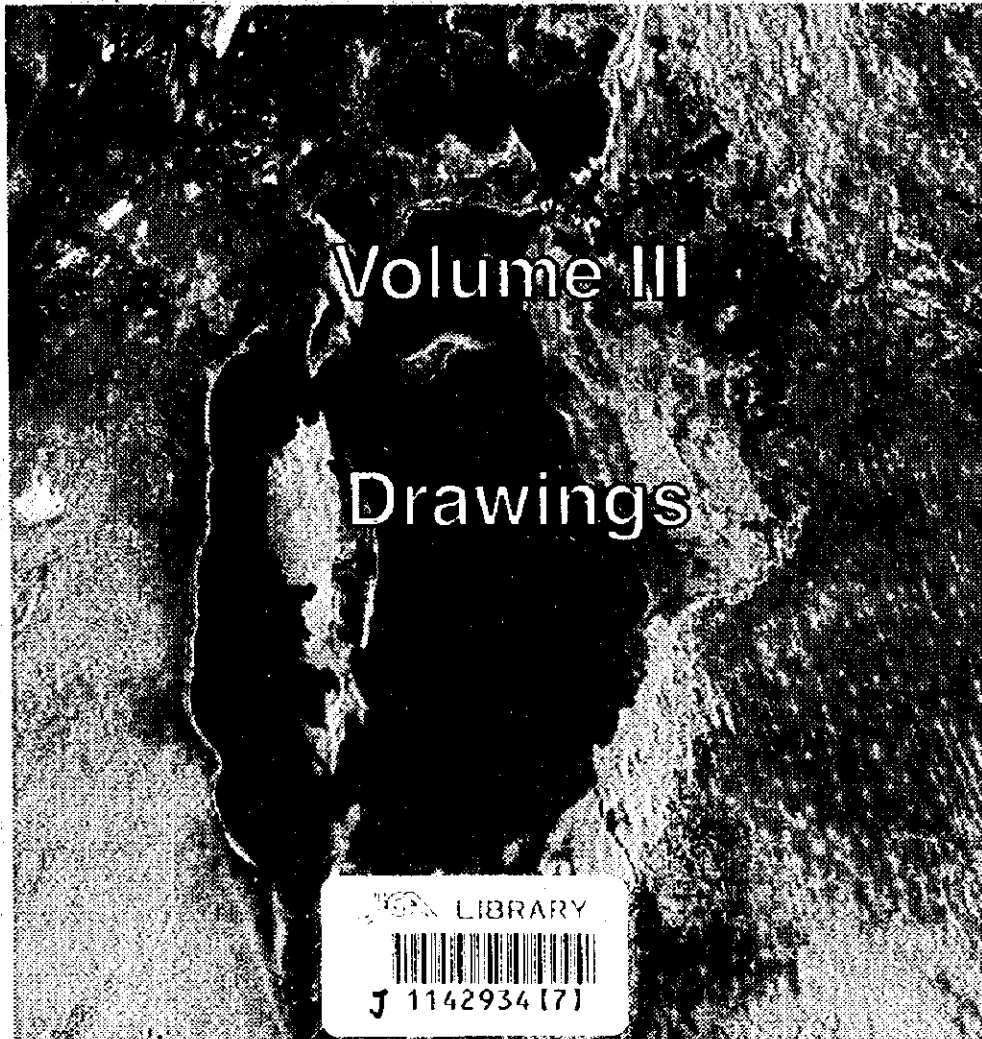


Japan International Cooperation Agency (JICA)

Ministry of Agriculture
Government of Kazakstan

THE STUDY
ON
KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
IN
THE REPUBLIC OF KAZAKSTAN



March 1998

Nippon Koei Co., Ltd.
Sanyu Consultants Inc.
Aero Asahi Corporation

A F A
J R
98 - 14

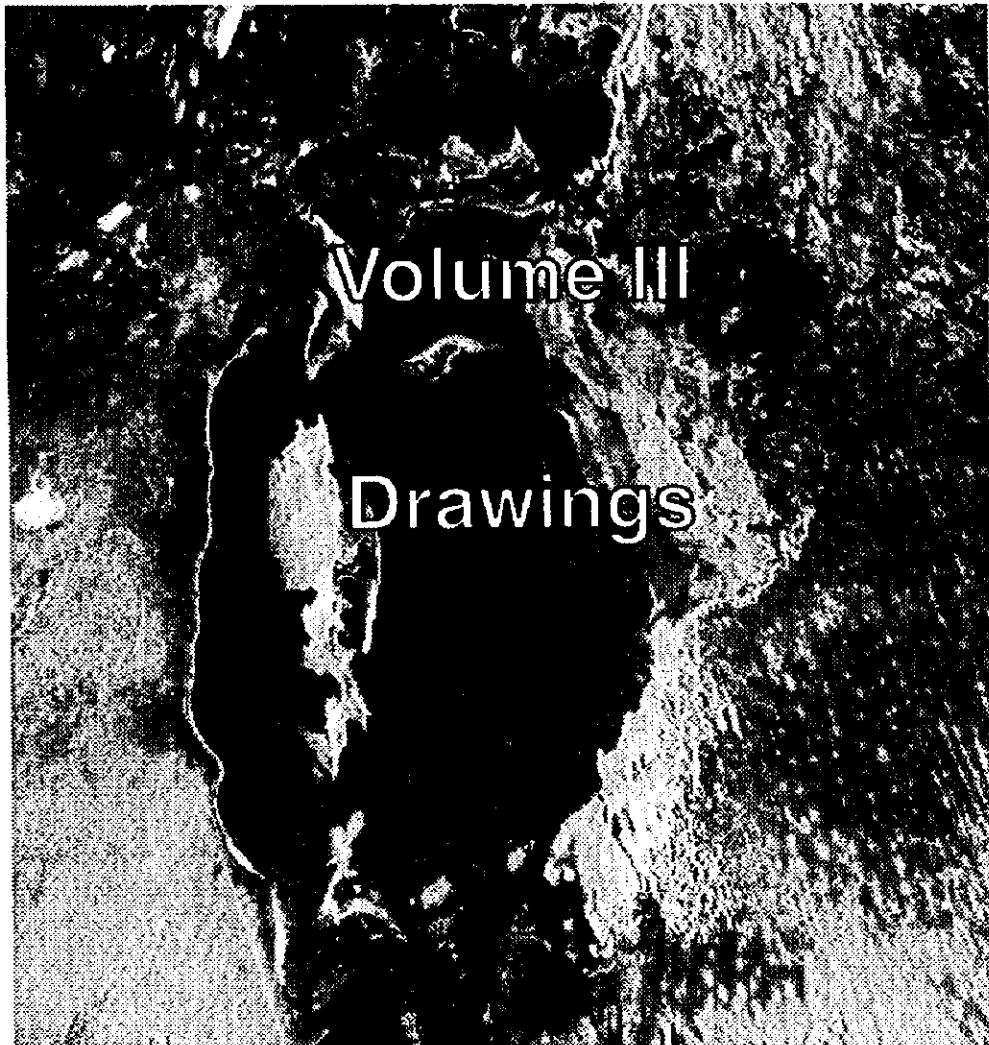


1142934 [7]

Japan International Cooperation Agency (JICA)

**Ministry of Agriculture
Government of Kazakstan**

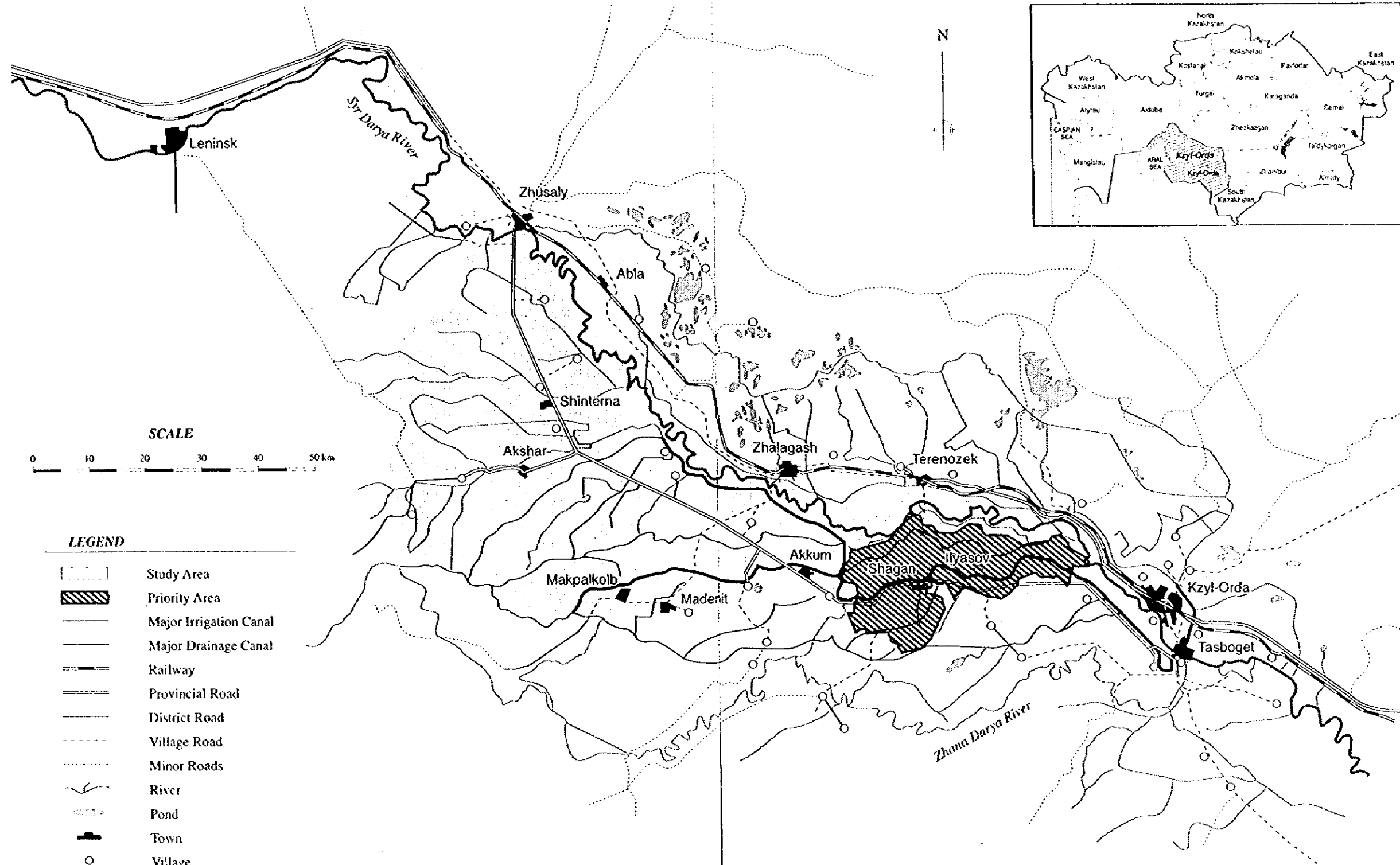
**THE STUDY
ON
KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
IN
THE REPUBLIC OF KAZAKSTAN**



March 1998

**Nippon Koei Co., Ltd.
Sanyu Consultants Inc.
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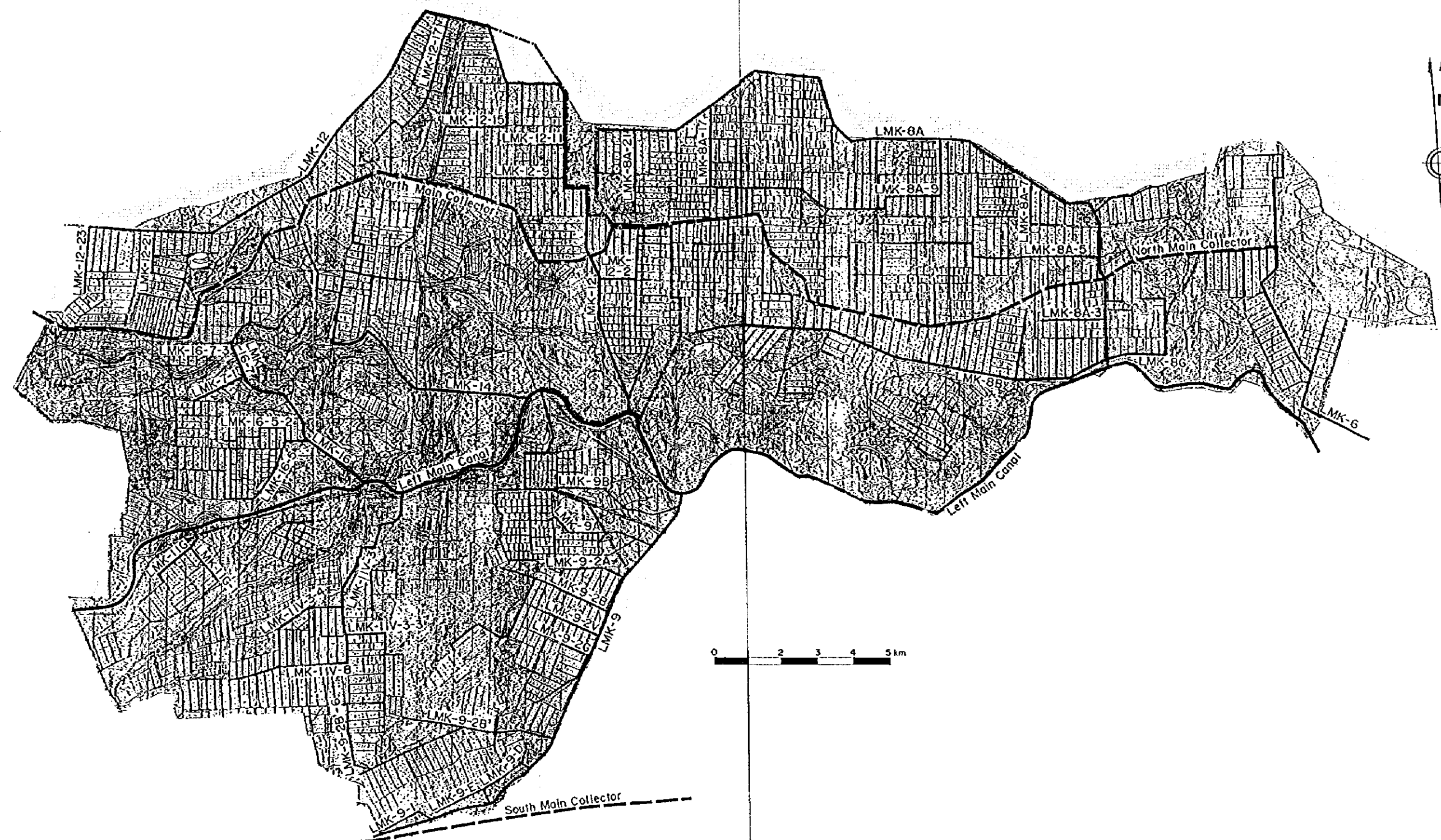
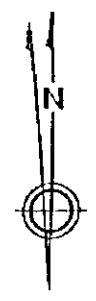
PLATE NO.	TITLE OF DRAWING
GENERAL MAP	
1	GENERAL LAYOUT OF STUDY AREA
2	IRRIGATION CANAL LAYOUT IN THE PROJECT AREA
3	DRAINAGE CANAL LAYOUT IN THE PROJECT AREA
KZYL-ORDA HEADWORKS	
4	GENERAL LAYOUT OF KZYL-ORDA HEADWORKS
5	LEFT BANK INTAKE STRUCTURE (1/2)
6	LEFT BANK INTAKE STRUCTURE (2/2)
7	COFFER DAM
8	LAYOUT OF POWER CONTROL CABLES
9	GENERAL LAYOUT OF TEMPORARY RIVER DIVERSION
10	RIVER DIVERSION STRUCTURE(1/2)
11	RIVER DIVERSION STRUCTURE(2/2)
12	LAYOUT OF POWER LINES & COMMUNICATION CABLES SHIFTING
IRRIGATION FACILITIES	
13	PROFILE OF LEFT MAIN CANAL, BP to ST.119+73.7
14	PROFILE OF ON-FARM CANAL LMK-8A, BP to ST.105
15	PROFILE OF FIELD CANAL LMK-16-5&LMK16-5-3
16	ROAD BRIDGE
17	RECONSTRUCTION PLAN OF REGURATORS' TRANSITION
18	SIDE SPILLWAY
19	TURNOUT ON FLUME (1/2)
20	TURNOUT ON FLUME (2/2)
21	TURNOUT ON EARTH CANAL (1/2)
22	TURNOUT ON EARTH CANAL (2/2)
23	AQUEDUCT (1/2)
24	AQUEDUCT (2/2)
25	FIELD INLET & FIELD OUTLET
DRAINAGE FACILITIES	
26	PROFILE OF INTER-FARM COLLECTOR YUK-8
27	PROFILE OF FIELD COLLECTOR CK-11-6-4 & CK-11-6-2-2
28	BOX CULVERT ON NORTH MAIN COLLECTOR (1/2)
29	BOX CULVERT ON NORTH MAIN COLLECTOR (2/2)
30	DRAIN INLET ON INTER-FARM COLLECTOR (CANAL OUTLET) (1/2)
31	DRAIN INLET ON INTER-FARM COLLECTOR (CANAL OUTLET) (2/2)
32	DRAIN INLET ON FIELD COLLECTOR (CANAL OUTLET) (1/2)
33	DRAIN INLET ON FIELD COLLECTOR (CANAL OUTLET) (2/2)
34	BRIDGE ON COLLECTOR (1/2)
35	BRIDGE ON COLLECTOR (2/2)



LEGEND

- Study Area
- Priority Area
- Major Irrigation Canal
- Major Drainage Canal
- Railway
- Provincial Road
- District Road
- Village Road
- Minor Roads
- River
- Pond
- Town
- Village

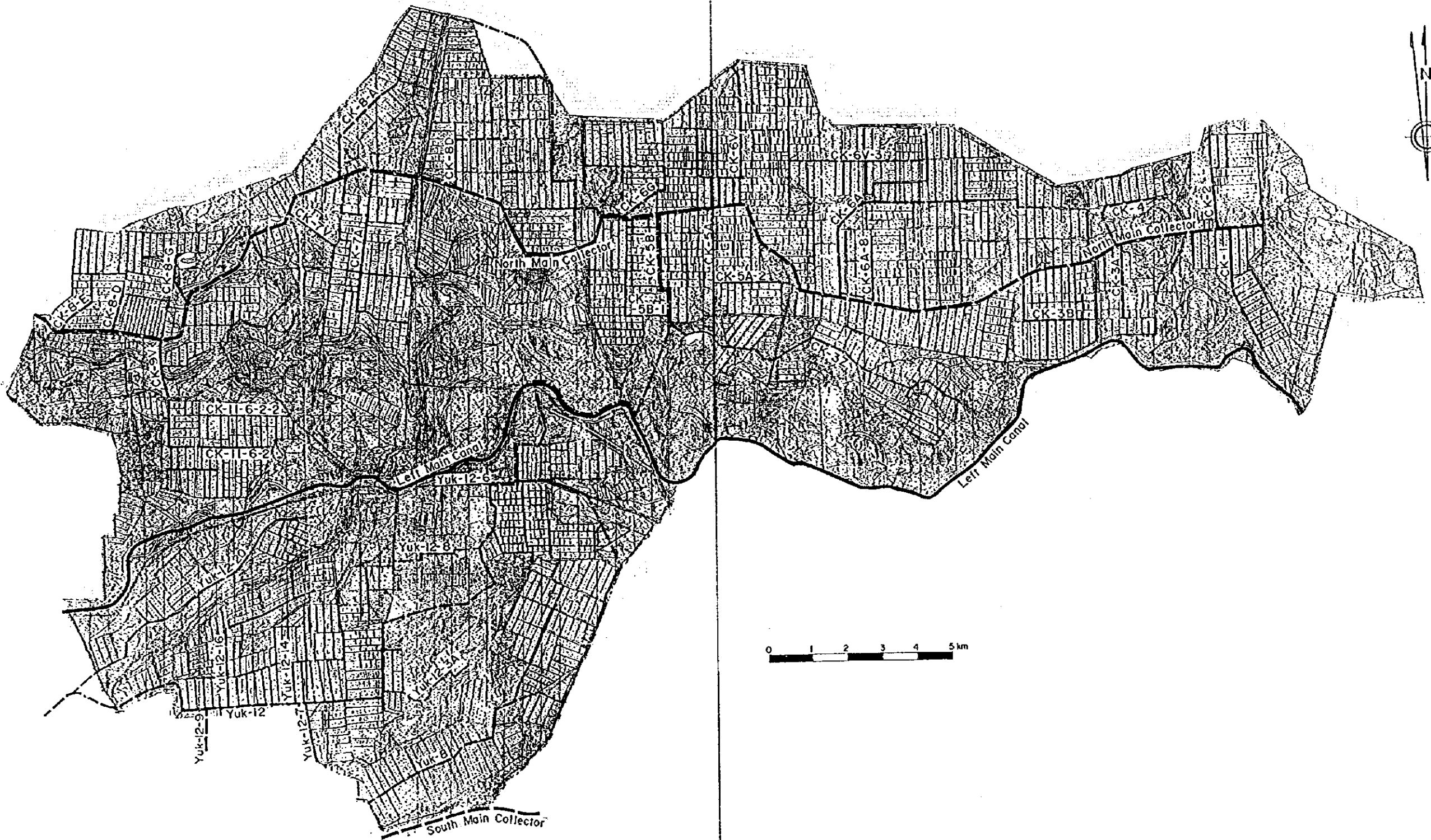
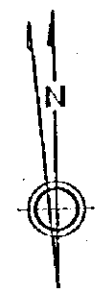
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
GENERAL LAYOUT OF STUDY AREA
JAPAN INTERNATIONAL COOPERATION AGENCY



LEGEND

- MAIN CANAL
- INTER-FARM/ON-FARM CANAL
- FIELD CANAL
- - - - - MAIN COLLECTOR

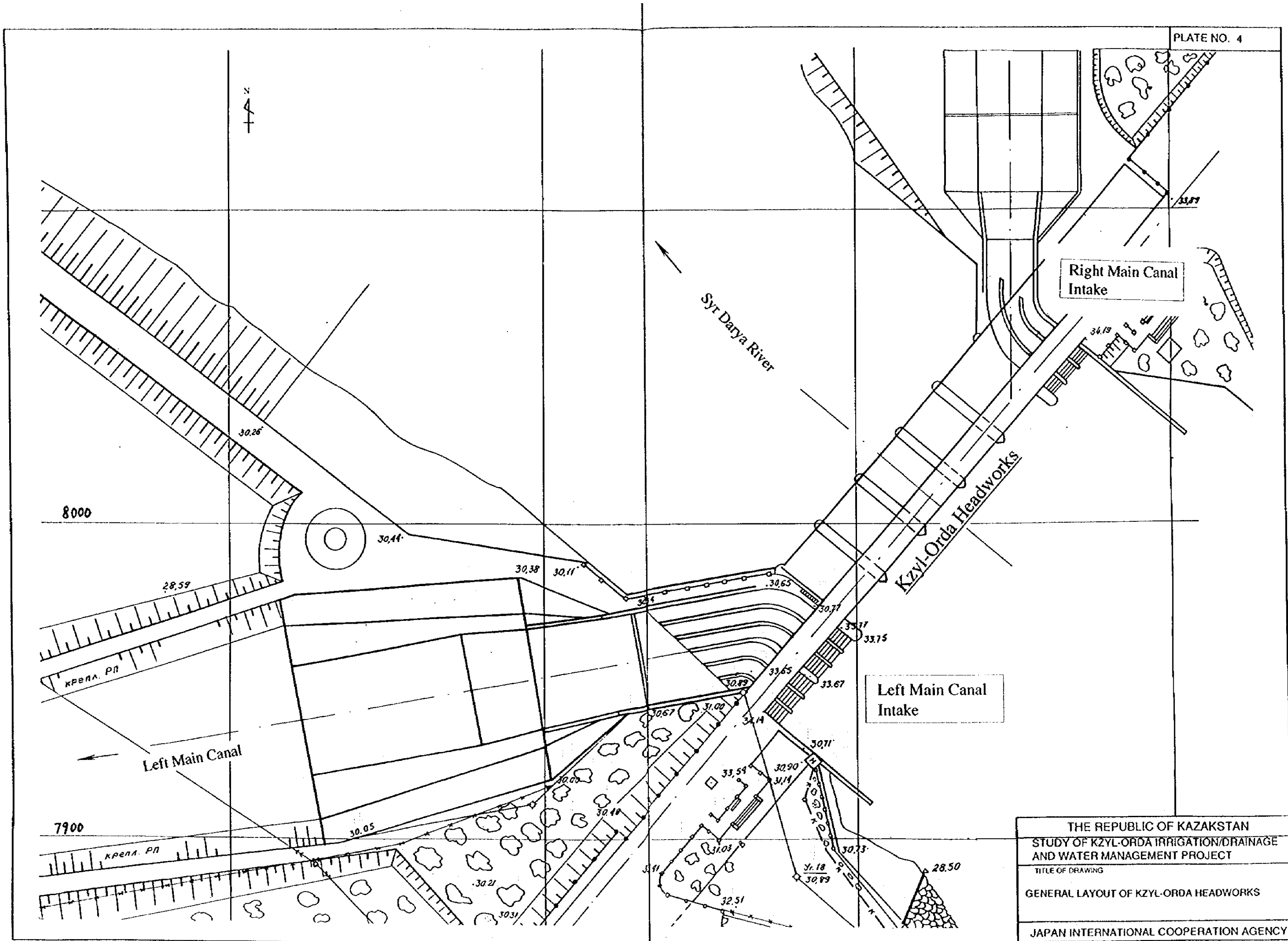
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
IRRIGATION CANAL LAYOUT IN THE PROJECT AREA
JAPAN INTERNATIONAL COOPERATION AGENCY



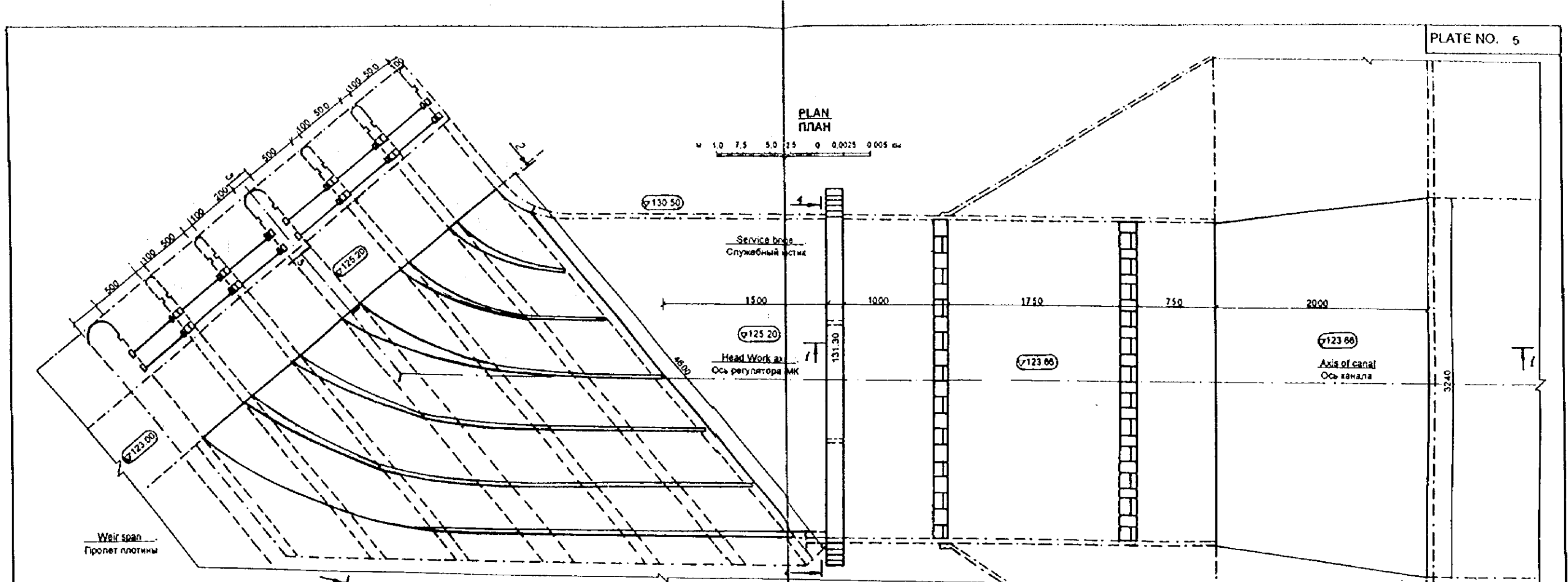
LEGEND

- MAIN COLLECTOR
- INTER-FARM/ON-FARM COLLECTOR
- FIELD COLLECTOR
- MAIN CANAL

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
DRAINAGE CANAL LAYOUT IN THE PROJECT AREA
JAPAN INTERNATIONAL COOPERATION AGENCY

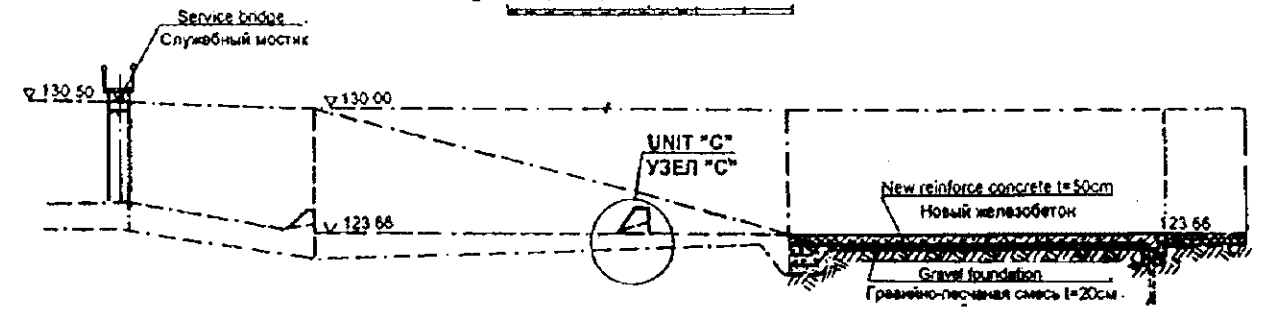


THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
GENERAL LAYOUT OF KZYL-ORDA HEADWORKS
JAPAN INTERNATIONAL COOPERATION AGENCY



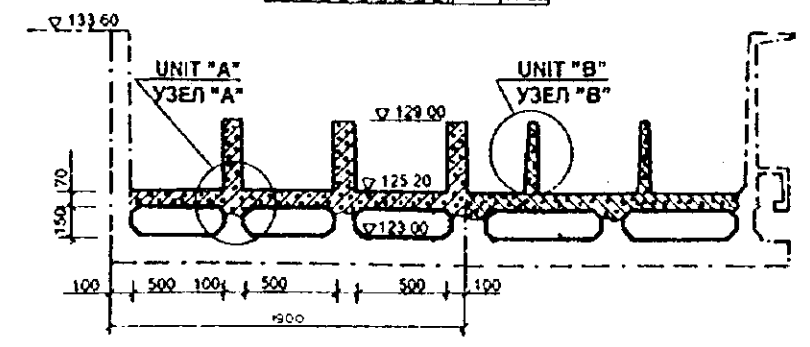
**SECTION 1-1
СЕЧЕНИЕ 1-1**

М 1.0 7.5 5.0 2.5 0 0.0025 0.005 км



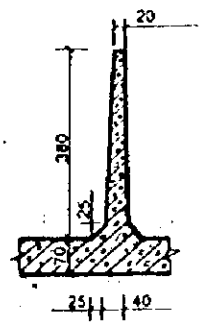
**SECTION 2-2
СЕЧЕНИЕ 2-2**

М 1.0 7.5 5.0 2.5 0 0.0025 0.005 км



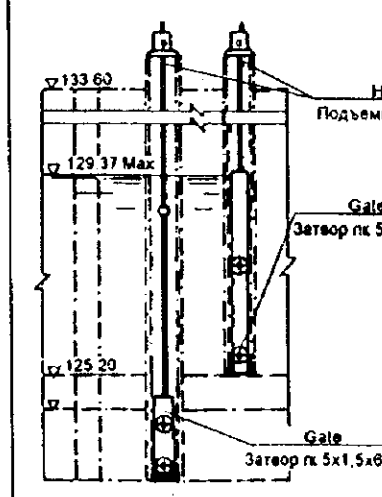
**UNIT "B"
УЗЕЛ "В"**

М 2.0 1.0 0.5 0 0.0005 0.001 км



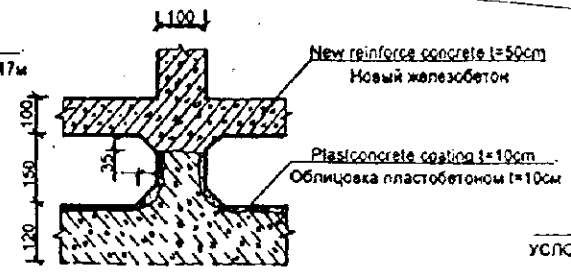
**SECTION 3-3
СЕЧЕНИЕ 3-3**

М 2.0 1.0 0.5 0 0.0005 0.001 км



**UNIT "A"
УЗЕЛ "А"**

М 2.0 1.0 0 0.001 км



**DESIGNATION
УСЛОВНЫЕ ОБОЗНАЧЕНИЯ**

- Lines of existing elements, which are not to be reconstructed
Линии элементов сооружения, не затрагиваемых реконструкцией
- Lines of existing elements, which are to be reconstructed
Линии элементов сооружения, подлежащих реконструкции

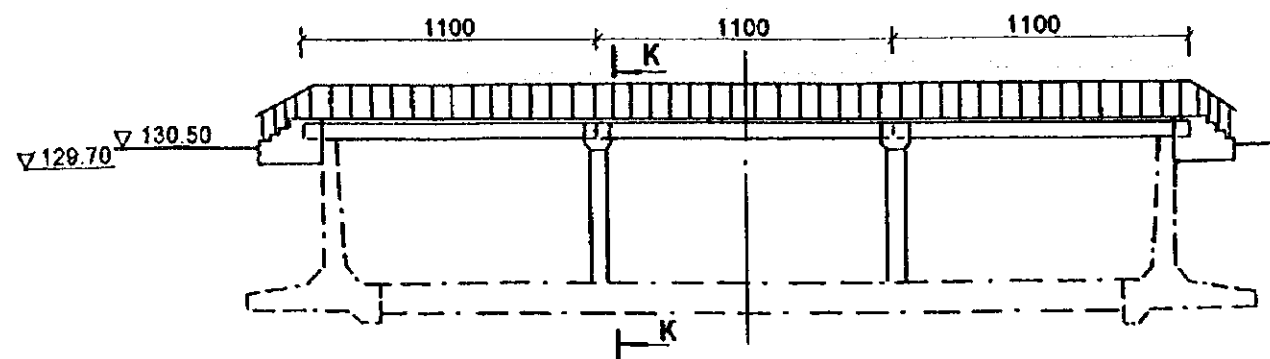
**Remark
Примечание**

Sizes in cm, elevation in metres
Размеры в см, отметки в м

<p>THE REPUBLIC OF KAZAKSTAN STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT</p>
<p>TITLE OF DRAWING LEFT BANK INTAKE STRUCTURE (1/2)</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>

SECTION 4-4
СЕЧЕНИЕ 4-4

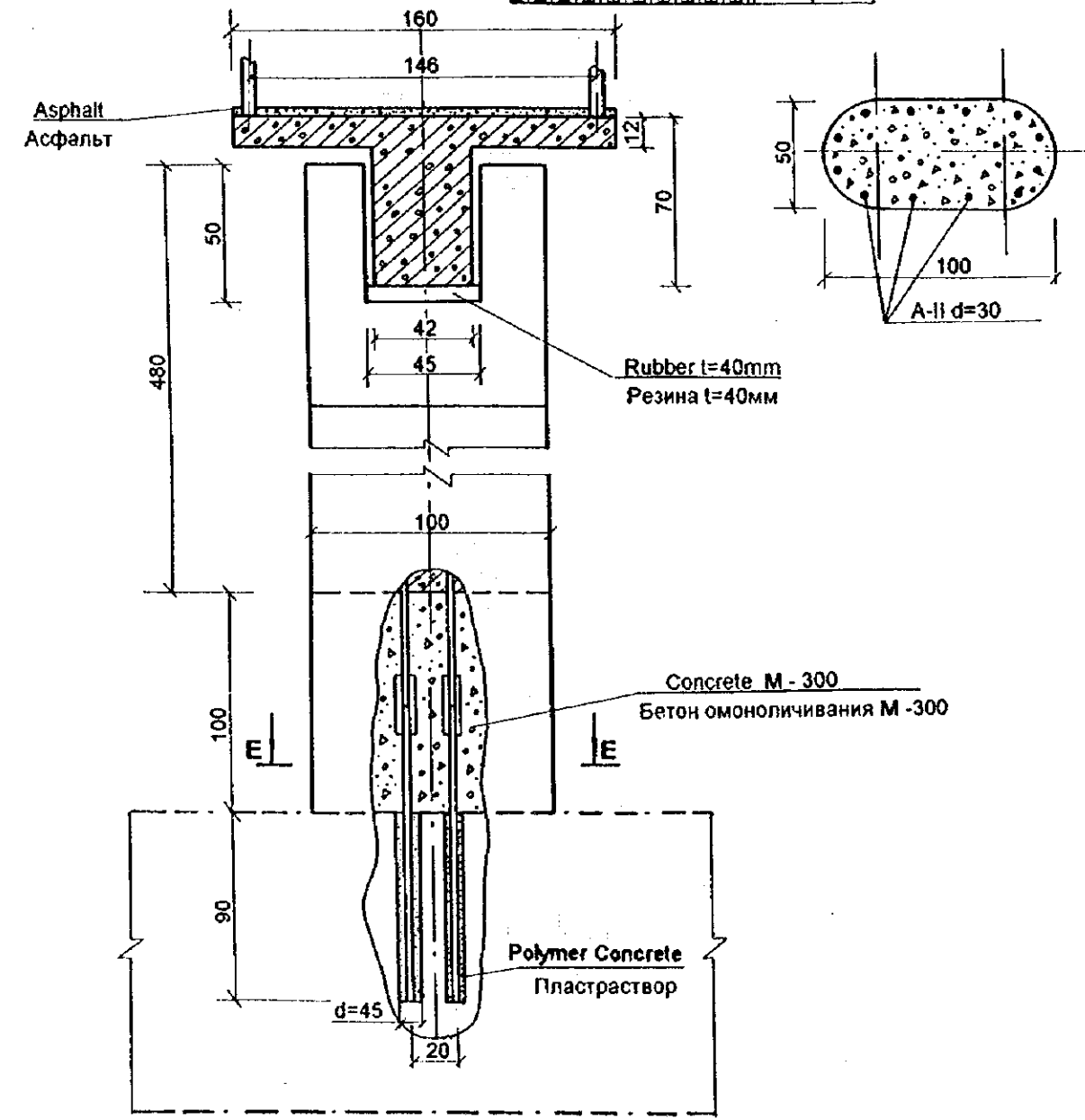
М 1.0 7.5 5.0 2.5 0 0.0025 0.005 км



K - K

E - E

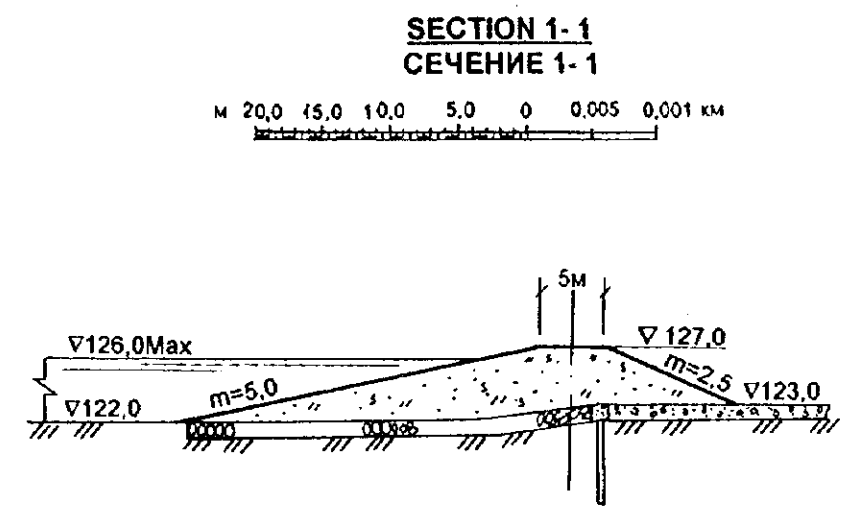
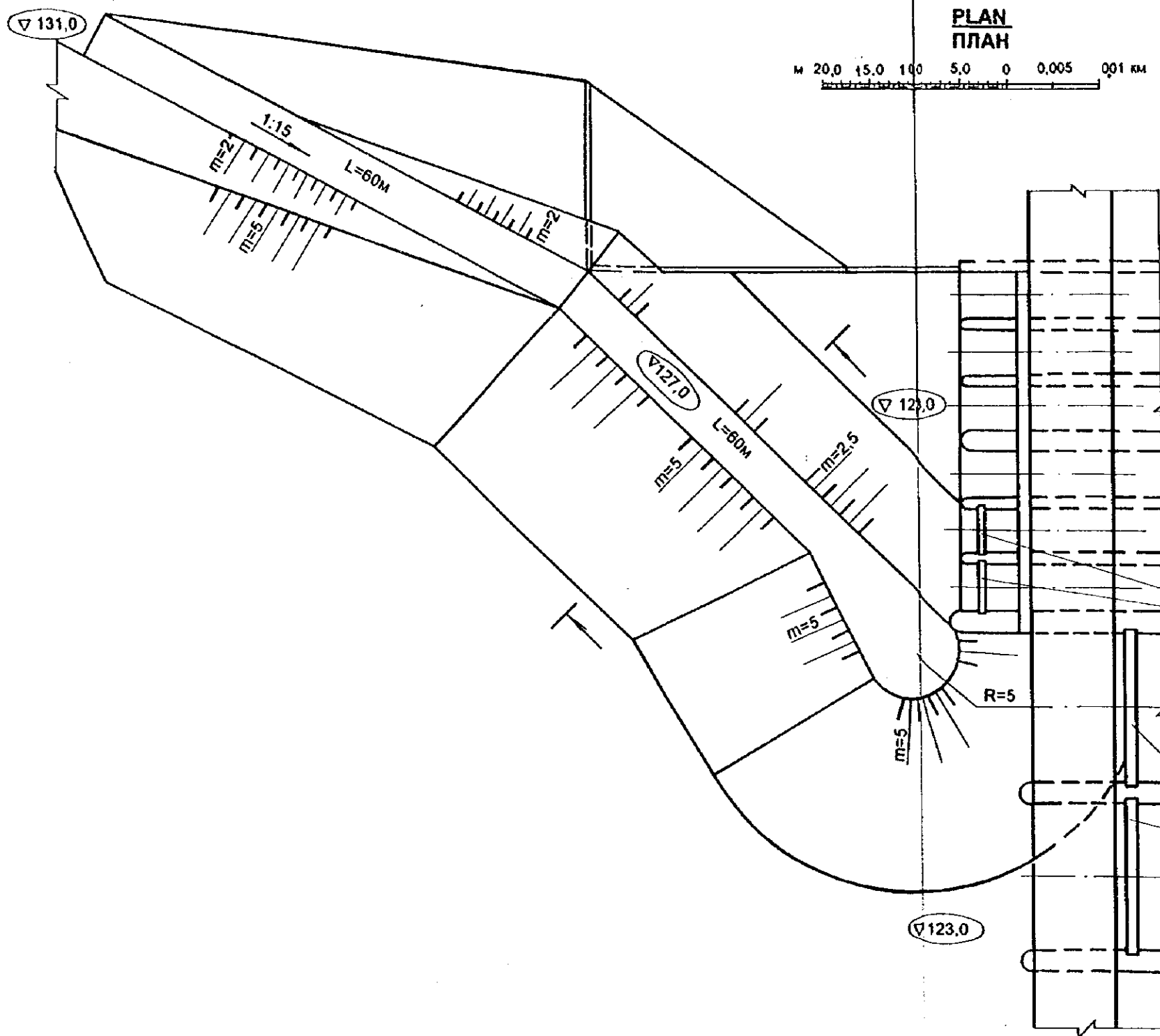
М 1.0 0.75 0.5 0.25 0 0.00025 0.0005 км



Main works
Основные объемы работ

Items of works Наименование видов работ		Unit Ед. измер.	Total Кол-во
1.	Dykes Земляные перемычки	th. m ³ тыс. м ³	10,00
2.	Disassembly of reinforced concrete elements Разборка железобетонных конструкций	th. m ³ тыс. м ³	1,44
3.	In situ reinforced concrete Монолитный железобетон	concrete БГТ М-200 reinforce Арм. А-I, А-II th. m ³ тыс. м ³	1,31 137,00
4.	Plastconcrete Пластобетон	m ³ м ³	131,40
5.	Hydromechanical equipment Гидромеханическое оборудование	т	62,30
6.	Gravel foundation Гравийно-песчаная подготовка	m ³ м ³	135,00
7.	Precast reinforced concrete Сборный железобетон	m ³ т	22,00 3,80
8.	In situ reinforced concrete Монолитный бетон	m ³ т	14,00 0,50
9.	Guide railing Перила ограждения	т	2,00
10.	Asphalt concrete Асфальтобетон	m ³ м ³	2,50
11.	Formwork surface Опалубываемая поверхность	m ² м ²	2475,00

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
LEFT BANK INTAKE STRUCTURE (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY



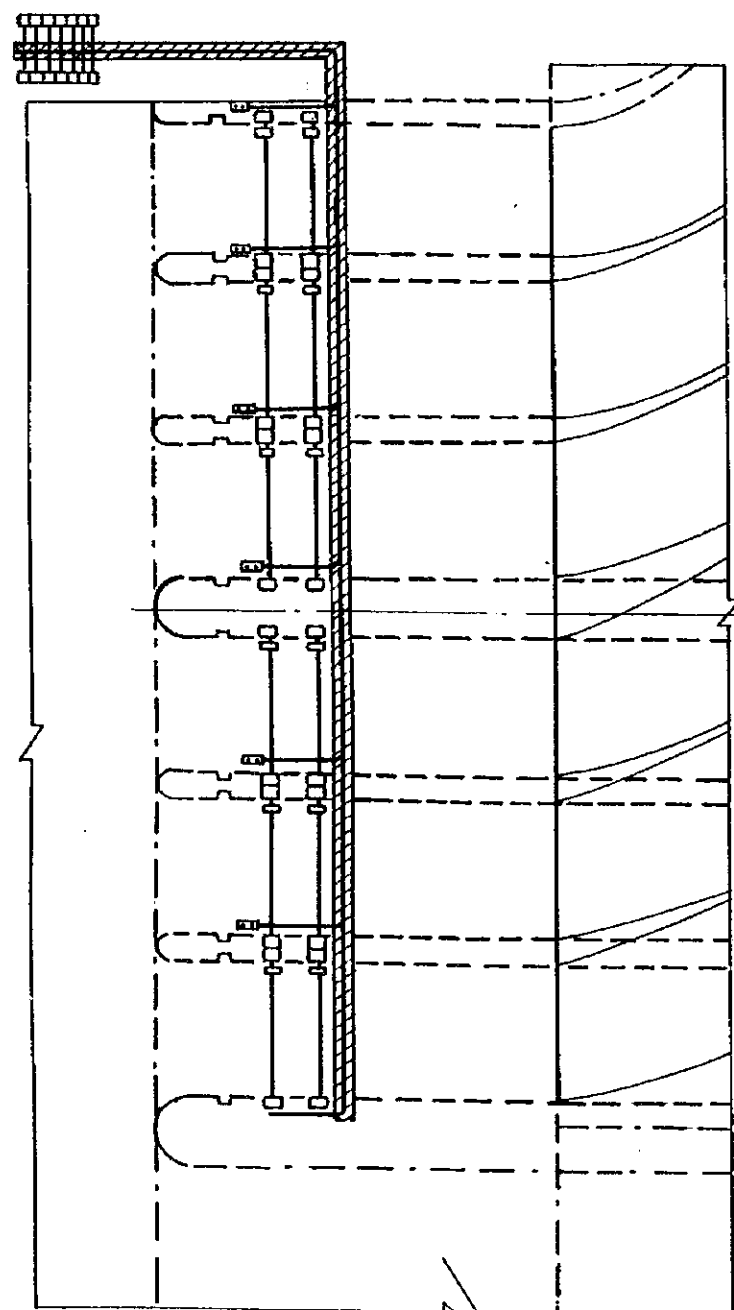
Metal stop log
Шандорное заграждение

Metal stop log
Шандорное заграждение

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
COFFER DAM
JAPAN INTERNATIONAL COOPERATION AGENCY

Lay out of power control cables
(fragment)
План прокладки силовых и
контрольных кабелей (деталь)

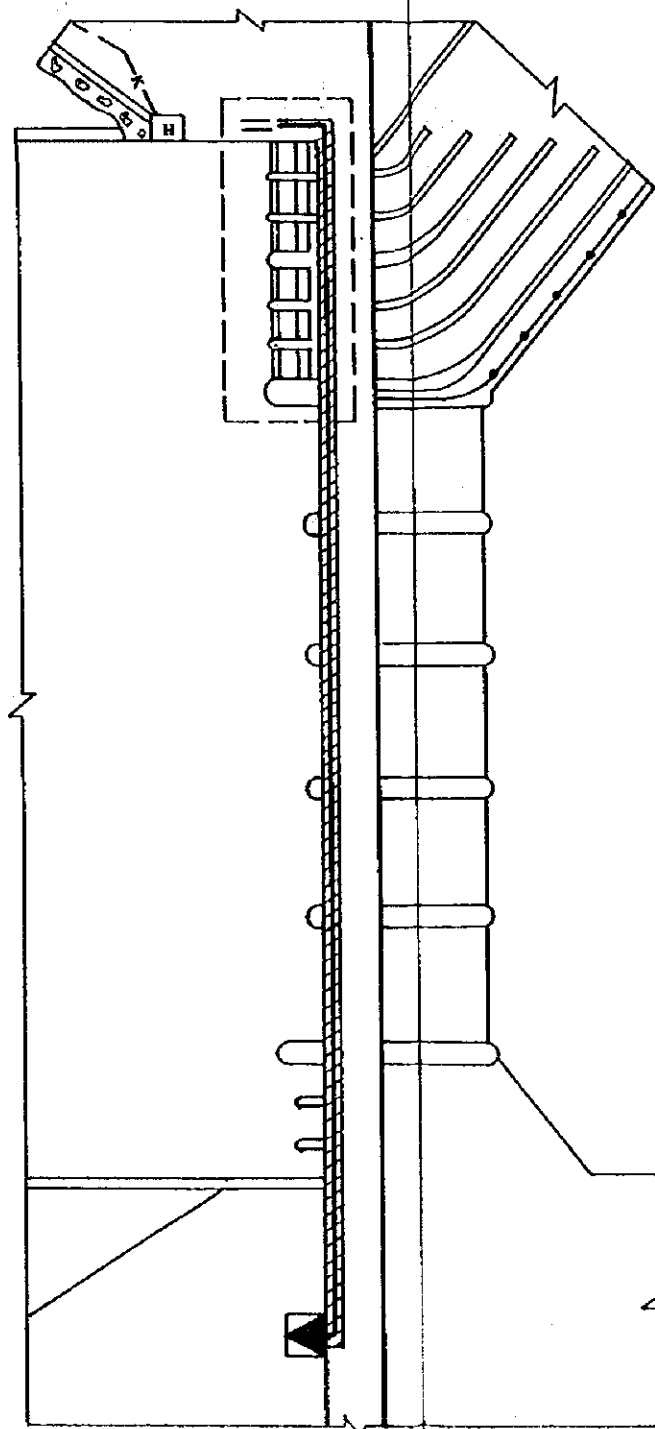
М 1.0 7.5 5.0 2.5 0 0.0025 0.005 км



Weir span
Пролет плотины

Lay out of power control cable 0.4 kV
План прокладки силового кабеля 0,4 кВ





М 30 20 10 0 0.01 0.02 0.03 км



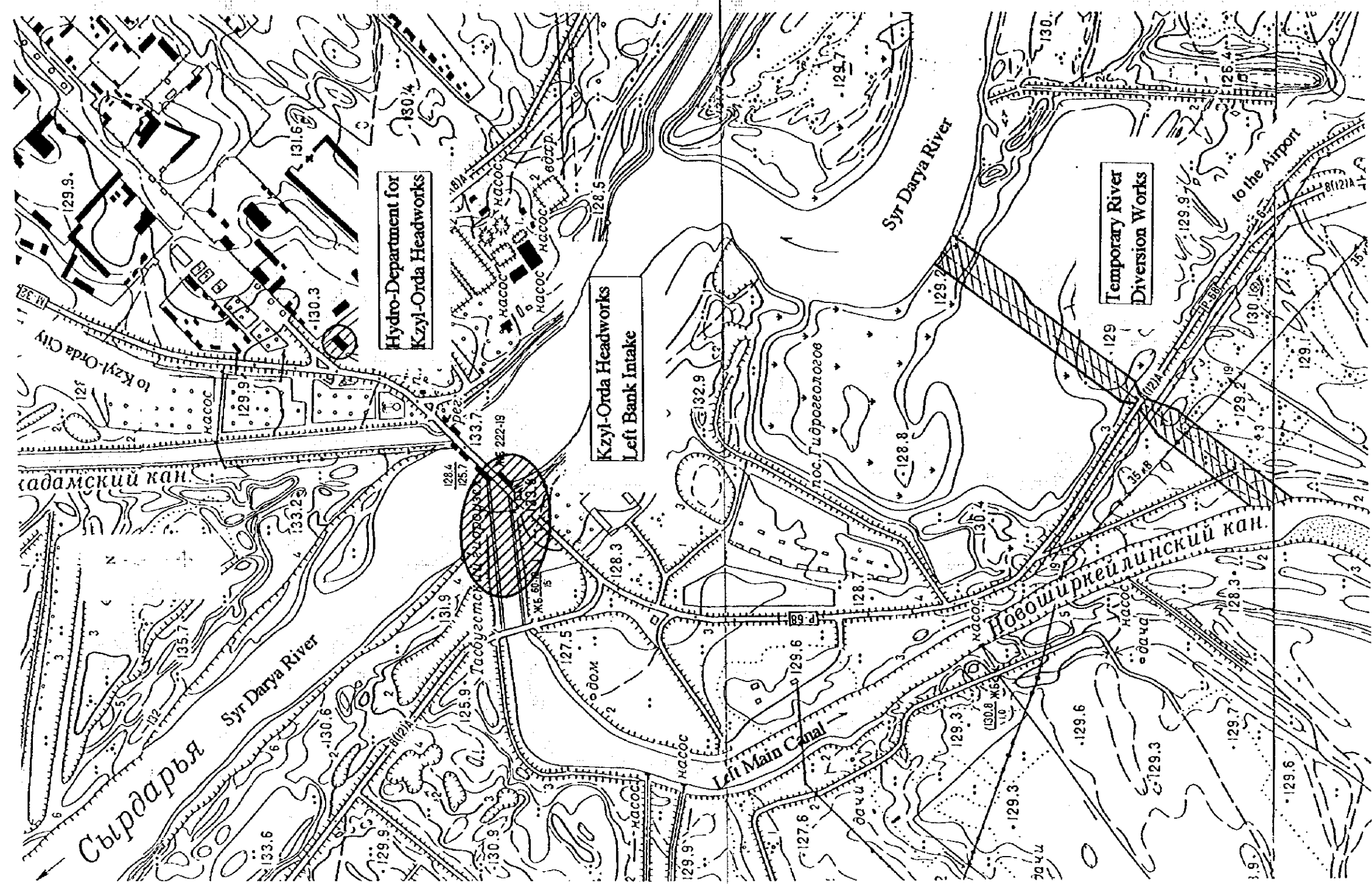
Main works
Основные объемы работ

Items of works Наименование видов работ		Unit Ед. измер.	Total Кол-во
1.	Power cable in collector Прокладка силового кабеля в канале	м	195
2.	Control cable in collector Прокладка контрольного кабеля в канале	м	380
3.	Assembly of gate control box Монтаж ящика управления затвором	Item шт	12
4.	Installation of reverse push button post Установка кнопочного поста	Item шт	12

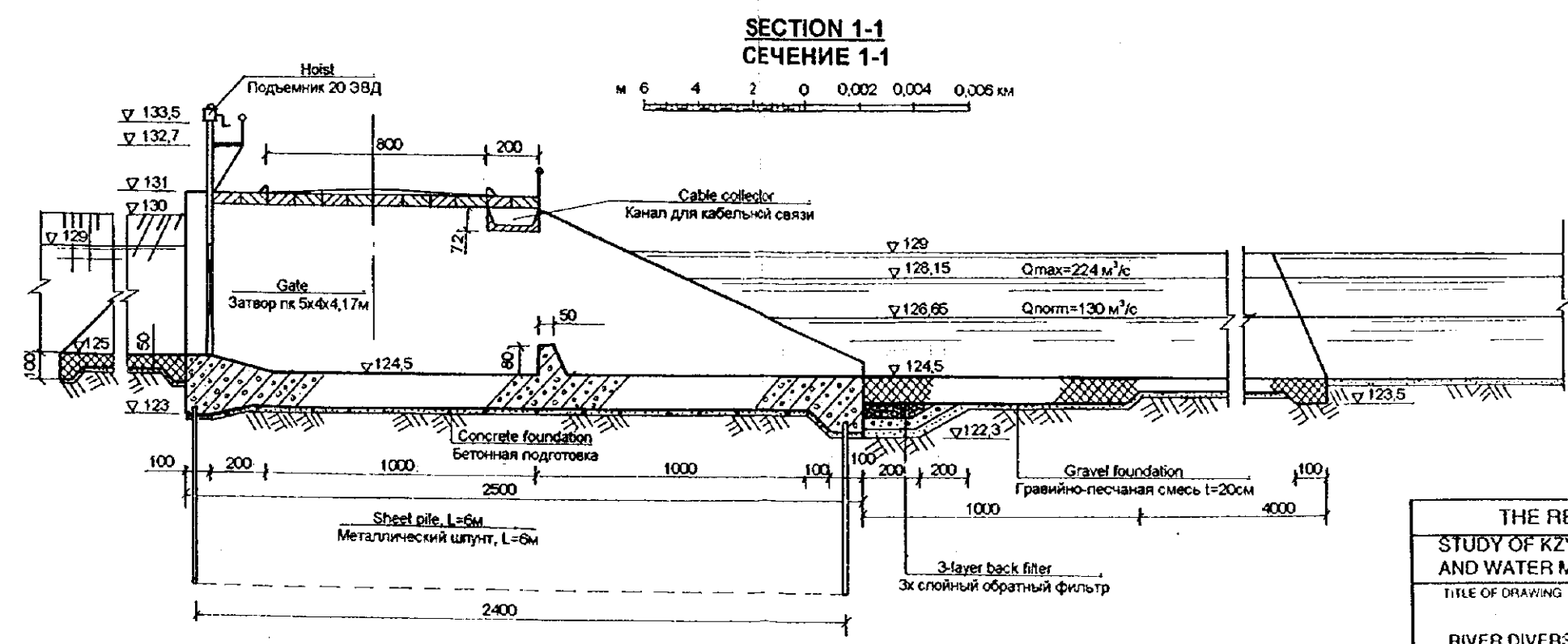
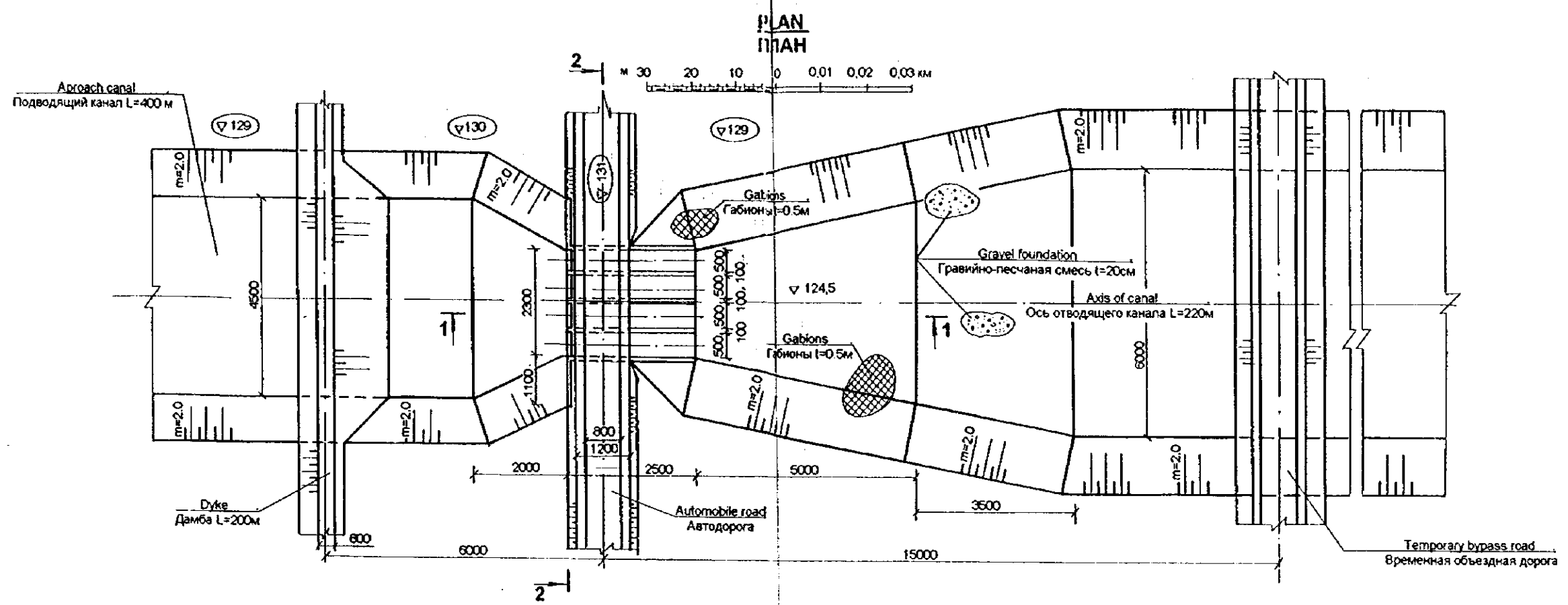
LEGEND
УСЛОВНЫЕ ОБОЗНАЧЕНИЯ

-  Transformer station
Трансформаторная подстанция
-  Cable in collector
Кабель в кабельном канале
-  Reverse push button post
Кнопочный пост
-  Gates control boxes
Ящики управления затворами

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
LAYOUT OF POWER CONTROL CABLES
JAPAN INTERNATIONAL COOPERATION AGENCY



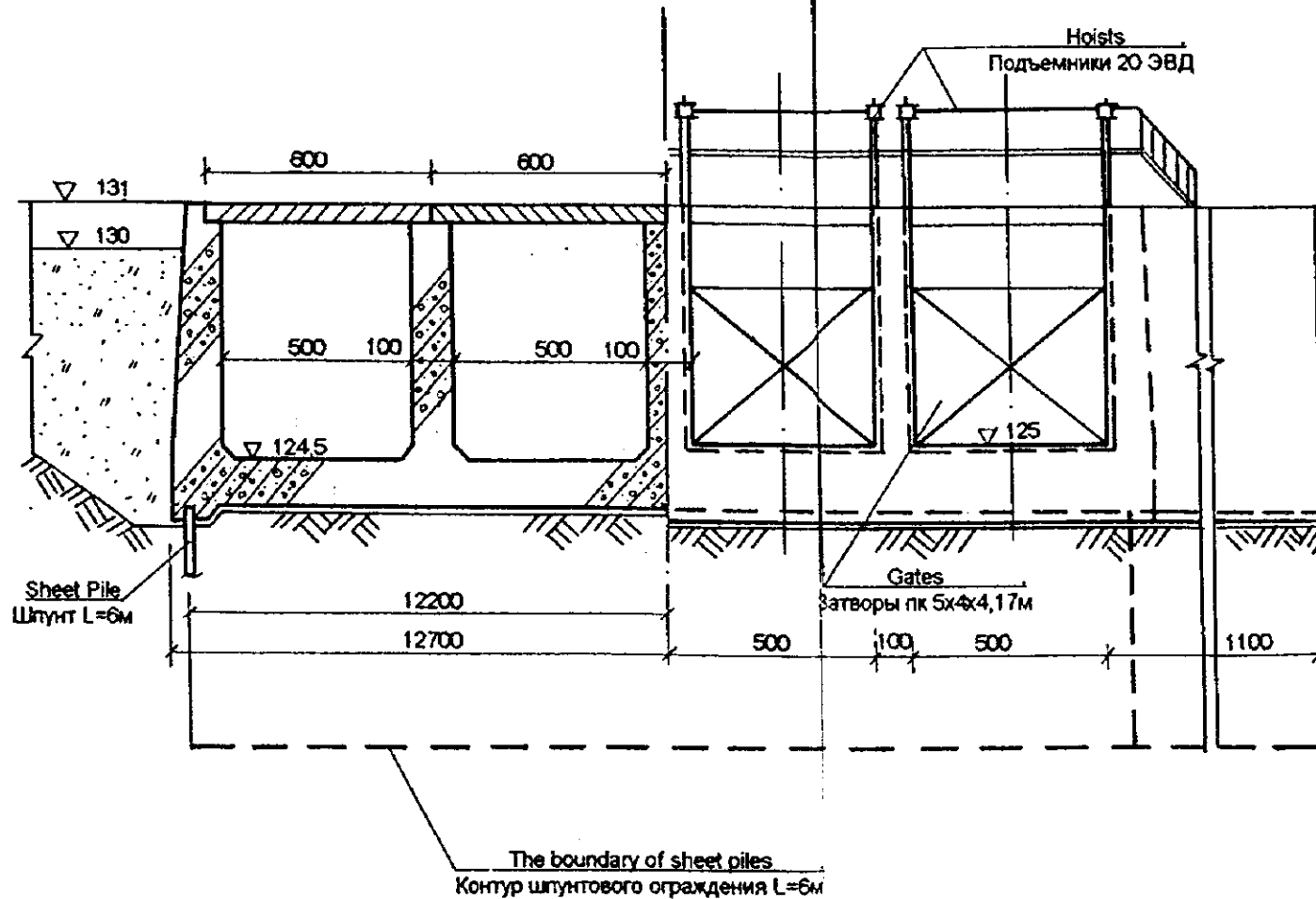
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
GENERAL LAYOUT OF TEMPORARY RIVER DIVERSION
JAPAN INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
RIVER DIVERSION STRUCTURE(1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

SECTION 2-2
СЕЧЕНИЕ 2-2

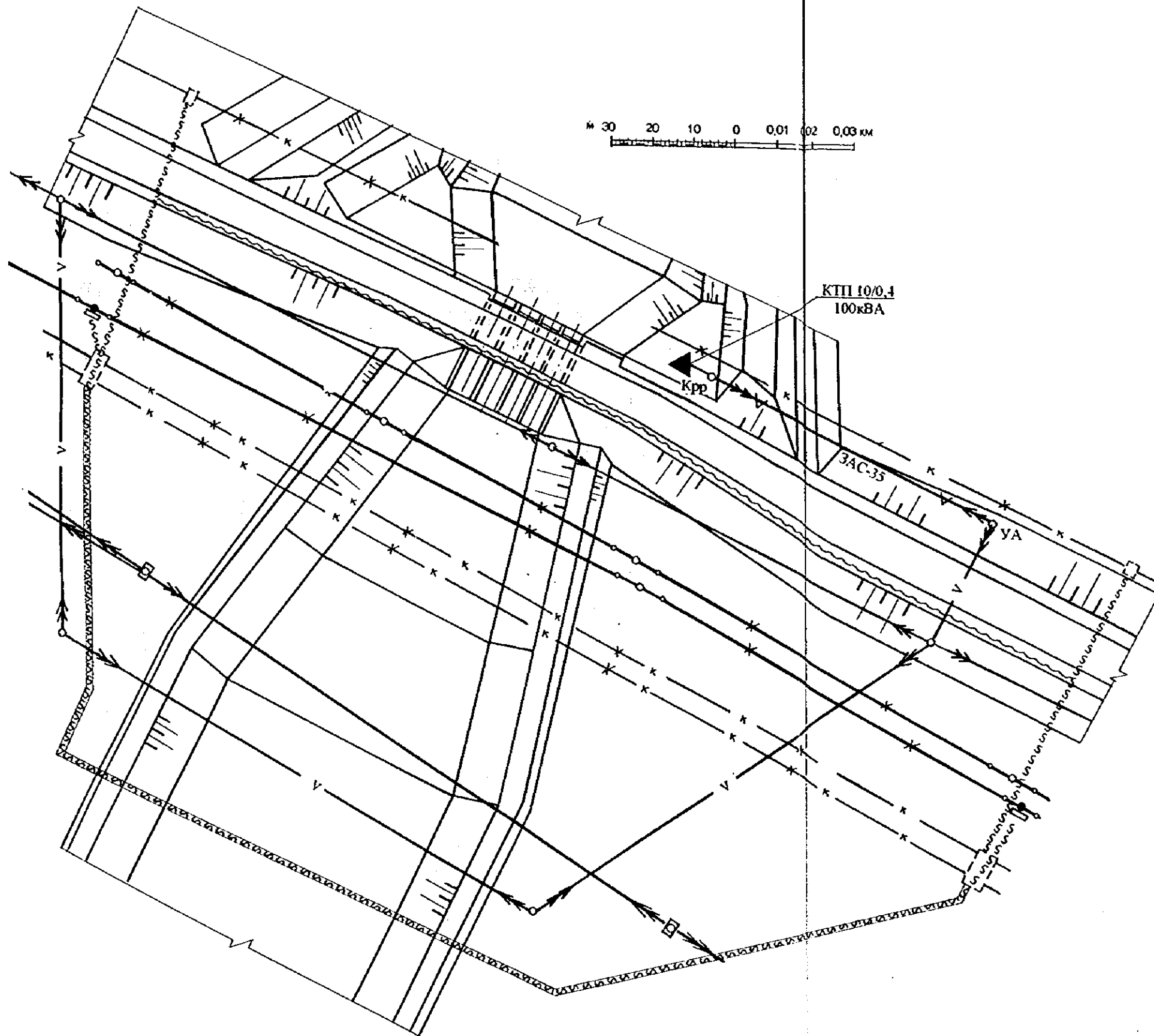
М 6 4 2 0 0,002 0,004 0,006 км




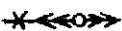






Remark
Примечание

Sizes in cm, elevation in metres
Размеры в см, отметки в м

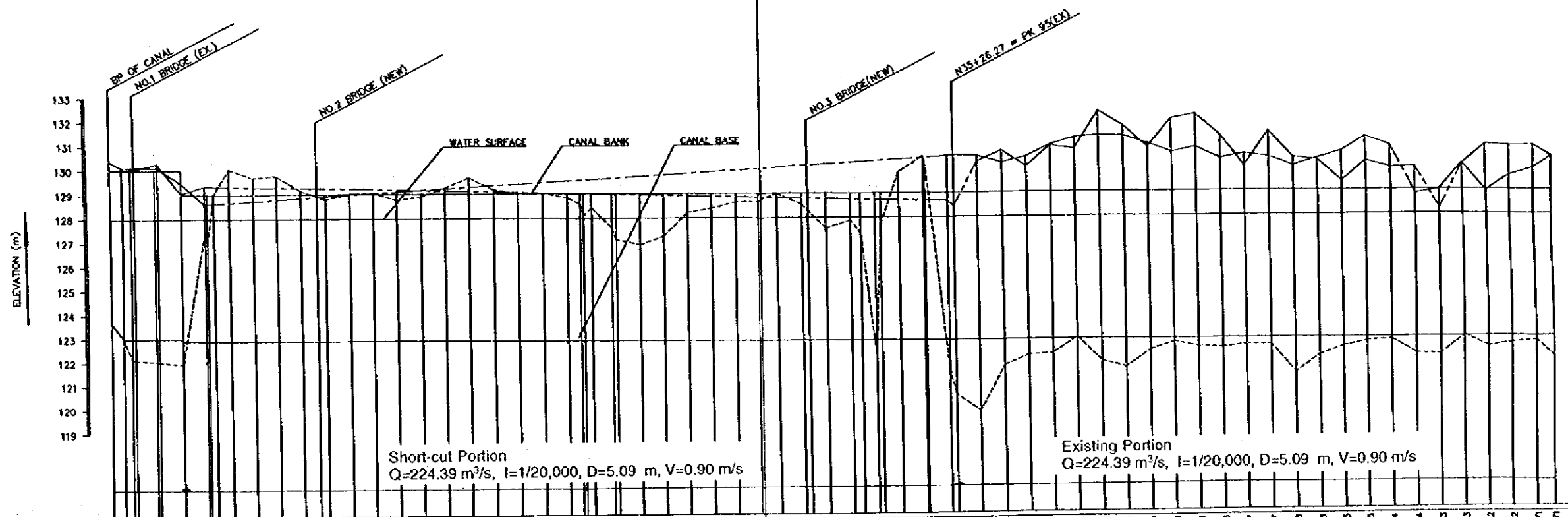
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
RIVER DIVERSION STRUCTURE(2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY



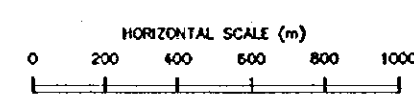
LEGEND
УСЛОВНЫЕ ОБОЗНАЧЕНИЯ

-  Air line 110 kV
Воздушная линия 110 кВ
-  Disassembling of air line 10kV
Демонтируемая воздушная линия 10кВ
-  Disassembling of air communication line
Демонтируемая воздушная линия связи
-  Disassembling of communication cable line
Демонтируемая кабельная линия связи
-  Temporary communication cable line
Временная кабельная линия связи
-  Permanent communication cable line
Постоянная линия связи
-  Joint installation of temporary communication cables
Совместная прокладка кабелей связи по времен-
ной трассе (7 кабелей)
-  Cable box of communication
Кабельный ящик

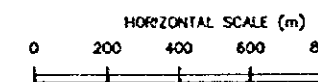
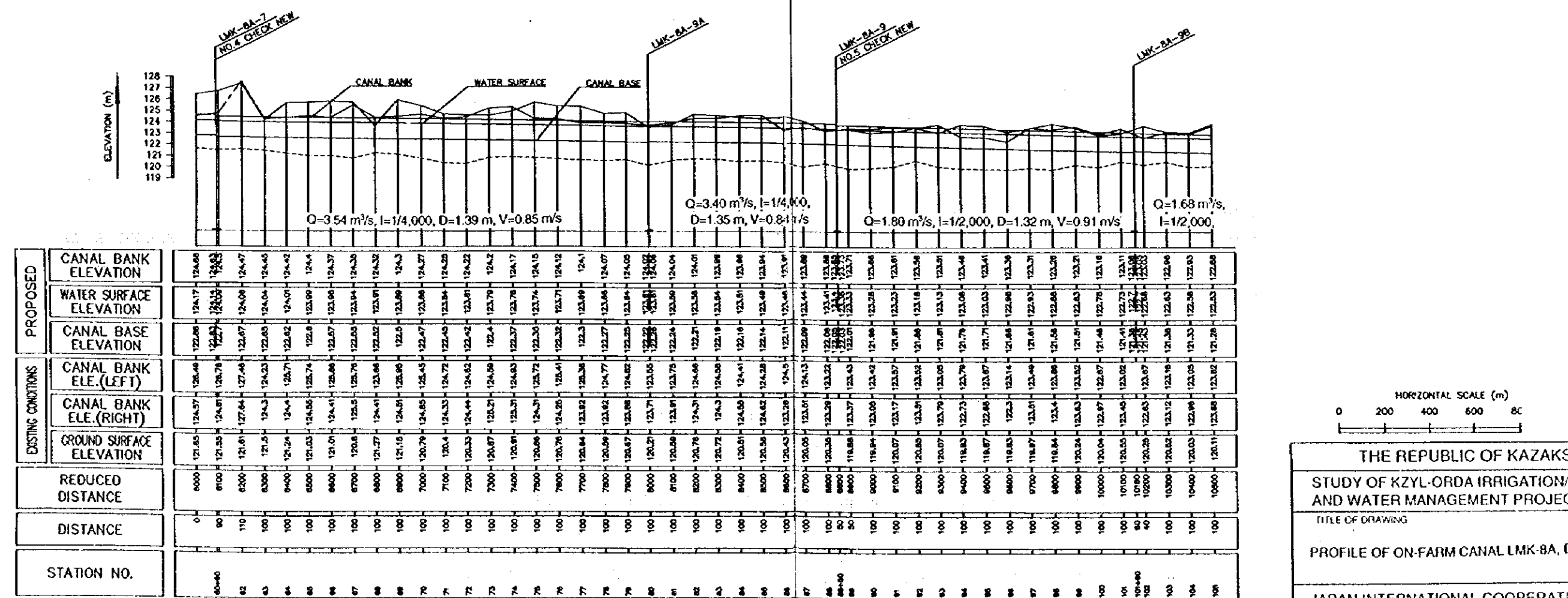
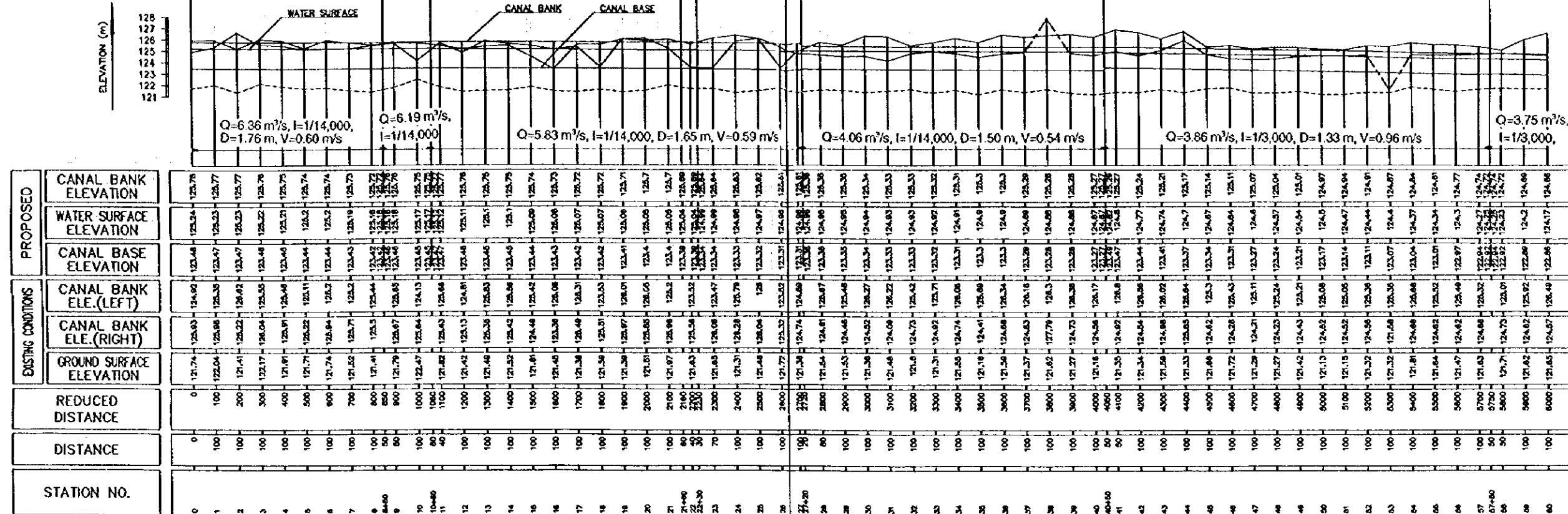
<p>THE REPUBLIC OF KAZAKSTAN</p> <p>STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT</p> <p>TITLE OF DRAWING</p> <p>LAYOUT OF POWER LINES & COMMUNICATION CABLES SHIFTING</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>
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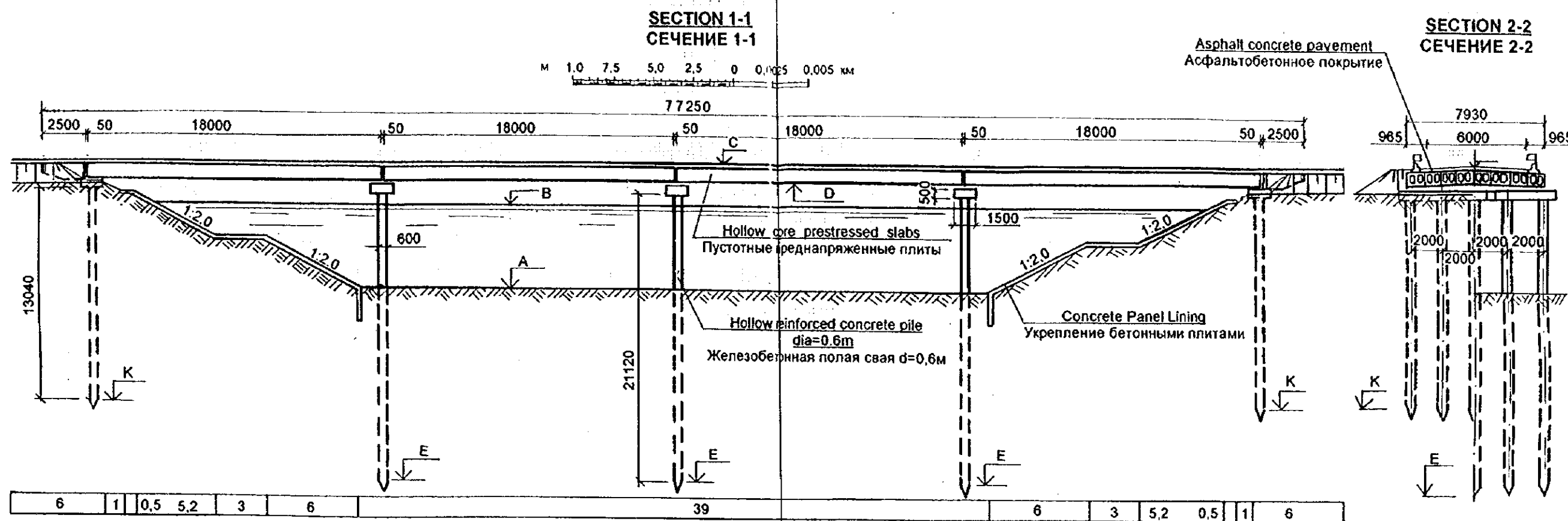
STATION NO.	DISTANCE	REDUCED DISTANCE	EXISTING CONDITIONS			PROPOSED		
			GROUND SURFACE ELEVATION	CANAL BANK ELE.(LEFT)	CANAL BANK ELE.(RIGHT)	CANAL BASE ELEVATION	WATER SURFACE ELEVATION	CANAL BANK ELEVATION
NO-48.8	0	0	123.66	130.38	130.38	123.66	127.88	130
WT	46.9	46.9	123	130.14	130.09	123	127.98	130
	100	100	122.12	130.14	130.09	123	127.88	130
N2	100	200	122.02	130.12	130.29	123	127.88	130
N3	100	300	121.83	128.48	128.05	122.88	127.88	128.70
N4	100	400	127.46	128.59	128.34	122.88	127.98	128.90
N5	100	500	130.03			122.88	127.97	128.98
N6	100	600	128.86			122.88	127.97	128.98
N7	100	700	128.75			122.87	127.98	128.97
N8	100	800	128.13			122.87	127.98	128.97
N9	85	885	127.85			122.86	127.95	128.96
N10	35	920	128.75			122.86	127.95	128.96
N11	100	1000	128.69			122.86	127.95	128.96
N12	100	1100	129			122.85	127.94	128.95
N13	100	1200	128.7			122.85	127.94	128.95
N14	100	1300	128.63			122.84	127.93	128.94
N15	100	1400	128.19			122.84	127.93	128.94
N16	100	1500	128.6			122.83	127.92	128.93
N17	100	1600	128.1			122.83	127.92	128.93
N18	100	1700	128.85			122.82	127.91	128.92
N19	100	1800	128.85			122.82	127.91	128.92
N20	100	1900	128.74			122.81	127.9	128.91
N21	53	1953	128.5			122.81	127.9	128.91
N22	47	2000	128.33			122.81	127.9	128.91
N23	100	2100	127			122.8	127.89	128.9
N24	100	2200	128.78			122.8	127.89	128.9
N25	100	2300	127.13			122.79	127.88	128.89
N26	100	2400	128.1			122.79	127.88	128.89
N27	100	2500	128.28			122.78	127.87	128.88
N28	100	2600	128.52			122.78	127.87	128.88
N29	100	2700	128.54			122.77	127.86	128.87
N30	100	2800	128.88			122.77	127.86	128.87
N31	100	2900	128.41			122.76	127.85	128.86
N32	100	3000	127.4			122.76	127.85	128.86
N33	100	3100	127.73			122.75	127.84	128.85
N34	42	3142	127.2			122.75	127.84	128.85
N35	58	3200	128.18			122.75	127.84	128.85
N36	100	3300	128.7			122.74	127.83	128.84
N37	100	3400	130.34			122.74	127.83	128.84
N38	200	3600	128.88			122.73	127.82	128.83
N39	100	3628.3	119.75	130.33	130.09	122.73	127.82	128.83
N40	100	3728.3	121.84	130.04	130.54	122.72	127.81	128.82
N41	100	3828.3	122.05	130.27	129.88	122.72	127.81	128.82
N42	100	3928.3	122.12	130.78	130.71	122.71	127.8	128.81
N43	100	4028.3	122.77	131.04	130.97	122.71	127.8	128.81
N44	100	4128.3	121.78	131.11	132.1	122.7	127.79	128.8
N45	100	4228.3	121.5	131.09	131.51	122.7	127.79	128.8
N46	100	4328.3	122.21	130.75	130.8	122.69	127.78	128.79
N47	100	4428.3	122.53	130.38	131.77	122.69	127.78	128.79
N48	100	4528.3	122.33	130.58	131.84	122.68	127.77	128.78
N49	100	4628.3	122.27	130.1	131.08	122.68	127.77	128.78
N50	100	4728.3	122.39	130.39	128.78	122.67	127.76	128.77
N51	100	4828.3	122.37	130.15	131.2	122.67	127.76	128.77
N52	100	4928.3	121.19	128.77	130.11	122.66	127.75	128.76
N53	100	5028.3	121.91	130.07	130.09	122.66	127.75	128.76
N54	100	5128.3	122.27	130.35	129.1	122.65	127.74	128.75
N55	100	5228.3	122.48	130.93	129.93	122.65	127.74	128.75
N56	100	5328.3	122.54	130.57	128.85	122.64	127.73	128.74
N57	100	5428.3	121.83	128.56	128.67	122.64	127.73	128.74
N58	100	5528.3	121.9	128.71	127.83	122.63	127.72	128.73
N59	100	5628.3	122.87	129.83	128.78	122.63	127.72	128.73
N60	100	5728.3	122.2	128.87	130.38	122.62	127.71	128.72
N61	100	5828.3	122.35	128.3	130.33	122.62	127.71	128.72
N62	100	5928.3	122.44	128.59	130.32	122.61	127.7	128.71
N63	73.7	6000	121.76	130.08	130.09	122.61	127.7	128.71



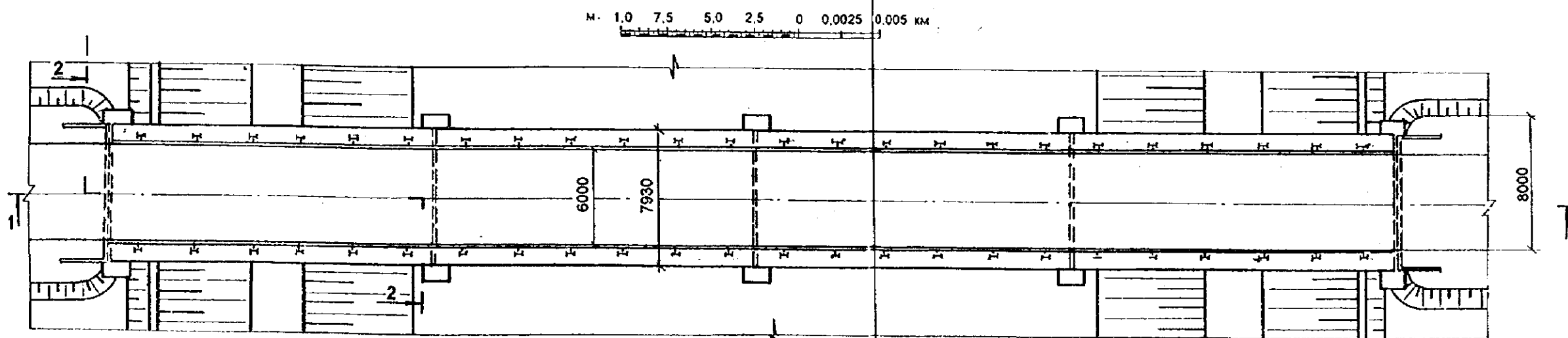
THE REPUBLIC OF KAZAKSTAN
 STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
 AND WATER MANAGEMENT PROJECT
 TITLE OF DRAWING
 PROFILE OF LEFT MAIN CANAL, BP to ST.119+73.7
 JAPAN INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF KAZAKSTAN
 STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
 TITLE OF DRAWING
 PROFILE OF ON-FARM CANAL LMK-BA, BP to ST.105
 JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN
ПЛАН



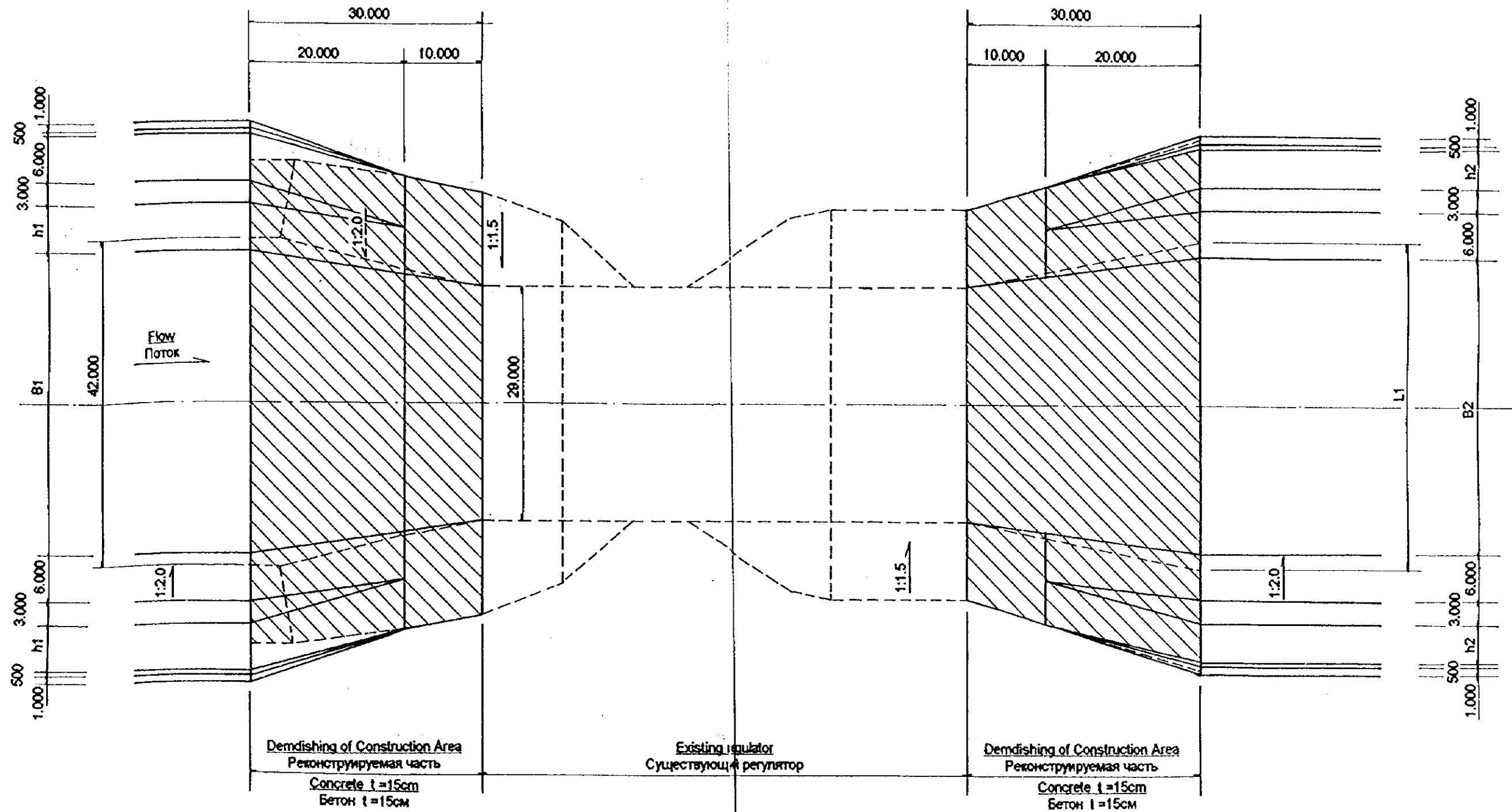
General Work Volumes (For one Bridge)
Основные объемы работ (на 1 мост)

Name of Work Наименование работ	Units Ед. измер.	Quantity Количество
1. Precast reinforced concrete Сборный железобетон	m ³	381
2. In situ reinforced concrete Монолитный железобетон	m ³	152
3. Metal guard railing Металлическое ограждение	m	268
4. Asphalt concrete pavement Асфальтобетонное покрытие	m ²	1142

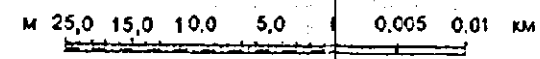
List of levels
Таблица отметок

No. Bridges №№ Мостов	Original Ground Elevation, m Отметка грунта, м	Canal Base Elevation, m Отметка дна, м	Water Surface Elevation, m Отметка поверхности воды, м	Level of roadway centre line, m Ось проезжей части, м	Bottom level, m Низ конструкции, м	End of pile, m Острие свай, м	
		A	B	C	D	E	K
1	129.50	122.86	127.9	130.26	129.28	107.38	115.46
2	127.50	122.75	127.8	130.15	129.17	107.27	115.35

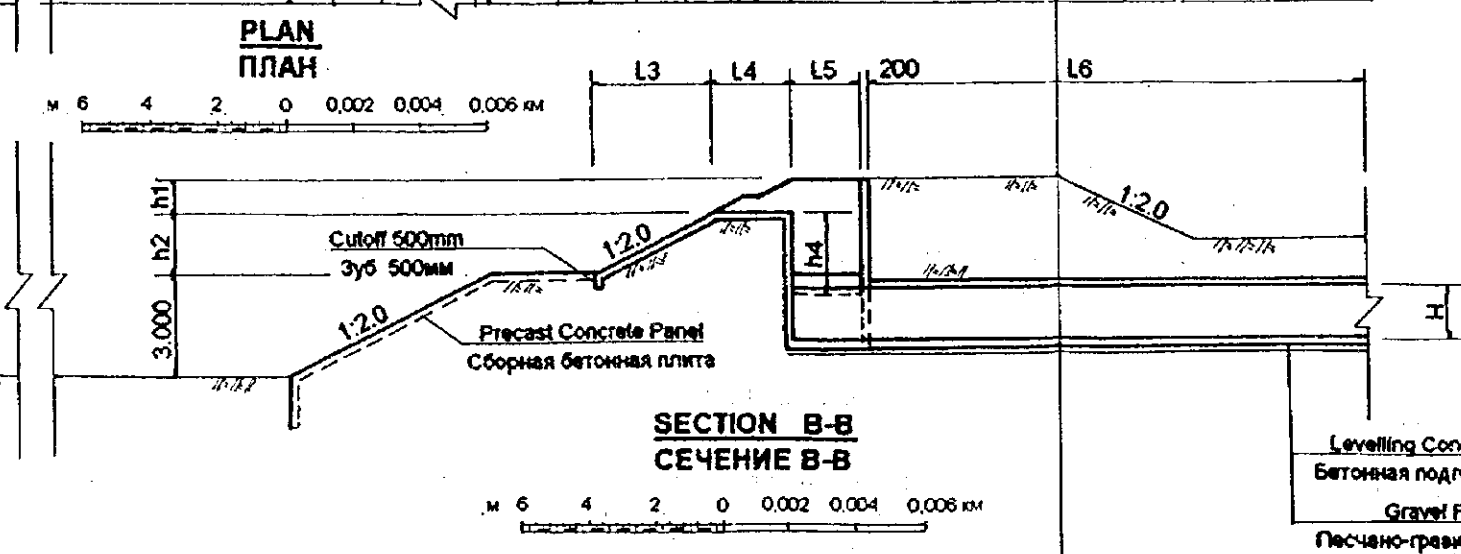
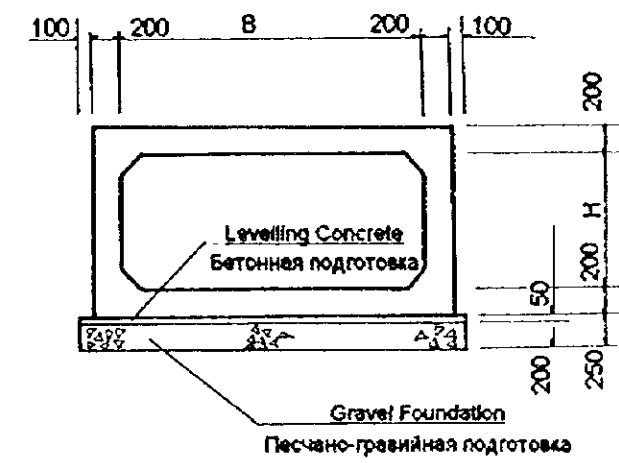
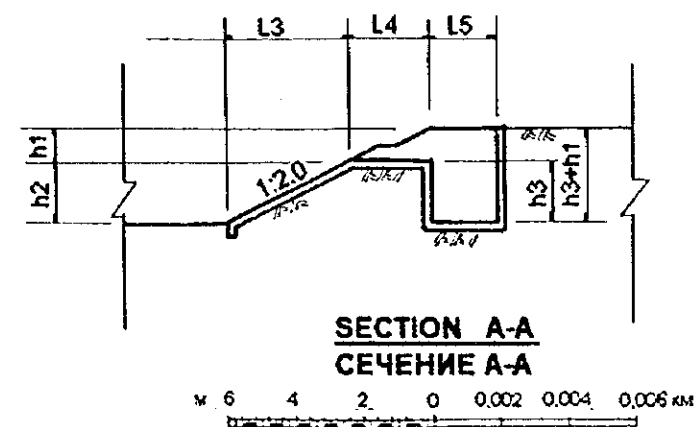
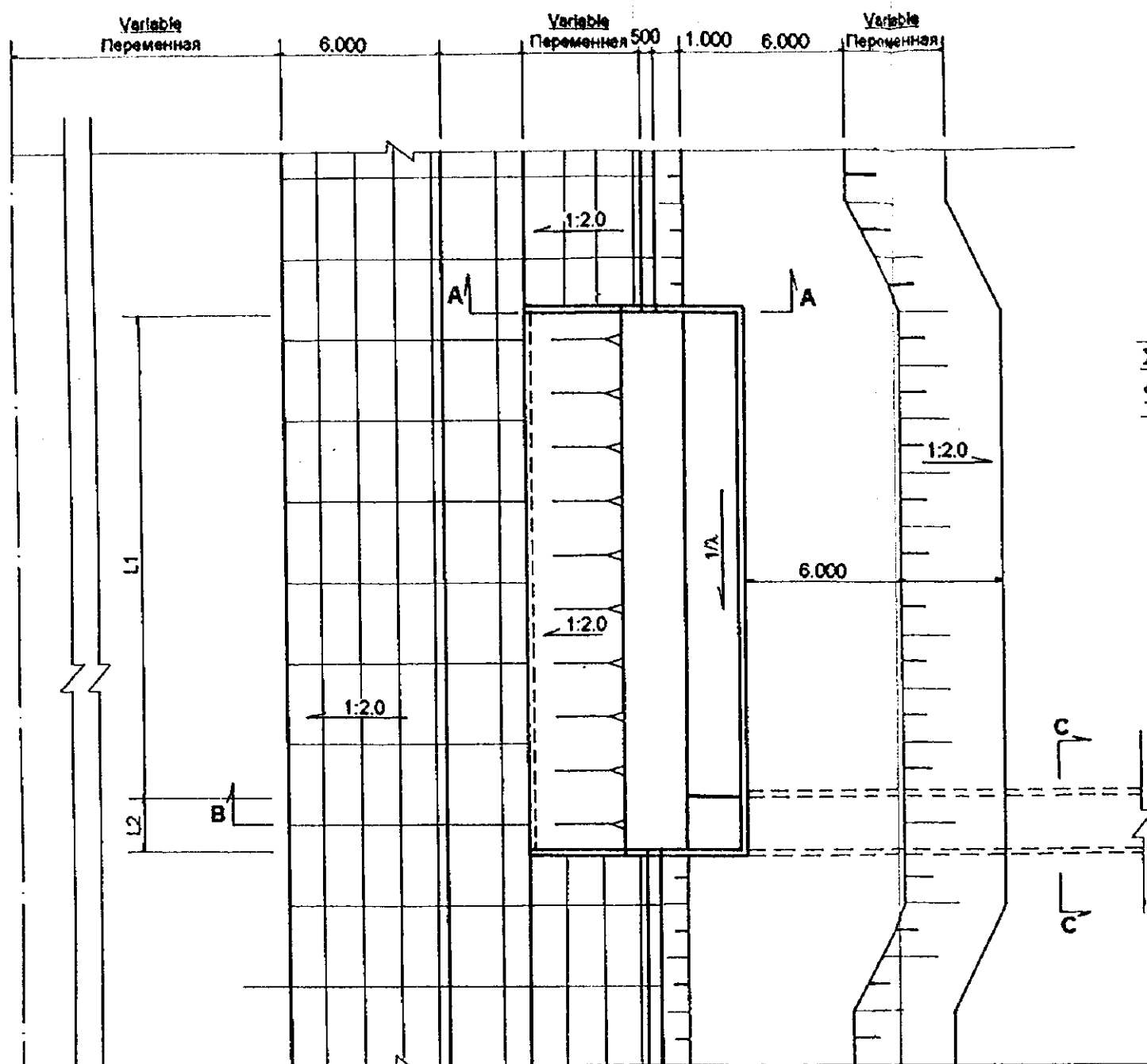
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
ROAD BRIDGE
JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN
ПЛАН

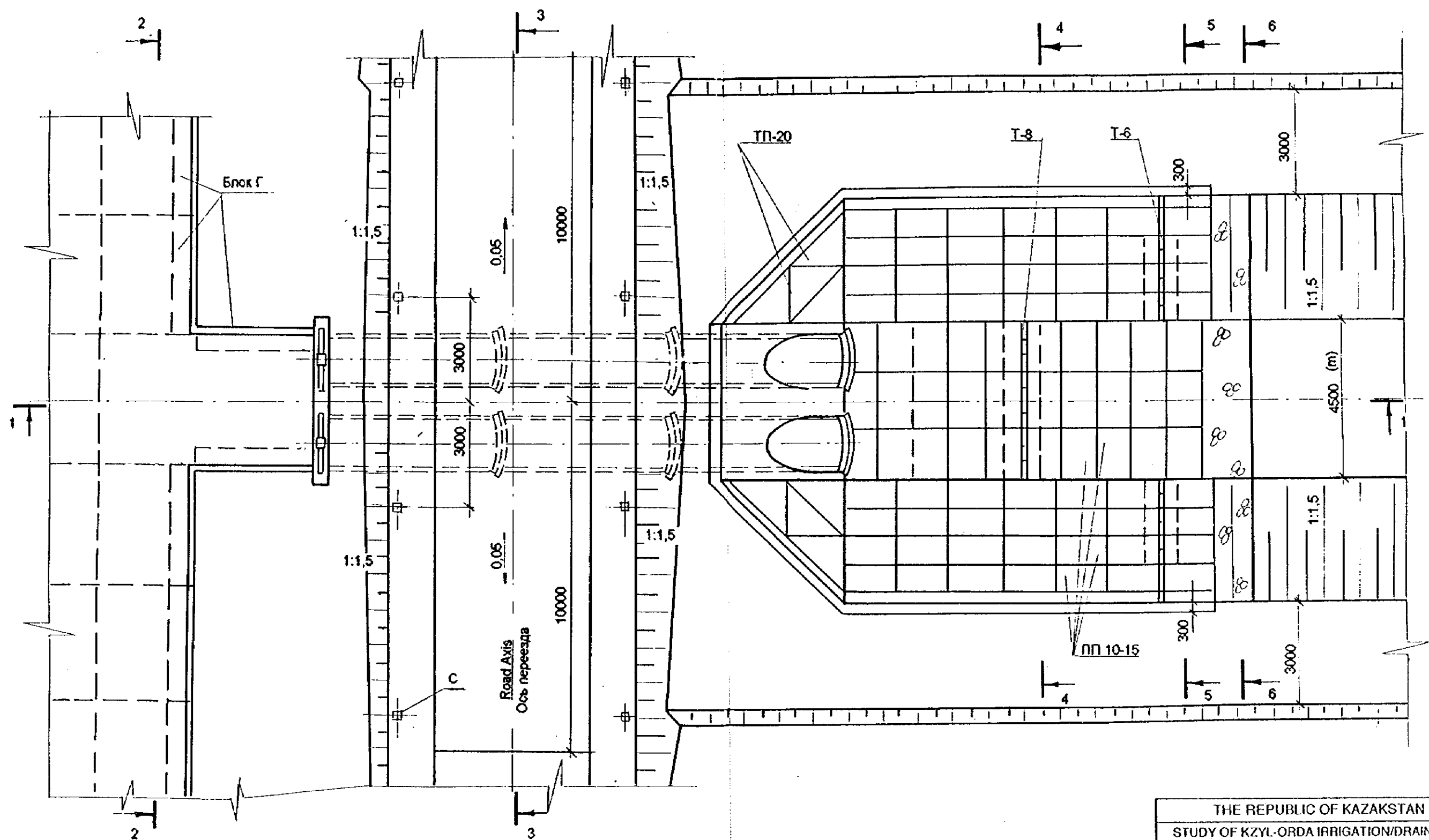
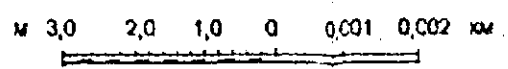


THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
RECONSTRUCTION PLAN OF REGULATORS' TRANSITION
JAPAN INTERNATIONAL COOPERATION AGENCY



Levelling Concrete
Бетонная подготовка
Gravel Foundation
Песчано-гравийная подготовка

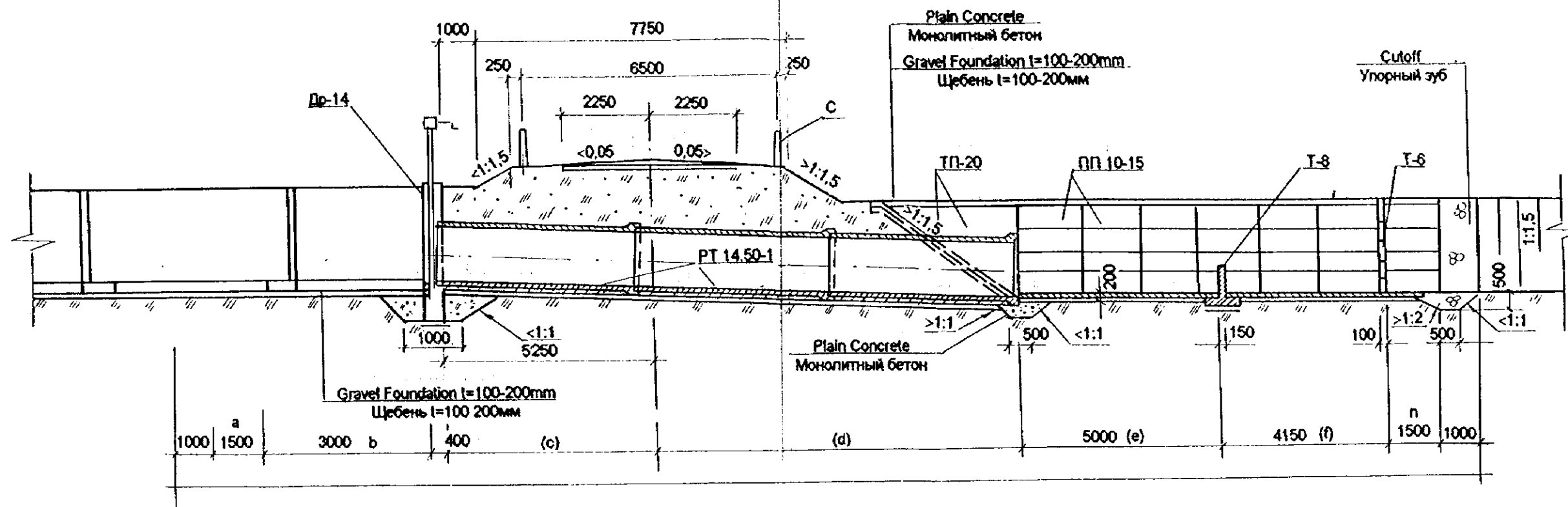
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
SIDE SPILLWAY
JAPAN INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
TURNOUT ON FLUME (1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

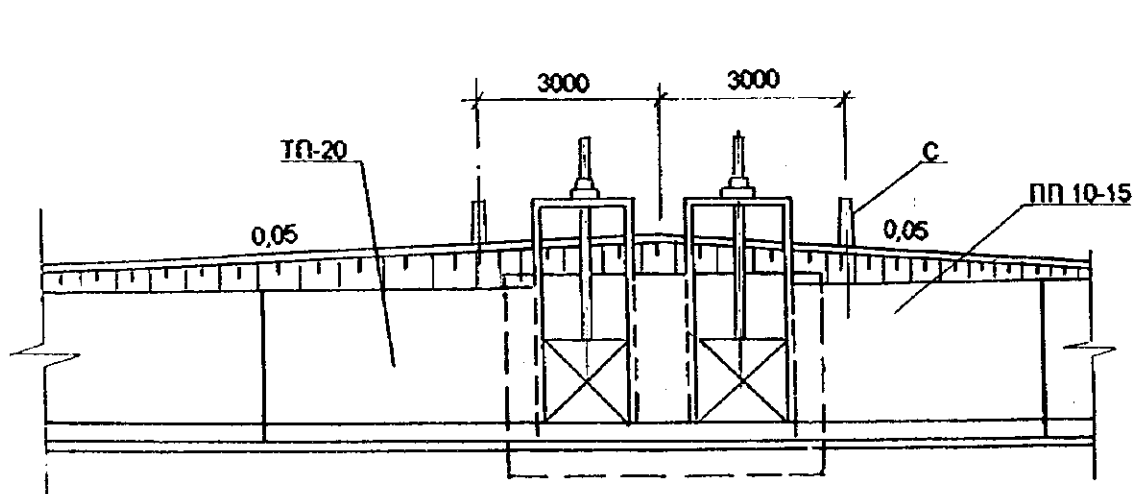
SECTION 1-1
РАЗРЕЗ 1-1

м 3,0 2,0 1,0 0 0,001 0,002 км



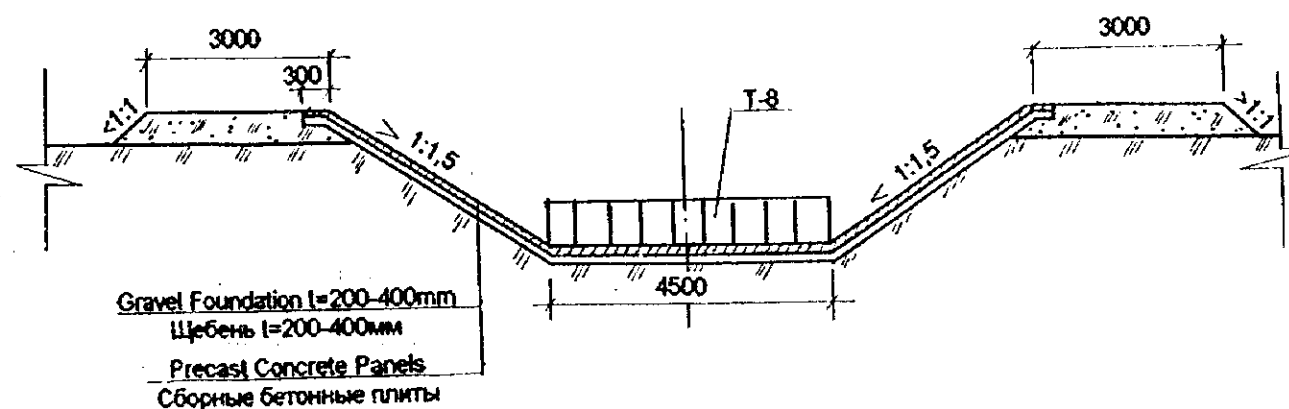
SECTION 2-2
РАЗРЕЗ 2-2

м 3,0 2,0 1,0 0 0,001 0,002 км



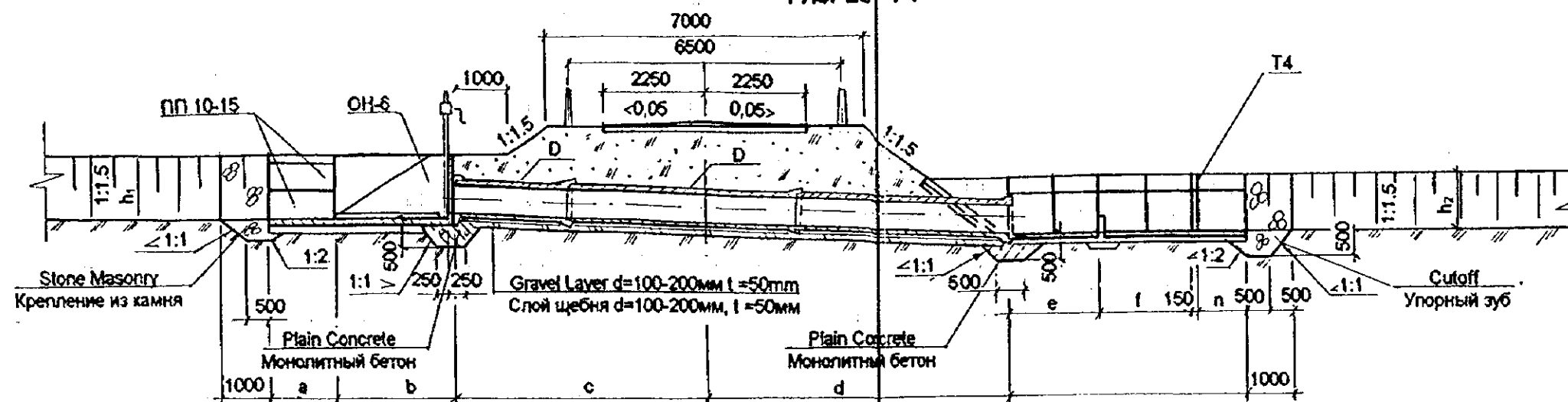
SECTION 4-4
РАЗРЕЗ 4-4

м 3,0 2,0 1,0 0 0,001 0,002 км

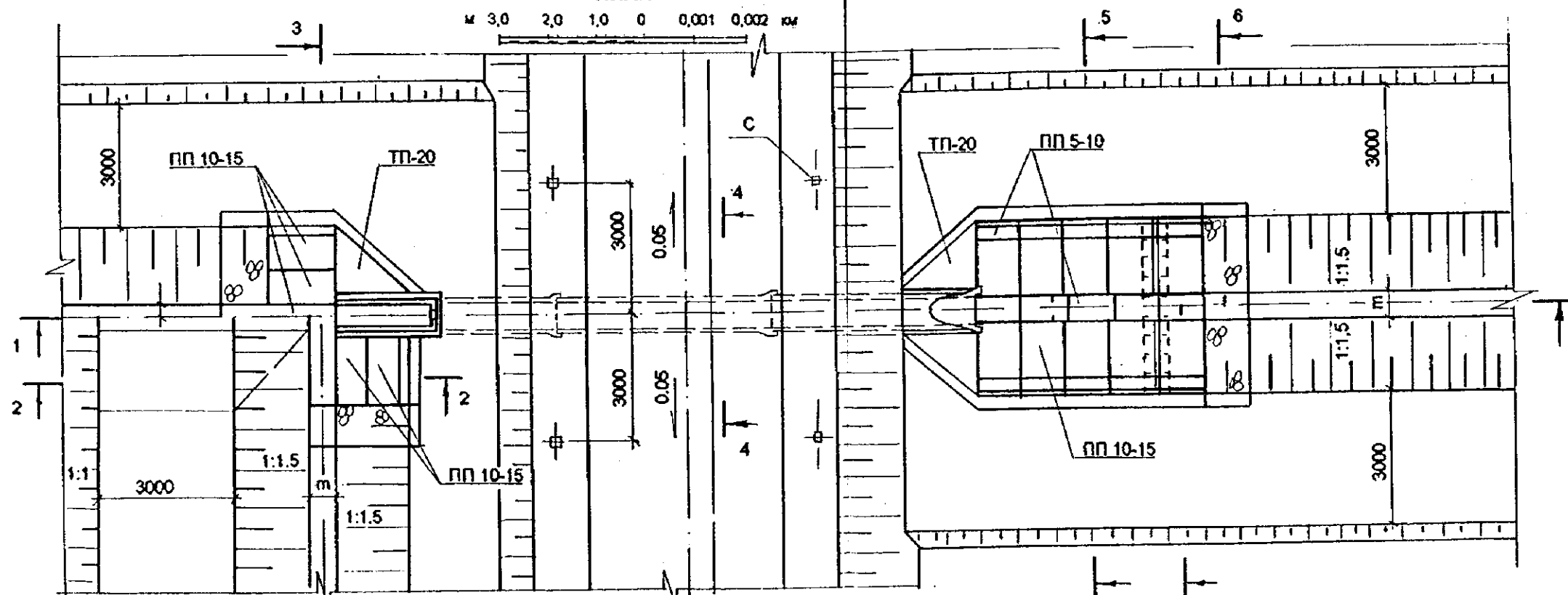


THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
TURNOUT ON FLUME (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

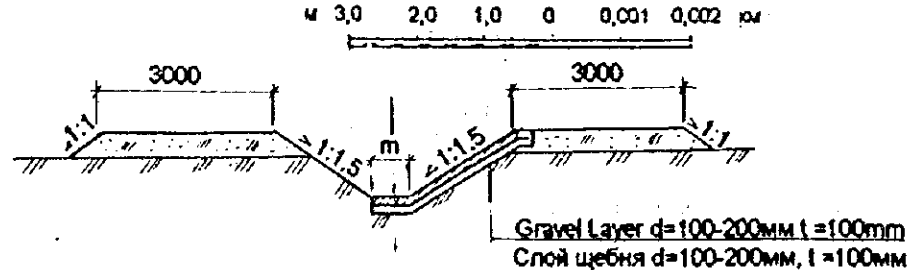
SECTION 1-1
РАЗРЕЗ 1-1



PLAN
ПЛАН



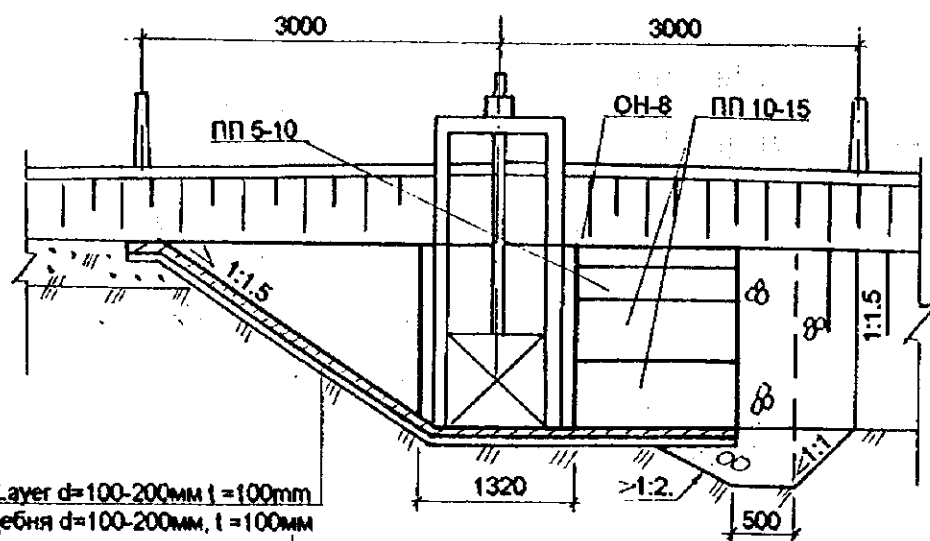
SECTION 2-2
РАЗРЕЗ 2-2



THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
TURNOUT ON EARTH CANAL (1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

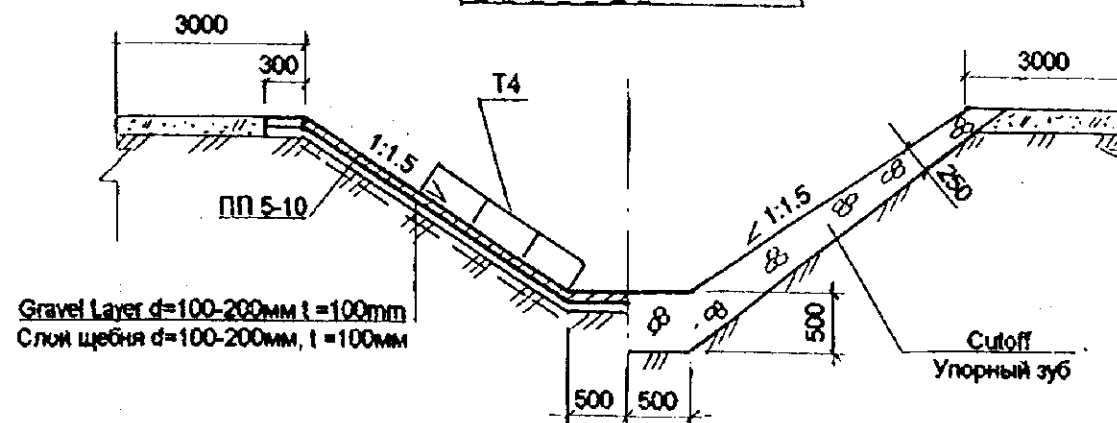
**SECTION 3-3
РАЗРЕЗ 3-3**

М 3,0 2,0 1,0 0 0,001 0,002 км



**SECTION 6-6
РАЗРЕЗ 6-6**

М 3,0 2,0 1,0 0 0,001 0,002 км

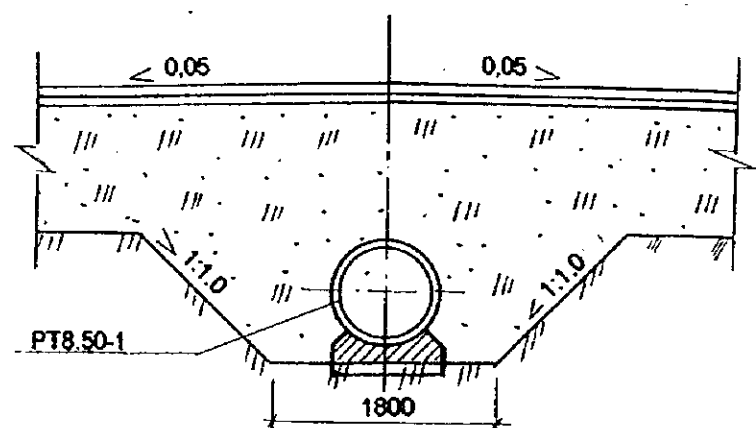


Technical Characteristics of hydraulic structure, volume of work
Техническая характеристика сооружений на каналах из железобетонных блоков и объемы работ

Code Шифр сооружения	Discharge, m ³ /s Расчетный расход, м ³ /с	Diameter, cm Диаметр труб, мм	Canal depth, m Глубина канала, м	Canal bottom width, m Ширина на- чала подду	Sizes, cm Размеры, см								Volume of work Объем работ		
					a	b	c	d	e	f	a	m	concrete, m ³ бетон, м ³	PC concrete ж/бет, м ³	Steel elements, t металлоопор, т
1 BPT 2x20-20-6	7,0	2x2000x2000	2,1	4,5	-	1000	600	300	600	-	-	450	34,2	65,4	1,634
2 BPT 2x14-5	5,0	2x1400	2,0	4,5	150	392	720	779	500	413	150	450	21,3	38,5	0,764
3 BPT 14-5	2,5	1x1400	1,8	1,5	200	392	630	870	600	300	150	150	11,1	26,6	0,382
4 BPT 10-5	1,0	1x1000	1,8	1,0	150	332	647	701	300	290	150	100	7,5	14,9	0,330
5 BPT 8-5	0,5	1x800	1,2	1,0	150	260	525	827	300	300	150	100	6,0	11,3	0,330

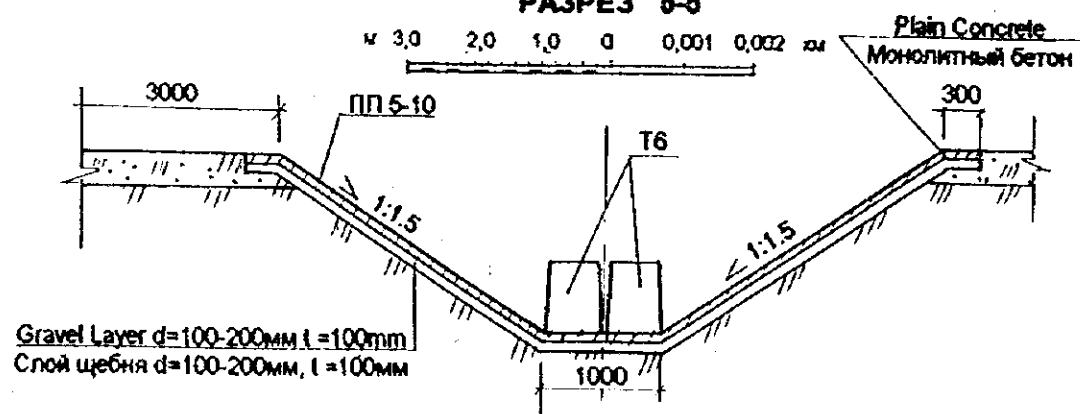
**SECTION 4-4
РАЗРЕЗ 4-4**

М 3,0 2,0 1,0 0 0,001 0,002 км

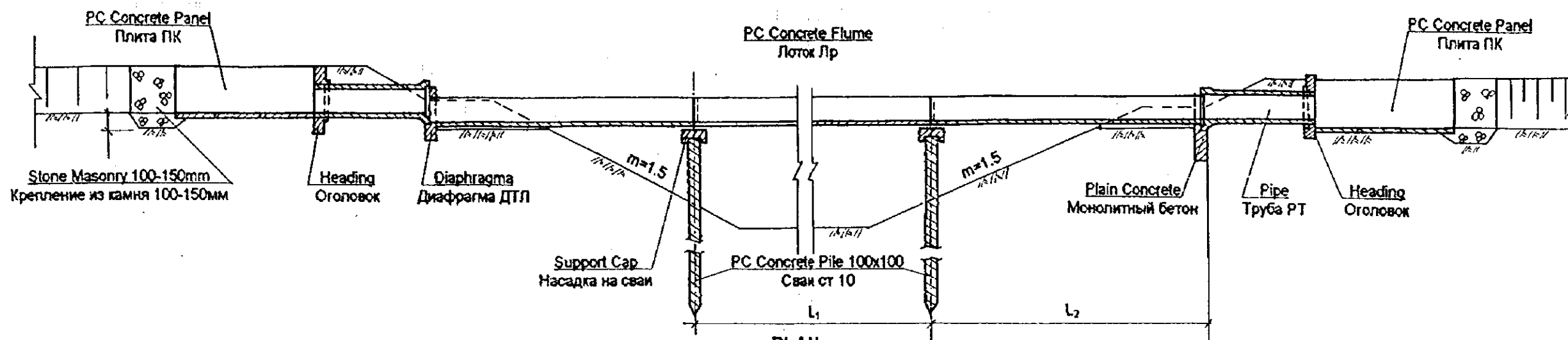


**SECTION 5-5
РАЗРЕЗ 5-5**

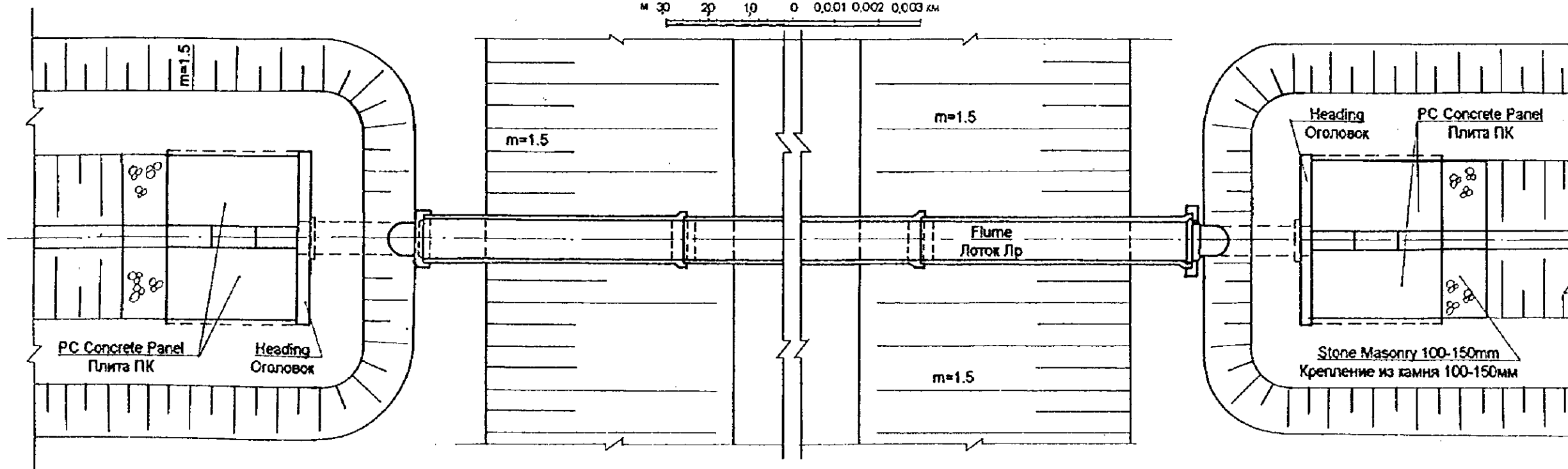
М 3,0 2,0 1,0 0 0,001 0,002 км



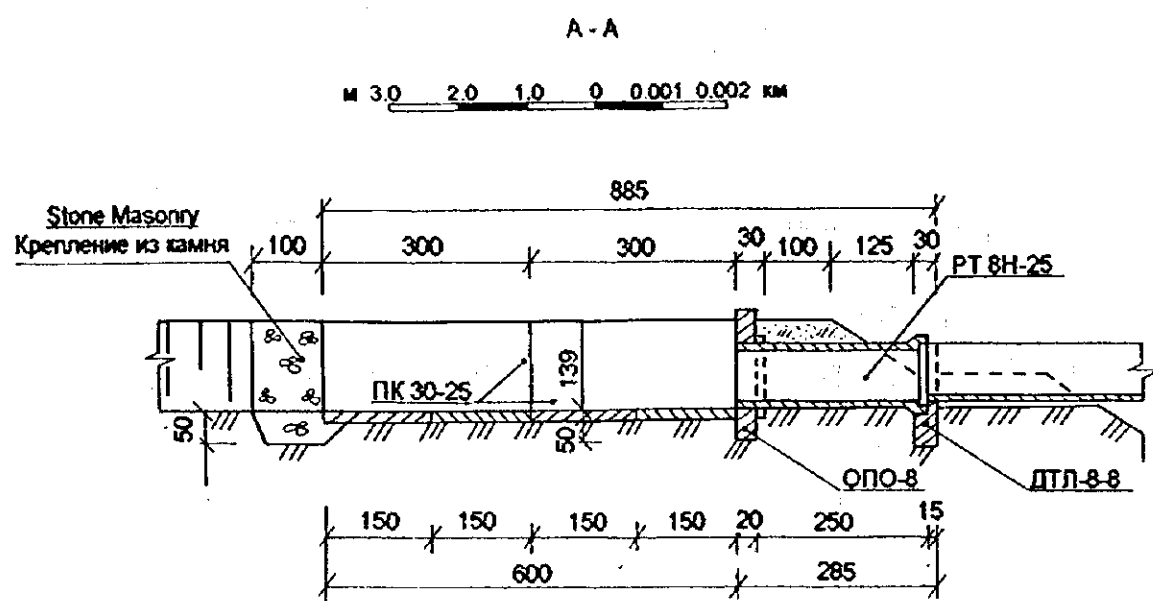
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
TURNOUT ON EARTH CANAL (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY



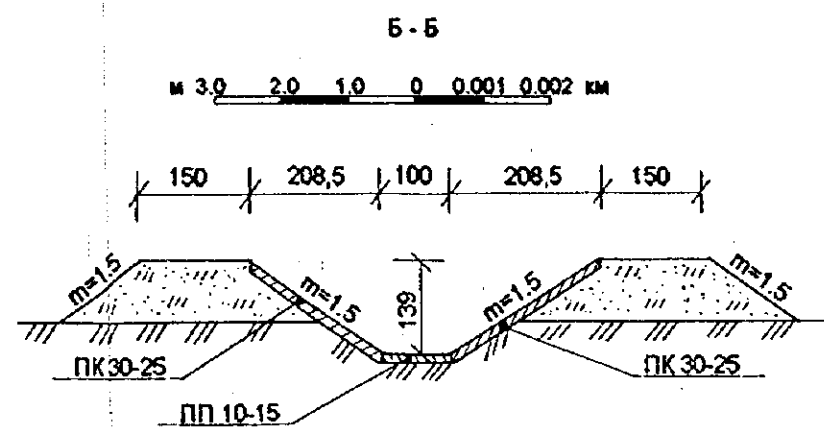
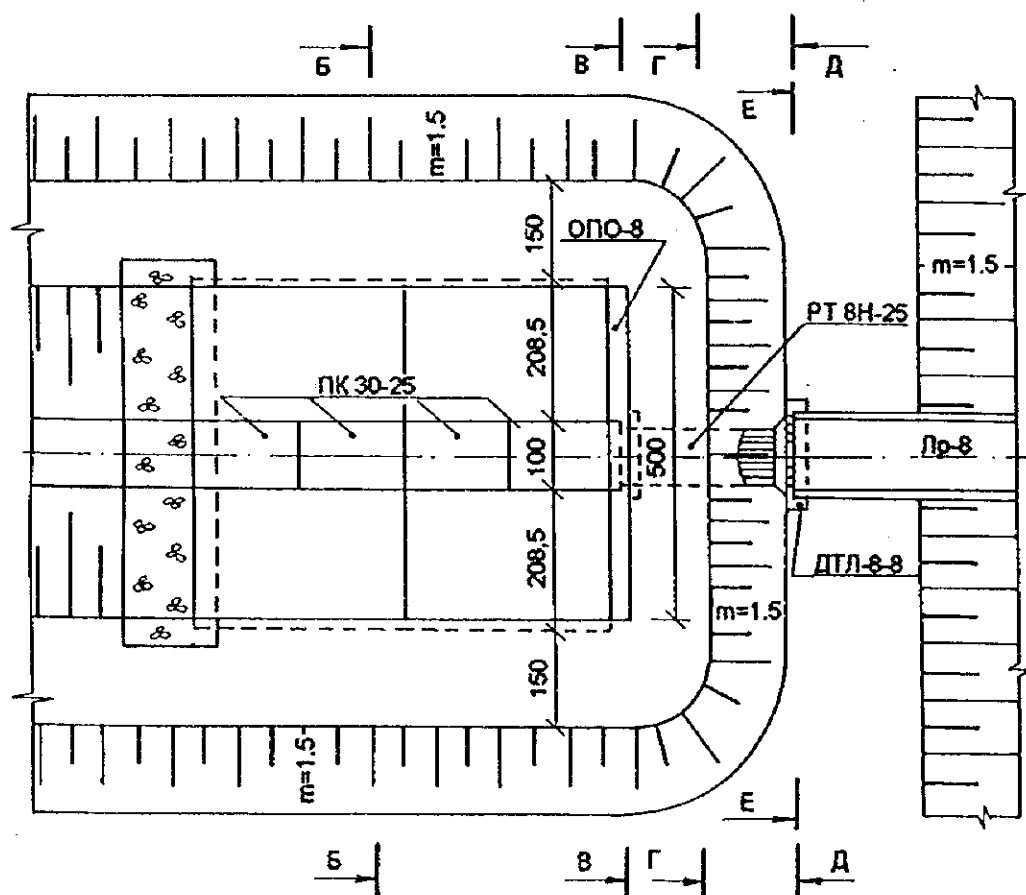
ПЛАН
ПЛАН
м 30 20 10 0 0,001 0,002 0,003 см



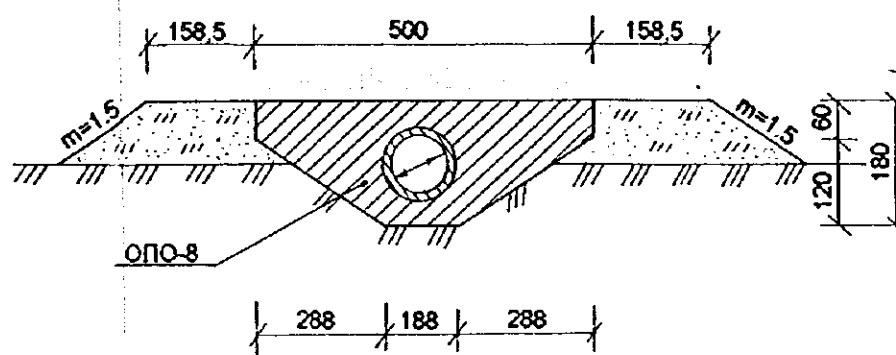
THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
AQUEDUCT (1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY



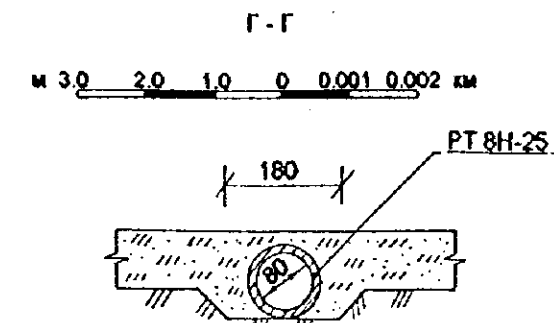
ПЛАН
ПЛАН
М 3.0 2.0 1.0 0 0.001 0.002 км



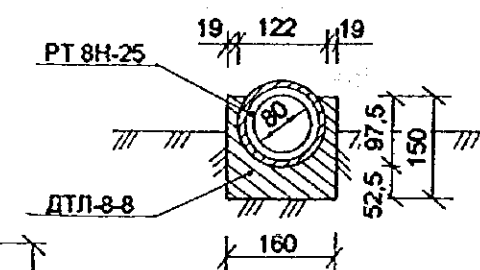
В-В
М 3.0 2.0 1.0 0 0.001 0.002 км



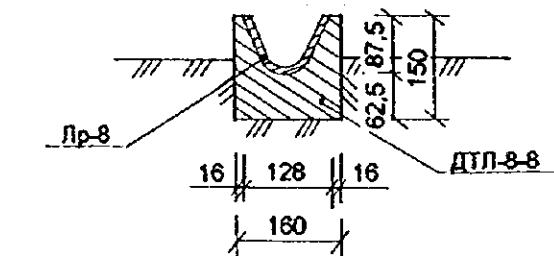
ОПО-8
М 3.0 2.0 1.0 0 0.001 0.002 км



Д-Д
М 3.0 2.0 1.0 0 0.001 0.002 км

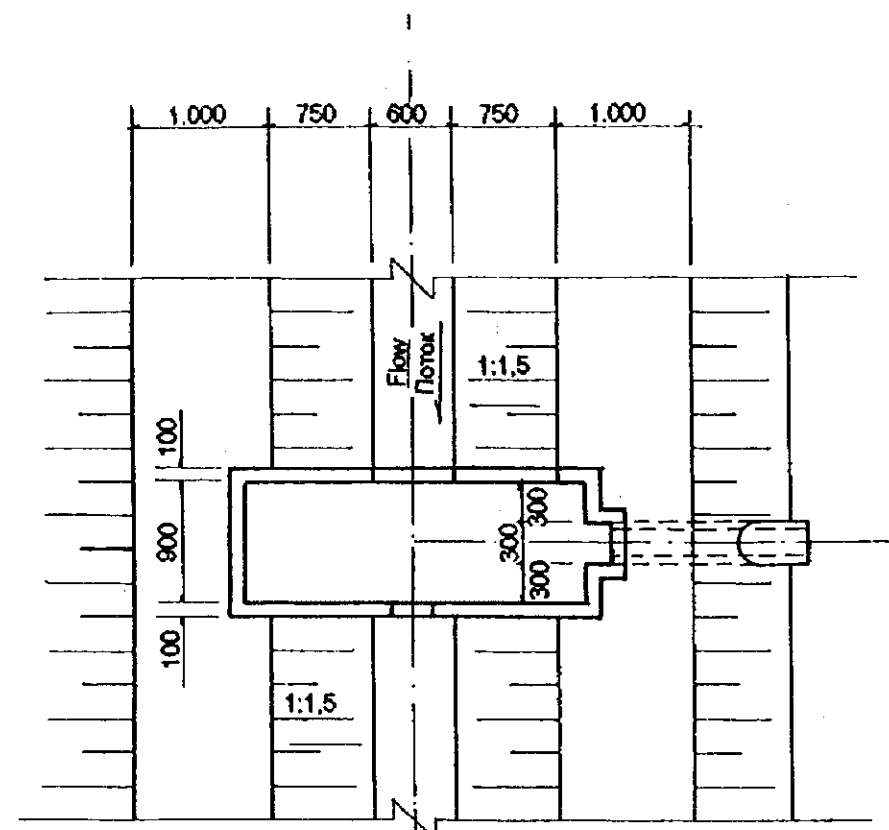


Е-Е
М 3.0 2.0 1.0 0 0.001 0.002 км

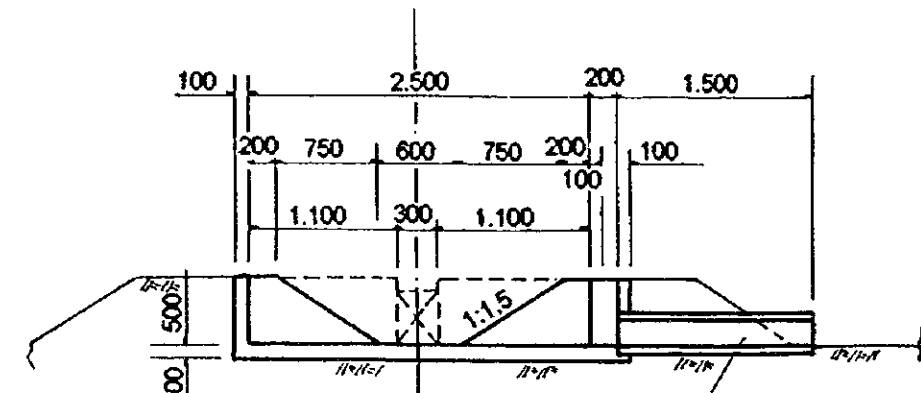
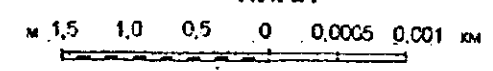


Volume of work
Объем работ

Items of works Наименование работ	Unit Ед.изм.	Total Кол.ч.
In situ reinforced concrete Монолитный бетон	м ³	4,72
Precast reinforced concrete Сборный железобетон	м ³	10,73
Stone Masonry 100-150mm Крепление из камня 100-150мм	м ³	5,34

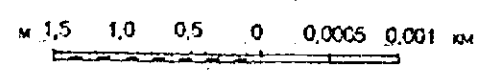


PLAN
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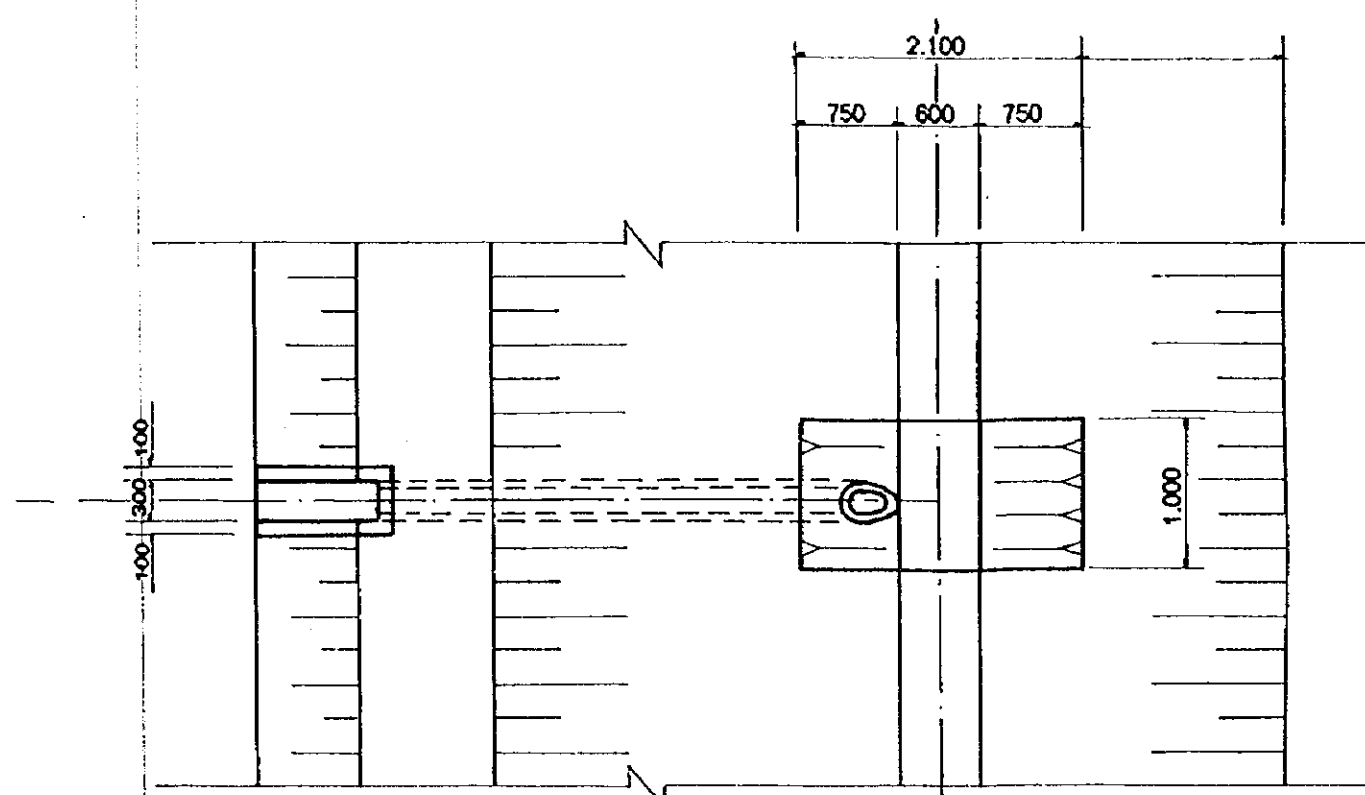


PC Concrete Pipe d = 200mm
Бетонная труба d = 200мм

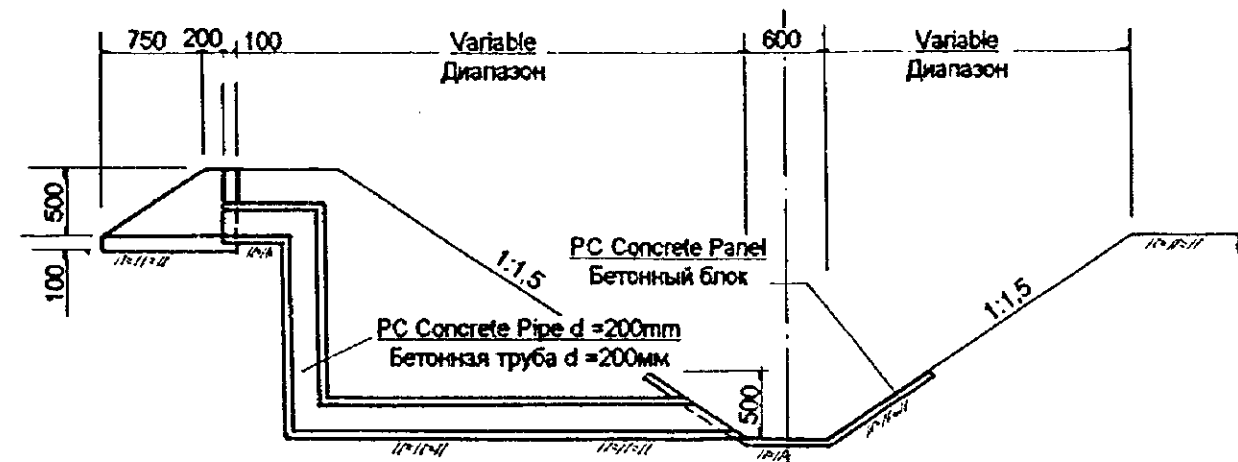
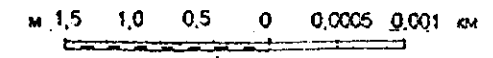
PROFILE
РАЗРЕЗ



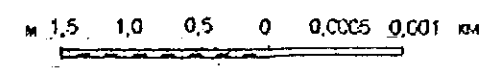
Field Inlet
Картовый ороситель



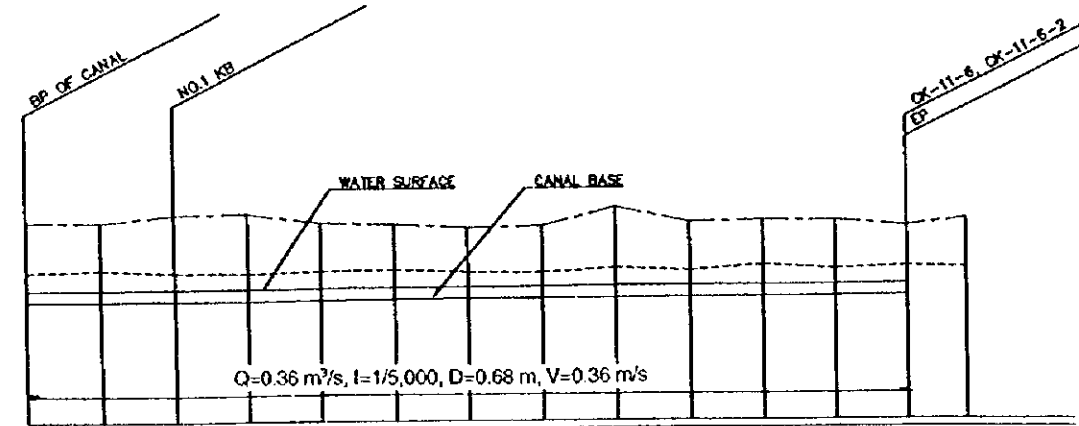
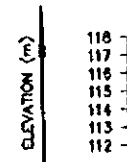
PLAN
ПЛАН



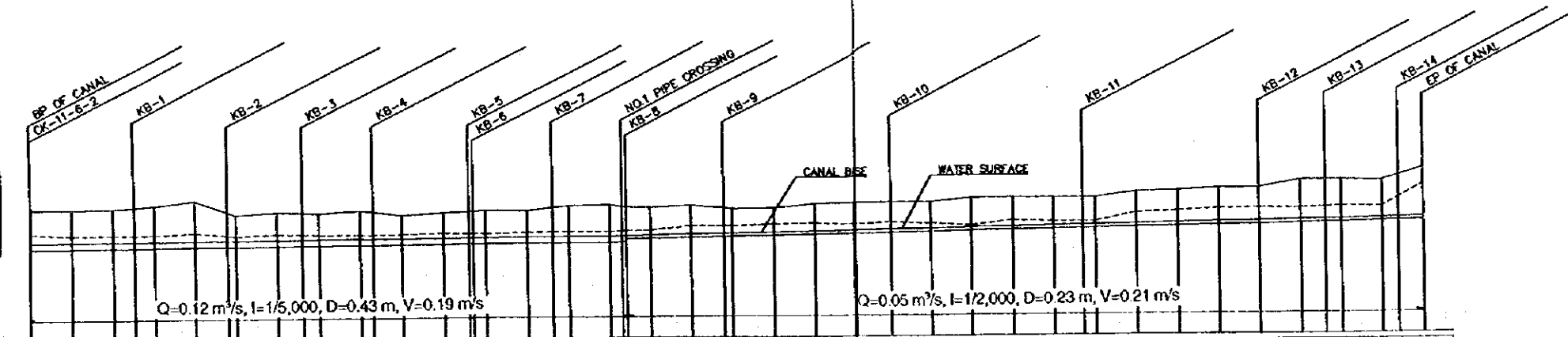
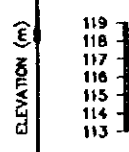
PROFILE
РАЗРЕЗ



THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
FIELD INLET & FIELD OUTLET
JAPAN INTERNATIONAL COOPERATION AGENCY

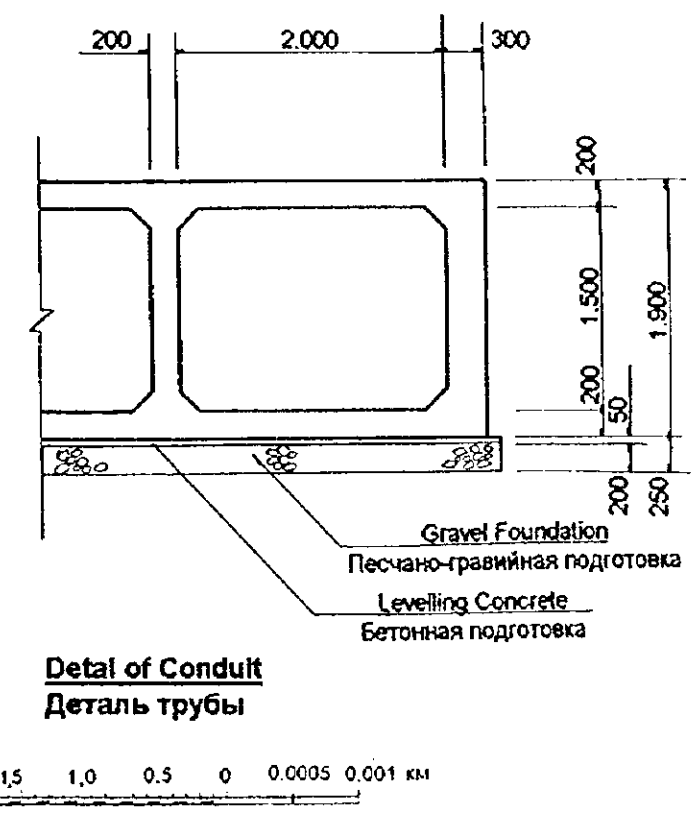
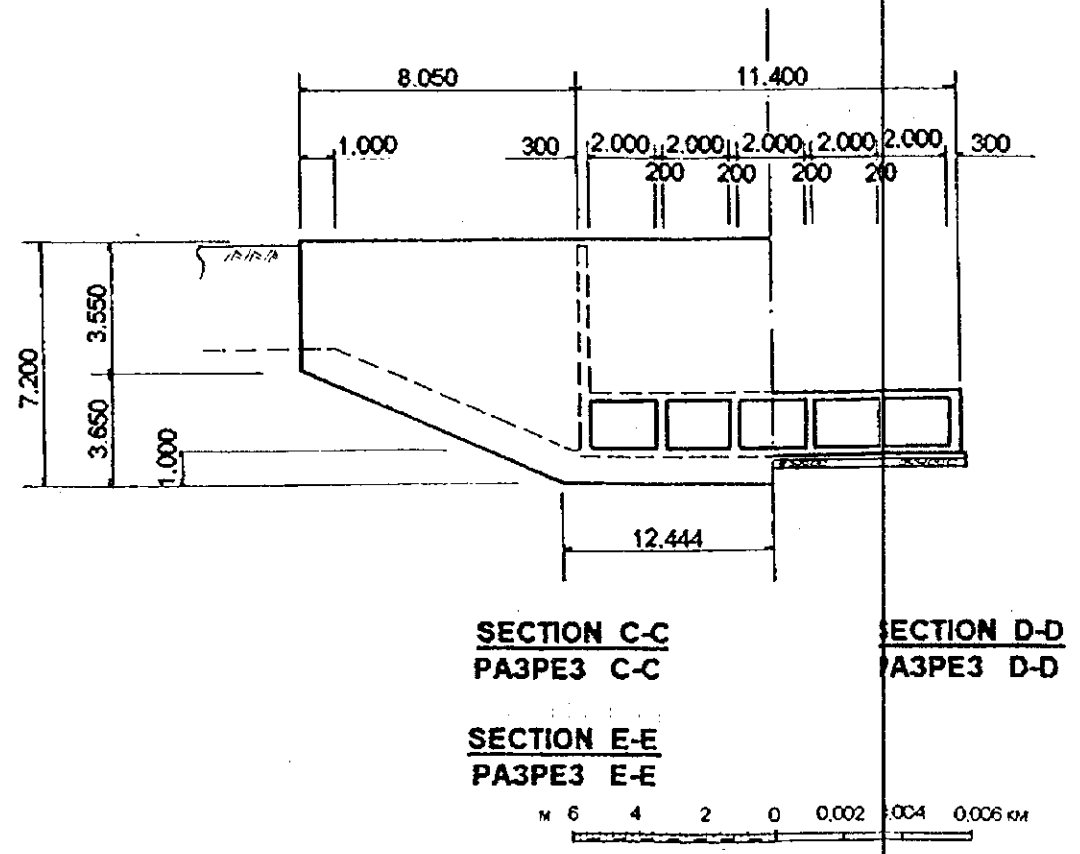
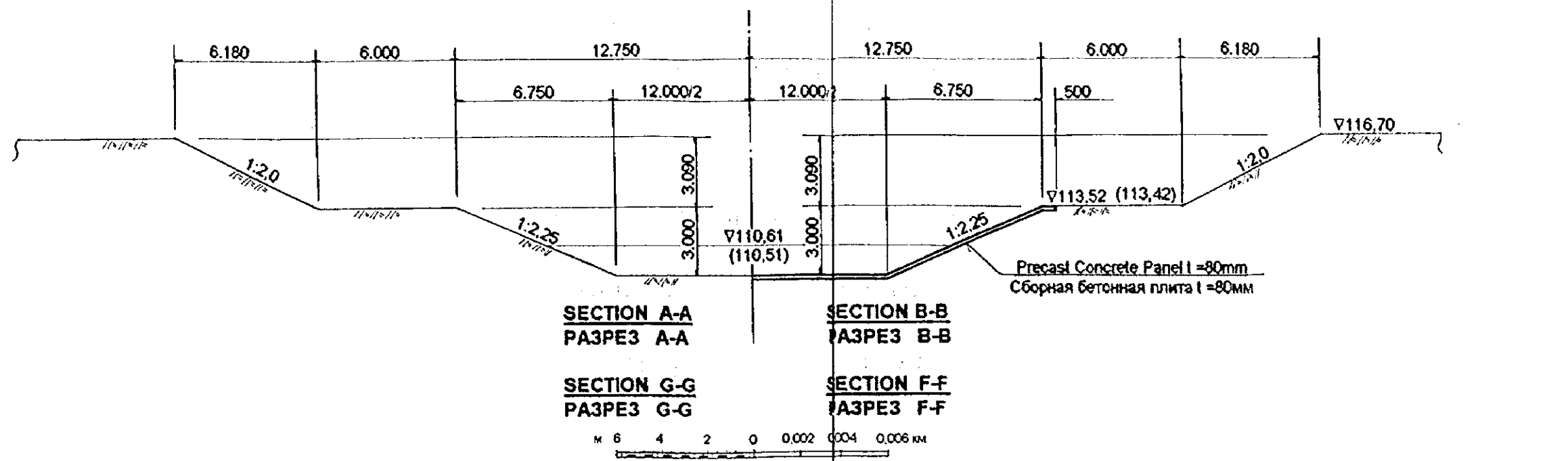


PROPOSED	WATER SURFACE ELEVATION
	113.28
EXISTING CONDITIONS	CANAL BANK ELE.(LEFT)
	112.63
EXISTING CONDITIONS	CANAL BANK ELE.(RIGHT)
	117.04
EXISTING CONDITIONS	GROUND SURFACE ELEVATION
	114.27
REDUCED DISTANCE	0
DISTANCE	0
STATION NO.	0



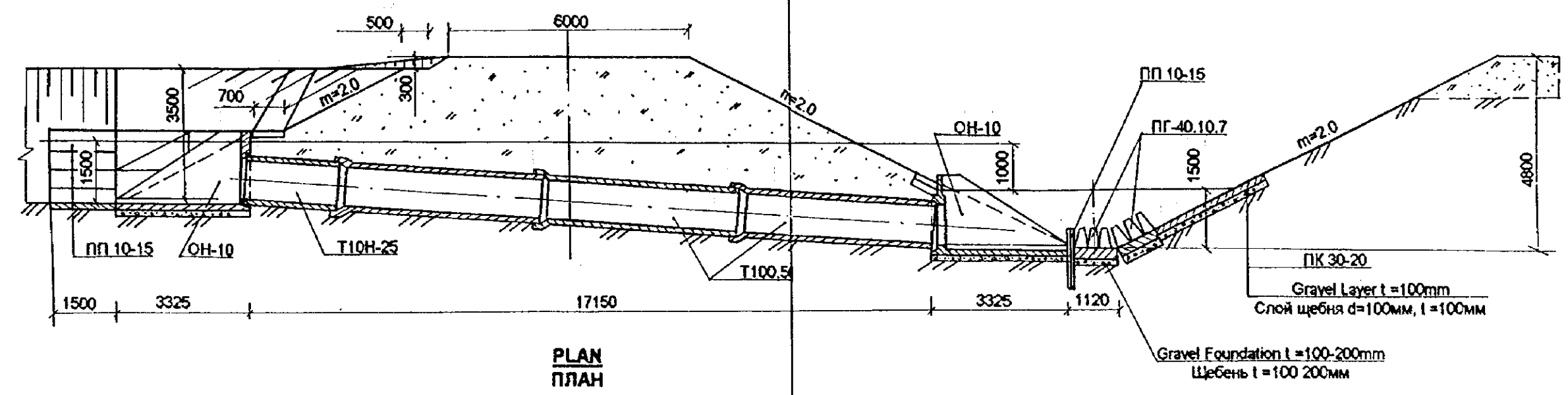
PROPOSED	WATER SURFACE ELEVATION
	113.82
EXISTING CONDITIONS	CANAL BANK ELE.(LEFT)
	113.39
EXISTING CONDITIONS	CANAL BANK ELE.(RIGHT)
	116.13
EXISTING CONDITIONS	GROUND SURFACE ELEVATION
	114.43
REDUCED DISTANCE	0
DISTANCE	0
STATION NO.	0

THE REPUBLIC OF KAZAKSTAN
 STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
 TITLE OF DRAWING
 PROFILE OF FIELD COLLECTOR
 CK-11-6-4 & CK-11-6-2-2
 JAPAN INTERNATIONAL COOPERATION AGENCY

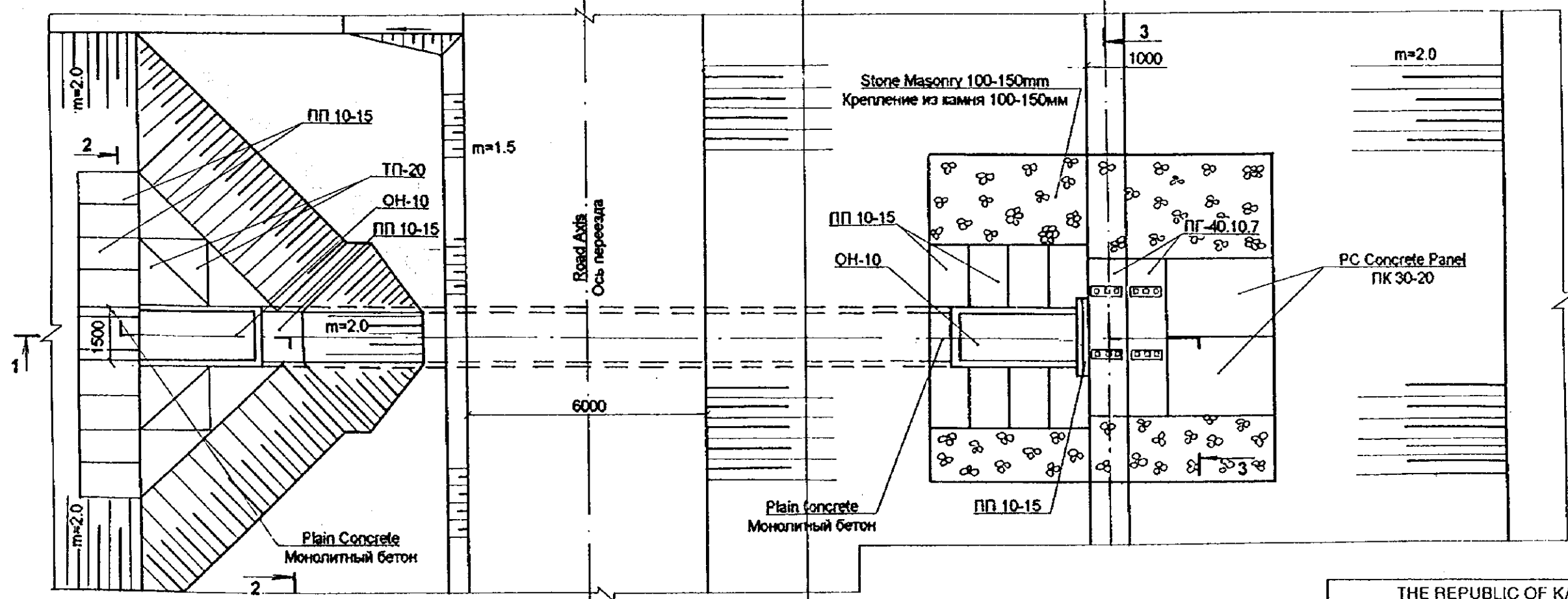


THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
BOX CULVERT ON NORTH MAIN COLLECTOR (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

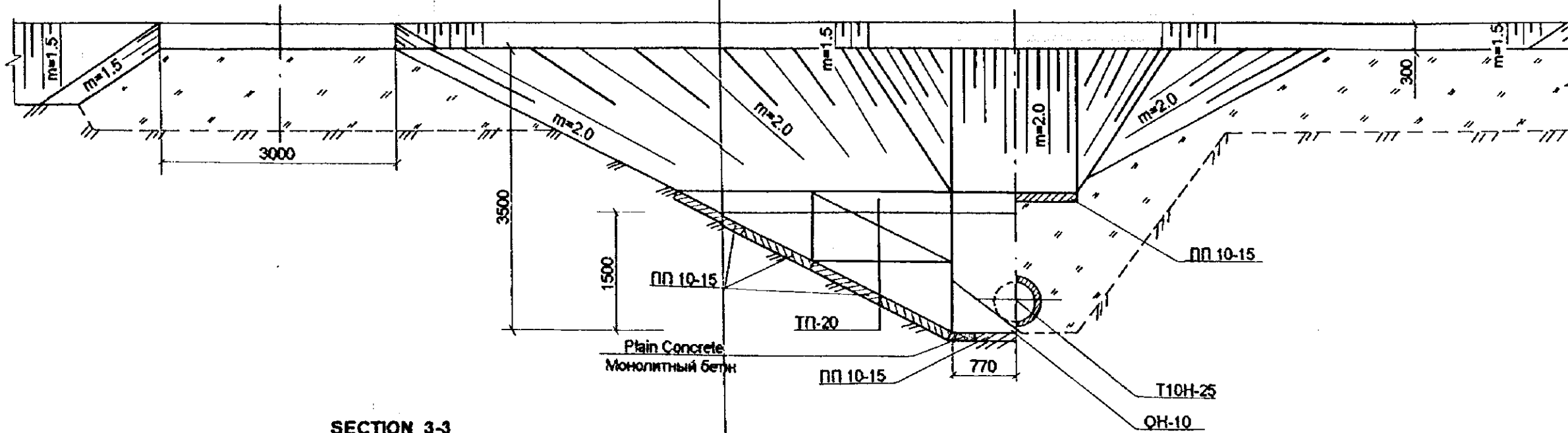
SECTION 1-1
РАЗРЕЗ 1-1



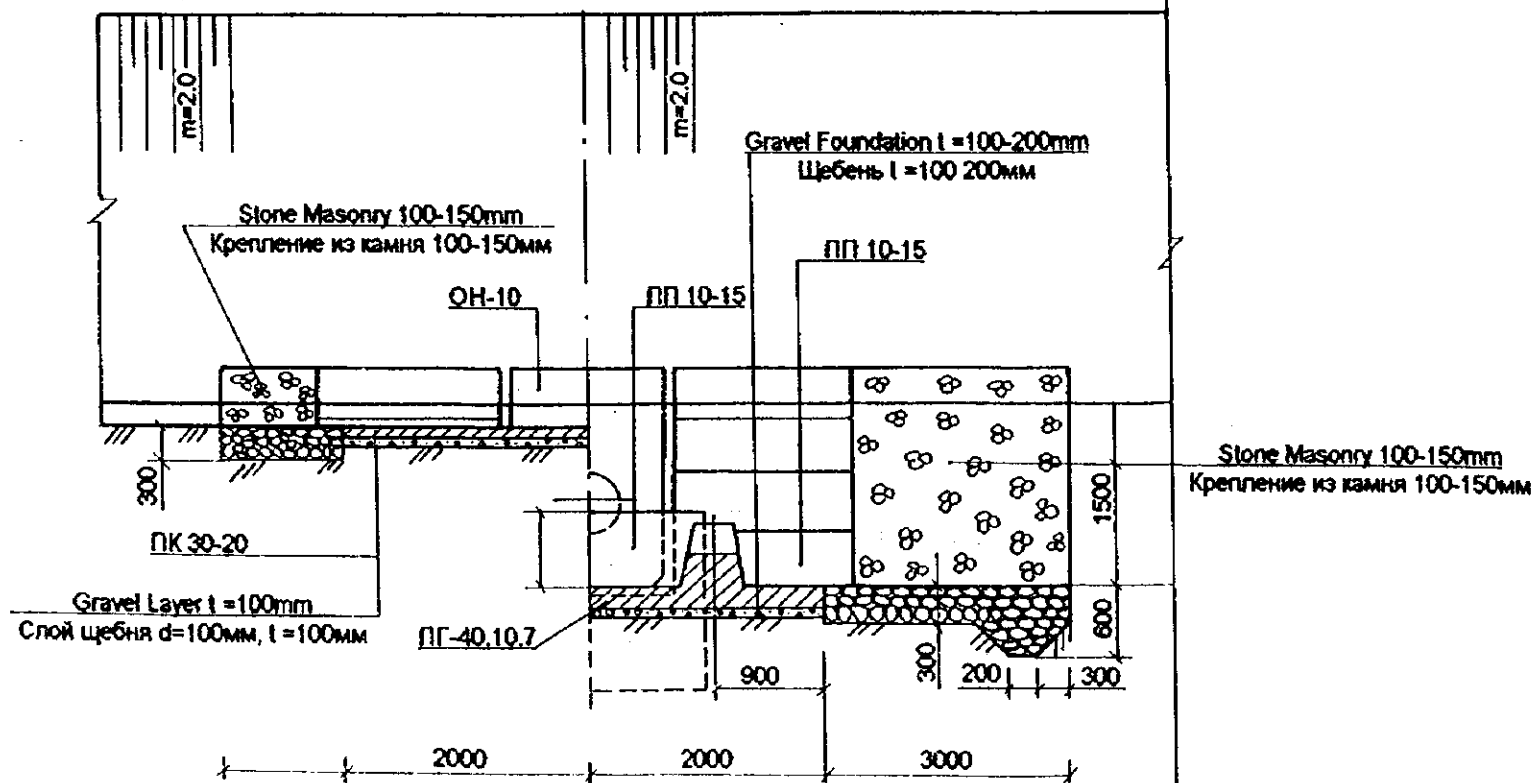
ПЛАН
ПЛАН



THE REPUBLIC OF KAZAKSTAN
 STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
 AND WATER MANAGEMENT PROJECT
 TITLE OF DRAWING
 DRAIN INLET ON INTER-FARM COLLECTOR
 (CANAL OUTLET) (1/2)
 JAPAN INTERNATIONAL COOPERATION AGENCY



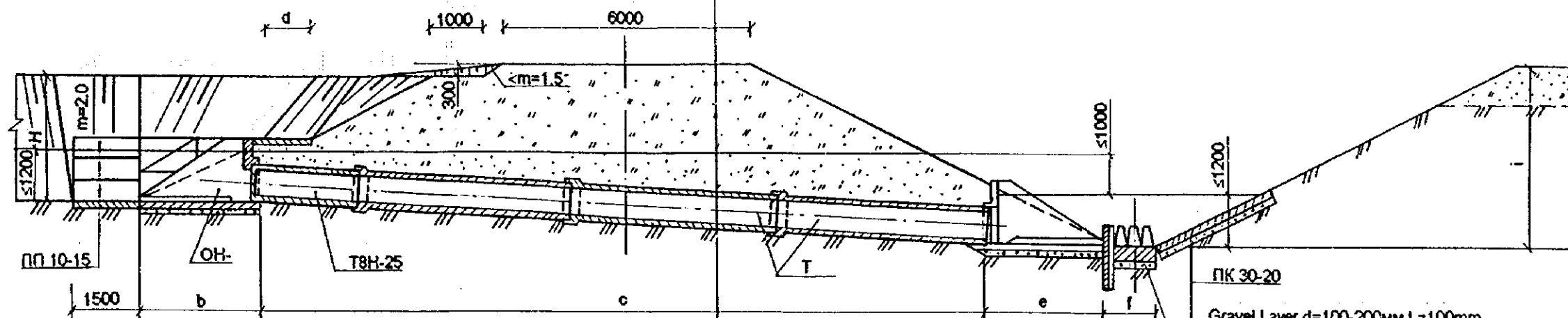
SECTION 3-3
РАЗРЕЗ 3-3



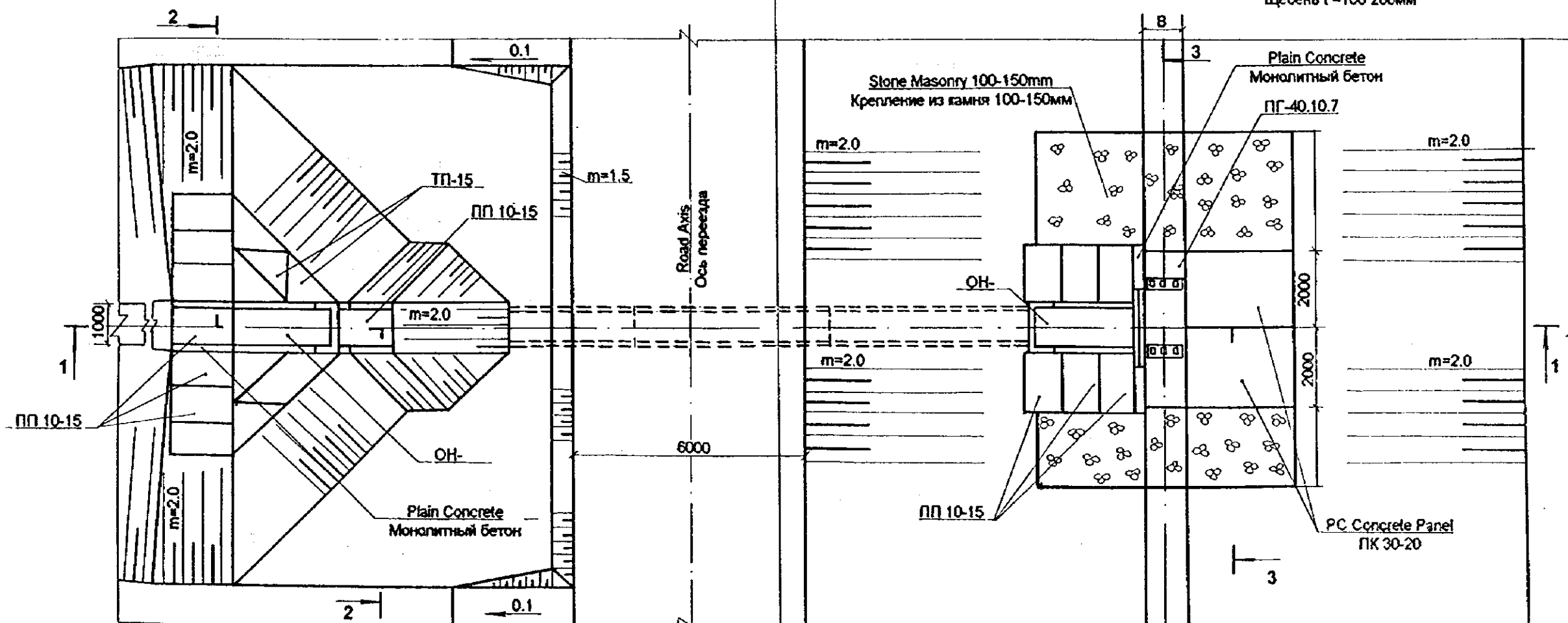
Reinforceconcrete volume - 15.9 m³
Объем железобетона - 15.9 м³

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
DRAIN INLET ON INTER-FARM COLLECTOR (CANAL OUTLET) (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

SECTION 1-1
РАЗРЕЗ 1-1

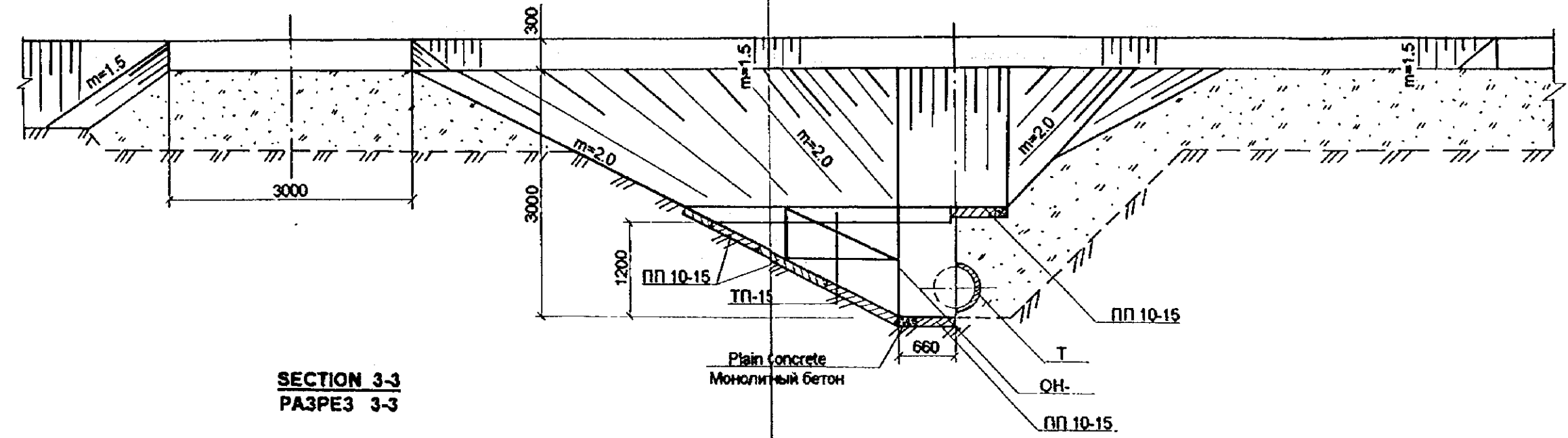


ПЛАН
ПЛАН

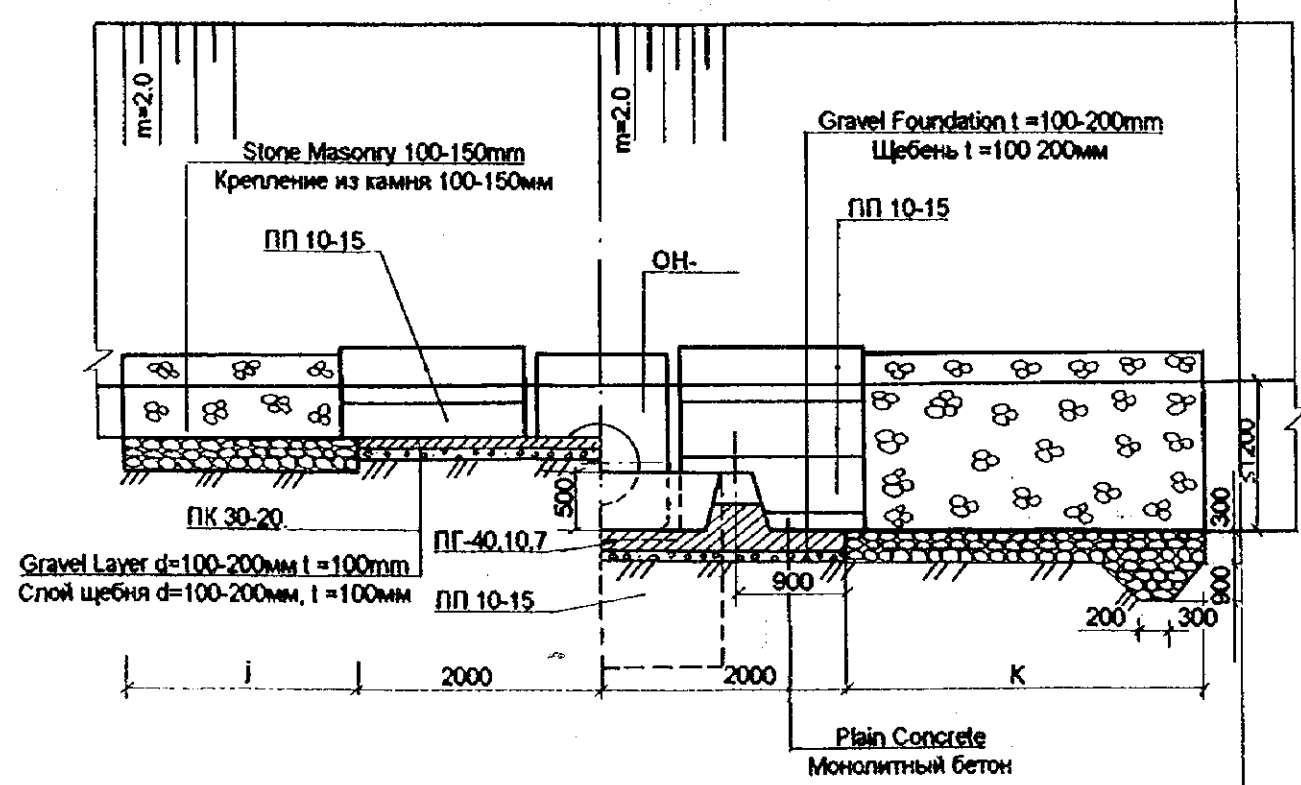


THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
DRAIN INLET ON FIELD COLLECTOR (CANAL OUTLET) (1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

SECTION 2-2
РАЗРЕЗ 2-2



SECTION 3-3
РАЗРЕЗ 3-3



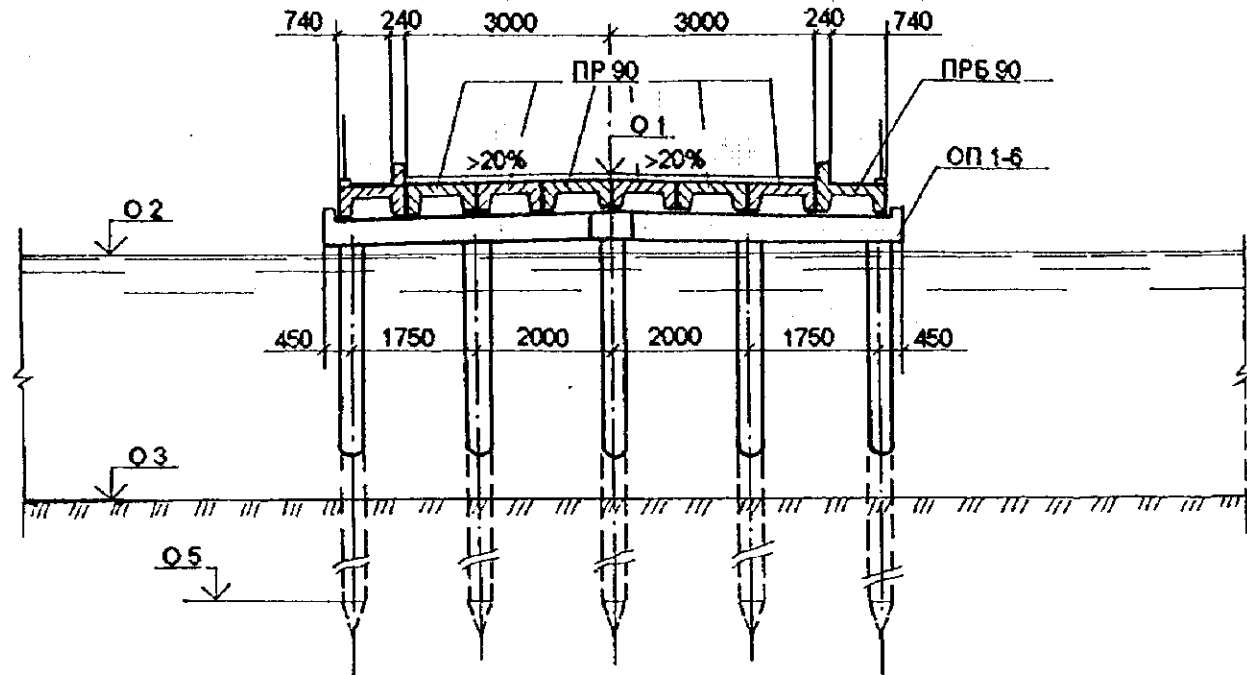
Main parameters and Volume of work for the type of the structures on drainage system
Основные параметры и объемы работ по типам сооружений на коллекторно-сбросной сети

Type of structures Тип сооружения	Main dimensions in mm Основные размеры в мм										Main works Объемы работ Precast reinforced concrete, m ³ Сборный железобетон, м ³
	H	a	b	c	e	f	i	j	K	B	
PTC8-10-60	2800	1500	2785	17200	2785	1120	4300	2000	3000	1500	10,4
PTC8-10-60	2800	1500	2785	14750	2785	1060	3800	1000	2000	1000	9,6
PTC8-10-60	2500	1500	2445	14800	2445	1060	3300	1000	2000	800	7,4

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
DRAIN INLET ON FIELD COLLECTOR (CANAL OUTLET) (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY

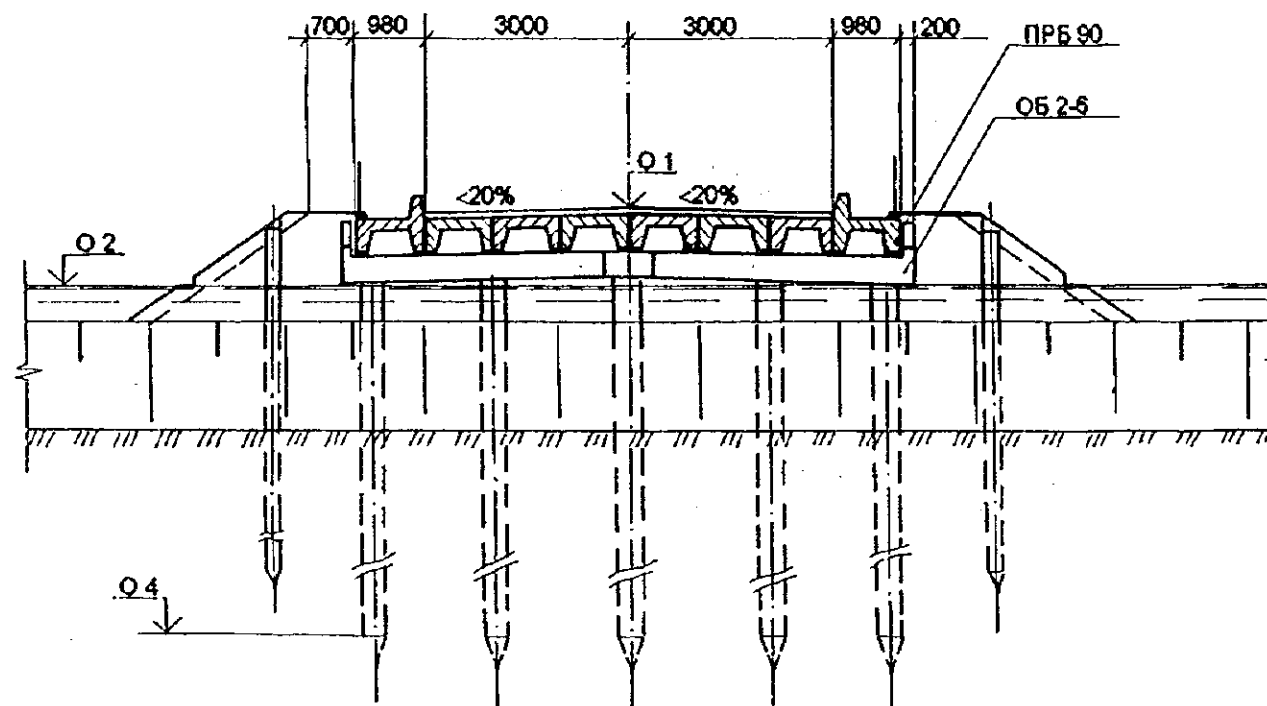
SECTION 2-2
РАЗРЕЗ 2-2

М 30 20 10 0 0,001 0,002 0,003 км



SECTION 3-3
РАЗРЕЗ 3-3

М 30 20 10 0 0,001 0,002 0,003 км



Main Works
Объемы работ

Items of works Наименование работ	Unit Ед.изм.	Total Колич.
1 Precast reinforced concrete Сборный железобетон	м ³	52,3
2 In situ reinforced concrete Монолитный железобетон	м ³	0,7
3 In situ reinforced concrete Монолитный бетон	м ³	1,3

THE REPUBLIC OF KAZAKSTAN
STUDY OF KZYL-ORDA IRRIGATION/DRAINAGE
AND WATER MANAGEMENT PROJECT
TITLE OF DRAWING
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JICA