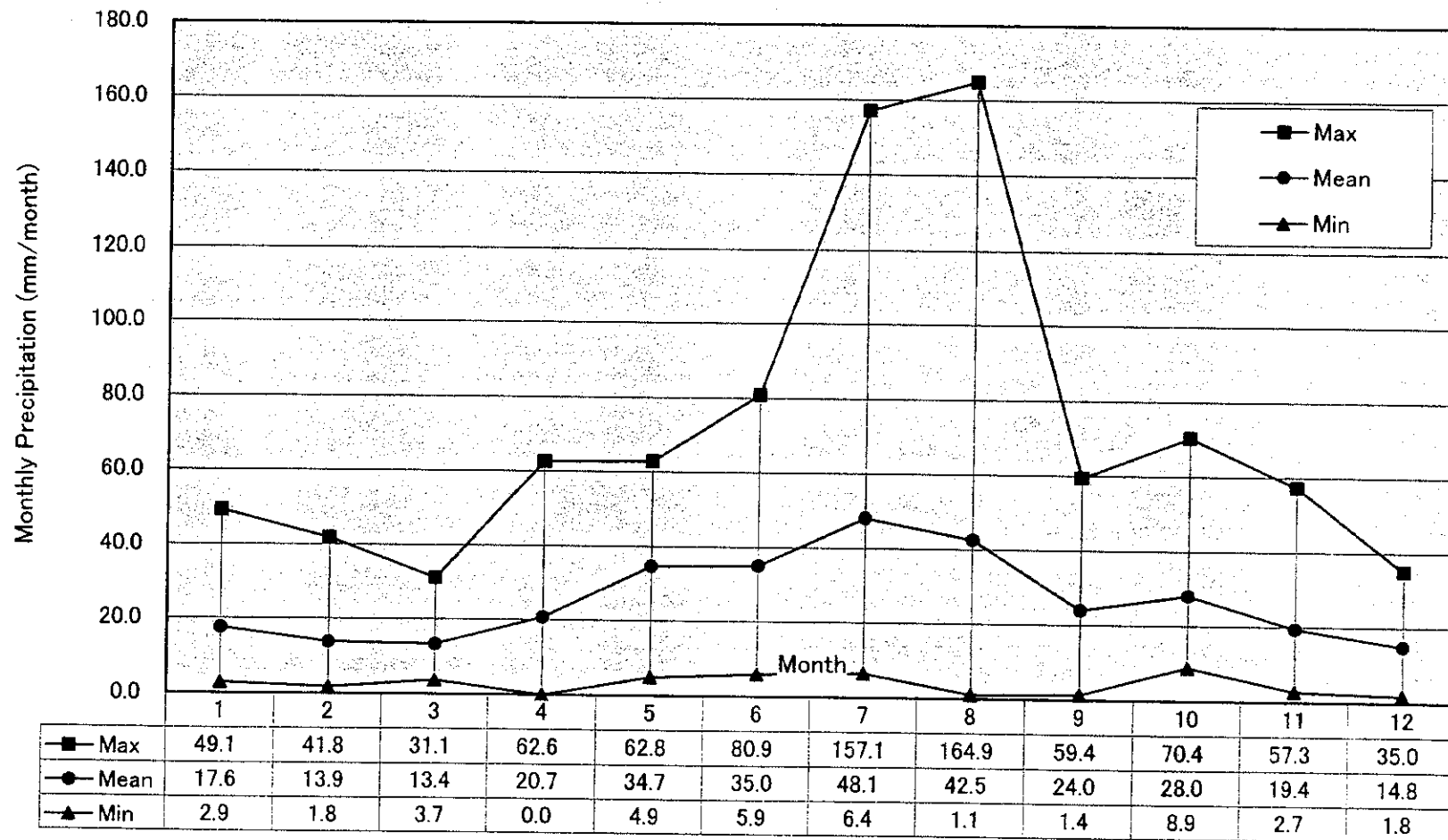


Figure 6.2.9 Monthly Precipitation in the Period 1960-1984

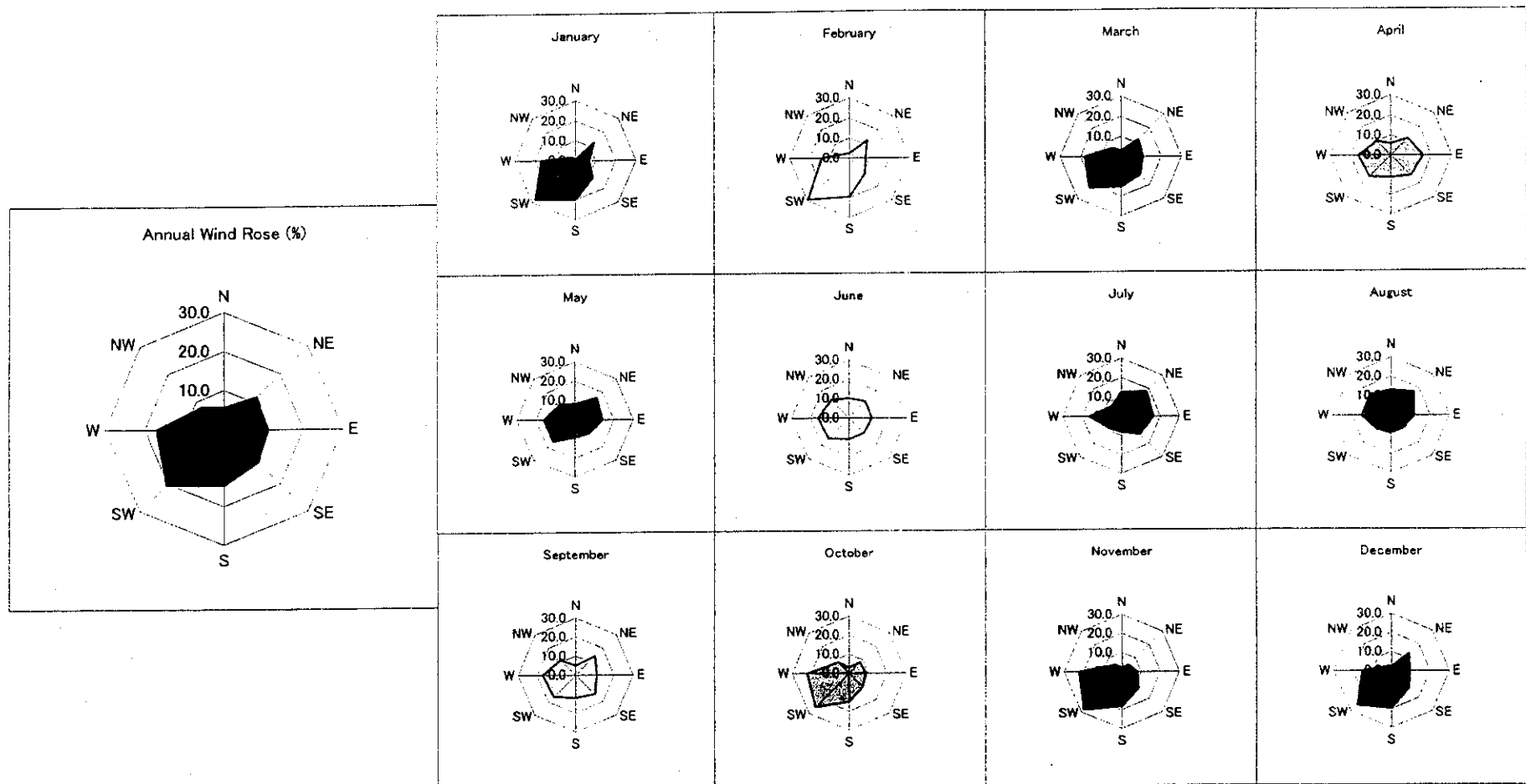


Figure 6.2.10 Wind Rose (Frequency of Wind Direction)

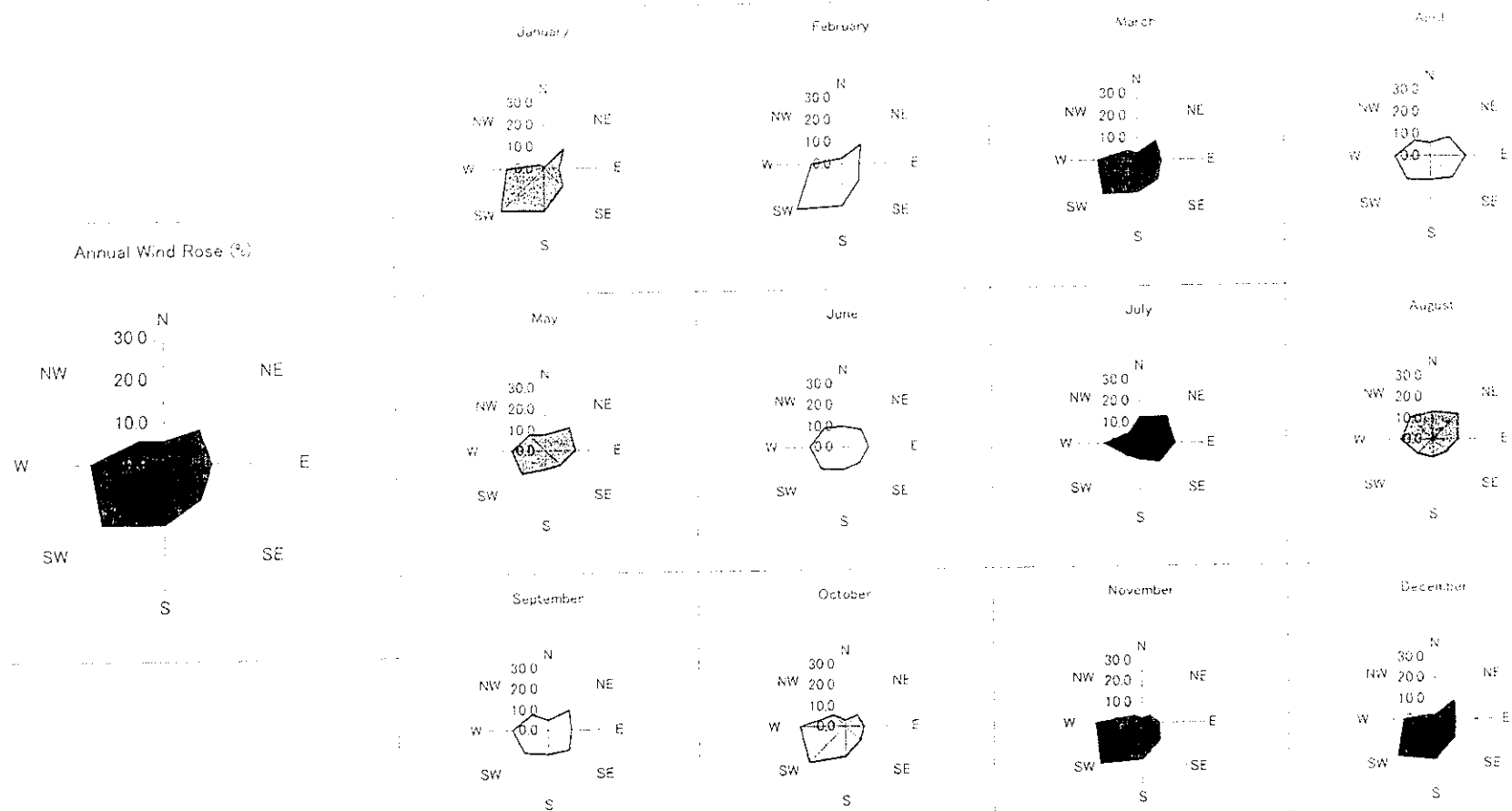


Figure 6.2.10 Wind Rose (Frequency of Wind Direction)

CHAPTER 7 INTEGRATED IMPLEMENTATION PROGRAM AND INVESTMENT COST

CHAPTER 7 INTEGRATED IMPLEMENTATION PROGRAM AND INVESTMENT COST¹

7.1 Basic Principle Policy for Implementation

7.1.1 Definition

(1) Sector

This *Chapter* outlines an integrated implementation program and investment cost for a number of *Projects* for the three major sectors of;

- 1) *Urban and Architectural Development*, consisting of;
the site preparation and architectural construction for residential, commercial and office development; development of roads; and development of greenery, as defined in Chapter 3 of this Report.
- 2) *Infrastructure Development*, consisting of;
the infrastructure development for utilities and public services such as water resources; water supply; sewerage; power and heat supply; gas supply; telecommunication and solid waste management, as defined in Chapter 4 of this Report.
- 3) *Engineering Protection* consisting of
flood protection and drainage, as defined in Chapter 5.

¹ Full text of Integrated Implementation Program and Investment Cost together with all supporting tables and figures will appear in Appendix O in Volume III: Supporting Report.

Components of Three Sectors

Sector	Component	Description
Urban and Architectural Development		
	- Land Development and Architecture	Land preparation, demolition, construction of buildings and houses
	- Transportation	Construction of roads, bridges, Light Railway Transit (LRT), provision of trolley bus, terminal, traffic management
	- Greenery	City parks and greenery
Infrastructures Development		
	- Water Resources	IKC-Ishim pipeline
	- Water supply	Expansion and rehabilitation of existing intake, treatment plant, and distribution network
	- Sewerage	Rehabilitation and expansion of existing treatment plant
	- Electric Power Supply	Construction of conventional electric power and heat energy generating plant, and 110 kV transmission line and substation
	- Heat Supply	Expansion of existing district heating pipelines, construction of 5 heat centers, natural gas firing combined cycle plant
	- Gas Supply	Construction of city gas supply network
	- Telecommunication	New local telecom. Network system, administration data communication system
	- Solid Waste Management	Landfill-1 and -2 projects, Hazardous solid waste project, machinery procurement for waste collection
Engineering protection		
	- Storm Water drainage	Storm water drainage development and improvement
	- Flood Protection	Ishim river improvement, construction of flood regulating reservoir
	- Groundwater drainage	Underground installation of existing infrastructure pipelines

(2) Project

The *Project*, as used hereafter in this Chapter, will denote the following:

An integrated package of development activities, public or private, designed to achieve the planning goal set for each of the components in the 3 Sectors above, as divided as necessary by time or location thereof.

(3) Implementation Phase

Following the basic principles for implementation, 3-step phasing of 10-year periods of construction is adopted for the development of Astan City.

Medium Term: between the years 2001 to 2010

Long Term: between the years 2011 to 2020,

Ultimate Term: between the years 2021 to 2030

As will be discussed later in Subsection 7.4.2, sub-phases in each *Term* will be denoted *Stages*.

7.1.2 Basic Principles

The following basic principles were adopted in formulating the implementation strategies to facilitate the development targets of Astana:

- Develop Astana City to facilitate and consolidate administrative and business functions
- Balanced and integrated implementation of urban development including architecture; infrastructure development; and engineering protection, with basically equal priority in development, although infrastructures and engineering protection are provided in advance of urban development works.
- Urban development works are implemented in the order of the central city part to suburbs.
- Avoidance of unevenly distributed investment cost over the development period of 30 years in accordance with the staged development of the city, with no sizable front load investment.
- Due consideration of the balance between development and environment.

7.2 Description of Projects

7.2.1 Description of Overall Development Activities

The proposed Master Plan, as detailed in Chapter 3 of this Report incorporates urban development of approximately 70,000 ha of total area. This Master Plan will provide the basis on which all development activities will be provided. The main features of Master Plan are presented in full in Table 7.2.1 with subdivision into five (5) planning regions and 37 districts.

Table 7.2.2 shows the floor area required for residential, office and commercial purposes in the each district and region as summarized below.

Floor Area for Residential, Office and Commercial, Medium, Long and Ultimate Term

Unit: 1,000 m²

Region	Planned Area (ha)	Development Phase	Residential Area *	Office Floor	Commercial Floor
Central	1,689	Sub-total	1,184	528	58
		Medium	406	33	10
		Long	574	289	17
		Ultimate	204	206	31
Northern	22,614	Sub-total	37	165	2
		Medium	37	21	1
		Long	0	77	0
		Ultimate	0	67	1
Southeastern	11,270	Sub-total	4,077	377	113
		Medium	2,489	228	49
		Long	1,588	128	29
		Ultimate	0	21	35
Southern	24,399	Sub-total	3,953	2,987	271
		Medium	495	1,784	58
		Long	1,223	681	101
		Ultimate	2,235	522	112
Northwestern	9,909	Sub-total	1,785	148	41
		Medium	65	14	3
		Long	1,296	102	22
		Ultimate	424	32	16
Total	69,881	Total	11,036	4,205	485
		Medium	3,492	2,080	121
		Long	4,681	1,277	169
		Ultimate	2,863	848	195

*: Assumed at 18 m², 22 m², and 25 m² per head in 2010, 2020 and 2030, respectively

7.2.2 Description of Projects in Urban and Architectural Development

(1) Projects in Urban and Architectural Development

1) Land Development and Architecture

The *Project* in Land Development and Architecture is defined here as the packages of development activities for each District defined in Clause 3.6.

The *Projects* in urban and Architectural Development are as summarized below.

Projects in Urban and Architectural Development by Terms

Unit: number of district (project)

Region	Planned Area (ha)	Development Phase	Residential District (Project)	Industrial District (Project)	Planning District (Project)
Central	1,689	Medium	4	0	0
		Long	4	0	0
		Ultimate	4	0	0
Northern	22,614	Medium	0	2	3
		Long	0	2	3
		Ultimate	0	2	3
Southeastern	11,270	Medium	5	1	1
		Long	7	1	0
		Ultimate	7	1	1
Southern	24,399	Medium	5	0	4
		Long	6	0	3
		Ultimate	6	0	2
Northwestern	9,909	Medium	3	1	0
		Long	3	1	0
		Ultimate	3	1	0
Total	69,881		57	12	20

2) Transportation

The Projects in transportation includes 1) roads, 2) road tunnel, 3) bridges, 4) trolley bus system, 5) Light Railway Transit (LRT), 6) terminal, 7) traffic management, 8) railway, and 9) airport as tabulated and profiled in Tables 7.2.3, 7.2.4 and 7.2.5 are divided into Medium, Long and Ultimate Terms respectively for implementation.

3) Greenery

The Projects for greenery are implemented included into the development of 37-district as urban and architectural development.

(2) Projects in Infrastructure Development

The project components of the infrastructure development among 1) water resources, 2) water supply, 3) sewerage, 4) electric power supply, 5) heat supply, 6) gas supply, 7) telecommunication, and 8) solid waste management as tabulated and profiled in Tables 7.2.3, 7.2.4 and 7.2.5 divided into Medium, Long and Ultimate Terms respectively to implement b its priority.

(3) Projects in Engineering Protection

The Projects for flood protection, storm water and ground water drainage under the engineering protection work are also tabulated and profiled in

Tables 7.2.3, 7.2.4 and 7.2.5 divided into Medium, Long and Ultimate Terms respectively to implement by its priority.

(4) Summary of Established Projects

To meet the development goals, implementation of all the projects established above are essential .

In all 177 *Projects*, including 89 *Projects* for the land and architecture component of *Urban Development Sector* were identified. The phasing of *Projects* will be explained later.

The *Projects* above includes those listed in the attachment of signed minutes of discussion on development of the City of Astana in 2001 with the President of the RK No.01-10/9 dated 29th November 2000, as profiled in Tables 7.2.3, 7.2.4, and 7.2.5.

7.3 Phasing the Development

7.3.1 Mode of Implementation

(1) Financial Resources

The state and municipal budget will be allocated in addition to foreign investment, private investments and funds of organizations, as proposed in Chapter 8 for Cost and Benefit Analysis of the New Capital Construction. Expected finance source is also indicated in the tables for an integrated implementation.

(2) Implementation Coordination

The implementation coordination of *Projects* is an integral component of the Astana development i.e. encompassing both the design stages and detail design and construction phases. It is also important to coordinate developments of Republic Government and Astana Municipality. Thus, to create clear area-wise demarcation between two governments and establish a commission as coordinating body at the Republic Government level would be required. Measures proposed in Chapter 9 of this Report will have to be seriously contemplated in all aspect, to facilitate a balanced and well-coordinated implementation of such an extremely large scale and complicated development activities as the development of Astana.

(3) Executing Organization

Responsible executing agencies for implementation of respective *Project* are proposed and tabulated in Tables 7.2.3, 7.2.4 and 7.2.5, and summarized below for the components of each *Sector*.

Assumed Executing Organizations of Sector/Components of Master Plan

Sector/ Component	Executing agency, expected
<i>Urban Development</i>	
- Land and Architecture	Republic Government/Astana Municipality/Private sector
- Transportation	Astana City/Ministry of Transport and Communication
- Greenery	Astana City/ Municipality Communal Service (<i>Gorcommun Khoz</i>) for urban greenery/Committee of Forestry, Fishery and Hunting under Ministry of Environmental Protection and Mineral Resources
<i>Infrastructures Development</i>	
- Water Resources	Astana Municipality /IKC (National state Enterprise of Irtysh-Karaganda Canal)
- Water supply	Astana Municipality /ASA (<i>Gorvodokanal</i>)
- Sewerage	Astana Municipality /ASA(<i>Gorvodokanal</i>)
- Electric Power Supply	Astana Municipality /AES (Astanaenergyservice)
- Heat Supply	Astana City/ AES (Astanaenergyservice)
- Gas Supply	Astana Municipality / Kaztransgas (Bulk)
- Telecommunication	Ministry of Transport and Communication
- Solid Waste Management	Astana Municipality / <i>Gorcomunkhoz</i>
<i>Engineering protection</i>	
- Storm Water drainage	Astana City/ <i>Gorkomunkhoz</i>
- Flood Protection	Astana City
- Groundwater Drainage	Astana City

(4) Procurement Method

The procurement method on each *Project* will depend upon its finance budget of RK, and international loan, credit or grant source. It will be broadly classified into two (2) cases; local and international.

1) Local Procurement

The law of the RK of July 16, 1997, No. 163-1, reference book (*Vedomosty*) of the Parliament of the RK 1997, N 17-18 Article 216, Economics and Entrepreneurship, is applied in the process of the state procurement of goods, works and services. In this Report, such procurement method will be the LCB (local competitive Bid)

The state procurement is implemented by one of the following methods

- 1) tender (open or closed),
- 2) procurement from a sole (single) source, and
- 3) selection of a supplier of proposed prices.

2) International Procurement

In the case of international procurement, the ICB (International Competitive Bid) procurement guidelines of respective financier will have to be applied.

The procurement method either LCB and ICB is conducted under the principle of fairness competition and doctrine. FIDIC²'s conditions of contract will be applied for ICB basis project implementation, in principle.

The proposed procurement methods for the each *Project* are presented in the Tables 7.2.3, 7.2.4 and 7.2.5. A proposed method is provided based on the considerations of input resources plan, technical and financial aspects. The schedule, the quality and the cost are fundamental parameters to select the procurement method. These are draft proposals, following the above principle. For more definite and concrete implementation plan of specific *Projects*, further discussion will be needed at the time of their feasibility studies.

(5) Engineering and Management Consultants

For the purpose of implementing a number of different types of projects concurrently and smoothly, experienced engineering and management consultants will have to be appointed from international and national fields.

Engineering consultants will serve as the planner, designer, and/or supervisor for the implementation of each Project and execute an integrated and comprehensive management of Projects spanning over interwoven Sectors.

The role of the management consultants is to provide appropriate managerial basis for the implementation of various projects.

7.3.2 Phase of Projects

Based on the basic principles presented in Sub-section 7.1.2, phasing of Projects according to the 3 Terms were considered.

The proposed projects are presented in Tables 7.2.3, 7.2.4, and 7.2.5 separately for 2010, 2020, and 2030 as an integrated development plan, and summarized below.

² Federation Internationale Des Ingenieurs-Conseils (International Federation of Consulting Engineers)

Number of Proposed Projects

Unit: nos.

Sector	Medium Term (2010)	Long Term (2020)	Ultimate Term (2030)	Total 3 Terms
Urban Development				
- Land and Architecture	29	30	30	89
- Transportation	12	9	9	30
- Greenery	1	1	1	3
Infrastructures Development				
- Water Resources	1	0	1	2
- Water supply	4	1	1	6
- Sewerage	2	1	1	4
- Electric Power Supply	3	2	2	7
- Heat Supply	4	1	1	6
- Gas Supply	1	1	1	3
- Telecommunication	3	1	1	5
- Solid Waste Management	2	5	3	10
Engineering protection				
- Storm Water drainage	3	1	1	5
- Flood Protection	4	1	2	7
Total	69	54	54	177

7.3.3 Implementation Schedule

The decision on the development components of *Medium, Long and Ultimate Terms* would be based on priorities, necessities and possibilities. In general, allocating development components of interrelated functions in a common area can minimize the investment cost.

The proposed overall implementation schedule on *Medium, Medium, Long and Ultimate Terms* is presented in Figure 7.3.1.

7.4 Implementation Program for Medium Term (2001-2010)

Medium Term pertains to the upcoming 10 years is considered herein to be of high urgency and necessity. This Section will discuss the implementation of projects in *Medium Term*.

7.4.1 Development Scope

(1) Urban Development

Overall, the following floor areas for the residential, office and commercial purposes are planned for construction in *Medium Term* as shown in Table 7.2.2. These floor areas include the administrative and commercial buildings and residential complex in the New City Center in District no. 13 and 14.

Floor Area Required for Residential, Office and Commercial, Medium Term

Region	Planned Area (ha)	Residential Area * 1,000 m ²	Office Floor 1,000 m ²	Commercial Floor 1,000 m ²
Central	1,689	407	33	10
Northern	22,614	0	21	1
Southeastern	11,270	2,385	228	49
Southern	24,399	471	1,784	58
Northwestern	9,909	64	14	3
Total	69,881	3,327	2,080	121

* assumed at 18 m², 22 m², and 25 m² per head in 2010, 2020 and 2030 respectively

The above estimation is based on the planning framework presented in Section 3.4 of this Report.

- Land preparation including demolition work
- Internal infrastructures within the district, not covered by the infrastructures development
- Parks and greenery

(2) Infrastructure Development and Engineering Protection

To meet the architectural development above, the following Projects in *Infrastructure Development* and *Engineering Protection Sectors* should be implemented in the period of *Medium Term*. The identified and proposed Projects of these sectors are presented in Table 7.1.3 and summarized below for major projects to be implemented during 2001 to 2010.

(3) Overall Projects

The following table summarizes the overall *Projects in Medium Term*.

Number of Project to Implement in Medium Term

Sector	No. of Project	Major Project or Contents
Urban Development		
-Land Development and Architecture	29	17-project at Residential District, 4-project at Industrial District, and 8-project at Planning District
- Transportation	12	Roads, Trolley Bus, Bridges, LRT, Terminal, Traffic Management, Airport
-Greenery	1	Parks and greenery at 24-project for Residential, Industrial and Planning District
Infrastructures Development		
- Water resources	1	IKC-Ishim Pipeline
- Water supply	4	3 rd Water Pipeline, Priority Water Supply Project in 1 st stage
- Sewerage	2	STP Rehabilitation, Sewer Collection System Rehabilitation and Expansion
- Electric power supply	3	110/10 kV T/L and S/S, Conventional Electric Power & Heat Energy Generating Plant
- Heat energy supply	4	Repair of Heat Main & Distributions, Extension of Heat Pipes, Construction of Heat Pump Station No.6, and 3 Heat Centers
- Gas supply	1	Gas supply network
- Telecommunication	3	Install, Telephone on Left Bank of Ishim River, New Telecommunication Network, Administration Data Communication Network
- Solid Waste	2	Landfill-1 Project, HSW Incinerator Project (1)
Engineering Protection		
- Storm water drainage	3	Improvement Drainage System
- Flood protection	4	Ishim River Improvement and Bank Protection
Total	69	

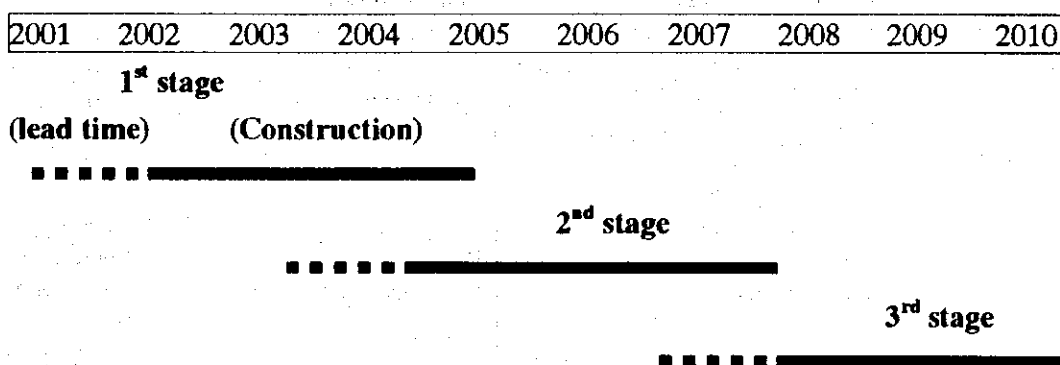
7.4.2 Implementation Schedule

In *Medium Term* urban development of approximately 3.5 million m² of residential area, 2.1 million m² of office and 0.12 million m² of commercial floor areas, will be carried out with priority. The highest priority will be given to the development of New City Center in Districts 13 and 14, which will constitute the staple element, and eventually the core of the future city of Astana.

The necessary urban development and architectural works include 1) land preparation and demolition works, 2) internal infrastructure development, and 3) on-site greenery and other miscellaneous works.

A phasewise implementation will be necessary and divided construction stages will have to be adopted in each of the *Terms*. Some lead time (the time necessary before the commencement of work) should be allowed for preparations of financial arrangement, feasibility study, engineering design, tender and contracting due to the present maturity of the development. Thus the construction period will be classified and or grouped by the project maturity as illustrated below for *Medium Term*.

Illustration for Construction Stages in Medium Term (2001-2010)



As for urban development, an implementation schedule of the New City Center in District 13 and 14 is proposed as presented in Figure 7.4.1, which shows development activities divided into 3 stages area-wise as the highest priority project.

The following urban development, infrastructure and engineering protection projects in *Medium Term* are identified, as the 1st priority projects. Accelerated implementation will be required in 1st stage of *Medium Term* development.

List of 1st Priority Project in 1st Step of Medium Term

Sector	Project	Component	Implementation timing
Urban Development			
- Transportation	Road	Special road: Sp-2, sp-3	2001-2005
		Main road : Sp-1 (ring road)	2001-2005
		Primary road : P-1, p-2, p-11	2001-2005
	Trolley bus project	Catenary cables & power station	2001-2005
	Bridge	b-6, b-7, b-8, b-9, b-10, and f-4	2001-2005
	International Airport	Improvement	2001-2003
Infrastructures Development			
- Water resources	IKC-Ishim Pipeline	Pump & pipeline	2000-1001
- Water supply	Priority project, 1 st stage	Intake, WTP, pipelines	2001-2007
- Sewerage	Rehabilitation & system expansion	WTP, sewers	2001-2006
- Electric supply	110/10 kV T/L and S/S	For new city center	2001-2001
	Electric & heat energy plant		2003-2006
- Heat supply	Repair of heat mains and network		2001-2001
	Heat pump station no.6		2000-2001
	Extension heat pipelines	For new city center	2001-2005
- Telecommunication	Telephone install	Left bank of Ishim River	2001-2001
	Astana new local telecom network		2003-2005
- Solid waste	Landfill-1 project	Improve existing landfill site	2001-2002
	HSW incinerator	Project (1)	2004-2004
Engineering Protection			
- Storm water drainage	New city center	Drainage system & network	2000-1001
- Flood protection	Ishim river	River improvement & dike embankment	2001-2005
	Akbulak river	Bank reconstruction	2001-2001
- Groundwater drainage	Right bank, Ishim R.	Underground pipelines	2001-2005
	New City center	Underground drainage network	2001-2005

7.4.3 Urgent Area for Feasibility Study

The Study Team recommends that feasibility studies of the projects listed in the following table should be conducted in an early stage in the range of *Medium Term* between 2001- 2010, taking into consideration of relevant development activities, implementation schedule and other relevant factors.

Project List Subject To Feasibility Study

Region / Sector	Cost code		Project	Project scope
Transportation	20-1	Road	Main streets of city importance/Main roads (Arterial road)	Sp-1, ring road, new construction
	20-3	Road	Main streets of city importance (Primary road)	p-1, p-2, and p-11 new and improvement
	20-6	Public	Trolley bus	Reconstruction and construction of catenary cables and power station
	20-7	Bridge	Bridge	b-6, b-7, b-8, b-9 and b-10, new construction
	20-8	Bridge	Bridge	f-4, new construction
	20-10	LRT	Light Railway Transit	22 km, 16 stations, new construction
Power & Heat Energy supply	80-2	Combine	Conventional Electric Power and Heat Energy Generating Plant	Generating plant in 2006, 115 MW
	80-3	Power	110 kV transmission line (T/L) and substations (S/S)	64 km T/L underground and overhead, and S/S
Telecommunication	100-2	Telecom	Astana new local telecommunication network	Switching and transmission system, etc.
	100-3	Telecom	Administrative Data communication network	Capital subcenter system, IT center etc.
Solid waste	110-1	MSW	Landfill-1	Improvement existing landfill site, construction of landfill-1 (15 ha), machinery procurement etc.

7.5 Integrated Investment Cost

An investment cost for the development of the City of Astana in *Medium, Long and Ultimate Terms* was worked out and estimated on the basis of the economic and financial cost on the master plan level. Table 7.5.1 tabulates integrated investment costs on an economic cost basis. Thus, the economic basis integrated costs summarized below will be used for the analysis and evaluation of the cost and benefit in Chapter 8.

Summary of Economic Basis Integrated Investment Cost

Unit: US\$ million

Region/Sector	Medium (2001-2010)	Long (2011-2020)	Ultimate (2021-2030)	Total	(ratio)
Urban Development	2,926.5	2,498.1	1,808.3	7,232.9	0.81
Central Region	168.8	334.6	119.6	623.0	
Northern Region	8.1	38.5	25.8	72.4	
Southeastern Region	1,260.8	544.1	16.8	1,821.7	
Southern Region	1,071.6	831.5	1,148.1	3,051.2	
Northwestern Region	31.3	536.6	151.7	719.6	
Transportation	385.9	212.8	346.3	945.0	
City Greenery *					
Infrastructures Development	696.9	516.2	412.8	1,625.9	0.18
Water resources	20.5	0	19.1	39.6	
Water supply	129.9	132.4	58.6	320.9	
Sewerage	87.7	94.2	58.1	240.0	
Power and heat energy	252.9	191.5	206.0	650.4	
Gasification	107.8	19.0	9.4	136.2	
Telecommunication	76.8	57.8	41.9	176.5	
Solid waste	21.3	21.3	19.7	62.3	
Engineering Protection	55.5	37.5	29.0	122.0	0.01
Storm water drainage	38.6	10.2	2.4	51.2	
Flood protection	16.9	27.3	26.6	70.8	
Grand total	3,678.9	3,051.8	2,250.1	8,980.8	1.00
(ratio)	0.41	0.34	0.25	1.00	

* The cost includes to each district and region as the "parks and greenery" and as direct construction cost.

Conditions and assumptions on the cost estimate are:

- 1) Price level is in November 2000.
- 2) Exchange rates applied are US\$ 1.0 = K Tenge 144.0 = J Yen 108.0.
- 3) An economic basis cost consists the direct construction cost and engineering services cost.

7.6 Operation and Maintenance Cost

Annual basis operation and maintenance (O & M) cost is estimated to meet the implementation schedule of each project following the proposed construction time schedule in addition to the current O & M cost for the existing structures or facilities divided into Medium, Long and Ultimate Term respectively.

The O & M costs for the houses and buildings were assumed as a percentage of the direct construction cost as in the following;

Permanent residential houses : 1.0 %

Office and commercial buildings respectively : 0.75 %

For the infrastructure and engineering protection projects, the operation and maintenance cost was estimated either based on the referential data or the past records by percent (%) of completed project or facilities. The annual operation and maintenance expenses are estimated as summarized in the table below.

Annual Operation and Maintenance Cost

Unit: US\$ million

Sector	To 2010	To 2020	To 2030
Urban and Architectures	34.0	60.1	83.6
Infrastructures and Engineering Protection	24.5	38.2	50.3
Total, cumulative	58.5	98.3	133.9

7.7 Replacement Cost

Replacement cost means the costs of replacing or reconstructing facilities or structures due to age. Some of facilities or structures will require replacing within the planned long or ultimate term period.

The lifetime of buildings and houses is assumed at 50 years or more, and therefore the replacement cost will not accrue within the planning horizon of 30 years. The replacements cost estimates are summarized in the table below.

Summary of Replacement Cost

Unit: US\$ thousand

Structures/Facilities subject to replace	Life Time (Year)	To 2010	To 2020	To 2030
Transportation, Traffic light	15	0	3,990	2,348
Solid waste, Waste collection vehicle	10	0	5,883	6,707
Total		0	9,873	9,055

TABLE

Table 7.2.1 Planned Future Land Use to the Year 2010, 2020, and 2030

(Astana City Commanded Area : approx. 71,000 ha or 710 km²)

Cost Code		Region / District / Zoning	Total Area to 2030 ha	Development Plan by Phase														
				Residential Area					Office Floor Area					Commercial Area				
				2000 ha	2010 ha	2020 ha	2030 ha	Total ha	2000 1,000m2	2010 1,000m2	2020 1,000m2	2030 1,000m2	Total 1,000m2	2000 1,000m2	2010 1,000m2	2020 1,000m2	2030 1,000m2	Total 1,000m2
10-1	Central Planning Region	1 689		1 162	11	0	1 173		789	288	141	1 218		123	17	30	170	
	10-1-1 Residential District 3	385		300	0	0	300		277	116	78	471		17	3	9	29	
	10-1-2 Residential District 4A	563		325	11	0	336		386	153	58	597		77	8	11	96	
	10-1-3 Residential District 5	357		268	0	0	268		63	10	3	76		14	3	5	22	
	10-1-4 Residential District 6	384		269	0	0	269		63	9	2	74		15	3	5	23	
10-2	Northern Planning Region	22 614		302	0	0	302		148	77	67	292		3	0	2	5	
	10-2-1 Northern Industrial District	2 146		184	0	0	184		53	22	18	93		2	0	1	3	
	10-2-2 Central Industrial District	3 353		118	0	0	118		74	34	28	136		1	0	1	2	
	10-2-3 Planning District I (high-tech park)	6 302		0	0	0	0		4	0	0	4		0	0	0	0	
	10-2-4 Planning District II (high-tech park)	3 710		0	0	0	0		0	0	4	4		0	0	0	0	
	10-2-5 Planning District III (high-tech park)	2 927		0	0	0	0		0	4	0	4		0	0	0	0	
	10-2-6 Planning District IV (military academy)	4 176		0	0	0	0		0	0	0	0		0	0	0	0	
	10-2-7 Planning District IV (services)								2	2	1	5		0	0	0	0	
	10-2-8 Planning District IV (cargo center)								15	15	16	46		0	0	0	0	
10-3	Southeastern Planning Region	11 270		1 658	672	0	2 330		359	130	21	510		79	29	36	144	
	10-3-1 Residential District 7	562		318	0	0	318		117	9	4	130		28	3	10	41	
	10-3-2 Residential District 8	395		149	0	0	149		51	2	2	55		12	1	4	17	
	10-3-3 Residential District 9	552		333	0	0	333		48	2	2	52		13	0	5	18	
	10-3-4 Residential District 10	213		133	15	0	148		10	9	0	19		1	1	1	3	
	10-3-5 Industrial District-Station 40	752		136	0	0	136		29	7	7	43		2	0	1	3	
	10-3-6 Residential District 17	715		349	57	0	406		98	21	4	123		22	6	9	37	
	10-3-7 Residential District 18	902		0	380	0	380		0	49	1	50		0	11	3	14	
	10-3-8 Residential District 19	783		0	220	0	220		0	31	1	32		0	7	2	9	
	10-3-9 Planning District V	6 396		240	0	0	240		6	0	0	6		1	0	1	2	
10-4	Southern Planning Region	24 399		891	497	732	2 120		1 818	675	528	3 021		64	99	112	275	
	10-4-1 Residential District 11	1 251		120	0	370	490		7	5	84	96		1	0	26	27	
	10-4-2 Residential District 12	668		342	0	0	342		27	1	1	29		7	1	1	9	
	10-4-3 Residential District 13	942		199	0	0	199		1 225	302	138	1 665		40	60	45	145	
	10-4-4 Residential District 14	1 425		96	101	112	309		524	286	241	1 051		14	25	24	63	
	10-4-5 Residential District 15	820		0	250	41	291		0	27	5	32		0	6	3	9	
	10-4-6 Residential District 16	933		49	146	209	404		1	34	38	73		1	7	13	21	
	10-4-7 Planning District VI (new airport city)	1 885		0	0	0	0		28	0	0	28		0	0	0	0	
	10-4-8 Planning District VII (sports city)								0	5	0	5		1	0	0	1	
	10-4-9 Planning District VII (university)	3 789		85	0	0	85		0	19	13	32		0	0	0	0	
	10-4-10 Planning District VII (int. exhibition)								6	-4	8	10		0	0	0	0	
	10-4-11 Planning District VIII	12 686		0	0	0	0		0	0	0	0		0	0	0	0	
10-5	Northwest Planning Region	9 909		498	325	20	843		61	103	33	197		13	22	16	51	
	10-5-1 Residential District 1	332		100	8	20	128		7	8	9	24		1	1	5	7	
	10-5-2 Residential District 2	441		281	0	0	281		37	17	17	71		10	4	6	20	
	10-5-3 West Industrial District	575		12	0	0	12		11	5	5	21		1	0	0	1	
	10-5-4 Residential District 4B	685		105	317	0	422		6	73	2	81		1	17	5	23	
	10-5-5 Planning District IX	7 876		0	0	0	0		0	0	0	0		0	0	0	0	
	Total, each phase	69 881		4 511	1 505	752	6 768		3 175	1 273	790	5 238		282	167	196	645	
	Cumulative total			4 511	6 016	6 768			3 175	4 448	5 238			282	449	645		

Table 7.2.2 (1/2) Floor Area, Required for Residential, Office , and Commercial in Phase I, II, and III

Planning Region	Area ha	District	Area ha	Floor Area, Requires total	1,000 m2	2010 1,000 m2	2020 1,000 m2	2030 1,000 m2	notes
Whole Astana	69,881		69,881	residential	11,036	3,492	4,681	2,863	
				office	4,205	2,080	1,277	848	
				commercial	485	121	169	195	
Central	1,689	Total	1,689	residential	1,184	406	574	204	
				office	528	33	289	206	
				commercial	58	10	17	31	
		Residential district 3		residential	350	0	146	204	
				office	194	0	116	78	
				commercial	12	0	3	9	
		Residential district 4A		residential	336	183	153	0	
				office	244	33	153	58	
				commercial	26	6	8	12	
		Residential district 5		residential	278	124	154	0	
				office	79	0	11	68	
				commercial	10	2	3	5	
		Residential district 6		residential	220	99	121	0	
				office	11	0	9	2	
				commercial	10	2	3	5	
Northern	22,614	Total	22,614	residential	37	37	0	0	
				office	165	21	77	67	
				commercial	2	1	0	1	
		North industrial district		residential	0	0	0	0	
				office	40	0	22	18	
				commercial	1	0	0	1	
		Central industrial district		residential	37	37	0	0	
				office	62	0	34	28	
				commercial	1	1	0	0	
		Planning district I (high-tech)		residential	0	0	0	0	
				office	4	4	0	0	
				commercial	0	0	0	0	
		Planning district II (high-tech)		residential	0	0	0	0	
				office	4	0	0	4	
				commercial	0	0	0	0	
		Planning district III (high-tech)		residential	0	0	0	0	
				office	4	0	4	0	
				commercial	0	0	0	0	
		Planning district IV (military academy)		residential	0	0	0	0	
				office	0	0	0	0	
				commercial	0	0	0	0	
		Planning district IV (services)		residential	0	0	0	0	
				office	6	2	2	2	
				commercial	0	0	0	0	
		Planning district IV (cargo center)		residential	0	0	0	0	
				office	45	15	15	15	
				commercial	0	0	0	0	
Southeastern	11,270	Total	11,270	residential	4,077	2,489	1,588	0	
				office	377	228	128	21	
				commercial	113	49	29	35	
		Residential district 7		residential	683	617	66	0	
				office	54	41	9	4	
				commercial	23	10	3	10	
		Residential district 8		residential	0	0	0	0	
				office	0	0	0	0	
				commercial	6	1	1	4	
		Residential district 9		residential	477	477	0	0	
				office	52	48	2	2	
				commercial	17	12	0	5	
		Residential district 10		residential	194	80	114	0	
				office	20	10	9	1	
				commercial	3	1	1	1	
		Industrial district, station 40		residential	347	181	166	0	
				office	39	23	7	7	
				commercial	3	2	0	1	
		Residential district 17		residential	1,287	1,064	223	0	
				office	123	98	21	4	
				commercial	37	22	6	9	
		Residential district 18		residential	625	0	625	0	
				office	51	0	49	2	
				commercial	14	0	11	3	
		Residential district 19		residential	394	0	394	0	
				office	32	0	31	1	
				commercial	9	0	7	2	
		Planning district V		residential	70	70	0	0	
				office	6	6	0	0	
				commercial	1	1	0	0	

Table 7.2.2 (2/2) Floor Area, Required for Residential, Office , and Commercial in Phase I, II, and III

Planning Region	Area ha	District	Area ha	Floor Area, Requires total	1,000 m2	2010 1,000 m2	2020 1,000 m2	2030 1,000 m2	notes
Southern	24,399	Total	24,399	residential	3,953	495	1,223	2,235	
				office	2,987	1,784	681	522	
				commercial	271	58	101	112	
		Residential district 11	1,251	residential	1,288	42	69	1,177	
				office	90	0	6	84	
				commercial	27	0	1	26	
		Residential district 12	668	residential	65	65	0	0	
				office	2	0	1	1	
				commercial	5	3	1	1	
		Residential district 13	942	residential	159	159	0	0	
				office	1,665	1,225	303	137	
				commercial	145	40	60	45	
		Residential district 14	1,425	residential	1,027	176	374	477	
				office	1,050	524	286	240	
				commercial	63	14	25	24	
		Residential district 15	820	residential	403	0	340	63	
				office	32	0	27	5	
				commercial	9	0	6	3	
		Residential district 16	933	residential	966	8	440	518	
				office	73	1	34	38	
				commercial	21	0	8	13	
		Planning district VI (airport)	1,885	residential	0	0	0	0	
				office	28	28	0	0	
				commercial	0	0	0	0	
		Planning district VII (sports)	?	residential	0	0	0	0	
				office	5	0	5	0	
				commercial	0	0	0	0	
		Planning district VII (university)	3,789	residential	45	45	0	0	
				office	32	0	19	13	
				commercial	1	1	0	0	
		Planning district VII (exhibition c.)	?	residential	0	0	0	0	
				office	10	6	0	4	
				commercial	0	0	0	0	
		Planning district VIII	12,686	residential	0	0	0	0	
				office	0	0	0	0	
				commercial	0	0	0	0	
Northwestern	9,909	Total	9,909	residential	1,785	65	1,296	424	
				office	148	14	102	32	
				commercial	41	3	22	16	
		Residential district 1	332	residential	212	0	99	113	
				office	16	0	8	8	
				commercial	6	0	1	5	
		Residential district 2	441	residential	577	0	266	311	
				office	33	0	16	17	
				commercial	12	2	4	6	
		West industrial district	575	residential	0	0	0	0	
				office	18	8	5	5	
				commercial	0	0	0	0	
		Residential district 4B	685	residential	996	65	931	0	
				office	81	6	73	2	
				commercial	23	1	17	5	
		Planning district IX	7,876	residential	0	0	0	0	
				office	0	0	0	0	
				commercial	0	0	0	0	

Table 7.2.3 (1/2) Integrated Implementation Plan for Development of the City of Astana, Medium Term in Phase I (2001-2010)

Coring Code No.	No.	Development Scope	Project's Abbreviation for Townscape & Architectures	Unit	Q'ty	2010						
						a1 Implementation Priority <1	b1 Implementation Schedule <2	c1 Procurement method	d1 Finance source expected	e1 Executing Agency	f1 Maturity of Project<3	
10 URBAN DEVELOPMENT												
10-1	Central planning region			ha	69 881							
	10-1-1	Residential district 3	TAPC-1	ha	1 689							
	10-1-2	Residential district 4A	TAPC-2	ha	385							
	10-1-3	Residential district 5	TAPC-3	ha	357							
	10-1-4	Residential district 6	TAPC-4	ha	384							
	10-2	Northern planning region			ha	22 614						
		10-2-1	Northern industrial district	TAPN-1	ha	2 146						
		10-2-2	Central industrial district	TAPN-2	ha	3 353						
		10-2-3	Planning district I (high-tech park)	TAPN-3	ha	6 302						
		10-2-4	Planning district II (high-tech park)	TAPN-4	ha	3 710						
		10-2-5	Planning district III (high-tech park)	TAPN-5	ha	2 927						
		10-2-6	Planning district IV (military academy)	TAPN-6	ha	4 176						
		10-2-7	Planning district IV (services)	TAPN-7	ha							
	10-2-8	Planning district IV (cargo center)	TAPN-8	ha								
	10-3	Southeastern planning region			ha	11 270						
		10-3-1	Residential district 7	TAPSE-1	ha	562						
10-3-2		Residential district 8	TAPSE-2	ha	395							
10-3-3		Residential district 9	TAPSE-3	ha	552							
10-3-4		Residential district 10	TAPSE-4	ha	213							
10-3-5		Industrial district-Station 40	TAPSE-5	ha	752							
10-3-6		Residential district 17	TAPSE-6	ha	715							
10-3-7		Residential district 18	TAPSE-7	ha	902							
10-3-8		Residential district 19	TAPSE-8	ha	783							
10-3-9		Planning district V	TAPSE-9	ha	6 396							
10-4	Southern planning region			ha	24 399							
	10-4-1	Residential district 11	TAPS-1	ha	1 251							
	10-4-2	Residential district 12	TAPS-2	ha	668							
	10-4-3	Residential district 13	TAPS-3	ha	942		2001-2010	ICB/LCB				
	10-4-4	Residential district 14	TAPS-4	ha	1 425		2001-2010	ICB/LCB				
	10-4-5	Residential district 15	TAPS-5	ha	820							
	10-4-6	Residential district 16	TAPS-6	ha	933							
	10-4-7	Planning district VI	TAPS-7	ha	1 885							
	10-4-8	Planning district VII	TAPS-8	ha								
	10-4-9	Planning district VII	TAPS-9	ha	3 789							
	10-4-10	Planning district VII	TAPS-10	ha								
	10-4-11	Planning district VIII	TAPS-11	ha	12 686							
10-5	Northwest planning region			ha	9 909							
	10-5-1	Residential district 1	TAPNW-1	ha	332							
	10-5-2	Residential district 2	TAPNW-2	ha	441							
	10-5-3	West industrial district	TAPNW-3	ha	375							
	10-5-4	Residential district 3	TAPNW-4	ha	685							
	10-5-5	Planning district IX	TAPNW-5	ha	7 876							
INFRASTRUCTURES AND ENGINEERING PROTECTION												
20	Transportation											
	20-1	Special road		km	2.31	1	2001-2005	LCB	to be arranged	Astana City	D	
	20-1-1	sp-2, new		km	1.25							
	20-1-2	sp-3, new		km	1.06	1	2001-2005	LCB	to be arranged	Astana City	D	
	20-2	Main Streets of City Importance/Main Roads (Arterial road)		km	91.18							
	20-2-1	s-1 to s-10, new and improve		km	14.00							
	20-2-2	sp-1 (Ring Road), new		km	26.77	1	2001-2005	LCB	to be arranged	Astana City	D	
	20-3	Main Streets of City Importance (Primary road)		km	26.77							
	20-3-1	sp-1, p-2, p-4, p-5, p-7, p-8, p-10, p-11, new and improve		km	41.29	2	2004-2007	LCB	to be arranged	Astana City	D	
	20-4	Main Streets of Regional Importance (Secondary road)		km	41.29							
	20-4-1	s-1 to s-4, s-6, s-7, s-11 to s-20, s-19, s-20, s-22 to s-27, s-29 new and improve		km	41.29	2	2004-2007	LCB	to be arranged	Astana City	D	
	20-5	Streets and Roads of Local Importance (Tertiary road)		km	19.75	2	2004-2007	LCB	to be arranged	Astana City	D	
	20-5-1	TR1, 2-lane, new		km	19.75							
	20-6	Trolley Bus project		km	30.0	1	2001-2005	ICB	Int. soft loan	Astana City	C	
	20-6-1	Reconstruction and construction of catenary cables		km	30.0	(reconst)						
	20-6-2	Power station construction		sta	4.0							
	20-7	Bridge (b-2 to b-24)		place	7.0	1	2001-2005	LCB	to be arranged	Astana City	D	
	20-7-1	b-6 to b-10, b-21, b-22, new		place	7.0	2	2004-2007	LCB	to be arranged	Astana City	D	
	20-8	Bridge (b-3 to b-15)		place	2.0							
	20-8-1	b-4 and b-15, new		place	2.0	3	2008-2010	ICB	Int. soft loan	Astana City	D	
	20-10	LRT		km	22.0							
	20-10-1	LRT, 16 stations, new		km	22.0	2	2004-2007	LCB	to be arranged	Astana City	D	
	20-13	Terminal		m2	2 700.0							
20-13-1	T-1, T-2, and T-3		m2	2 700.0	3	2008-2010	ICB	to be arranged	Astana City	D		
20-18	Traffic management		set	180.0								
20-18-1	Traffic light, new		LS	1.0								
20-18-2	Traffic control center		LS	1.0	1	2001-2003	ICB	JBIC, Japan	AIA	A		
20-23	Airport		LS	1.0								
20-23-1	improve Astana international airport		LS	1.0								
30	Water Resources											
	30-1	IKC-Isium Pipeline Project		km	9.6	1	2000-2001	LCB	State/City	Akmaty/KIC	A	
	30-1-1	Installation of pressure pipeline embedded, steel, D1.4 m		km	10.0							
	30-1-2	Installation of non-pressure pipeline embedded, RC, D1.2 m		km	2.0							
	30-1-3	Pump station w/substations		set	2.0							
	30-1-4	Water pump, 7 m3/s at existing P/S of IKC		set	2.0							
	30-1-5	Water pump, 1.2 m3/s at P/S of pipeline		set	3.0							
40	Water Supply											
	40-1	3rd Water Pipeline Project (No.01-10/9 Project List No. 22)		km	30.0	1	2000-2001	LCB	Republican / Socio-economic develop. fund	ASA	A	
	40-1-1	Construction of 3rd water pipe line, 1-lane, D1,000, steel		km	30.0							
	40-2	Construction of Water Supply Networks Project (No.01-10/9 Project List No. 33)		LS	1.0	1	2001-2005	LCB	Socio-economic develop. fund	ASA	B	
	40-2-1	Water supply networks		LS	1.0							
	40-3	Reconstruction of Water Supply Networks (No.01-10/9 project List No. 37)		LS	1.0	1	2001-2005	LCB	Socio-economic development fund	ASA	B	
	40-3-1	Water supply pump station		LS	1.0							
	40-3-2	Water treatment plant (WTP)		LS	1.0							
	40-4	Water supply - Priority Project, 1st stage		LS	1.0	1	2004-2007	ICB	JBIC, Japan	ASA	C	
	40-4-1	Intake facilities at Vyachislavsky reservoir, 200,000 m3/day		LS	1.0							
40-4-2	Water treatment plant, 100,000 m3/day		LS	1.0								
40-4-3	Water distribution, replacement 99 km (D100-300 mm)		LS	1.0								
40-4-4	new 75 km (D150-1,300 mm)		per	65 500.0								
40-4-5	Individual water meter		per	65 500.0								
50	Sewerage											
	50-1	Reconstruction of sewerage pump station (No.01-10/9 Project List No. 37)		LS	1.0	1	(included to project no. 50-3 to 50-10)					
	50-2	Construction of Sewerage Pond (No.01-10/9 Project List No. 63)		LS	1.0	1	(included to project no. 50-3 to 50-10)					
	50-3	Sewerage Treatment Plant Rehabilitation		LS	1.0	1	2004-2007	ICB	JBIC, Japan	ASA	C	
	50-3-1	Rehabilitation capacity, 136,000 m3/day		LS	1.0	1	2004-2007	ICB	JBIC, Japan	ASA	C	
	50-4	Sewer Collection System rehabilitation		LS	1.0							
	50-4-1	Sewer pipes, D300-1,500 mm		LS	1.0							
	50-4-2	Pump station		LS	1.0	1	2004-2007	ICB	JBIC, Japan	ASA	C	
50-5	Sewerage Collection System Expansion (I)		LS	1.0								
50-5-1	Sewer pipes, D100-1,300 mm		LS	1.0								
50-5-2	Pump station		LS	1.0								

Table 7.2.3 (2/2) Integrated Implementation Plan for Development of the City of Astana, Medium Term in Phase I (2001-2010)

Conting Code No.	No.	Development Scope	Project's Abbreviation for Townscape & Architectures	unit	Q'ty	2010					
						a1 Implementation Priority <1	b1 Implementation Schedule <2	c1 Procurement method	d1 Finance source expected	e1 Executing Agency	f1 Maturity of Project <3
60		Storm Water Drainage									
	60-1	Construction of Treatment Station				1	2001-2001	LCB	Astana city	Astana city	B
	60-2	Project for Stormwater Drainage Development and Improvement (District No. 1, 2, 3, 4A, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, central ind., north ind., west ind., and station 40)				1	2001-2010	LCB	Astana city	Astana city	D
	60-2-1	Construction of drainage pipelines		LS	1.0						
	60-2-2	Construction of drainage pump stations		LS	1.0						
	60-2-3	Construction of treatment station		LS	1.0						
	60-3	Project for Stormwater Drainage Development in New City Center				1	2001-2001	LCB	Astana city	Astana city	A
		Construction of stormwater drainage system (No. 01-10/9 Project List No. 34)				1	2000-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
		Construction of drainage network (No. 01-10/9 Project List No. 35)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
		Construction of treatment station for stormwater drainage system (No. 01-10/9 Project List No. 40)				1	2000-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
70		Flood Protection									
	70-1	Ishim River Improvement Works (No. 01-10/9 Project List No. 33)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	C
	70-1-1	Dredging & channel formation, section from the estuary of Ak-Bulak river to complex of governmental buildings	km	4.0							
	70-2	Reconstruction of Ishim River Embankment (No. 01-10/9 Project List No. 37)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
	70-2-1	Embankment (section 4 & 5)	LS	1.0							
	70-3	Reconstruction of Bank of Ak-Bulak River, 2nd stage (No. 01-10/9 Project List No. 39)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
	70-3-1	Reconstruction of Bank of Ak-Bulak River	LS	1.0							
	70-4	Ishim River improvement, L=3.0 km (Sary-Alka street to confluence of Sarybulak River)				2	2001-2005	LCB	Socio-economic develop. fund	Astana city	D
	70-4-1	Excavation (open cut and dredging)	LS	1.0							
	70-4-2	Embankment	LS	1.0							
	70-4-3	Construction of weir	LS	1.0							
	70-4-4	Related structures	LS	1.0							
80		Electric Power and Heat Energy									
	80-1	110/10 kV Substation and Power Transmission Line Project (Development of Power supply System of Astana City up to 2007, 1st stage) (No. 01-10/9 Project List No. 32)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	C
	80-1-1	Construction of 110 kV transmission line from airport to left bank of Ishim River (New City Center)	LS	1.0							
	80-1-2	Construction of 110/10 kV substation "Left Bank"	LS	1.0							
	80-2	Conventional Electric Power and Heat Energy Generating Project				1	2001-2006	ICB	Int. soft loan	AES	D
	80-2-1	Power and heat energy generating plant in 2006	MW	115.0							
	80-3-1	Project for 110 kV Transmission Line and Substations									
	80-3-1	Construction of 110 kV transmission line	km	61.4							
	80-3-2	Construction and extension of substations	place	3.0							
	80-4	(Heat energy)									
	80-4-1	Repair and Restoration of abandoned heat mains and distribution networks of the City (No. 01-10/9 Project List No. 38)				1	2001-2001	LCB	Socio-economic develop. fund	Astana city	to be clarified
	80-4-1	Repair and Restoration of heat mains and distribution networks	LS	1.0							
	80-5	Construction of heat pump station No.6 (No. 01-10/9 Project List No. 41)				1	2000-2001	LCB	to be arranged	Astana city	to be clarified
	80-5-1	Heat pump station No.6	LS	1.0							
	80-6	Project for Extension of Existing District Heating Pipelines to New City Center and New Develop. Area on the Right Bank of Ishim river				1	2001-2005	LCB	Socio-economic develop. fund	Astana city	C
	80-6-1	Extension to new city center	LS	1.0							
	80-6-2	Extension to new develop. area on the right bank of I. River	LS	1.0							
	80-7	Project for Three (3) Heat Centers				2	2008-2010	ICB	Int. soft loan	AES	D
	80-7-1	Heat centers, HC-1, HC-2, and HC-3	place	3.0							
	80-7-2	Related pipelines on the left bank of Ishim River	LS	1.0							
90		Gas Supply									
	90-1	Astana City Gas Supply Network Project				1	2005-2010	ICB	Int. soft loan	Astana city	D
	90-1-1	Establishment of Gas Supply Company	LS	1.0							
	90-1-2	Construction of high pressure network	LS	1.0							
	90-1-3	Construction of low pressure network	LS	1.0							
	90-1-4	Construction of supporting facilities	LS	1.0							
100		Telecommunication									
	100-1	Installation Project of Telephones on the Left Bank of Ishim River (No. 01-10/9 Project List No. 36)				1	2001-2001	to be clarified	to be arranged	Ministry of Transport and Communication	to be clarified
	100-1-1	Installation of telephones	LS	1.0		1					
	100-2	Astana New Local Telecommunication Network Project (I)				2	2003-2005	Turn key	Int. soft loan	Ministry of Transport and Communication	C
	100-2-1	Switching system	LS	1.0							
	100-2-2	Transmission system (STM-16-ADM)	LS	1.0							
	100-2-3	Digital Loop Carrier Equipment	LS	1.0							
	100-2-4	Outside plant	LS	1.0							
	100-2-5	Power supply system	LS	1.0							
	100-2-6	Buildings	LS	1.0							
	100-2-7	Training	LS	1.0							
	100-3	Administration Data Communication Network Project (IP Network)				3	2004-2006	Turn key	Int. soft loan	Ministry of Transport and Communication	D
	100-3-1	Capital subcenter system	LS	1.0							
	100-3-2	IT Center system	LS	1.0							
110		Solid Waste									
	110-1	Landfill-1 Project				1	2001-2002	ICB	Spanish ODA	Gorodokanal	B
	110-1-1	Improvement of existing landfill site	LS	1.0							
	110-1-2	Construction of landfill-1 (15 ha, civil work)	LS	1.0							
	110-1-3	Machinery for landfill-1	LS	1.0							
	110-1-4	Machinery for waste collection and transportation	LS	1.0							
	110-1-5	Machinery for city cleaning	LS	1.0							
	110-1-6	Demographical center	LS	1.0							
	110-2	Hazardous HSW Incinerator Project (I)				1	2001-2004	ICB	Int. soft loan	Astana City	D
	110-2-1	Construction of HHSW incinerator	LS	1.0							

note:

<1 Implementation priority within the each phase of medium, long, and ultimate

Implementation schedule means proposed construction period, no

<2 accounted in elapsed time such as feasibility study, engineering design,

<3 Project maturity as of the end of year 2000 by the following classification

- A under construction
- B under engineering design
- C under feasibility study
- D under master plan

Abbreviation

Int. soft loan International soft loan

HHSW Hospital Hazardous Solid Waste

MSW Municipal solid Waste

NCC New City Center

NRW Non Revenue Water

ICB International Competitive Bid

LCB Local Competitive Bid

JBIC Japan Bank for International Cooperation

AES Astanaenergyservice

ASA Gorvodokanal

AIA Astana International Airport

Table 7.2.4 (1/2) Integrated Implementation Plan for Development of the City of Astana, Long Term in Phase II (2011-2020)

Costing Code No.	No.	Development Scope	Project's Abbreviation for Townscape & Architectures	unit	Q'ty	2020					
						a1	b1	c1	d1	e1	f1
						Implementation Priority <1	Implementation Schedule <2	Procurement method	Finance source expected	Executing Agency	Maturity of Project <3
10	URBAN DEVELOPMENT										
	10-1	Central planning region				ha	69 881				
		10-1-1	Residential district 3	TAPC-1	ha	385					
		10-1-2	Residential district 4A	TAPC-2	ha	563					
		10-1-3	Residential district 5	TAPC-3	ha	357					
		10-1-4	Residential district 6	TAPC-4	ha	384					
	10-2	Northern planning region				ha	22 614				
		10-2-1	Northern industrial district	TAPN-1	ha	2 146					
		10-2-2	Central industrial district	TAPN-2	ha	3 353					
		10-2-3	Planning district I (high-tech park)	TAPN-3	ha	6 302					
		10-2-4	Planning district II (high-tech park)	TAPN-4	ha	3 710					
		10-2-5	Planning district III (high-tech park)	TAPN-5	ha	2 927					
		10-2-6	Planning district IV (military academy)	TAPN-6	ha	4 176					
		10-2-7	Planning district IV (services)	TAPN-7	ha						
		10-2-8	Planning district IV (cargo center)	TAPN-8	ha						
	10-3	Southeastern planning region				ha	11 270				
		10-3-1	Residential district 7	TAPSE-1	ha	562					
		10-3-2	Residential district 8	TAPSE-2	ha	395					
		10-3-3	Residential district 9	TAPSE-3	ha	552					
		10-3-4	Residential district 10	TAPSE-4	ha	213					
		10-3-5	Industrial district Station 40	TAPSE-5	ha	752					
		10-3-6	Residential district 17	TAPSE-6	ha	715					
		10-3-7	Residential district 18	TAPSE-7	ha	902					
		10-3-8	Residential district 19	TAPSE-8	ha	783					
		10-3-9	Planning district V	TAPSE-9	ha	6 396					
	10-4	Southern planning region				ha	24 399				
		10-4-1	Residential district 11	TAPS-1	ha	1 251					
		10-4-2	Residential district 12	TAPS-2	ha	668					
		10-4-3	Residential district 13	TAPS-3	ha	942					
		10-4-4	Residential district 14	TAPS-4	ha	1 425					
		10-4-5	Residential district 15	TAPS-5	ha	820					
		10-4-6	Residential district 16	TAPS-6	ha	933					
		10-4-7	Planning district VI	TAPS-7	ha	1 885					
		10-4-8	Planning district VII	TAPS-8	ha						
		10-4-9	Planning district VII	TAPS-9	ha	3 789					
		10-4-10	Planning district VII	TAPS-10	ha						
		10-4-11	Planning district VIII	TAPS-11	ha	12 686					
	10-5	Northwest planning region				ha	9 909				
		10-5-1	Residential district I	TAPNW-1	ha	332					
		10-5-2	Residential district I	TAPNW-2	ha	441					
		10-5-3	West industrial district	TAPNW-3	ha	575					
		10-5-4	Residential district I	TAPNW-4	ha	685					
		10-5-5	Planning district IX	TAPNW-5	ha	7 876					
	INFRASTRUCTURES AND ENGINEERING PROTECTION										
20	Transportation										
	20-2	Main Streets of City Importance / Main Roads (Arterial road)									
		20-2-1	a-1 to a-10, new and improve		km	58.66	1	2011-2015	LCB	to be arranged	Astana City D
		20-2-1	sp-1 (Ring Road), new		km	14.00					
	20-3	Main Streets of City Importance (Primary road)									
		20-3-1	p-1, 0-2, p-4, p-6, p-7, p-8, p-10, p-11, new and improve		km	36.19	1	2011-2015	LCB	to be arranged	Astana City D
	20-4	Main Streets of Regional Importance (Secondary road)									
		20-4-1	s-1 to s-4, s-6, s-7, s-11 to s-20, s-22, s-22 to s-27, s-29 new and improve		km	74.57	2	2014-2017	LCB	to be arranged	Astana City D
	20-5	Streets and Roads of Local Importance (Tertiary road)									
		20-5-1	TR2, 2-lane, new		km	48.00	2	2014-2017	LCB	to be arranged	Astana City D
	20-7	Bridge (b-2 to b-24)									
		20-7-1	b-3, 5, 11, 12, 13, 14, 16, 19, 24, new		place	9.0	1	2011-2015	LCB	to be arranged	Astana City D
	20-8	Bridge (f-3 to f-15)									
		20-8-1	f-2, 5, 8, 9, 10 and 13, new		place	6.0	2	2014-2017	LCB	to be arranged	Astana City D
	20-11	LRT Light Railway Transit									
		20-11-1	LRT, 8 stations, new		km	8.0	3	2018-2020	ICB	to be arranged	Astana City D
	20-13	Terminal									
		20-13-1	T-4, new		n12	3 000.0	2	2014-2017	LCB	to be arranged	Astana City D
	20-18	Traffic Management									
		20-18-1	Traffic light, new		set	245.0	3	2018-2020	ICB	to be arranged	Astana City D
		20-18-2	Traffic control center, new		LS	1.0					
30	Water Resources										
							(none)				
40	Water Supply										
	40-5	Water Supply - 2nd stage									
		40-5-1	Intake facilities, 150,000 m3/day for civil, 75,000 m3/day for M&E		LS	1.0	1	2010-2013	ICB	to be arranged	ASA C
		40-5-2	Raw water transmission pipeline (4th), new D1,400 mm		km	66.0					
		40-5-3	Water treatment plant, 120,000 m3/day		LS	1.0					
		40-5-4	Water distribution, new, D500-1,400 mm		km	50.0					
50	Sewerage										
	50-6	Sewerage Treatment Plant Expansion (1)									
		50-6-1	Expansion capacity, 40,000 m3/day		LS	1.0	1	2011-2015	LICB	to be arranged	ASA D
	50-7	Sewerage Collection System Expansion (2)									
		50-7-1	Sewer pipes, D300 - 1,500 mm		LS	1.0	1	2011-2015	LCB	to be arranged	ASA D
		50-7-2	Pump station		LS	1.0					

Table 7.2.4 (2/2) Integrated Implementation Plan for Development of the City of Astana, Long Term in Phase II (2011-2020)

Costing Code No.	No.	Development Scope	Project's Abbreviation for Townscape & Architectures	unit	Q'ty	2020					
						a1 Implementation Priority <1	b1 Implementation Schedule <2	c1 Procurement method	d1 Finance source expected	e1 Executing Agency	f1 Maturity of Project <3
60		Storm Water Drainage									
	60-2	Project for the Stormwater Drainage Development (District No. 4B, 14, 15, 16, 17, 18, 19, central ind., station 40)				1	2010-2015	LCB	Astana city	Astana city	D
	60-2-1	Construction of pipelines	LS		1.0						
	60-2-2	Construction of pump station	LS		1.0						
	60-2-3	Construction of treatment station	LS		1.0						
70		Flood Protection									
	70-5	Ishim River Improvement (New City Center to 2nd ring road, Sarybulak River to 2nd ring road)				1	2010-2015	LCB	Astana city	Astana city	D
	70-5-1	Excavation (open cut and dredging)	LS		1.0						
	70-5-2	Embankment	LS		1.0						
	70-5-3	Construction of weir	LS		1.0						
	70-5-4	Related structures	LS		1.0						
80		Electric Power and Heat Energy									
		(Electric power)									
	80-9	Natural Gas Firing Combined Cycle Plant				1	2008-2011	ICB	Int. soft loan	AES	D
	80-9-1	Combined cycle plant	MW		150.0						
	80-9-2	Mandatory spare parts	LS		1.0						
	80-9-3	Natural gas pipelines	LS		1.0						
	80-8	Construction of 110 kV Transmission Line & Substations				2	2011-2019	LCB	Socio-economic development fund	Astana city	D
	80-8-1	Transmission line	km		40.5						
	80-8-2	Substation	place		2.0						
	80-10	Construction of Three (3) Heat Centers and Related Pipelines on the Left Bank of Ishim River				3	2017-2019	ICB	Int. soft loan	AES	D
	80-10-1	Heat center, HC-4, HC-5, and HC-6	place		3.0						
	80-10-2	Pipelines	LS		1.0						
90		Gas Supply									
	90-2	Gas Supply Network Expansion Project (1)				1	2014-2017	ICB	to be arranged	Astana city	D
	90-2-1	Expansion of high pressure network	LS		1.0						
	90-2-2	Expansion of low pressure network	LS		1.0						
	90-2-3	Expansion of supplying facilities	LS		1.0						
100		Telecommunication									
	100-2	Astana New local Telecommunication Network (2)				1	2010-2013	Turn key	Int. soft loan	Ministry of Transport and Communication	D
	100-1-1	Switching system	LS		1.0						
	100-1-2	Transmission system (STM-16-ADM)	LS		1.0						
	100-1-3	Digital Loop Carrier Equipment	LS		1.0						
	100-1-4	Outside plant	LS		1.0						
	100-1-5	Power supply system	LS		1.0						
	100-1-6	Buildings	LS		1.0						
	100-1-7	Training	LS		1.0						
110		Solid Waste									
	110-1	Landfill-2 Project (phase 1)				1	2011-2012	LCB	State budget	Gorkommunkhoz	D
	110-1-1	Construction of landfill-2 (18.3 ha, civil work)	LS		1.0						
	110-1-2	Machinery for landfill-2	LS		1.0						
	110-2	HHSW Incinerator Project (2)				2	2019-2019	ICB	Int. soft loan	Astana City	D
	110-2-1	Construction of HHSW Incinerator	LS		1.0						
	110-3	Waste Collection Vehicle				1	2014-2015	ICB	Int. soft loan	Gorkommunkhoz	D
	110-3-1	Procurement, machinery for waste collection and transportation									
	110-4	Pilot Scale MSW Treatment Plant project				2	2015-2016	ICB	Int. soft loan	Astana City	D
	110-4-1	Construction of MSW Intermediate Treatment Plant	LS		1.0						
	110-5	NCC (New City Center) Recycling Center Project				2	2015-2015	LCB	State budget	Astana City	D
	110-5-1	Construction of Recycling Center	m2		400.0						

note:

<1 Implementation priority within the each phase of medium, long, and ultimate

<2 Implementation schedule means proposed construction period, no accounted the lead time such as feasibility study, engineering design, tender, contracting etc.

<3 Project maturity as of the end of year 2000 by the following classification

- A under construction
- B under engineering design
- C under feasibility study
- D under master plan

Abbreviation

Int. soft loan	International soft loan
HHSW	Hospital Hazardous Solid Waste
MSW	Municipal solid Waste
NCC	New City Center
NRW	Non Revenue Water
ICB	International Competitive Bid
LCB	Local Competitive Bid
JBIC	Japan Bank for International Cooperation
AES	Astana emergency service
ASA	Gorvodokanal
AIA	Astana International Airport

Table 7.2.5 (1/2) Integrated Implementation Plan for Development of the City of Astana, Ultimate Term in Phase III (2021-2030)

Costing Code No.	No.	Development Scope	Project's Abbreviation of Townscape & Architectures	unit	Q'ty	2030					
						a1 Implementation Priority <1	b1 Implementation Schedule <2	c1 Procurement method	d1 Finance source expected	e1 Executing Agency	f1 Maturity of Project <3
10	URBAN DEVELOPMENT										
	10-1	Central planning region		ha	69 881						
		10-1-1 Residential district 3	TAPC-1	ha	1 689						
		10-1-2 Residential district 4A	TAPC-2	ha	385						
		10-1-3 Residential district 5	TAPC-3	ha	563						
		10-1-4 Residential district 6	TAPC-4	ha	357						
				ha	384						
	10-2	Northern planning region		ha	22 614						
		10-2-1 Northern industrial district	TAPN-1	ha	2 146						
		10-2-2 Central industrial district	TAPN-2	ha	3 353						
		10-2-3 Planning district I (high-tech park)	TAPN-3	ha	6 302						
		10-2-4 Planning district II (high-tech park)	TAPN-4	ha	3 710						
		10-2-5 Planning district III (high-tech park)	TAPN-5	ha	2 927						
		10-2-6 Planning district IV (military academy)	TAPN-6	ha	4 176						
		10-2-7 Planning district IV (services)	TAPN-7	ha							
		10-2-8 Planning district IV (cargo center)	TAPN-8	ha							
	10-3	Southeastern planning region		ha	11 270						
		10-3-1 Residential district 7	TAPSE-1	ha	562						
		10-3-2 Residential district 8	TAPSE-2	ha	395						
		10-3-3 Residential district 9	TAPSE-3	ha	552						
		10-3-4 Residential district 10	TAPSE-4	ha	213						
		10-3-5 Industrial district-Station 40	TAPSE-5	ha	752						
		10-3-6 Residential district 17	TAPSE-6	ha	715						
		10-3-7 Residential district 18	TAPSE-7	ha	902						
		10-3-8 Residential district 19	TAPSE-8	ha	783						
		10-3-9 Planning district V	TAPSE-9	ha	6 396						
	10-4	Southern planning region		ha	24 399						
		10-4-1 Residential district 11	TAPS-1	ha	1 251						
		10-4-2 Residential district 12	TAPS-2	ha	668						
		10-4-3 Residential district 13	TAPS-3	ha	942						
		10-4-4 Residential district 14	TAPS-4	ha	1 425						
		10-4-5 Residential district 15	TAPS-5	ha	820						
		10-4-6 Residential district 16	TAPS-6	ha	933						
		10-4-7 Planning district VI	TAPS-7	ha	1 885						
		10-4-8 Planning district VII	TAPS-8	ha							
		10-4-9 Planning district VII	TAPS-9	ha	3 789						
		10-4-10 Planning district VII	TAPS-10	ha							
		10-4-11 Planning district VIII	TAPS-11	ha	12 686						
	10-5	Northwest planning region		ha	9 909						
		10-5-1 Residential district I	TAPNW-1	ha	332						
		10-5-2 Residential district I	TAPNW-2	ha	441						
		10-5-3 West industrial district	TAPNW-3	ha	575						
		10-5-4 Residential district I	TAPNW-4	ha	685						
		10-5-5 Planning district IX	TAPNW-5	ha	7 876						

Table 7.2.5 (2/2) Integrated Implementation Plan for Development of the City of Astana, Ultimate Term in Phase III (2021-2030)

Costing Code No.	No.	Development Scope	Project's Abbreviation & Townscape & Architectures	unit	Q'ty	2030					
						a1 Implementation Priority <1	b1 Implementation Schedule <2	c1 Procurement method	d1 Finance source expected	e1 Executing Agency	f1 Maturity of Project <3
INFRASTRUCTURES AND ENGINEERING PROTECTION											
20		Transportation									
	20-2	Main Streets of City importance/Main Roads (Arterial road)				1	2021-2025	LCB	to be arranged	Astana City	D
	20-2-1	a-6 and a-10, new and improve	km	6.24							
	20-2-2	ap-1, ring road, new	km	47.50							
	20-4	Main Streets of Regional Importance (Secondary road)				2	2024-2027	LCB	to be arranged	Astana City	D
	20-4-1	s-9, s-17, s-41 to s-46, new and improve	km	22.10							
	20-5	Streets and Roads of Local Importance (Tertiary road)				2	2024-2027	LCB	to be arranged	Astana City	D
	20-5-1	TR-3, 2-lane, new	km	11.85							
	20-7	Bridge (b-2 to b-24)				1	2021-2025	LCB	to be arranged	Astana City	D
	20-7-1	b-2, b-4, b-15, b-17, b-18, new	place	5.0							
	20-8	Bridge (f-3 to f-15)				2	2024-2027	LCB	to be arranged	Astana City	D
	20-8-1	f-6, f-12 and f-14, new	place	3.0							
	20-9	Tunnel Road tunnel				2	2024-2027	LCB	to be arranged	Astana City	D
	20-9-1	t-1 road tunnel, new	m	400.0							
	20-12	LRT Light Railway Transit				3	2028-2030	ICB	to be arranged	Astana City	D
	20-12-1	LRT, 23 stations, new	km	22.0							
	20-13	Terminal				2	2024-2027	LCB	to be arranged	Astana City	D
	20-13-1	T-2, Abaykhan station, new	m2	3 000.0							
	20-18	Traffic Management				3	2028-2030	ICB	to be arranged	Astana City	D
	20-18-1	Traffic light, new	set	35.0							
	20-18-2	Traffic control center, new	LS	1.0							
30		Water Resources				1	2024-2025	ICB	to be arranged	Akimat/IKC	D
	30-2	IKC-Ishim Pipeline, 2nd Stage									
	30-2-1	Water pipeline, steel pipe, D1,400 mm	km	9.6							
	30-2-2	Water pipeline, RC pipe, D1,200 mm	km	6.8							
	30-2-3	Water pump, 3.3 m3/s	set	2.0							
40		Water Supply				1	2018-2020	ICB	to be arranged	ASA	C
	40-6	Water Supply - 3rd Stage									
	40-6-1	Intake facilities, 75,000 m3/day, M&E	LS	1.0							
	40-6-2	Water treatment plant, 100,000 m3/day	LS	1.0							
	40-1-3	Water distribution, new, D300-600 mm	km	40.0							
50		Sewerage				1	2021-2025	ICB	to be arranged	ASA	D
	50-8	Sewerage Treatment Plant Expansion (2)				1	2021-2025	ICB	to be arranged	ASA	D
	50-8-1	Expansion capacity, 42,000 m3/day	LS	1.0							
	50-9	Sewerage Treatment Plant Rehabilitation				1	2021-2025	ICB	to be arranged	ASA	D
	50-9-1	Rehabilitation capacity, 136,000 m3/day	LS	1.0							
	50-10	Sewerage Collection System Expansion (3)				2	2021-2025	LCB	to be arranged	ASA	D
	50-10-1	Sewer pipes, D300-1,500 mm	LS	1.0							
	50-10-2	pump station	LS	1.0							
60		Storm Water Drainage				1	2020-2025	LCB	Astana city	Astana city	D
	60-3	Project for Stormwater Drainage Development (District No. 11, 14, 15, 16)									
	60-3-1	Construction of pipelines	LS	1.0							
	60-3-2	Construction of drainage pump station	LS	1.0							
	60-3-3	Construction of treatment station	LS	1.0							
70		Flood Protection				1	2020-2025	LCB	Astana city	Astana city	D
	70-6	Ishim River Improvement (2nd ring road to 3rd ring road)									
	70-6-1	Excavation (open cut and dredging)	LS	1.0							
	70-6-2	Embankment	LS	1.0							
	70-6-3	Related structures	LS	1.0							
	70-7	Construction of Flood Regulating Reservoir				1	2020-2025	LCB	Astana city	Astana city	D
	70-7-1	Embankment for dike	LS	1.0							
	70-7-2	Flood control gate	LS	1.0							
	70-7-3	Related structures	LS	1.0							
80		Electric Power and Heat Energy				1	2018-2021	ICB	Int. soft loan	AES	D
	80-12	Natural Gas Firing Gas turbine Combined Cycle Plant									
	80-12-1	Gas turbine combined cycle plant	MW	200.0							
	80-12-2	Natural gas pipe lines	LS	1.0							
	80-11	Construction of 110 kV Transmission Line and Substation				2	2023-2029	LCB	Socio economic development fund	Astana city	D
	80-11-1	110 kV transmission line	km	12.7							
	80-11-2	Substation including extension	place	1.0							
	80-13	Construction of One (1) Heat center, Extension of Four (4) Heat Centers and Related Pipelines on the Left Bank of Ishim River				3	2027-2029	ICB	Int. soft loan	AES	D
	80-13-1	Hot water boilers	set	19.0							
	80-13-2	Buildings	place	1.0							
	80-13-3	Pipelines	LS	1.0							
90		Gas Supply				1	2020-2024	ICB	to be arranged	Astana city	D
	90-2	Gas Supply Network Expansion Project (2)									
	90-2-1	Expansion of high-pressure network	LS	1.0							
	90-2-2	Expansion of low pressure network	LS	1.0							
	90-2-3	Expansion of supplying facilities	LS	1.0							
100		Telecommunication				1	2020-2023	Turn key	Int. soft loan	Ministry of Transport and Communication	D
	100-2	Astana New local Telecommunication Network (3)									
	100-1-1	Switching system	LS	1.0							
	100-1-2	Transmission system (STM-16-ADM)	LS	1.0							
	100-1-3	Digital Loop Carrier Equipment	LS	1.0							
	100-1-4	Outside plant	LS	1.0							
	100-1-5	Power supply system	LS	1.0							
	100-1-6	Buildings	LS	1.0							
	100-1-7	Training	LS	1.0							
110		Solid Waste				1	2019-2020	LCB	State budget	Gorkommunkhoz	D
	110-1	Landfill-2 Project (phase 2)									
	110-1-1	Construction of landfill-2 (46 ha, civil work)	LS	1.0							
	110-1-2	Machinery for landfill-2 (phase 2)	LS	1.0							
	110-4	Transfer Station				3	2024-2025	ICB	Int. soft loan	Gorkommunkhoz	D
	110-3-1	Construction of MSW transfer station	LS	1.0							

note:
 <1 Implementation priority within the each phase of medium, long, and ultimate
 <2 Implementation schedule means proposed construction period, no accounted the lead time such as feasibility study, engineering design, tender, contracting etc.
 <3 Project maturity as of the end of year 2000 by the following classification
 A under construction
 B under engineering design
 C under feasibility study
 D under master plan

Abbreviation
 Int. soft loan International soft loan
 HHSW Hospital Hazardous Solid Waste
 MSW Municipal solid Waste
 NCC New City Center
 NRW Non Revenue Water
 ICB International Competitive Bid
 LCB Local Competitive Bid
 IBIC Japan Bank for International Cooperation
 AES Astana emergency service
 ASA Gorkommunkhoz
 AIA Astana International Airport

Table 7.5.1 Economic Basis Integrated Investment Cost for Development, Phase I. II. and III

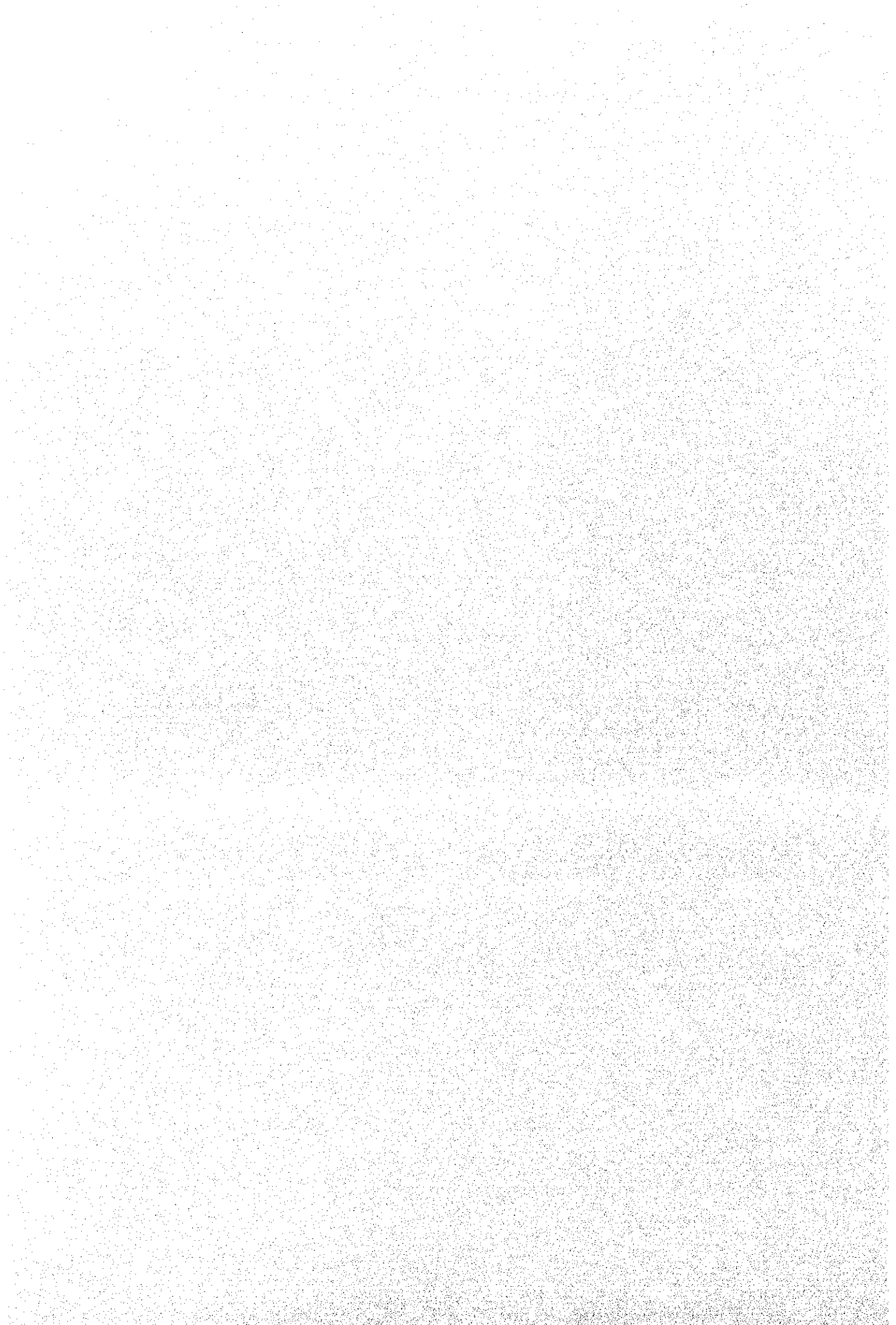
US\$ 1.0=Tenge 144.0=JY108.0

unit:million

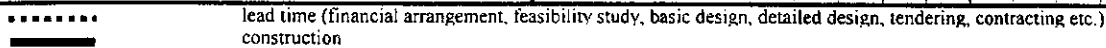
Code No.	Region / Sector		Integrated Economic Cost (US\$)						Total 2001-2030	
			Phase I 2001-2010		Phase II 2011-2020		Phase III 2021-2030			
10	Urban Development		2 951,8	0,80	2 582,2	0,82	2 017,7	0,83	7 553,3	0,82
	10-1	Central Planning Region	168,8		330,2		162,8		661,8	
	10-2	Northern Planning Region	17,4		29,2		26,8		73,4	
	10-3	Southeastern Planning Region	1 285,6		582,2		16,1		1 883,9	
	10-4	Southern Planning Region	1 077,4		847,4		1 286,7		3 211,5	
	10-5	Northwest Planning Region	22,2		580,4		179,0		781,6	
	City Greenery*									
20	Transportation		380,4		212,8		346,3		939,5	
	Infrastructures Development		686,4	0,19	514,4	0,16	389,4	0,16	1 590,5	0,17
30	Water Resources		20,5		0,0		0,0		20,5	
40	Water Supply		114,1		132,4		58,6		305,1	
50	Sewerage		88,9		94,2		58,1		241,2	
80	Power and Heat Energy		257,0		191,5		206,0		654,5	
90	Gasification		107,8		19,0		9,4		136,2	
100	Telecommunication		76,8		56,0		40,2		173,0	
110	Solid Waste		21,3		21,3		17,1		59,7	
	Engineering Protection		55,5	0,02	37,3	0,01	29,0	0,01	121,8	0,01
60	Stormwater Drainage		38,6		10,2		2,4		51,2	
70	Flood Mitigation		16,9		27,1		26,6		70,6	
200	Grand total		3 693,7	1,00	3 133,9	0,99	2 436,1	0,99	9 265,7	1,00
			0,40		0,34		0,26		1,00	

* The cost includes into the each district and region as "parks and greenery" and as direct construction cost

FIGURE



Overall Implementation Schedule for the Development, Phase I, II, and III



: : 3rd priority group

Figure 7.4.1

Implementation Schedule for New City Center at District 13 and 14 in Townscape and Architectures, Phase I, II, and III

Figure 7.4.1 Implementation Schedule for the 10th Five-Year Plan																																			
No.	Name or User of Building	Type	No. of story	Unit	Q'ty (floor area)	Phase I (2001-2010)										Phase II (2011-2020)										Phase III (2021-2030)									
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I	Government Area																																		
1	Residence for President	RC	4	m2	20 000	■ ■ ■	■ ■ ■																												
2	President's Administration	RC	17	m2	40 500	■ ■ ■	■ ■ ■	■ ■ ■																											
3	Parliament	RC	17	m2	63 500	■ ■ ■	■ ■ ■	■ ■ ■																											
4	National Security Committee	RC	7	m2	30 000						■ ■ ■	■ ■ ■	■ ■ ■																						
5	Supreme Court	RC	7	m2	40 000					■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																						
6	Cabinet of Ministers	RC	7	m2	30 000					■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																						
7	Ministry of Interior Affairs	RC	7	m2	30 000					■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																						
8	Ministry of State Revenue	RC	7	m2	20 000					■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																						
9	Ministry of External Affairs	RC	12	m2	12 000	■ ■ ■	■ ■ ■																												
10	Ministry of Culture, Information and Public Accord	RC	7	m2	20 000				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																							
11	Ministry of Science and High Education	RC	7	m2	30 000				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																							
12	Ministry of Health Care, Education and Sports	RC	7	m2	30 000				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																							
13	Ministry of Energy and Mineral Resources and Environmental Protection, R.K	RC	7	m2	38 000			■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																							
14	Ministry of Labor and Social Security, Ministry of Agriculture, Agency of R.K	RC	7	m2	40 000			■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																							
15	Ministry of Defense	RC	7	m2	20 000	■ ■ ■	■ ■ ■	■ ■ ■																											
16	Ministry of Justice	RC	7	m2	20 000								■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																			
17	General Prosecutor Office	RC	7	m2	15 000								■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																			
18	SME (Small & Medium Entrepreneur Ship)	RC	14	m2	130 000				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																			
19	Ministry of Transport and Communication	S	40	m2	40 000	■ ■ ■	■ ■ ■	■ ■ ■																											
20	Universal Hall	RC	4	m2	66 000				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																			
21	National Library	RC	6	m2	400 000								■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■																			
22	Service Facility (Commercial Building and Apartment)	RC	3	m2	56 525				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(1)					■ ■ ■	■ ■ ■	(2)															
	Total			m2	1 191 525																														
II	Business Area including Commercial Area																																		
1	Business District 13			m2	901 475	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(1)				■ ■ ■	■ ■ ■	■ ■ ■	(2)															
2	Business District 14			m2	1 088 000	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(1)				■ ■ ■	■ ■ ■	■ ■ ■	(2)				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(3)	
3	World Trade Center			m2	150 000	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(1)				■ ■ ■	■ ■ ■	■ ■ ■	(2)				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(3)	
4	Commercial District 13			m2	145 747	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(1)				■ ■ ■	■ ■ ■	■ ■ ■	(2)				■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	(3)	
	Total			m2	2 285 222																														

Legends:

Structure type of building:

- S : Steel structure type
- RC : Reinforced Concrete structure type
- SRC : Steel Reinforced Concrete type

Implementation:

- ■ ■ ■ lead time (financial arrangement, feasibility study, basic design, detailed design, tendering, contracting etc.)
- ■ ■ ■ construction