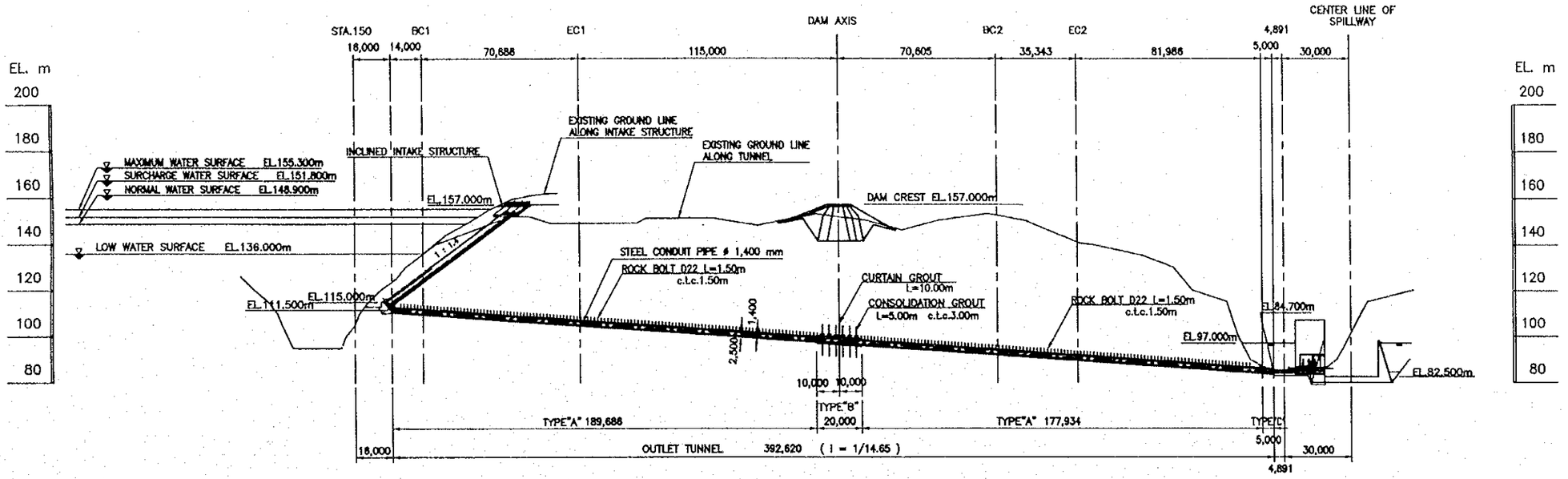
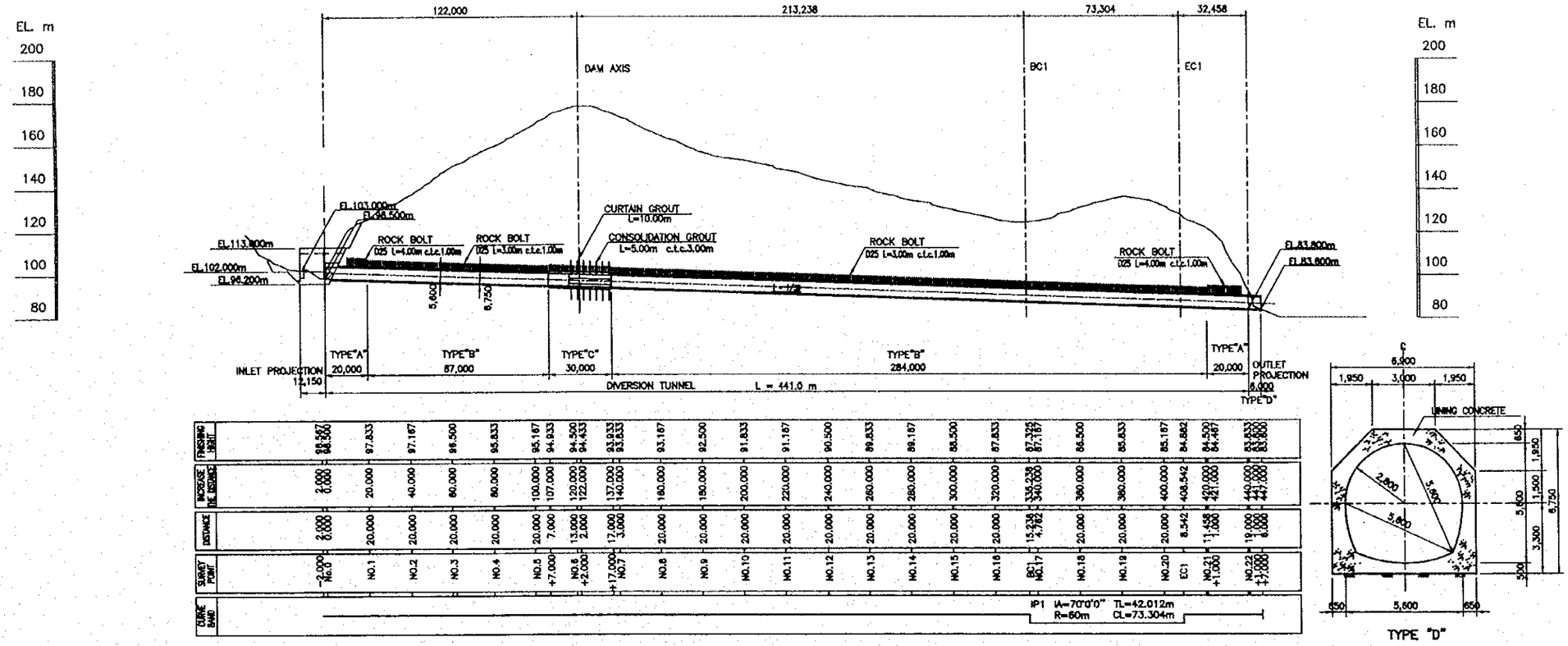
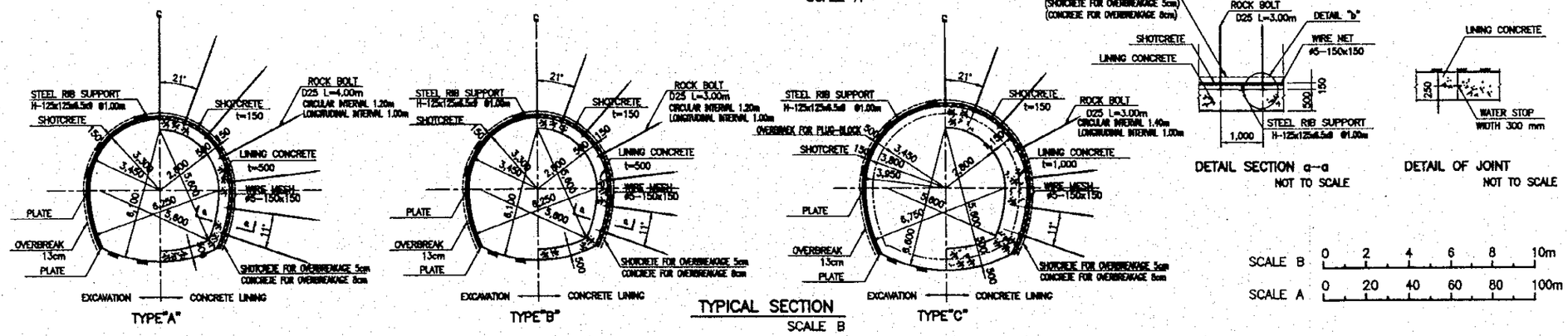
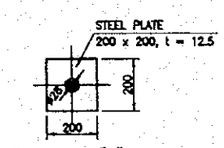

STA.150
BC1
EC1
DAM AXIS
BC2
EC2
CENTER LINE OF SPILLWAY
16,000 14,000 70,688 115,000 70,605 35,343 81,966 4,891 5,000 30,000
EL. m
200
180
160
140
120
100
80
MAXIMUM WATER SURFACE EL.155.300m
SURCHARGE WATER SURFACE EL.151.800m
NORMAL WATER SURFACE EL.148.900m
LOW WATER SURFACE EL.136.000m
INCLINED INTAKE STRUCTURE
EXISTING GROUND LINE ALONG INTAKE STRUCTURE
EXISTING GROUND LINE ALONG TUNNEL
EL.157.000m
DAM CREST EL.157.000m
1:1.5
STEEL CONDUIT PIPE ϕ 1,400 mm
ROCK BOLT D22 L=1.50m c.t.c.1.50m
CURTAIN GROUT L=10.00m
CONSOLIDATION GROUT L=5.00m c.t.c.3.00m
EL.115.000m
EL.111.500m
2,500
1,400
EL.84.700m
EL.97.000m
EL.82.500m
10,000 10,000
TYPE"B" 20,000
TYPE"A" 189,686
TYPE"A" 177,934
TYPE"C"
5,000
30,000
16,000
OUTLET TUNNEL 392,620 (I = 1/14.65)
4,891

| | | |



PROFILE
SCALE A

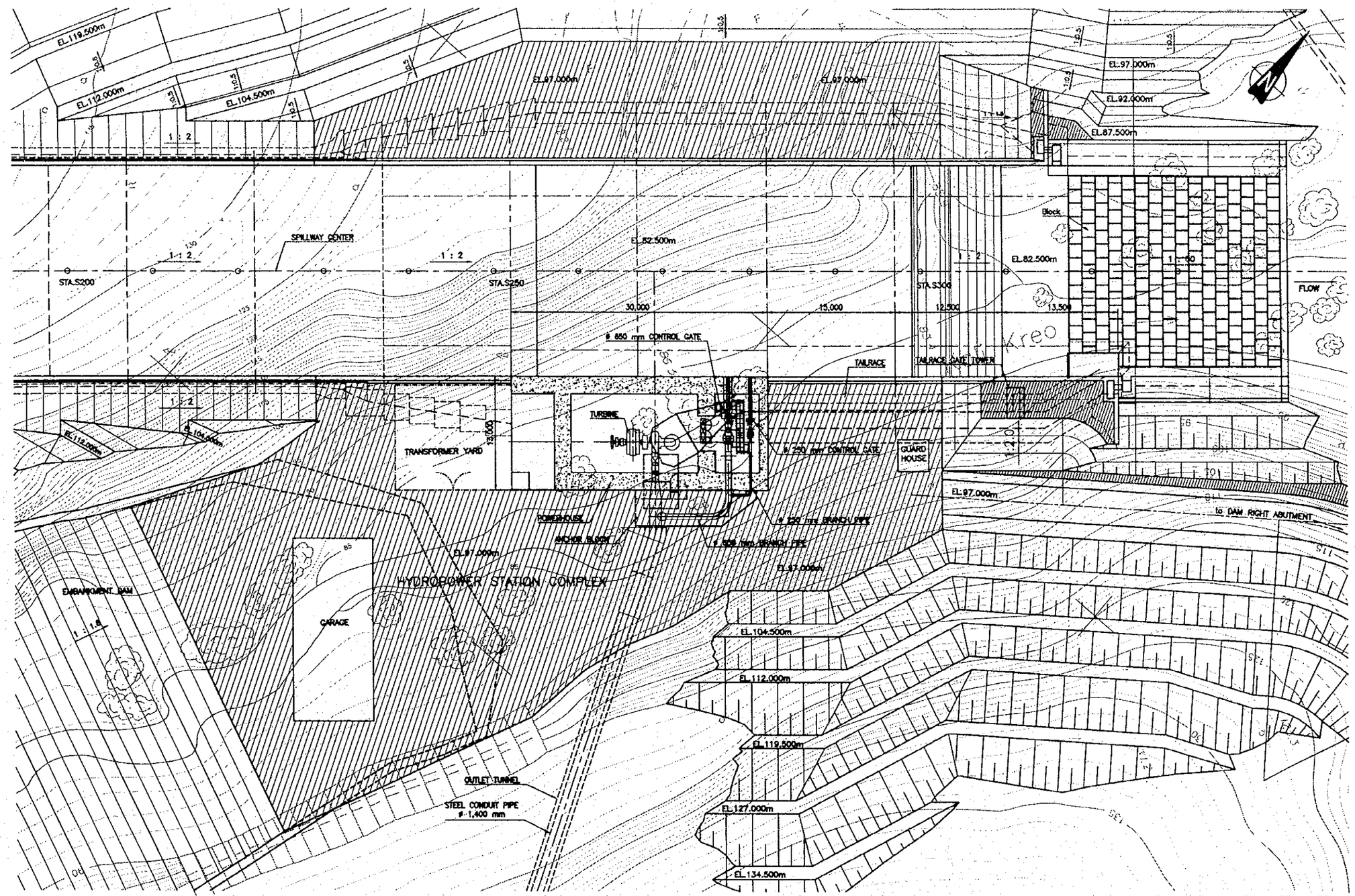




NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. LINING CONCRETE OF DIVERSION TUNNEL SHALL BE OF TYPE A AS PER SPECIFICATION.

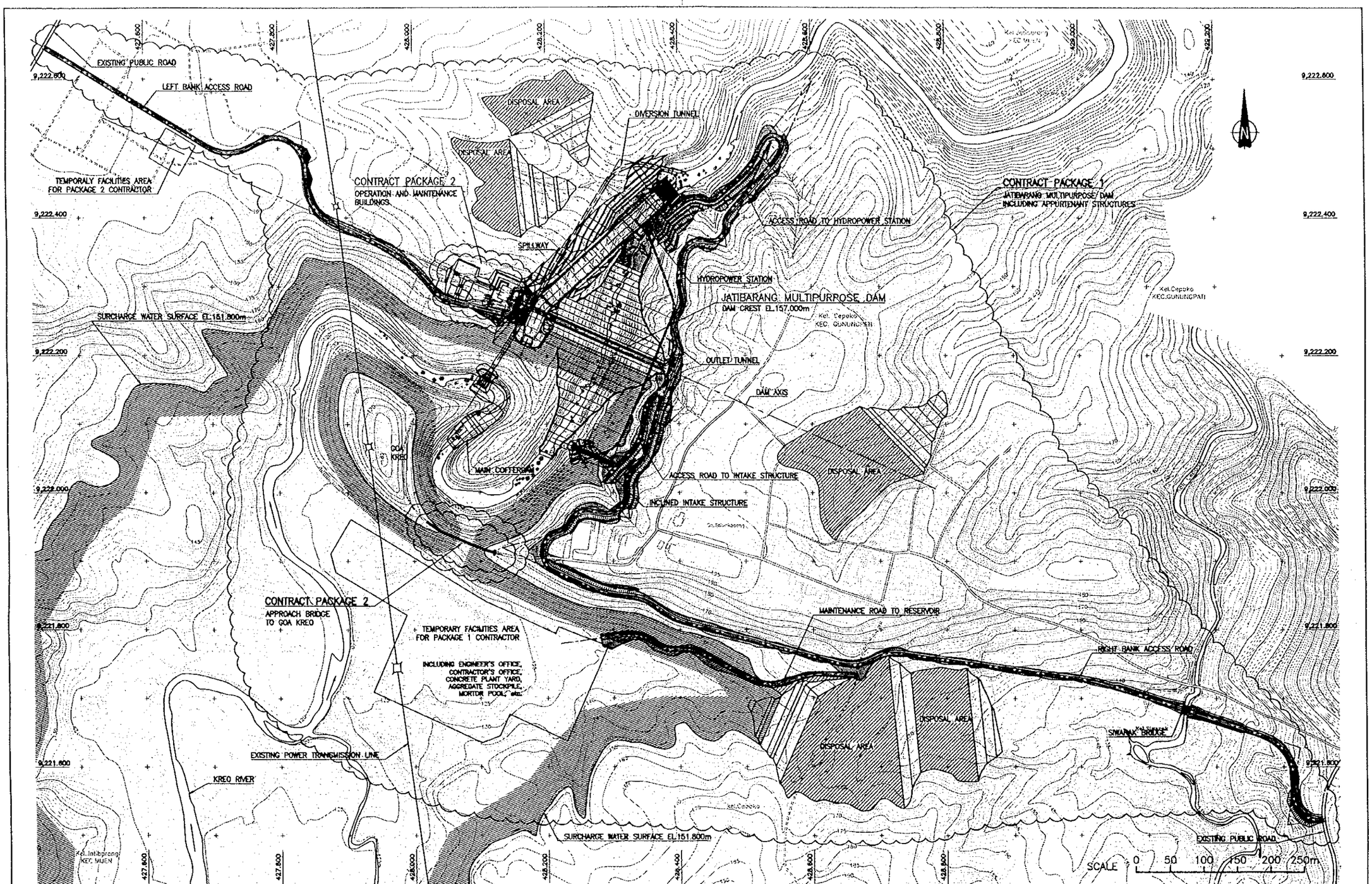
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 4.7 仮排水路トンネル縦断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. CONCRETE OF POWERHOUSE SHALL BE OF TYPE B AS PER SPECIFICATION.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 4.8 発電施設平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



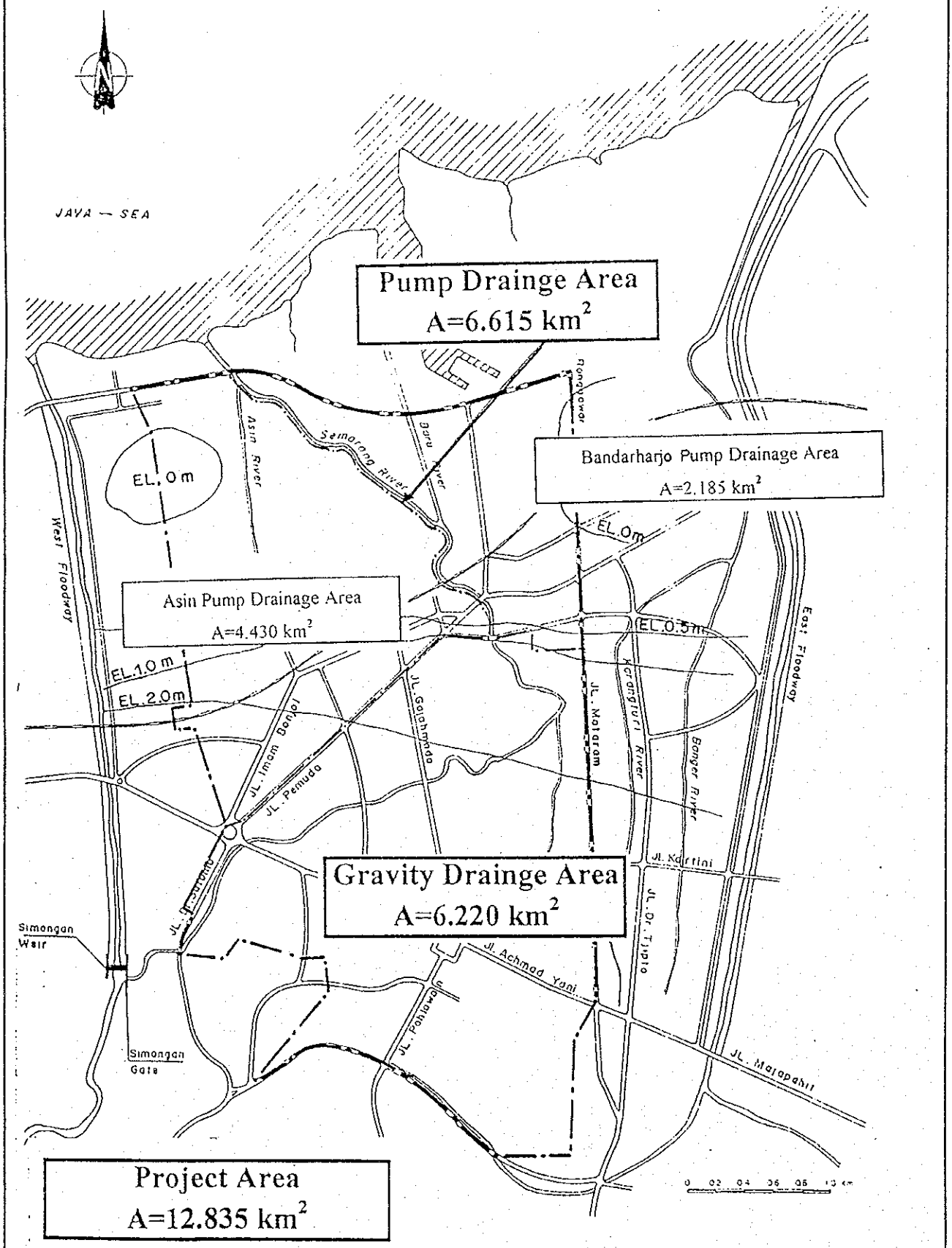
NOTES

1. THE MAJOR WORKS TO BE CARRIED OUT UNDER THE CONTRACT PACKAGE 1 SHALL CONSIST OF, BUT NOT BE LIMITED TO, THE CONSTRUCTION OF JATIBARANG MULTIPURPOSE DAM INCLUDING THE APPURTENANT STRUCTURES SUCH AS SPILLWAY, OUTLET FACILITIES, DIVERSION FACILITIES, HYDROPOWER STATION, ACCESS ROADS AND RELOCATION OF EXISTING POWER TRANSMISSION LINE.
2. THE MAJOR WORKS TO BE CARRIED OUT UNDER THE CONTRACT PACKAGE 2 SHALL CONSIST OF, BUT NOT BE LIMITED TO, THE CONSTRUCTION OF THE OPERATION AND MAINTENANCE BUILDINGS AND EXTERNAL WORKS IN THE DAM MANAGEMENT COMPLEX, AND THE APPROACH BRIDGE TO GOA KREO.
3. THE EXCAVATION WORKS OF THE DAM MANAGEMENT COMPLEX AREA SHALL BE CARRIED OUT BY THE PACKAGE 1 CONTRACTOR.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

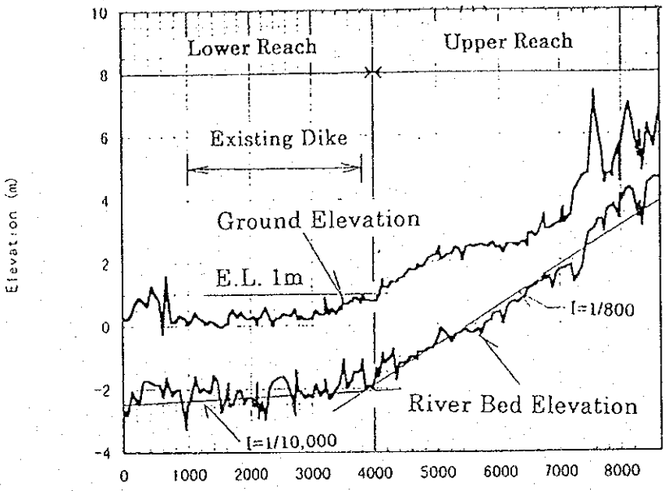
JAPAN INTERNATIONAL COOPERATION AGENCY

図 4.9
ジャティバラン多目的ダム建設パッケージ分割

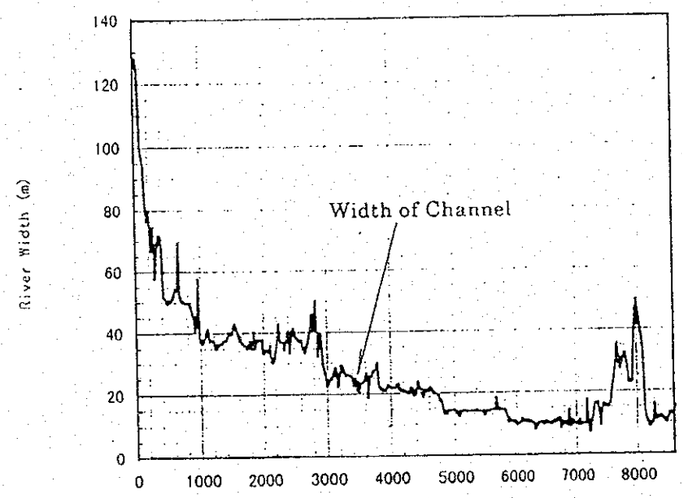


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.1 スマラン市内排水施設改修調査対象地域
JAPAN INTERNATIONAL COOPERATION AGENCY	

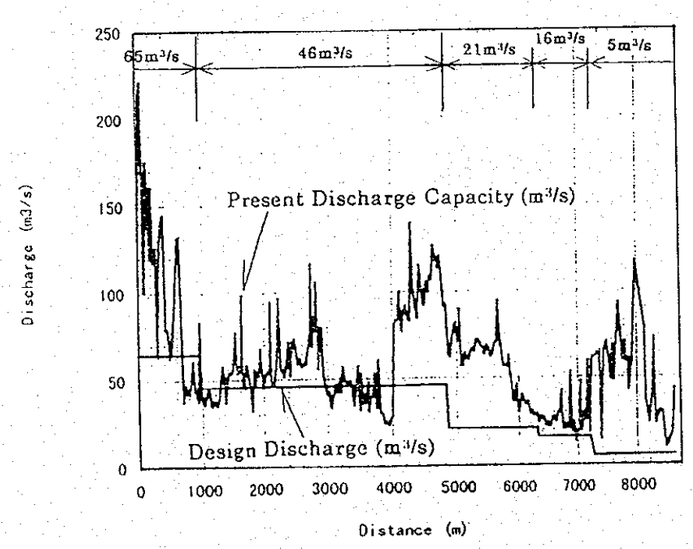
Ground Elevation and River Bed Elevation

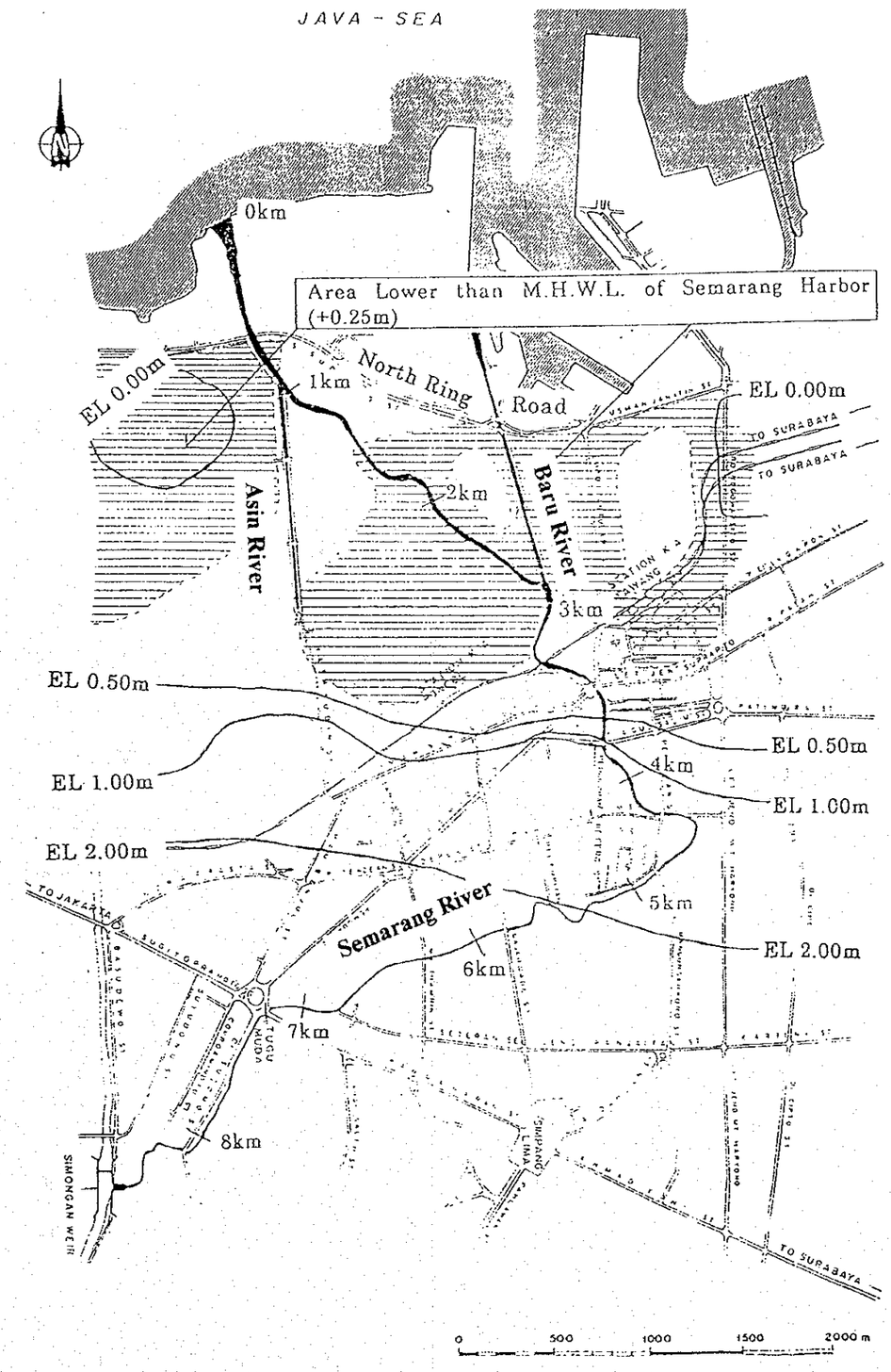


Width

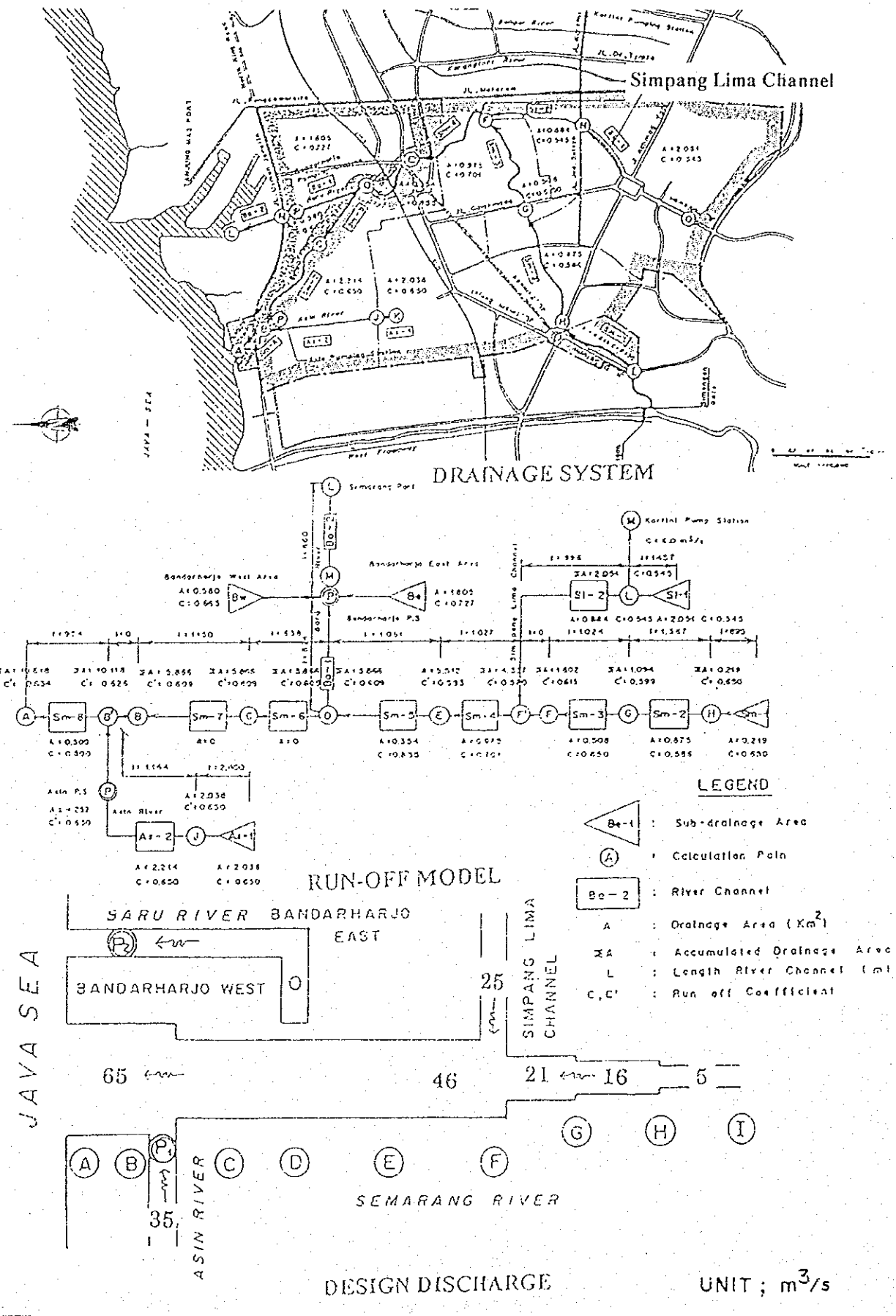


Discharge Capacity

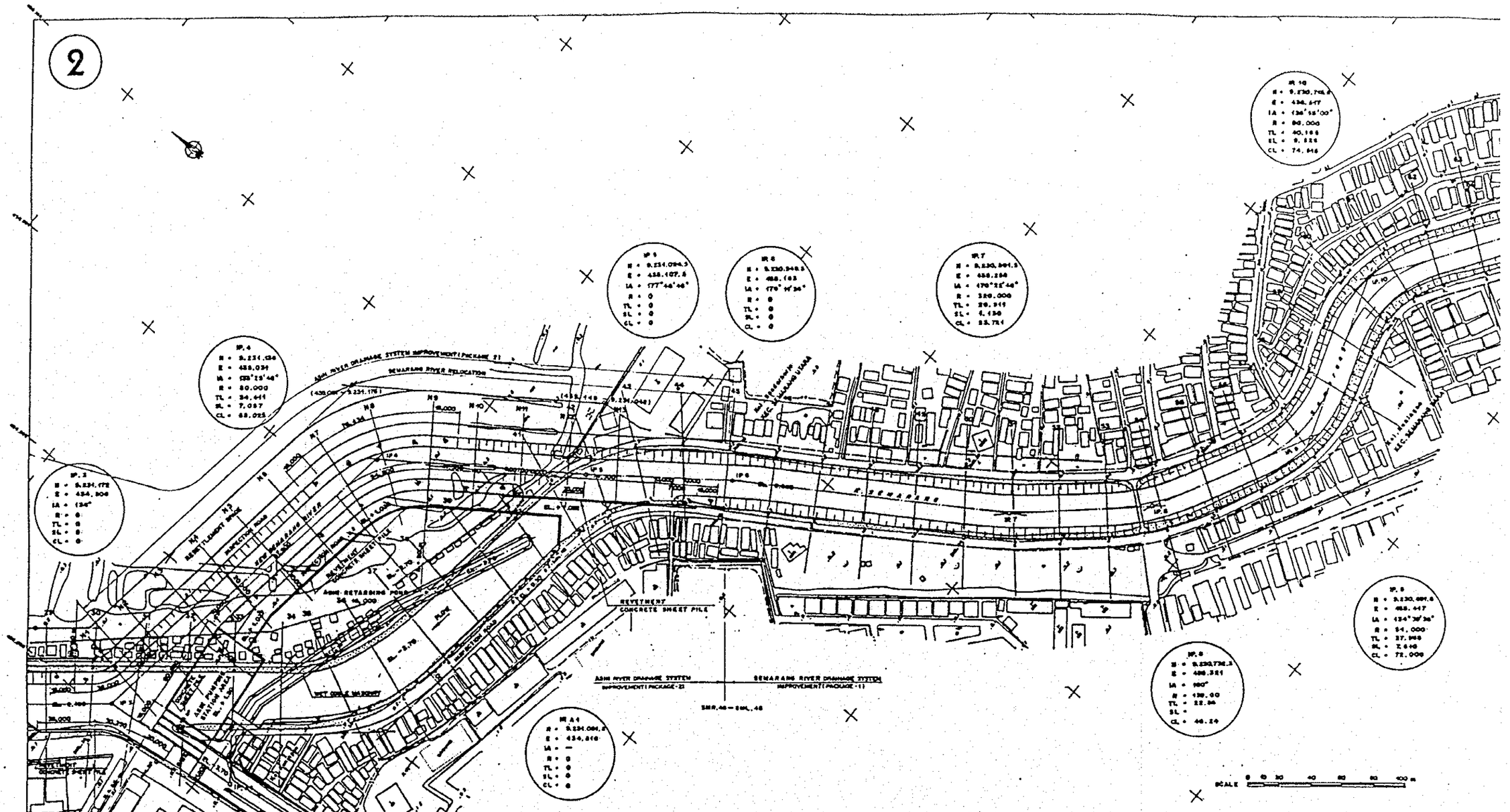




THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.2 スマラン川の特徴と地形概要
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.3 スマラン・バル川の計画流量
JAPAN INTERNATIONAL COOPERATION AGENCY	



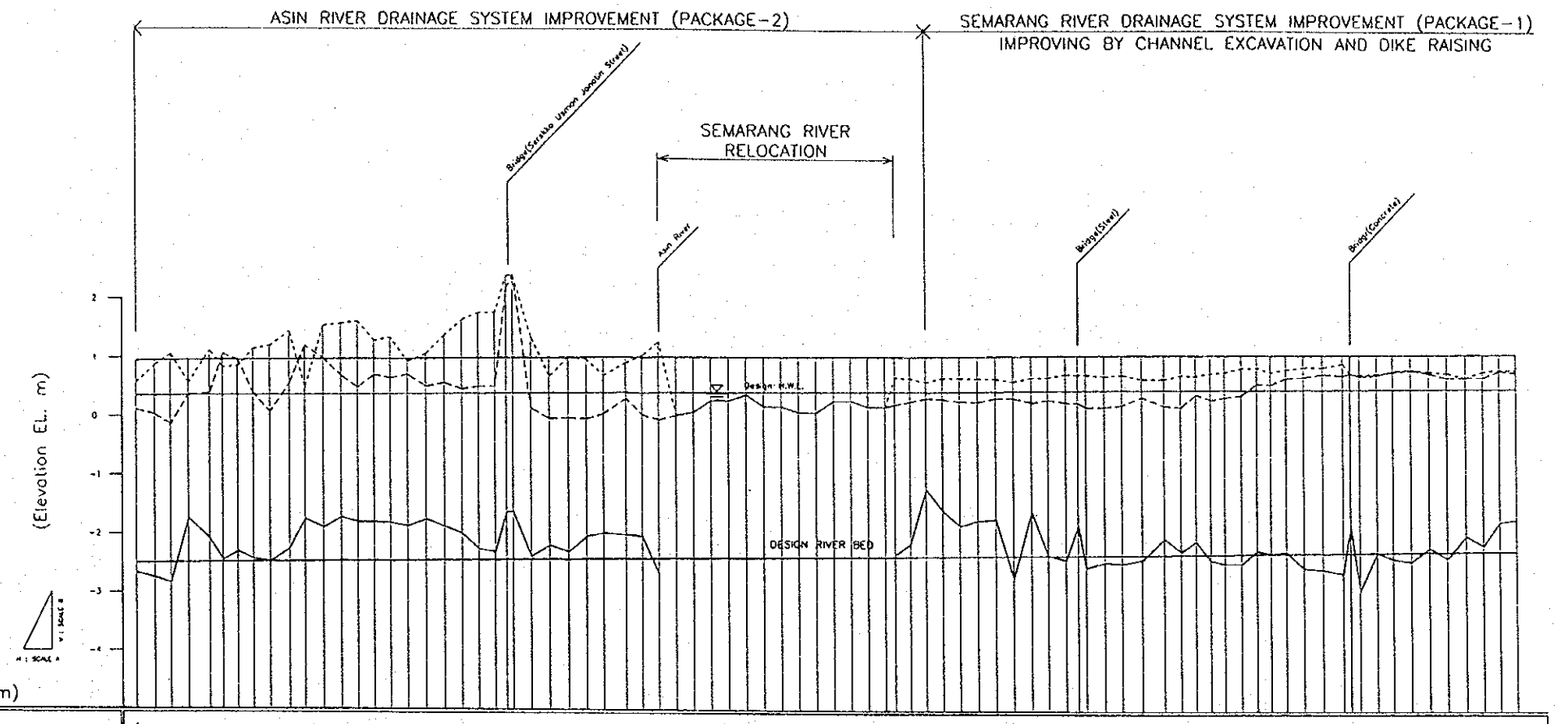
FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SML-30	9,231,172.645	434,784.882	4.386
SML-40	9,231,008.007	438,046.882	0.215
SML-50	9,230,844.128	436,228.466	0.183
SML-60	9,230,689.278	436,302.491	0.379

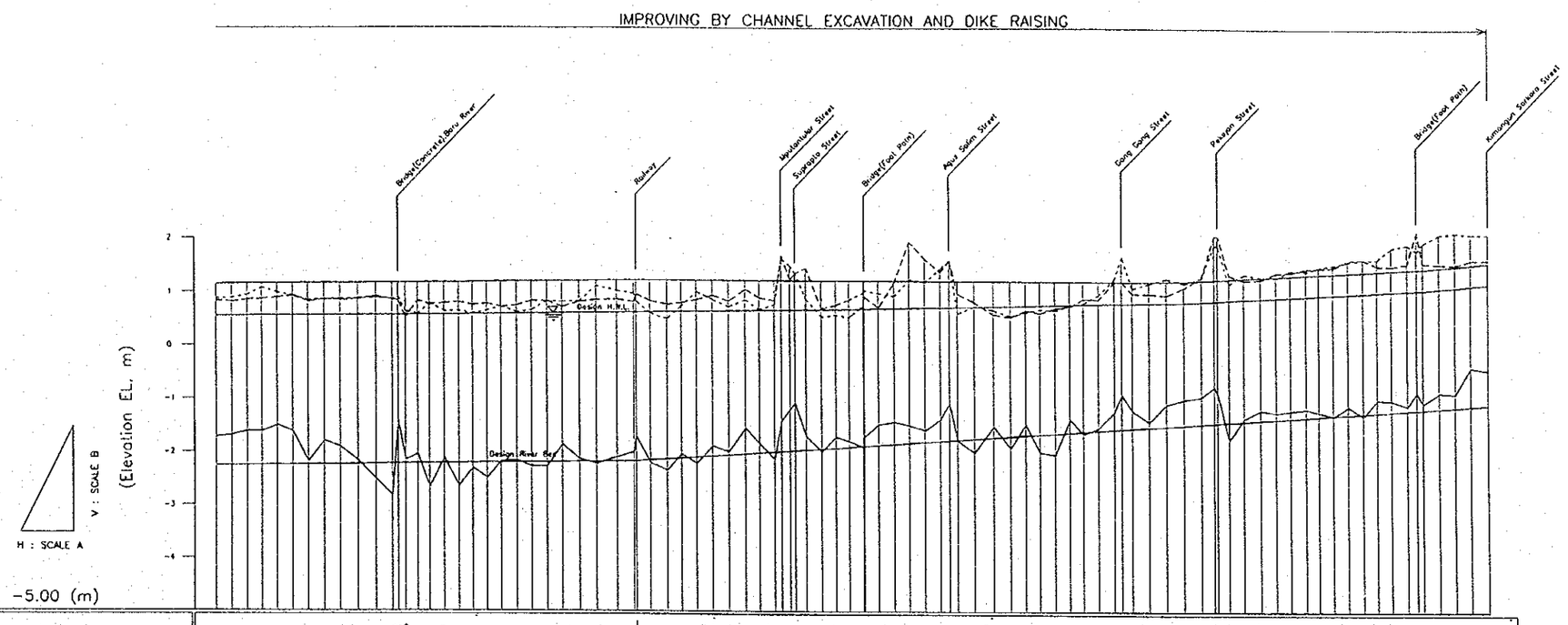
FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SMR-30	9,231,786.239	434,917.849	0.142
SMR-40	9,231,042.932	435,097.932	0.183
SMR-50	9,230,840.272	433,282.980	0.298
SMR-60	9,230,779.544	435,505.521	0.434

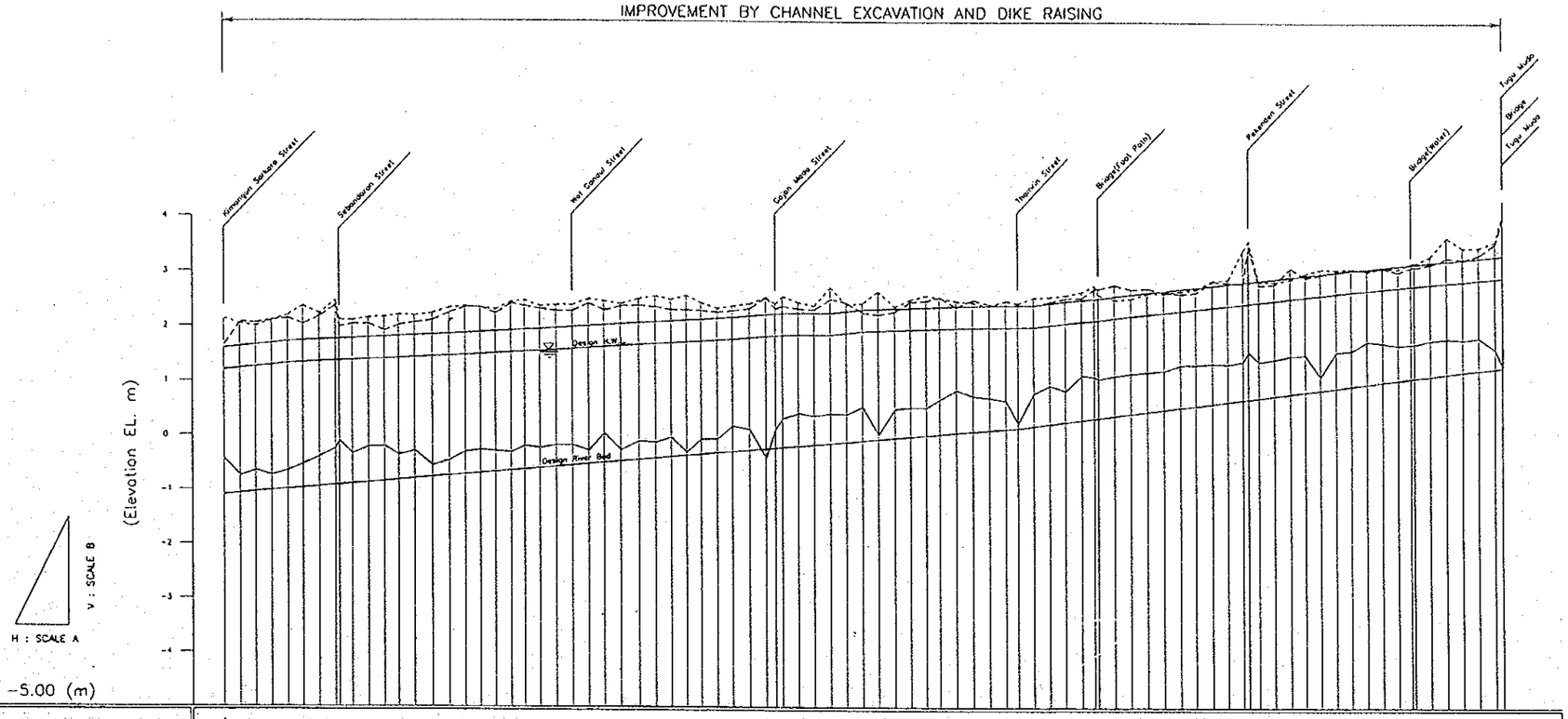
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.4 スマラン川改修における河道移設部分平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	


ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT (PACKAGE-2)
SEMARANG RIVER DRAINAGE SYSTEM IMPROVEMENT (PACKAGE-1)
IMPROVING BY CHANNEL EXCAVATION AND DIKE RAISING
SEMARANG RIVER RELOCATION
Bridge(Semarang Ungaran Junction Street)
Asin River
Bridge(Steel)
Bridge(Concrete)
Design H.W.L.
DESIGN RIVER BED
(Elevation EL. m)
2
1
0
-1
-2
-3
-4
H : SCALE A
V : SCALE B
-5.00 (m)

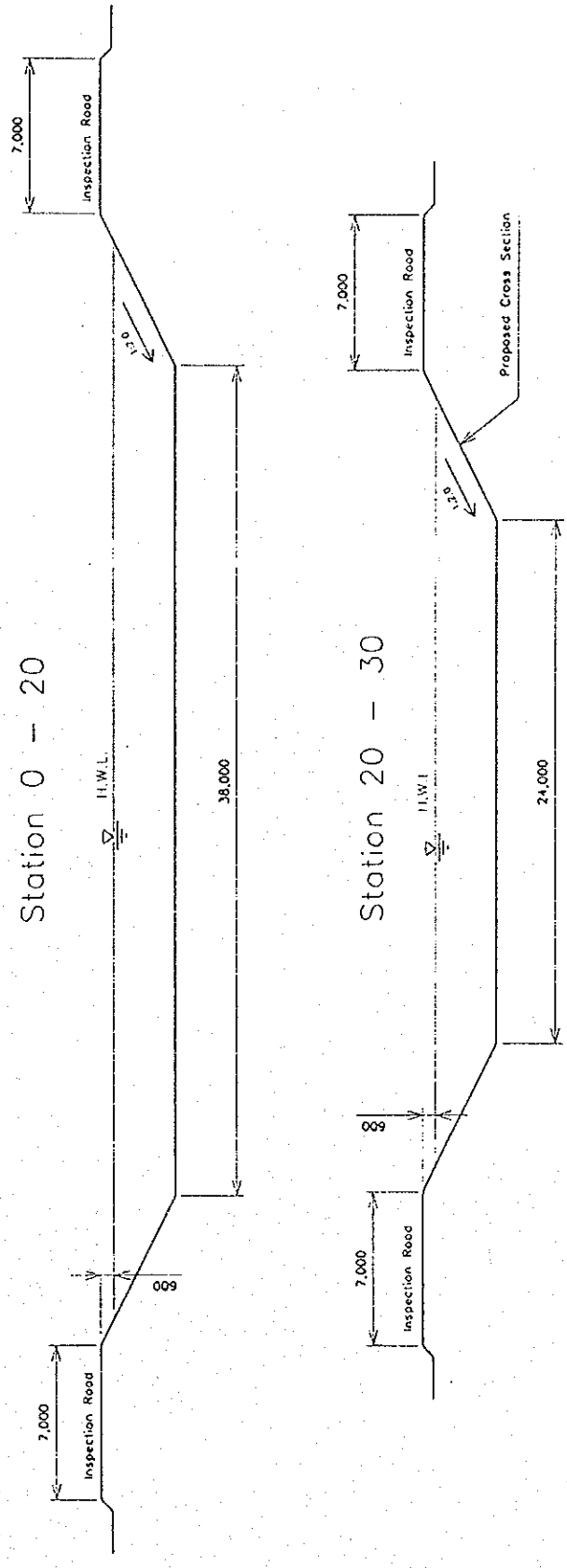
| | | |


IMPROVING BY CHANNEL EXCAVATION AND DIKE RAISING
Bridge(Concrete)/Beru River
Railway
Hyundai Jaya Street
Siliwangi Street
Bridge(Foot Path)
Agus Salim Street
Gang Gang Street
Pasopati Street
Bridge(Foot Path)
Kemuning Sari Lor Street
Design H.W.L.
Design River Bed
(Elevation EL. m)
V : SCALE B
H : SCALE A
-5.00 (m)

| | | |

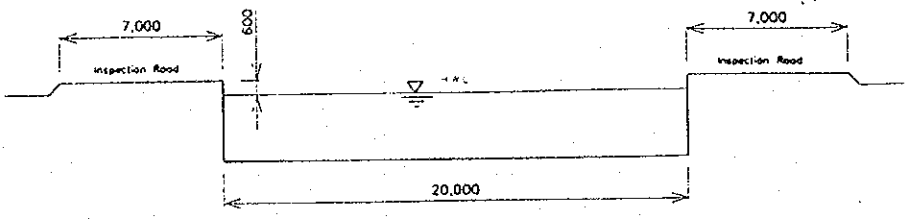

IMPROVEMENT BY CHANNEL EXCAVATION AND DIKE RAISING
Kemijen Sentara Street
Sriwedari Street
Mrican Street
Gajah Mada Street
Thamrin Street
Bridge(Foot Path)
Pemuda Street
Bridge(Railway)
Tugu Muda
Bridge
Tugu Muda
Design H.W.L.
Design River Bed
(Elevation EL. m)
4
3
2
1
0
-1
-2
-3
-4
V : SCALE B
H : SCALE A
-5.00 (m)

| | | |

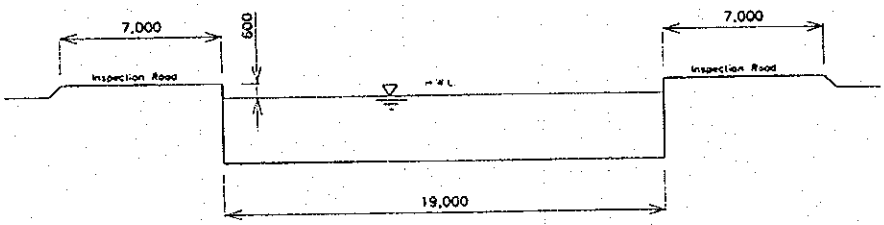


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.6 (1/3) スマラン川計画標準断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	

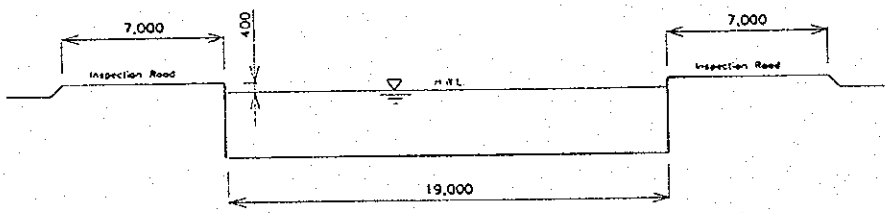
Station 94 – 100



Station 100 – 106+13

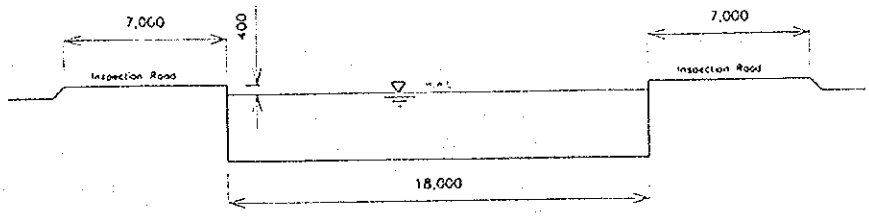


Station 106+13 – 120

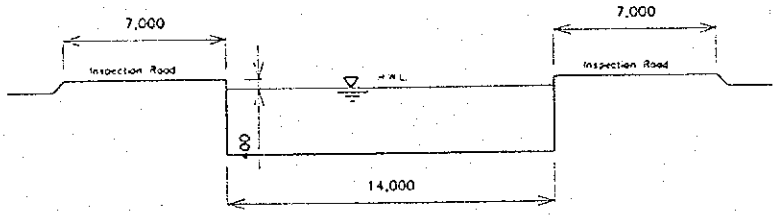


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.6 (2/3) スマラン川計画標準断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	

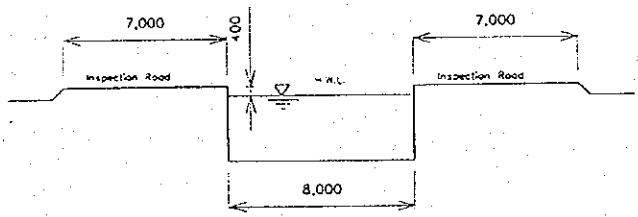
Station 120 - 137+14



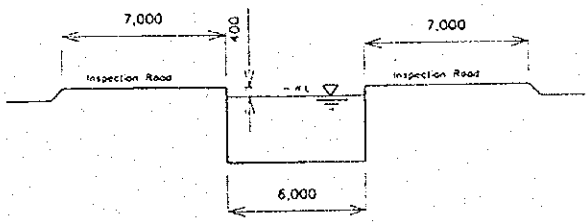
Station 137+14 - 161



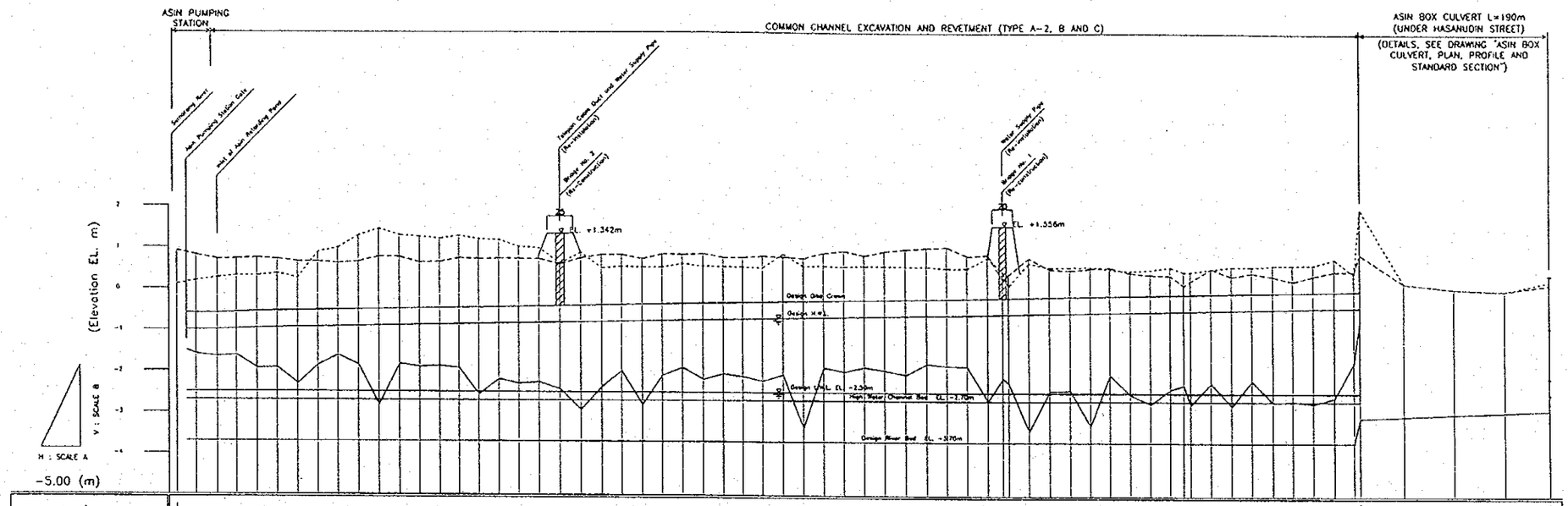
Station 161 - 211



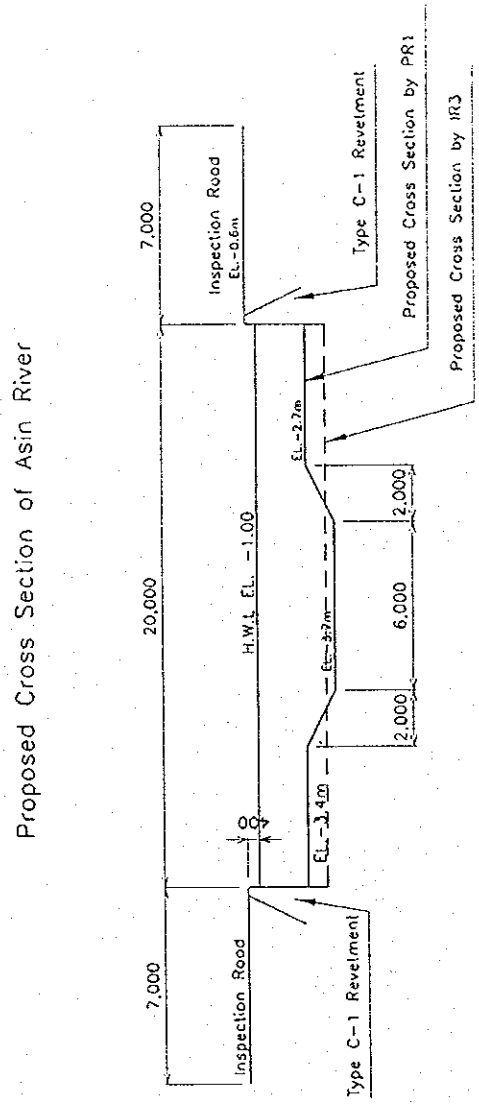
Station 211 - 241+13



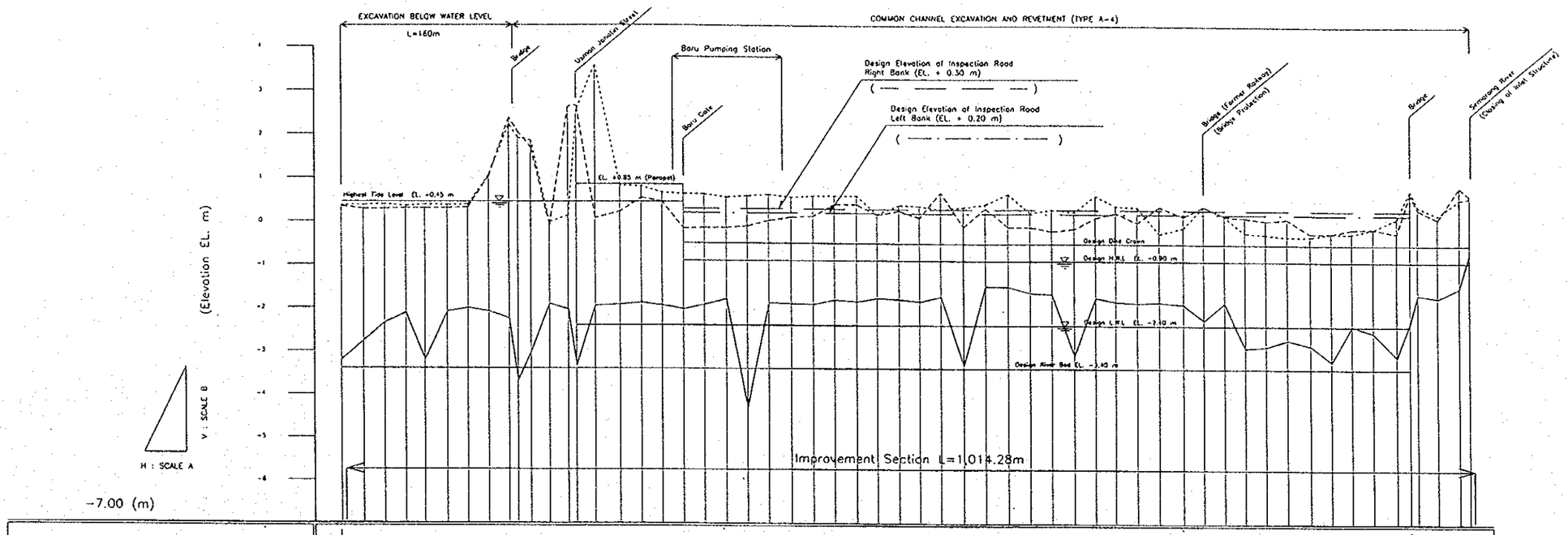
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.6 (3/3) スマラン川計画標準断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	


ASIN PUMPING STATION
COMMON CHANNEL EXCAVATION AND REVETMENT (TYPE A-2, B AND C)
ASIN BOX CULVERT L=190m (UNDER HASANUDIN STREET)
(DETAILS, SEE DRAWING "ASIN BOX CULVERT, PLAN, PROFILE AND STANDARD SECTION")
Screening Room
Main Pumping Station Gate
Inlet of Main Attaching Pump
Tawang Canal Outlet and Water Supply Pipe (Re-installation)
Water No. 2 (Re-installation)
Water Supply Pipe (Re-installation)
Water No. 1 (Re-installation)
EL. +1.342m
EL. +1.556m
Design Dike Crown
Design H.W.L.
Design L.W.L. EL. -2.50m
High Water Channel Bed EL. -2.70m
Design River Bed EL. -3.70m
(Elevation EL. m)
V : SCALE B
H : SCALE A
-5.00 (m)

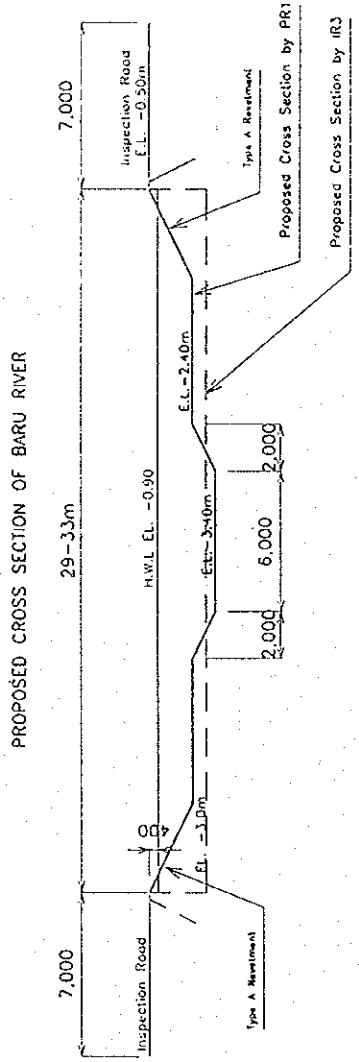
| | | |



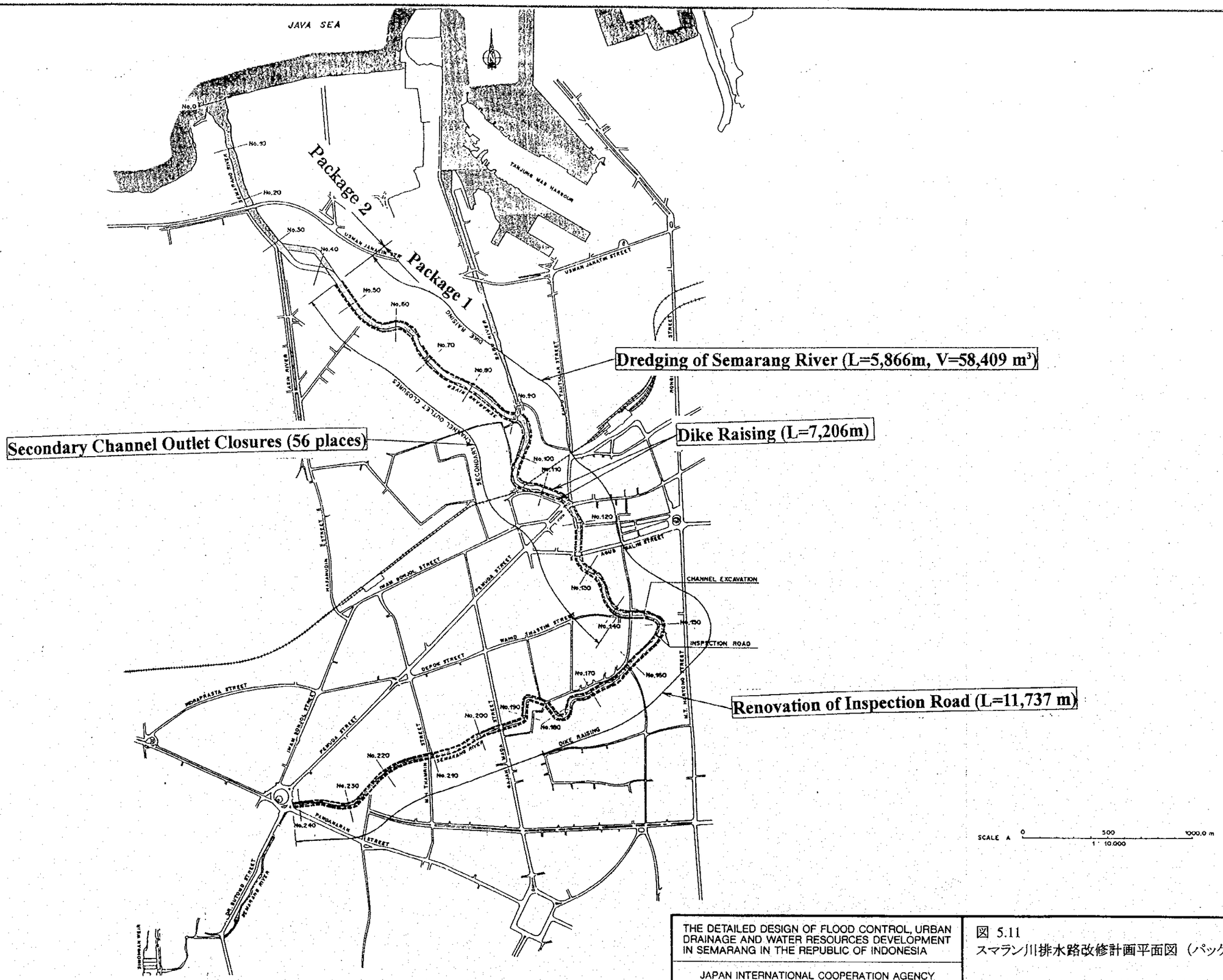
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.8 アシン川計画標準断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	


EXCAVATION BELOW WATER LEVEL
L=160m
COMMON CHANNEL EXCAVATION AND REVETMENT (TYPE A-4)
Bridge
Usaman Jaruhi Street
Baru Pumping Station
Baru Gate
Design Elevation of Inspection Road
Right Bank (EL. + 0.30 m)
Design Elevation of Inspection Road
Left Bank (EL. + 0.20 m)
Bridge (Former Railway)
(Bridge Protection)
Bridge
Semarang River
(Closing of Inlet Structure)
EL. +0.85 m (Parapet)
Highest Tide Level EL. +0.45 m
Design Dike Crown
Design H.W.L EL. -0.90 m
Design L.W.L EL. -2.40 m
Design River Bed EL. -3.40 m
Improvement Section L=1,014.28m
(Elevation EL. m)
V : SCALE B
H : SCALE A
-7.00 (m)

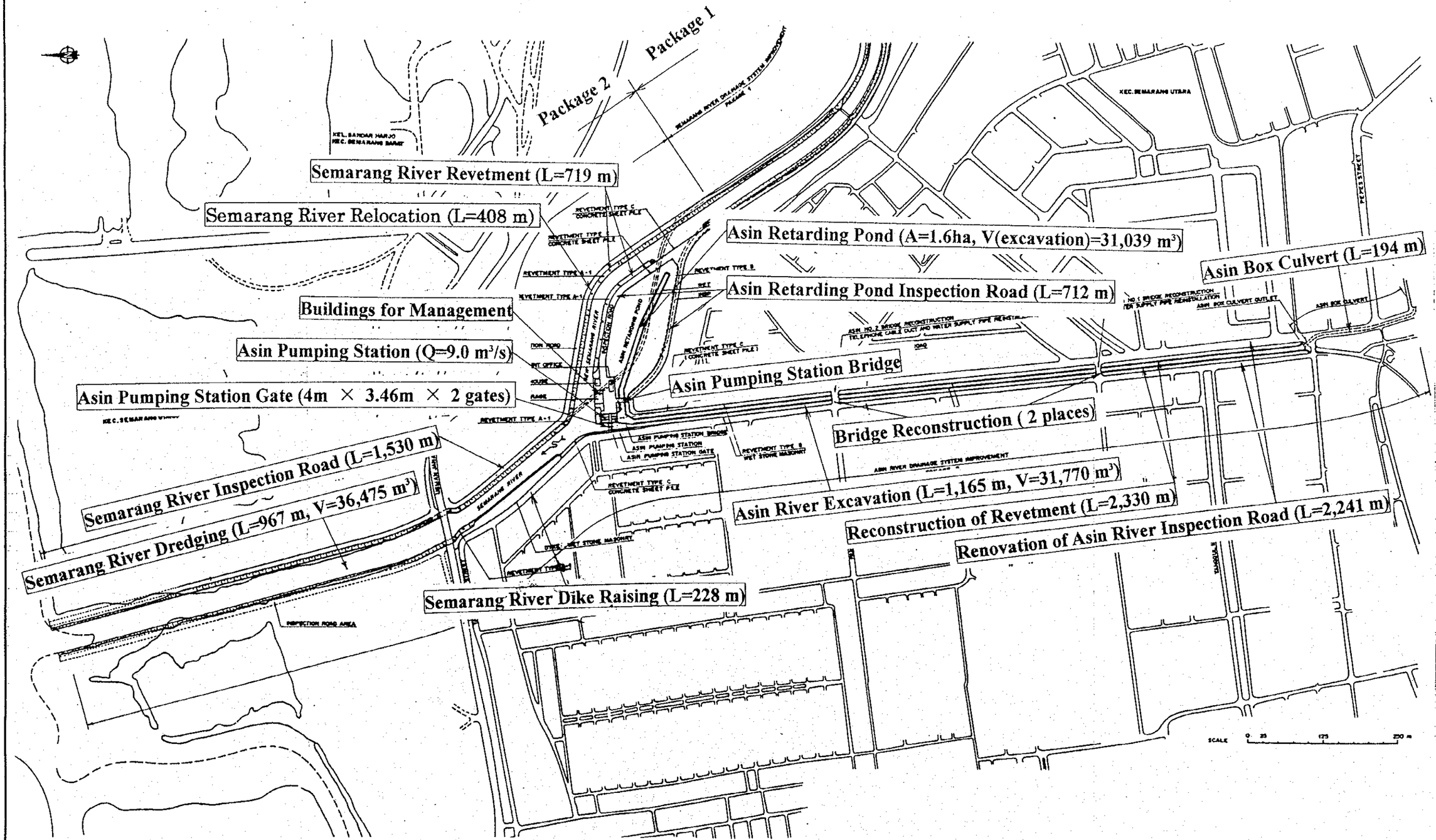
| | | |



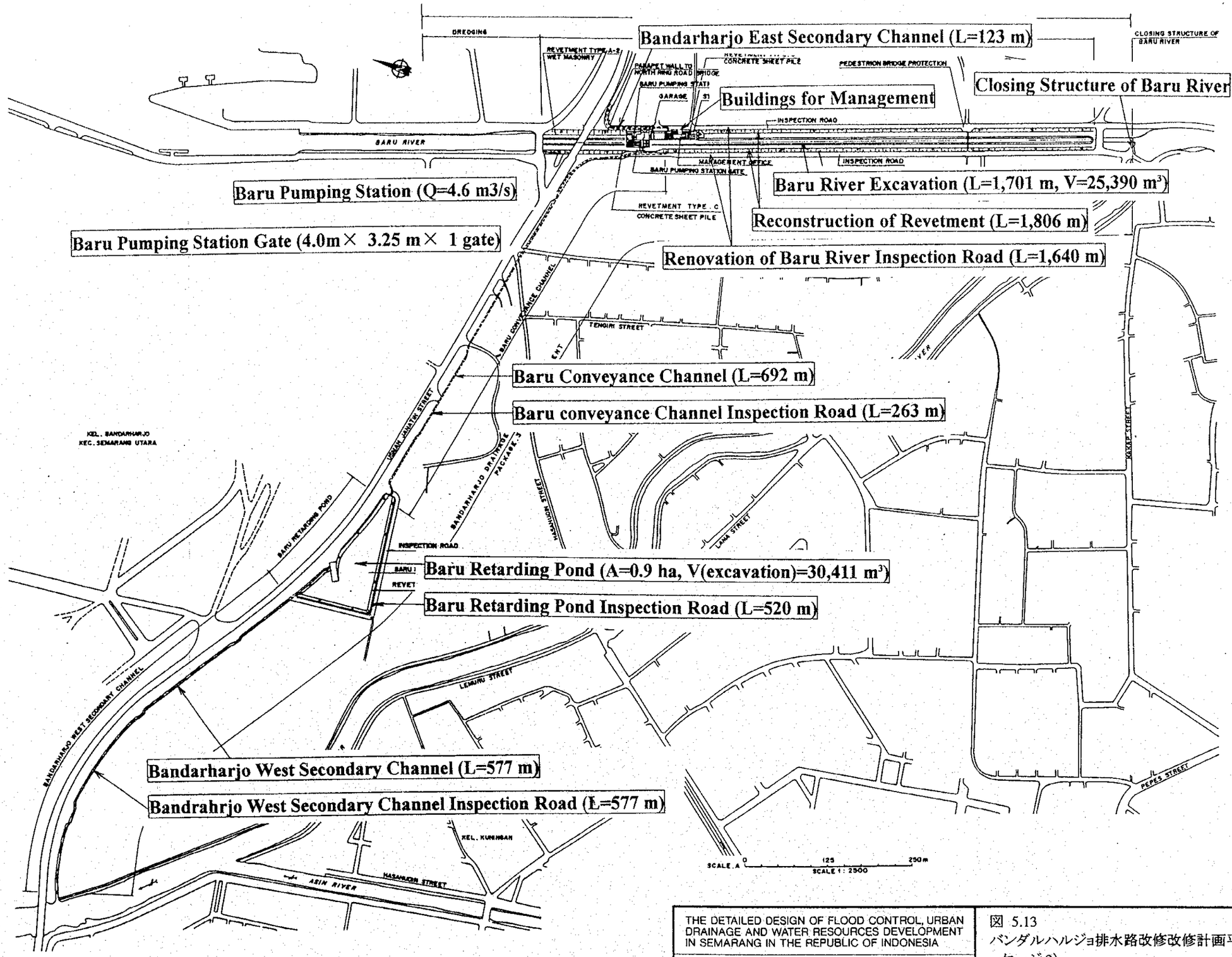
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.10 バル川計画標準断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



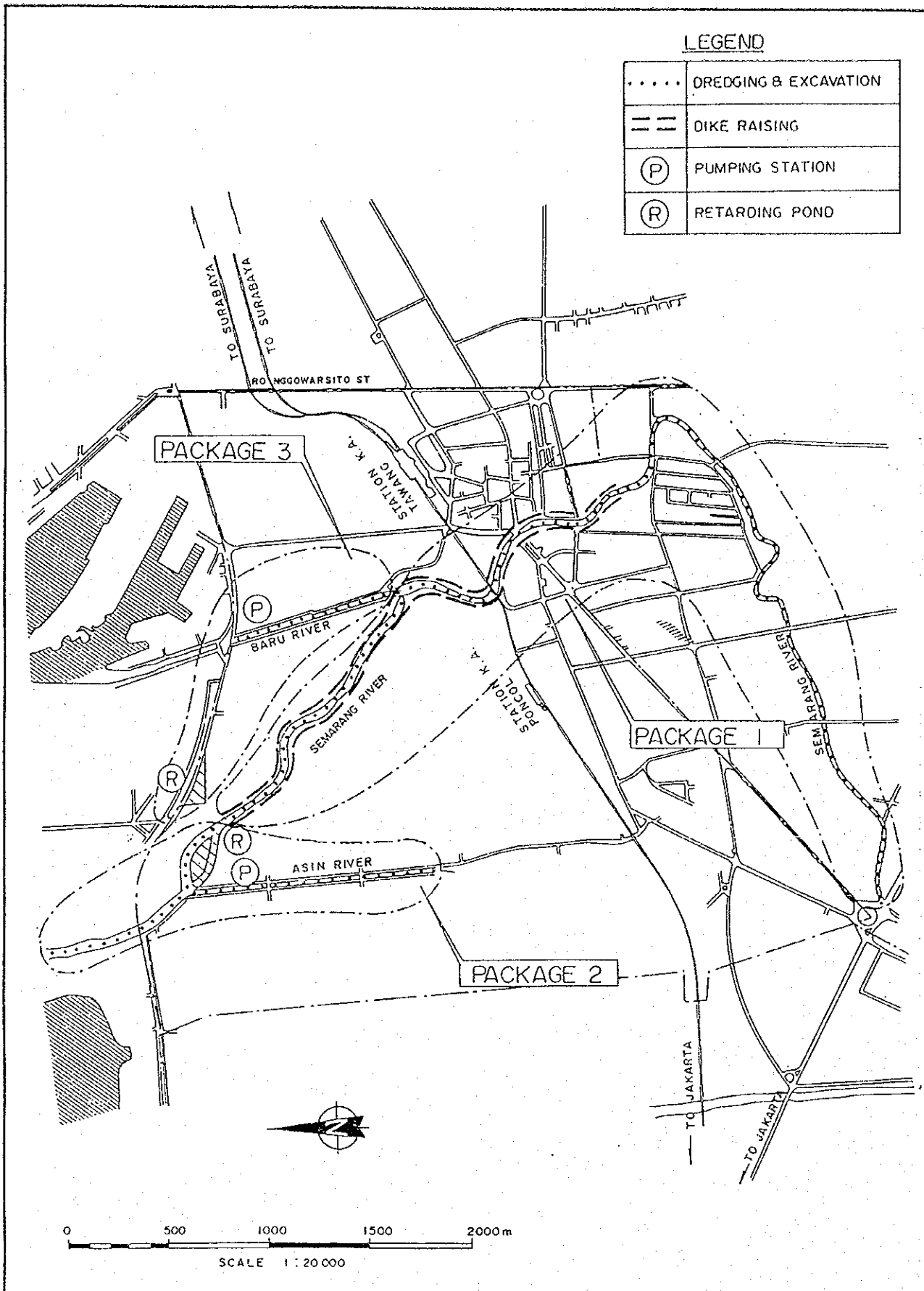
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.11 スマラン川排水路改修計画平面図（パッケージ 1）
JAPAN INTERNATIONAL COOPERATION AGENCY	



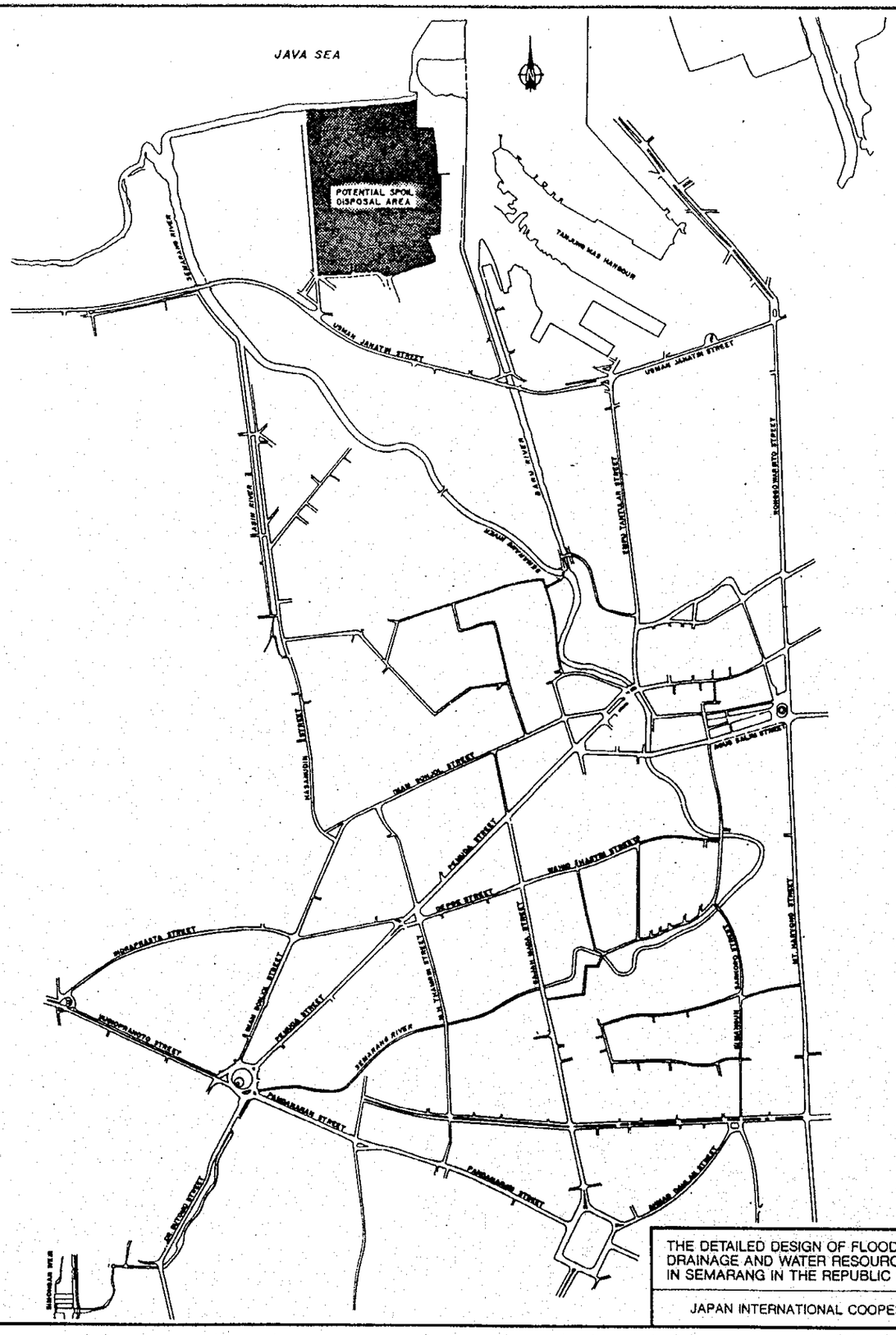
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.12 アシン川排水路改修計画平面図（パッケージ 2）
JAPAN INTERNATIONAL COOPERATION AGENCY	



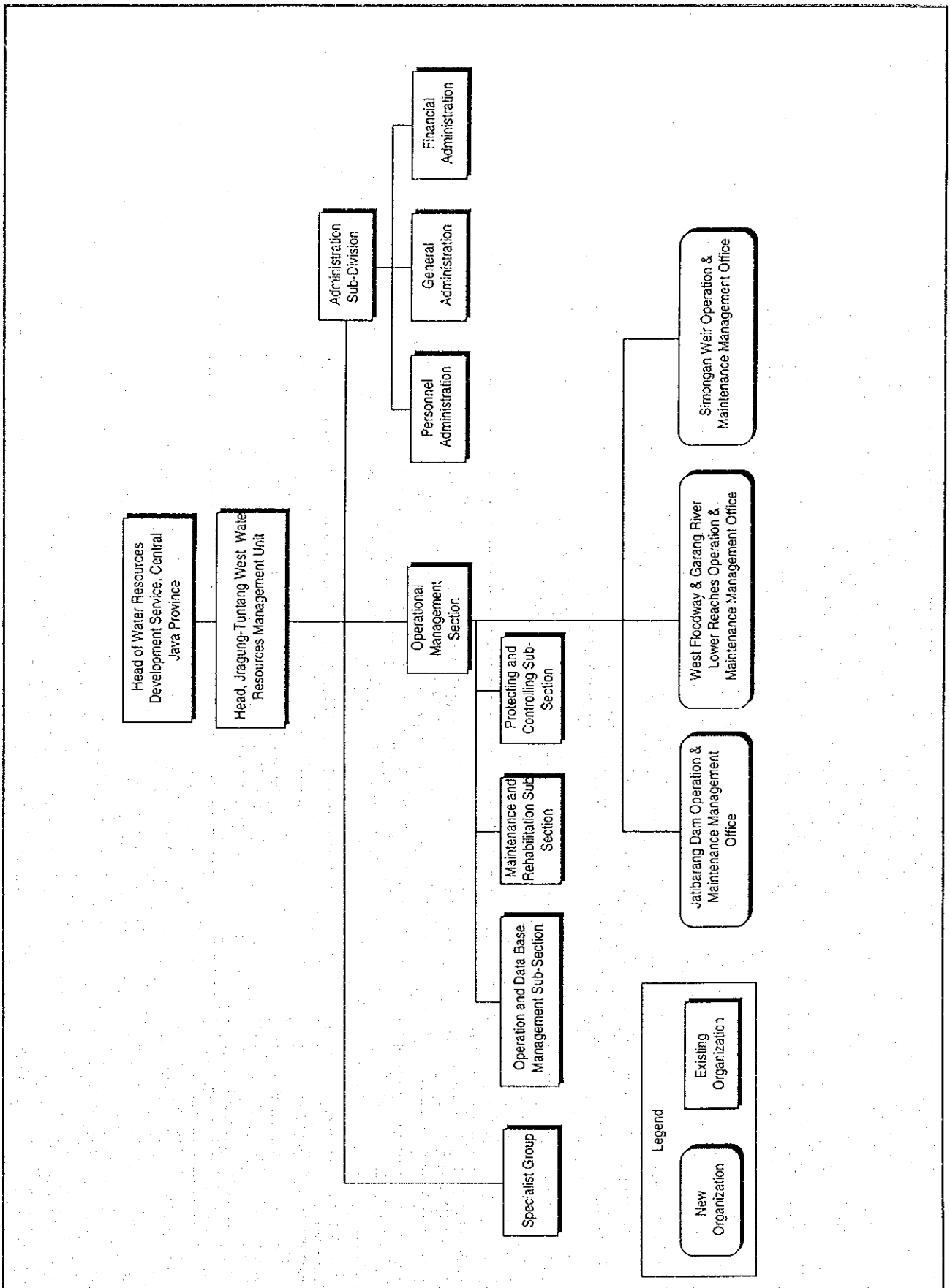
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.13 バンダルハルジョ排水路改修改修計画平面図（パッケージ 3）
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.14 スマラン市内排水施設改修パッケージ分割図
JAPAN INTERNATIONAL COOPERATION AGENCY	



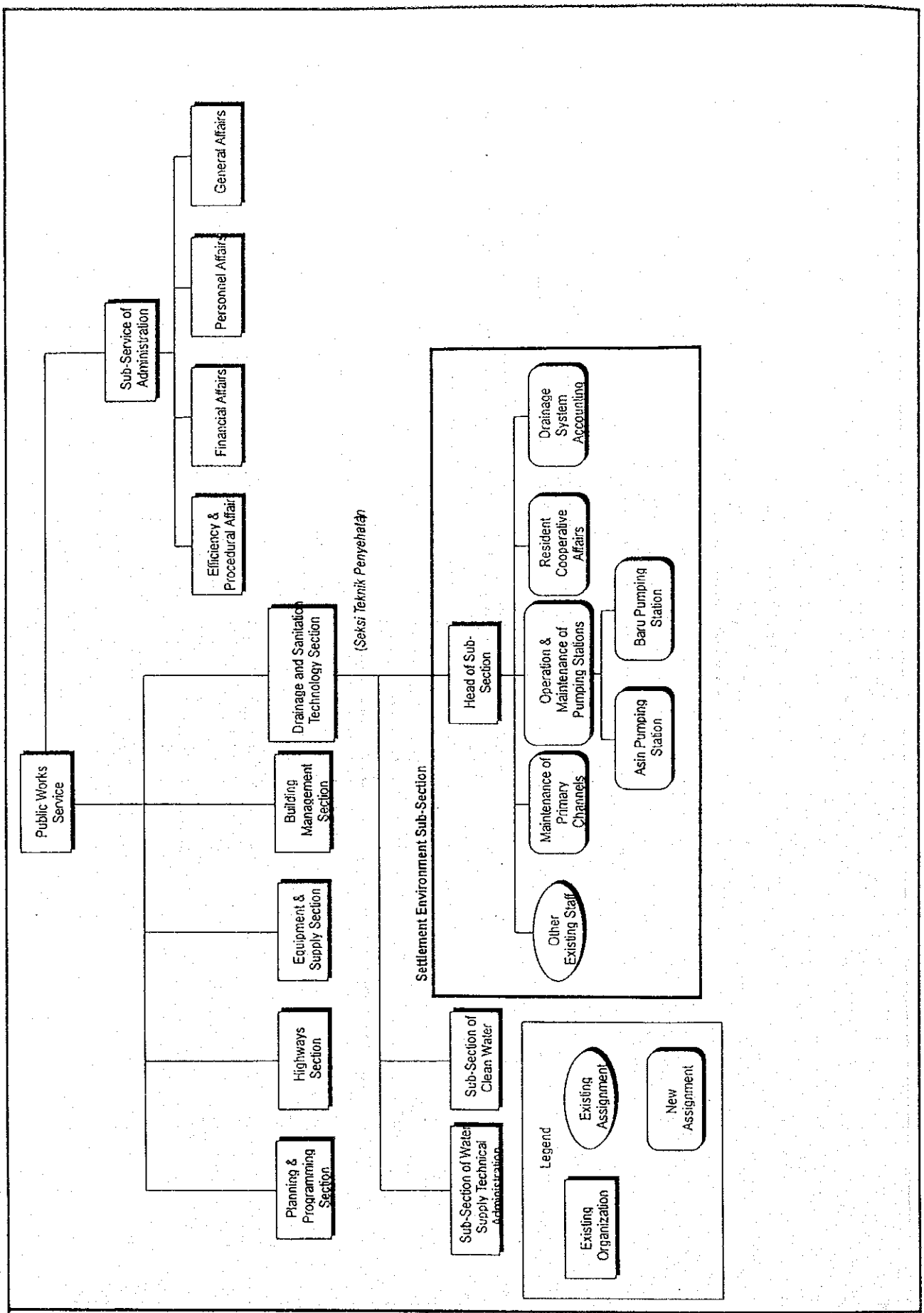
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 5.15 土捨て場候補地位置図
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 9.1
ダム及び河川施設維持管理組織



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 9.2
市内排水施設維持管理組織