capacity	maximum 97,859 K.W firm 35,666 K.W
annual generation	
effective volume of reservoir	190,000,000 m^3 & 24,000,000. m^3
total expenditure	9,000,000,000. yen
expenditure for 1. K.W	92,300. yen
things to be submerged in the reserroir	houses 1,905.
	fields 1,650,000. acres
	roads 65 K.m

	農 地 造 田 面
	Nishikigawa No2 plant (Chogoku Haiden K.K)(capacity 7,300 K.W)
	Ozegawa No1 plant (Chugoku Haiden K.K)(capacity 2,700 K.W)

(B) Electric generation project at Nishiki-River

scheme is to be established before long for synthetic development.

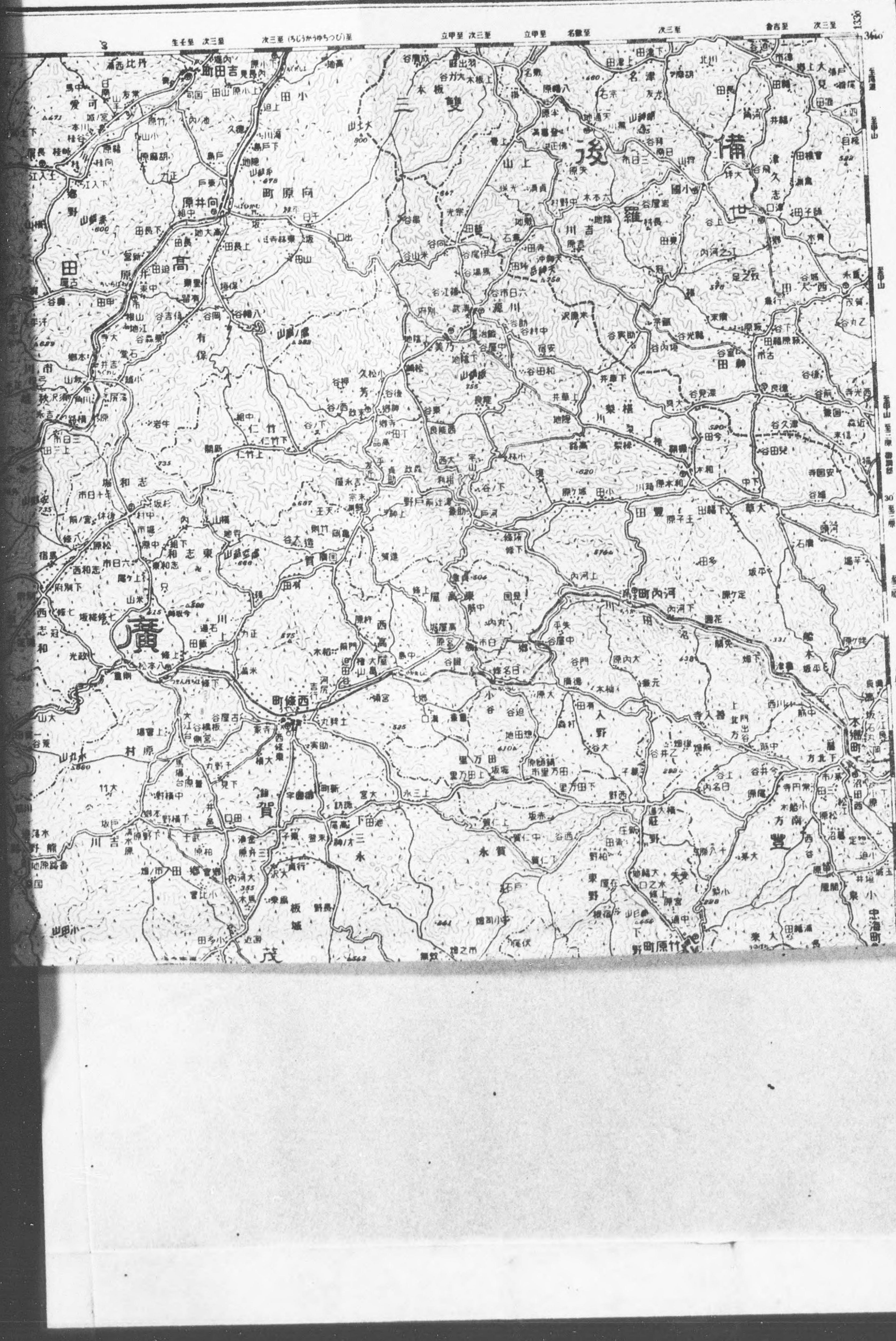
DECLASSIFIED E.O. 12065 SECTION 3 4(b)(1)(3) NWD

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [redacted]

暫定版

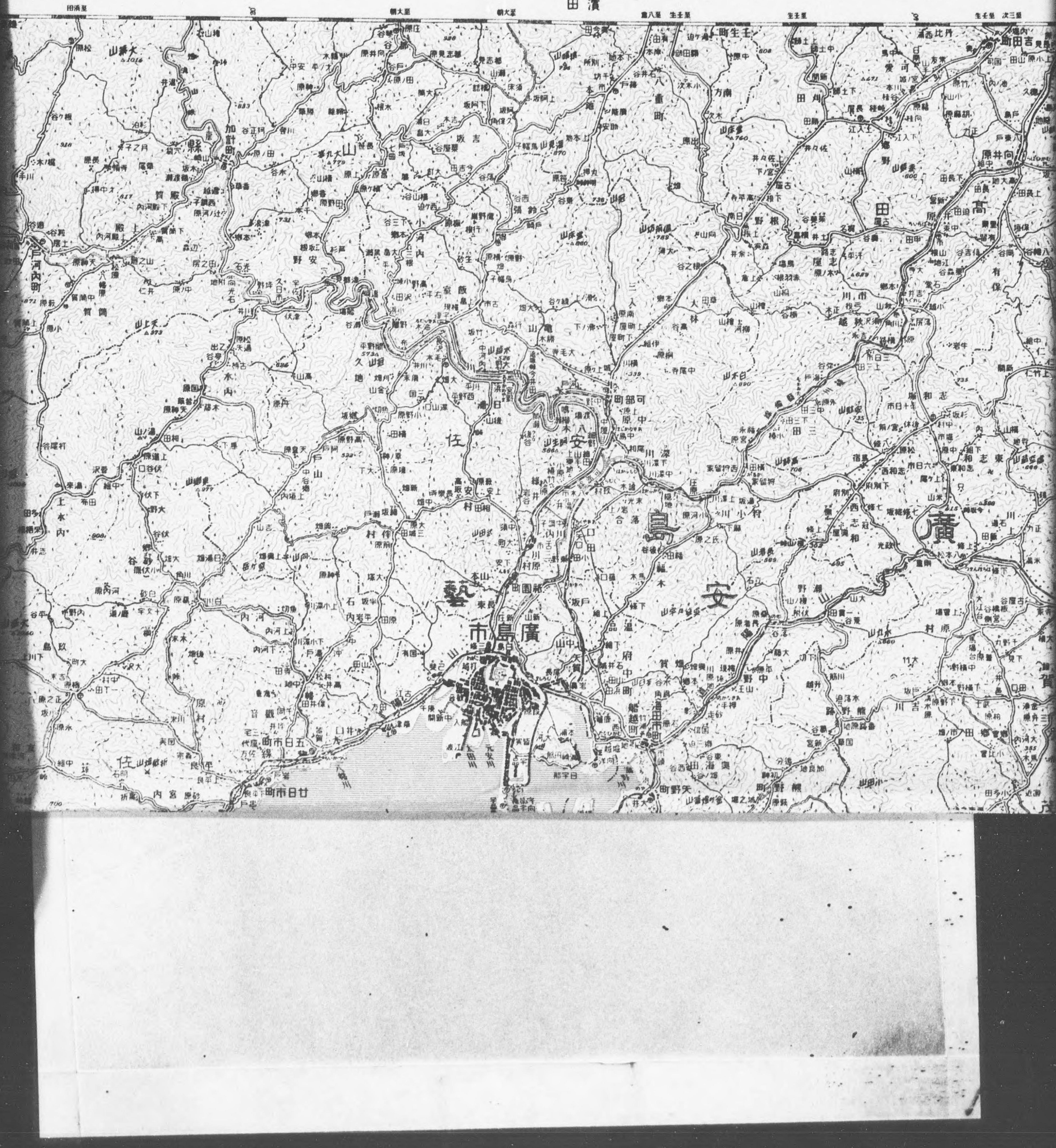
二十万分一地勢圖

廣島.愛媛.島根.山口縣



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

廣島



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO.

明治四十一年製版昭和十七年修正改版

符號

神祠	造船所
佛宇	三角点
公署	獨立標高点
都道府縣廳	山陵
支廳	城墟
市役所	古戰場
校學	火山
病院	鑛泉
警察署	採鑛地
裁判所	流水方向
刑務所	燈台
郵便局信	固定標
電信局	浮標
電線無局信	警報標
製造所	商港
電發所	錨投所

國道

都府縣道

町村道 上以米三

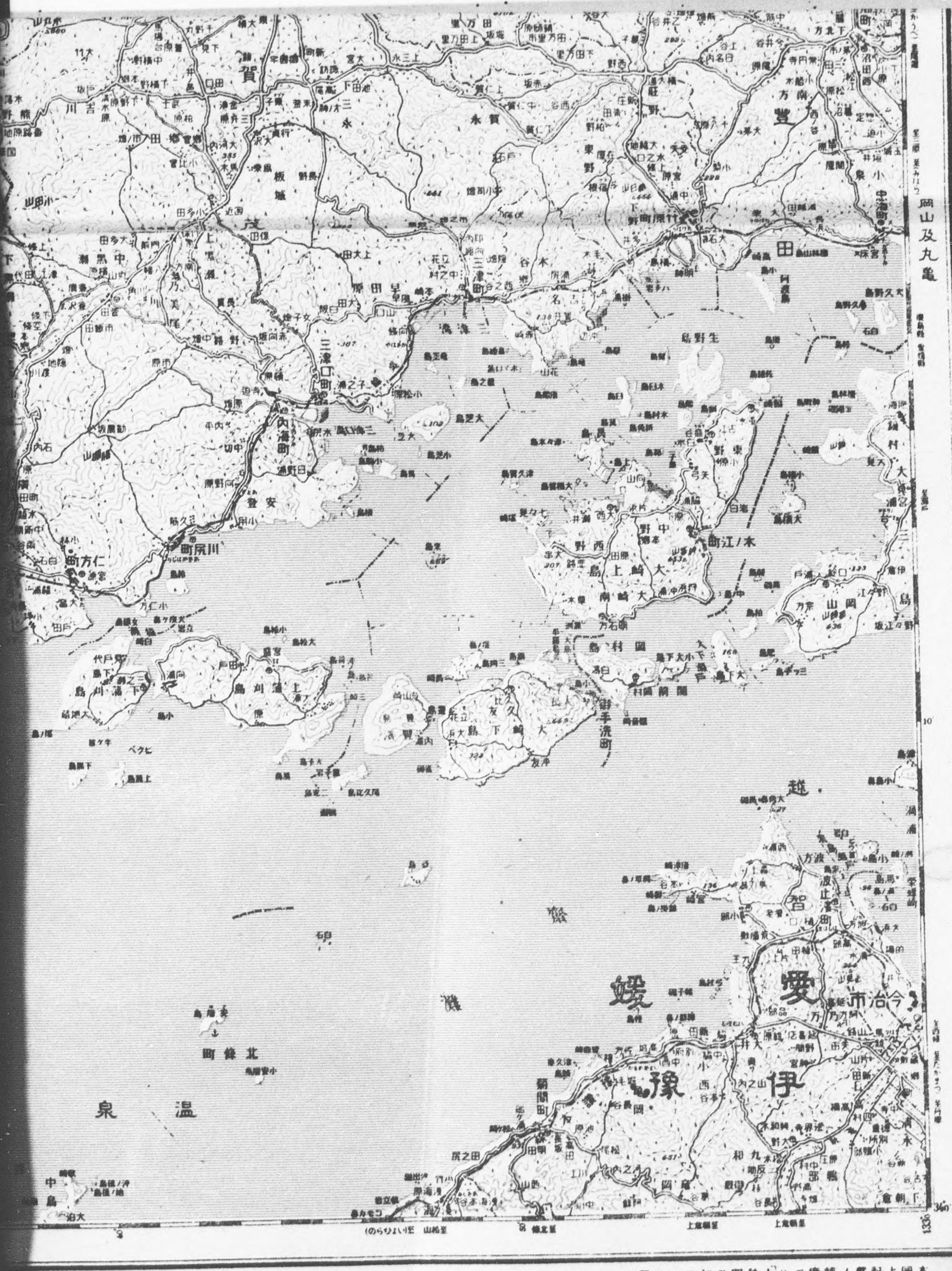
町村道 滿未米三

並木

鐵道 普通

鐵道 停車場

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.



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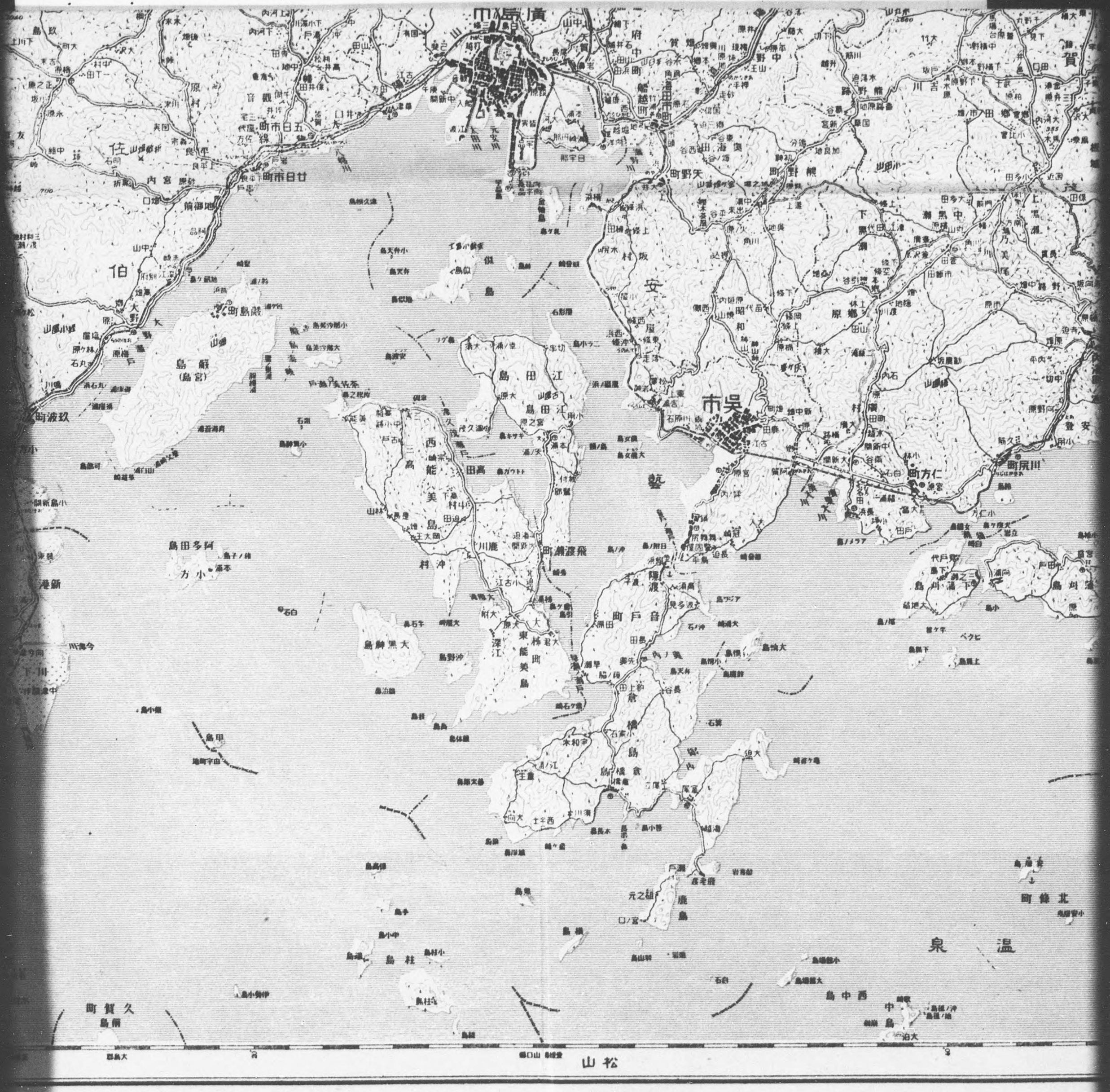
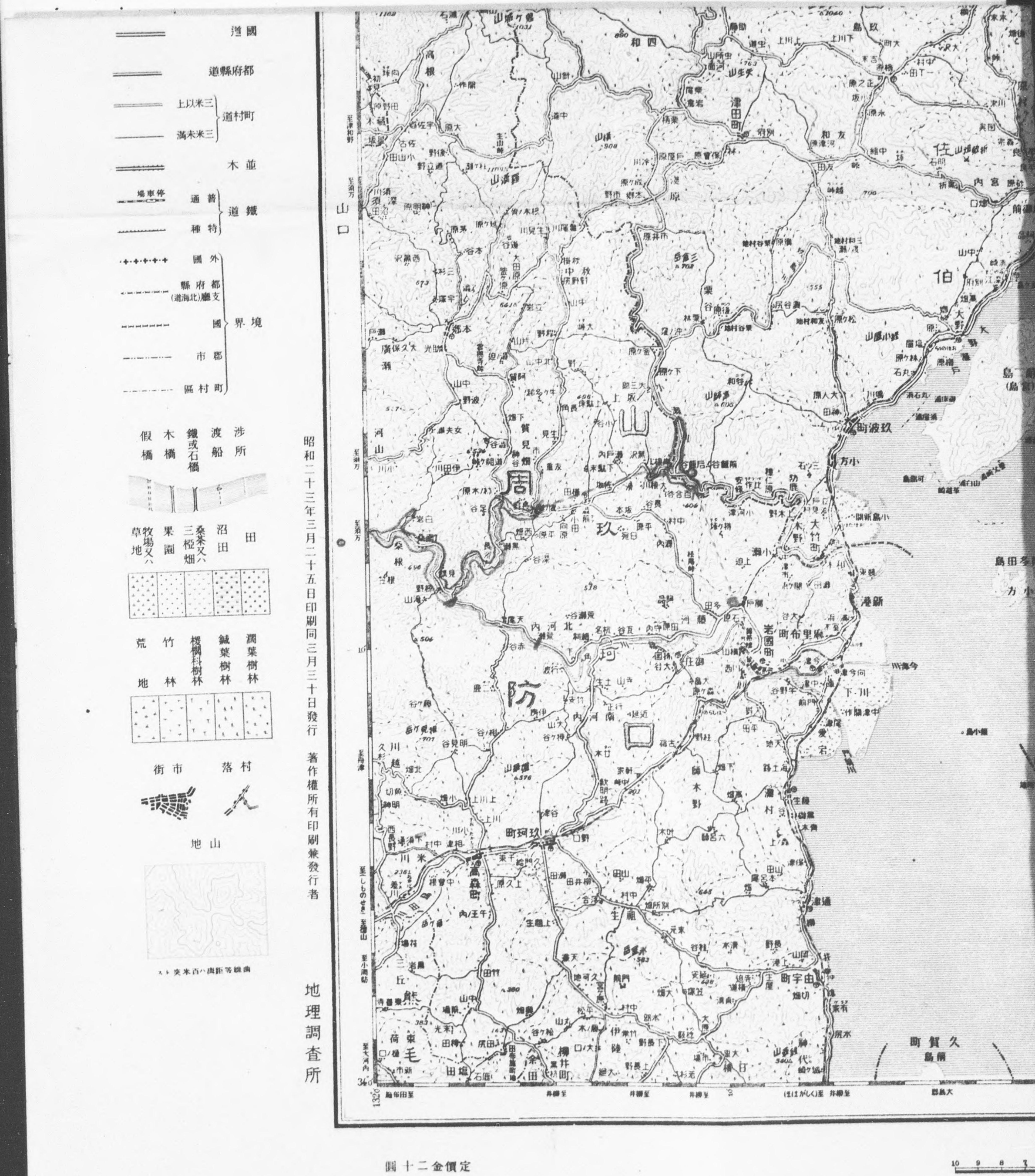


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. _____



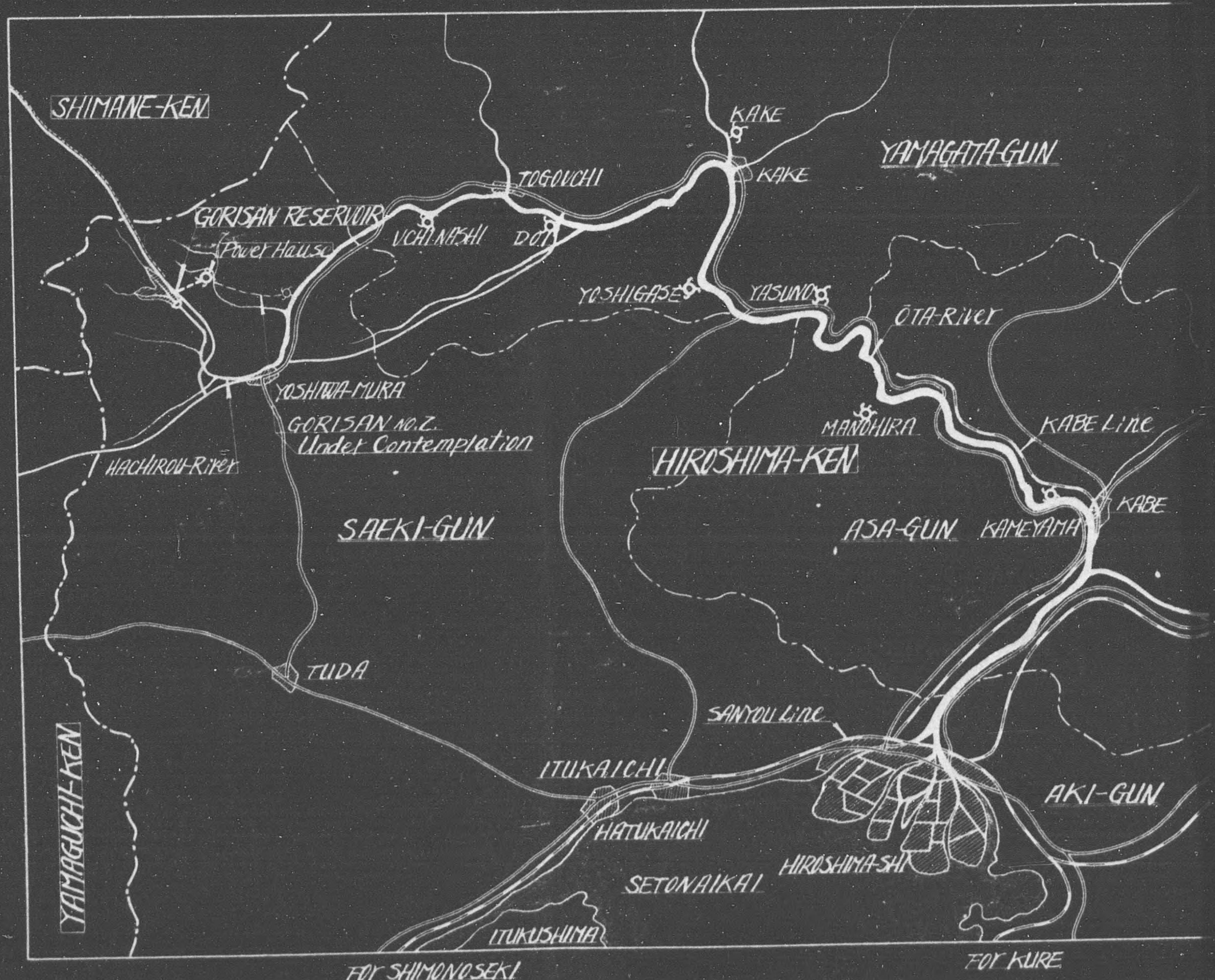
圓十二金價定

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [illegible]

GENE

Plan of Locality

Scale 1/24,000



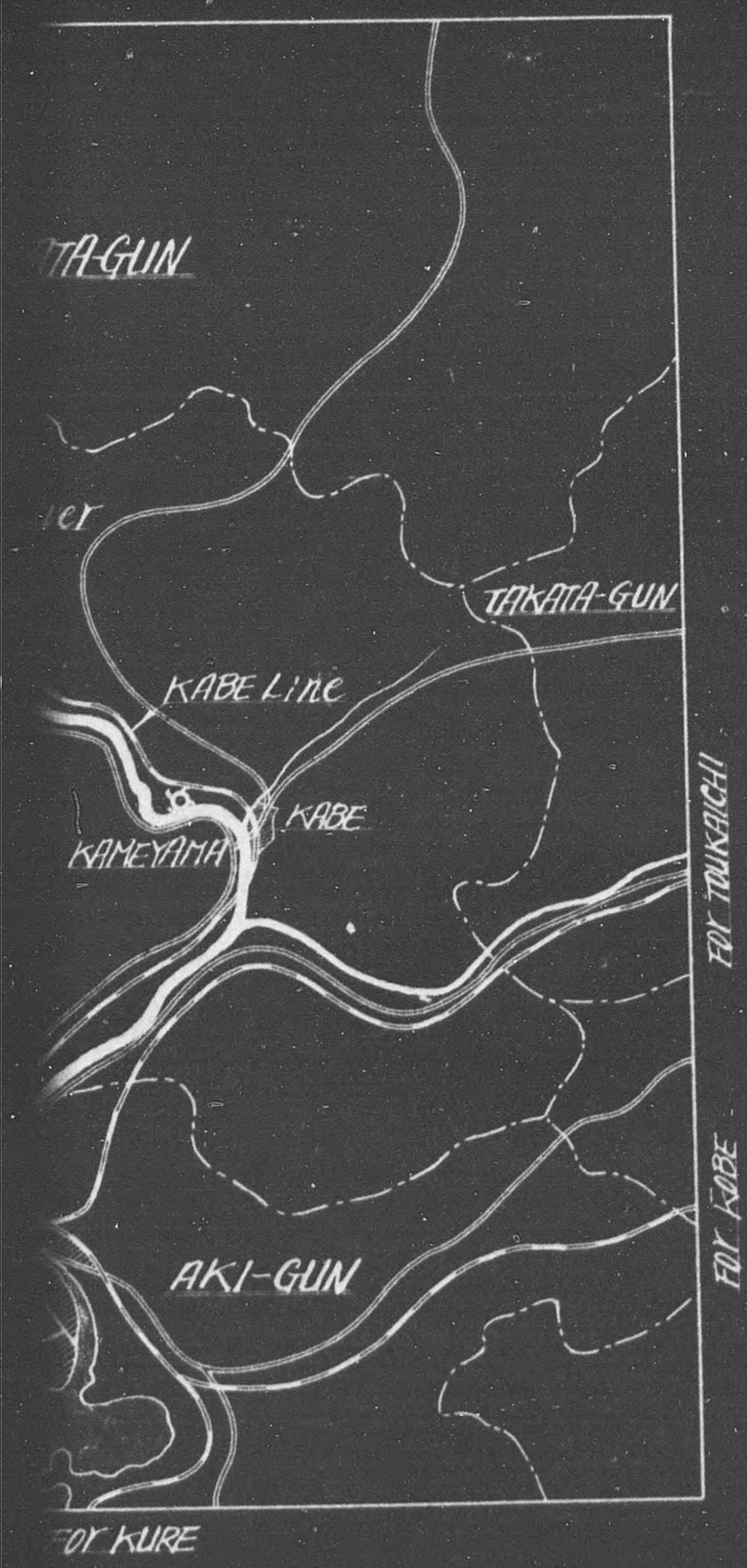
General View of Reservoir

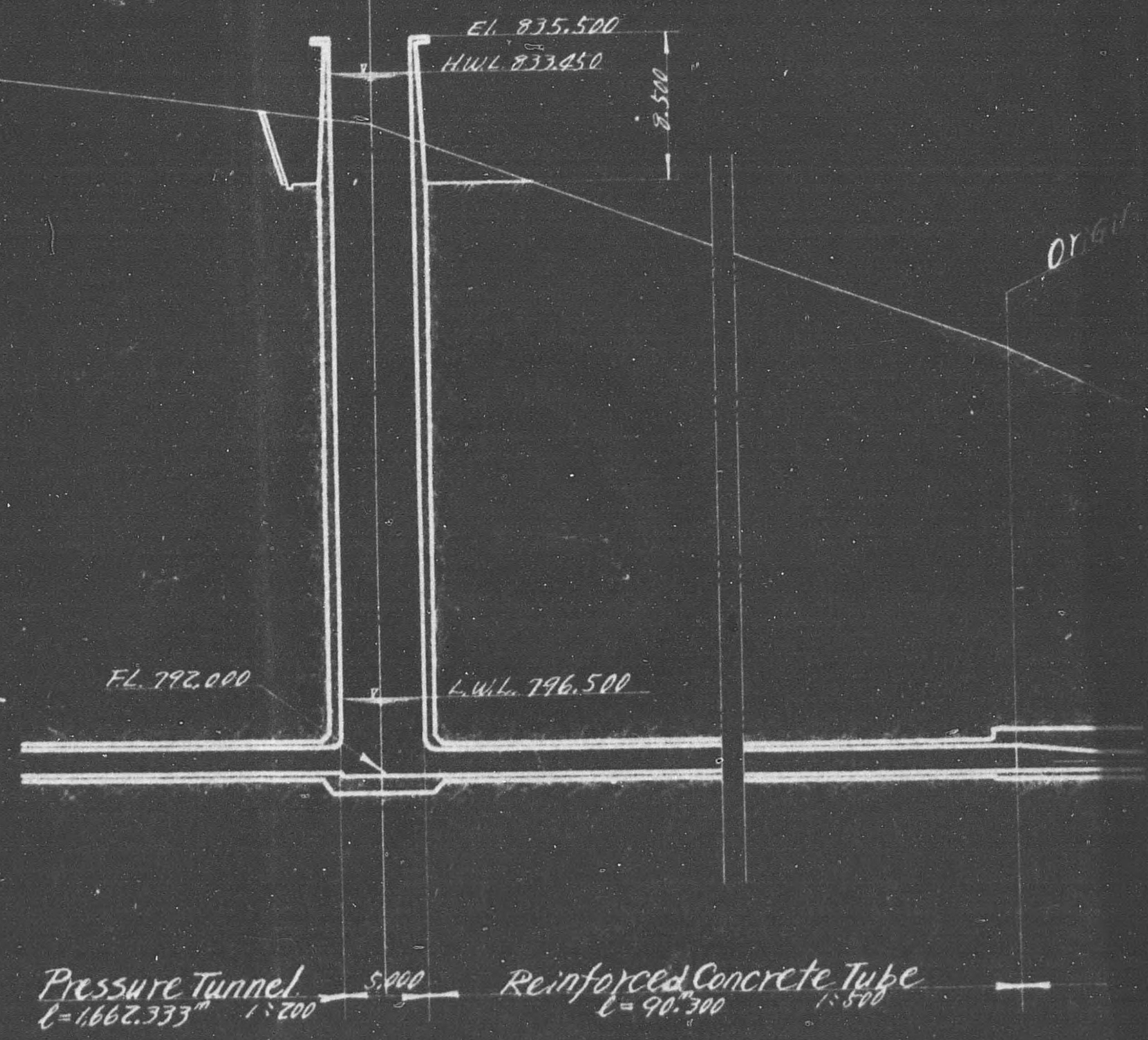
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

ENERAL VIEW OF GORISAN N

The Japan Elec

L





Reservoir

SAN No 1. HYDRO-ELECTRIC PO

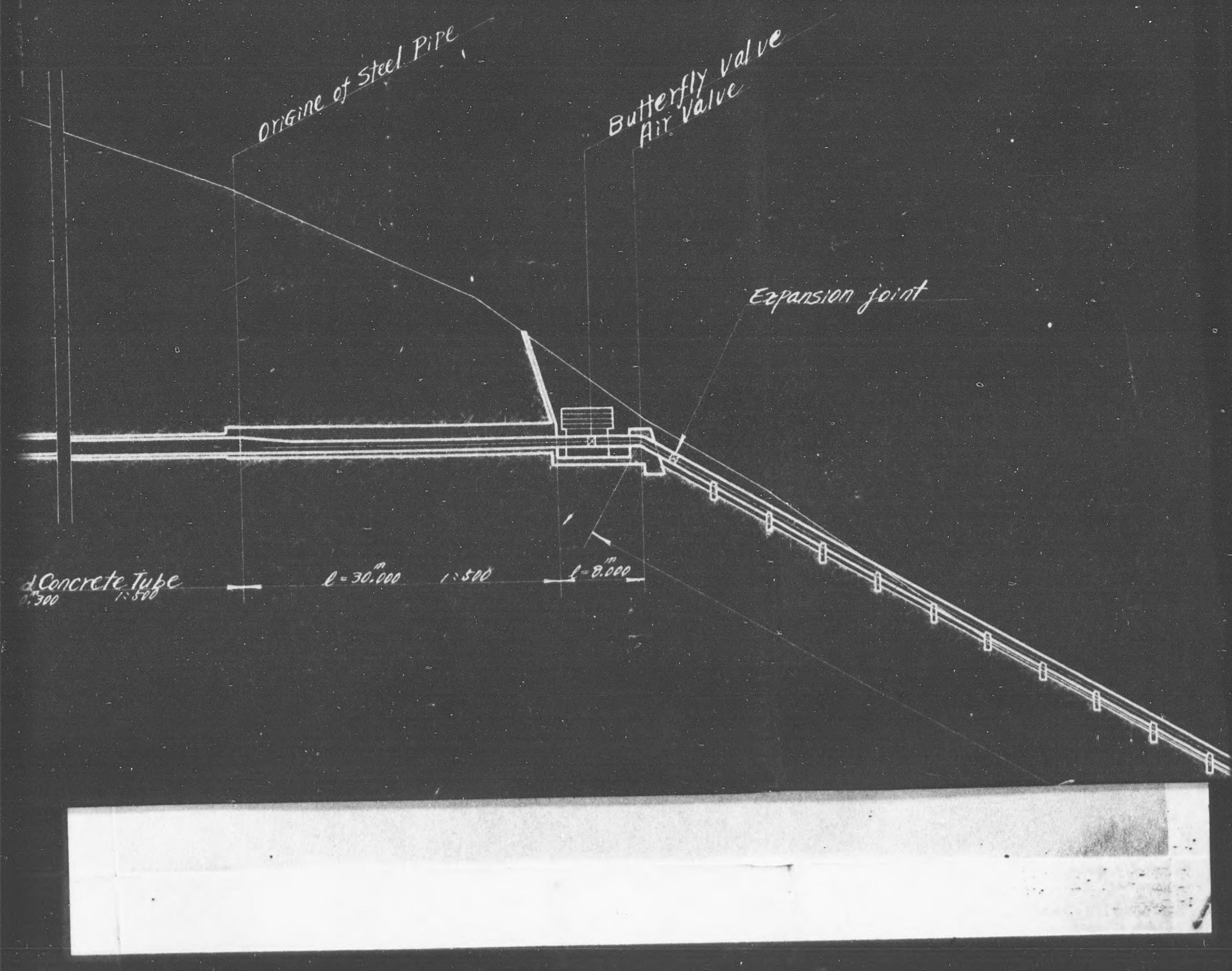
ban Electric Generation & Transmissio

Chugoku Branch

Hiroshima

Longit. Section of Surge Tank, Pen

Scale



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

CTRIC POWER PLANT

Transmission Co., Ltd

...oku Branch Office

Hiroshima Oct. 1948.

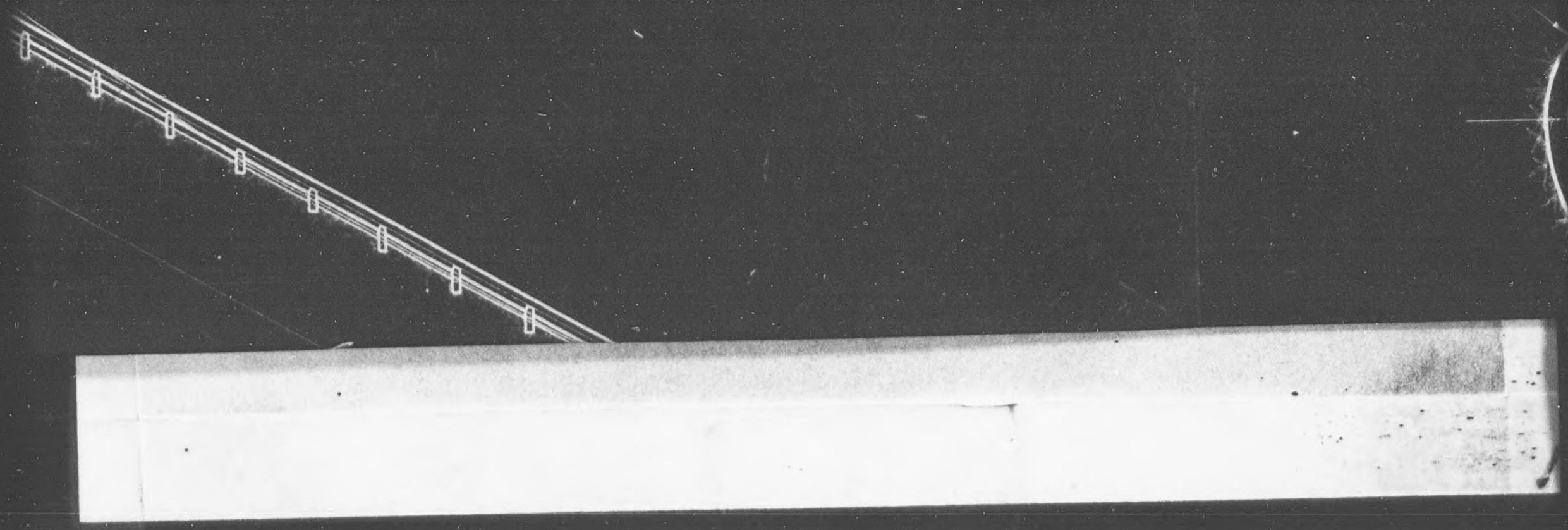
...ge Tank, Penstock & Power House

Scale 1/500

Cross

of Tu

...sion joint



DECLASSIFIED E.O. 12065 Sec. 3.5

...ANT

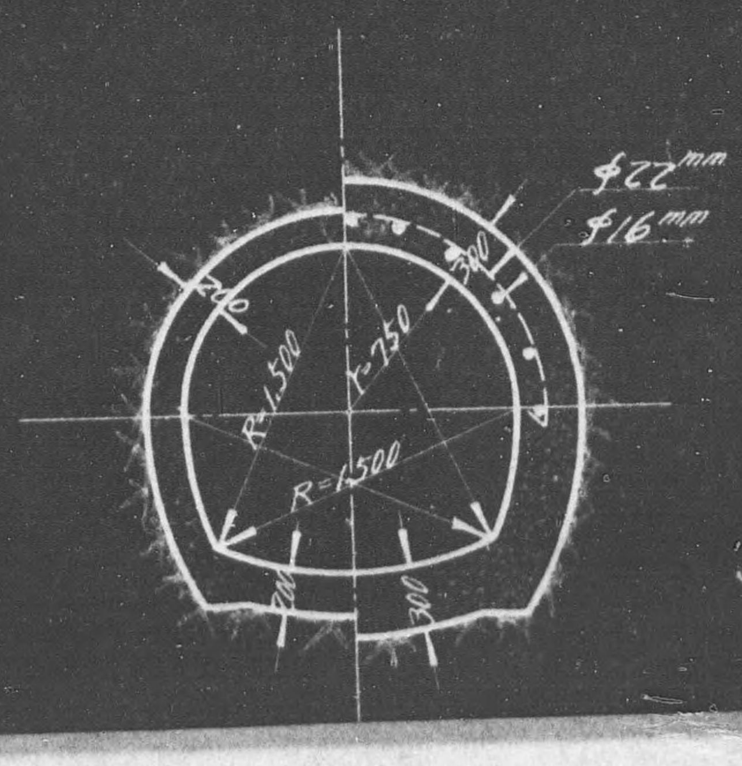
2

18.

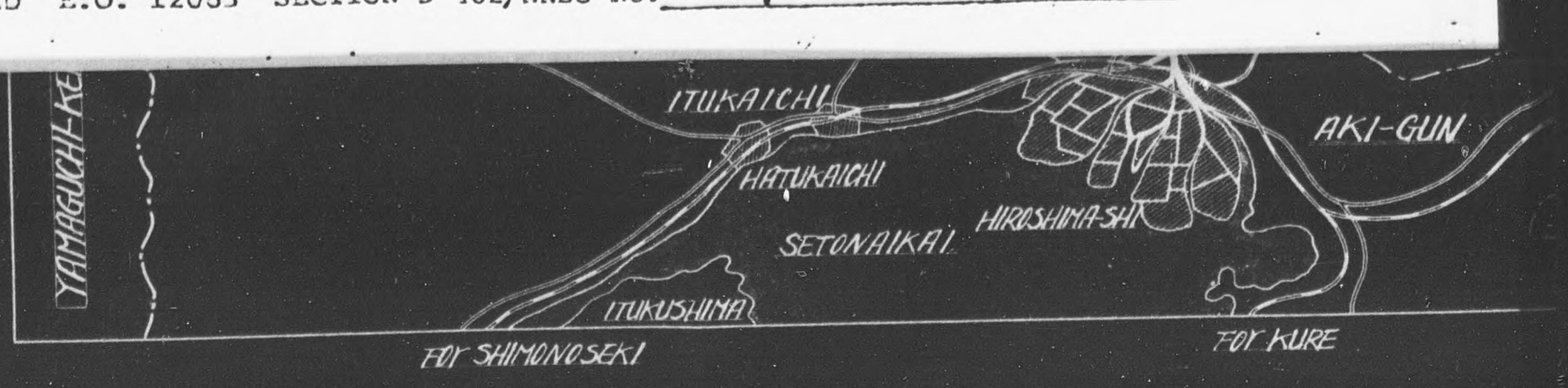
...ver House

Cross Section
of Tunnel

Scale 5'0



DECLASSIFIED E.O. 12065 SECTION 3 102/AND 103



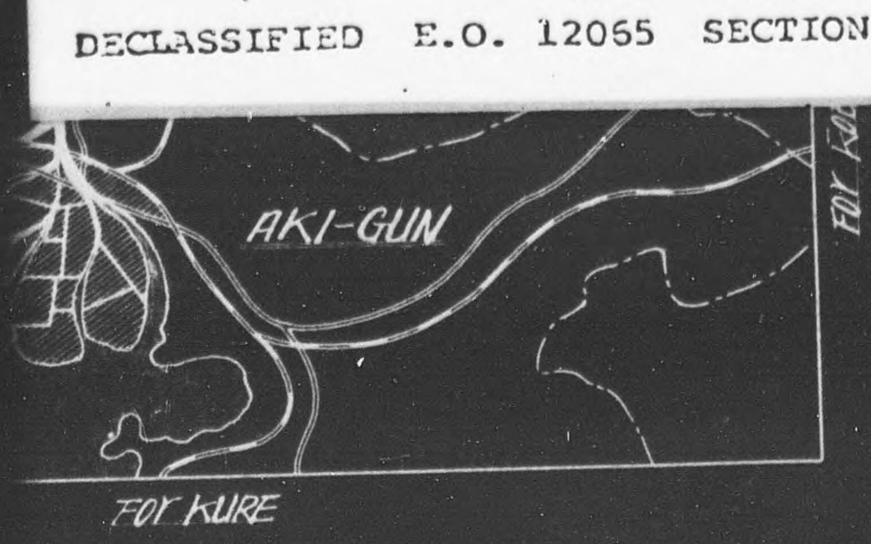
General View of Reservoir & Pressure-Tunnel

Scale 1/25,000

Front View of Dam

Scale

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 77013

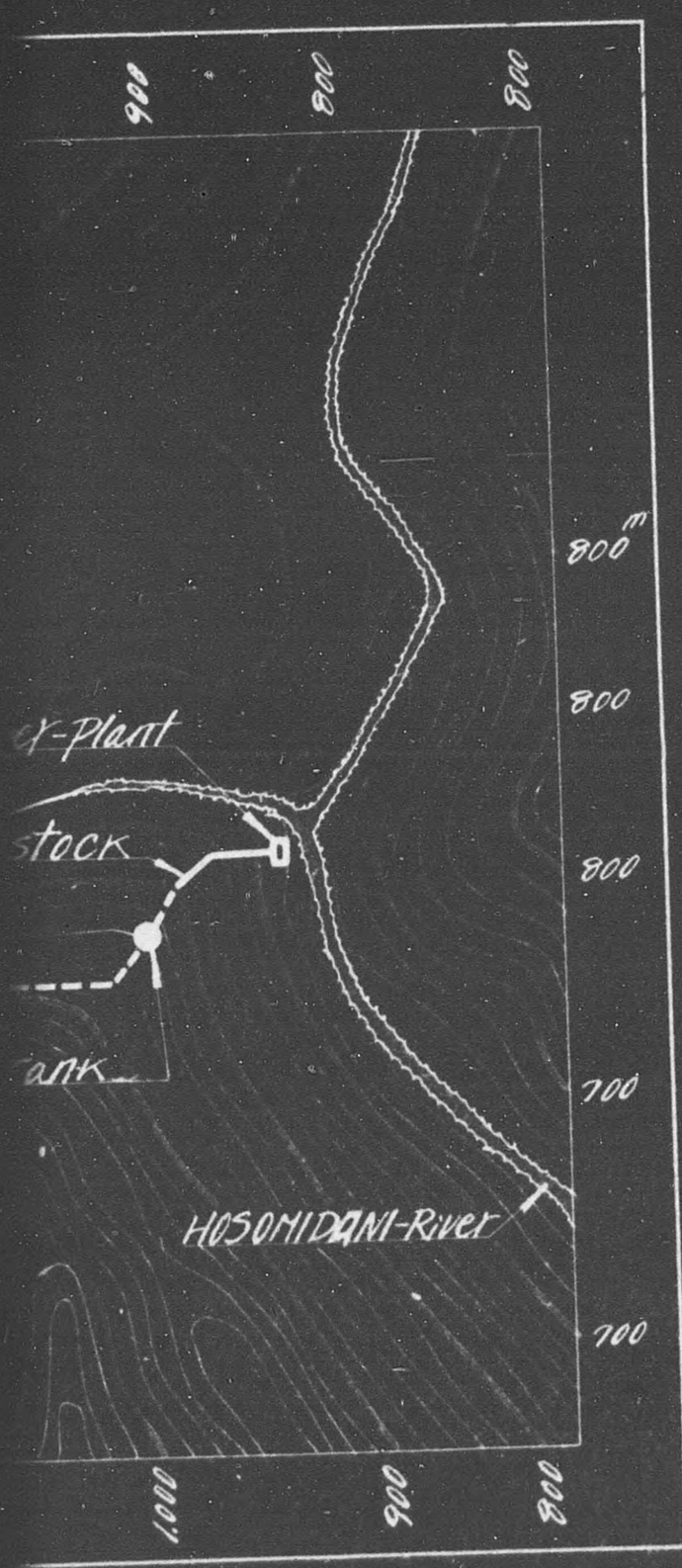


Pressure Tunnel ℓ=1,662.333m 1:200 — 5.000 — Reinforced Concrete Tube ℓ=90.300 1:500

f Reservoir

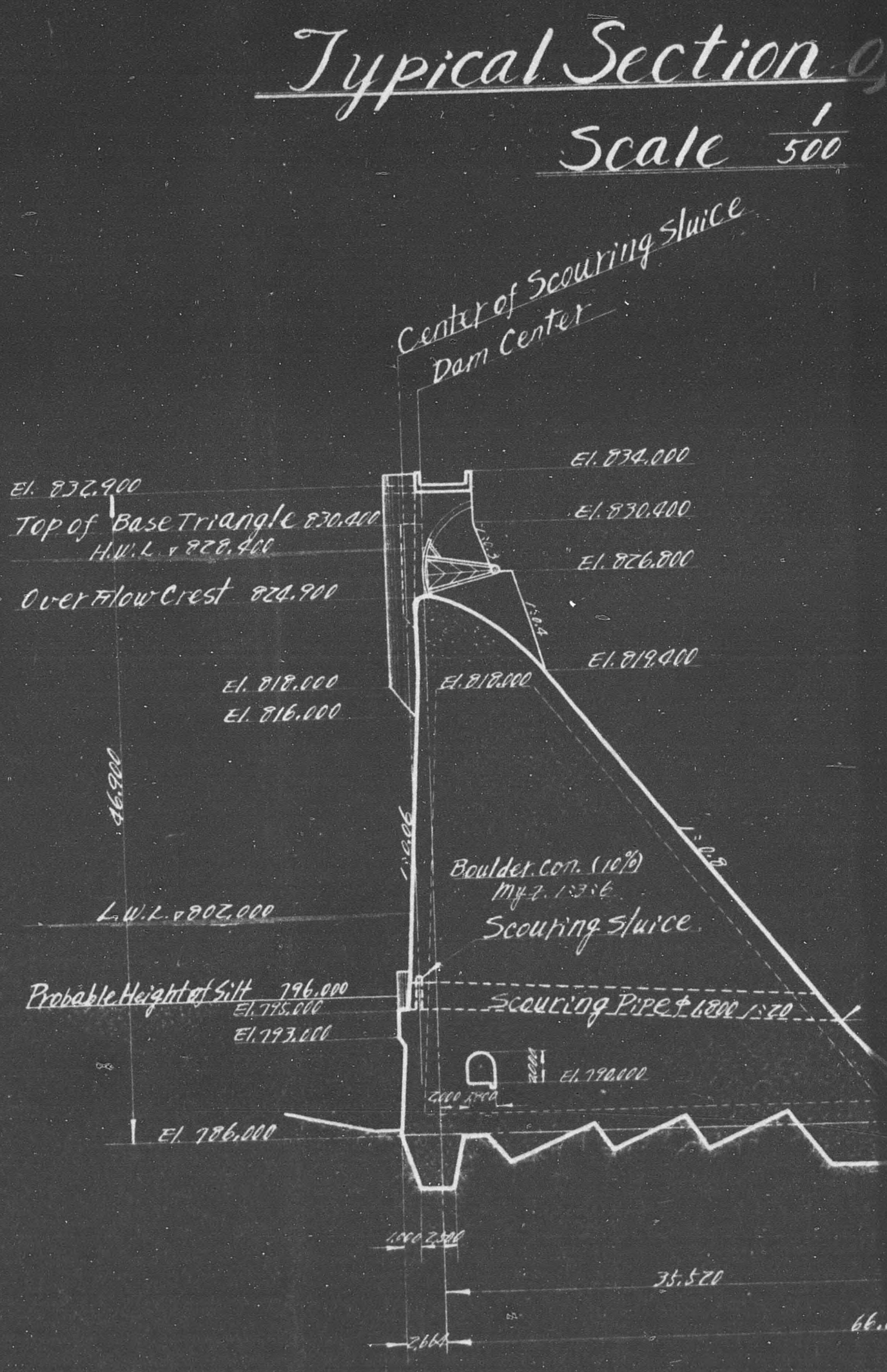
el

0



Typical Section of

Scale 1/500



ew of Dam

1/ 500

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 79013

Concrete Tube 1:500 — ℓ = 30.000 — 1:500 — ℓ = 8.000 — ℓ = 112.600

Section of Dam

Scale 1/500

ring sluice

834.000

830.400

826.800

819.400

(10%)

6

2 Sluice

9 Pipe ϕ 1.800 1:20

70.000

R = 20.000

IH. 51-20°
R. 20.000
TL. 9.611
CL. 17.919
SL. 2.189

9.611 — 13.869 — 1.000

El. 793.525

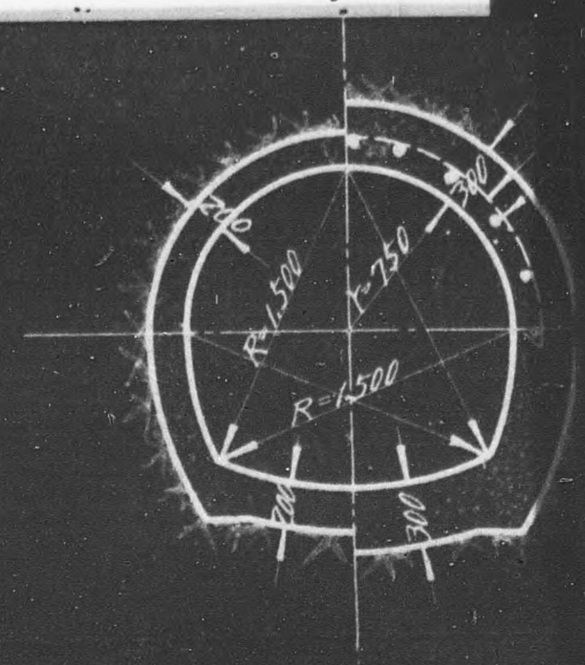
35.520 — 30.480

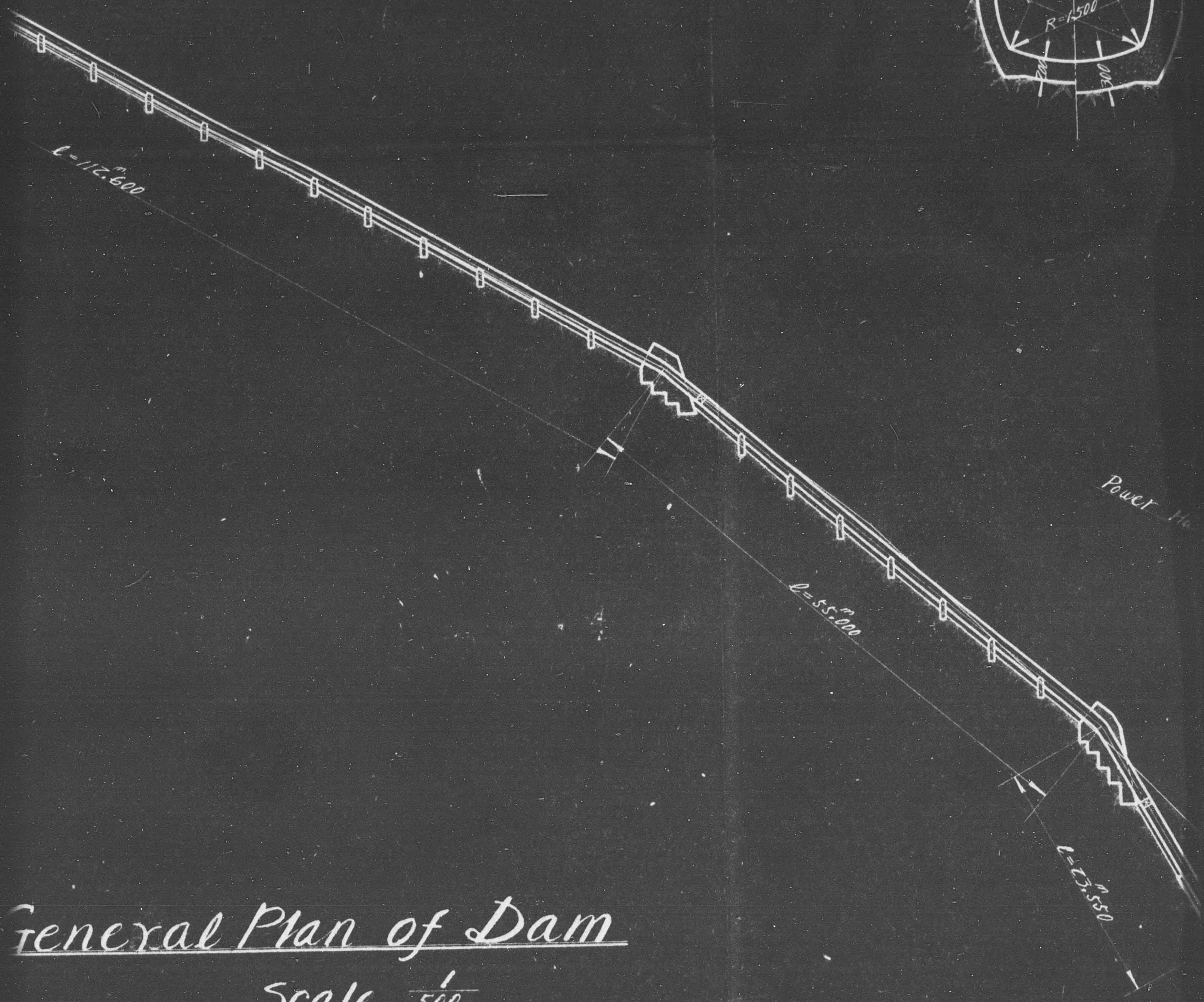
66.000

500 — 2000

General

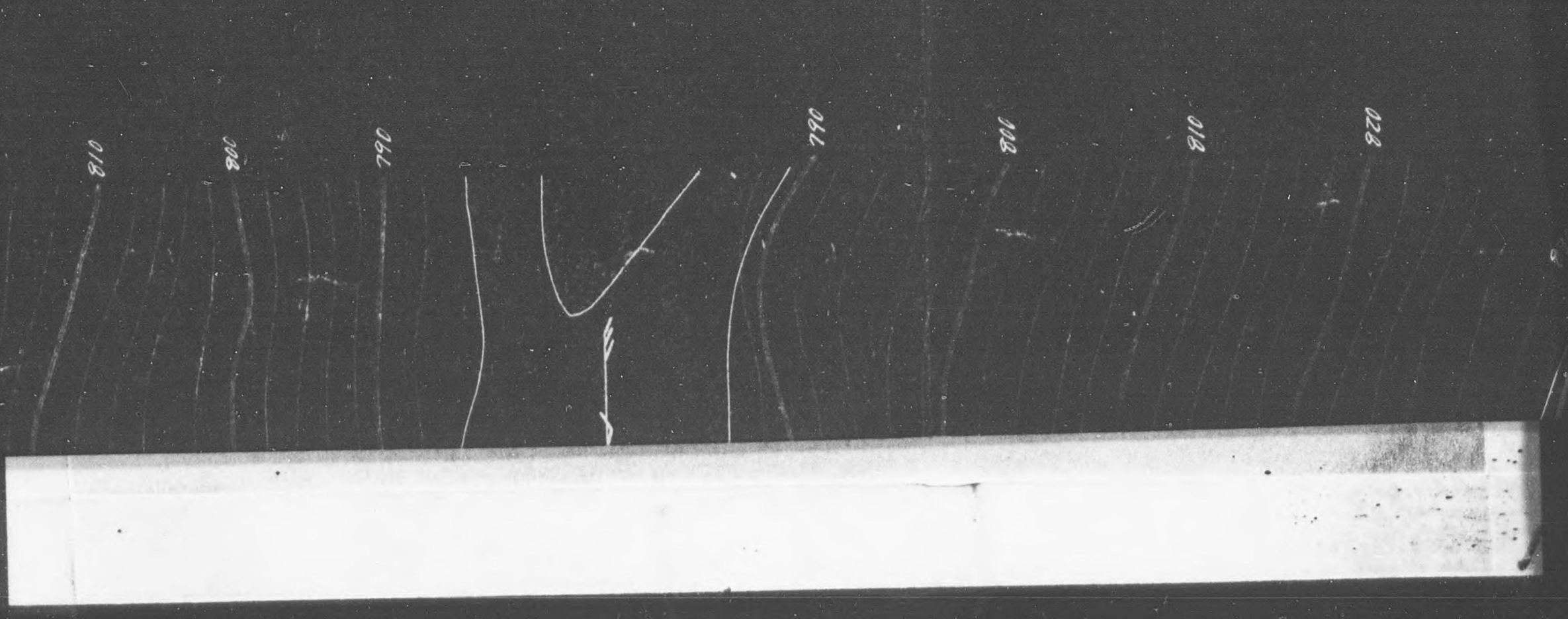
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 78013



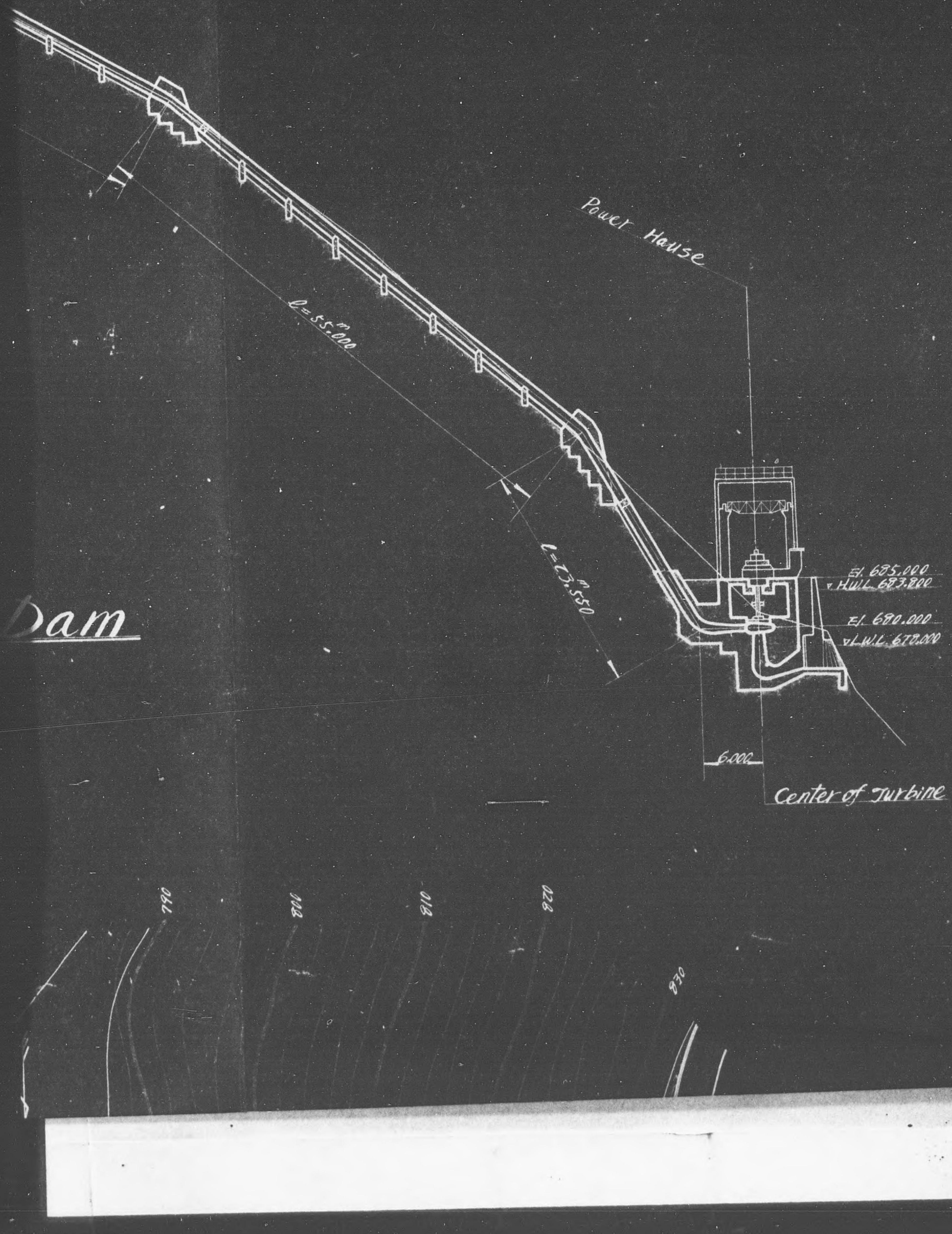


General Plan of Dam

Scale 1/500



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 75013



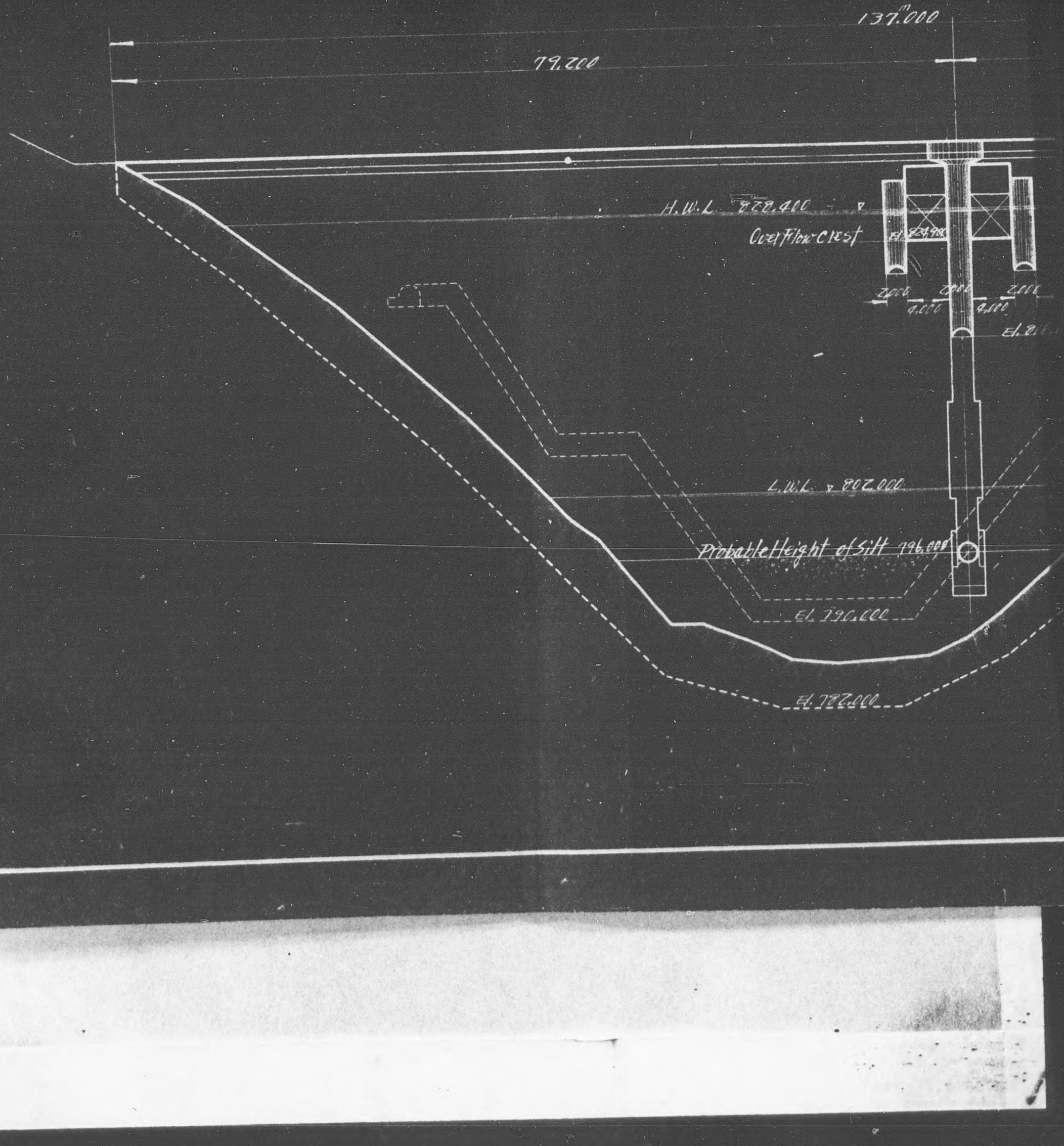
Dam

760
808
818
828
838

DECLASSIFIED E.O. 12065 SECTION 3-402/NNBS NO.

Front View of Dam

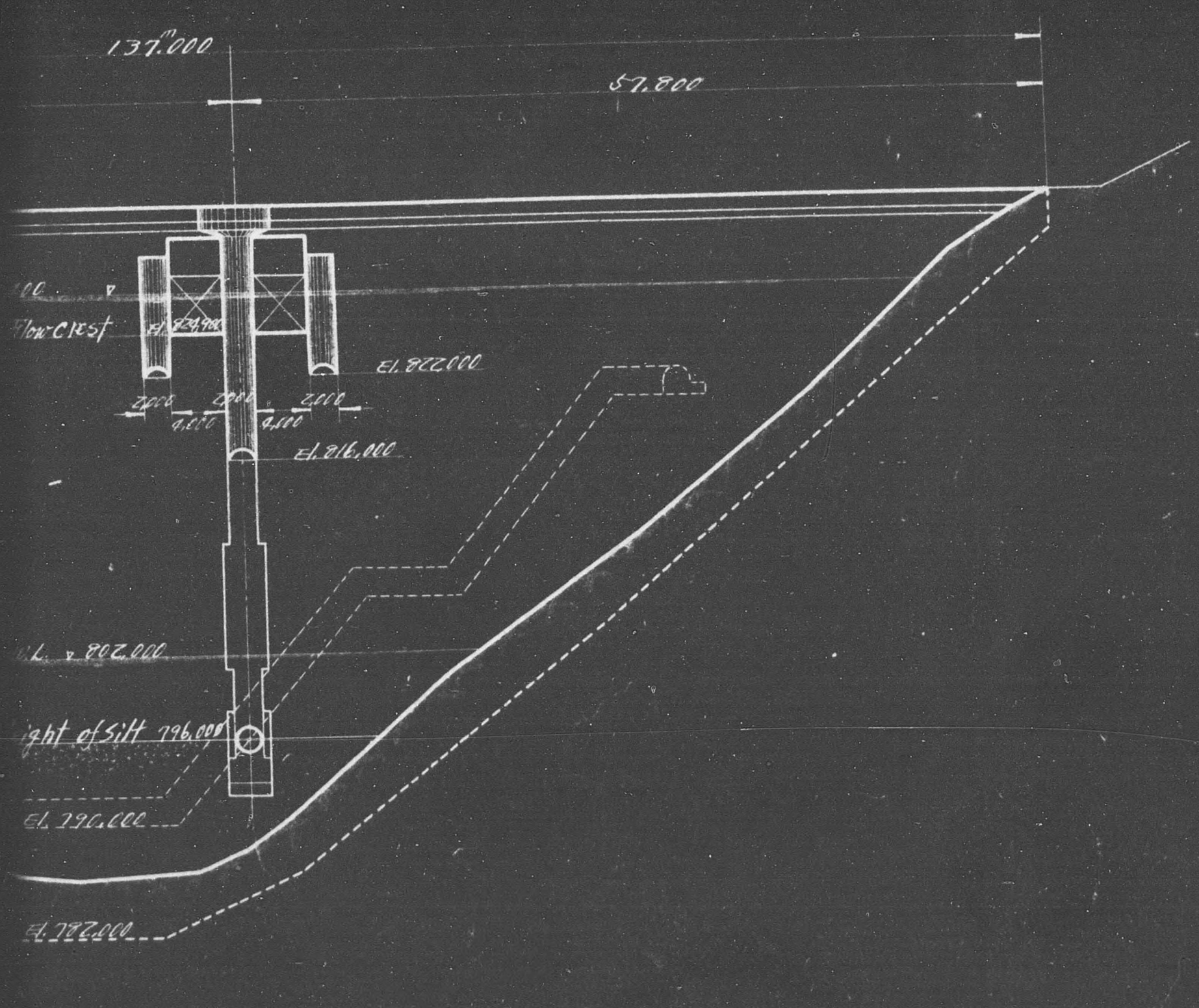
Scale 1/500



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO.

v of Dam

c 1/500



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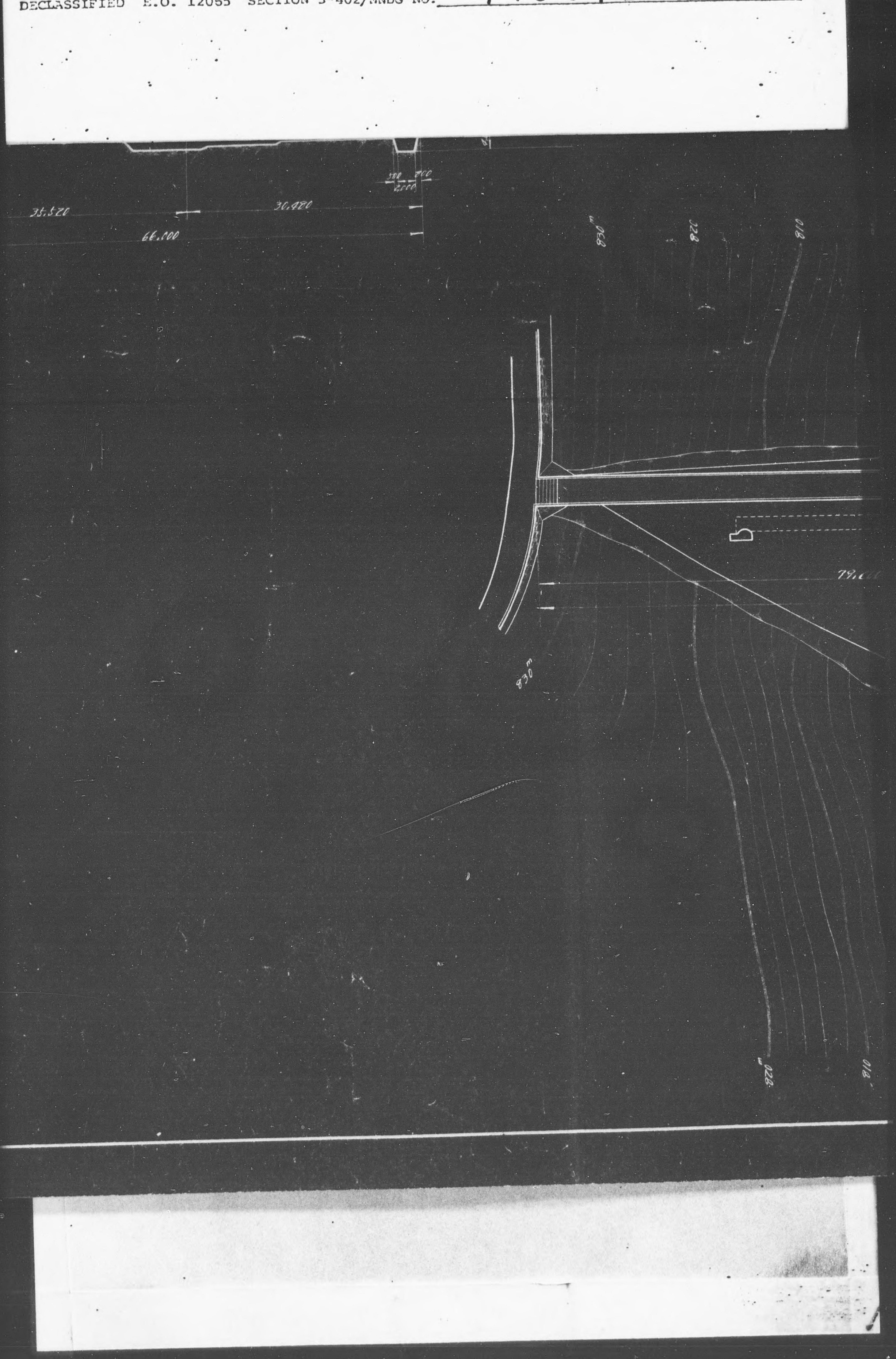

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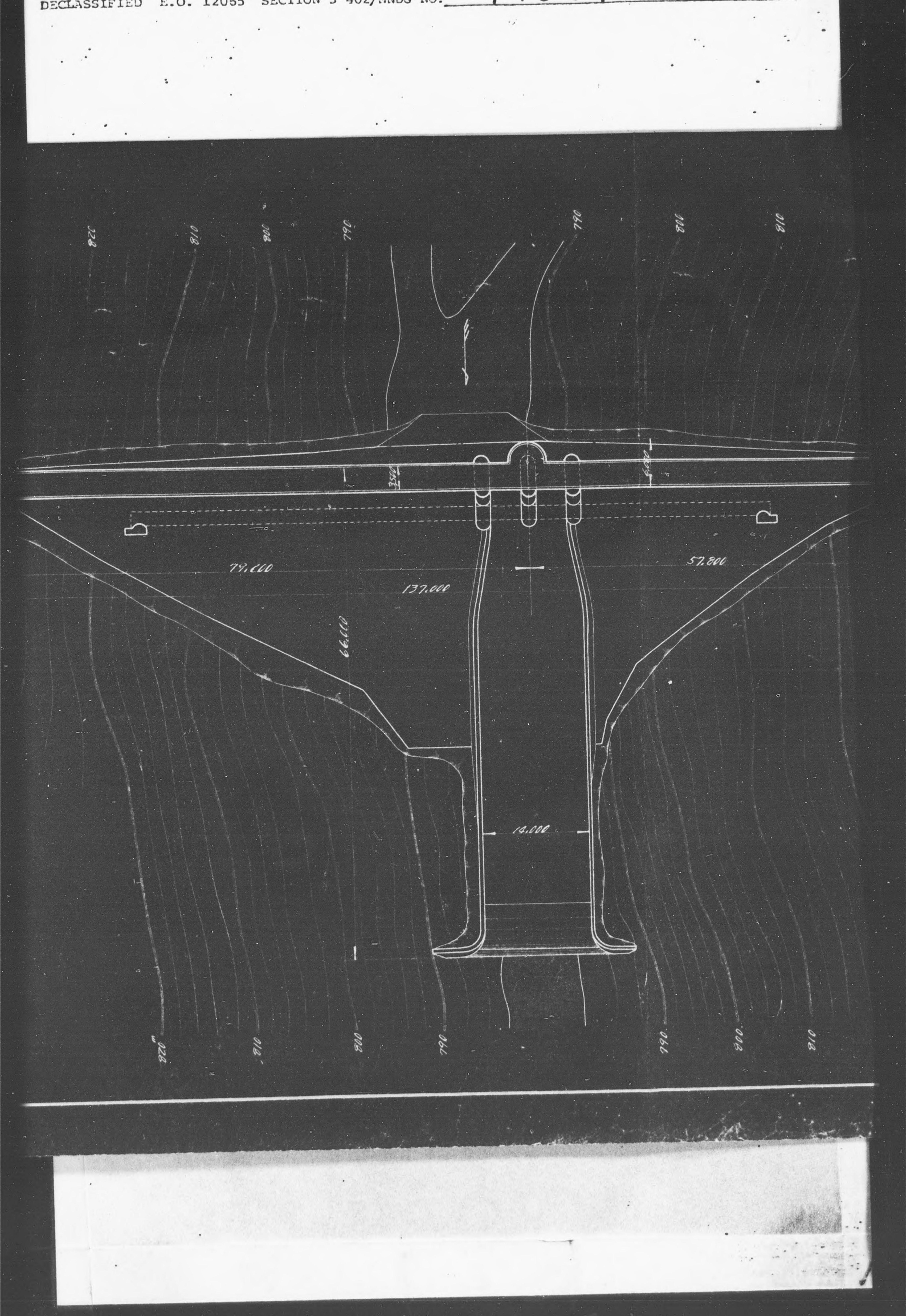
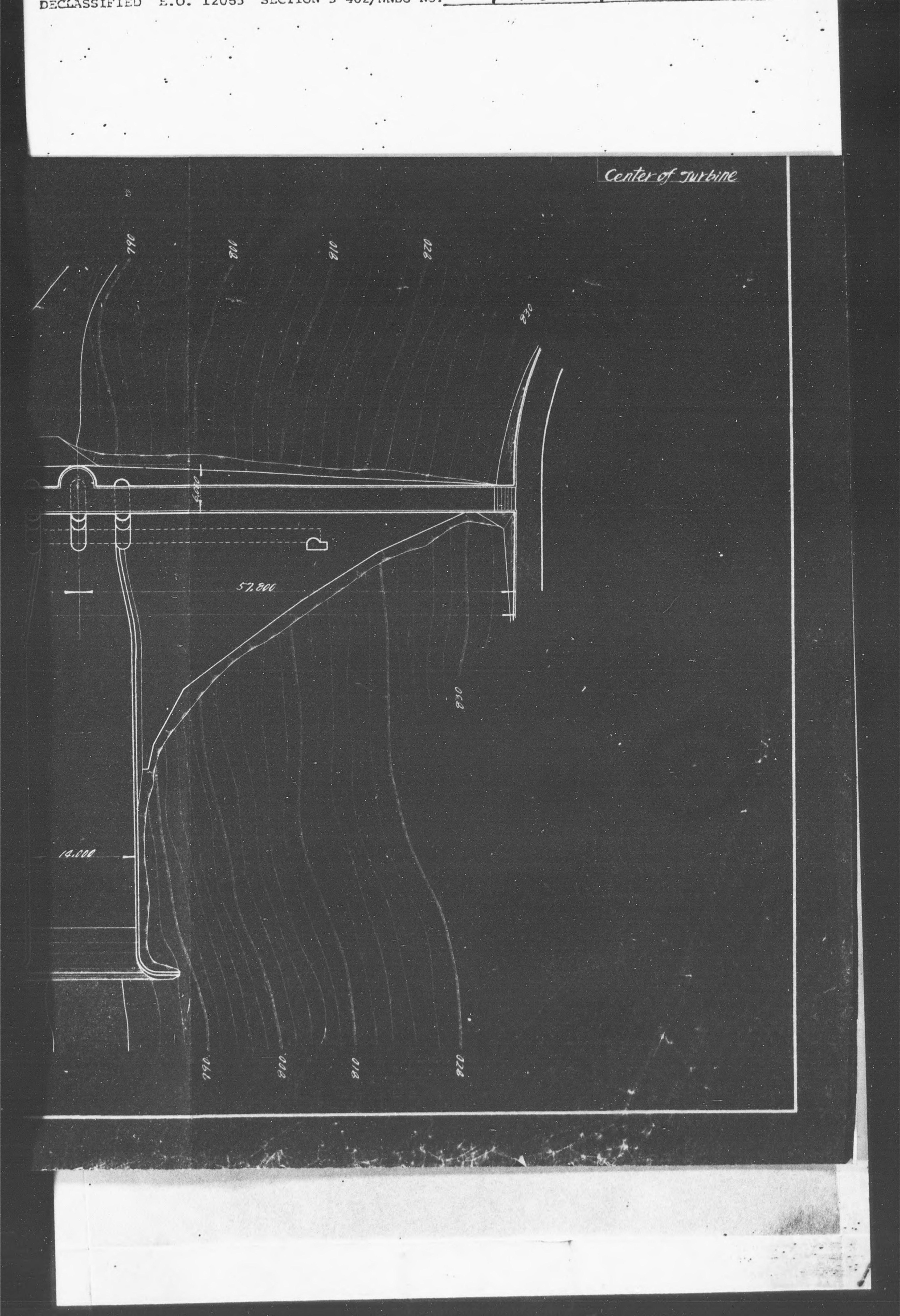


DECLASSIFIED E.O. 12065 SECTION 3 402/NNSG NO. _____



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [illegible]

Exampl
Imperfect Part
Perfect Part of
" "

HINOBORI

400

200

100

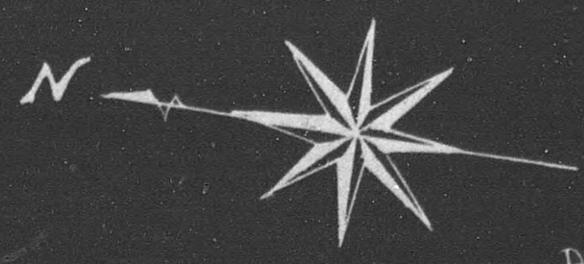
Shinyumura Power House
Head Tank
4th Tunnel 1203.379
41.500
520.800
86.000
Imadani
4th M.Place
3
27.000
305.000
5th Tunnel 41.917
5th M.Place
M.Place of Power House
300
200
100
100
200
HI

Lo

Intake
▽H.W.L 128.000
▽L.W.L 123.444
+119.964

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

General View of Tunnel 1/20,000



Example
Imperfect Part of Tunnel
Perfect Part of Heading
" " Enlargment

ORI

ONSEN

1st Tunnel 1,981.834
354.000
1st M.Place
Dam 4
651.000
97.600
23,800
Hongodani
2nd M.Place
3rd Tunnel 1,658.219
36.100
2nd Tunnel 702.953
520.800
86.000
Imadani
4th M.Place
Shiodadani
3rd M.Place
2nd District
1st District
Hii-River
400
300
200
100

Longit. Section of Tunnel 1/400

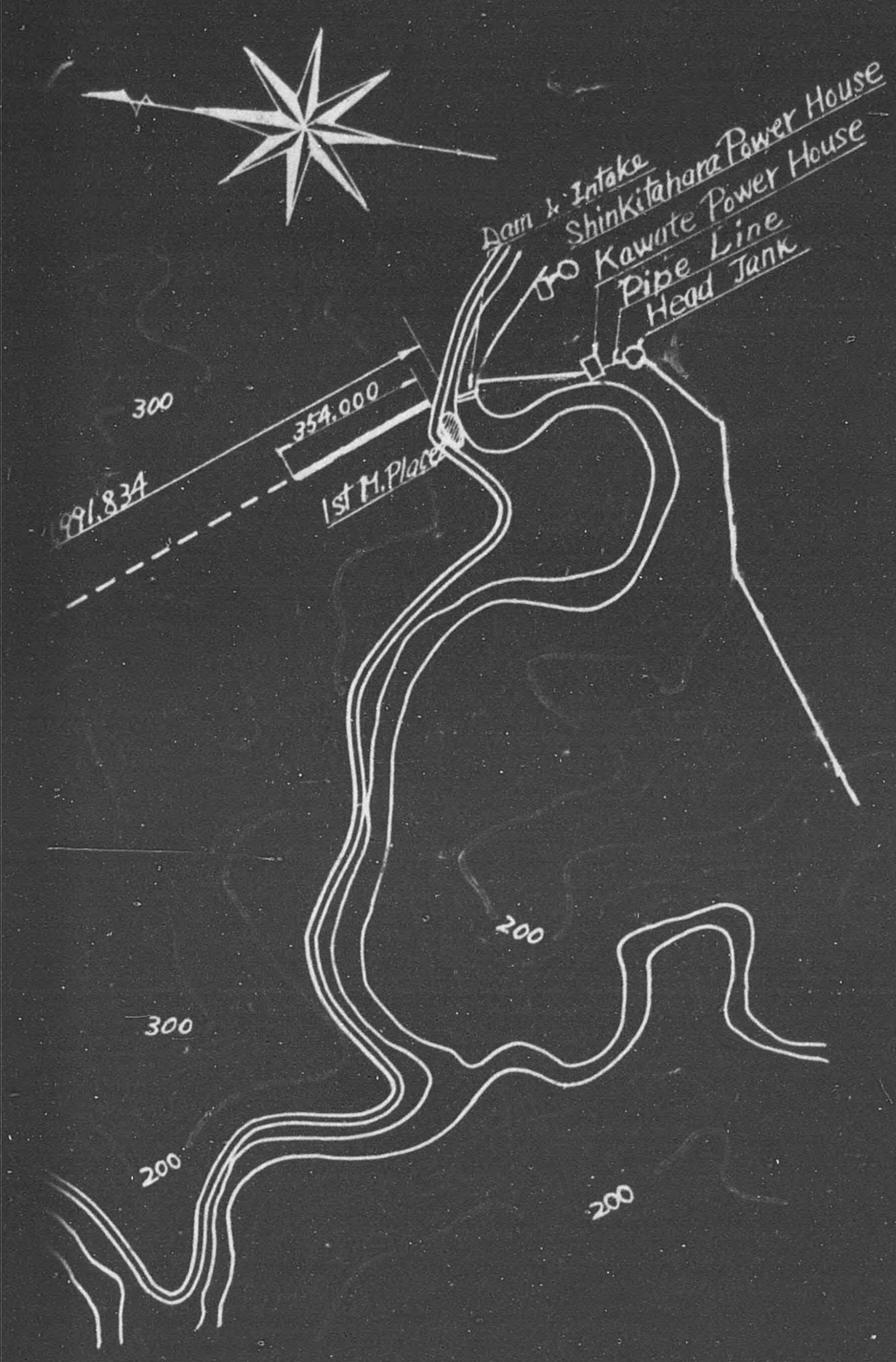
Hongo-dani Side Shaft
Shiodo-dani Side Shaft
Slope 1:1,100
Lati. 1/400
Dep. 1/20,000
Imo-dani Side Shaft

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSC NO.

GENERAL VIEW

HYDRO-ELECTRI

Japan Electric Ge



Outlin

History of Appeals

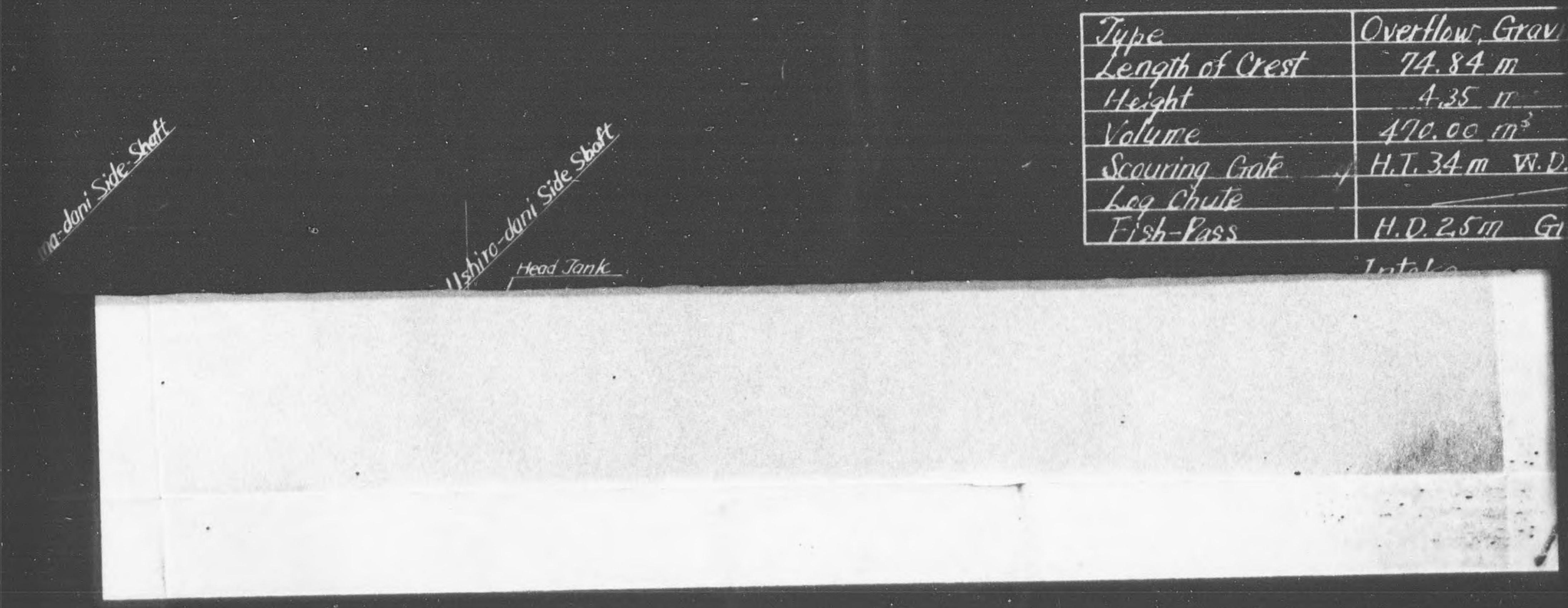
Oct.	14th 1943	Recieved Co
Dec.	18th 1943	Recieved A
May	7th 1944	Recieved R
May	20th 1944	Appeal on
Appril	4th 1946	Appeal on

Particulars estimating

Name of River, Intake	Hiigawa, Fuka
Location of Intake	Gōdo, Obaras
Location of Outlet	Kyakuto, Nishi
Catchment Area	419.0KM²
Discharge	Max. 16.6
Effective Head	Max. 62.
Generating Power	Max. 8.4

Particulars concerning Dam

Type	Overflow, Gravi
Length of Crest	74.84 m
Height	4.35 m
Volume	470.00 m³
Scouring Gate	H.T. 34 m W.D.
Log Chute	
Fish-Pass	H.D. 2.5 m Gr



DECLASSIFIED E.O. 12065 SECTION 3 402/NNSG NO.

L VIEW OF SHINYUMURA
ELECTRIC POWER PLANT

Japan Electric Generation & Transmission Co., Ltd.
Chugoku Branch Office
Hiroshima, May 31th 1948

Outline of Plan

History of Appeals & Permissions taken from Gov't.

Oct. 14th 1943	Recieved Constructing Order
Dec. 18th 1943	Recieved Permission concerning the Usage of Water
May 7th 1944	Recieved Permission recognizing Construction Work
May 20th 1944	Appeal on starting the Construction
April 4th 1946	Appeal on stopage of the Construction

Particulars estimating Hydraulic Power

Name of River, Intake	Hiigawa, Fukanogawa & Imadani in the Hiigawa route
Location of Intake	Gōdai Obarasukizoki Hirata, Onsen: Nita, Shimane Pref.
Location of Outlet	Kyakuto, Nishihinobori, Hinobori, Ohara, Shimane Pref.
Catchment Area	419.0 KM²
Discharge	Max. 16.67 m³/sec Firm 4.40 m³/sec
Effective Head	Max. 62.40 M Firm 63.60 m
Generating Power	Max. 8,400 KW Firm 2,100 KW

Particulars concerning Civil Workings

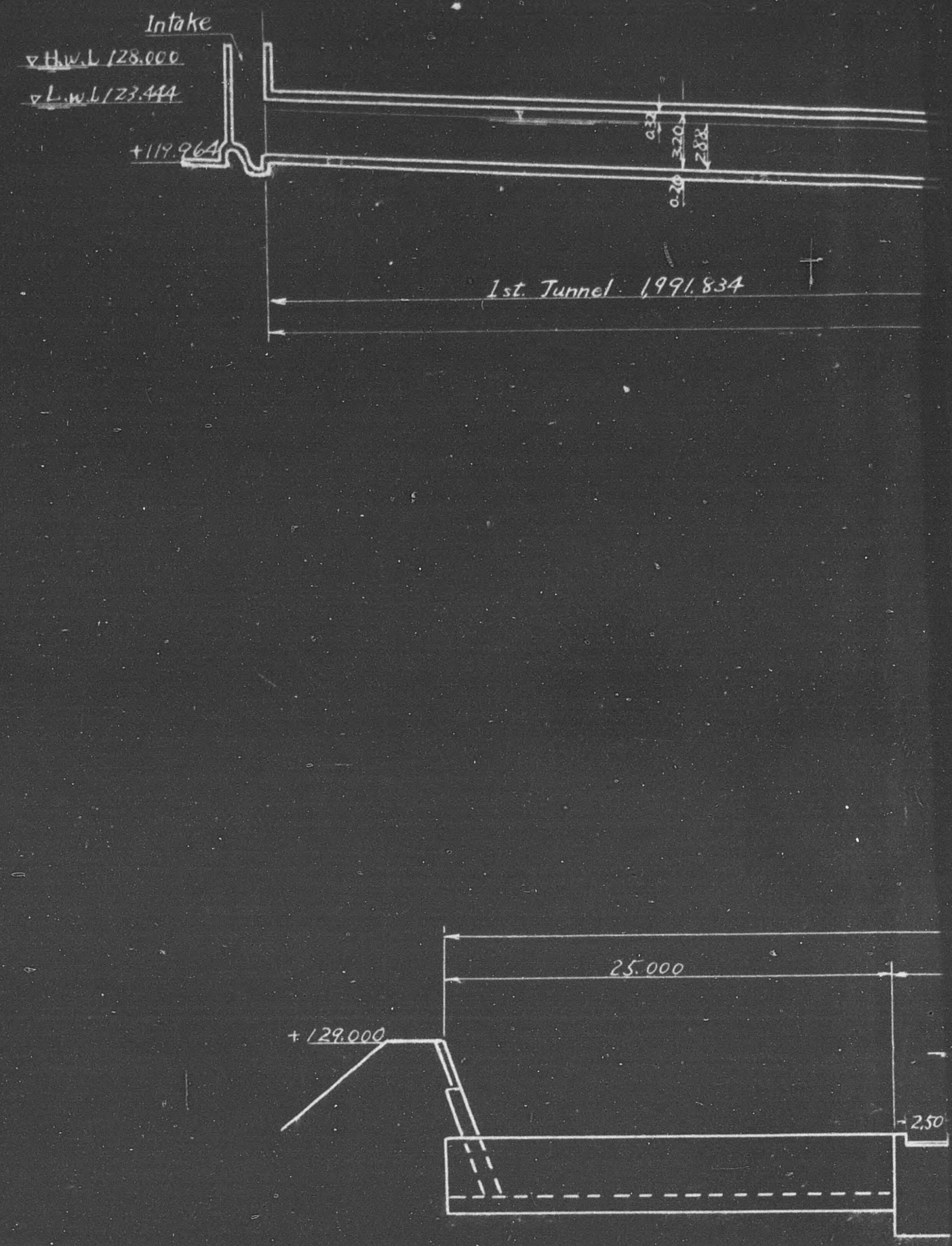
Dam

Type	Overflow, Gravity Type, Concrete
Length of Crest	74.84 m
Height	4.35 m
Volume	470.00 m³
Scouring Gate	H.T. 3.4 m W.D. 3.0m 2 unit Manual Winding
Spill Chute	
Fish-Pass	H.D. 2.5 m Grade 1:10, Concrete

Intake

DECLASSIFIED E.O. 12065 SECTION 3 402/MNDG NO:

Lo



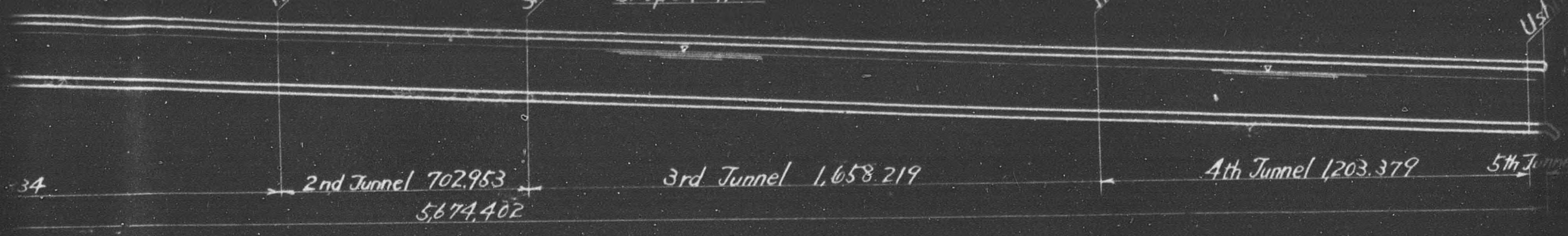
Fish Po

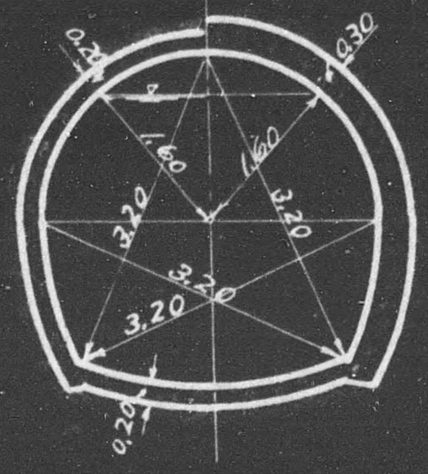
Prote

Dam (imperfected)

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS No.

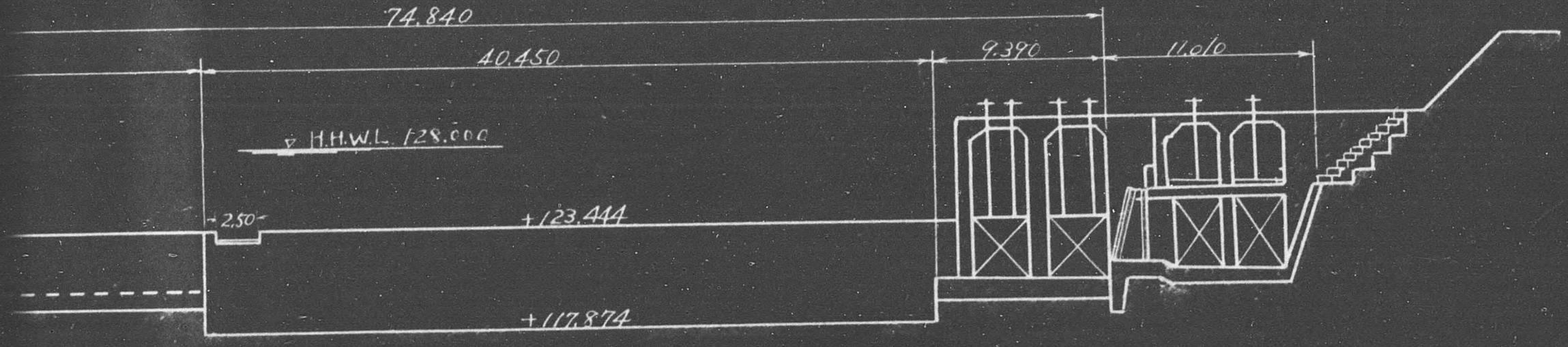
Longit. Section of Tunnel 1/400

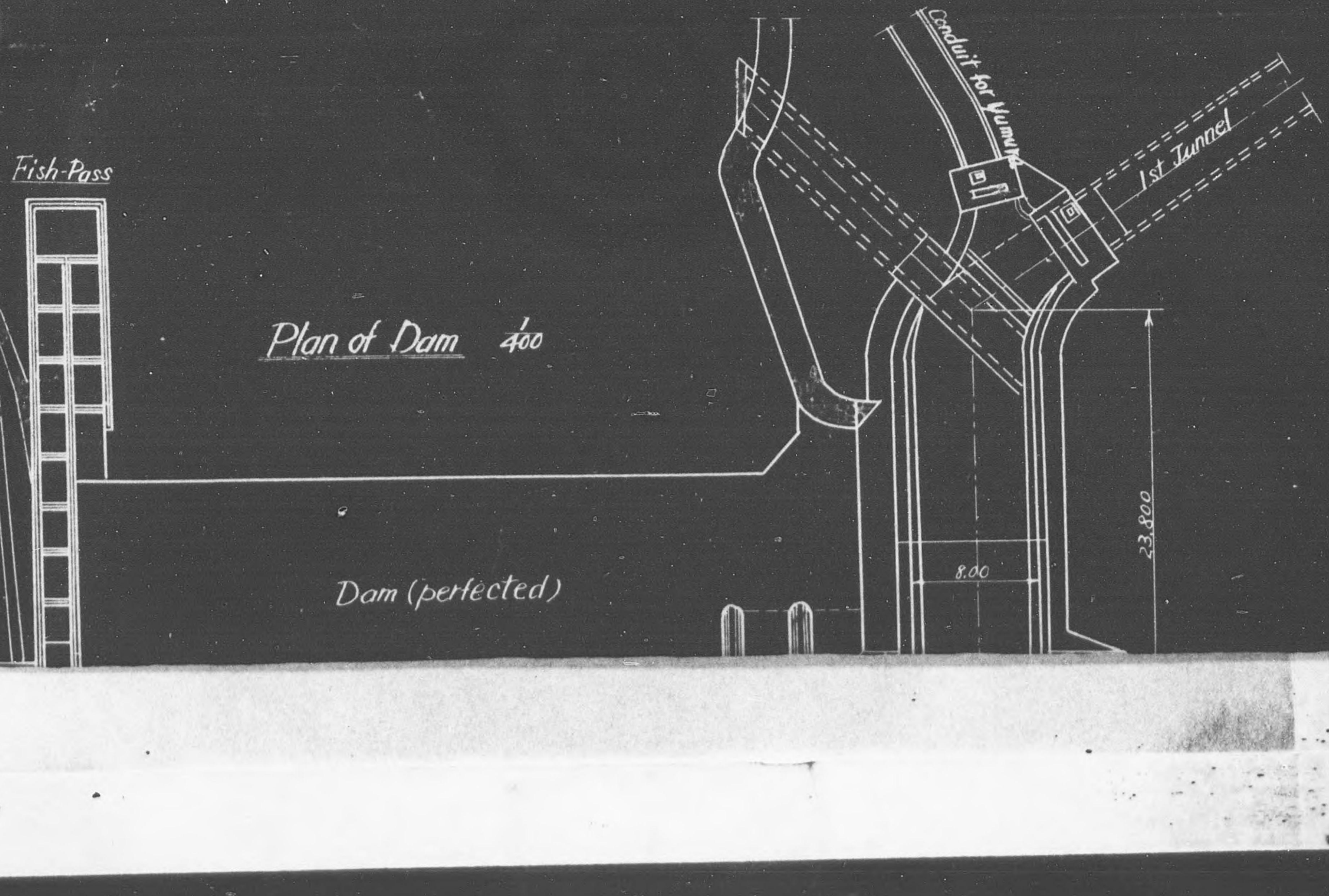




Section of Tunnel 1/100

Front View of Dam 1/400

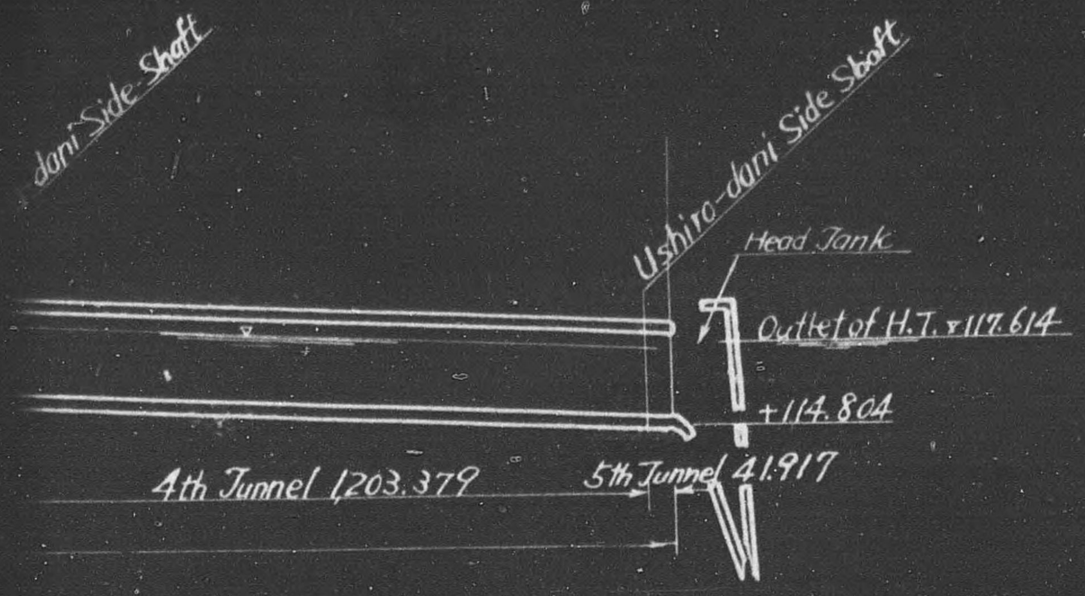


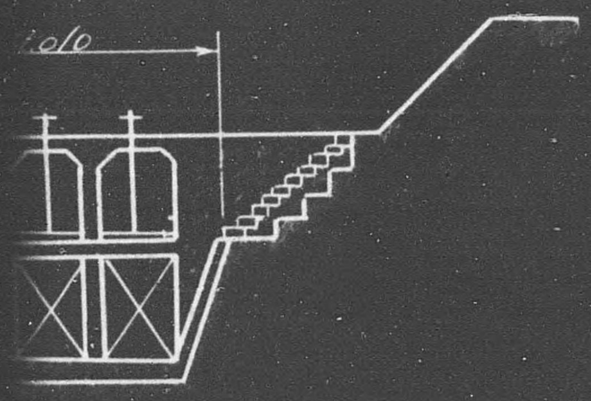


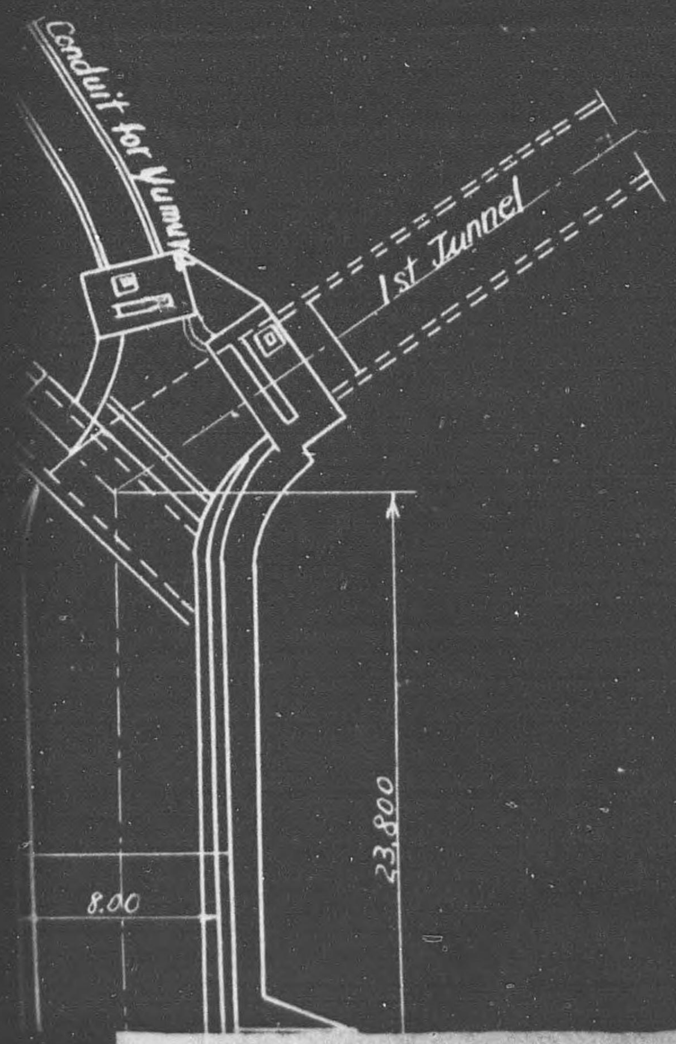
Plan of Dam 1/400

Dam (perfected)

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS No:







Type	Overflow, Grav
Length of Crest	74.84 m
Height	4.35 m
Volume	470.00 m³
Scouring Gate	H.T. 3.4 m W.
Log Chute	
Fish-Pass	H.D. 2.5 m G.

Intake

Outline of Construction	Intake
	Basin

Conduit

Total Length	Total
	Tunnel
	Culvert
	Open Channel
	Aqueduct
Grade	
Section	Tunnel & Culvert
Lining	Tunnel & Culvert

Head Tank

Type	Overflow, Open
Dimension	L.G. 43.95m W. Dim
Discharge of Over Flow	16.7 m³/sec
Kind of Gate	Sluice Gate 2 unit

Spill-Way

Type & Dimension	Culvert L.G. L
Grade	1:1.6 ~ 1:4.0

Pipe-Line

Total Length	93.20 m
Number of Pipe	1 unit Twin
Dimension	Dia. 2.60~2.7

Power Plant

Type	Reinforced Co
Dimension	W.D. 21.0 m L

Tail-Race

Type & Dimension	Open Channel
Total Length	41.0 m
Grade	1:100

Particulars of Hydraulic Turbine

Type	Verti
Kind	Singl
Generating Power & Number	5,0
Number of Revolution	450
Kind of Speed Governer	Auto

Generator

Generating Power & Number	5,0
Voltage	6,6
Phase	3
Frequency	60
Method of Cooling Generator	Se

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

e	Overflow, Gravity Type, Concrete
gth of Crest	74.84 m
ght	4.35 m
ume	470.00 m^3
ring Gate	H.T. 3.4m W.D. 3.0m 2 unit Nanual Winding
Chute	
h-Pass	H.D. 2.5m Grade 1:10, Concrete

Intake

line of Construction	Intake	W.D. 4.0m 3unit, Concrete
	Basin	W.D. 8.0m L.G 37.30m Concrete

Conduit

l Length	Total	5,654.4 m
	Tunnel	5,598.3 m
	Culvert	56.1 m
	Open Channel	
	Aqueduct	
ade	1:1100	
ction	Tunnel & Culvert	Dia. 3.20m 2R Standard Hoof Type
ming	Tunnel & Culvert	Tunnel 20~30cm Culvert 50cm

Head Tank

	Overflow, Open Channel Type, Concrete
ension	L.G. 43.95m WDmax 10.00m D.T. 2.88~4.70m L.G. of O.F crest 15m
harge of Over Flow	16.7 m^3/sec
d of Gate	Sluice Gate 2 unit Screen 2 unit

Spill-Way

Dimension	Culvert L.G. 150.90 m, Concrete
ade	1:1.6 ~ 1:40

Pipe Line

l Length	93.20 m
ber of Pipe	1 unit Twin Branch at the Botton
nsion	Dia. 2.60~2.70 m Thickness 9~16 mm Total W.T. 8 ot

Power Plant

e	Reinforced Concrete
nension	W.D. 21.0 m L.G. 15.5 m H.T. 14.3 m

Tail-Race

e & Dimension	Open Channel W.D. 10.50 m H.T. 6.50 m
l Length	41.0 m
de	1:100

Particulars of Hydraulic Power Plant

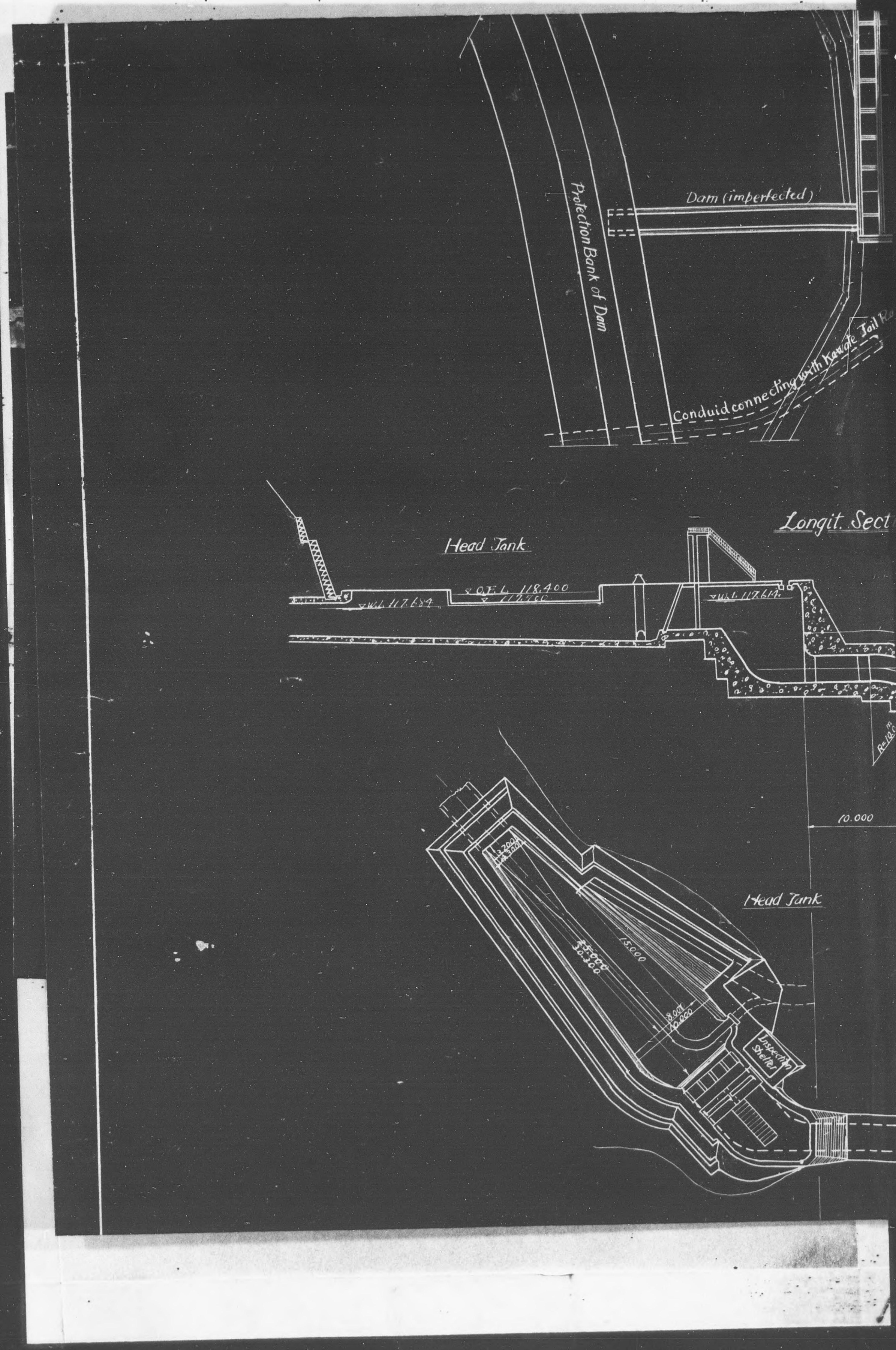
Turbine

e	Vertical Francis Type
d	Single Wheel Single Flow
erating Power & Number	5,000 K.W. 2 unit
ber of Revolution	450 R.P.M.
d of Speed Governer	Automatic Oil Pressure operated

Generator

nerating Power & Number	5,000 K.V.A. 2 Unit
ltage	6,600 V
hase	3 Phase
requency	60 ~
ethod of Cooling Generator	Self-Ventirated

DECLASSIFIED E.O. 12065 SECTION 3 NSC MEMO



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

Plan of Dam 400

Dam (perfected)

ected)

8.00

23.800

Intake

ting with Kawate Tail Race

Longit. Section & Plan of Head Tank, Pipe Line & Power House 400

Power House

Road

Provincial

20.000

7.000

8.500

Center of Turbine

33°10'-29"

t=9 mm

R=10.000

26.150

10.000

40.000

40°49'37"

Pipe Line

ad Tank

Anchor Block

t=12 mm

R=20.000

27.530

54°-0'-00"

E.L. 56.470

Power House

Generator

Inspection Gallery

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS No:

Generating Power & Number
Number of Revolution
Kind of Speed Governer

Generato

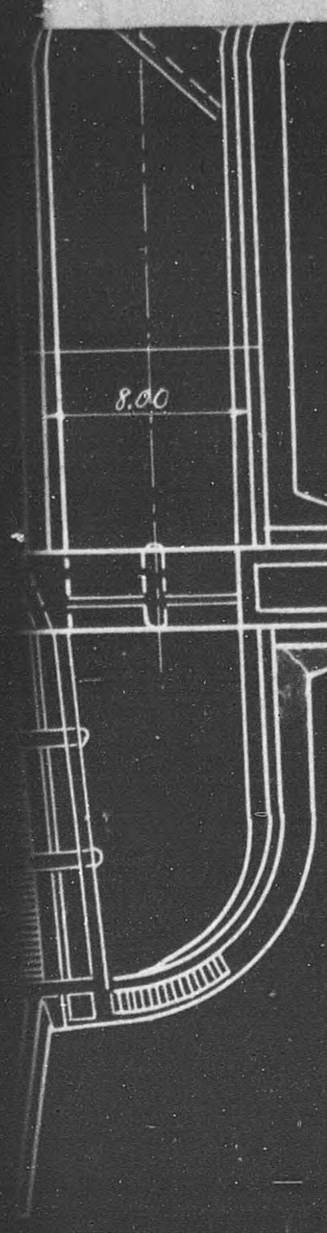
Generating Power & Number
Voltage
Phase
Frequency
Method of Cooling Generator
Method of coupling with a Prime Motor

Necessary Mater

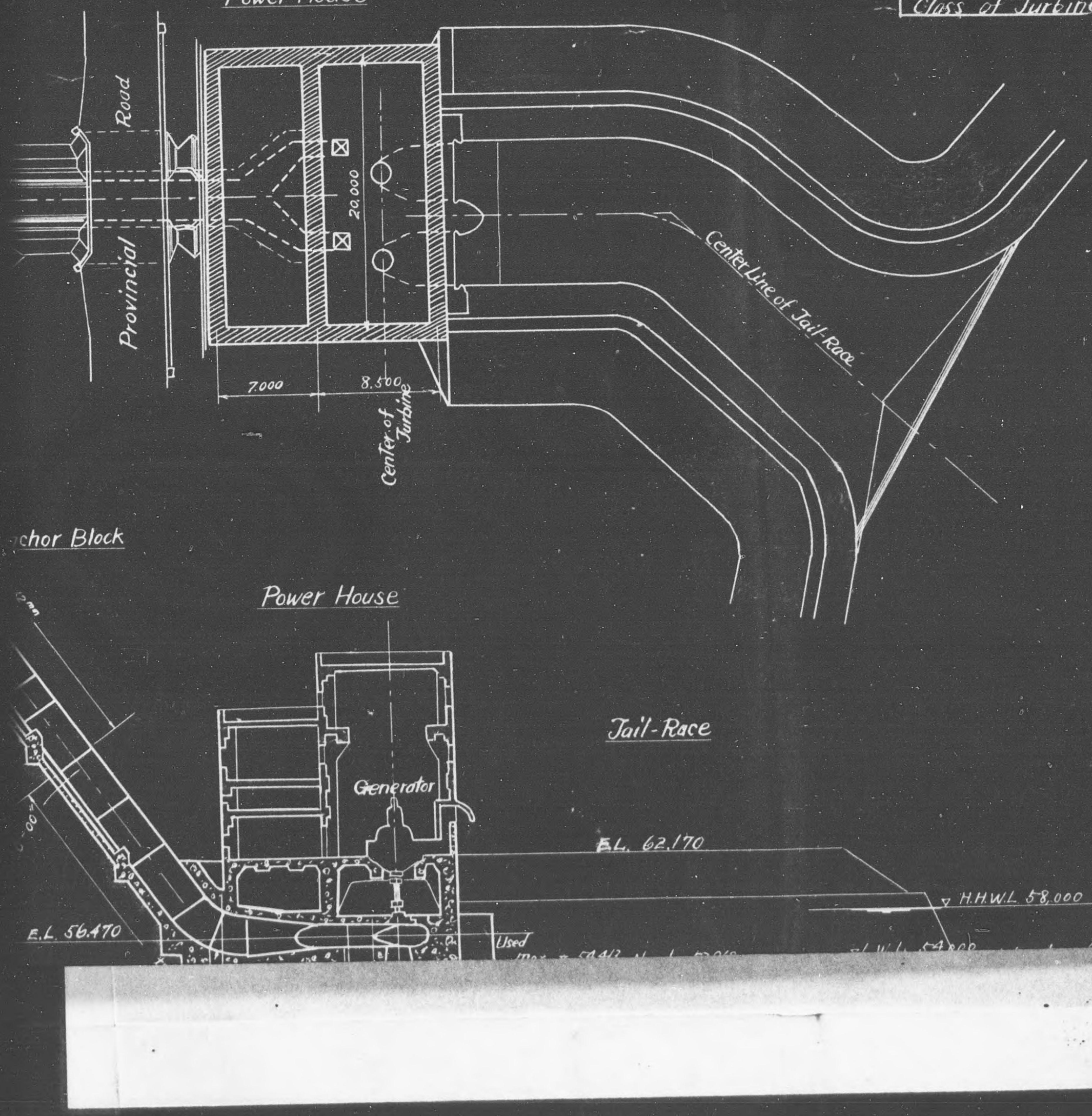
Article	Amount
Gas-Coke	26
Gasoline	54,00
Electric insulating Oil	2,00
Lubricant	33,00
Steel Plates & Angles	45
Iron Wares	74

Contractor

Class of Civil Workings	
Class of Pipe Line	
Class of Gates	
Class of Generators	
Class of Turbine	



Power House



chor Block

Power House

Jail-Race

E.L. 62.170

H.H.W.L. 58,000

Used

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

erating Power & Number	5,000 K.W. 2 unit
ber of Revolution	450 R.P.M.
d of Speed Governer	Automatic Oil Pressure operated

Generator

erating Power & Number	5,000 K.V.A. 2 Unit
tage	6,600 V
se	3 Phase
quency	60 ~
hod of Cooling Generator	Self-Ventirated
d of compling with a Prime Motor	Direct-Compling

Necessary Materials

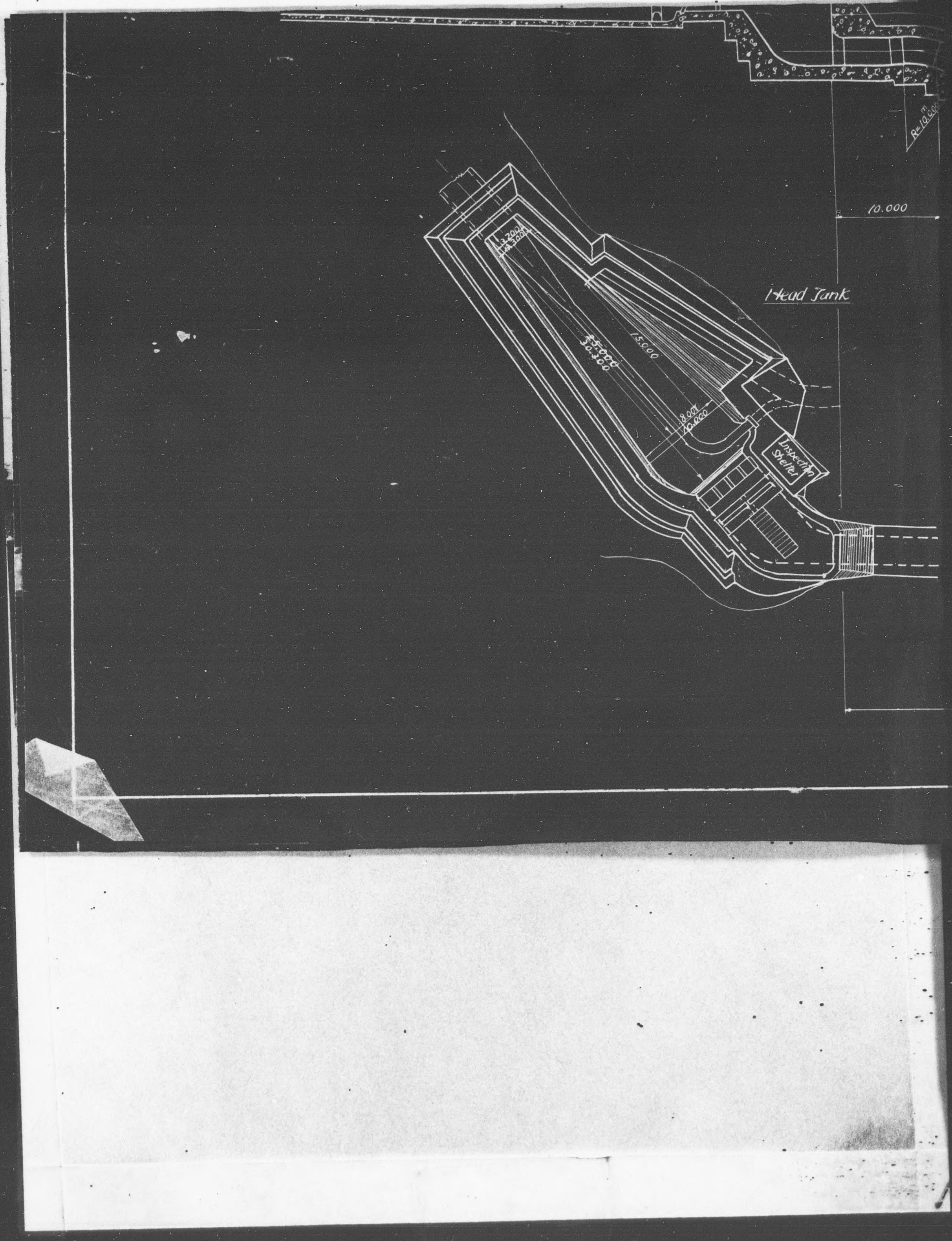
ticle	Amount	Unit	Article	Amount	Unit
l-Coke	260	t	High Carbon Tool Steel	38	t
oline	54,000	l	Portland Cement	7,000	t
tric insulating Oil	2,000	l	Carbite	28	t
ricant	33,000	l	Dynamite	53	t
el Plates & Angles	452	t	Timbers	6,000	m^3
n Wares	74	t	Rubber Hoses	3,000	m

Contractor

s of Civil Workings	
s of Pipe Line	
of Gates	
of Generators	
of Turbine	

H.W.L. 58,000

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.



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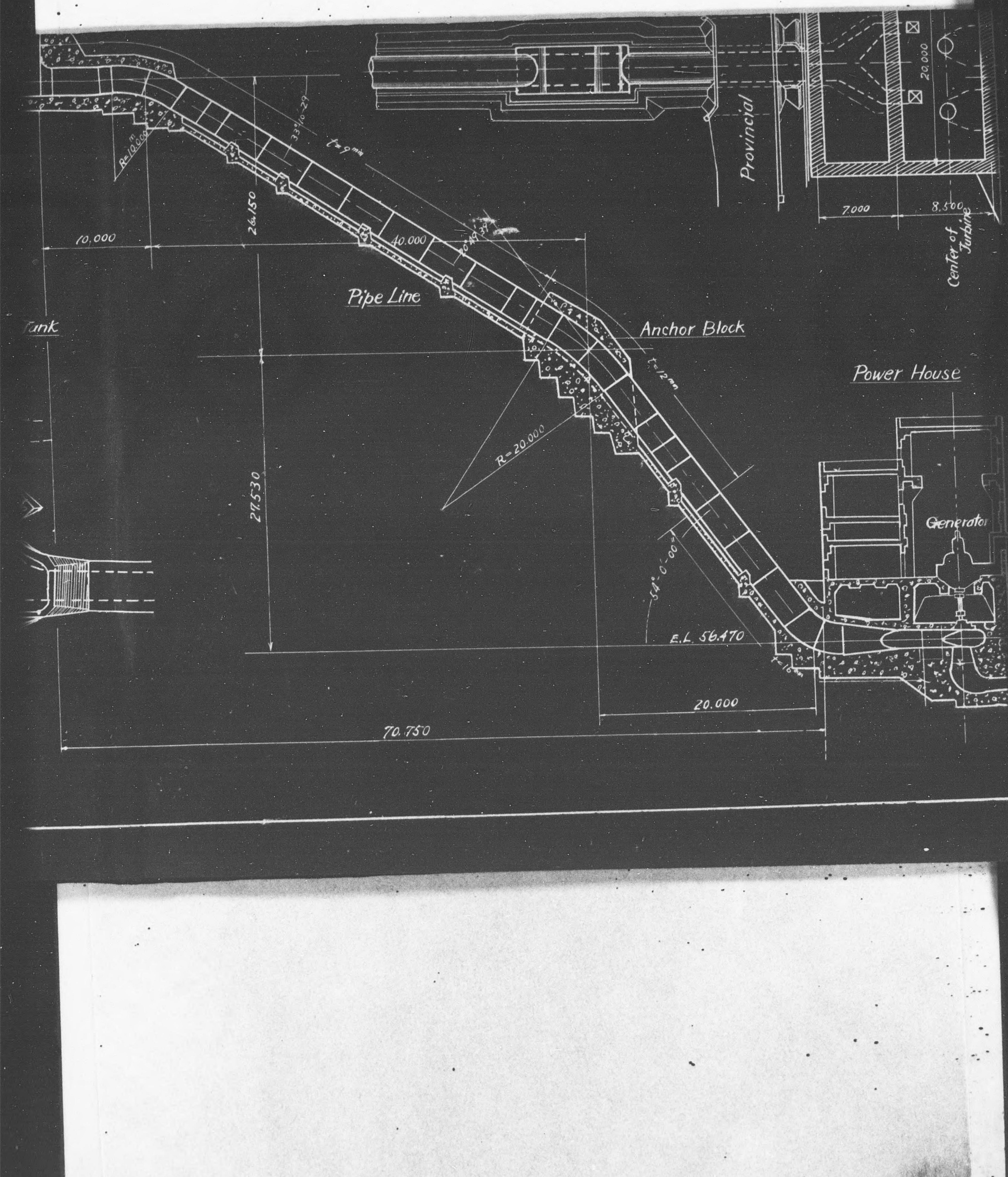

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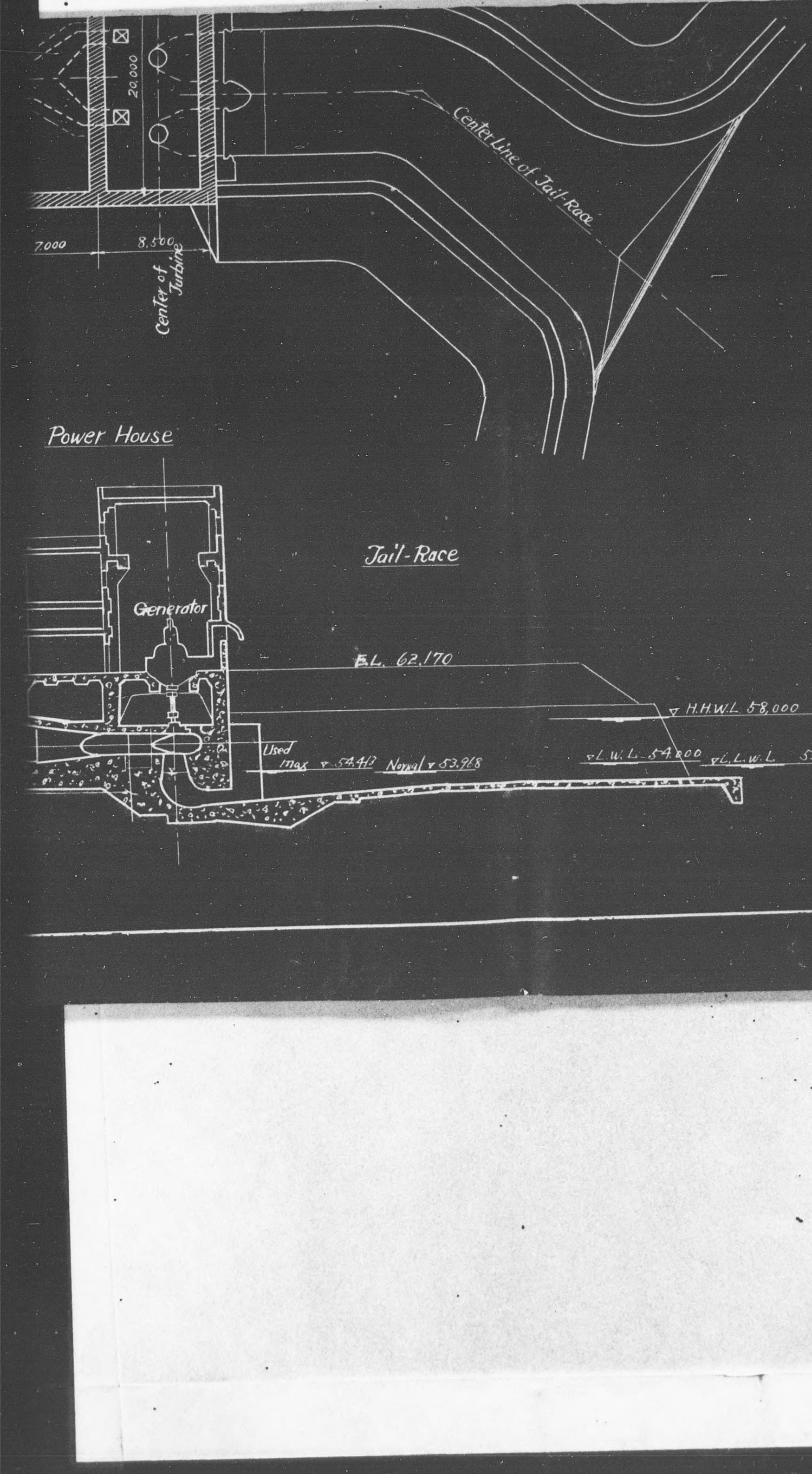


DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [redacted]

8,000

W.L 53.850

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [illegible]

GENERAL VIEW OF MOF

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

OF MORIBARA HYDRO-ELECTR

Japan Electric C

General View of Tunnel scale 1:5

Weir

Kōbe Dam

Kōbe Intake

Kannose Power-House

Kimita Power-House Pond

Kimita Power-House

Kannose Conduit

Kimita Conduit

River

HUTAMI

1:1,000

Section of Main-line Scale 1/100

Kōbe Intake

1st Culvert

Section of Culvert

Section of Tunnel

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [illegible]

ECTRIC POWER PLANT

History

n Electric Generation & Transmission Co., Ltd.

Chugoku Branch Office

Hiroshima, May 31th 1948.

el scale. 1:50,000

Particula

Name of

Name of

Location o

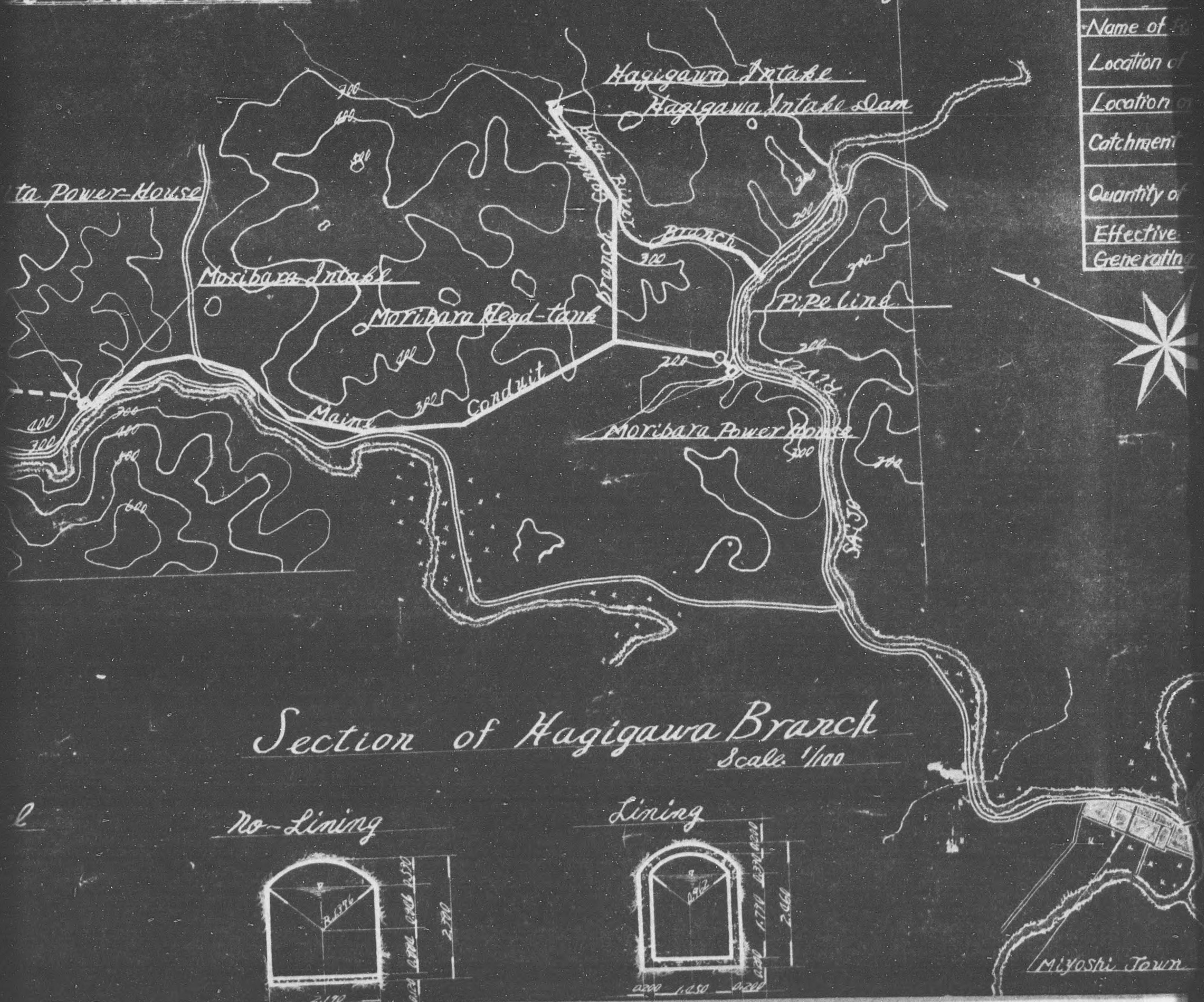
Location o

Catchment

Quantity o

Effective

Generating



Section of Hagigawa Branch

Scale. 1/100

l

No-Lining

Lining

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [redacted]

Outline of Plan

History of Appeals & Permissions taken from Govt.

	Recieved Constructing Order
	Appeal on Usage of Water
	Appeal on Permission concerning Construction Work
	Recieved Permission concerning the Usage of Water
	Recieved Permission concerning Construction Work

Particulars estimating Hydraulic-Power

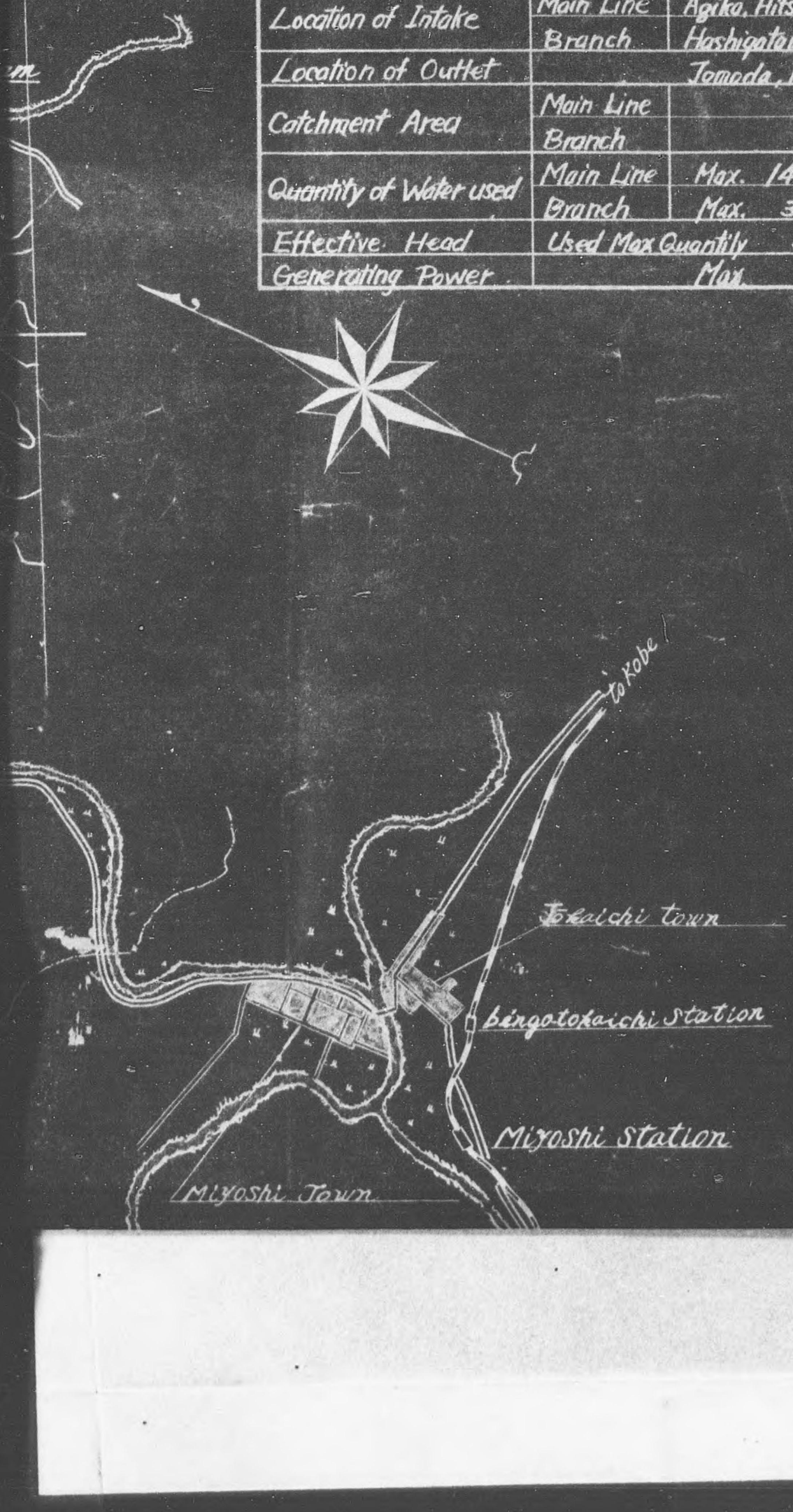
Name of River, Intak	Main Line	Kannosegawa in the Gōnogawa Route
	Branch	Hagigawa in the Gōnogawa Route
Name of River Outlet		Saijogawa in the Gonogawa Route
Location of Intake	Main Line	Agika, Hitsuda, Kimita, Futami, Hiroshima Pref.
	Branch	Hashigatame, Higashi-irigimi, Kimita, Futami, Hiroshima Pref.
Location of Outlet		Tomoda, Higashi-irigimi, Kimita, Futami, Hiroshima Pref.
Catchment Area	Main Line	180.2 KM²
	Branch	74.0 KM²
Quantity of Water used	Main Line	Max. 14.0 m³/sec. Normal 5.9 m³/sec.
	Branch	Max. 3.6 m³/sec. (Supply) Normal 0.5 m³/sec.
Effective Head	Used Max Quantity	37.100 Used Normal Quantity 38.000
Generating Power	Max.	6,300 KW Normal 2,700 KW

NT

d.

e

y 31th 1948



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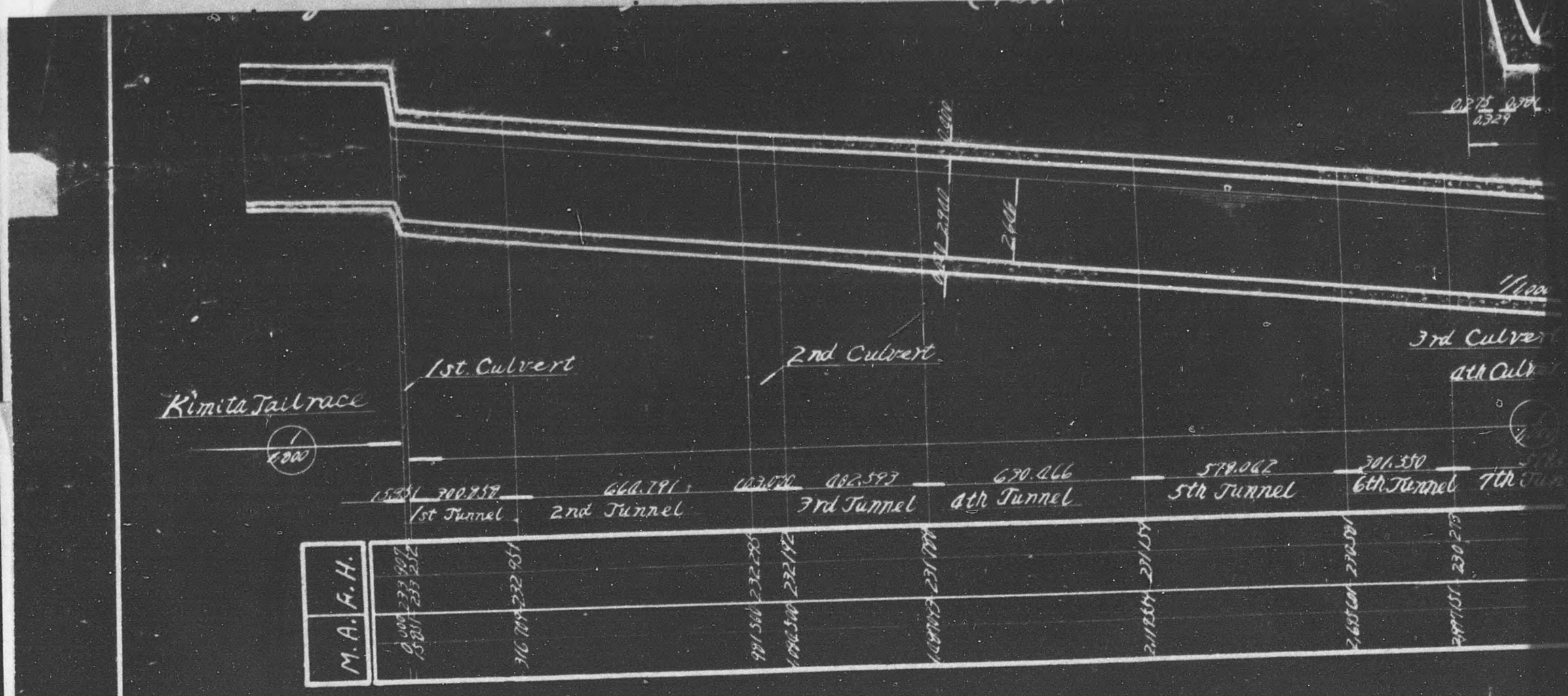
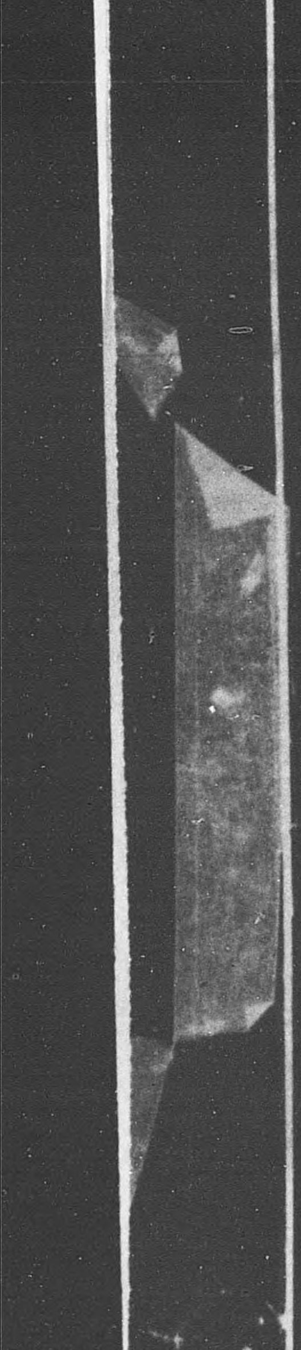
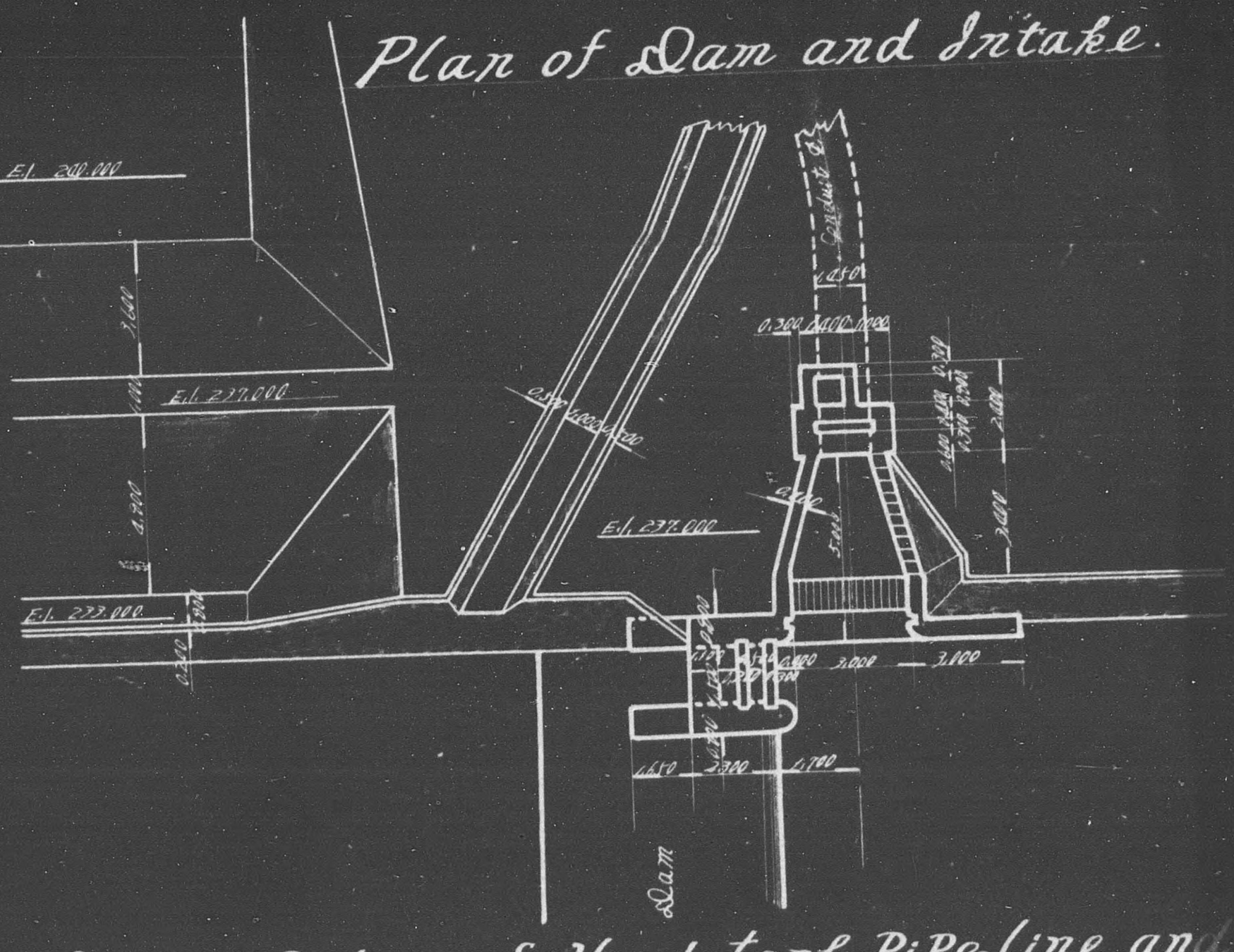
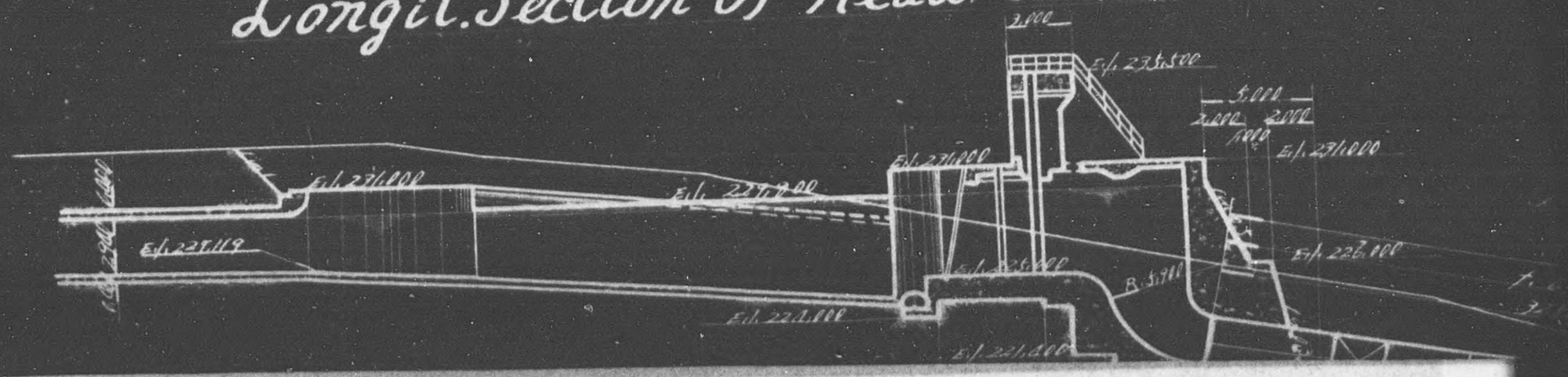


Plan of Dam and Intake.





Longit. Section of Head-tank. Pipe-line and



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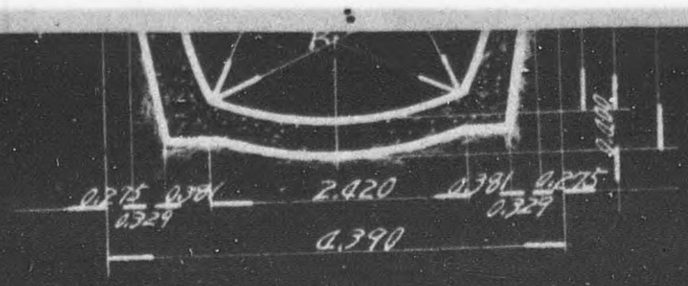
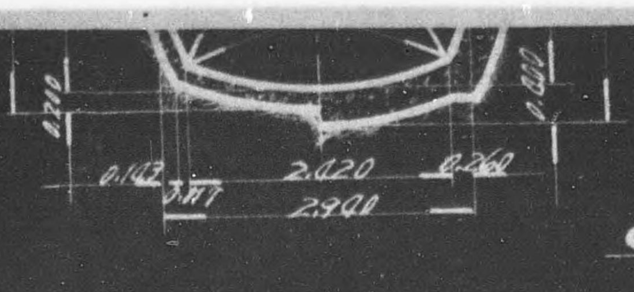
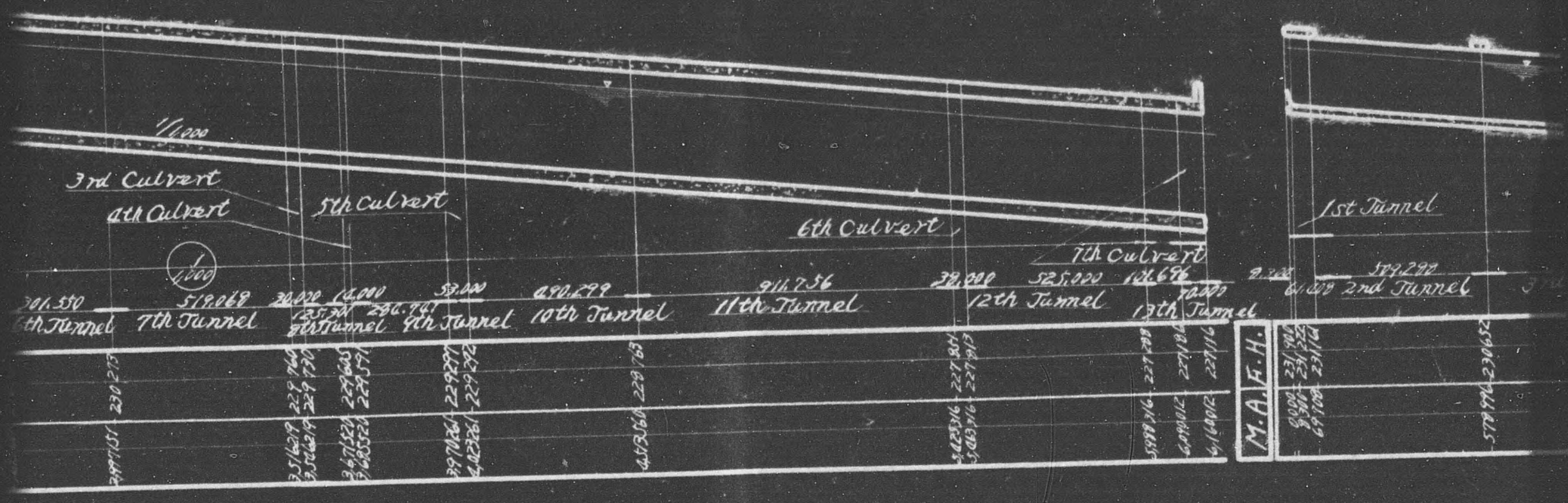


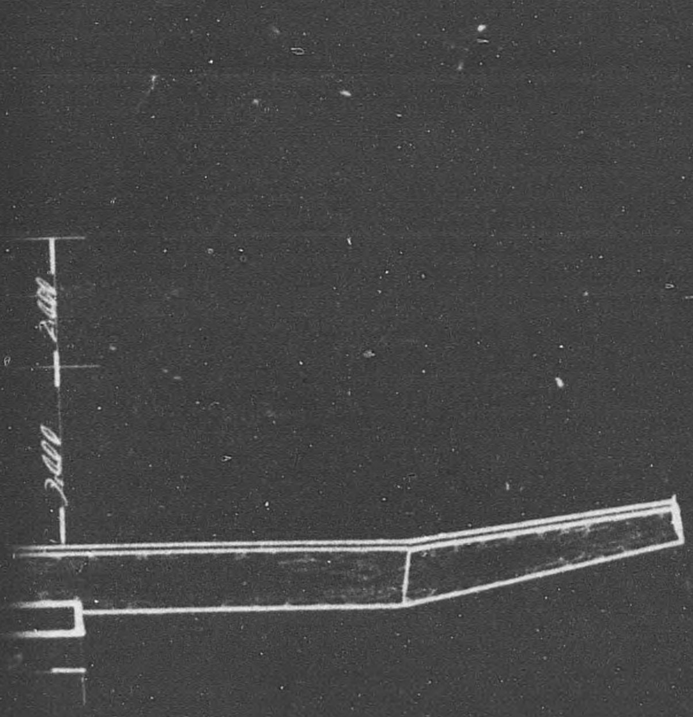


Longit. Section A



ntake. Scale. 1/200

Front View of Dam Scale. 1/200



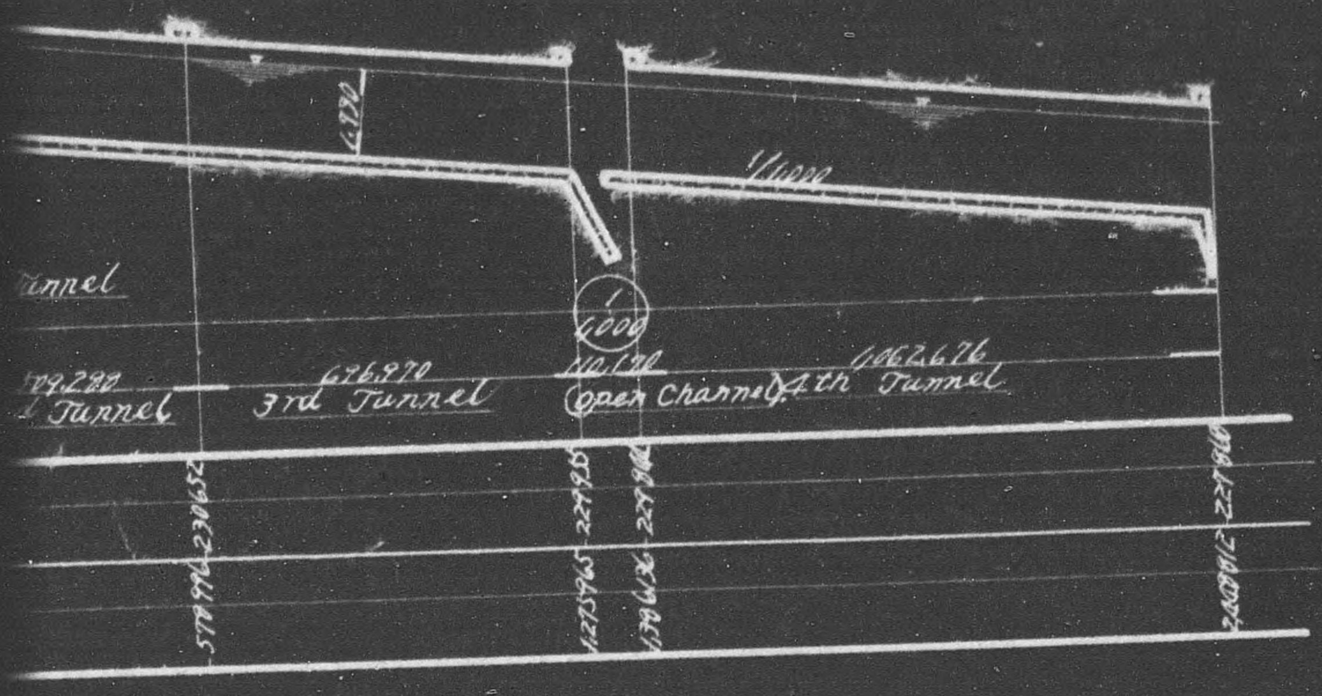
Typical Section of Dam

-line and Power-house
Scale. 1/200

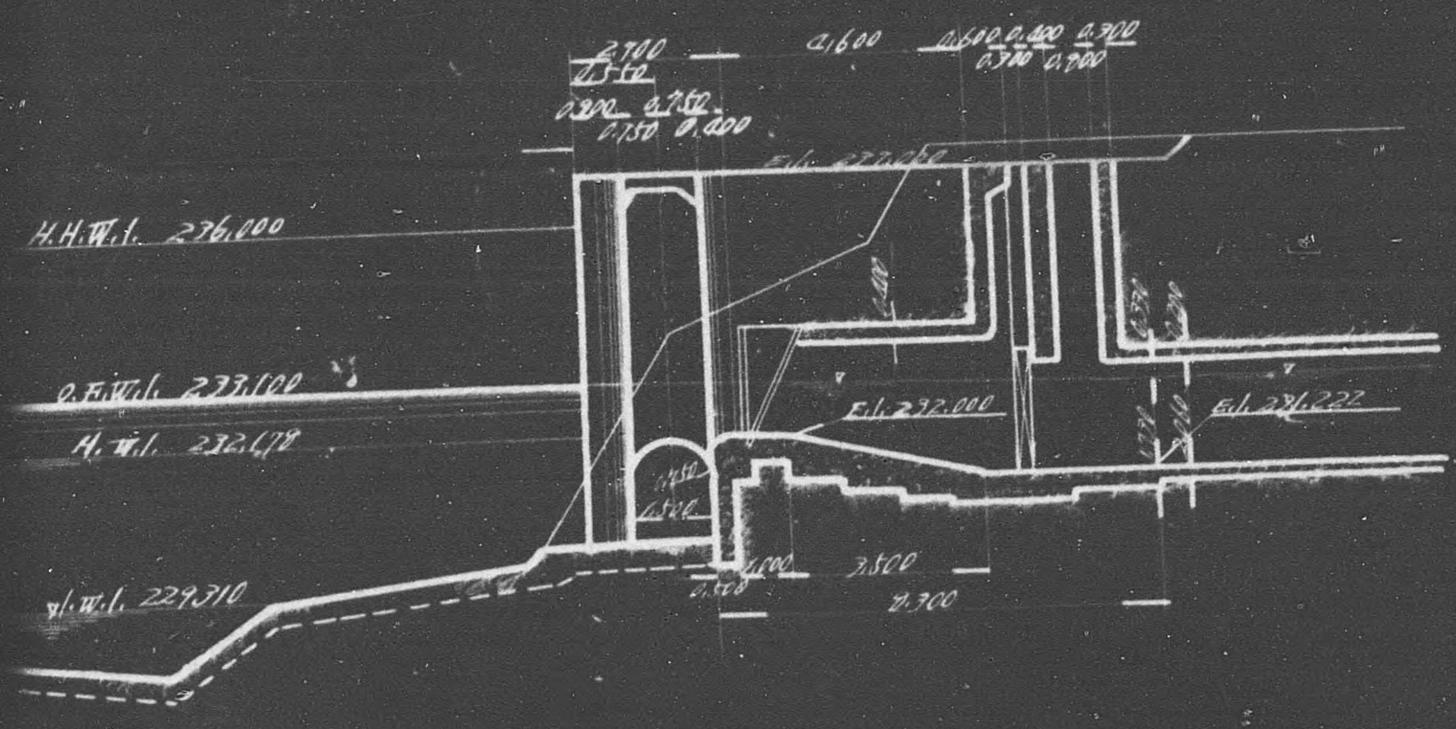
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

tion Hagigawa Branch

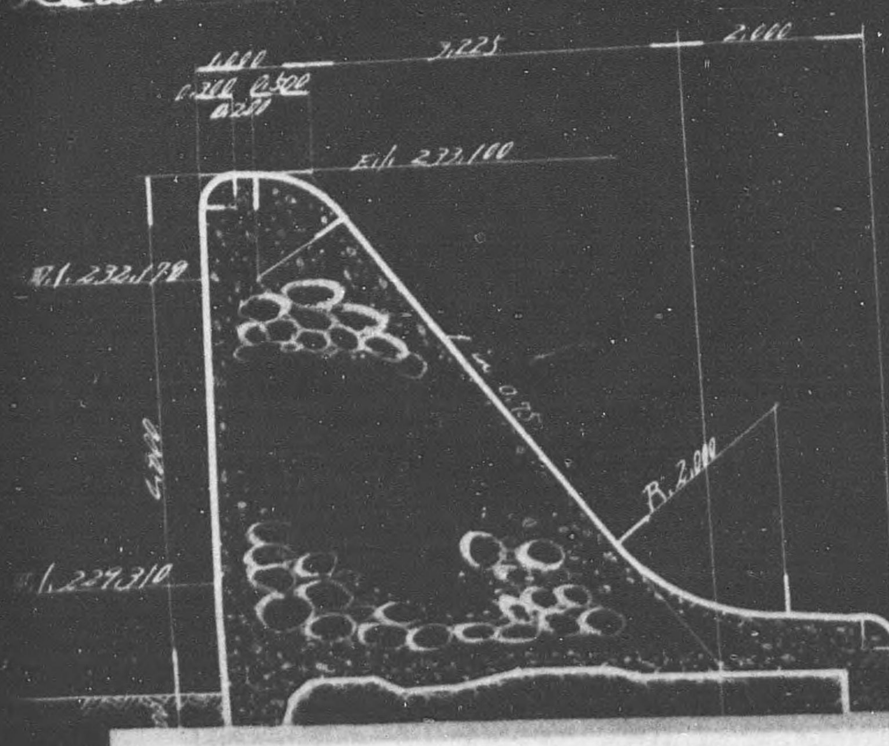
Scale { 1/20,000 / 1/200



e. 1/200



Dam Scale. 1/100



Particulars concerning Cl... Dam in the Branch Line

Type	Overfl...
Length of Crest	
Height	
Volume	
Gate of Sand removing	

Intake in the Main Line

Total Length	
Dimension	
Gate	W.D.

Intake in the Branch L...

Outline of Construction	W.D.
Gate	W.D.

Conduit in the Main L...

Total Length	Total / Tunnel / Culvert
Grade	
Section	W.D.
Lining	Co...

Conduit in the Branch ...

Total Length	Total / Tunnel / Open Ch...
Grade	
Section	W.D.
Lining	C...

Head Tank

Type	Overfl...
Dimension	L.G. ...
Quantity of Overflow	
L.T. of Crest, Overflow	
Kind of Gate	W.D. ...

Spill Way

Type	Culv...
Dimension	W.D.
Total Length	
Grade	

Pipe-Line

Dimension	W.D.
Penstock	Numb... / Sectio... / Weigh...

Power Plant (Cha...

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

to Hirosima

00

Particulars concerning Civil Workings

Dam in the Branch Line

Type	Overflow Gravity Type, Concrete
Length of Crest	29.00 m
Height	4.80 m
Volume	244.00 m³
Gate of Sand removing	H.T. 1.6 m W.D. 1.5 m 1 unit

Intake in the Main Line (1st Culvert)

Total Length	15.851 m
Dimension	H.T. 2.94m W.D. 2.94 m Thickness 40 cm
Gate	W.D. 2.94m H.T. 3.00 m 1 unit, W.D. 4.50 m H.T. 3.52 m 1

Intake in the Branch Line

Outline of Construction	W.D. 3.00 m H.T. 5.00 m Concrete
Gate	W.D. 5.00 m H.T. 2.40 m 1 unit W.D. 3.00 m H.T. 3.30 m Screen 1

Conduit in the Main Line

Total Length	Total	6,160.612 m
	Tunnel	5,836.161 m
	Culvert	323.851 m
Grade	1 : 1,000	
Section	W.D 2.94 m H.T. 2.94 m Hoof Type	
Lining	20~40 cm	

Conduit in the Branch Line

Total Length	Total	2,448.812 m
	Tunnel	2,338.642 m
	Open Chan.	110.170 m
Grade	1 : 1,000	
Section	W.D. 1.45 m H.T. 2.06 m Vertical Side Wall – Arch Type	
Lining	0, & 20 cm	

Head Tank

Type	Overflow, Open-Channel Type, Concrete
Dimension	L.G. 42.00 m W.D. max. 11.00 m D.T. 2.7~5.5 m
Quantity of Overflow	14.00 m³/sec
L.T. of Crest, Overflow	20.00 m
Kind of Gate	W.D. & H.T. 4.00m control gate 1, W.D. 9 H.T. 1.00 m Sand remov. gate 1, W.D. 5.00 H.T. 5.50 Screen

Spill Way

Type	Culvert, Reinforced Concrete
Dimension	W.D. 1.50 m H.T. 2.00 m
Total Length	172.167 m
Grade	1:7.6 ~ 1:2.6

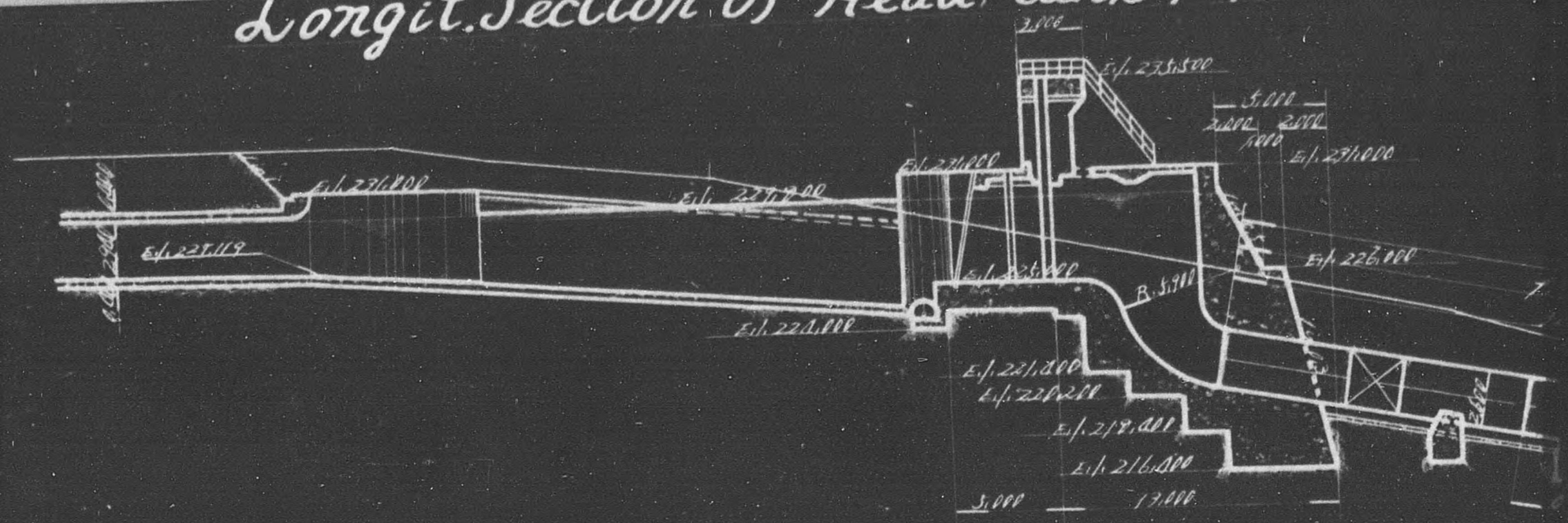
Pipe-Line

Dimension	W.D. 4m Grade 1:5.5 ~ 1:1.6 L.T. 100.40 m	
Penstock	Number	1 unit Twin Branch at the Bottom
	Section	Dia 2.60m Branch-Dia 1.80m Thickness 8~22 mm
	Weight	95 ton

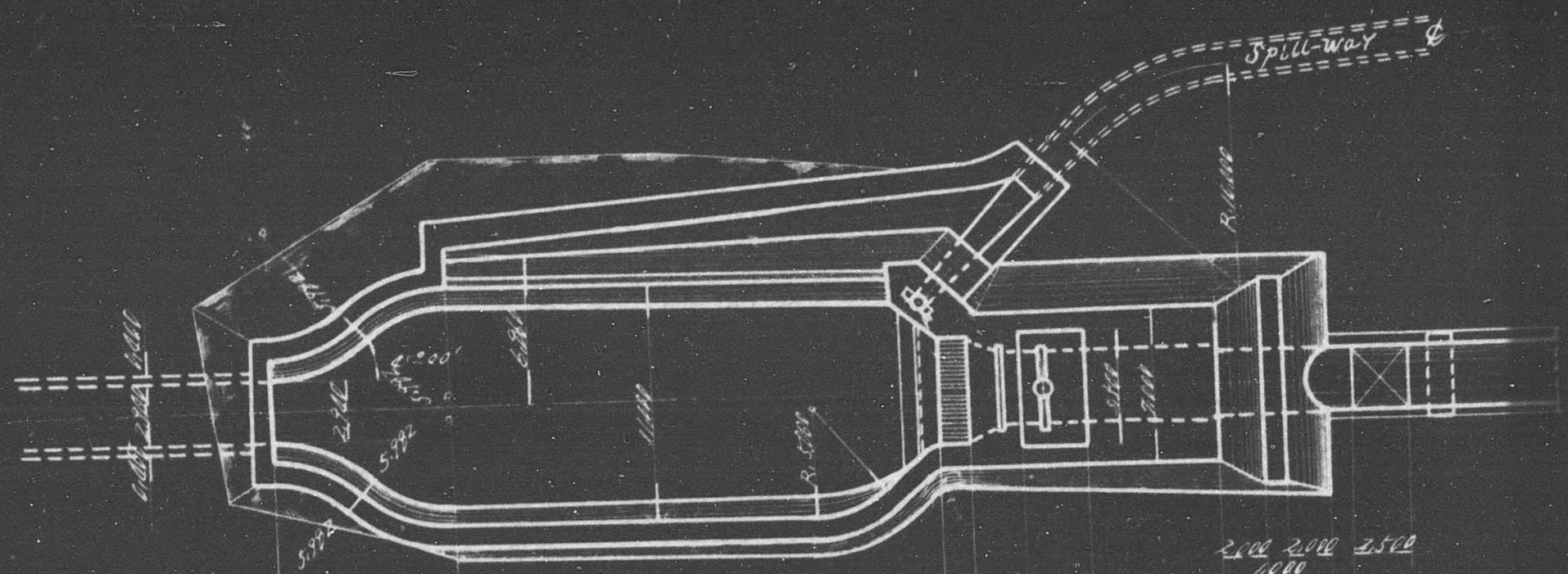
Power Plant (Chamber)

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [illegible]

Longit. Section of Head-tank. Pipe-line and



Plan of Head-tank. Pipe-line and Power-house



Table

Main Line. Intake (1st Culvert)	15 851	Main Line 8th Tunnel	125 301
Main Line. 1st Tunnel	300 858	" 9th "	284 241
" 2nd "	664 791	" 10th "	490 244
" 3rd "	402 593	" 11th "	911 756
" 4th "	630 466	" 12th "	525 000
" 5th "	578 042	" 13th "	101 696
" 6th "	301 550	" 2nd Culvert	103 000
" 7th "	519 068	" 3rd "	30 000