

REPUBLICA DE CHILE

COMISION NACIONAL DE RIEGO

ESTUDIO INTEGRAL DE RIEGO

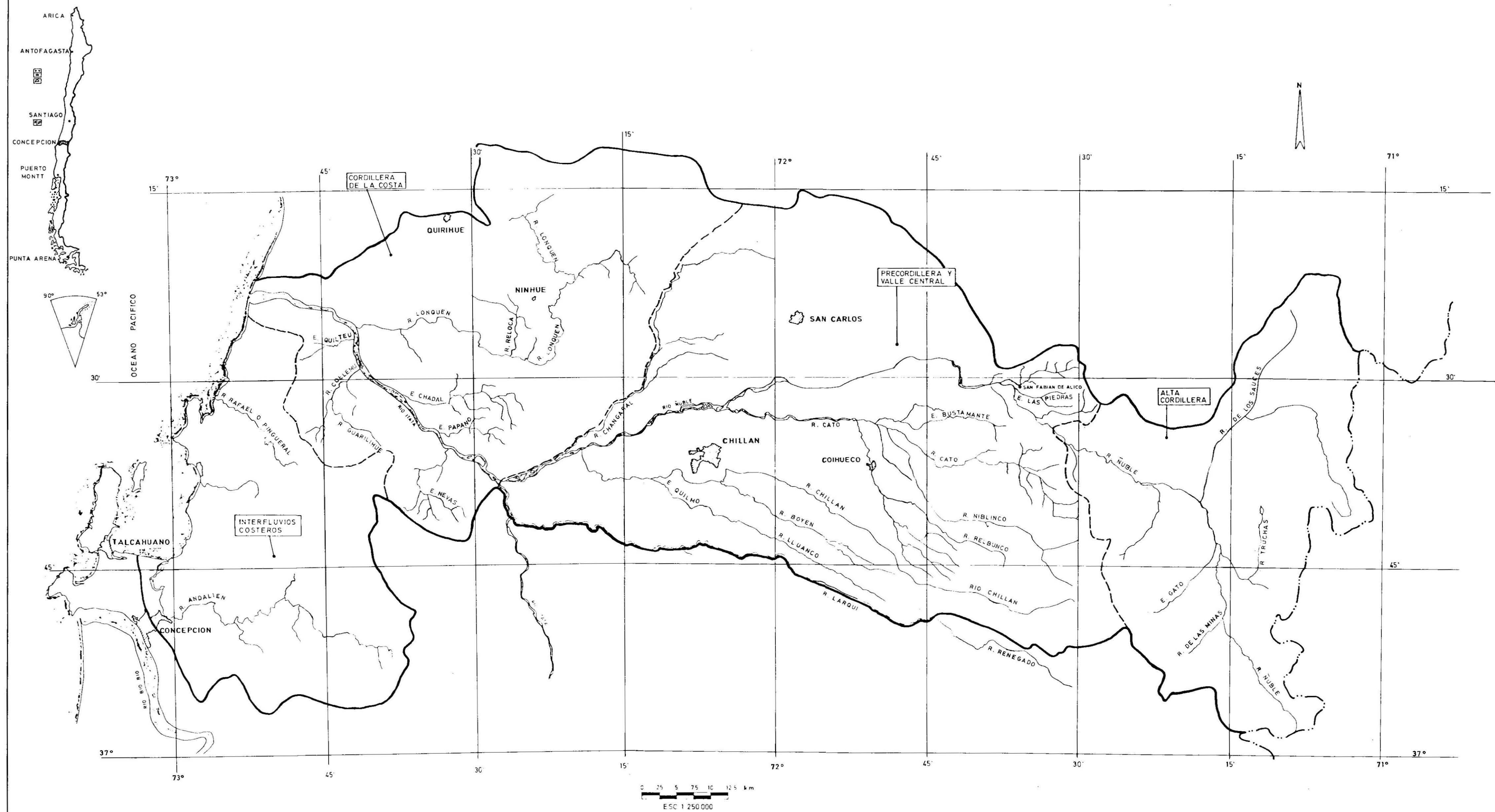
PROYECTO ITATA

ALBUM DE PLANOS

CONSORCIO DE INGENIERIA INGENDESA - EDIC LTDA.

AGOSTO 1994

ALBUM DE PLANOS			
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	PI-III-2	RED DE CANALES EXISTENTES	SECTOR NIQUEN - NUBLE - CATO
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V	PI-V-1	CATASTRO DE OBRAS DE REGULACION	UBICACION DE POSIBLES EMBALSES
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	PI-IX-11	EMBALSE PUNILLA: PRESA DE HORMIGON RODILLADO	PLANTA Y CORTES
	PI-IX-12	EMBALSE QUILMO	PLANTA Y CORTES
	PI-IX-13	EMBALSE BOYEN	PLANTA Y CORTES
	PI-IX-14	EMBALSE CHANGARAL	PLANTA Y CORTES
	PI-IX-15	EMBALSE ANDALIEN	PLANTA Y CORTES
	PI-IX-16	EMBALSE PUYAMAVIDA	PLANTA Y CORTES
XI	PI-XI-1	AREAS DE PLANIFICACION Y SECTORES DE RIEGO	DEFINICION GENERAL

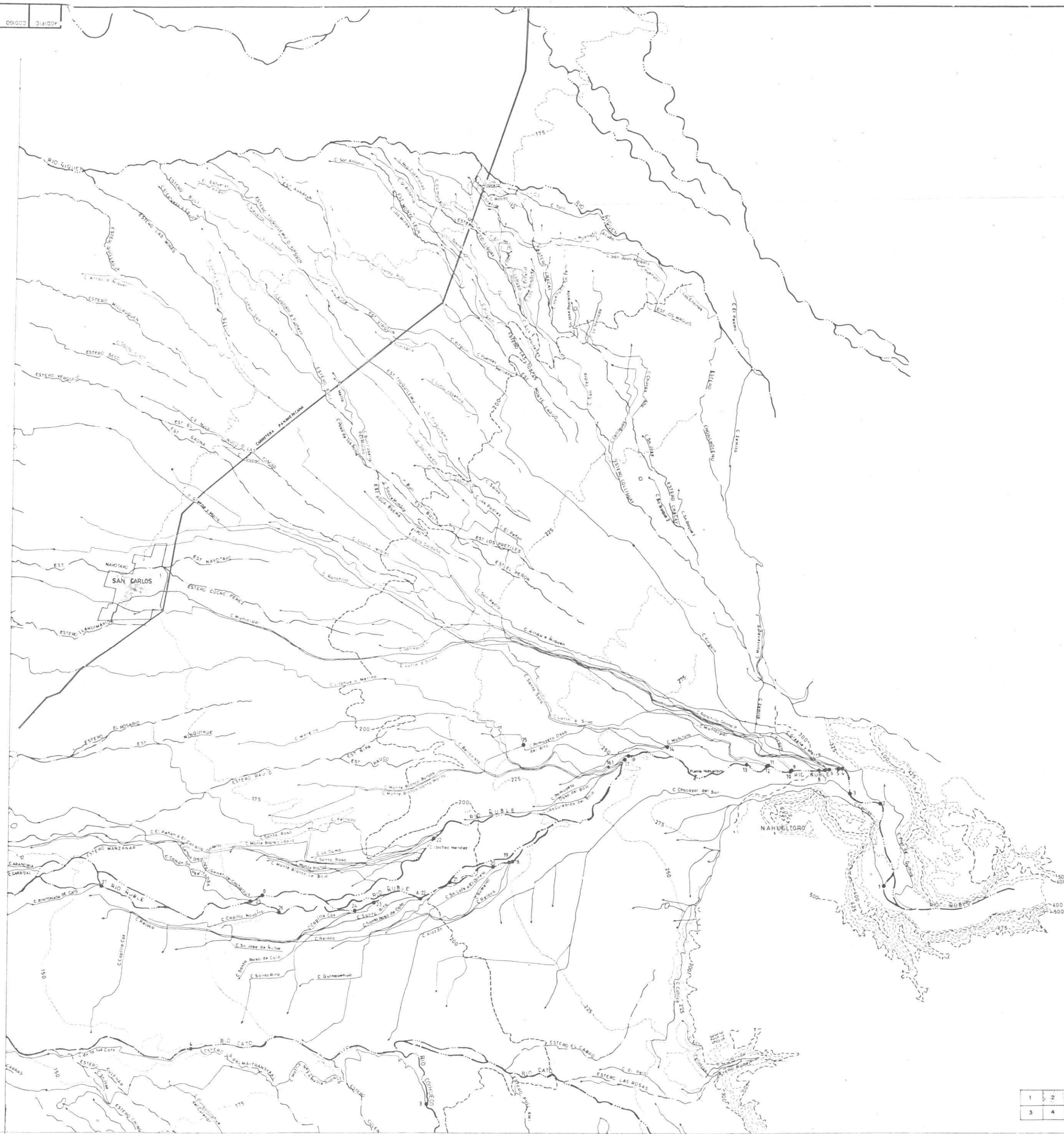


PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	UBICACION GENERAL	AREA DEL PROYECTO
COMISION NACIONAL DE RIEGO	Consorcio INGENDESA-EDIC	PI-1-1



1	2
3	4

PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	RED DE CANALES EXISTENTES	SECTOR CHANGARAL - NUBLE
COMISION NACIONAL DE RIEGO	Consortio INGENDESA-EDIC	P1-III-1



ESC 1:50000
0 1000 2000 2500 m

1	2
3	4

PROYECTO ITATA
ESTUDIO INTEGRAL DE RIEGO
COMISION NACIONAL DE RIEGO

RED DE CANALES EXISTENTES
Consortio INGENDESA-EDIC

SECTOR NIQUEN - NUBLE - CATO
PI-III-2

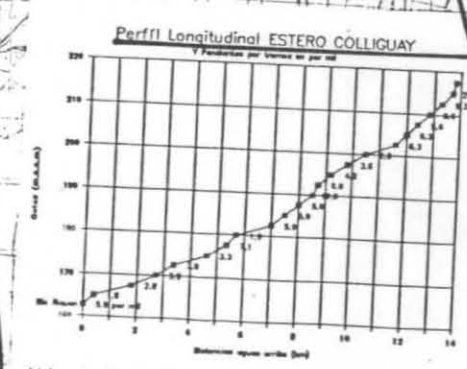
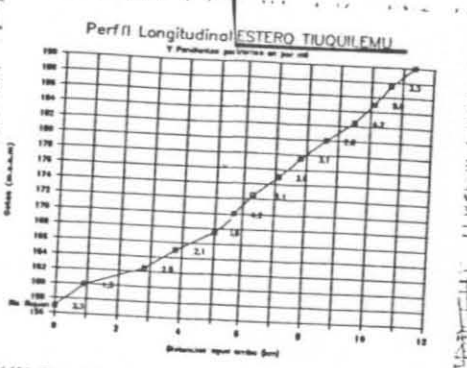
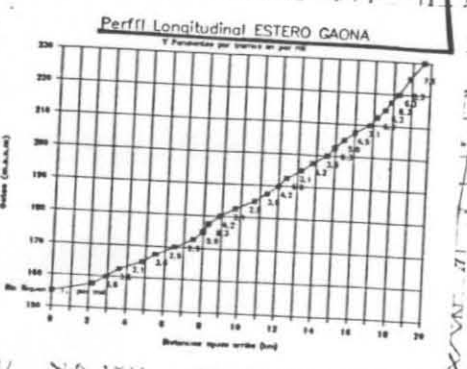
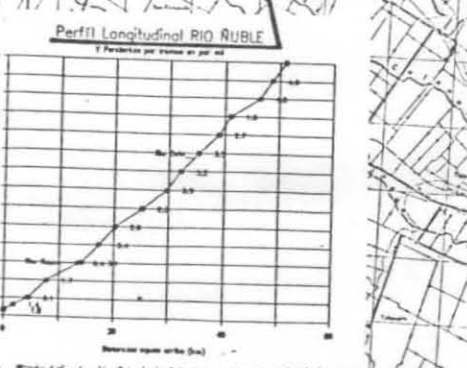
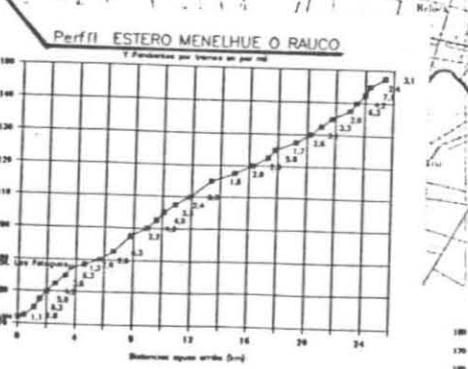
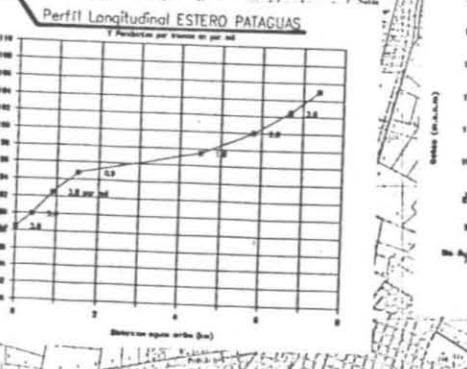
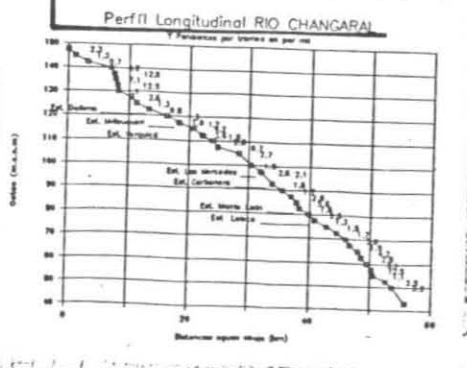
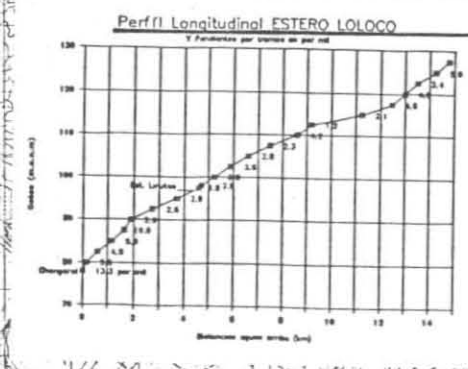
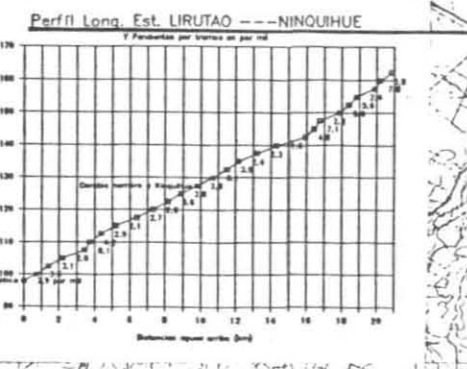
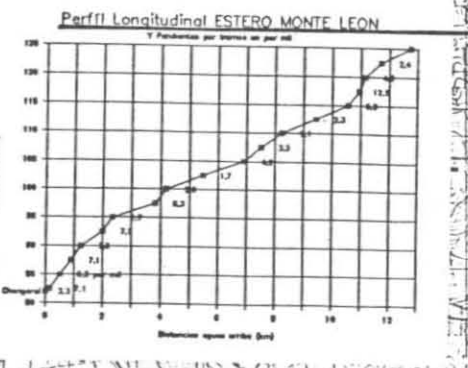
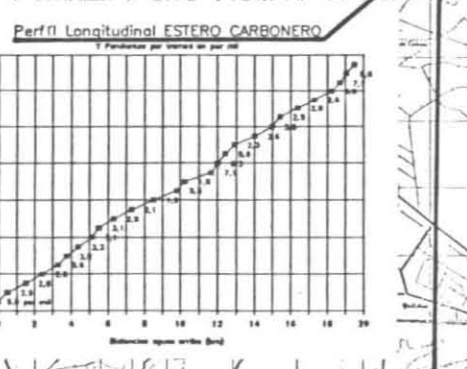
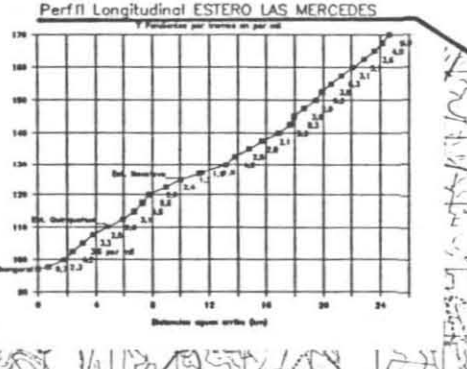
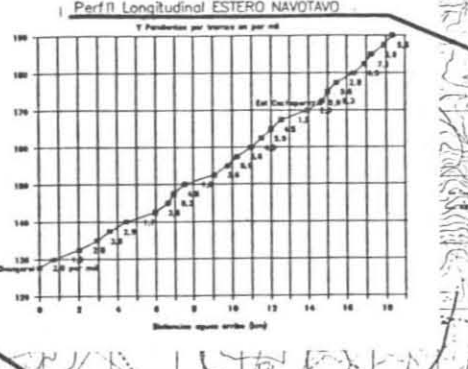
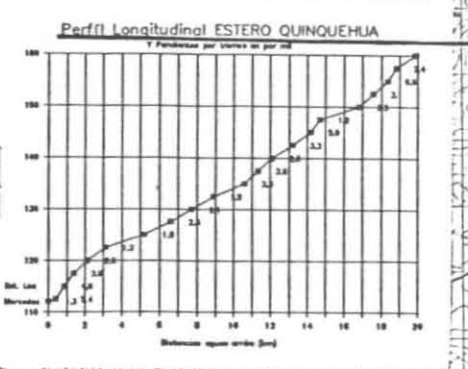
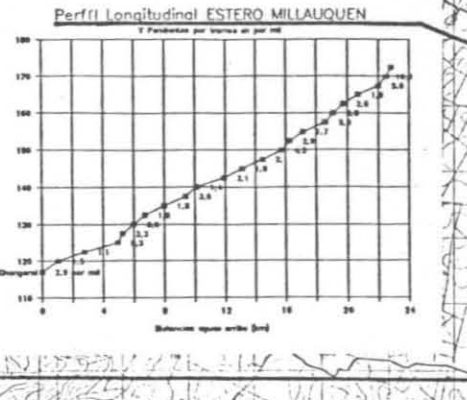
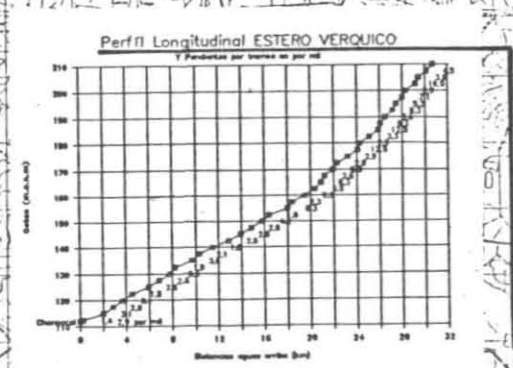
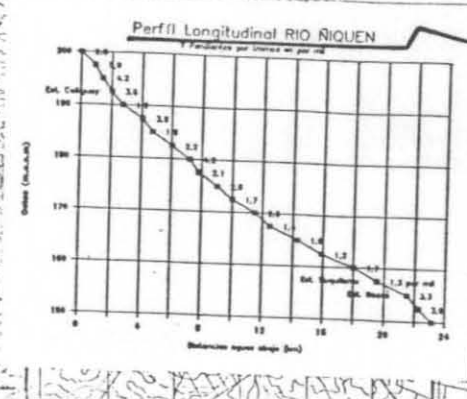
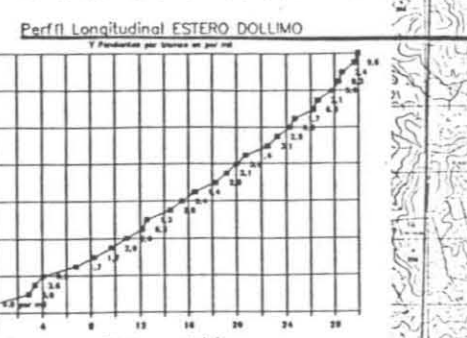
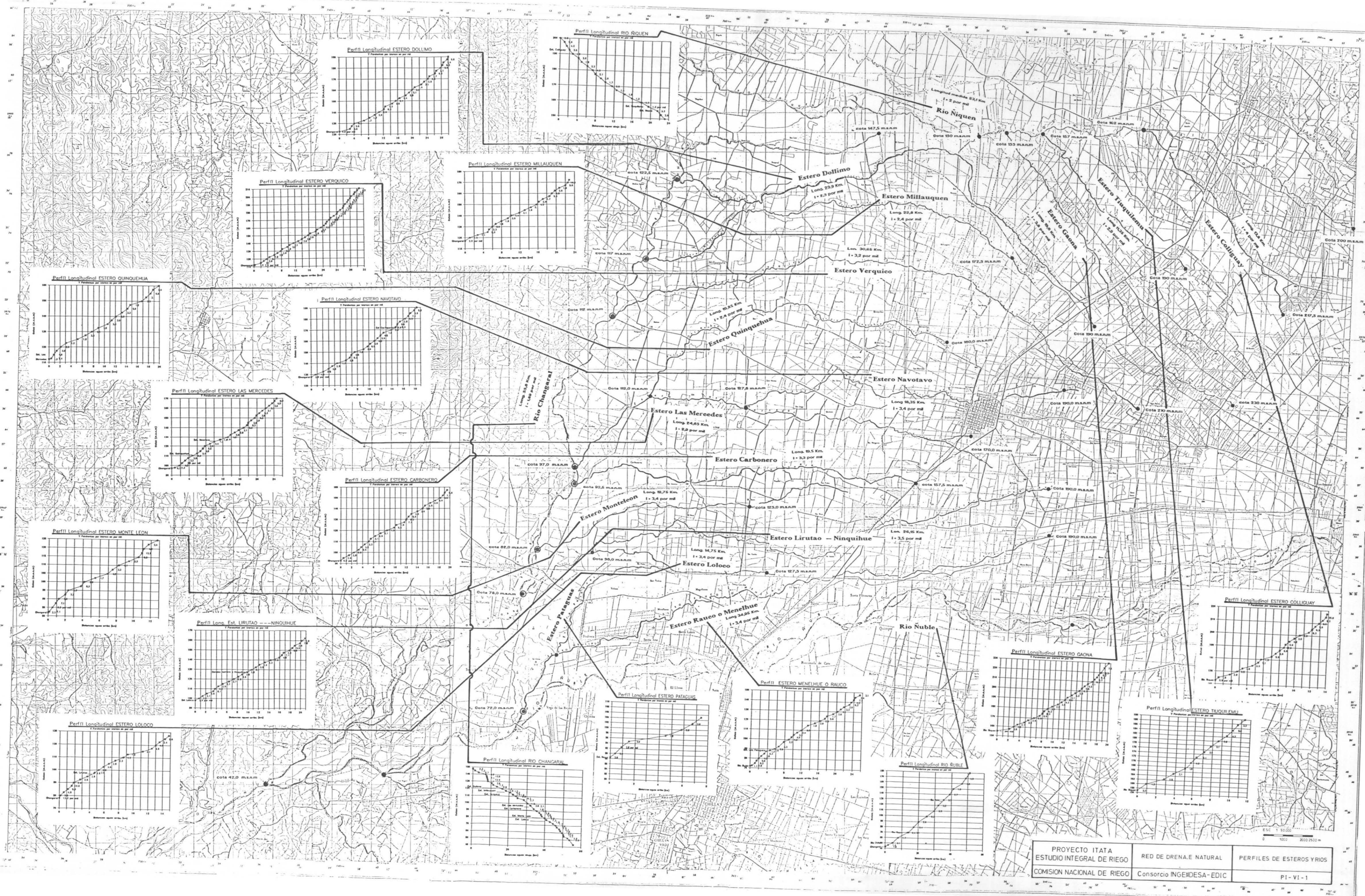


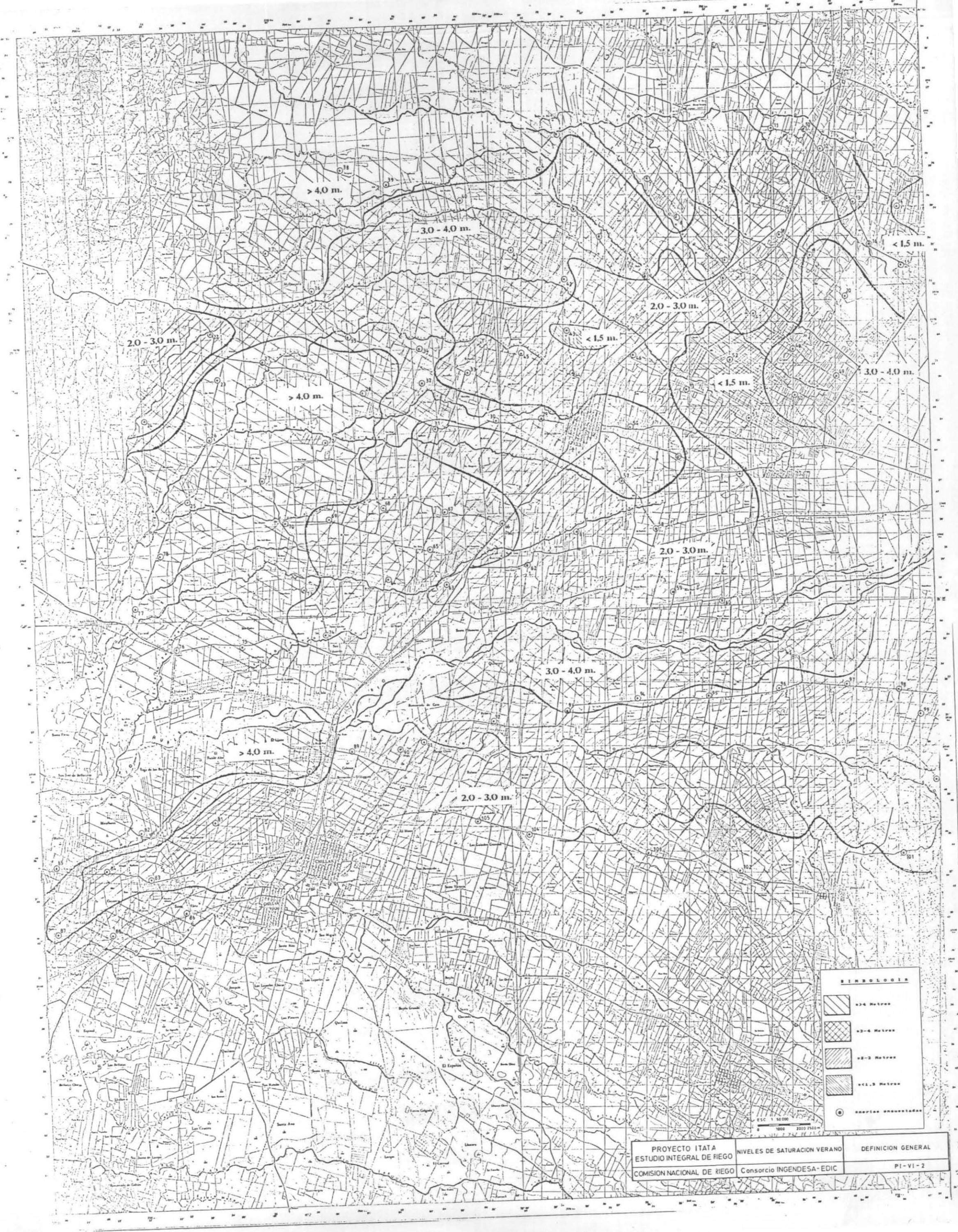
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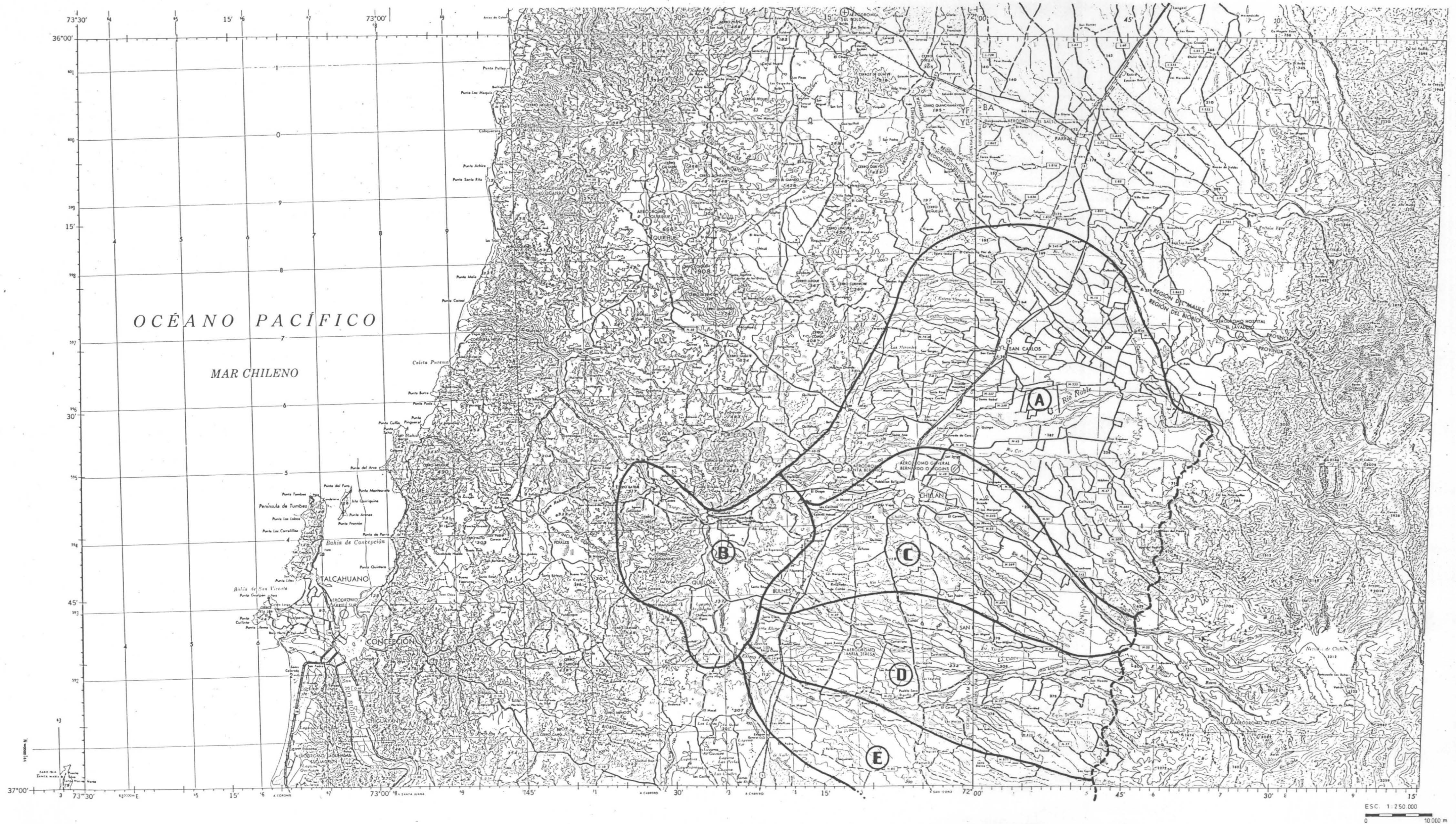
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1	2	PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	RED DE CANALES EXISTENTES	SECTOR ÑUBLE-CHILLAN BAJO
3	4			
		COMISION NACIONAL DE RIEGO	Consorcio INGENDESA-EDIC	PI-III-3



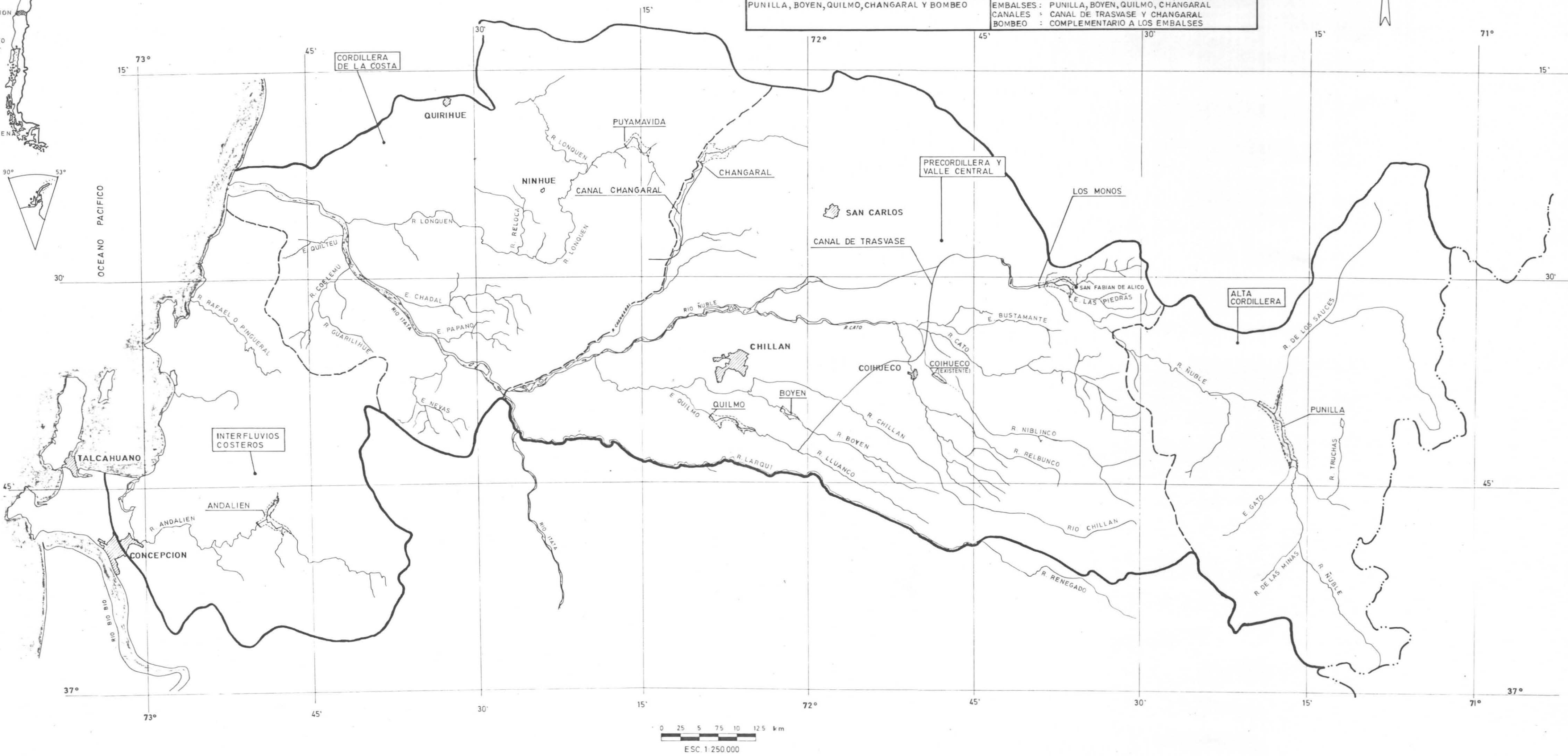


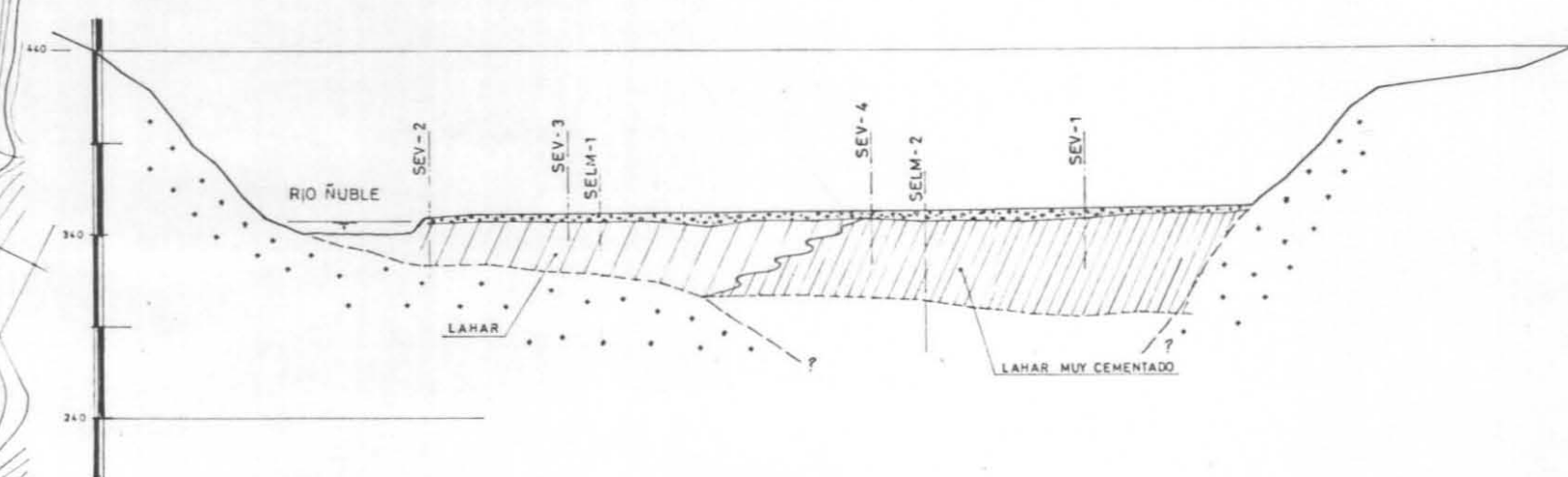




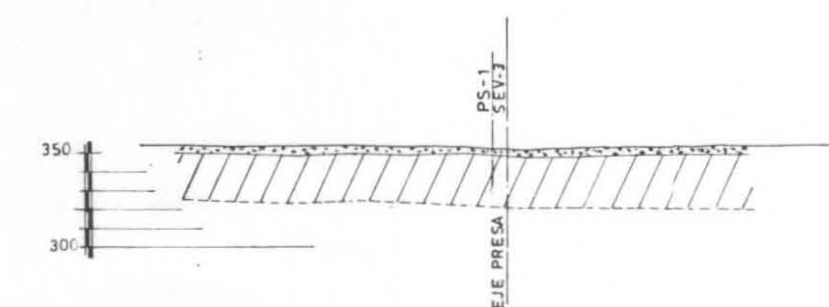
PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	SECTORES TIPO POZOS AGUAS SUBTERRANEAS	UBICACION GENERAL
COMISION NACIONAL DE RIEGO	Consorcio INGENDESA EDIC	P1-VI-3

ALTERNATIVAS ANALIZADAS	
SISTEMA DE RIEGO	OBRAS DEL SISTEMA
LOS MONOS - BOYEN - QUILMO - CHANGARAL	EMBALSES : LOS MONOS, BOYEN, QUILMO, CHANGARAL CANALES : DESDE RIO CHILLAN HASTA ESTERO LLUANCO (TRAZADO COINCIDENTE CON ULTIMO TRAMO DEL CANAL DE TRASVASE) Y CHANGARAL
LOS MONOS - BOYEN - QUILMO - CHANGARAL Y BOMBEO	EMBALSES : LOS MONOS, BOYEN, QUILMO, CHANGARAL CANALES : CANAL DE TRASVASE Y CHANGARAL BOMBEO : COMPLEMENTARIO A LOS EMBALSES
BOMBEO	BOMBEO : DISTRIBUIDO EN EL AREA DEL PROYECTO DEL VALLE CENTRAL
PUNILLA, BOYEN, QUILMO, CHANGARAL	EMBALSES : PUNILLA, BOYEN, QUILMO, CHANGARAL CANALES : CANAL DE TRASVASE Y CHANGARAL
PUNILLA, BOYEN, QUILMO, CHANGARAL Y BOMBEO	EMBALSES : PUNILLA, BOYEN, QUILMO, CHANGARAL CANALES : CANAL DE TRASVASE Y CHANGARAL BOMBEO : COMPLEMENTARIO A LOS EMBALSES

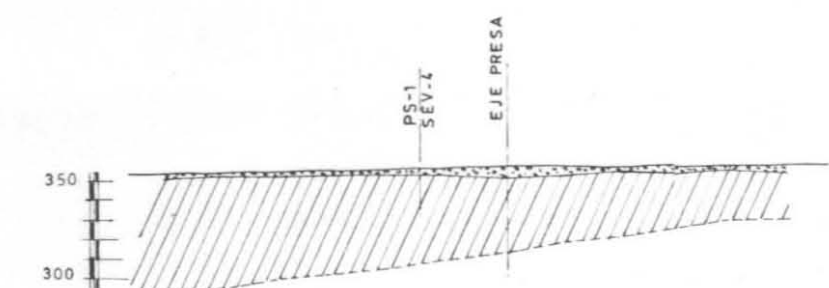




PERFIL PS-2
ESC. 1:2000



PERFIL PS-3
ESC. 1: 2.000



PERFIL PS-4
ESC. 1:2 000



NOTAS

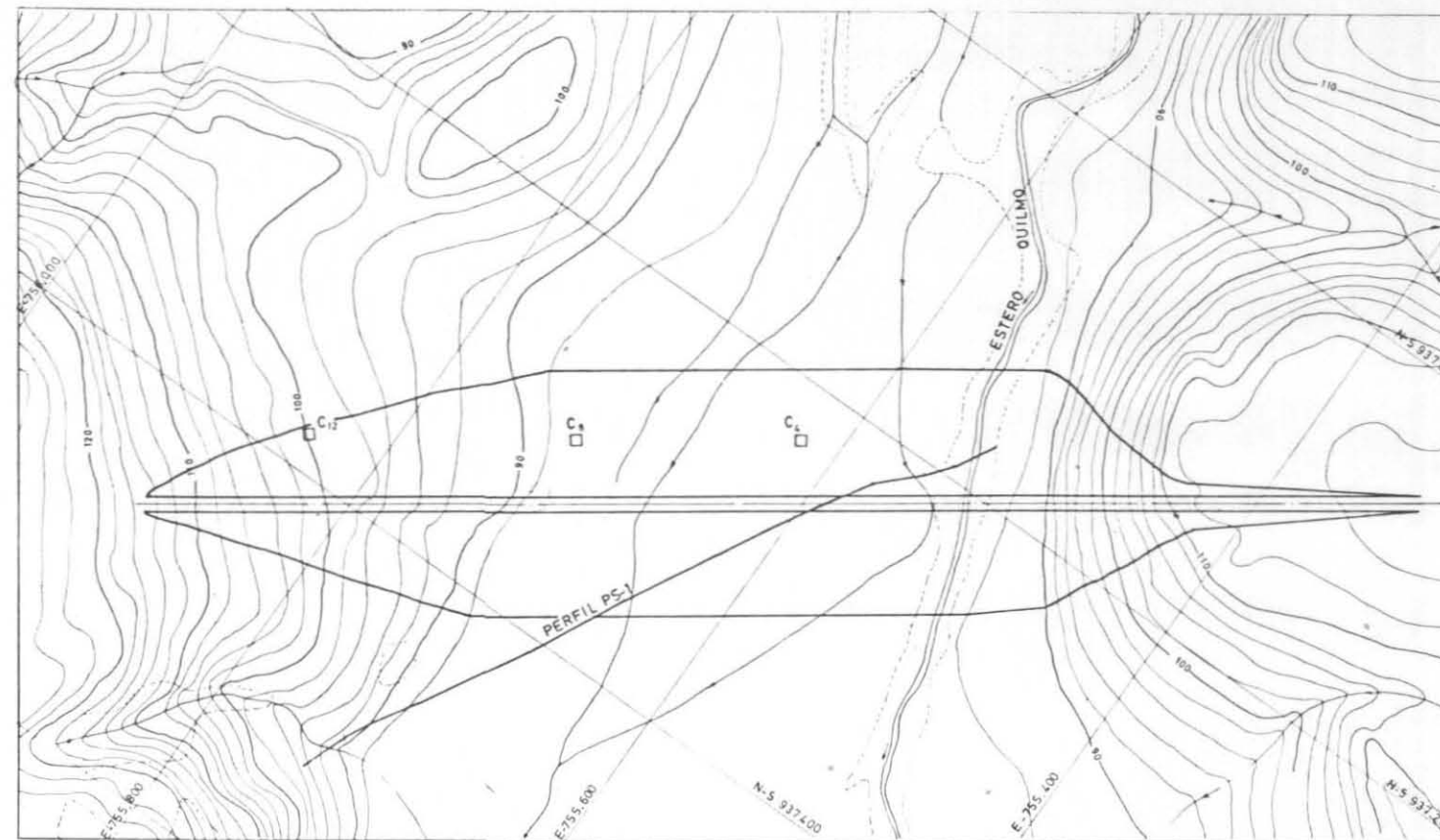
S.E.V. ○
C □
S.M.V. ●
P.S. —
.....

LAS PROSPECCIONES REALIZADAS QUE SE INDICAN EN LAS PLANTAS CORRESPONDIENTES HAN SIDO PROYECTADAS EN LOS RESPECTIVOS EJES DE LAS PRESAS.

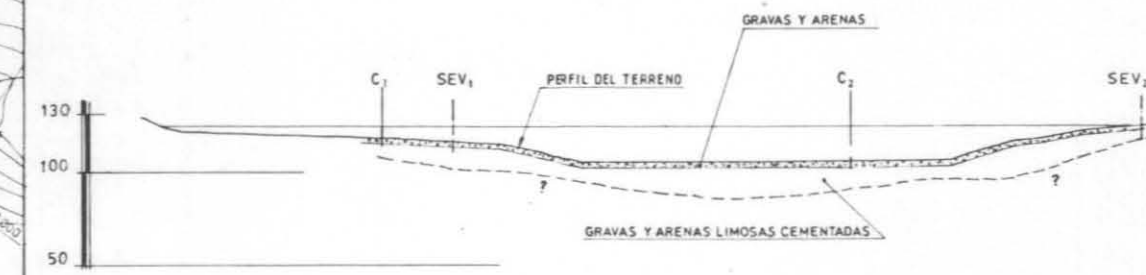
EMBALSE CHANGARAL



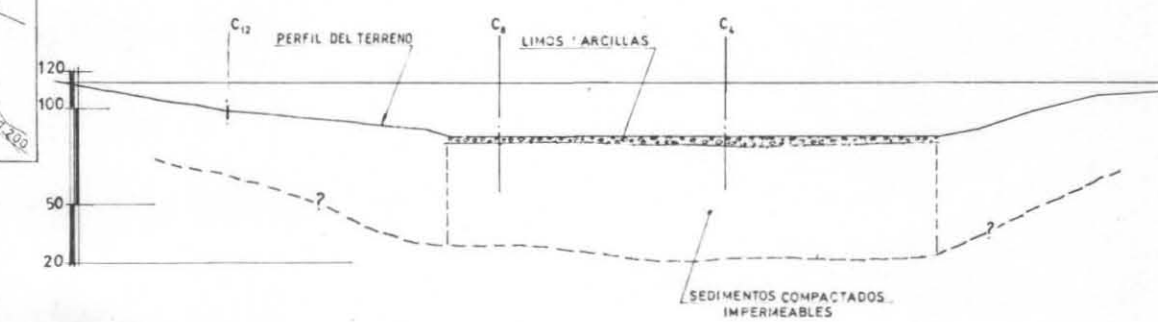
EMBALSE QUILMO



EMBALSE CHANGARAL



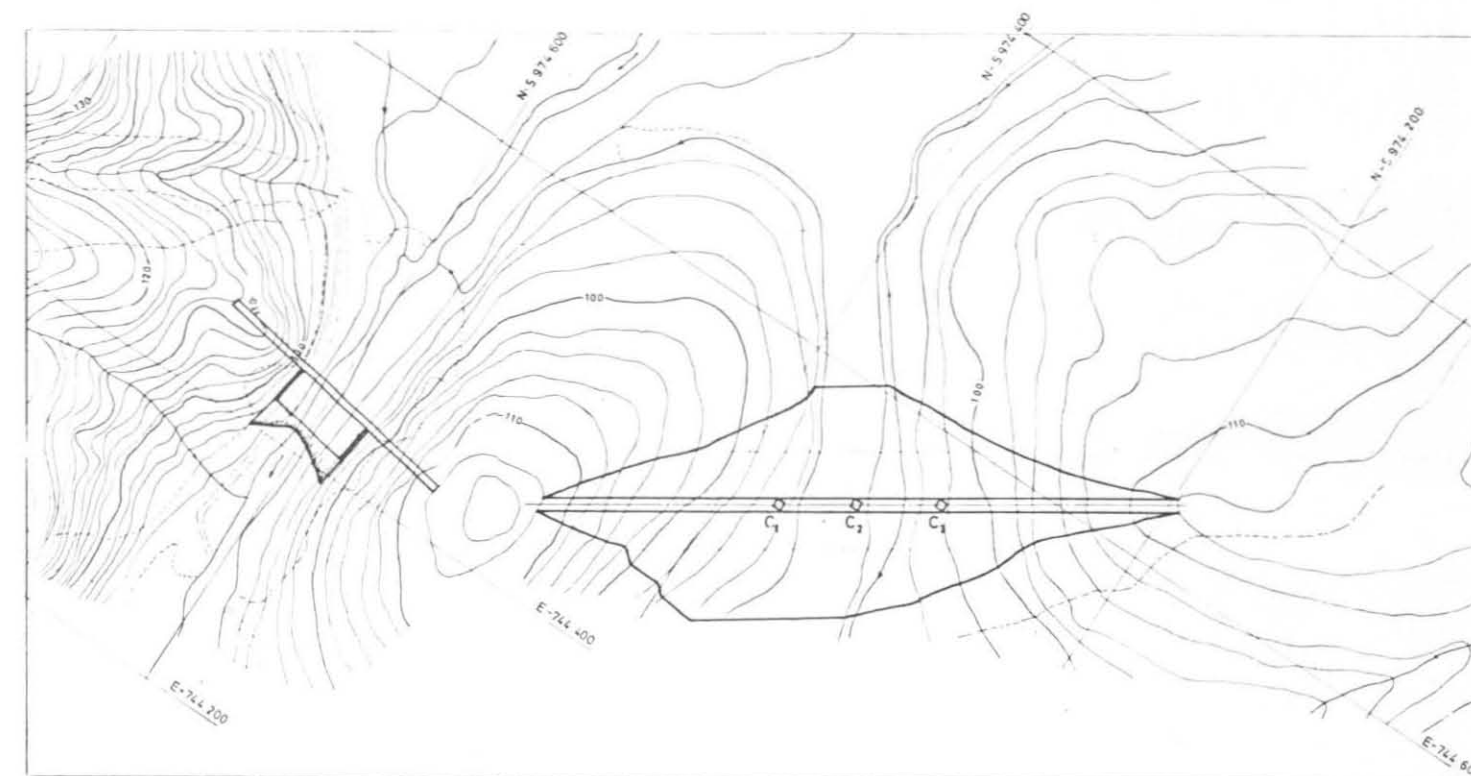
EMBALSE QUILMO



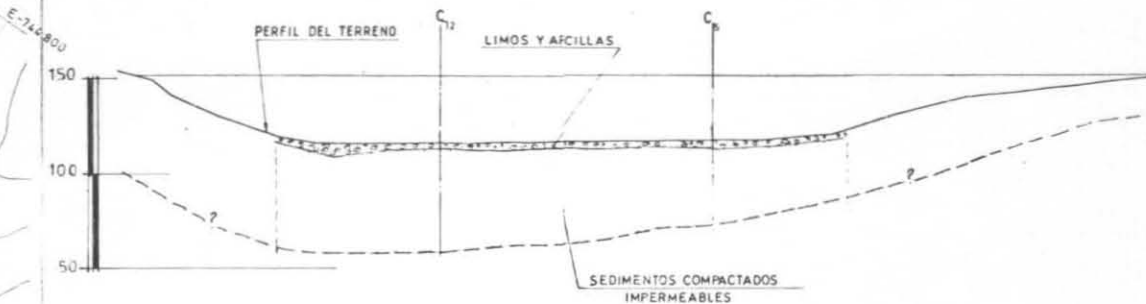
EMBALSE BOYEN



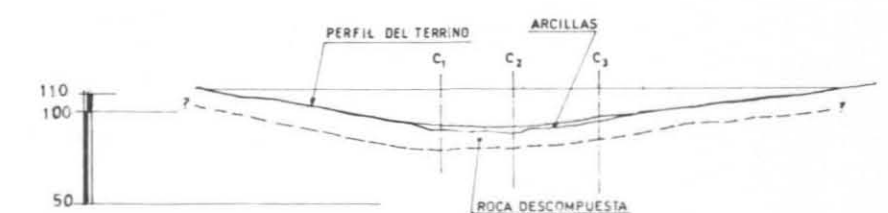
EMBALSE PUYAMAVIDA



EMBALSE BOYEN



EMBALSE PUYAMAVIDA



NOMENCLATURA

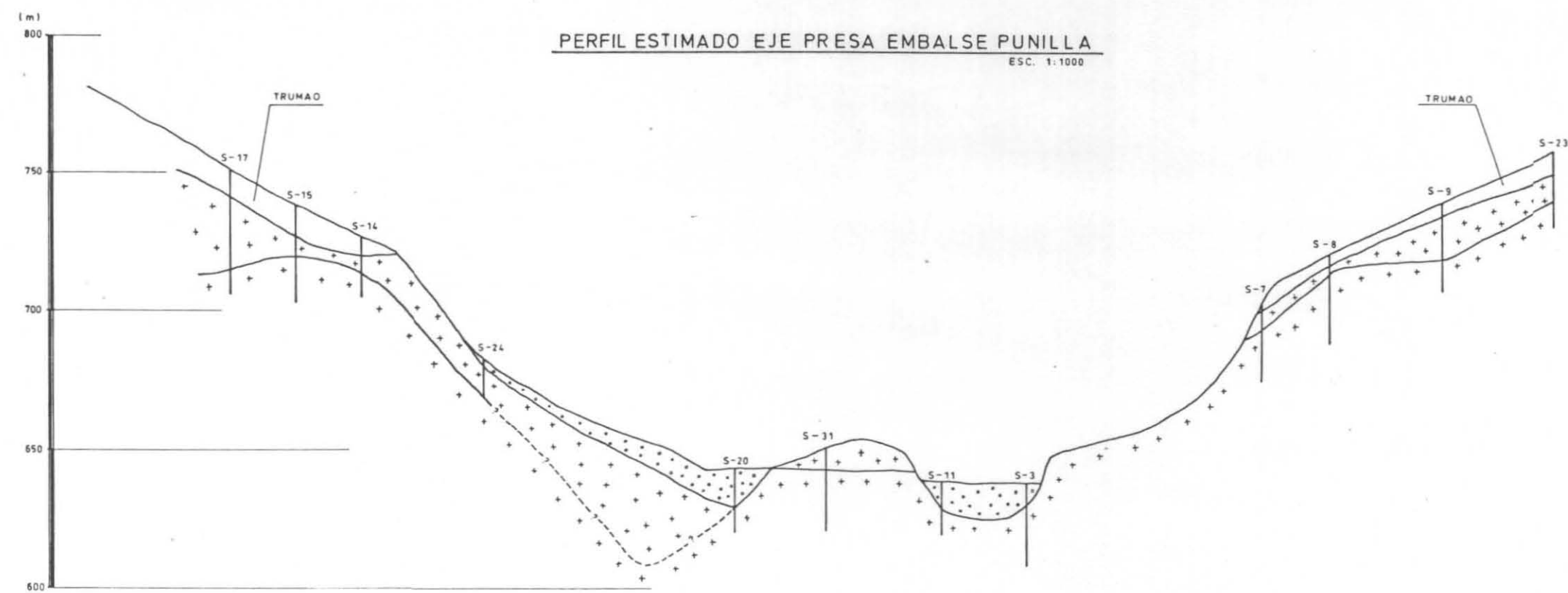
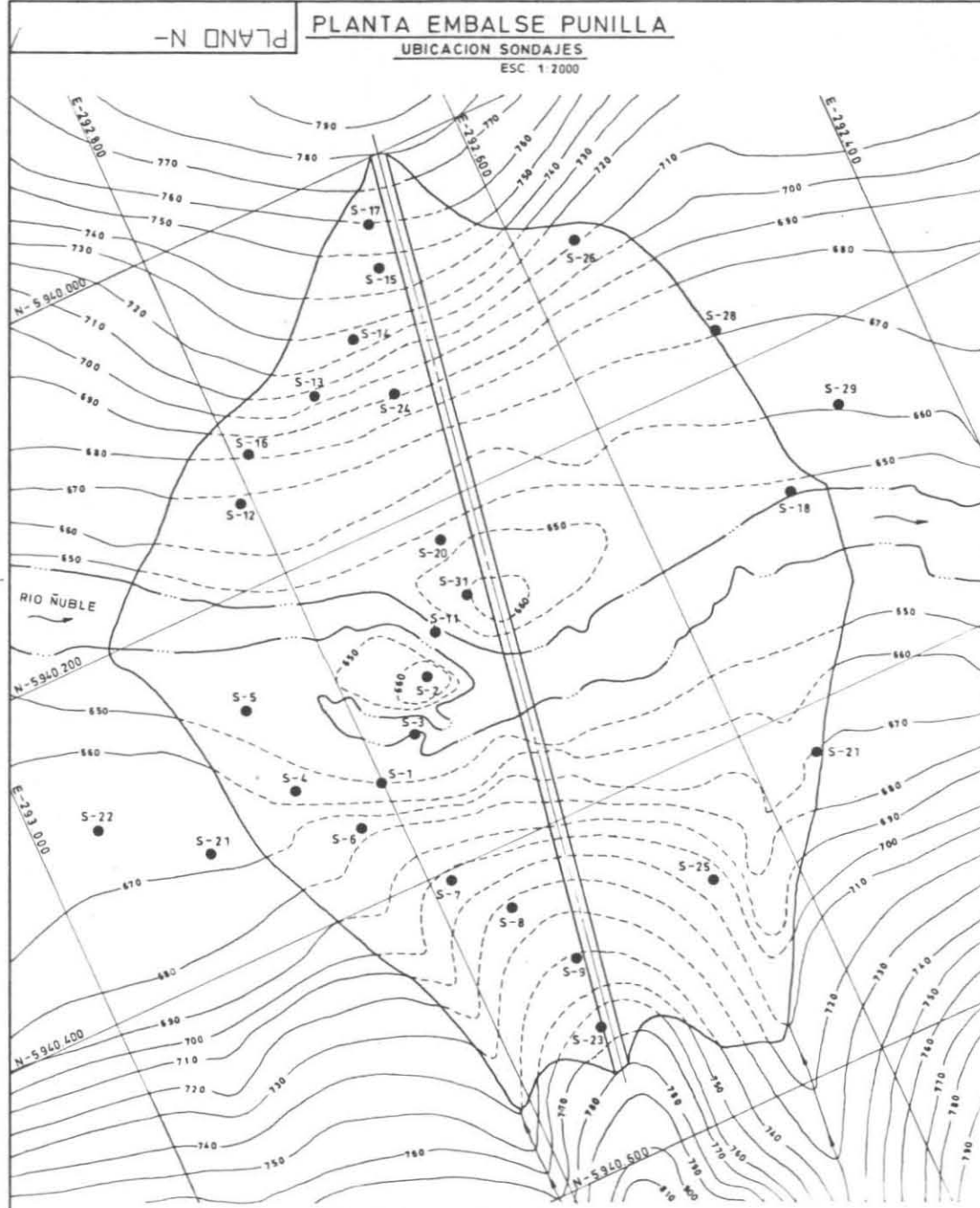
SONDAJE ELECTRICO	SEV	○
CALICATA (POZO)	C	□
SONDAJE MECANICO	SMV	+
PERFIL SISMICO	PS	—
FLUVIAL		
LAHAR		
ROCA		*****

NOTAS

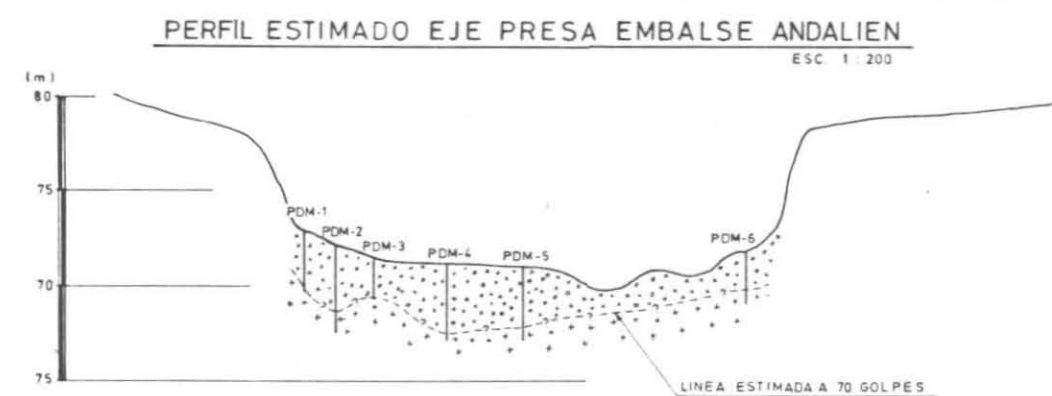
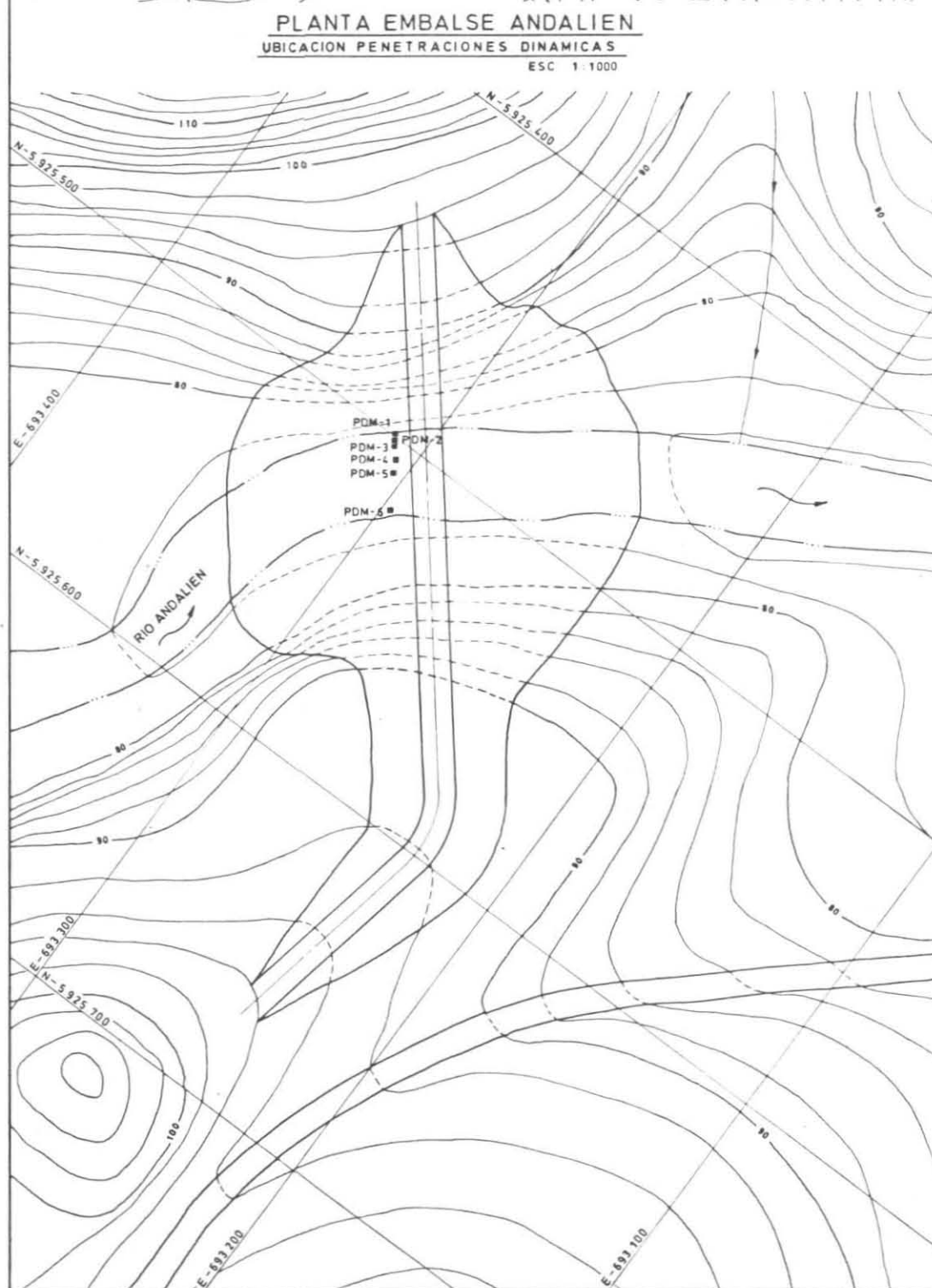
LAS PROSPECCIONES REALIZADAS QUE SE INDICAN EN LAS PLANTAS CORRESPONDIENTES HAN SIDO PROYECTADAS EN LOS RESPECTIVOS EJES DE LAS PRESAS

ESC 1:2000
0 100 m

PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	EMBALSES CHANGARAL - BOYEN QUILMO Y PUYAMAVIDA	INTERPRETACION GEOTECNICA
COMISION NACIONAL DE RIEGO	Consorcio INGENDESA-EDIC	PI-VIII-2



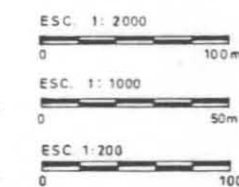
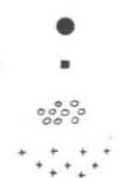
NOTA: PERFIL EMBALSE PUNILLA ESTIMADO A BASE DE ANTECEDENTES PROPORCIONADOS POR LA SECCION AGUAS SUBTERRANEAS DE LA DIRECCION DE RIEGO DEL MINISTERIO DE OBRAS PUBLICAS.

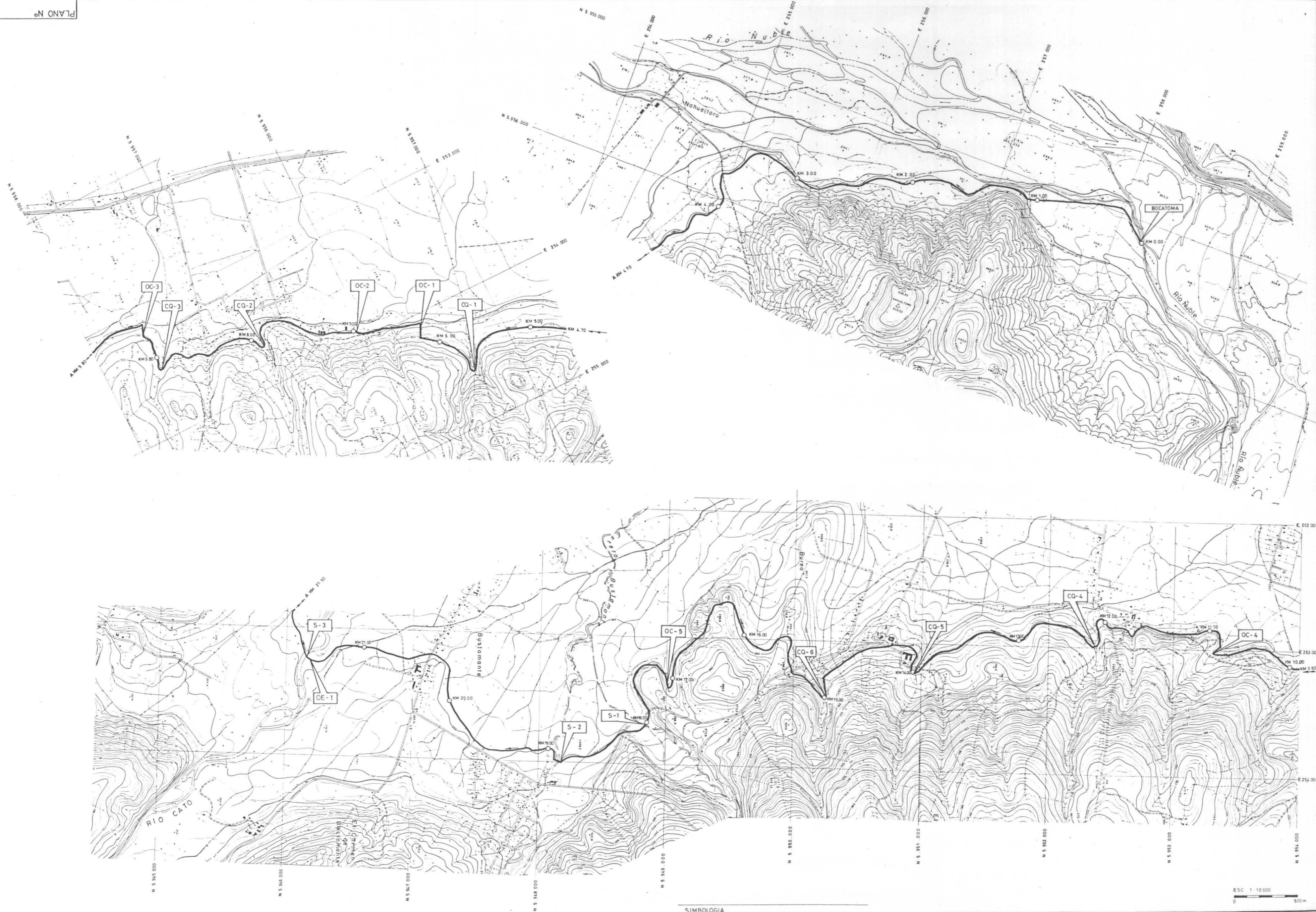


NOTA: PERFIL EMBALSE ANDALIEN ESTIMADO A BASE DE ENSAYOS DE PENETRACION DINAMICA DE CONO REALIZADOS CON PENETROMETRO PORTATIL.

NOMENCLATURA

SONDAJE MECANICO S
PENETRACION DINAMICA MANUAL P.D.M.
FLUVIAL
ROCA





SIMBOLOGIA

KILOMETRAJE C/1,0 KM
SIFONES
CRUCE QUEBRADA
OBRA DE ENTREGA
OBRA DE CAIDA

S-1 a S-n
CQ-1 a CQ-n
OE-1 a OE-n
OC-1 a OC-n

PROYECTO ITATA
ESTUDIO INTEGRAL DE RIEGO

CANAL DE TRASVASE
km 0.0 - 21.9

PLANTA GENERAL

COMISION NACIONAL DE RIEGO

Consortio INGENDESA-EDIC

PI-IX-1



COORDENADAS SISTEMA U.T.M.
ALTURAS REFERIDAS AL DATUM I.G.M.
MERIDIANO CENTRAL 81° 00' 00" W
EQUIDISTANCIA CURVAS DE NIVEL 2.50 m

BOCATOMA EN
RIO CHILLAN

SIMBOLOGIA	
KILOMETRAJE C/10 KM	
SIFONES	S-1 a S-n
CRUCE QUEBRADA	CG-1 a CG-n
OBRA DE ENTREGA	OE-1 a OE-n
OBRA DE CAIDA	OC-1 a OC-n

PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	CANAL DE TRASVASE km 219 - 57.6	PLANTA GENERAL
COMISION NACIONAL DE RIEGO	Consortio INGENDESA-EDIC	P1-TX - 2



TRAZADO ALTERNATIVO
RIO CHILLAN - ESTERO LLUANCO

SIMBOLOGIA
 KILOMETRAJE C/1.0 KM
 SIFONES
 CRUCE QUEBRADA
 OBRA DE ENTREGA
 OBRA DE CAUSA

S-1 a S-n
 CO-1 a CO-n
 OE-1 a OE-n
 OC-1 a OC-n

PROYECTO ITATA
 ESTUDIO INTEGRAL DE RIEGO

CANAL DE TRASVASE
 km 576 - 78.6
 Y CANAL ALTERNATIVO
 RIO CHILLAN - E. LLUANCO
 km 00 - 28.35

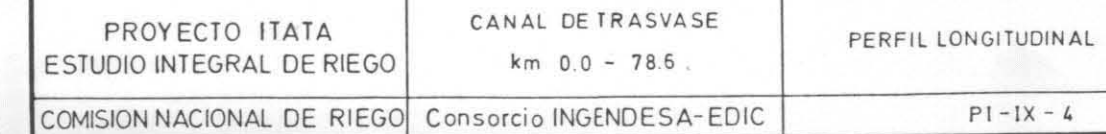
PLANTA GENERAL

COMISION NACIONAL DE RIEGO

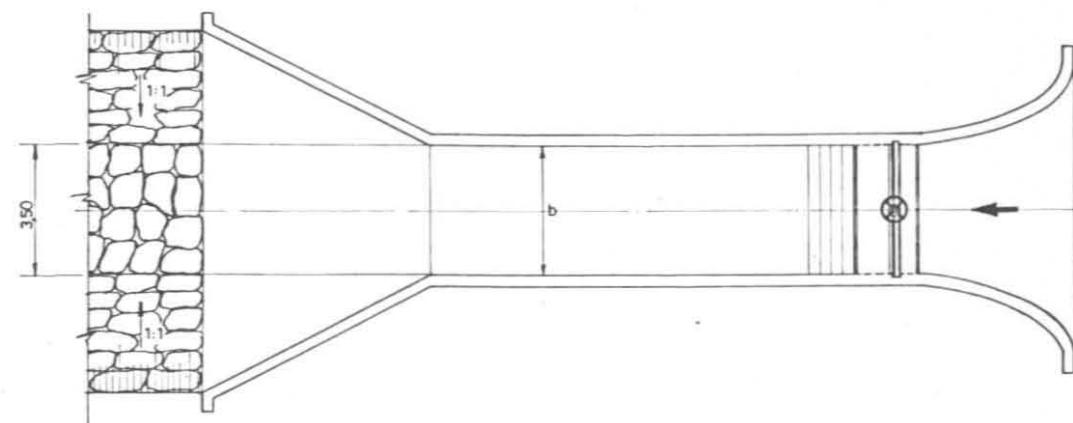
Consorcio INGENDESA-EDIC

PI-IX-3

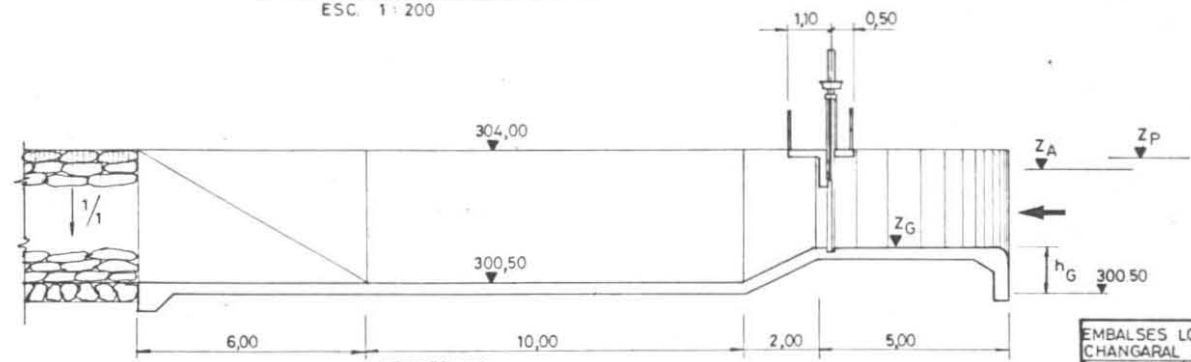
COORDENADAS SISTEMA U.T.M.
 ALTURAS REFERIDAS AL DATUM I.G.M.
 MERIDIANO CENTRAL 69° OESTE - ZONA 9
 EQUIDISTANCIA CURVAS DE NIVEL 2.50 m



BOCATOMA
PLANTA



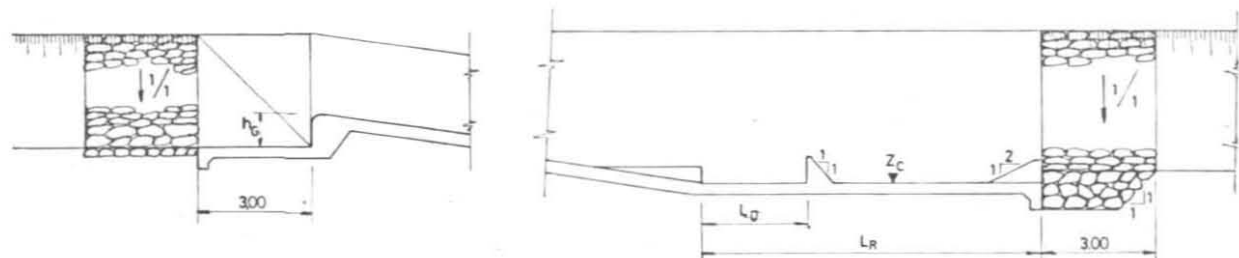
PERFIL LONGITUDINAL
ESC. 1:200



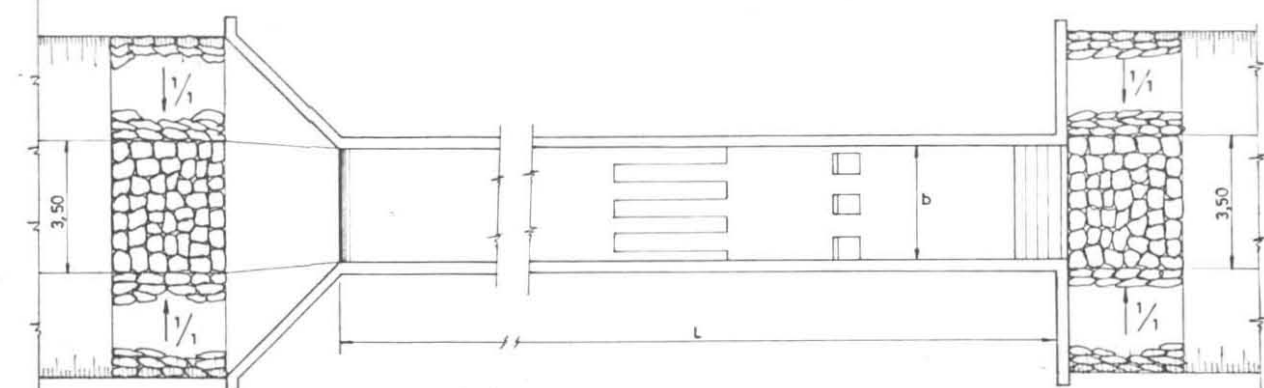
	PUNILLA SIN BOMBEO	PUNILLA CON BOMBEO	LOS MONOS CON BOMBEO	CHILLAN
Q (m³/s)	16.60	18.00	14.30	5.90
b (m)	3.40	4.00	3.00	2.50
ZG (m)	301.40	301.60	301.35	227.88
ZA (m)	303.40	303.52	303.55	229.50
ZP (m)	303.60	303.75	303.55	229.50
hG (m)	0.80	1.00	0.85	0.90

OBRA DE CAIDA

PLANTA
ESC. 1:100



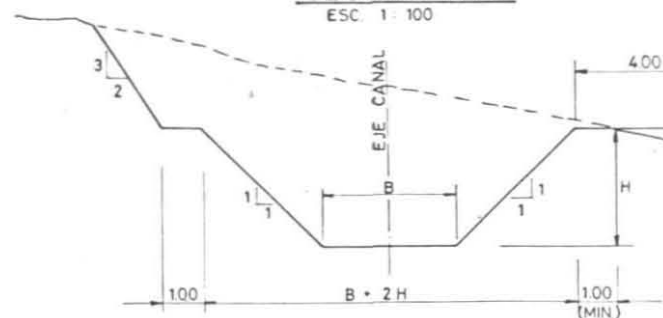
PERFIL LONGITUDINAL
ESC. 1:100



CAIDAS

CAIDA Nº	LOS MONOS CON BOMBEO	PUNILLA CON BOMBEO	PUNILLA SIN BOMBEO
1	14.30 2.50 100 8.60 2.80 282.04 17.90 3.00 100 900 2.90 281.93 16.60 3.00 100 900 2.80 282.16		
2	14.30 2.50 31 6.90 2.50 277.46 17.90 3.00 31 700 2.60 277.41 16.60 3.00 31 670 2.50 277.58		
3	14.30 2.50 98 8.60 2.80 261.24 17.90 3.00 98 900 2.90 261.13 16.60 3.00 98 900 2.80 261.34		
4	14.30 2.50 30 6.90 2.50 256.56 17.90 3.00 30 700 2.60 256.51 16.60 3.00 30 670 2.50 256.69		
5	14.30 2.50 35 7.00 2.55 248.10 17.90 3.00 35 720 2.60 248.05 16.60 3.00 35 700 2.50 248.20		
	2.90 1.50 56 5.00 1.50 190.93 2.90 1.50 56 5.00 1.50 190.93 2.90 1.50 56 5.00 1.50 190.93		

CANAL DE TRASVASE
SECCION TIPO



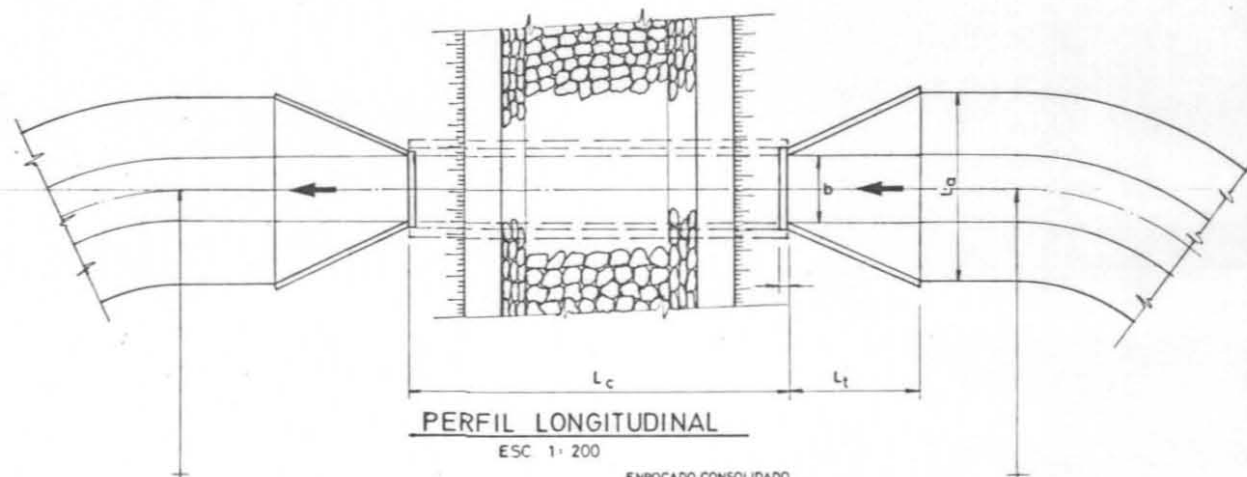
SECCIONES CANALES DE TRASVASE

ALTERNATIVA	TRAMO	CAUDAL (m³/s)	B (m)	H (m)
EMBALSES LOS MONOS, BOYEN, QUILMO, CHANGARAL Y BOMBEO	N-C	14.3	3.00	3.15
	C-CH	12.6	3.00	3.00
	CH-B	5.8	2.20	2.00
	B-LL	2.9	1.80	1.55
EMBALSES PUNILLA, BOYEN, QUILMO, CHANGARAL, SIN BOMBEO	N-C	16.6	3.50	3.15
	C-CH	13.5	3.00	3.00
	CH-B	5.8	2.20	2.00
	B-LL	2.9	1.80	1.55
EMBALSES PUNILLA, BOYEN, QUILMO, CHANGARAL Y BOMBEO	N-C	17.9	4.00	3.15
	C-CH	19.8	5.00	3.00
	CH-B	5.8	2.20	2.00
	B-LL	2.9	1.80	1.55
EMBALSES LOS MONOS, BOYEN, QUILMO, CHANGARAL, SIN BOMBEO	CH-B	5.8	2.20	2.00
	B-LL	2.9	1.80	1.55

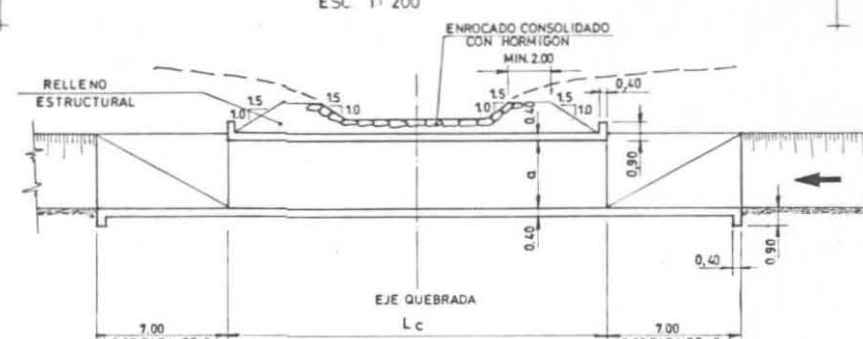
NOTA - N-C: RIO ÑUBLE A RIO CATO
C-CH: RIO CATO A RIO CHILLAN
CH-B: RIO CHILLAN - ESTERO BOYEN
B-LL: ESTERO BOYEN - ESTERO LLUANO

CRUCE DE QUEBRADA

PLANTA
ESC. 1:200



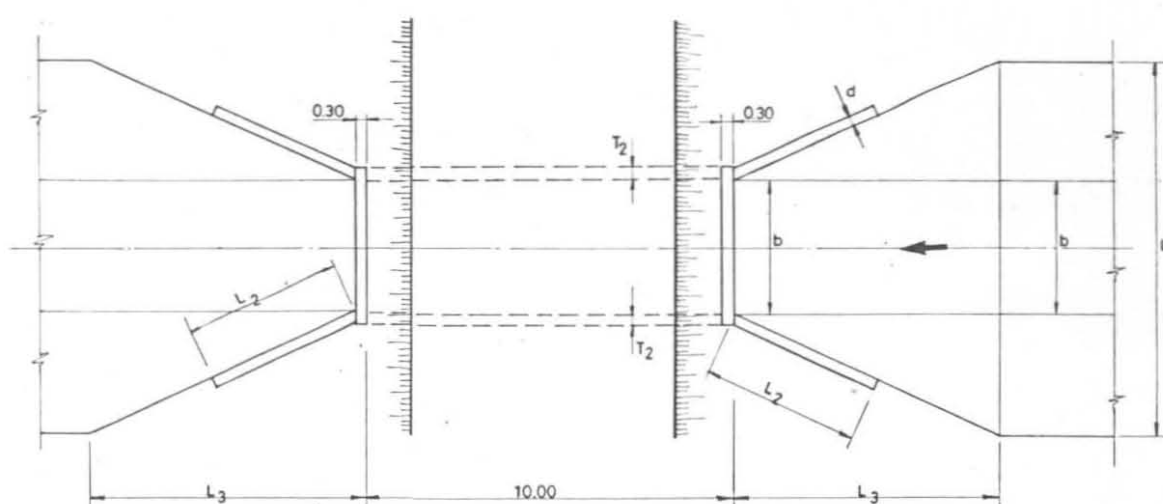
PERFIL LONGITUDINAL
ESC. 1:200



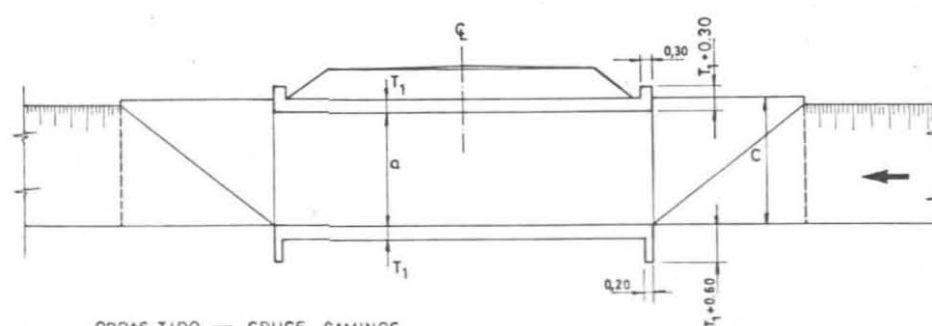
EMBALSES LOS MONOS - BOYEN - QUILMO CHANGARAL Y BOMBEO	EMBALSES PUNILLA - BOYEN - QUILMO CHANGARAL SIN BOMBEO	EMBALSES PUNILLA - BOYEN - QUILMO CHANGARAL CON BOMBEO
CRUCE	CRUCE	CRUCE
Q (m³/s)	Q (m³/s)	Q (m³/s)
14.3	16.6	17.9
3.00	3.00	3.00
3.00	3.50	3.50
50	50	50
9.30	9.80	10.30
14.3	16.6	17.9
3.00	3.00	3.00
3.00	3.50	3.50
20	20	20
9.30	9.80	10.30
12.6	13.5	19.8
2.85	3.00	3.00
3.00	3.00	3.00
15	15	15
9.00	9.00	11.00
5.8	5.8	5.8
2.00	2.00	2.00
2.00	2.00	2.00
6.20	6.20	6.20

CRUCE DE CAMINOS

PLANTA
ESC. 1:100



PERFIL LONGITUDINAL
ESC. 1:100

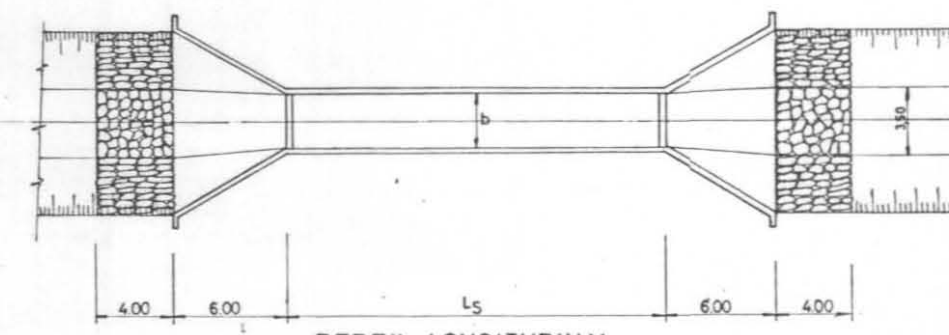


OBRAS TIPO - CRUCE CAMINOS

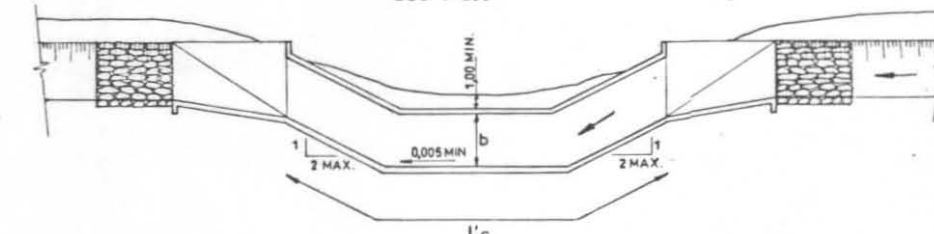
ALTERNATIVA	Q (m³/s)	a (m)	b (m)	c (m)	d (m)	T1 (m)	T2 (m)	L1 (m)	L2 (m)	L3 (m)	CANTIDAD
EMBALSES LOS MONOS, BOYEN, QUILMO, CHANGARAL Y BOMBEO	14.3	3.0	3.0	3.36	0.30	0.36	0.30	9.30	4.15	7.00	8
	12.6	3.0	3.0	3.36	0.30	0.36	0.30	9.00	4.15	7.00	20
	5.8	2.0	2.0	2.30	0.25	0.25	0.20	6.20	3.00	5.00	6
	2.9	1.5	2.0	1.75	0.25	0.25	0.20	4.90	2.30	5.00	2
EMBALSES PUNILLA, BOYEN, QUILMO, CHANGARAL SIN BOMBEO	16.6	3.0	3.5	3.36	0.30	0.36	0.30	9.80	4.15	7.00	8
	13.5	3.0	3.0	3.36	0.30	0.36	0.30	9.00	4.15	7.00	20
	5.8	2.0	2.0	2.30	0.25	0.25	0.20	6.20	3.00	5.00	6
	2.9	1.5	2.0	1.75	0.25	0.25	0.20	4.90	2.30	5.00	2
EMBALSES, PUNILLA, BOYEN, QUILMO, CHANGARAL CON BOMBEO	17.9	3.00	3.5	3.36	0.30	0.36	0.30	10.30	4.15	7.00	8
	19.8	3.00	3.5	3.36	0.30	0.36	0.30	11.00	4.15	7.00	20
	5.8	2.00	2.0	2.30	0.25	0.25	0.20	6.20	3.00	5.00	6
	2.9	1.50	2.0	1.75	0.25	0.25	0.20	4.90	2.30	5.00	2

SIFON TIPO

PLANTA
ESC. 1:200



PERFIL LONGITUDINAL
ESC. 1:200



SIFON Nº	Km	Q (m³/s)	b (m)	L (m)	Q (m³/s)	b (m)	L (m)	Q (m³/s)	b (m)	L (m)
1	18.03	14.3	2.65	21	17.9	2.95	21	16.6	2.85	21
2	18.82	14.3	2.65	27	17.9	2.95	27	16.6	2.85	27
3	21.51	12.6	2.50	55	19.8	3.05	55	13.5	2.58	55
4	22.80	12.6	2.50	84	19.8	3.05	84	13.5	2.58	84
5	26.03	12.6	2.50	46	19.8	3.05	46	13.5	2.58	46
6	28.60	12.6	2.50	34	19.8	3.05	34	13.5	2.58	34
7	31.95	12.6	2.50	52	19.8	3.05	52	13.5	2.58	52
8	33.05	12.6	2.50	28	19.8	3.05	28	13.5	2.58	28
9	35.80	12.6	2.50	56	19.8	3.05	56	13.5	2.58	56
10	42.60	12.6	2.50	40	19.8	3.05	40	13.5	2.58	40
11	46.90	12.6	2.50	22	19.8	3.05	22	13.5	2.58	22
12	51.50	12.6	2.50	20	19.8	3.05	20	13.5	2.58	20
13	55.20	5.8	1.97	50	5.8	1.97	50	5.8	1.97	50
14	59.80	5.8	1.97	18	5.8	1.97	18	5.8	1.97	18
15	61.58	5.8	1.97	14	5.8	1.97	14	5.8	1.97	14
16	63.67	5.8	1.97	12	5.8	1.97	12	5.8	1.97	12
17	68.10	2.9	1.39	30	2.9	1.39	30	2.9	1.39	30
18	72.06	2.9	1.39	28	2.9	1.39	28	2.9	1.39	28
19	73.24	2.9	1.39	25	2.9	1.39	25	2.9	1.39	25

NOTA:

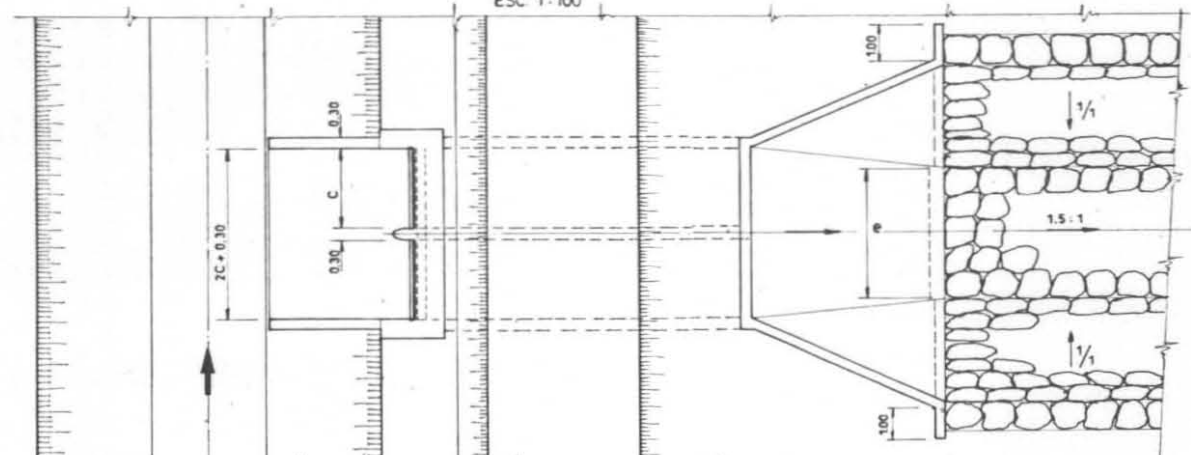
OBRAS DE ARTE DE ALTERNATIVA EMBALSES LOS MONOS, BOYEN, QUILMO, CHANGARAL SIN BOMBEO SON LAS SIGUIENTES (ALIMENTADOR BOYEN - QUILMO):

SIFONES	NOMBRE	KM	Q (m³/s)
S-14		4.6	5.8
S-15		6.4	5.8
S-16		8.5	5.8
S-17		12.9	2.9
S-18		16.9	2.9
S-19		18.0	2.9
CRUCE QUEBRADA	CO-8	11.7	5.8
OBRA DE CAIDA	OC-6	22.6	2.9
OBRA DE ENTREGA	OE-3	12.9	2.9

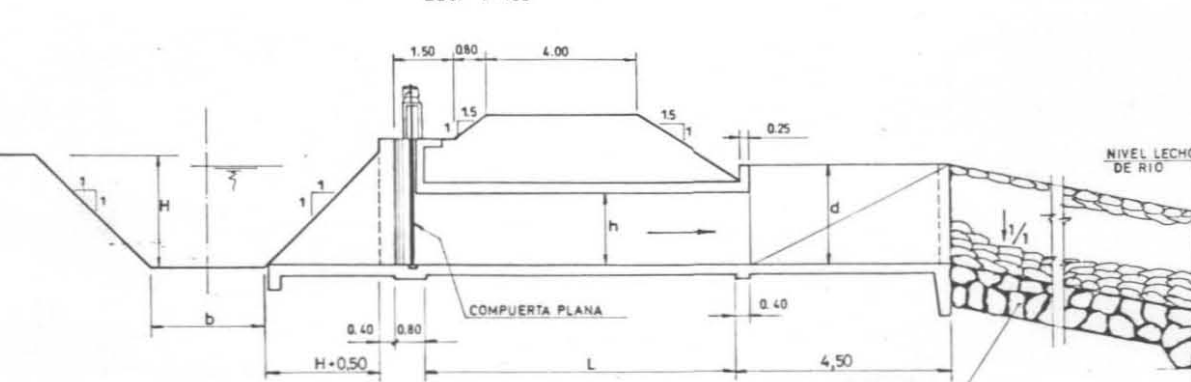
CRUCES CAMINO SON 6 PARA 5.8 m³/s
SON 2 PARA 2.9 m³/s

OBRA DE ENTREGA

PLANTA
ESC. 1:100



PERFIL LONGITUDINAL
ESC. 1:100



OBRA DE ENTREGA	Q (m³/s)	b (m)	L (m)	Q (m³/s)	b (m)	L (m)	Q (m³/s)	b (m)	L (m)
1.7	3.0	3.15	8.9	1.2	1.2	2.0	1.0	1	1
3.1	3.5	3.15	8.2	1.7	1.7	2.5	1.5	1	1
6.8	3.0	3.0	8.0	1.7	1.7	3.5	3.5	2	2
7.7	3.0	3.0	8.0	2.0	1.7	3.5	4.1	2	2
14.0	5.0	3.0	7.5	2.0	2.0	4.0	4.1	2	2
2.9	2.2	2.0	6.8	1.5	1.5	2.5	1.3	1	1

OBRAS DE ENTREGA (m³/s)	Los Monos y bombeo	Punilla sin bombeo	Punilla con bombeo
OBRA RIO			
OE-1 CATO	1.7	3.1	—
OE-2 CHILLAN	6.8	7.7	14.0
OE-3 ESTERO BOYEN	2.9	2.9	2.9

PROYECTO ITATA
ESTUDIO INTEGRAL DE RIEGO

CANALES DE TRASVASES Y ALIMENTADOR
BOYEN - QUILMO
OBRAS TIPO

PLANTAS Y PERFILES

COMISION NACIONAL DE RIEGO

Consortio INGENDESA-EDIC

P1-IX-5



ESC. 1:10,000
0 500m

SIMBOLOGIA

KILOMETRAJE C/1,0 KM
SIFONES
CRUCE QUEBRADA
OBRA DE ENTREGA
OBRA DE CAIDA

S-1 a S-n
CQ-1 a CQ-n
OE-1 a OE-n
OC-1 a OC-n

PROYECTO ITATA
ESTUDIO INTEGRAL DE RIEGO

CANAL ALIMENTADOR
BOYEN - QUILMO
ALTERNATIVA

PLANTA GENERAL

COMISION NACIONAL DE RIEGO

Consortio INGENDESA-EDIC

PI-IX - 6



COORDENADAS SISTEMA U.T.M.
ALTURAS REFERIDAS AL DATUM 1958
MERIDIANO CENTRAL 75° OESTE - ZONA 18
E-1100000 N-3800000

SIMBOLOGIA

KILOMETRAJE C/10 KM
SIFONES
CRUCE QUEBRADA
OBRA DE ENTREGA
OBRA DE CAIDA

S-1 a S-n
CQ-1 a CQ-n
OE-1 a OE-n
OC-1 a OC-n

PROYECTO ITATA
ESTUDIO INTEGRAL DE RIEGO

CANAL DE TRASVASE
CHANGARAL - LONQUEN

PLANTA GENERAL

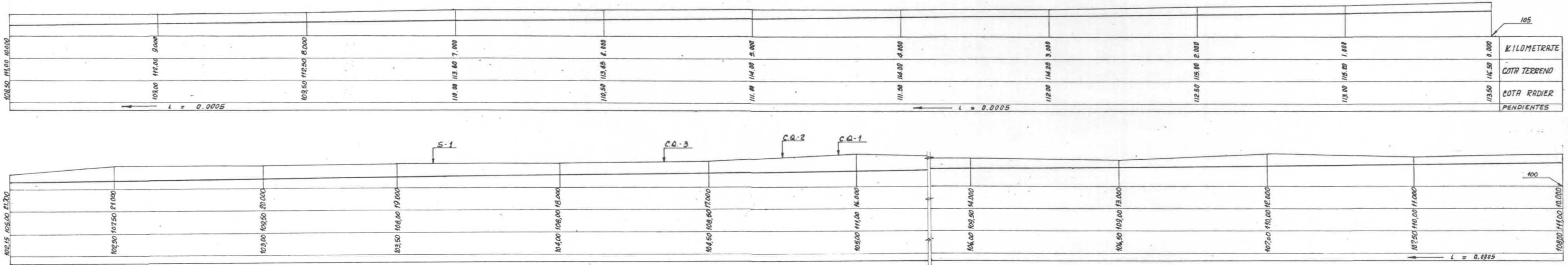
COMISION NACIONAL DE RIEGO

Consortio INGENDESA-EDIC

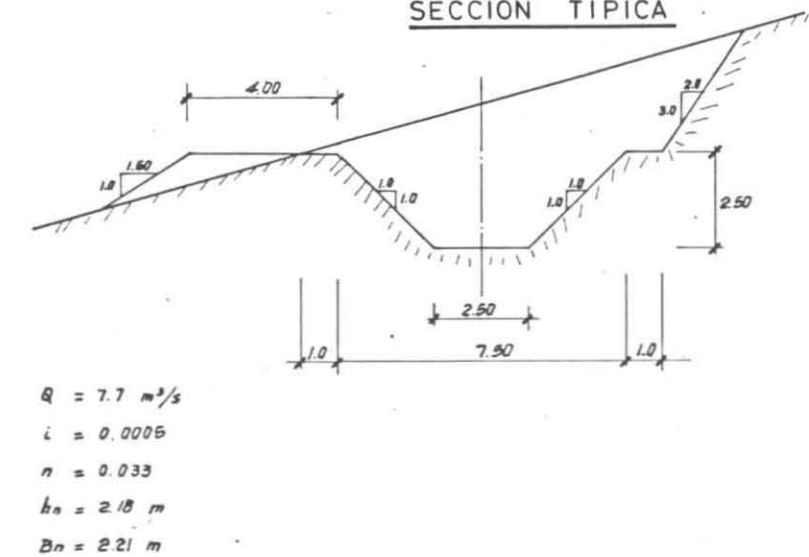
PI-IX-7

CANAL TRASVASE CHANGARAL - LONGUEN

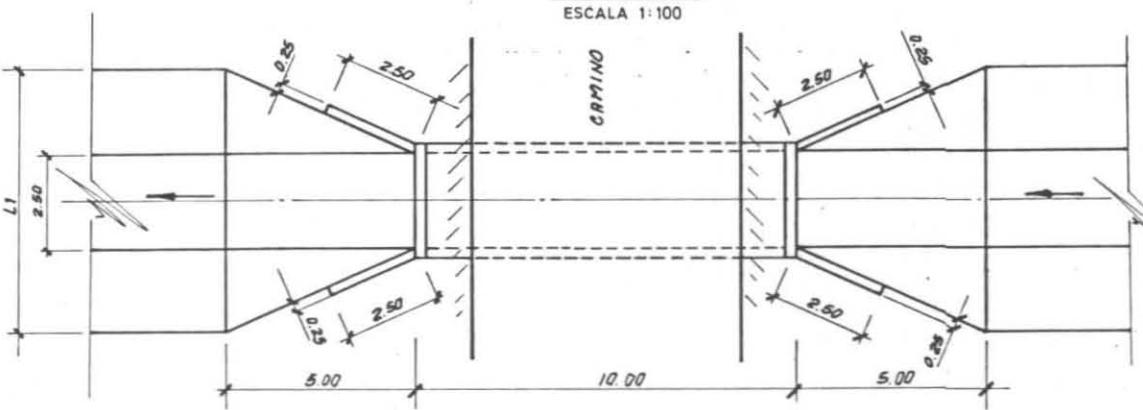
PERFIL LONGITUDINAL
ESCALAS H: 1:10.000
V: 1: 5.000



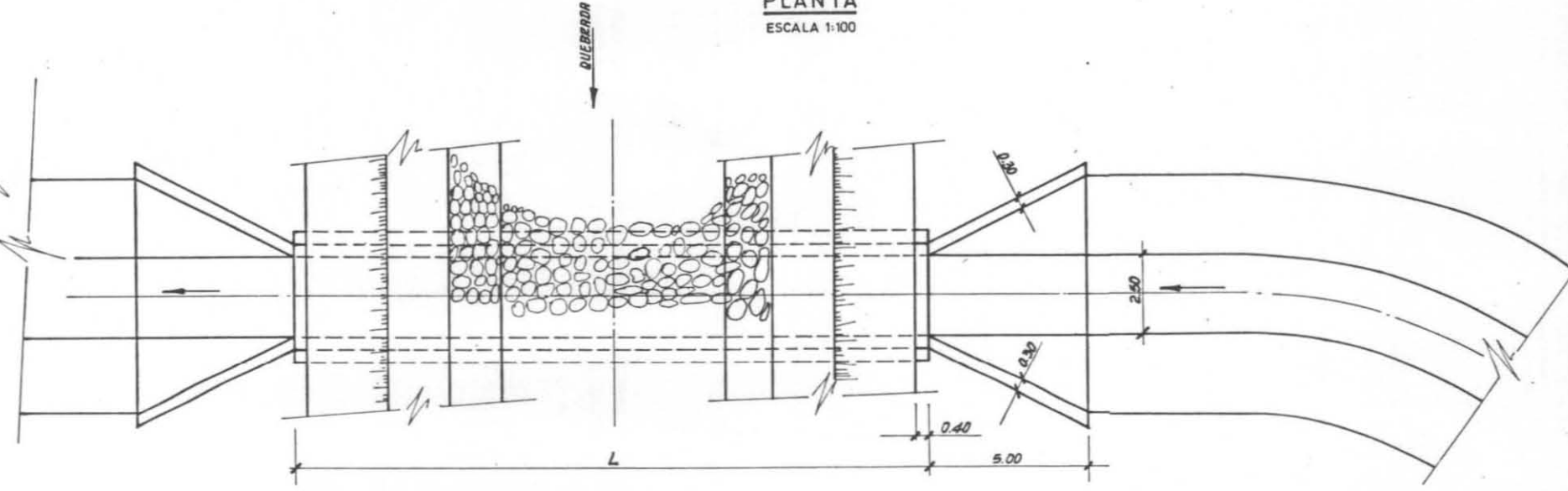
CANAL CHANGARAL - LONGUEN
ESCALA 1:100
SECCION TIPICA



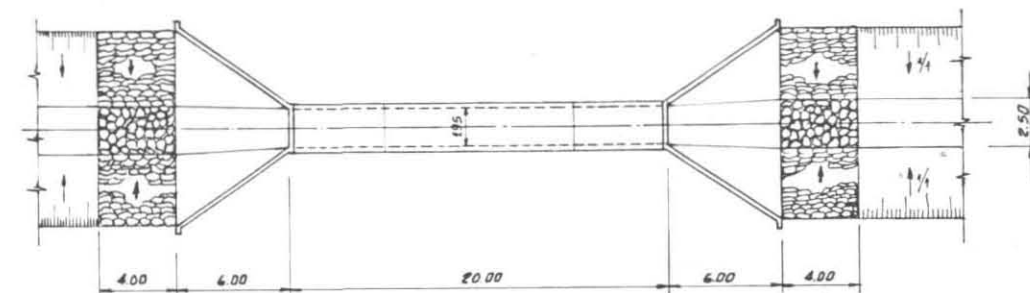
CRUCE DE CAMINOS
OBRA TIPO
PLANTA
ESCALA 1:100



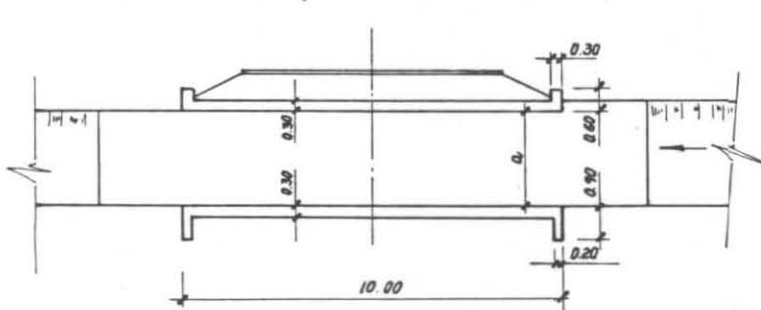
CRUCE DE QUEBRADA
PLANTA
ESCALA 1:100



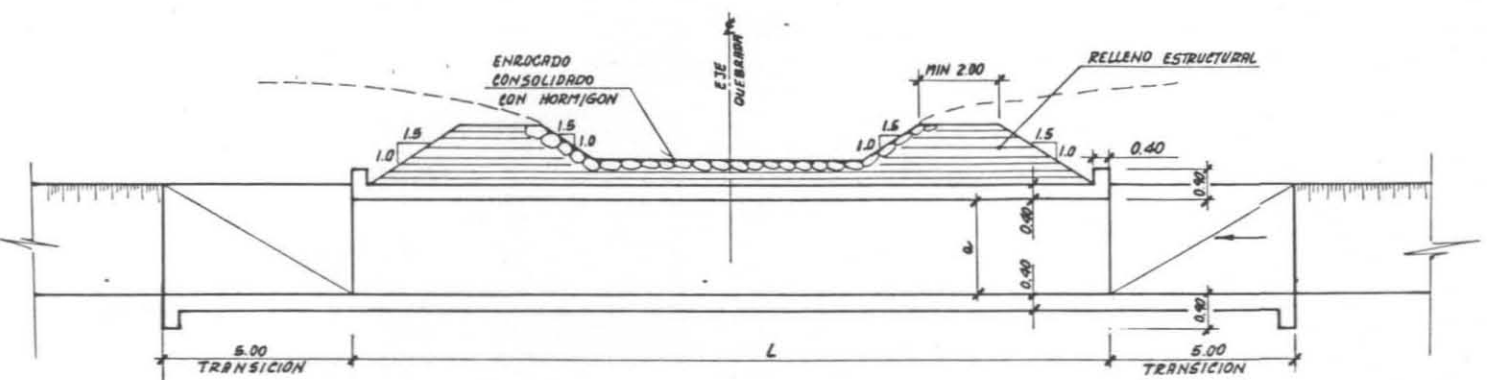
SIFON
PLANTA
ESCALA 1:200



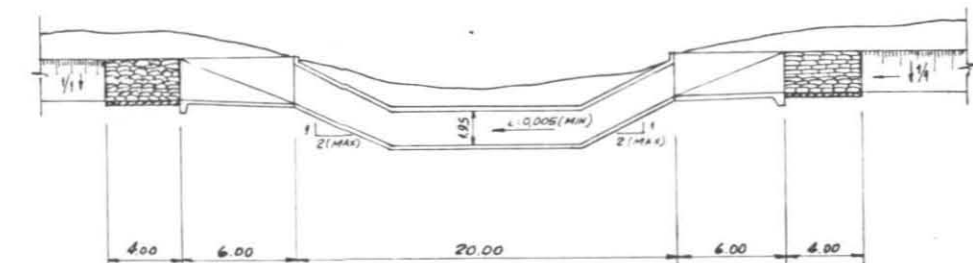
CRUCE DE CAMINOS
CORTE LONGITUDINAL
ESCALA 1:100



CRUCE DE QUEBRADA
PERFIL LONGITUDINAL
ESCALA 1:100

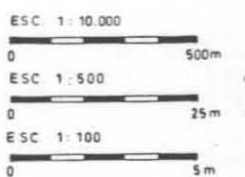


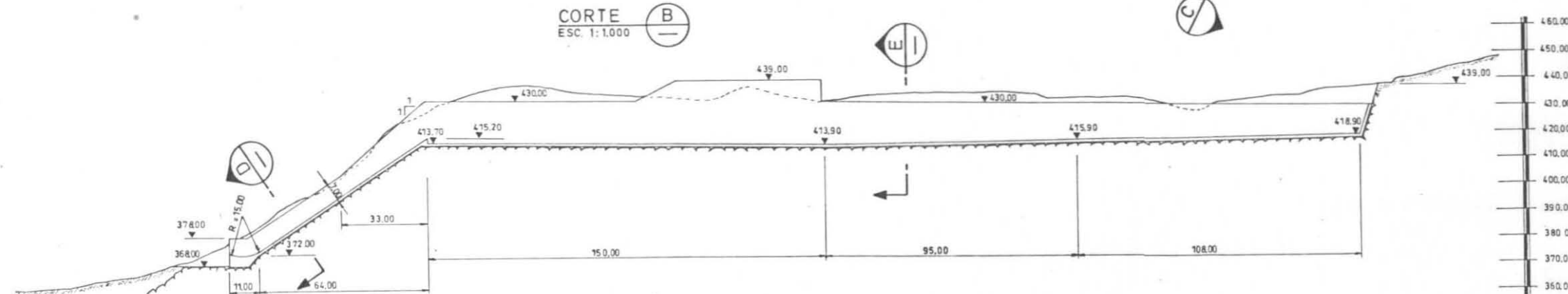
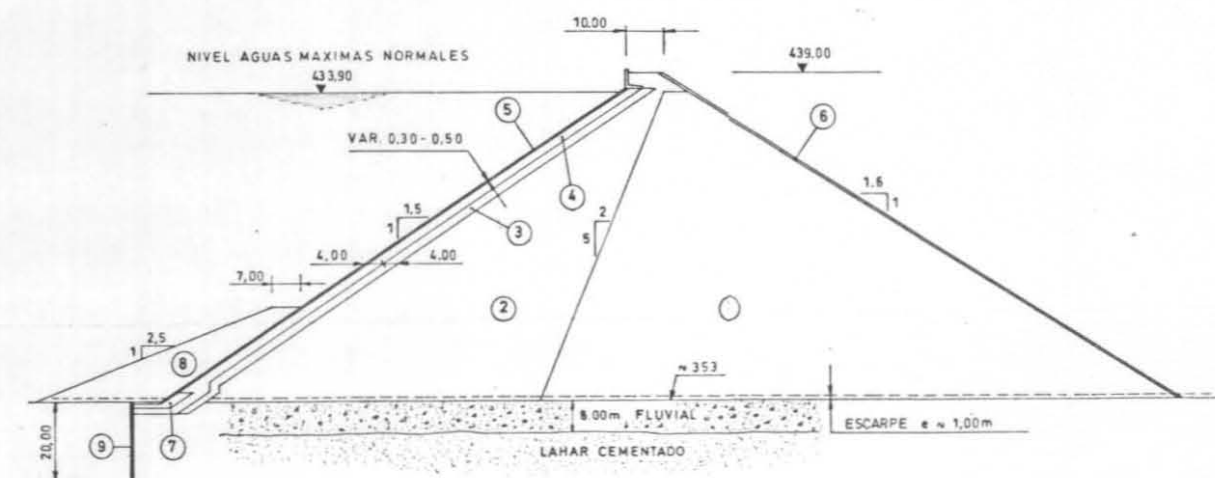
PERFIL LONGITUDINAL
ESCALA 1:200



Q (m ³ /s)	a (m)	CRUCES N°
7.70	2.50	9

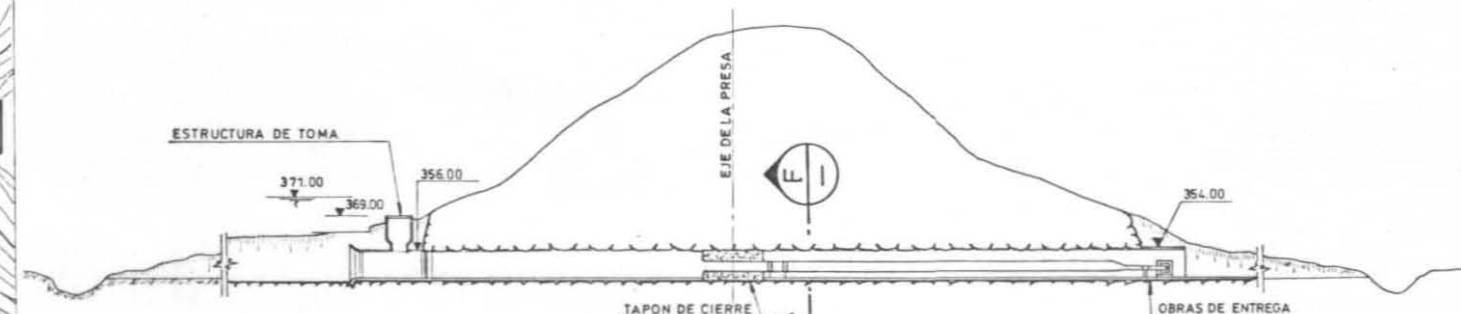
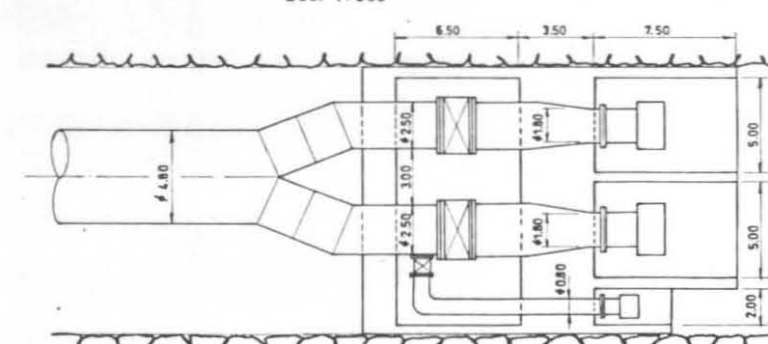
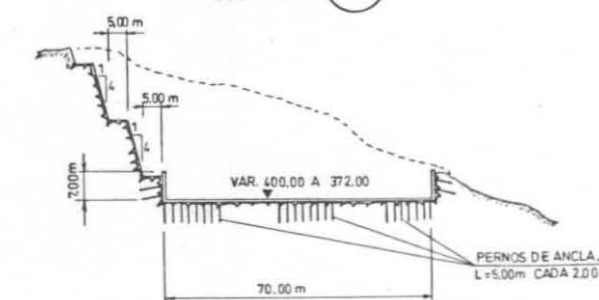
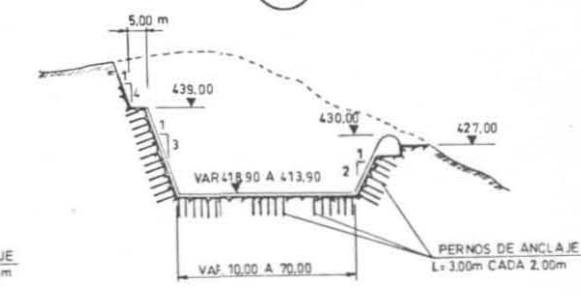
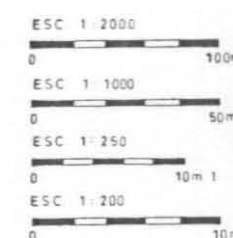
Q (m ³ /s)	a (m)	L (m)	N° C. de Q.
7.70	2.50	20	3

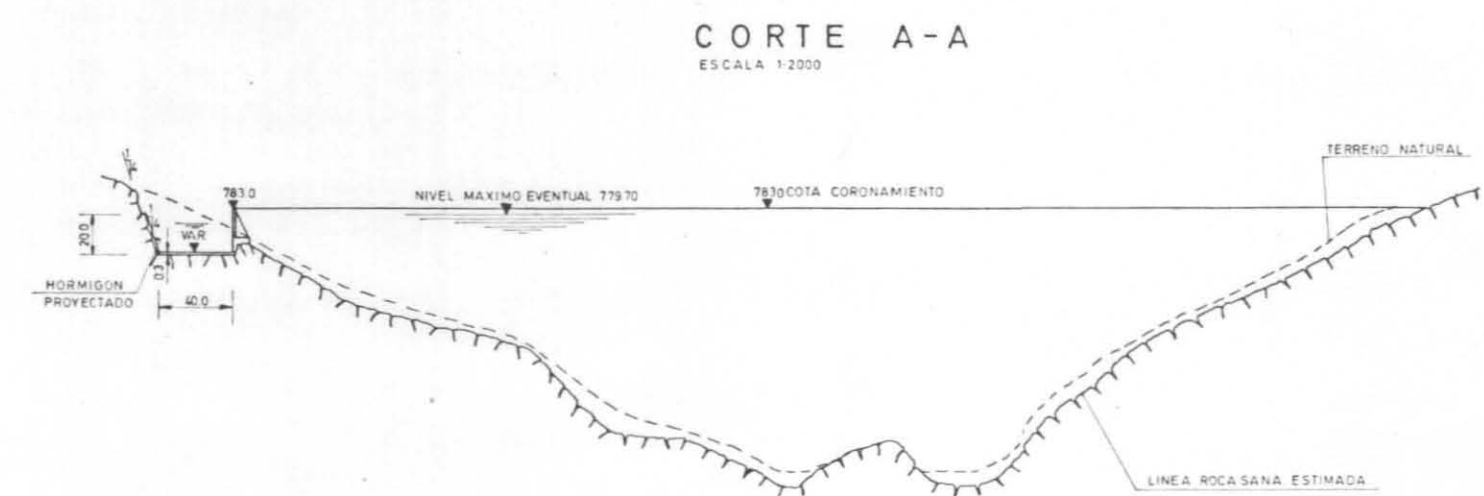
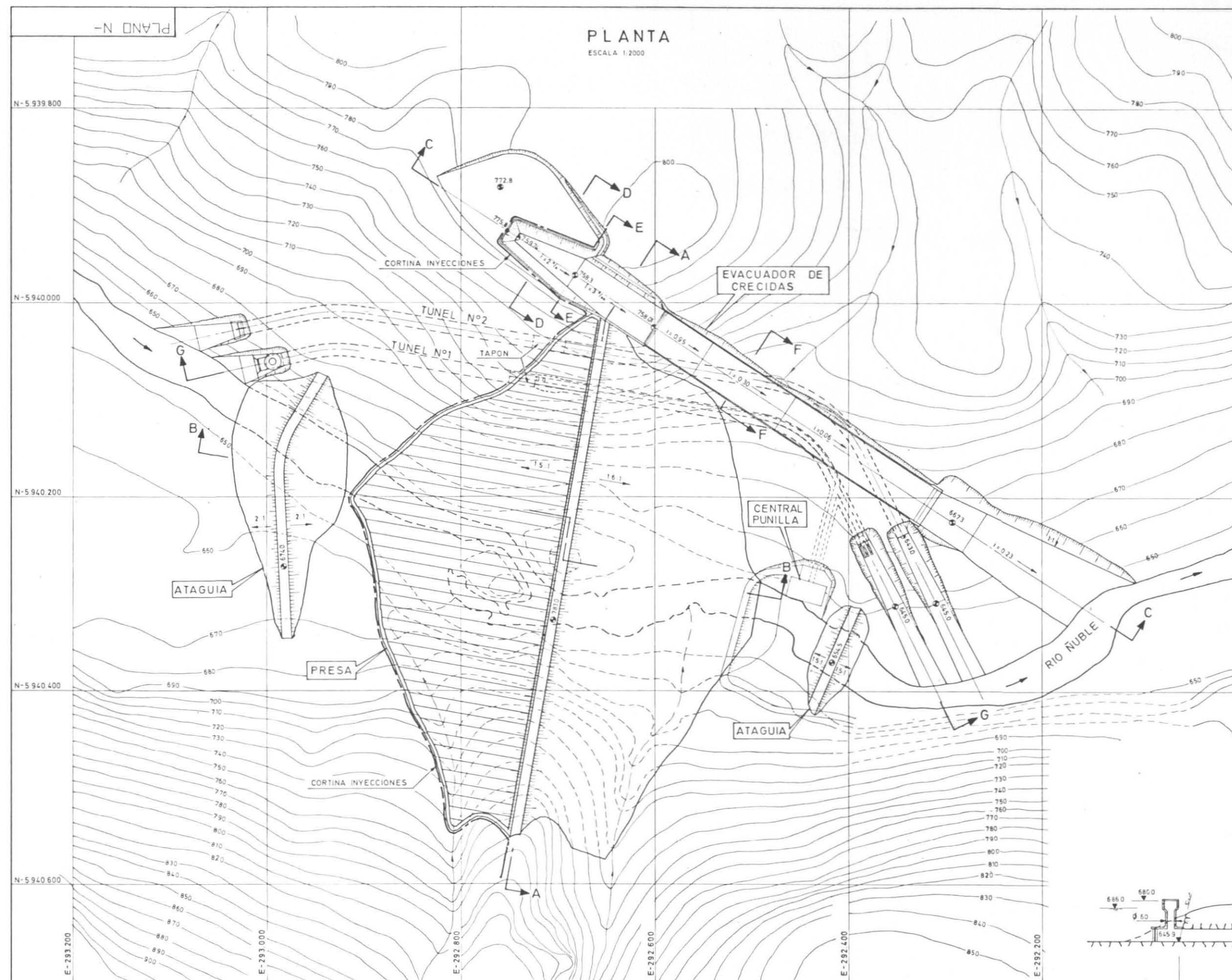


CORTE B
ESC. 1:1000CORTE A
ESC. 1:1000

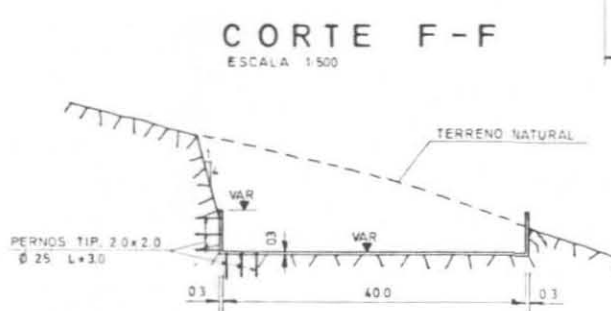
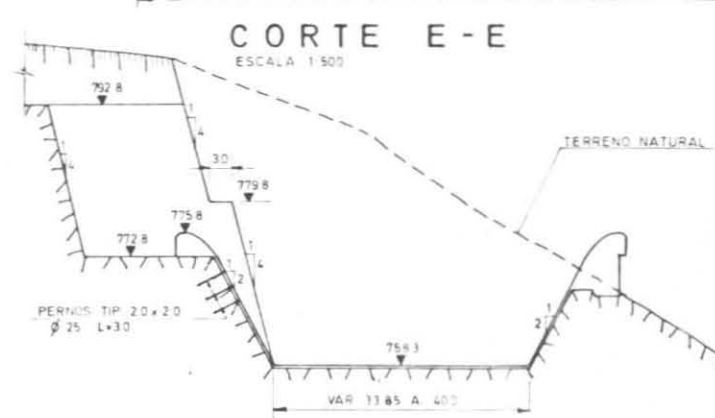
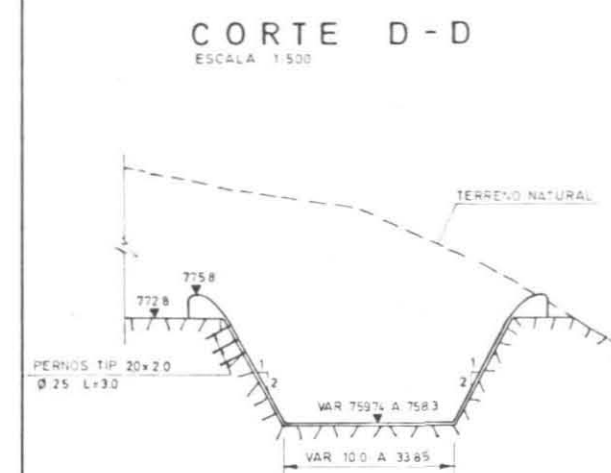
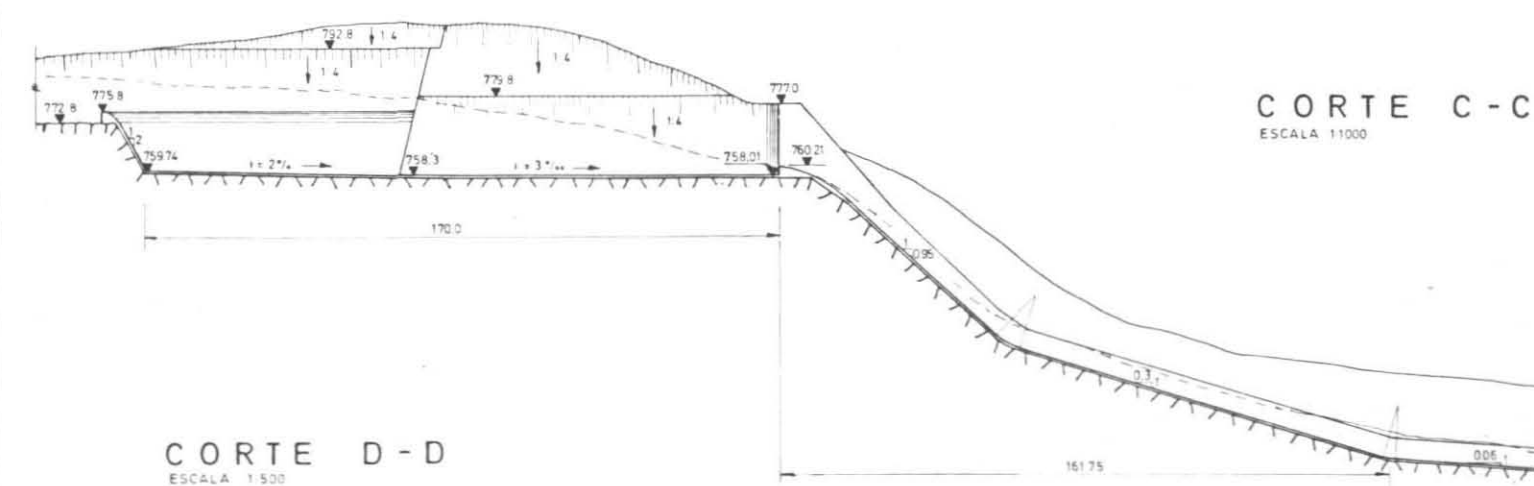
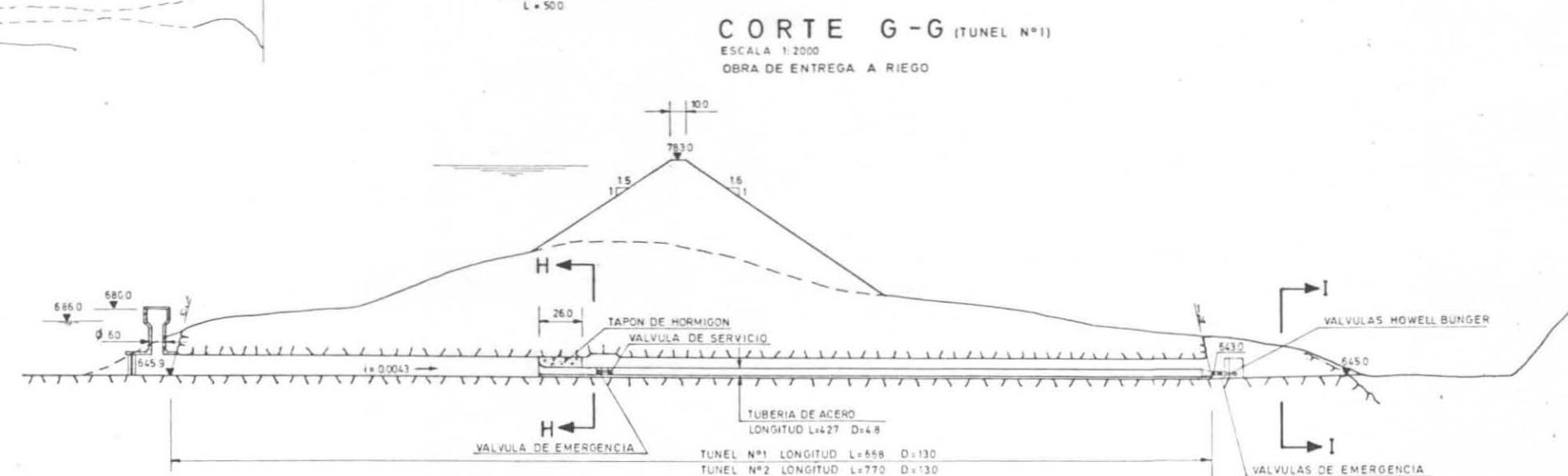
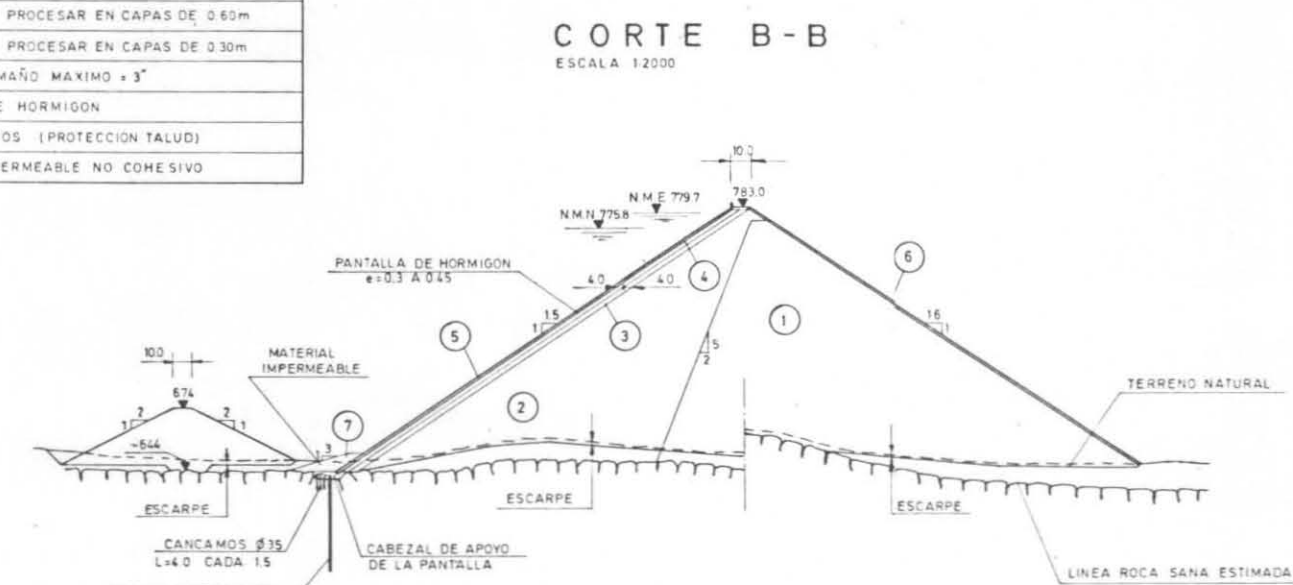
TIPO	DESCRIPCION
1	MATERIAL SIN PROCESAR EN CAPAS DE 0.90m
2	MATERIAL SIN PROCESAR EN CAPAS DE 0.60m
3	MATERIAL SIN PROCESAR EN CAPAS DE 0.30m
4	MATERIAL TAMAÑO MAXIMO + 3"
5	PANTALLA DE HORMIGON
6	SOBRETAMAÑOS (PROTECCION TALUD)
7	FILTRO RESPECTO AL MATERIAL 8
8	MATERIAL IMPERMEABLE NO COHESIVO
9	PARED MOLDEADA

TUNEL NORTE

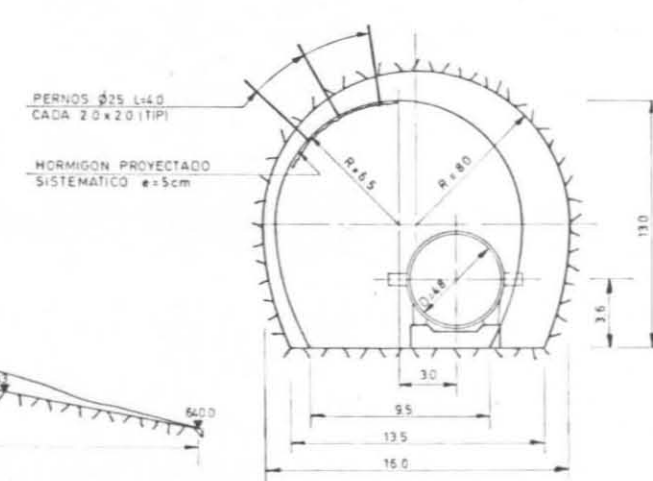
CORTE C
ESC. 1:2000PLANTA OBRAS DE ENTREGA
ESC. 1:200CORTE D
ESC. 1:1000CORTE E
ESC. 1:1010CORTE F
ESC. 1:250



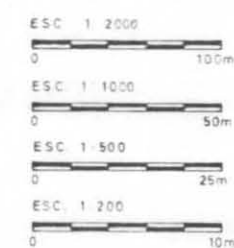
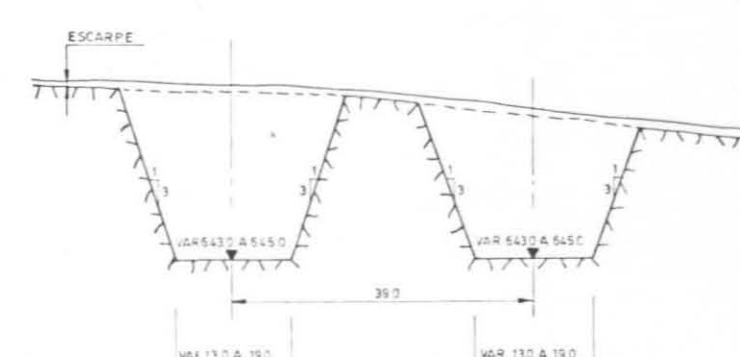
TIPO	DESCRIPCION
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4	MATERIAL TAMAÑO MAXIMO + 3"
5	PANTALLA DE HORMIGON
6	SOBRETAMAÑOS (PROTECCION TALUD)
7	MATERIAL IMPERMEABLE NO COHESIVO

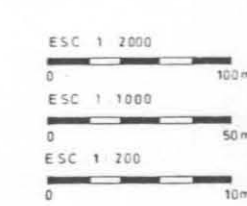
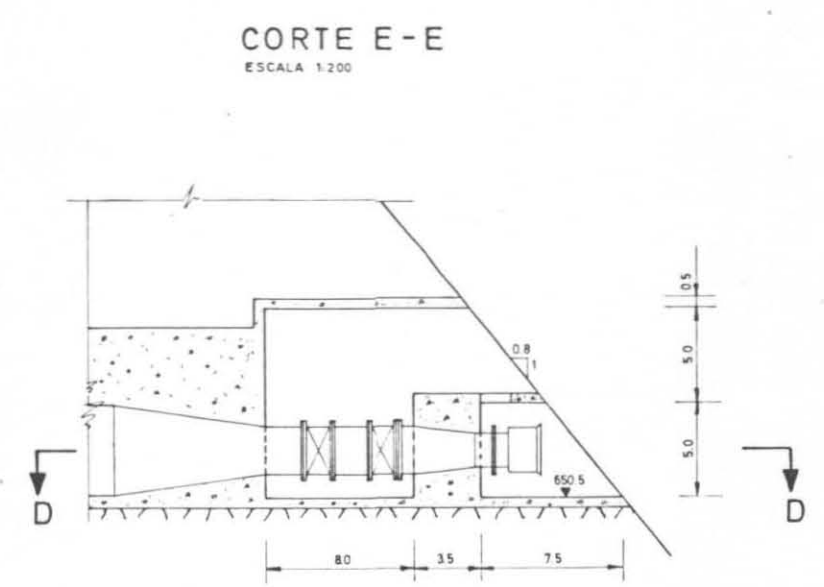
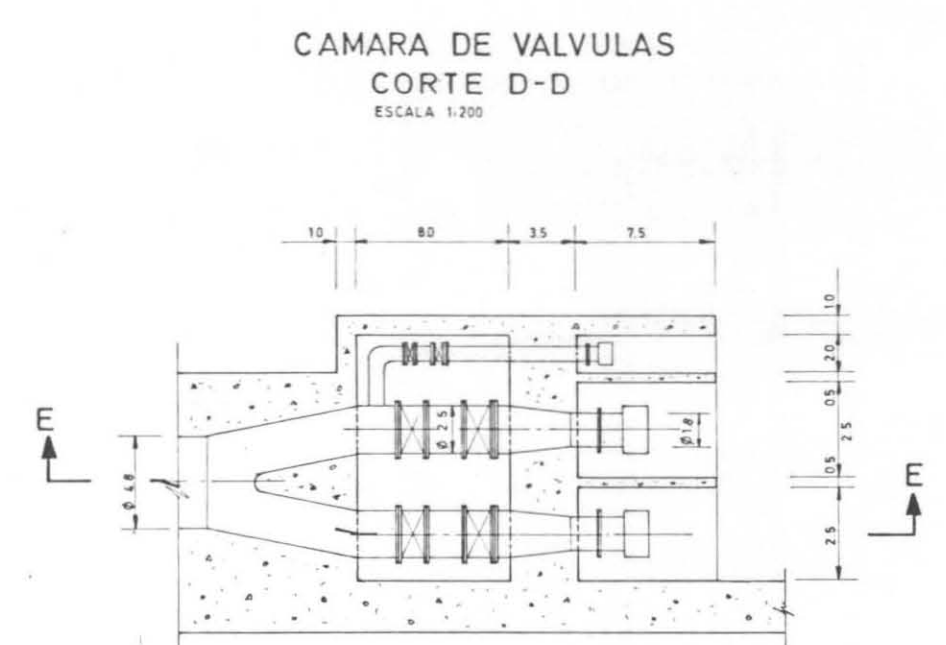
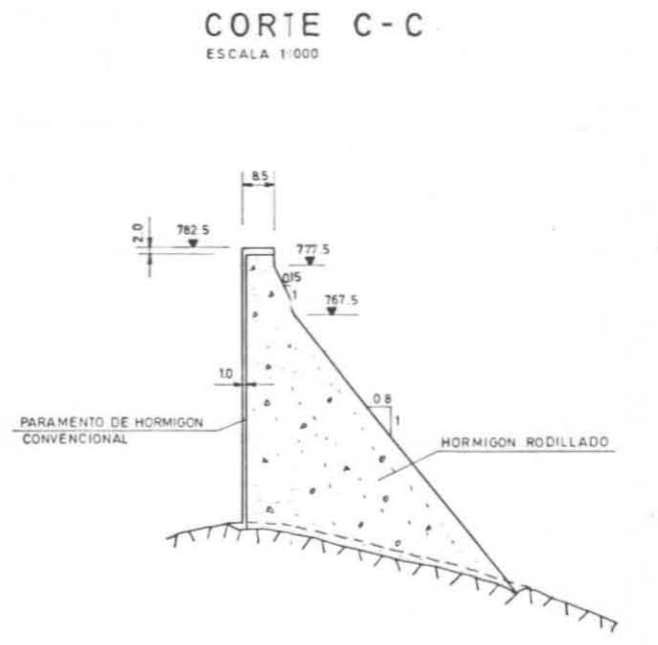
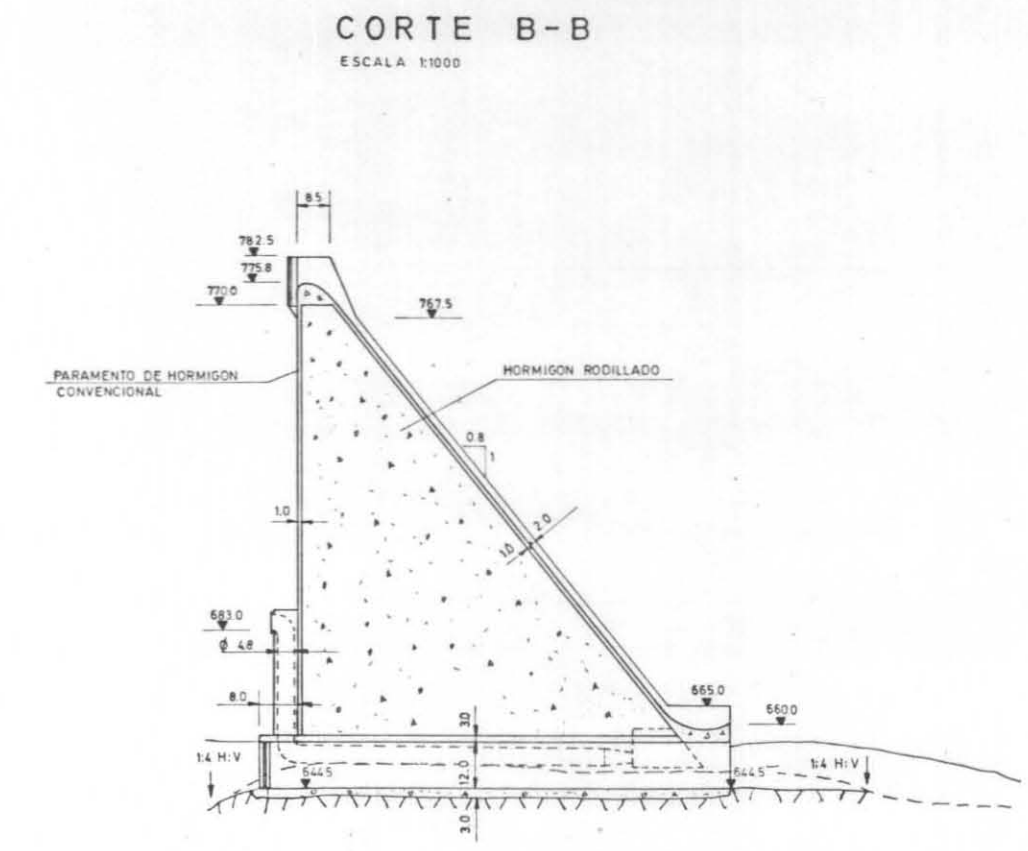
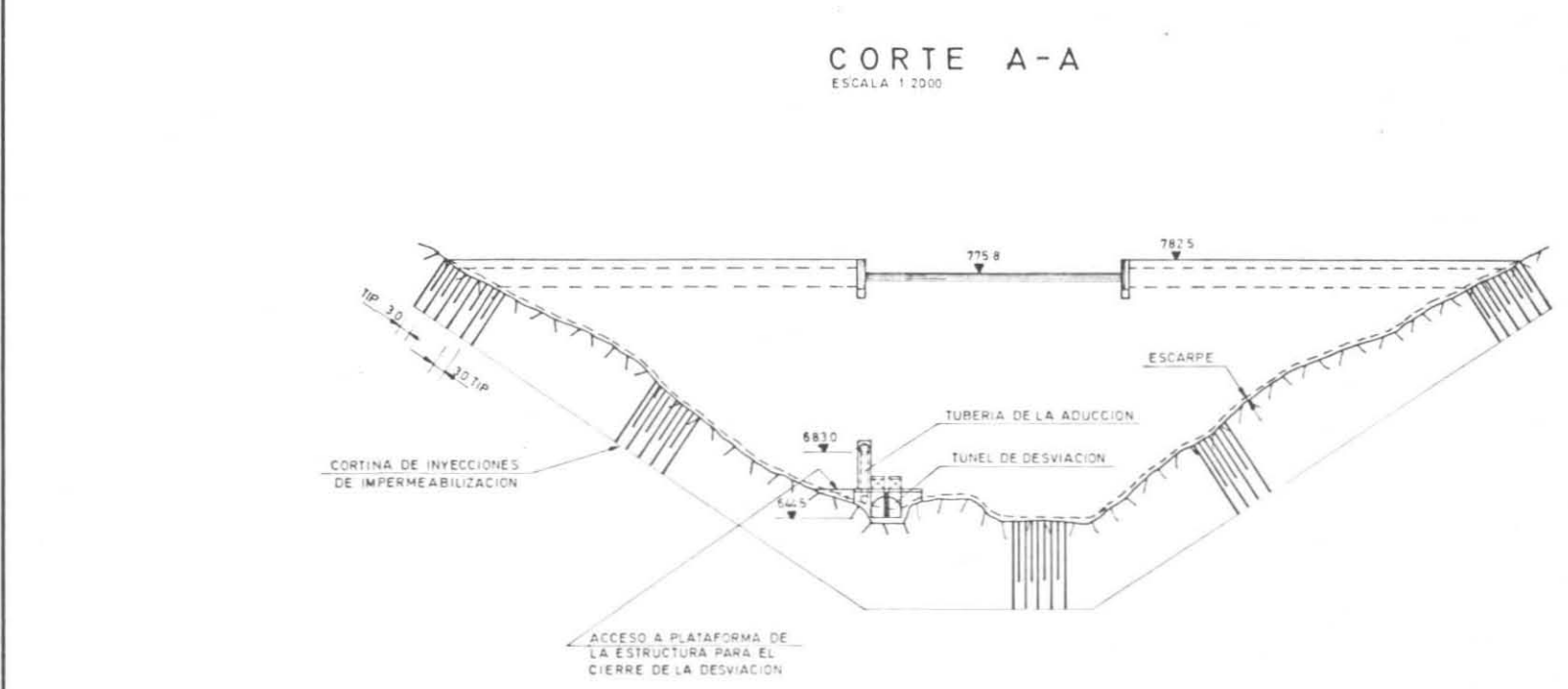
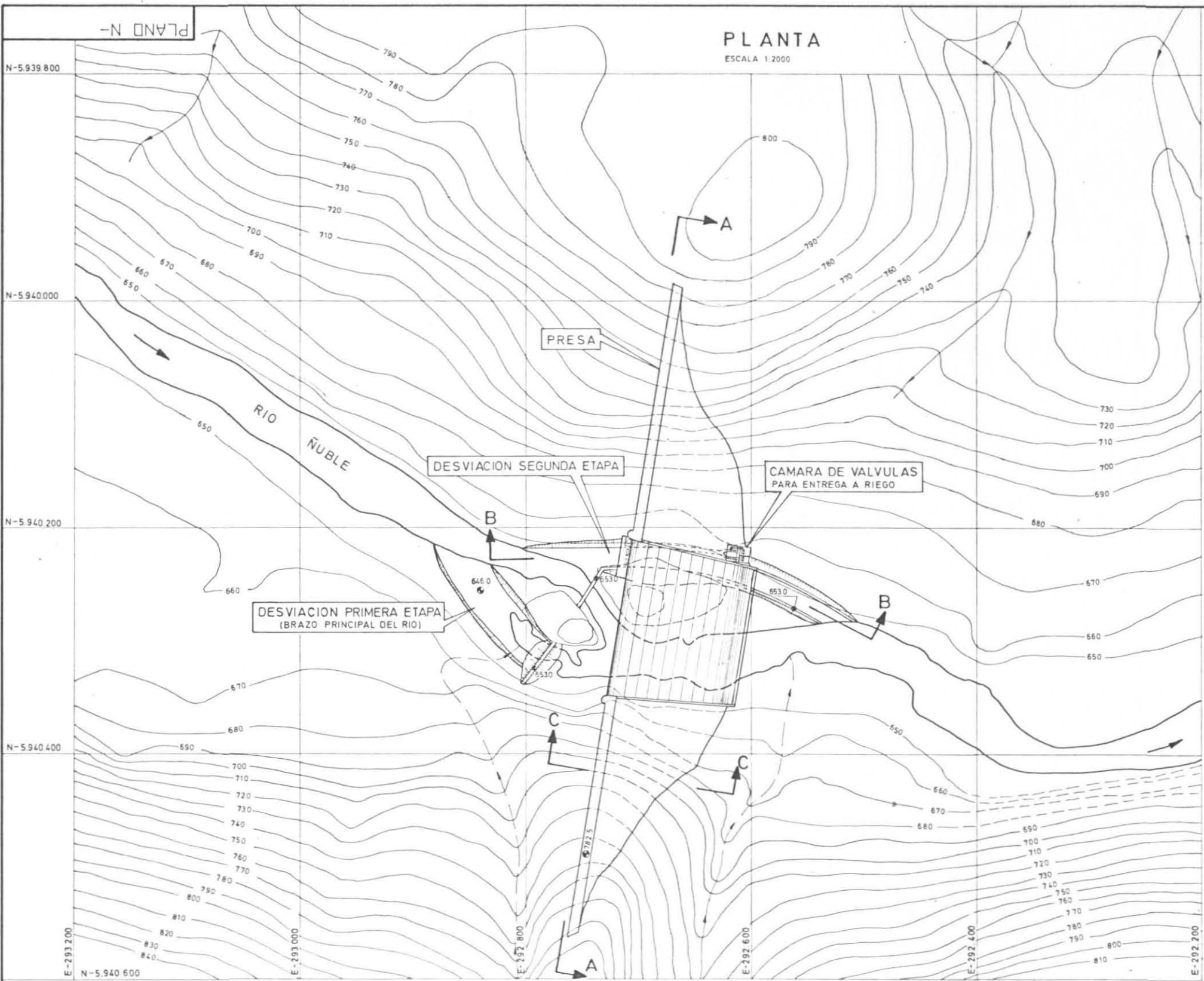


CORTE H-H
ESCALA 1:200



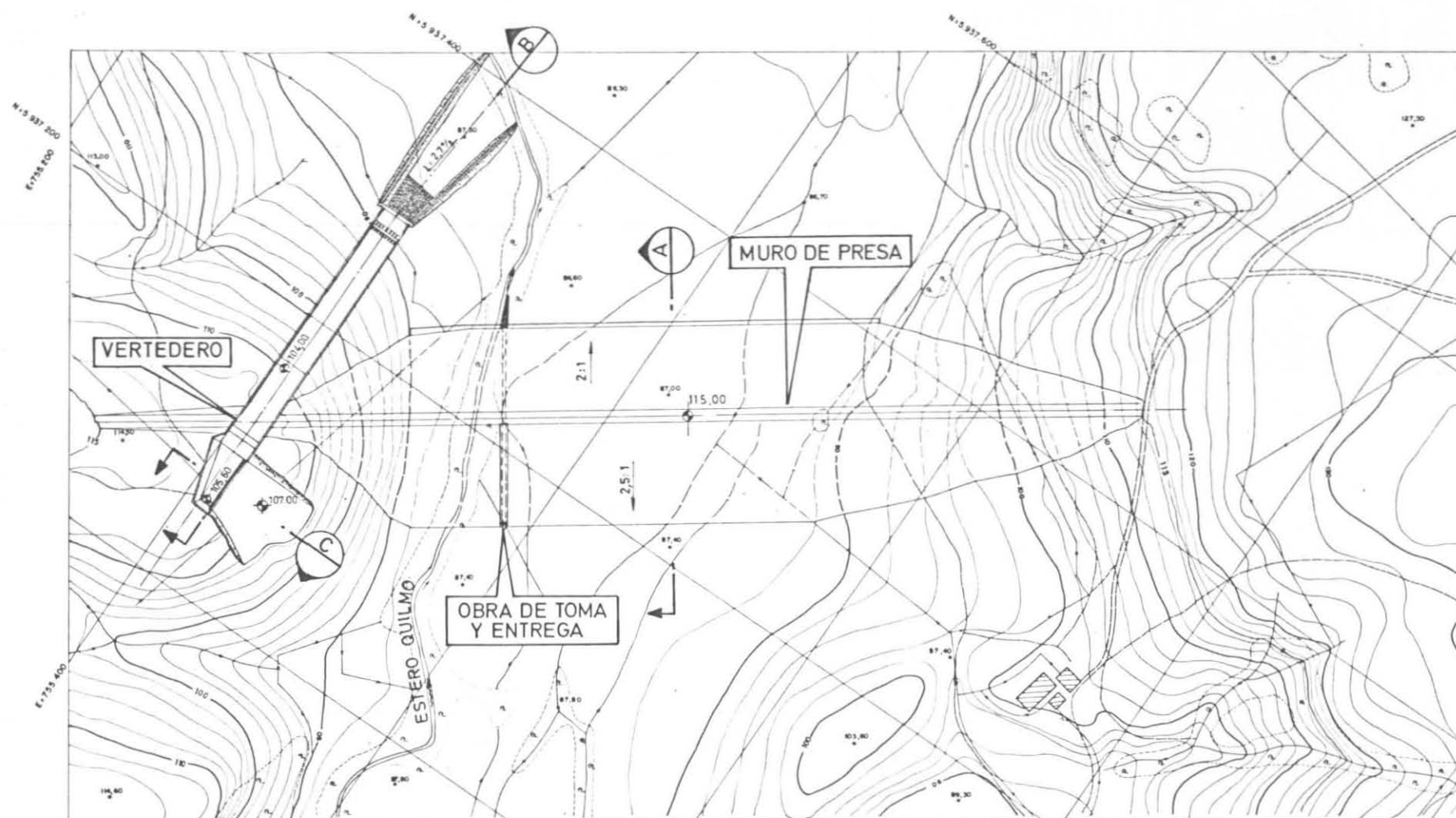
CORTE I-I
ESCALA 1:500



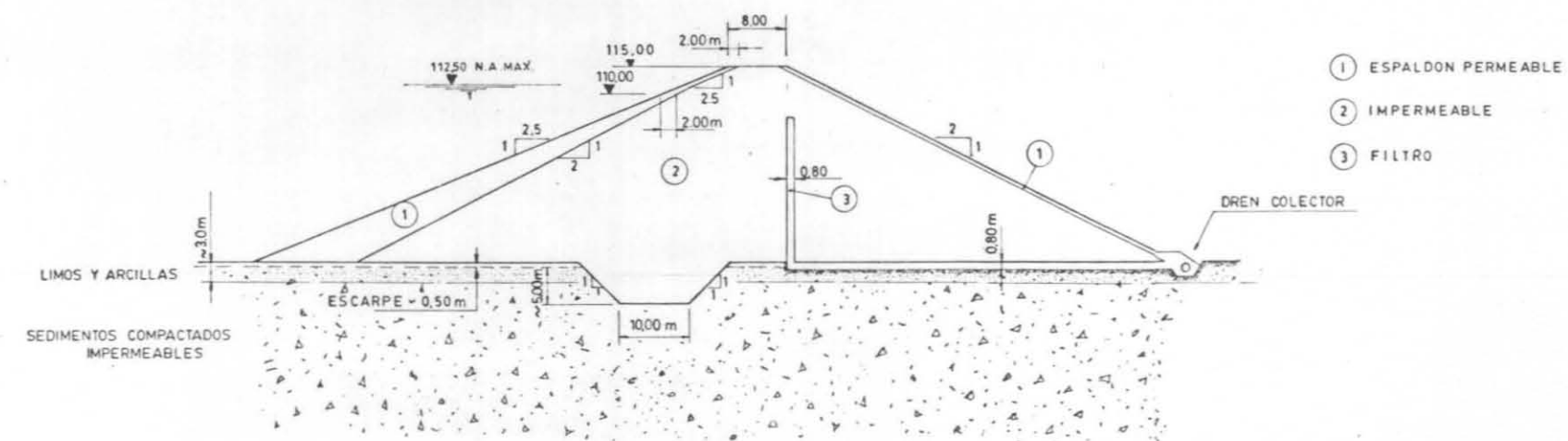


PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	EMBALSE PUNILLA PRESA DE HORMIGON RODILLADO	PLANTA Y CORTES
COMISION NACIONAL DE RIEGO		PI-IX-11

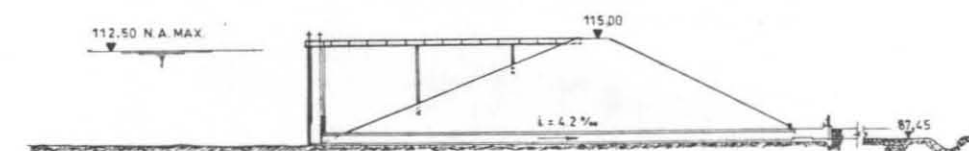
PLANTA
ESC. 1:2000



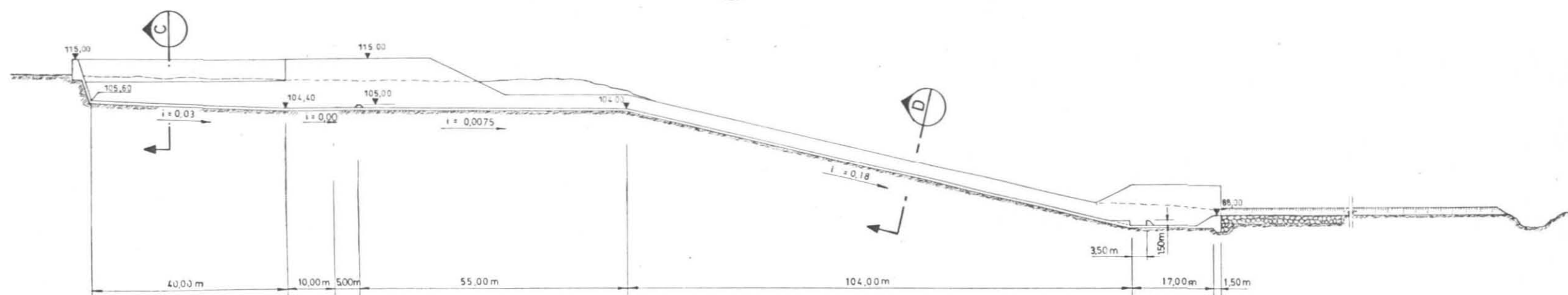
CORTE A
ESC. 1:500



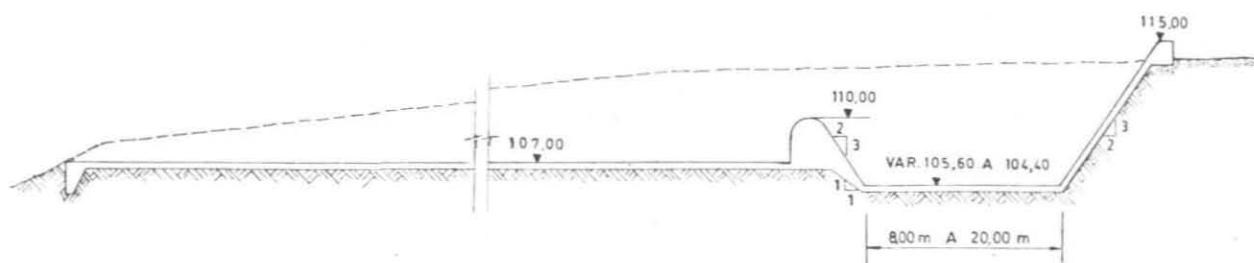
PERFIL LONGITUDINAL OBRA DE TOMA Y ENTREGA
ESC. 1:1000



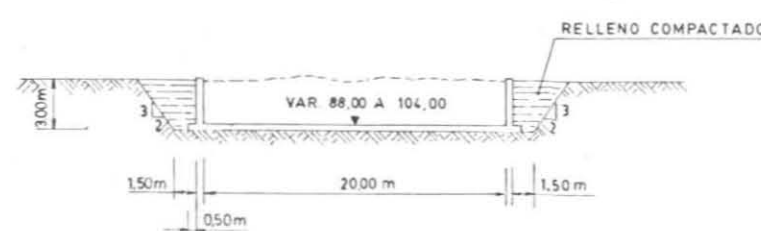
CORTE B
ESC. 1:500



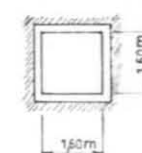
CORTE C
ESC. 1:250



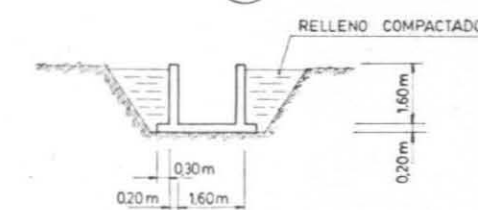
CORTE D
ESC. 1:250



CORTE F
ESC. 1:100

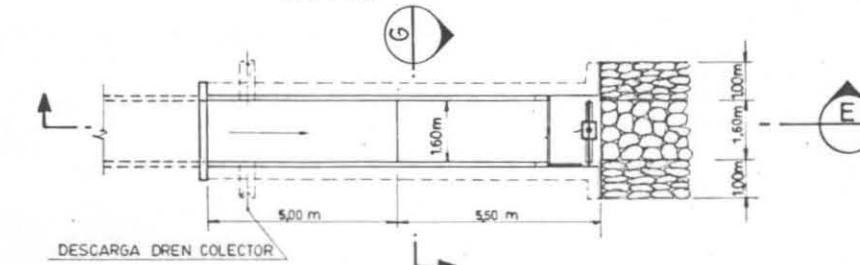


CORTE G
ESC. 1:100

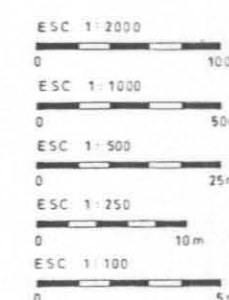
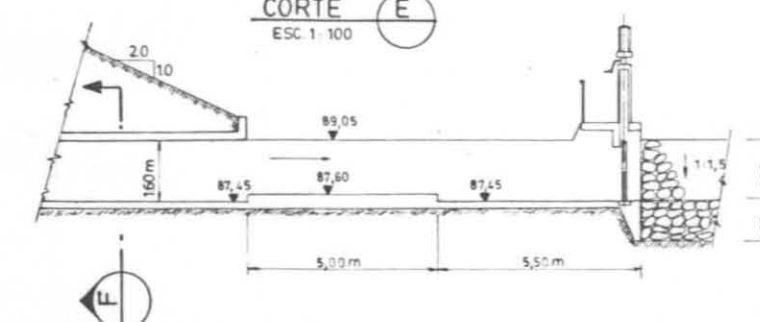


OBRA DE ENTREGA A CANAL

PLANTA
ESC. 1:100

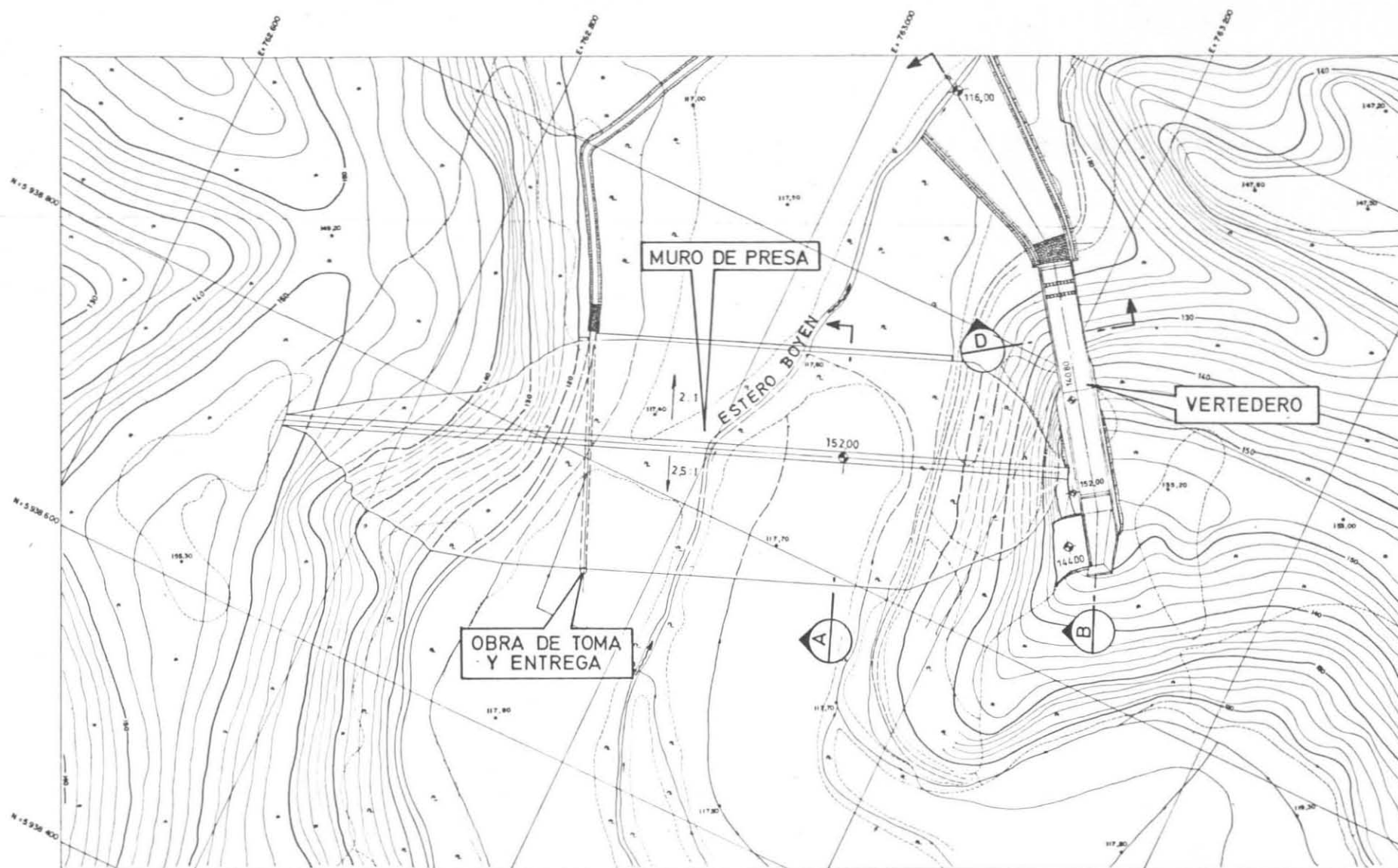


CORTE E
ESC. 1:100

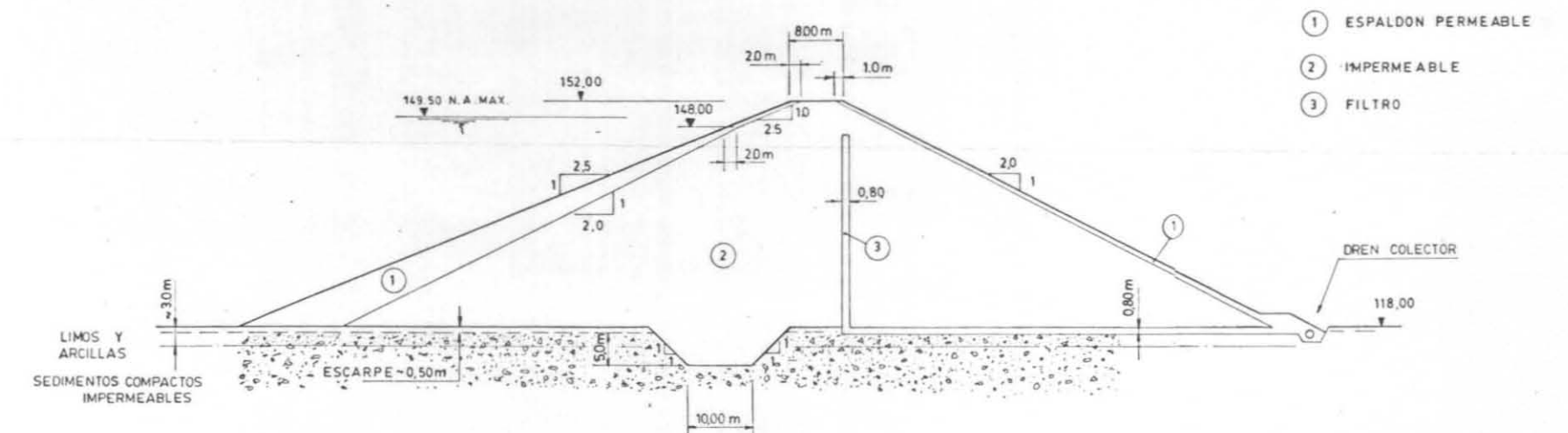


PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	EMBALSE QUILMO	PLANTA Y CORTES
COMISION NACIONAL DE RIEGO	Consortio INGENDESA-EDIC	P1-IX-12

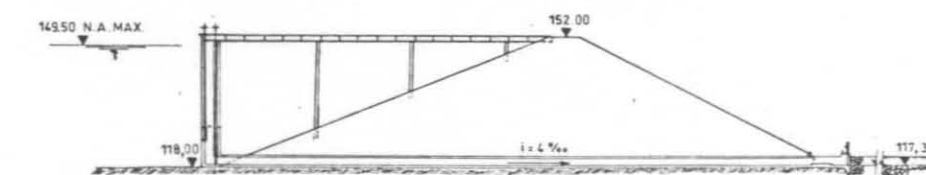
PLANTA
ESC 1:2000



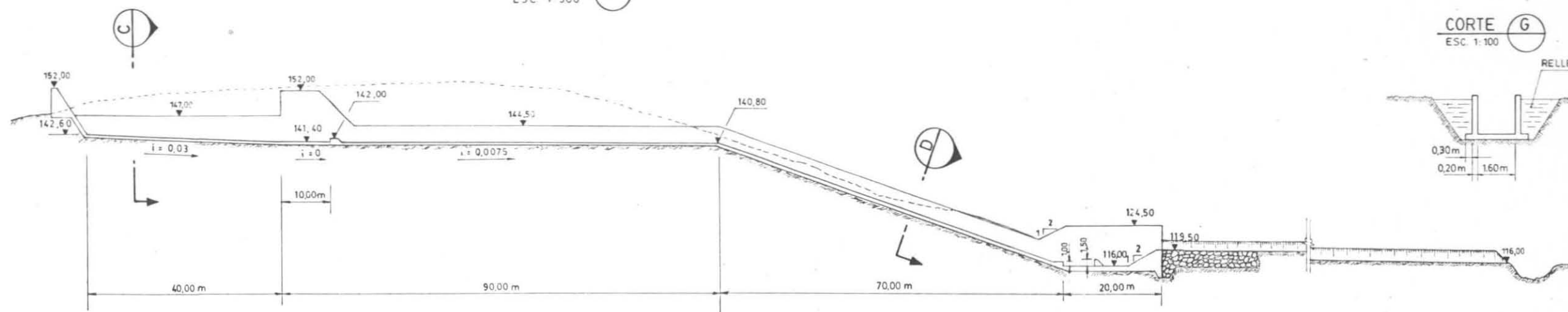
CORTE A
ESC 1:500



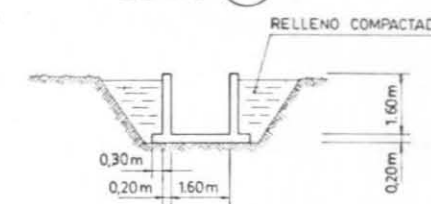
PERFIL LONGITUDINAL OBRA DE TOMA Y ENTREGA
ESC 1:1000



CORTE B
ESC 1:500

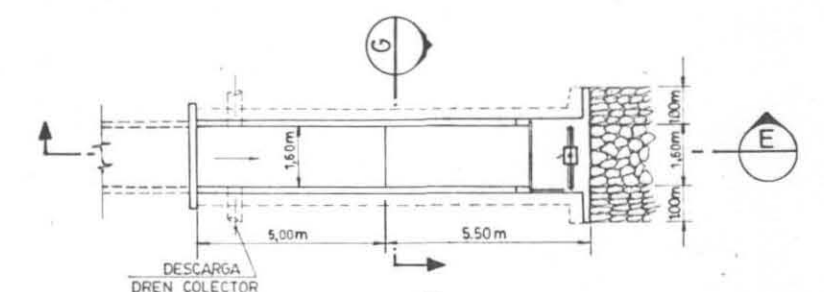


CORTE G
ESC 1:100

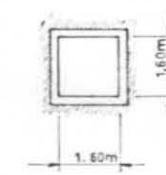


OBRA DE ENTREGA A CANAL

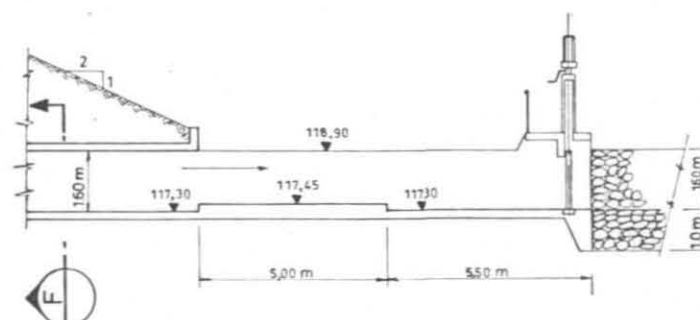
PLANTA
ESC 1:100



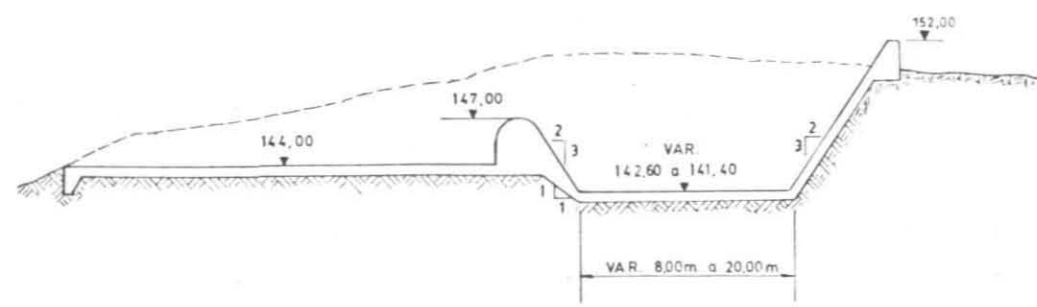
CORTE F
ESC 1:100



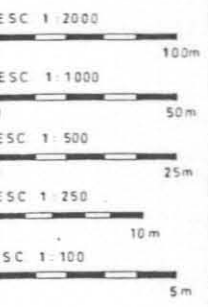
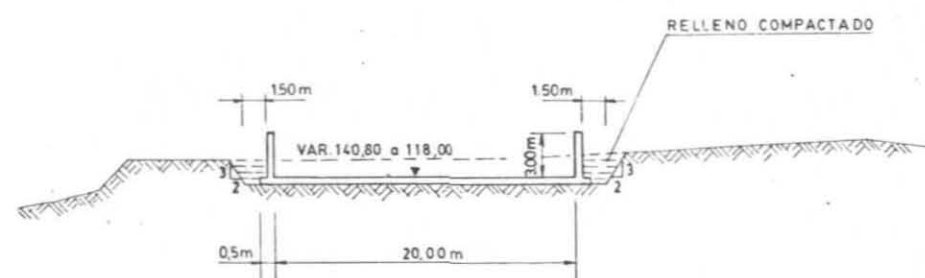
CORTE E
ESC 1:100



CORTE C
ESC 1:250



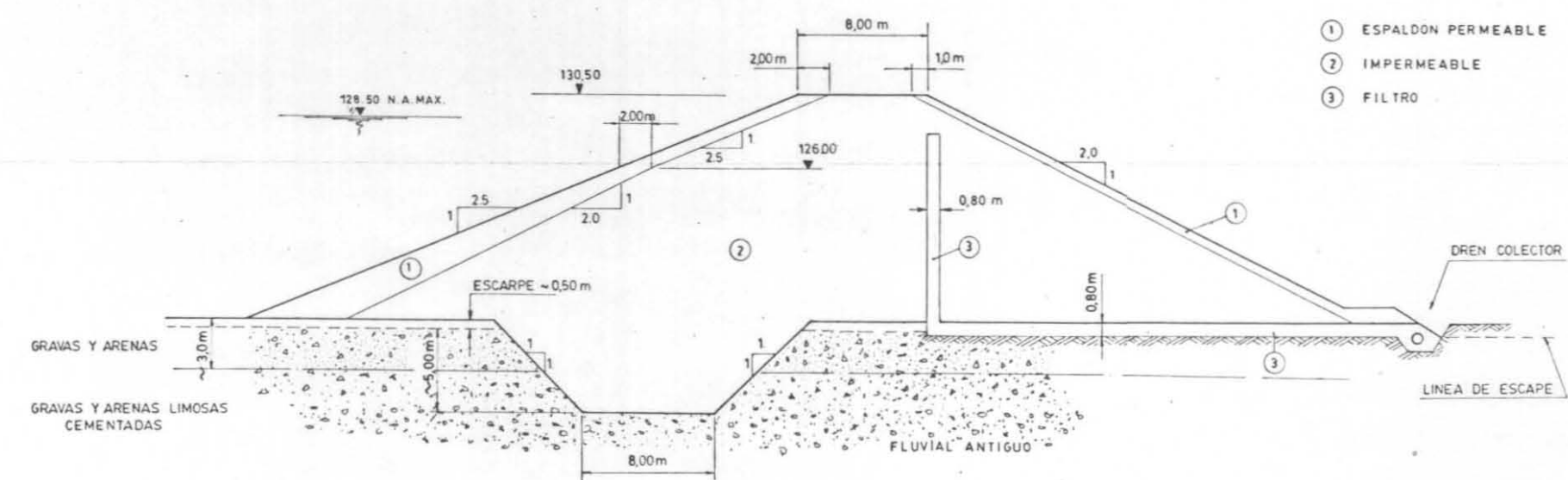
CORTE D
ESC 1:250



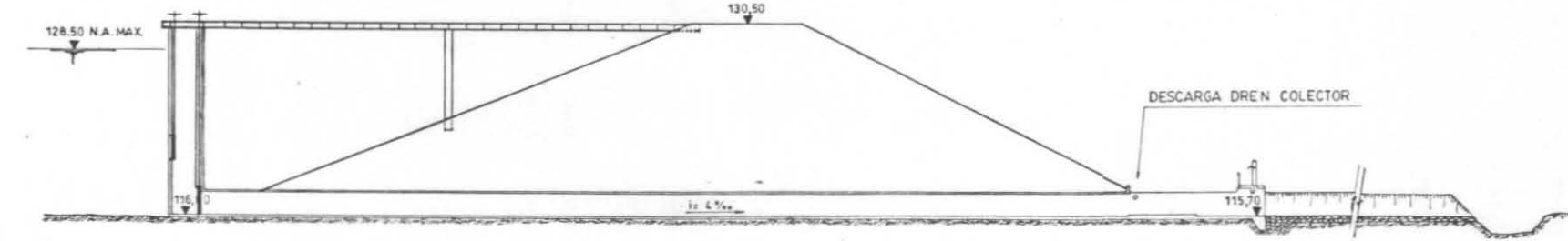
PLANTA
ESC. 1:2000



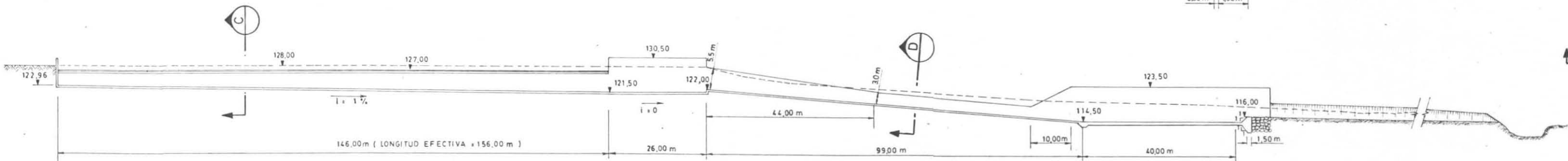
CORTE A
ESC. 1:200



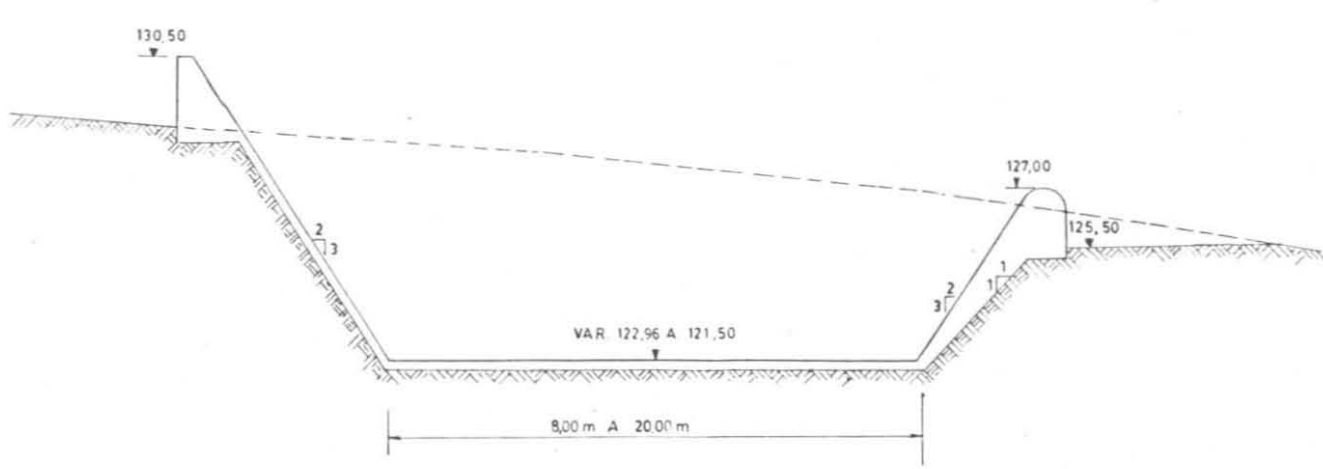
PERFIL LONGITUDINAL OBRA DE TOMA Y ENTREGA
ESC. 1:250



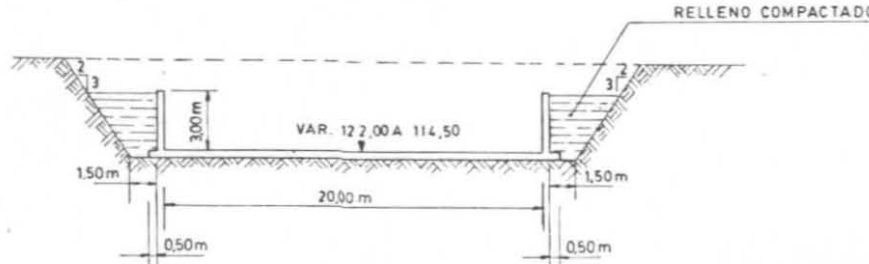
CORTE B
ESC. 1:500



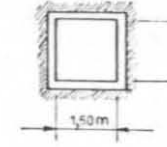
CORTE C
ESC. 1:100



CORTE D
ESC. 1:200

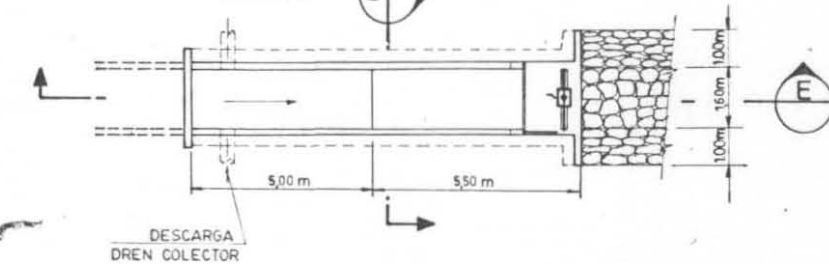


CORTE F
ESC. 1:100

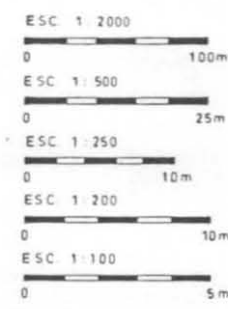
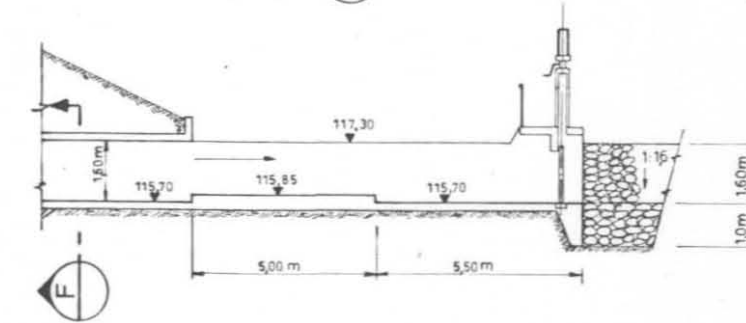


OBRA DE ENTREGA A CANAL

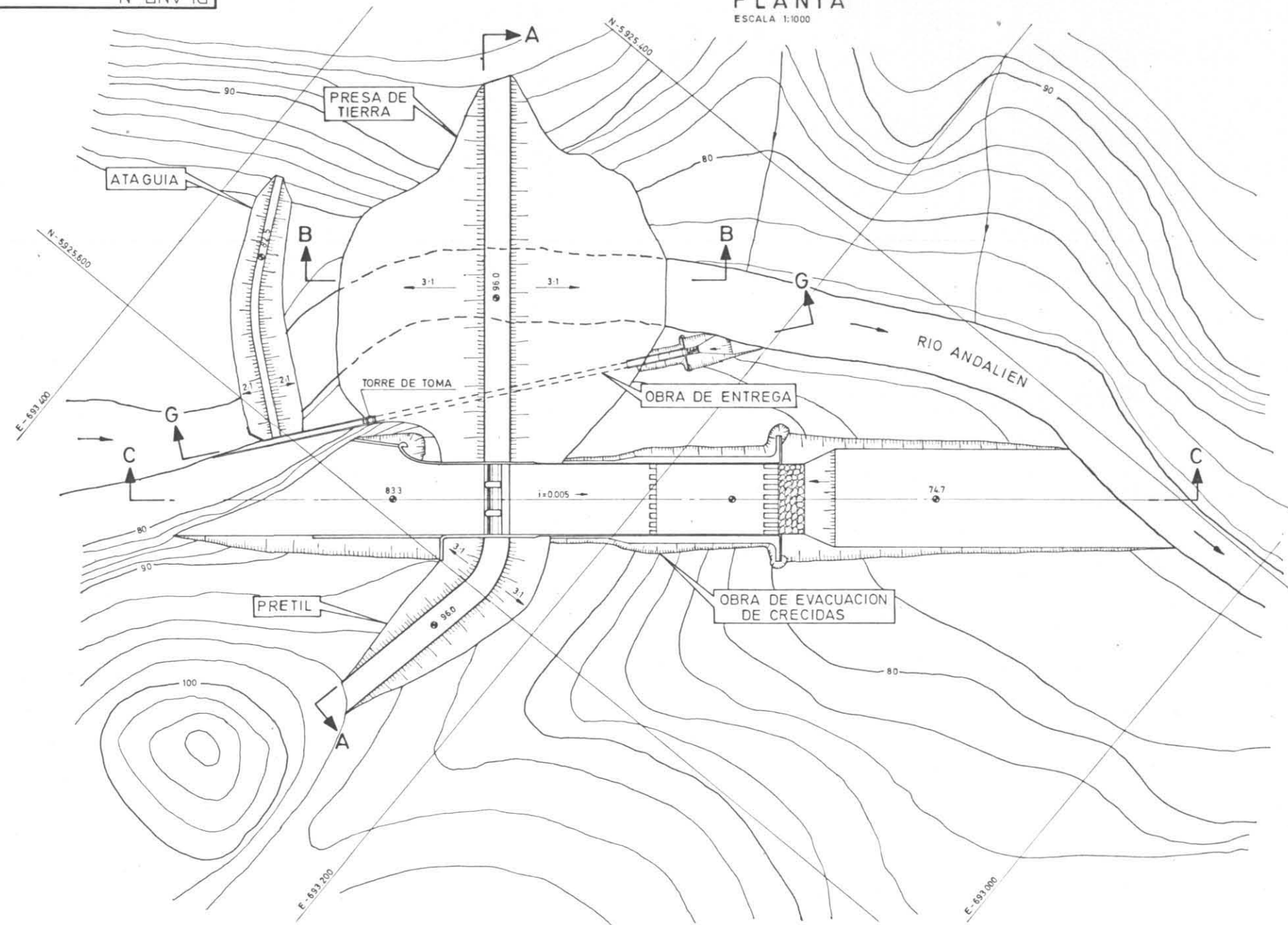
PLANTA
ESC. 1:100



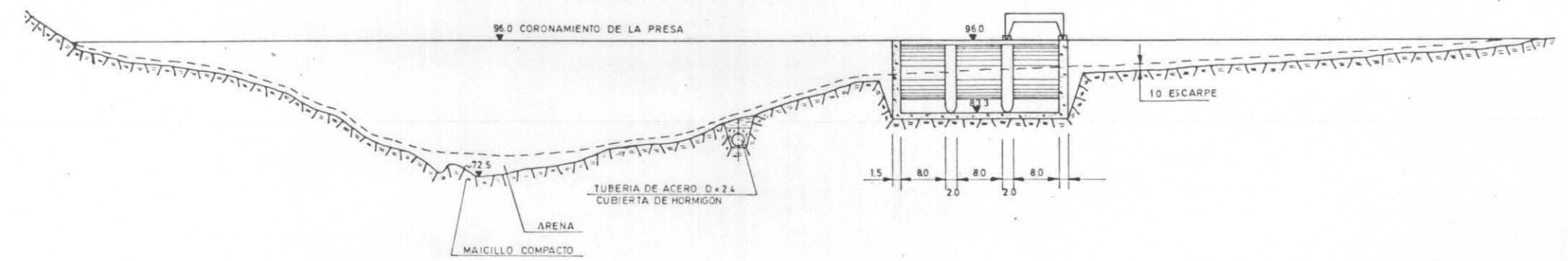
CORTE E
ESC. 1:100



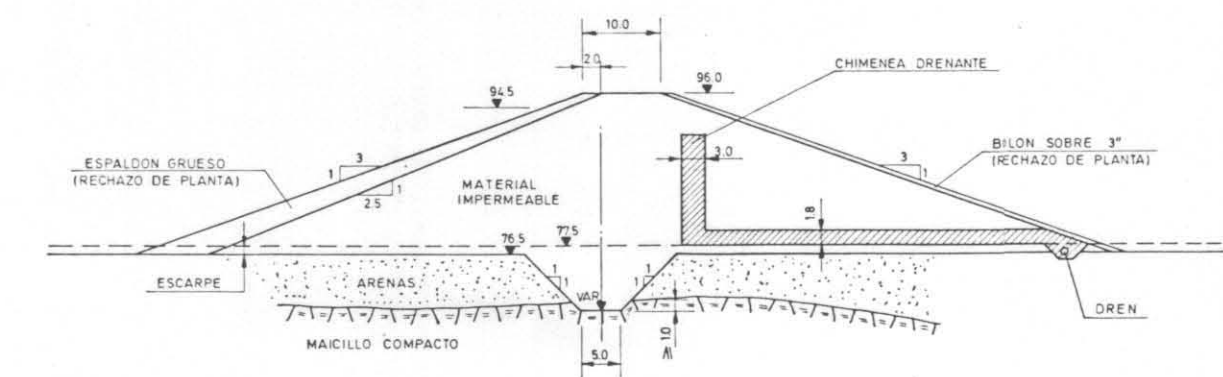
PLANTA
ESCALA 1:1000



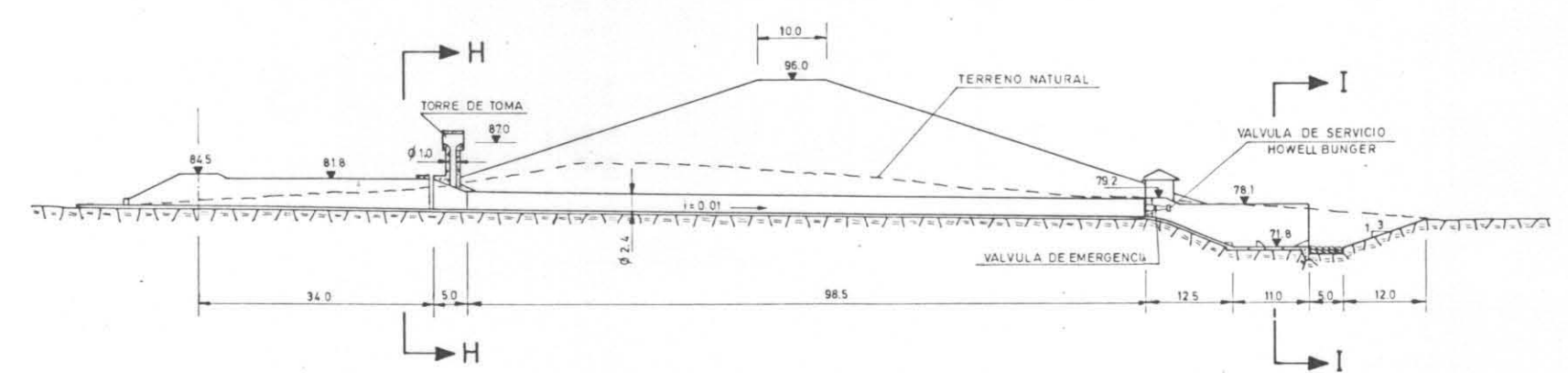
CORTE A A
ESCALA 1:500



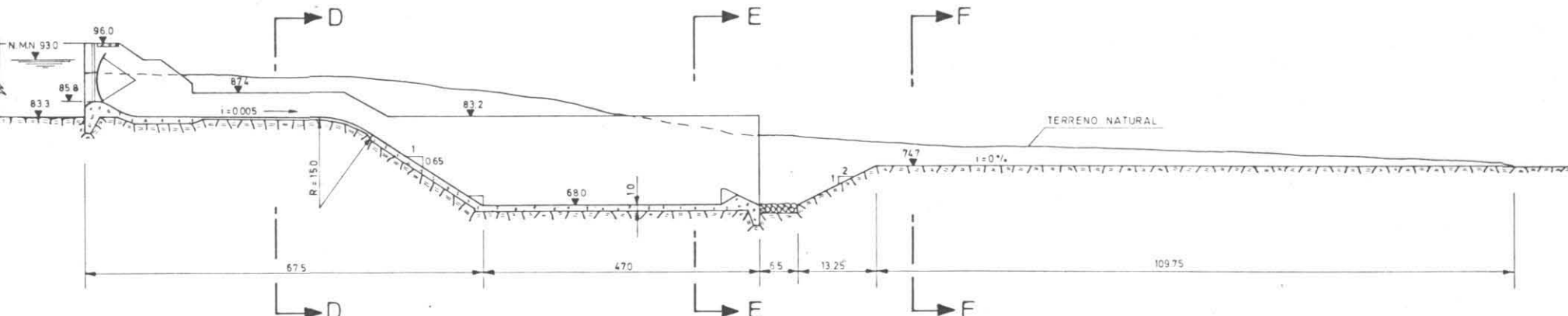
CORTE B-B
ESCALA 1:500



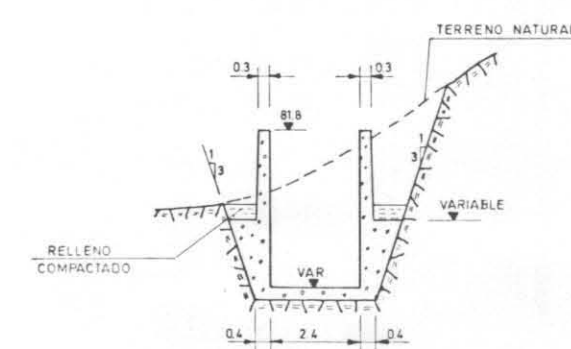
CORTE G-G (OBRA DE ENTREGA A RIEGO)
ESCALA 1:500



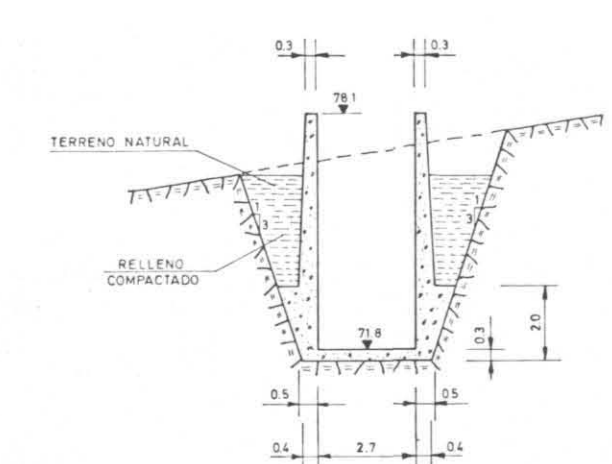
CORTE C-C
ESCALA 1:500



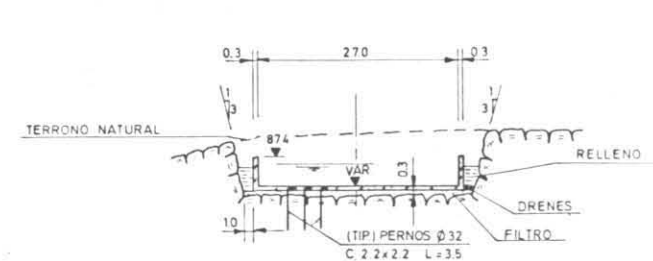
CORTE H-H
ESCALA 1:100



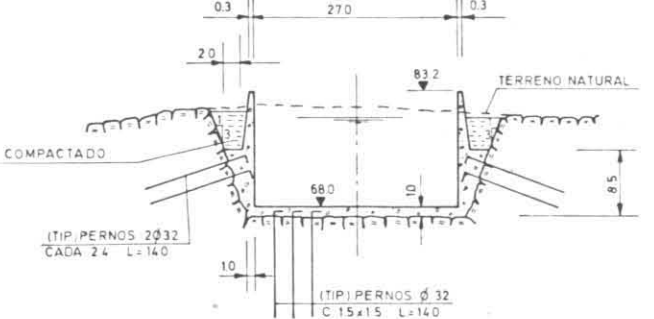
CORTE I-I
ESCALA 1:100



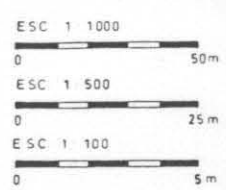
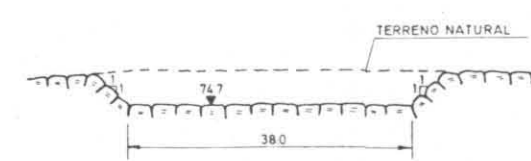
CORTE D-D
ESCALA 1:500

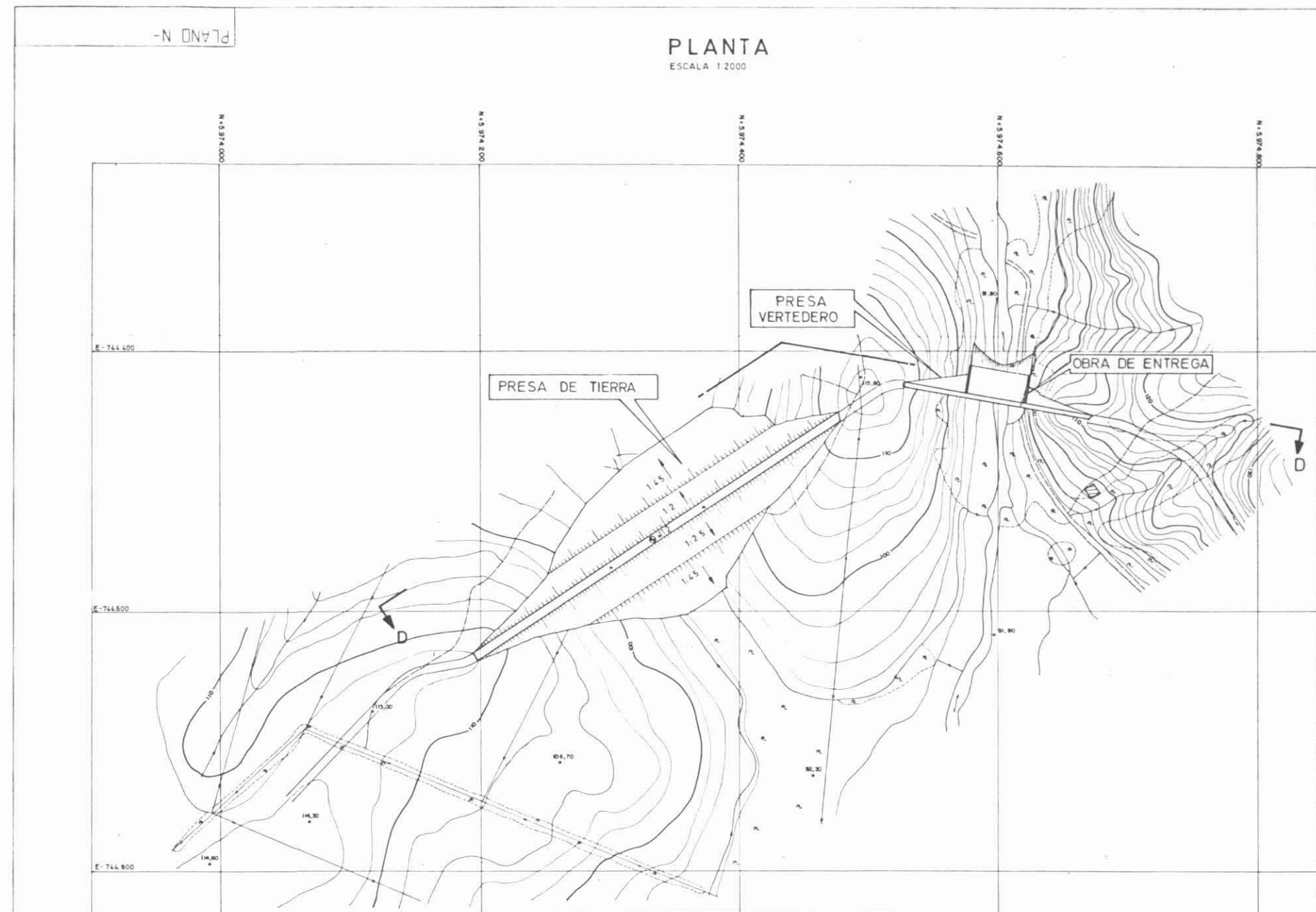


CORTE E-E
ESCALA 1:500

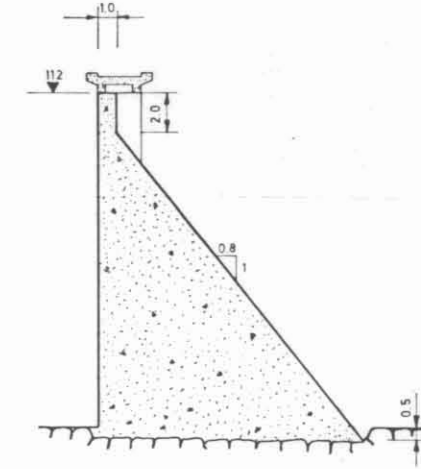


CORTE F-F
ESCALA 1:500

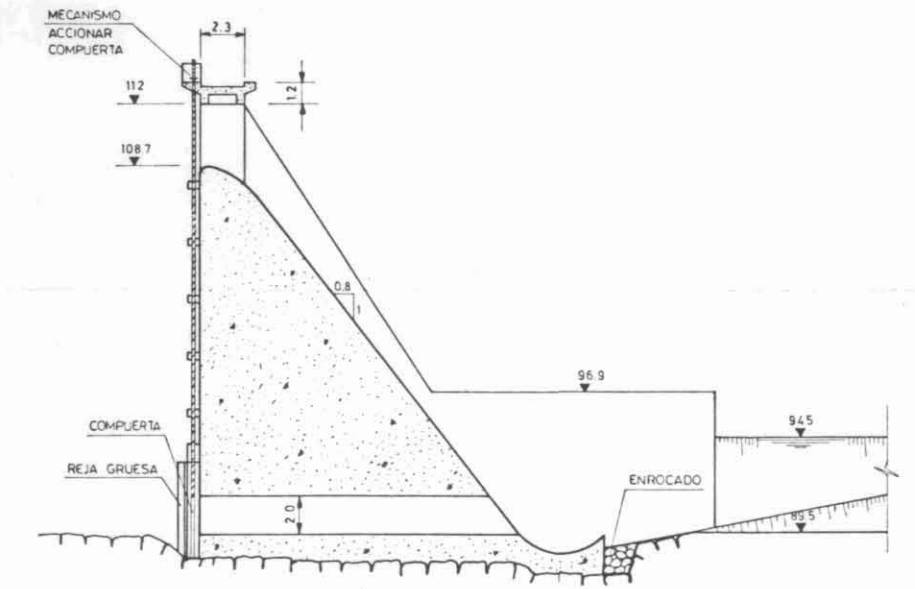




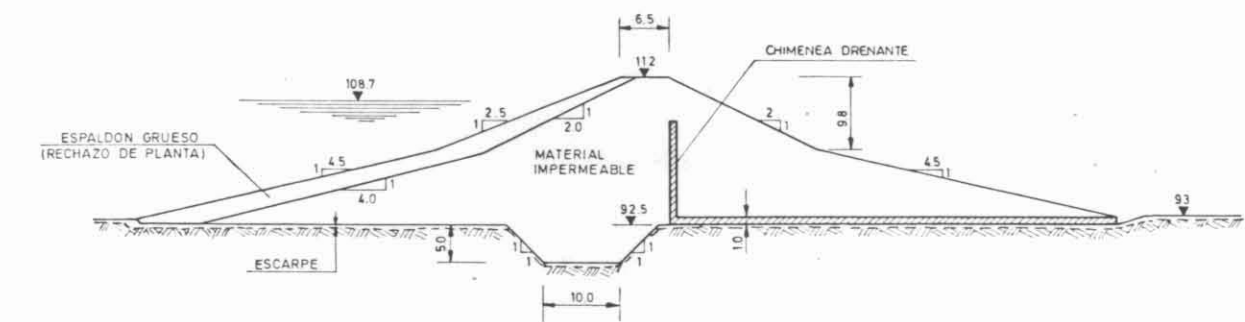
CORTE A-A
ESCALA 1:200



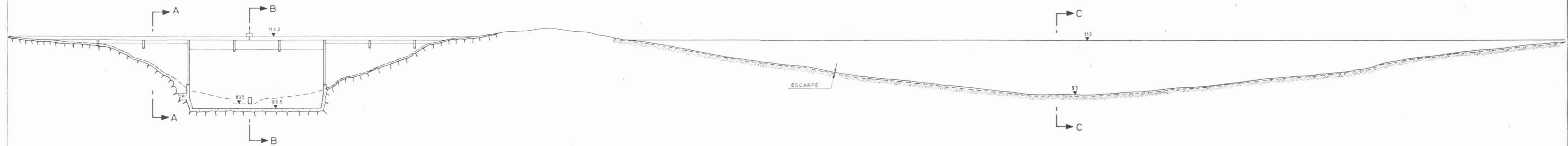
CORTE B-B
ESCALA 1:200



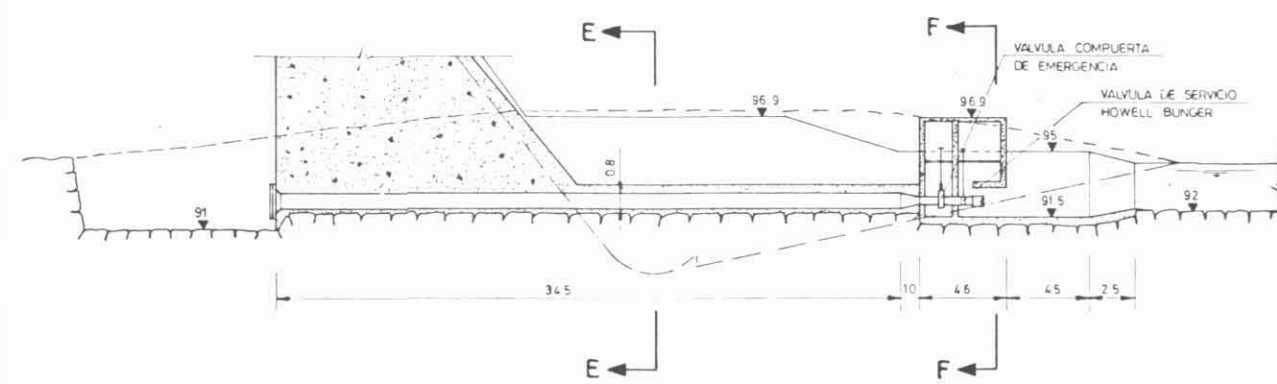
CORTE C-C
ESCALA 1:500



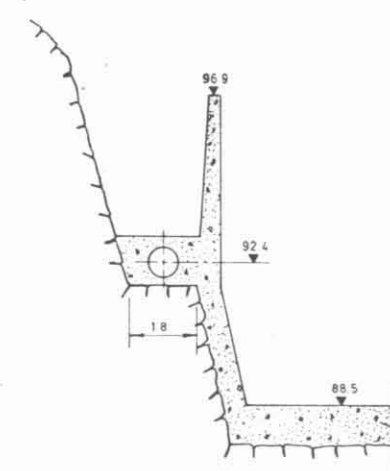
VISTA - CORTE D-D
ESCALA 1:500



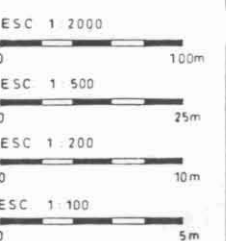
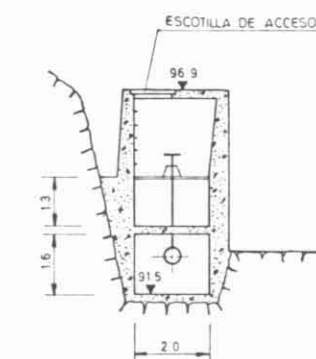
OBRA DE ENTREGA
PERFIL LONGITUDINAL
ESCALA 1:200



CORTE E-E
ESCALA 1:100



CORTE F-F
ESCALA 1:100



PROYECTO ITATA ESTUDIO INTEGRAL DE RIEGO	ÉMBALSE PUYAMAVIDA	PLANTA Y CORTES
COMISION NACIONAL DE RIEGO	Consortio INGENDESA-EDIC	PI-IX-16



SISTEMA ITATA		
AREAS DE PLANIFICACION		SECTORES DE RIEGO
NIQUEN		1
NUBLE		2
CATO		3, 4, 5, 6 y 7
CHILLAN		8, 9, 10 y 11
LONQUEN		12

0 5000 m.