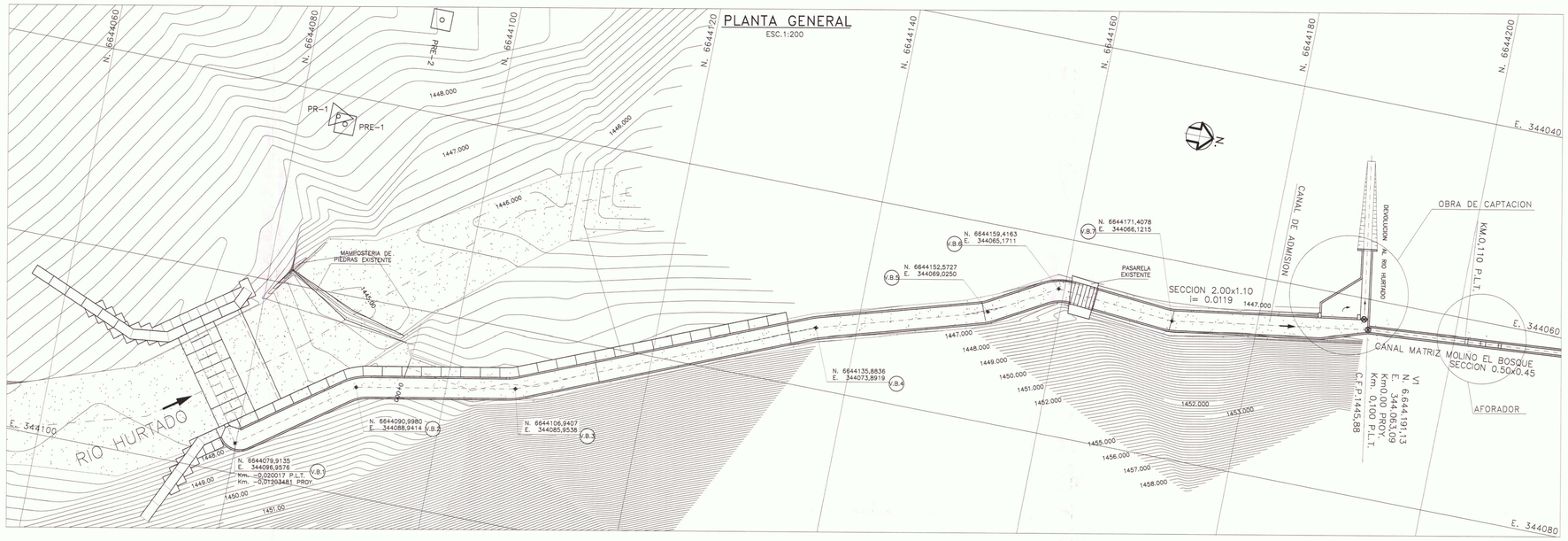
ÍNDICE DE PLANOS

TOMO III

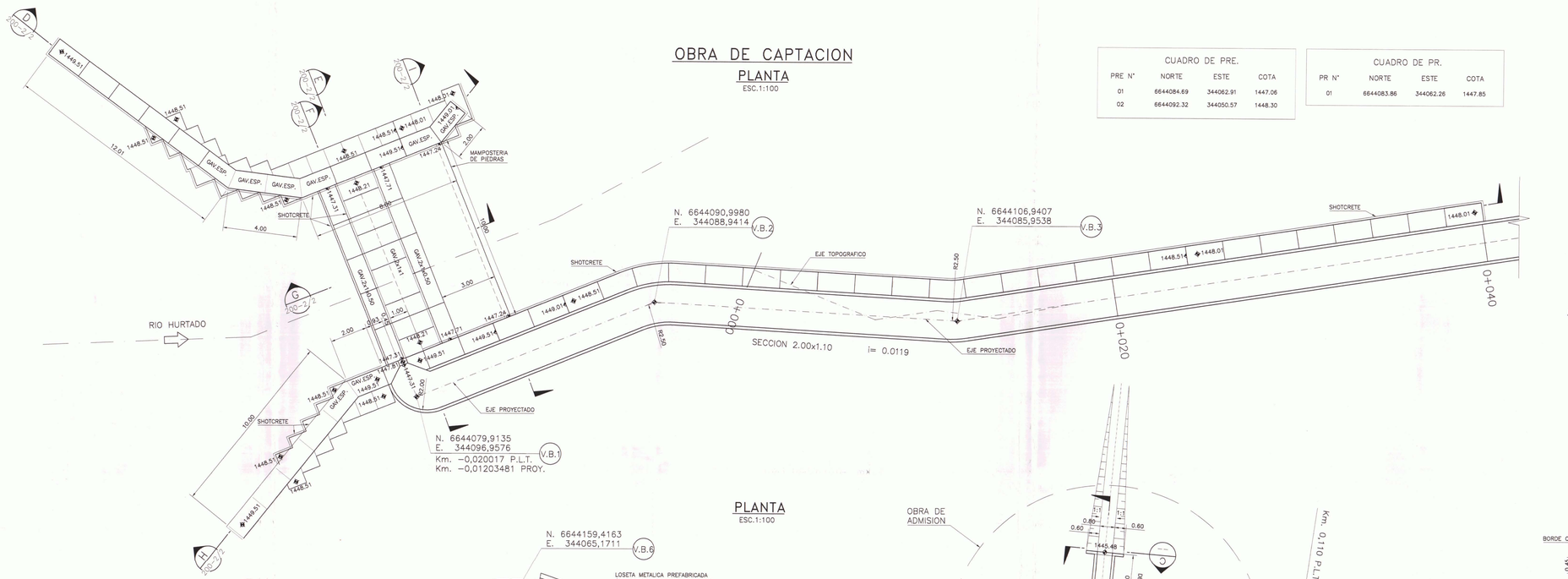
Nº	Título
SECTOR 2	
	Proyecto de Mejoramiento Unificación Molino El Bosque
016-1/2	Unificación Molino El Bosque. Obra de Captación. Planta y Detalles
016-2/2	Unificación Molino El Bosque. Obra de Captación. Obra de Captación y Secciones
017-1/3	Unificación Molino El Bosque. Planta y Perfil Longitudinal
017-2/3	Unificación Molino El Bosque. Planta y Perfil Longitudinal
017-3/3	Unificación Molino El Bosque. Planta, Perfil Longitudinal y Detalles
018-1/3	Unificación Molino EL Bosque. Obra de Distribución. Planta, Detalles y Perfil Longitudinal
018-2/3	Unificación Molino El Bosque. Obra de Distribución. Planta, Detalles y Perfil Longitudinal
018-3/3	Unificación Molino El Bosque. Obra de Distribución. Planta, Detalles y Perfil Longitudinal
019-1/1	Unificación Molino El Bosque. Cruce Quebradas. El Bosque y Lavaderos. Planta y Detalles
020-1/1	Canal Oratorio. Planta, Perfil Longitudinal y Detalles
021-1/1	Unificación Molino El Bosque y Oratorio. Cruce Quebrada – Cruce de caminos. Plantas y Detalles
	Proyecto de Mejoramiento Unificación Achupalla
022-1/1	Unificación Achupalla. Obra de Captación. Plantas y Detalles.
023-1/2	Unificación Achupalla. Canal Achupalla. Planta y Perfil Longitudinal.
023-2/2	Unificación Achupalla. Canal Achupalla. Planta, Detalles y Perfil Longitudinal.
024-1/1	Unificación Achupalla. Obra de Distribución. Plantas, Detalles y Perfil Longitudinal
	Proyecto de Mejoramiento Unificación Farellones
025-1/2	Unificación Farellones. Obra de Captación. Planta y Secciones
025-2/2	Unificación Farellones. Obra de Captación. Secciones
026-1/2	Unificación Farellones. Canal Farellones. Planta y Perfil Longitudinal
026-2/2	Unificación Farellones. Canal Farellones. Planta, Perfil Longitudinal y Detalles
027-1/1	Unificación Farellones. Obra de Distribución. Planta, Detalles y Perfil Longitudinal

UNIFICACION MOLINO EL BOSQUE–CANAL MOLINO EL BOSQUE
OBRA DE CAPTACION

PLANTA GENERAL
ESC.1:200



OBRA DE CAPTACION
PLANTA
ESC.1:100



CUADRO DE PRE.			
PRE N°	NORTE	ESTE	COTA
01	6644084.69	344062.91	1447.06
02	6644092.32	344050.57	1448.30

CUADRO DE PR.			
PR N°	NORTE	ESTE	COTA
01	6644083.86	344062.26	1447.85

CUADRO DE DIMENSIONES COMPUERTAS TIPO 2

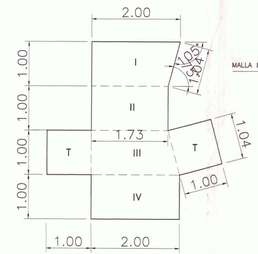
N° COMPUERTA	ANCHO CANAL (m)	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)
1	0,80	0,80	1,22	1,40	0,32	0,32	0,33
2	0,50	0,50	1,22	1,40	0,32	0,32	0,33

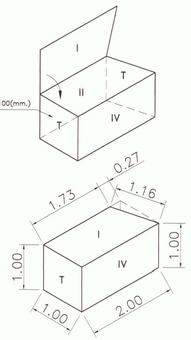
CUBICACION DE GAVIONES BARRERA

DIMENSIONES GAVIONES	CANTIDAD
2x1x1	72
2x1x0,50	48
ESPECIAL (VER DETALLE)	8

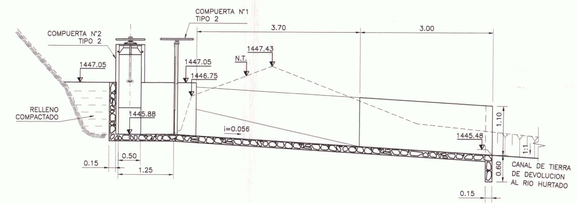
GAVION ESPECIAL
ESC. 1:50

GAVION DESPLEGADO





OBRA DE ADMISION
SECCION (A)
ESC.1:50



SECCION (B)
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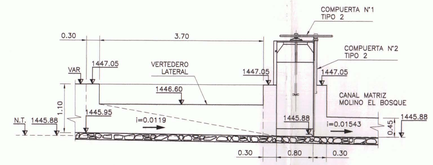
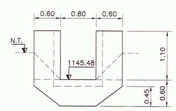
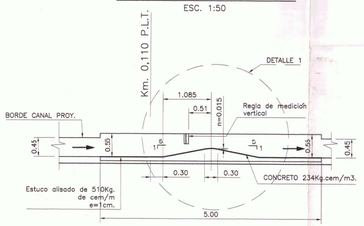


SECCION (C)
ESC.1:50

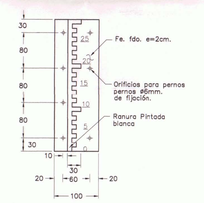


AFORADOR

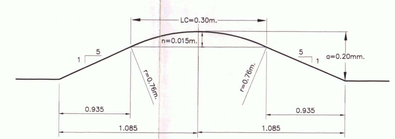
CORTE LONGITUDINAL
ESC. 1:50



REGLA DE MEDICION VERTICAL
ESC. 1:50
Dimensiones en milímetros.



DETALLE 1
SIN ESCALA



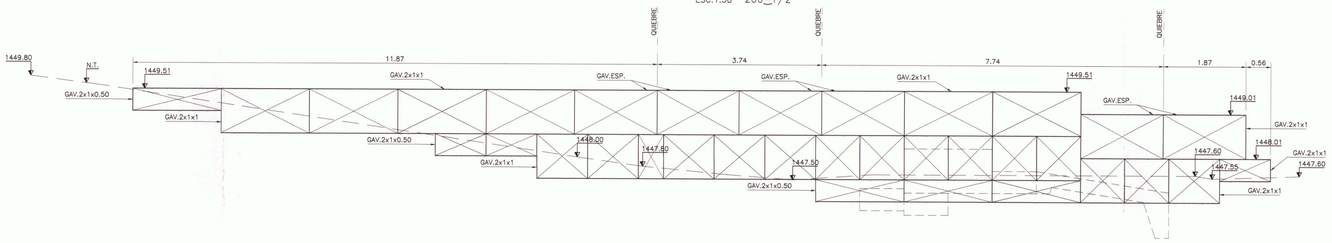
NOTAS :

– PARA VER DETALLE COMPUERTAS VER PLANO N°249–1/1

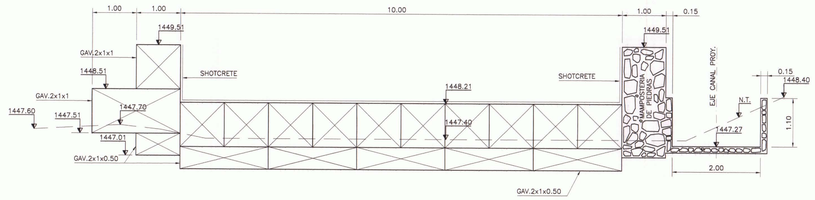
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN MOLINO EL BOSQUE OBRA DE CAPATACIÓN PLANTA Y SECCIONES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 016-1/2

UNIFICACION MOLINO EL BOSQUE–CANAL MOLINO EL BOSQUE
OBRA DE CAPTACION

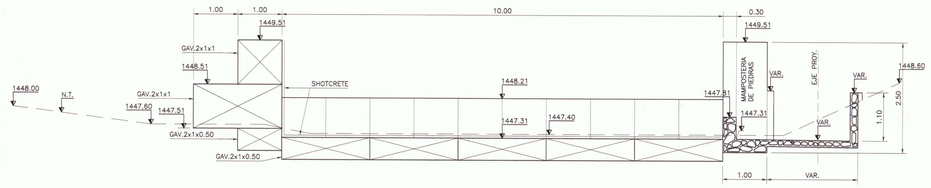
SECCION D
ESC.1:50 200–1/2



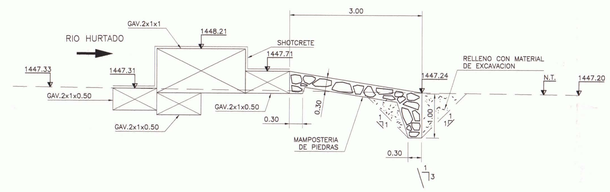
SECCION E
ESC.1:50 200–1/2



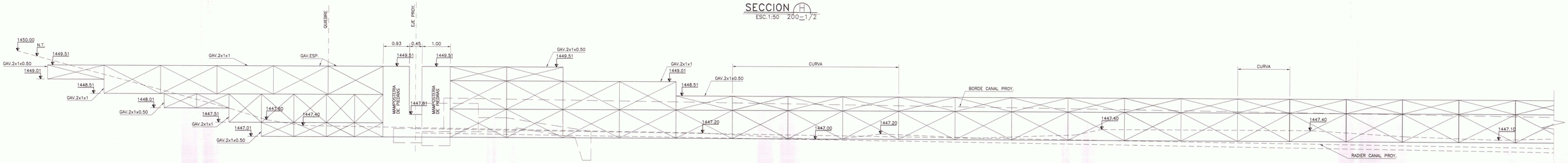
SECCION F
ESC.1:50 200–1/2



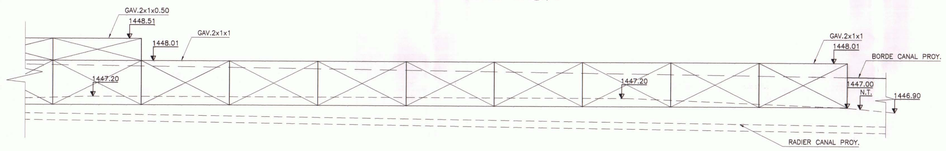
SECCION G
ESC.1:50 200–1/2



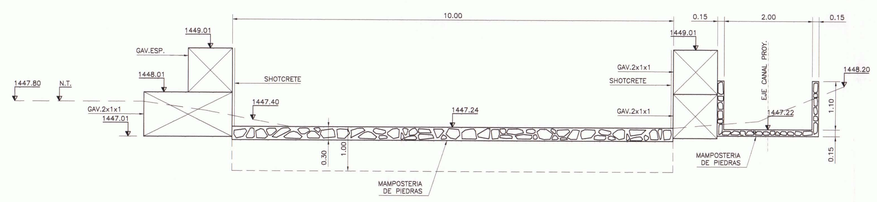
SECCION H
ESC.1:50 200–1/2



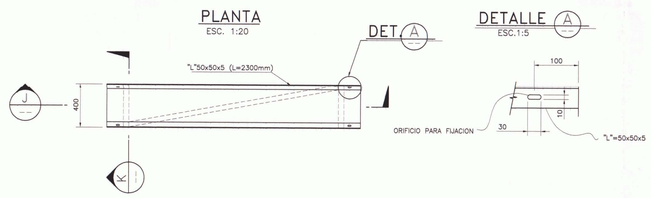
SECCION H
ESC.1:50 200–1/2



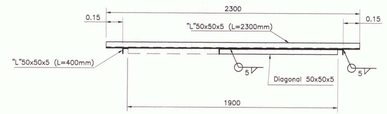
SECCION I
ESC.1:50 200–1/2



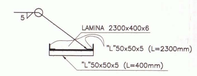
DETALLE LOSETA METALICA
ESC. 1:20
(Dimensiones en milímetros)



SECCION J
ESC. 1:20

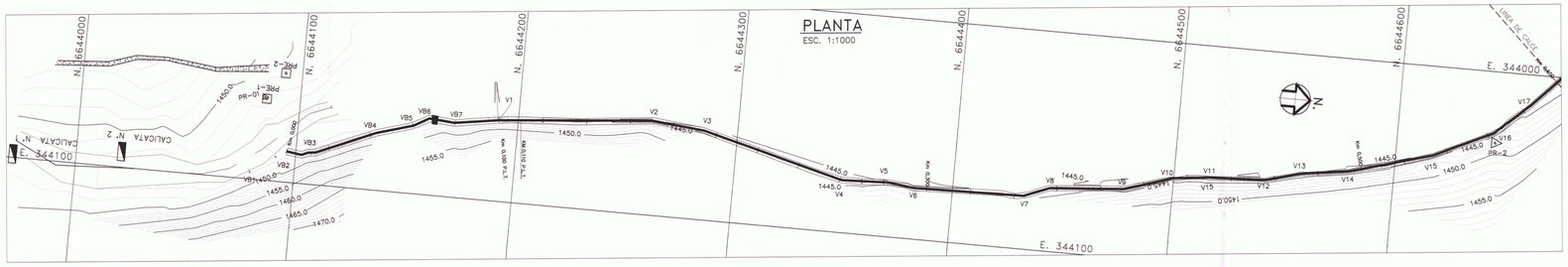


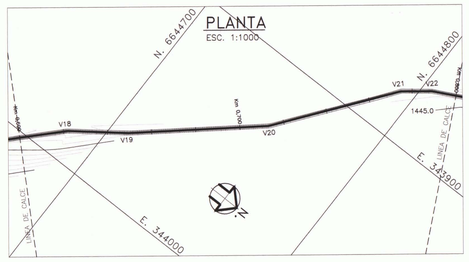
SECCION K
ESC. 1:20



GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN MOLINO EL BOSQUE OBRE DE CAPTACIÓN Y SECCIONES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 016-2/2

CANAL MOLINO EL BOSQUE





CALICATA N°1
Km 0+398.207

ARENA CON ALGO DE GRAVAS, ESTRATO COLOR GRIS, HUMEDAD MEDIA-ALTA, COMPACIDAD SUELTA — 0.50

ARENA LIMPIA DE GRANO FINO, ESTRATO COLOR GRIS, HUMEDAD ALTA, COMPACIDAD SUELTA — 1.50

SE DETECTO LA PRESENCIA DE LA NAPA FREATICA A 0.50m DE PROFUNDIDAD.

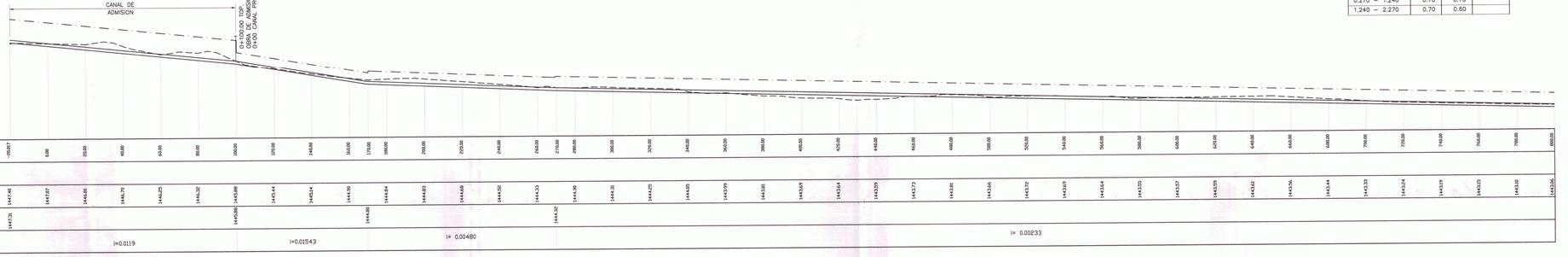
CALICATA N°2
Km 0+884.686

0.50 — GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARENOSA ARCILLOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SUBANGULOSOS DE TAMAÑO MAXIMO 3"

1.50 — GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARCILLOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SANDS Y ANGULOSOS DE TAMAÑO MAXIMO 5"

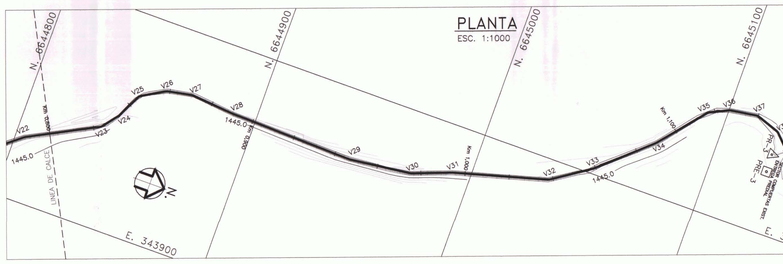
A 1.50m DE PROFUNDIDAD SE DETECTAN BOLONES DE 5" DE DIAMETRO

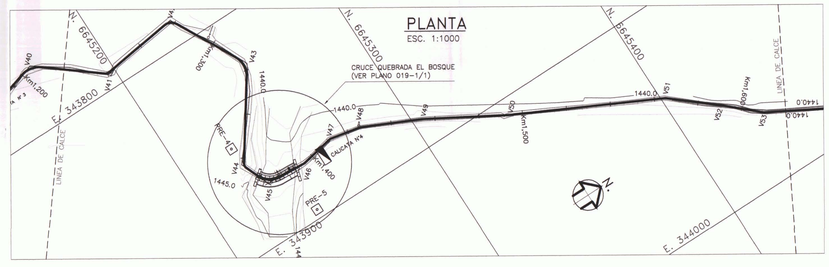
PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100



CUADRO DE SECCIONES

TRAMO Km	SECCIÓN b(m)	SECCIÓN H(m)	OBS.
0.100 – 0.270	0.70	0.60	
0.270 – 1.240	0.70	0.70	
1.240 – 2.270	0.70	0.60	

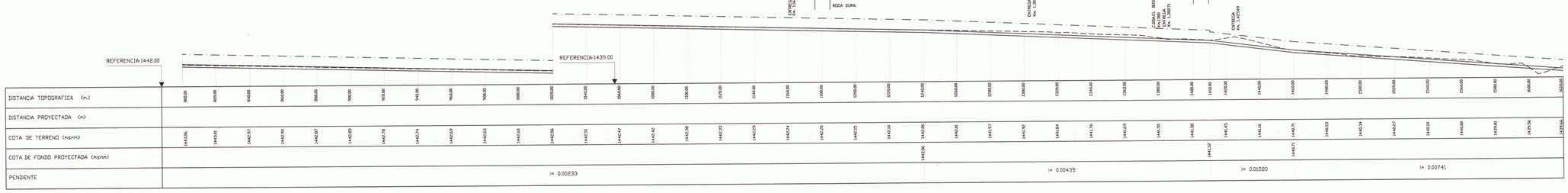




PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

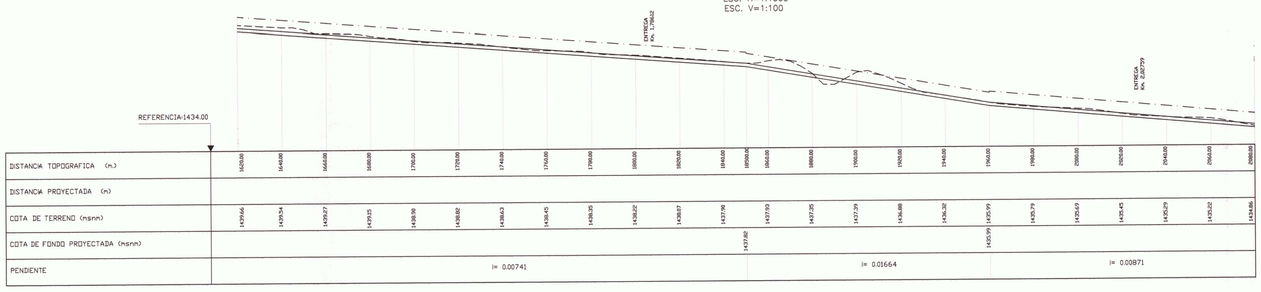
CALICATA N°3
Km 1+180.000
ROCA FRAGMENTADA.
1.00
ROCA DURA.
ENTREGA Km 1+134.25

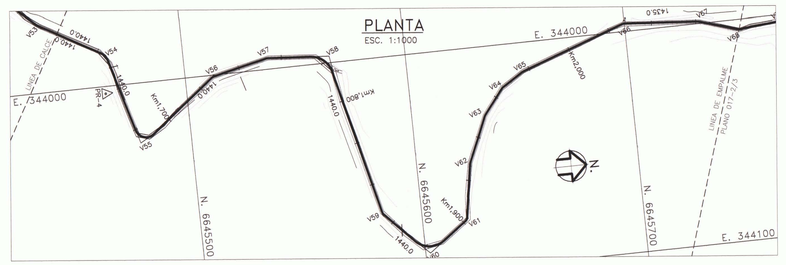
CALICATA N°4
Km 1+440.000
1.80 ROCA FRAGMENTADA.
1.70 ARENA CON ALGO DE GRAVA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA.
ENTREGA Km 1+338.86
ENTREGA Km 1+425.94
CRUCE QUEBRADA EL BOSQUE (VER PLANO 019-1/1) Km 1+384.71



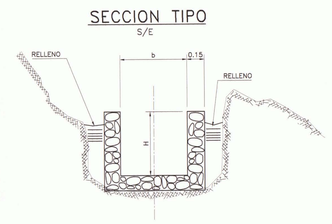
PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

ENTREGA Km 1+098.66
ENTREGA Km 0+987.79





SECCION TIPO
S/E



CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
B1	344098.958	6644079.913						0.0	0.0
B2	344088.842	6644090.998	13.68	38.07	2.5	0.56	1.10	13.1	14.2
B3	344085.972	6644108.848	29.80	-13.30	2.5	0.26	0.52	29.5	30.0
B4	344073.592	6644135.883	61.35	7.03	2.5	0.14	0.28	61.2	61.4
B5	344069.025	6644152.572	78.64	-14.59	2.5	0.29	0.57	78.3	78.9
B6	344065.171	6644159.416	86.49	37.69	2.5	0.78	1.49	85.7	87.2
B7	344066.122	6644171.407	98.52	-14.74	2.5	0.29	0.58	98.2	98.7
1	344063.092	6644191.128	118.47	4.13	2.5	0.08	0.16	118.3	118.5
2	344056.979	6644260.823	188.44	11.87	2.5	0.23	0.47	188.1	188.6
3	344059.365	6644284.872	212.60	9.84	2.5	0.19	0.39	212.4	212.7
4	344078.085	6644349.407	279.27	-18.74	2.5	0.37	0.74	278.8	279.6
5	344075.233	6644370.290	300.17	10.56	2.5	0.21	0.41	299.9	300.3
6	344078.729	6644382.187	312.16	-9.24	2.5	0.18	0.36	311.9	312.3
7	344079.711	6644432.554	362.54	-22.48	2.5	0.45	0.88	362.0	362.9
8	344077.150	6644444.229	375.07	18.81	2.5	0.37	0.74	374.6	375.4
9	344068.151	6644477.860	408.43	-14.75	2.5	0.29	0.58	408.4	409.0
10	344061.527	6644499.700	431.73	12.83	2.5	0.25	0.50	431.4	431.9
11	344059.786	6644516.041	448.11	3.93	2.5	0.08	0.15	448.0	448.1
12	344058.609	6644531.430	463.69	-13.83	2.5	0.27	0.54	473.3	473.9
13	344054.413	6644557.829	490.57	7.36	2.5	0.15	0.29	490.4	490.6
14	344047.184	6644579.580	512.53	-8.63	2.5	0.17	0.35	512.3	512.6
15	344040.587	6644618.845	551.97	-10.30	2.5	0.20	0.40	551.8	552.2
16	344027.985	6644643.692	580.93	-19.23	2.5	0.39	0.77	580.5	581.2
17	344013.856	6644659.480	602.12	-4.66	2.5	0.09	0.18	601.9	602.0
18	343986.707	6644685.683	639.85	10.98	2.5	0.22	0.43	639.5	640.0
19	343970.267	6644708.189	667.72	-5.32	2.5	0.10	0.21	667.5	667.7
20	343928.775	6644758.632	731.05	-13.04	2.5	0.26	0.51	730.7	731.2
21	343879.744	6644793.429	792.71	16.08	2.5	0.33	0.63	792.3	792.9
22	343871.109	6644804.405	808.68	11.85	2.5	0.23	0.47	808.4	808.8
23	343854.965	6644835.389	841.62	-26.64	2.5	0.53	1.05	841.0	842.0
24	343847.589	6644841.257	851.04	-14.07	2.5	0.28	0.55	850.8	851.2
25	343836.278	6644846.335	863.61	37.74	2.5	0.76	1.48	862.7	864.2
26	343829.882	6644857.738	878.33	21.38	2.5	0.42	0.84	877.9	878.8
27	343829.641	6644869.508	888.12	17.69	2.5	0.35	0.69	887.6	888.3
28	343829.383	6644889.538	908.12	-3.16	2.5	0.06	0.12	908.0	908.1
29	343826.583	6644902.013	920.62	-3.37	2.5	0.07	0.13	920.5	920.6
30	343827.507	6644973.904	993.01	-15.54	2.5	0.31	0.61	992.7	993.3
31	343827.859	6644991.079	1012.03	5.82	2.5	0.11	0.23	1011.7	1011.9
32	343809.102	6645033.930	1059.88	-20.25	2.5	0.40	0.80	1059.5	1060.3
33	343795.570	6645051.176	1076.63	-9.09	2.5	0.18	0.36	1076.3	1076.6
34	343776.998	6645074.093	1107.44	-9.09	2.5	0.18	0.36	1107.1	1107.4
35	343756.173	6645091.480	1134.54	28.77	2.5	0.53	1.05	1133.5	1134.5
36	343751.870	6645100.258	1144.33	19.31	2.5	0.38	0.76	1143.7	1144.5
37	343749.932	6645113.018	1157.24	31.17	2.5	0.62	1.22	1156.4	1157.6
38	343753.812	6645124.036	1168.92	28.70	2.5	0.57	1.13	1168.1	1169.2
39	343777.021	6645147.059	1201.61	-67.61	10.0	5.87	10.62	1195.5	1206.1
40	343770.959	6645168.745	1224.13	60.41	10.0	5.14	9.49	1217.6	1227.1
41	343762.977	6645196.174	1259.30	-51.43	5.0	1.97	3.66	1257.3	1261.0
42	343788.084	6645233.105	1299.55	77.61	5.0	3.49	6.10	1293.8	1299.9
43	343801.499	6645251.305	1336.53	-330.58	10.0	6.67	51.93	1329.3	1381.2
44	343801.594	6645267.505	1382.92	336.78	2.5	1.35	13.23	1418.2	1431.4
45	343874.065	6645328.078	1396.36	-15.84	10.0	6.33	11.14	1437.3	1448.4
46	343875.351	6645345.246	1414.74	-75.93	2.5	0.31	0.61	1460.2	1460.9
47	343876.621	6645376.845	1445.58	4.55	2.5	0.03	0.06	1445.5	1445.6
48	343875.511	6645378.966	1448.08	75.06	2.5	0.59	1.19	1491.1	1491.7
49	343857.681	6645304.461	1475.93	5.42	2.5	0.04	0.08	1475.8	1475.9
50	343857.146	6645338.363	1513.31	-7.83	2.5	0.06	0.13	1559.0	1559.1
51	343839.682	6645401.924	1584.43	15.08	2.5	0.30	0.59	1628.9	1629.5
52	343856.783	6645422.041	1610.85	-2.28	2.5	0.04	0.09	1610.8	1610.9
53	343969.310	6645435.718	1628.39	-14.41	2.5	0.28	0.57	1674.9	1675.5
54	343986.015	6645465.314	1663.40	49.69	2.5	0.96	1.90	1701.7	1703.6
55	344028.300	6645477.272	1707.30	-124.84	5.0	7.46	9.81	1745.4	1755.2
56	344050.913	6645512.274	1751.76	28.07	2.5	0.56	1.10	1750.7	1751.8
57	343994.969	6645537.696	1777.90	19.10	2.5	0.38	0.75	1818.0	1818.7
58	343984.990	6645564.653	1804.83	80.14	10.0	7.28	12.59	1838.1	1850.7
59	344070.305	6645582.373	1880.36	-33.49	2.5	0.67	1.32	1918.1	1919.5
60	344090.618	6645601.805	1908.47	-92.16	10.0	8.84	14.48	1938.1	1952.5
61	344076.999	6645620.097	1931.27	-49.12	2.5	1.02	1.93	1965.5	1967.4
62	344051.898	6645633.077	1956.70	15.80	2.5	0.31	0.62	1991.2	1991.7
63	344051.691	6645623.076	1979.29	18.35	2.5	0.32	0.64	2014.1	2014.7
64	344019.527	6645642.181	1994.08	21.84	2.5	0.43	0.86	2028.7	2029.6
65	344008.272	6645654.077	2008.76	11.23	2.5	0.28	0.55	2045.6	2046.2
66	343996.395	6645669.486	2036.09	26.76	2.5	0.53	1.05	2035.0	2036.1
67	343999.373	6645733.662	2090.37	14.69	2.5	0.29	0.58	2125.2	2125.8
68	344004.558	6645750.837	2108.40	-25.47	2.5	0.51	1.00	2143.0	2144.0

CUADRO DE ENTREGAS PREDIALES

Km.	DIMENSIONES(m) CANAL (m.) B	CANAL (m.) H	DIAMETRO ENTREGA (m.m)	GRADA (m.) a	GRADA (m.) l	COTAS FONDO EXIST.	COTAS FONDO PROY.
1,16230	0,70	0.60	75	0,20	0,75		1442,24
1,30306	0,70	0.60	75	0,15	0,80		1441,79
1,38271	0,70	0.60	75	0,15	0,80		1441,44
1,42549	0,70	0.60	75	0,05	0,90		1441,13
1,78612	0,70	0.60	75	0,05	0,80		1438,29
2,02759	0,70	0.60	75	0,05	0,85		1435,40

PRE	NORTE	ESTE	COTA (m.)
1	6644084.69	344062.91	1447.06
2	6644092.32	344050.57	1448.30
3	6645125.30	343772.43	1443.62
4	6645224.74	343882.01	1446.61
5	6645242.29	343895.99	1448.24

CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
1	6644083.86	344062.36	1447.85
2	6644544.71	344032.39	1448.67
3	6645125.02	343764.34	1443.23
4	6645463.50	344003.28	1443.93

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES :
- DETALLES DE ENTREGAS PREDIALES VER PLANO 017-3/3
- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS.

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

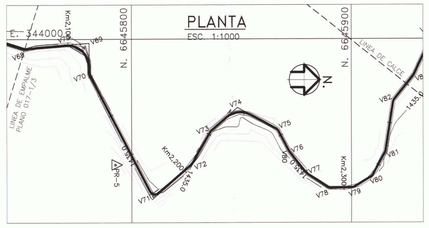
Fecha: FEBRERO 2010

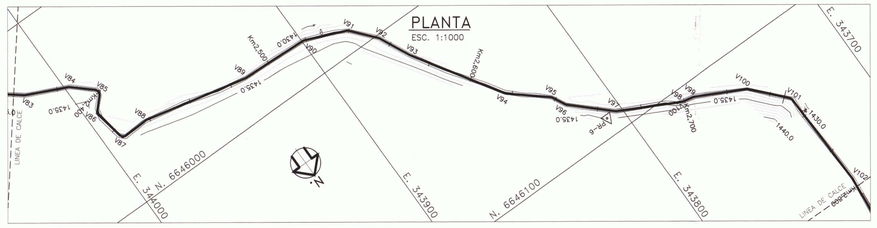
Título Plano: UNIFICACIÓN MOLINO EL BOSQUE PLANTA Y PERFIL LONGITUDINAL

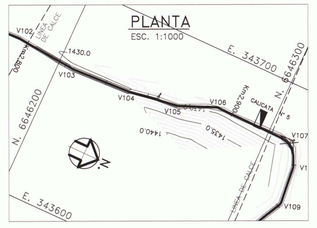
Lámina: 017-1/3

CANAL MOLINO EL BOSQUE

PLANTA
ESC. 1:1000







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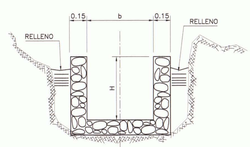
S/E



PERFIL LONGITUDINAL
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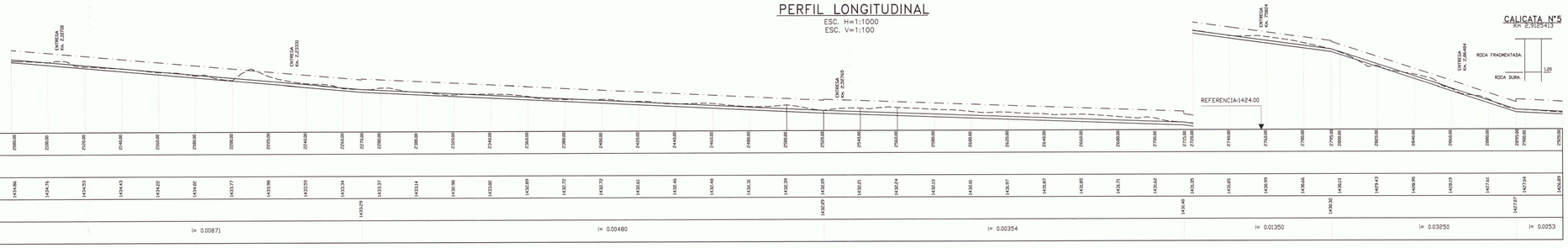

| | | |

CANAL MOLINO EL BOSQUE

PLANTA
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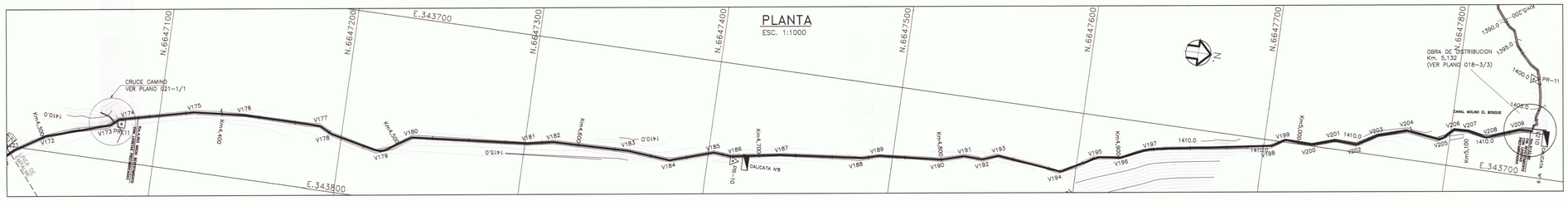

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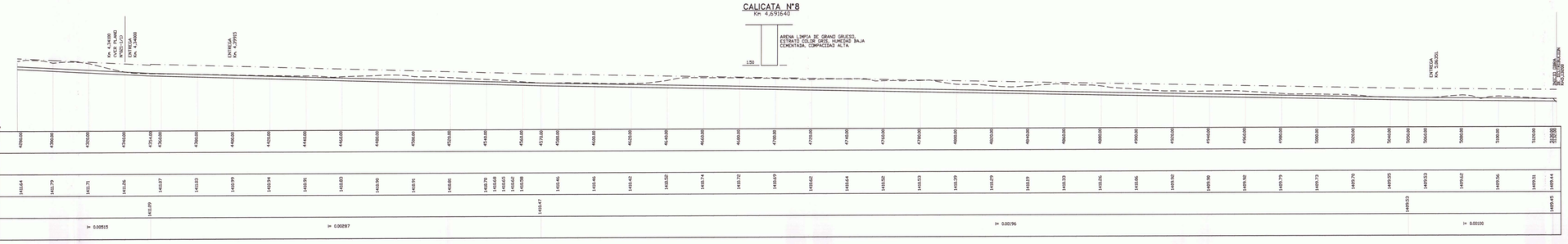


CUADRO DE DESARROLLO DE CURVAS Y VERTICES

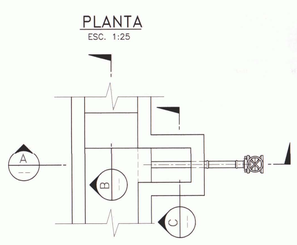
VERTICE N°	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
171	343801.733	6647024.254	4322.91	12.73	2.5	0.25	0.50	4420.64	4420.9
172	343791.616	6647040.036	4341.50	15.71	2.5	0.31	0.61	4438.9	4439.5
173	343781.042	6647074.020	4377.18	-25.77	2.5	0.51	1.01	4474.4	4475.4
174	343777.233	6647078.412	4383.00	30.51	2.5	0.61	1.20	4480.1	4481.3
175	343767.592	6647118.640	4424.36	9.79	2.5	0.19	0.38	4521.8	4522.2
176	343765.356	6647146.052	4451.87	5.18	2.5	0.10	0.20	4549.6	4549.8
177	343765.354	6647187.811	4493.62	29.82	2.5	0.60	1.17	4590.7	4591.8
178	343768.896	6647194.811	4501.47	-16.35	2.5	0.32	0.64	4598.8	4599.4
179	343774.853	6647222.545	4529.84	-50.53	10.0	4.19	7.94	4623.5	4631.4
180	343764.474	6647238.311	4548.31	31.46	2.5	0.63	1.24	4646.5	4646.5
181	343758.915	6647301.270	4611.92	-8.91	2.5	0.14	0.27	4708.9	4709.2
182	343756.137	6647314.519	4626.14	11.05	2.5	0.22	0.43	4723.0	4723.5
183	343755.184	6647356.517	4667.25	6.59	2.5	0.13	0.25	4764.5	4764.8
184	343757.529	6647379.827	4690.63	-25.03	2.5	0.50	0.98	4787.1	4788.1
185	343749.327	6647409.881	4719.07	24.77	2.5	0.49	0.97	4817.1	4817.7
186	343750.277	6647412.286	4724.50	-15.64	2.5	0.31	0.61	4821.3	4821.9
187	343745.884	6647439.163	4751.77	4.74	2.5	0.09	0.17	4848.0	4848.2
188	343741.083	6647483.845	4796.69	-11.12	2.5	0.22	0.44	4893.0	4894.0
189	343738.595	6647492.587	4805.78	12.98	2.5	0.25	0.49	4902.6	4903.1
190	343735.902	6647526.322	4839.62	-13.33	2.5	0.26	0.52	4936.5	4937.0
191	343732.220	6647538.704	4852.54	20.91	2.5	0.41	0.81	4949.2	4950.1
192	343732.614	6647548.698	4862.54	-26.03	2.5	0.52	1.02	4959.1	4960.2
193	343729.422	6647556.638	4871.38	30.32	2.5	0.61	1.19	4967.9	4969.1
194	343733.165	6647591.906	4908.54	-38.71	2.5	0.78	1.55	5005.8	5004.3
195	343722.271	6647611.332	4928.58	23.60	2.5	0.47	0.93	5025.7	5026.6
196	343720.967	6647623.428	4940.89	-18.62	2.5	0.37	0.73	5037.5	5038.3
197	343714.151	6647638.637	4957.48	18.19	2.5	0.36	0.71	5054.0	5054.8
198	343702.872	6647704.669	5024.55	-25.30	2.5	0.50	0.99	5121.0	5122.0
199	343698.721	6647711.118	5032.19	18.17	2.5	0.36	0.71	5128.6	5129.3
200	343699.253	6647725.645	5046.72	-22.28	2.5	0.44	0.87	5143.2	5144.1
201	343695.297	6647757.917	5079.43	22.56	2.5	0.45	0.89	5175.9	5176.8
202	343695.756	6647774.586	5097.00	-27.12	2.5	0.57	1.12	5193.5	5194.6
203	343689.224	6647790.754	5084.30	15.69	2.5	0.31	0.62	5180.9	5181.5
204	343684.472	6647776.171	5100.43	28.93	2.5	0.54	1.05	5197.8	5198.8
205	343686.843	6647795.131	5119.64	-97.68	5.0	2.43	4.53	5214.0	5218.5
206	343680.208	6647801.715	5128.82	47.58	2.5	0.88	1.87	5224.4	5226.2
207	343680.049	6647809.261	5136.37	14.15	2.5	0.28	0.56	5232.5	5233.1
208	343682.033	6647819.685	5146.98	-35.09	2.5	0.71	1.38	5242.7	5244.1
209	343675.404	6647837.132	5165.64	18.95	2.5	0.37	0.74	5261.7	5262.4
210	343674.960	6647843.911	5172.44	-95.84	2.5	2.34	3.76	5266.5	5270.2

CUADRO DE ENTREGAS PREDIALES

Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (m.m)	GRADA (m.) a		COTAS FONDO EXIST.	PROY.
4,34000	0,70	0,65	75	0,10	0,60		1411,16
4,39915	0,70	0,65	75	0,15	0,60		1410,96
5,06351	0,70	0,65	75	0,15	0,60		1409,59

DETALLE ENTREGAS PREDIALES

PLANTA
ESC. 1:25



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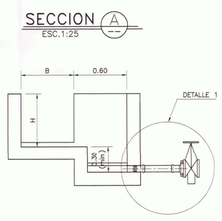

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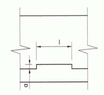

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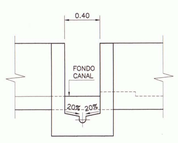

DETALLE 1
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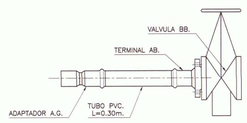

SECCION TIPO
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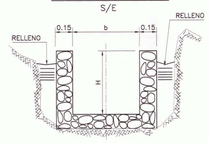


CUADRO DE SECCIONES

TRAMO Km		SECCIÓN b(m)	H(m)	OBS.
2,270	2,715	0.70	0.70	
2,715	3,890	0.70	0.60	
3.890	– 5,130	0.70	0.65	

CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
10	6647413.87	343752.59	1413.92
11	6647840.96	343646.74	1399.73

CUADRO DE PRE

PRE	NORTE	ESTE	COTA (m.)
10	6647047.12	343754.56	1398.32
11	6647080.15	343779.48	1413.26

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VO	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES :

– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS.

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

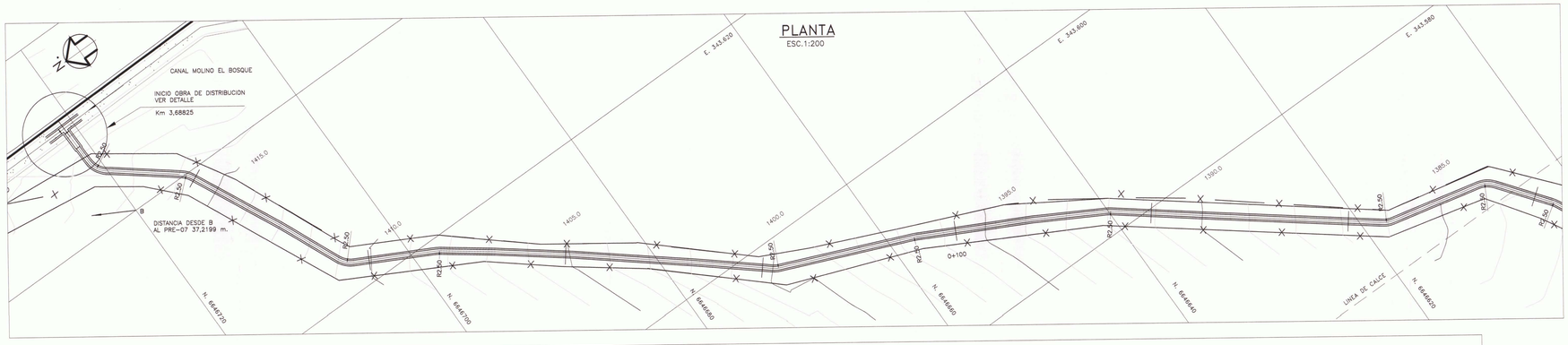
Título Plano: UNIFICACIÓN MOLINO EL BOSQUE PLANTA, PERFIL LONGITUDINAL Y DETALLES

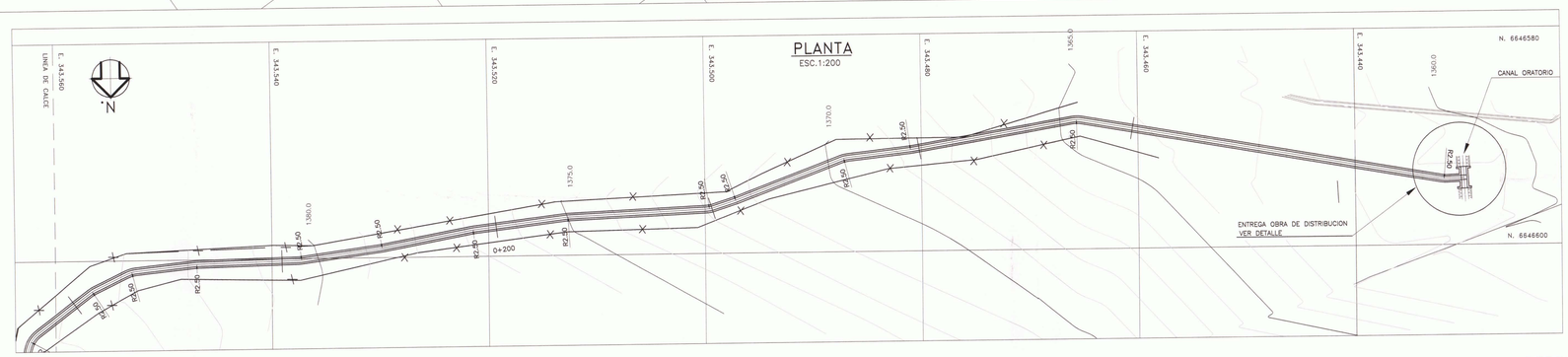
Fecha: FEBRERO 2010

Lámina: 017-3/3

UNIFICACION MOLINO EL BOSQUE

OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 3,68825





INICIO OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 3,68825

PLANTA
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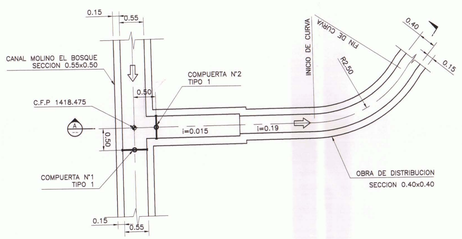

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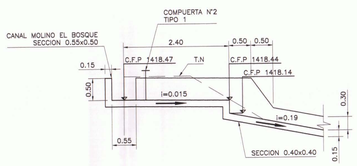
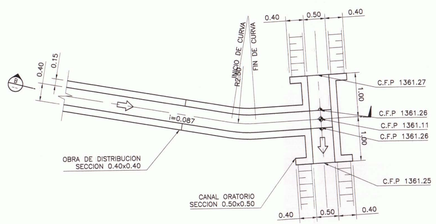
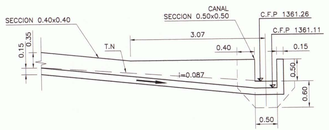


ENTREGA OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 3,68825

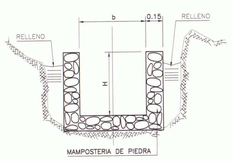
PLANTA
ESC.1:50



SECCION B
ESC.1:50



SECCION TIPO
S/E

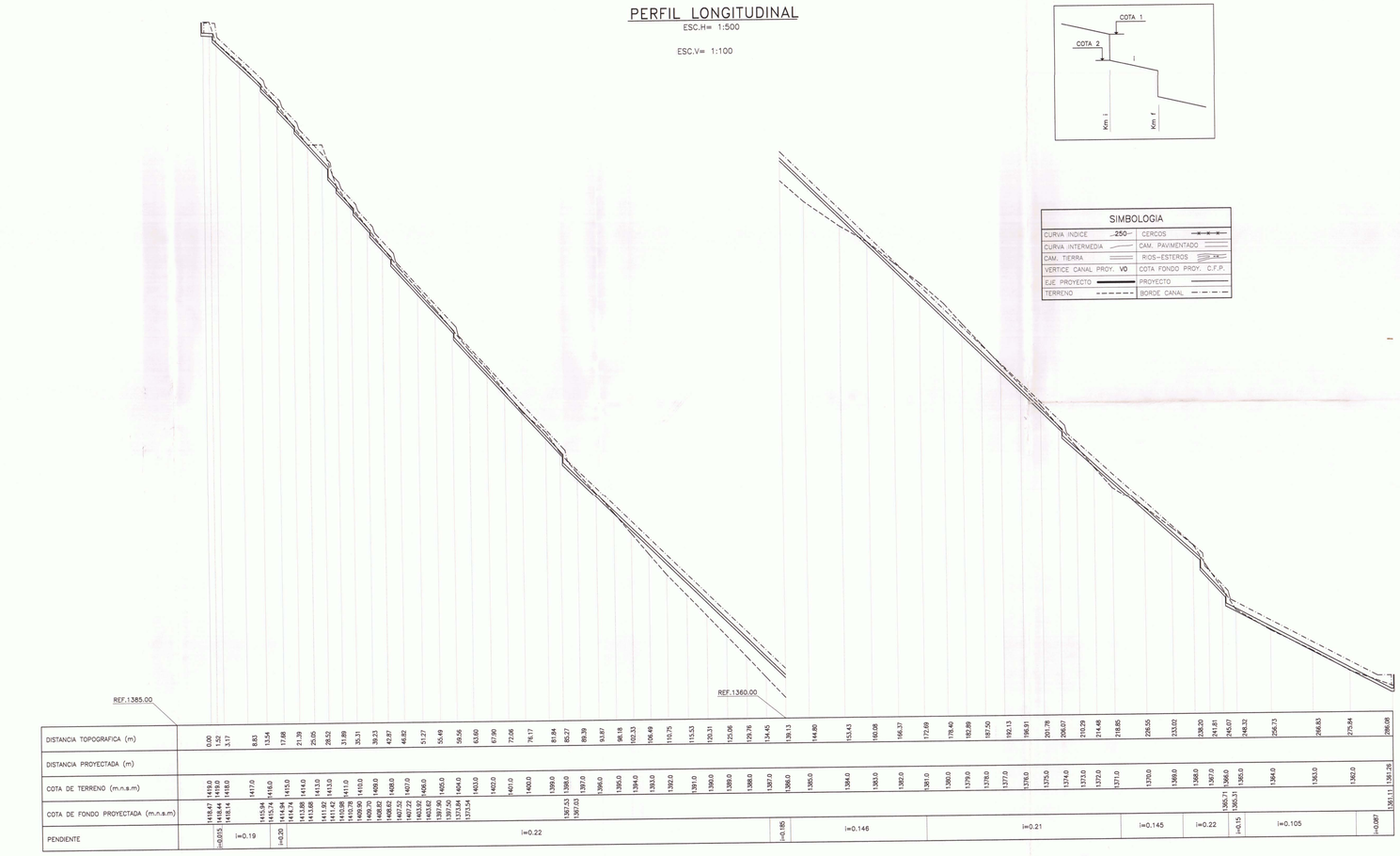


NOTAS:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRA.
- PARA DETALLES DE COMPUERTAS VER PLANO 249–1/1.

PERFIL LONGITUDINAL
ESC.H= 1:500

ESC.V= 1:100



| | | |

UNIFICACION MOLINO EL BOSQUE

OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 3,8700

PLANTA

ESC.1:200

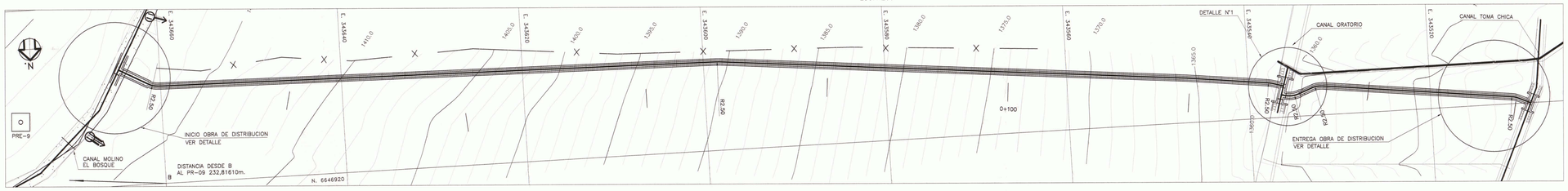
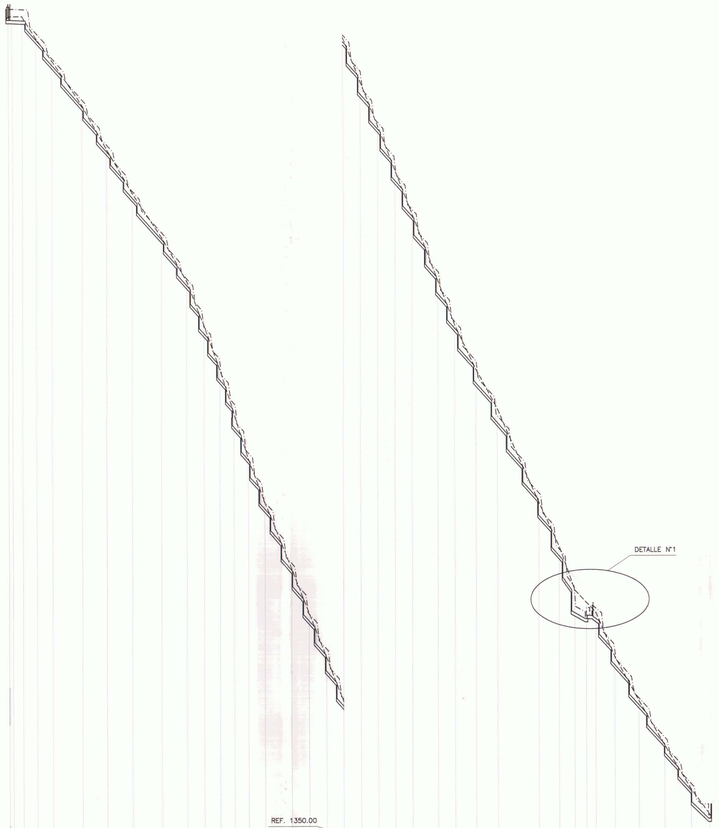


TABLA DE ESCALONES

Km i (m)	Km f (m)	COTA 1 (m.n.s.m)	COTA 2 (m.n.s.m)	i
4.00	8.00	1416.80	1416.45	0.225
8.00	12.00	1415.55	1415.20	0.225
12.00	17.00	1414.30	1413.95	0.225
17.00	20.00	1412.83	1412.43	0.225
20.00	23.00	1411.75	1411.35	0.225
23.00	26.00	1410.68	1410.28	0.225
26.00	29.00	1409.60	1409.20	0.225
29.00	35.00	1408.53	1408.13	0.225
35.00	38.00	1406.78	1406.38	0.225
38.00	41.00	1405.70	1405.30	0.225
41.00	43.00	1404.63	1403.98	0.225
43.00	45.00	1403.53	1402.83	0.225
45.00	47.00	1402.43	1401.78	0.225
47.00	49.00	1401.33	1400.68	0.225
49.00	50.50	1400.23	1399.58	0.225
50.50	52.50	1399.24	1398.49	0.225
52.50	54.50	1398.04	1397.29	0.225
54.50	56.50	1396.84	1396.14	0.225
56.50	59.00	1395.69	1394.99	0.225
59.00	61.50	1394.43	1393.73	0.225
61.50	64.00	1393.16	1392.46	0.225
64.00	66.50	1391.90	1391.20	0.225
66.50	69.00	1390.64	1389.94	0.225
69.00	71.50	1389.38	1388.68	0.225
71.50	74.00	1388.11	1387.41	0.225
74.00	76.50	1386.85	1386.15	0.225
76.50	79.00	1385.59	1384.84	0.225
79.00	81.50	1384.29	1383.53	0.225
81.50	84.00	1382.96	1382.26	0.225
84.00	86.50	1381.70	1381.00	0.225
86.50	89.00	1380.44	1379.69	0.225
89.00	91.50	1379.13	1378.38	0.225
91.50	94.00	1377.81	1377.06	0.225
94.00	96.50	1376.50	1375.75	0.225
96.50	99.00	1375.19	1374.49	0.225
99.00	101.50	1373.93	1373.23	0.225
101.50	105.00	1372.66	1371.96	0.225
105.00	109.00	1371.18	1370.48	0.225
109.00	112.50	1369.58	1368.88	0.225
112.50	116.00	1368.09	1367.39	0.225
116.00	119.50	1366.60	1365.90	0.225
119.50	122.50	1365.11	1364.41	0.225
122.50	125.00	1363.74	1362.94	0.225
125.00	127.50	1362.38	1361.58	0.225
127.50	130,03	1361.01	1360.06	0.225
133.20	136.00	1359.61	1359.01	0.22
136.00	140.00	1358.39	1357.79	0.22
140.00	144.00	1356.89	1356.29	0.22
144.00	148.00	1355.41	1354.91	0.22
148.00	151.00	1354.03	1353.63	0.22
151.00	154.00	1352.97	1352.57	0.22
154.00	157,84	1351.91	1351.41	0.22

PERFIL LONGITUDINAL

ESC.H= 1:500
ESC.V= 1:100

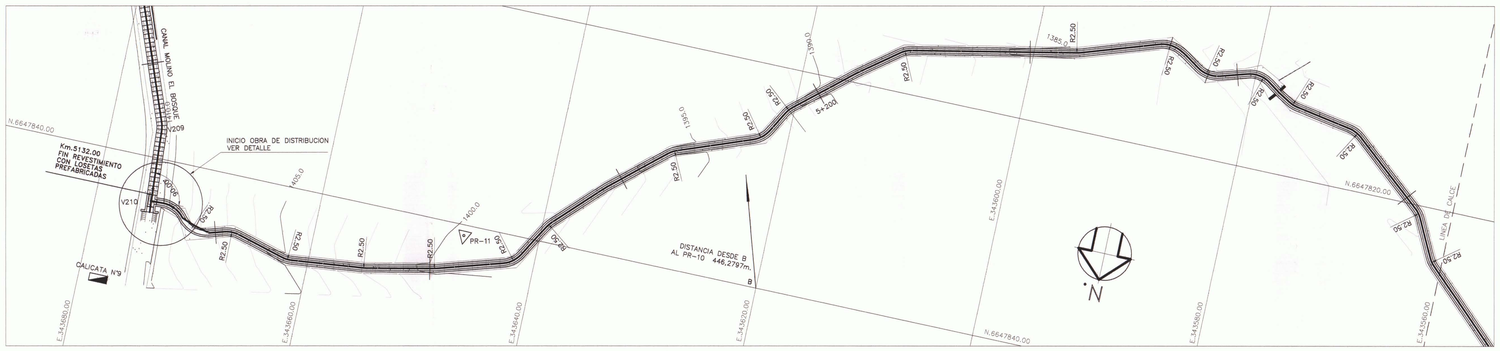


| | | |

UNIFICACION MOLINO EL BOSQUE

OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 5,13258

PLANTA
ESC.1:200



CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
10	6647413.87	343752.59	1413.92
11	6647840.96	343646.74	1399.73

ESCALON TIPO
S/E

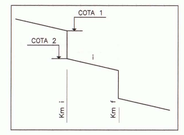


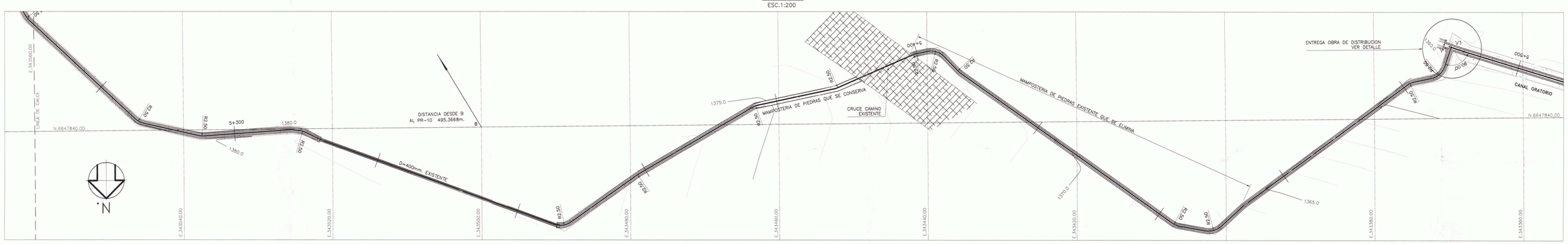
TABLA DE ESCALONES

Km i (m)	Km f (m)	COTA 1 (m.n.s.m)	COTA 2 (m.n.s.m)	i
7,00	10,00	1408,82	1408,12	0,225
10,00	12,00	1407,45	1406,70	0,225
12,00	14,00	1406,25	1405,50	0,225
14,00	16,00	1405,05	1405,30	0,225
16,00	18,00	1403,85	1403,15	0,225
18,00	21,00	1402,70	1402,20	0,225
21,00	26,00	1401,52	1401,02	0,225
26,00	32,00	1399,90	1399,40	0,225
50,00	56,00	1394,71	1394,21	0,225
56,00	61,00	1392,86	1392,36	0,225
61,00	66,00	1391,24	1390,74	0,225
66,00	90,00	1389,61	1389,21	0,225
322,00	327,00	1365,67	1365,27	0,22
327,00	336,00	1364,17	1363,77	0,22
336,00	344,00	1361,79	1361,39	0,22
344,00	354,20	1359,63	1359,33	0,19
354,20	357,13	1357,39	1357,09	0,16

CUADRO DE DIMENSIONES COMPUERTAS TIPO 1

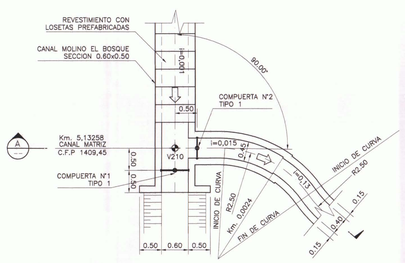
N° COMPUERTA	ANCHO CANAL (m)	A (m)	AA (m)	B (m)	C (m)	D (m)	E (m)
1	0,60	0,60	1,1	0,55	0,54	0,50	0,75
2	0,45	0,45	1,1	0,55	0,39	0,50	0,75

PLANTA
ESC.1:200

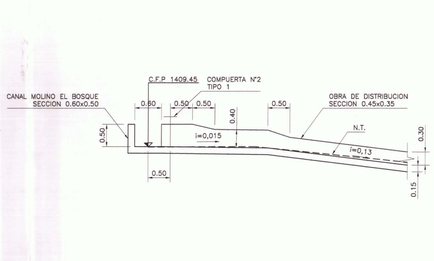


INICIO OBRA DE DISTRIBUCION – CANAL MOLINO EL BOSQUE Km 5,13258

PLANTA
ESC.1:50

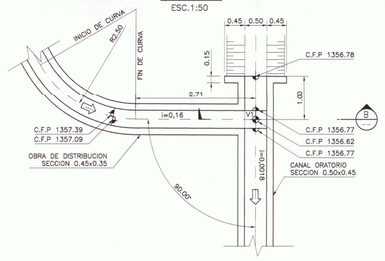


SECCION A
ESC.1:50

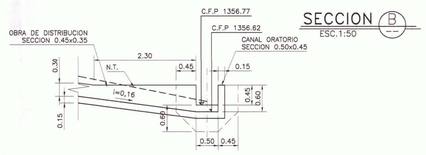


ENTREGA OBRA DE DISTRIBUCION – CANAL ORATORIO

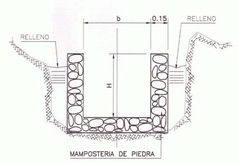
PLANTA
ESC.1:50



SECCION B
ESC.1:50

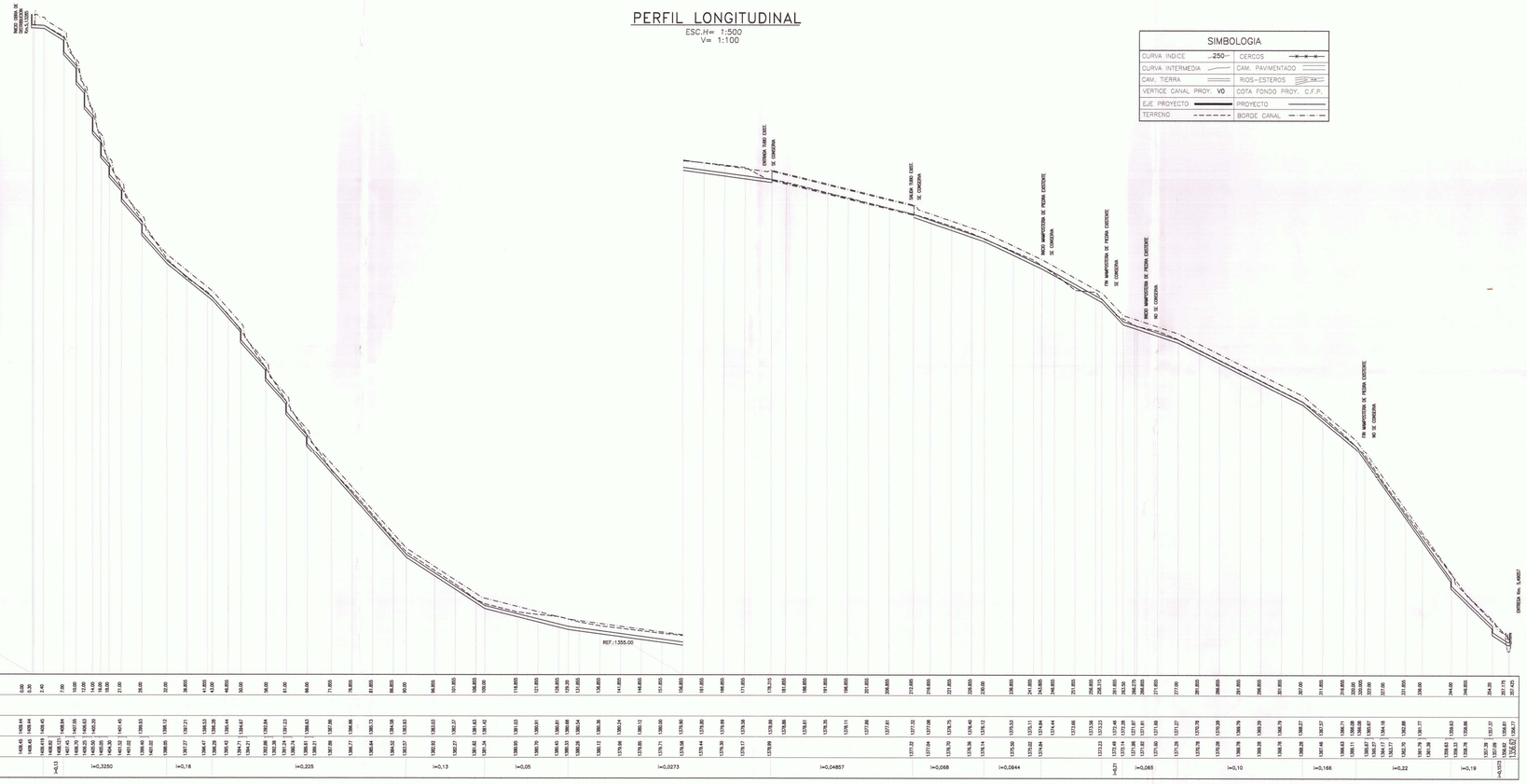


SECCION TIPO
S/E



NOTAS:
- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRA.
- PARA DETALLES DE COMPUERTAS VER PLANO 249-1/1.

PERFIL LONGITUDINAL
ESC.H= 1:500
V= 1:100

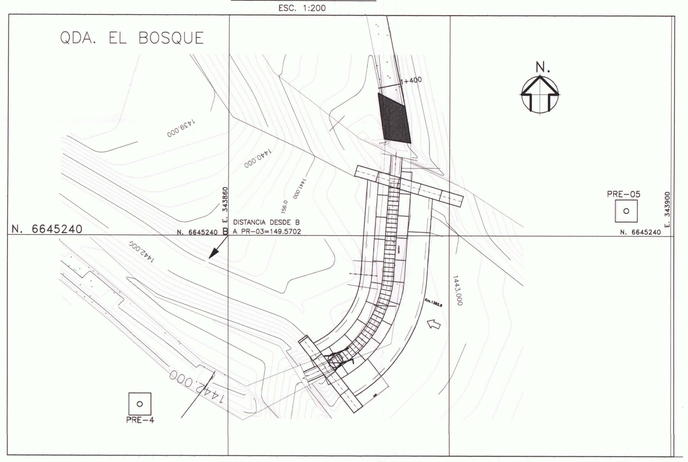


SIMBOLOGIA			
CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

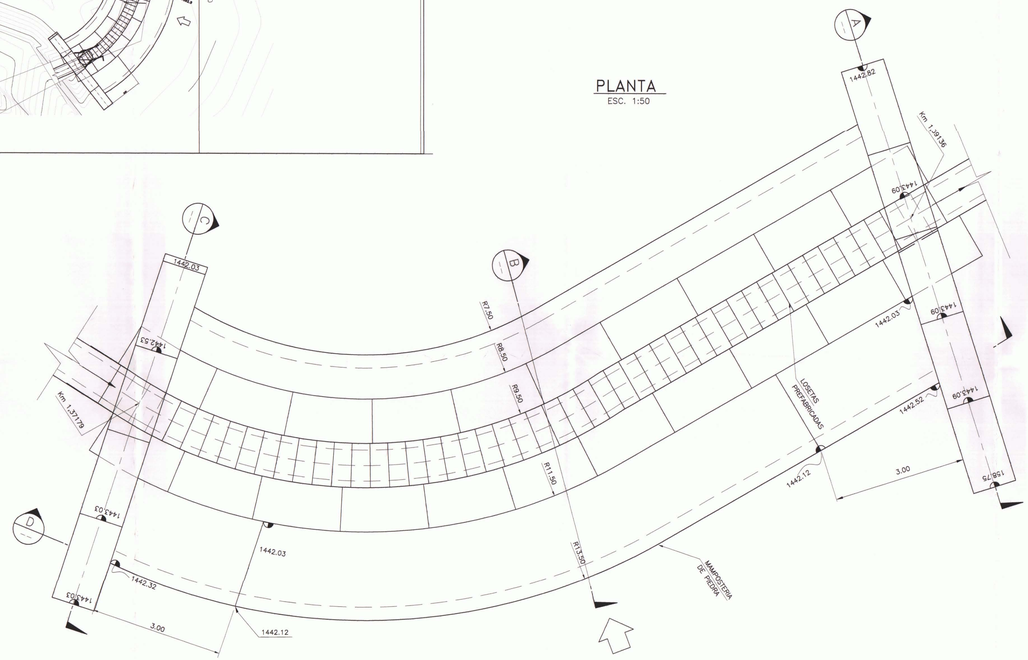
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN MOLINO EL BOSQUE OBRA DE DISTRIBUCION PLANTA, DETALLES Y PERFIL LONG.
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 018-3/3

CANAL MOLINO EL BOSQUE
CRUCE DE QUEBRADA EL BOSQUE Km 1,39136

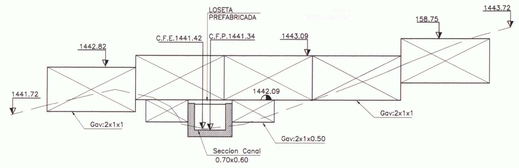
QUEBRADA EL BOSQUE Km 1,39136
PLANTA GENERAL
ESC. 1:200



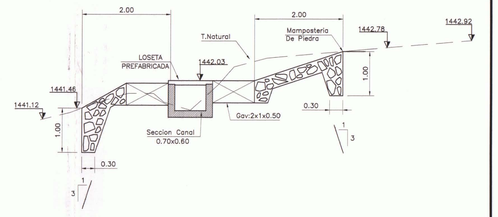
PLANTA
ESC. 1:50



SECCION A
ESC.1:50

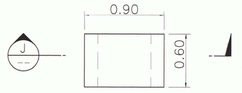


SECCION B
ESC.1:50

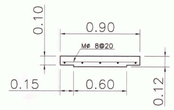


DETALLE DE LOSETA

PLANTA
ESC. 1:25



SECCION J
ESC.1:25



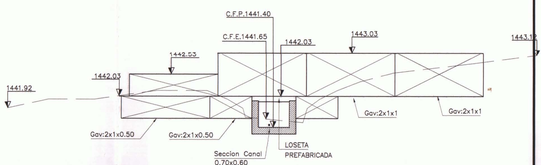
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
03	6645125.02	343764.34	1443.23

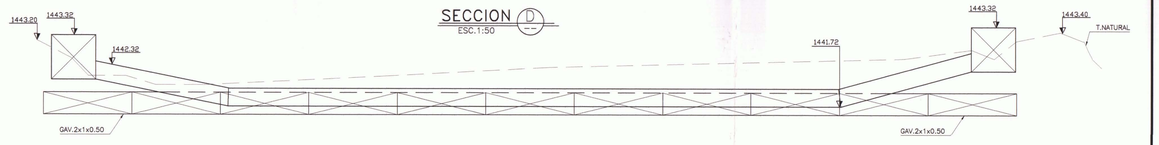
CUADRO DE PRE

PRE	NORTE	ESTE	COTA (m.)
04	6645224.74	343852.01	1446.61
05	6645242.29	343895.99	1448.24

SECCION C
ESC.1:50

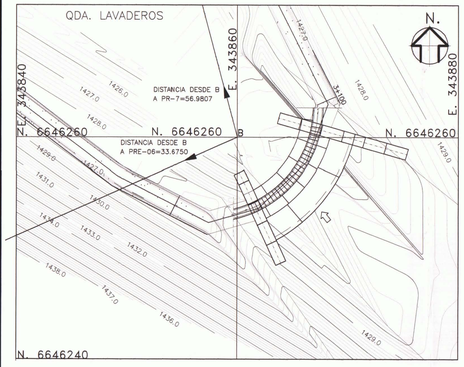


SECCION D
ESC.1:50

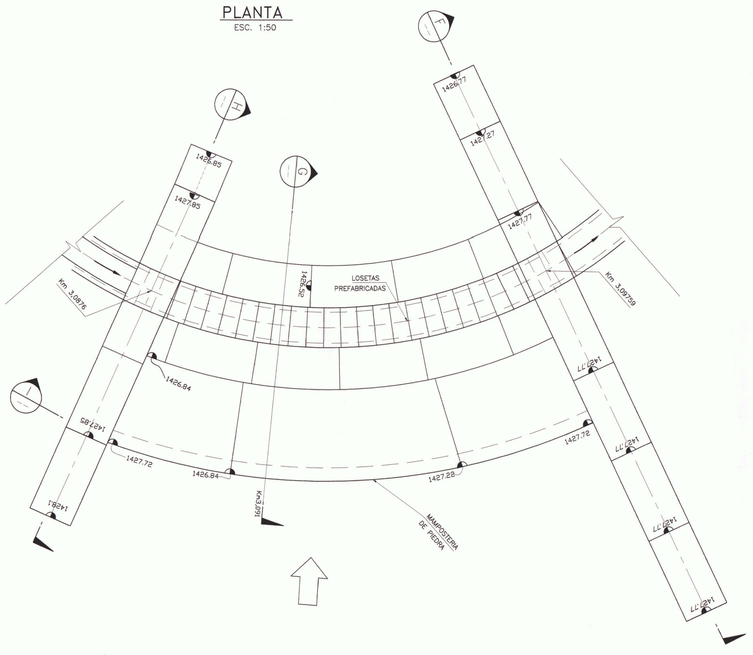


CANAL MOLINO EL BOSQUE
CRUCE DE QUEBRADA LAVADEROS Km 3,0876

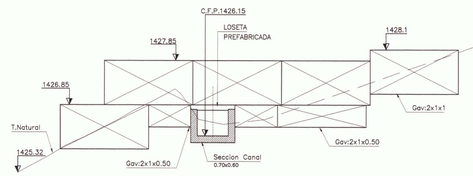
QDA. LAVADEROS Km3,0876
PLANTA GENERAL
ESC. 1:200



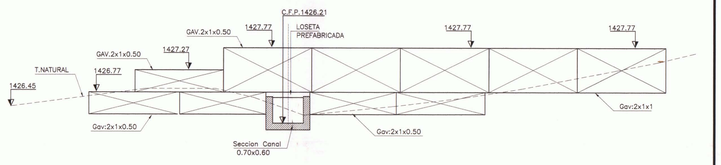
PLANTA
ESC. 1:50



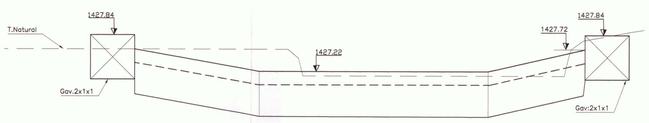
SECCION H
ESC.1:50



SECCION F
ESC.1:50

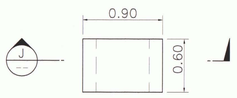


SECCION I
ESC.1:50

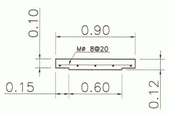


DETALLE DE LOSETA

PLANTA
ESC. 1:25



SECCION J
ESC.1:25



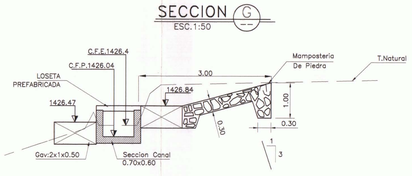
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
07	6646315.05	343845.28	1429.08

CUADRO DE PRE

PRE	NORTE	ESTE	COTA (m.)
06	6646246.34	343829.22	1445.42

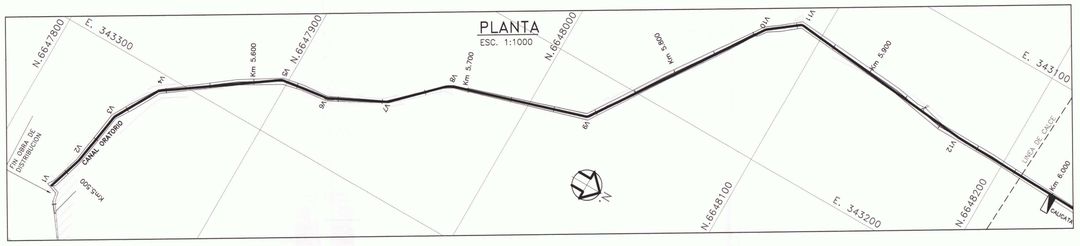
SECCION G
ESC.1:50



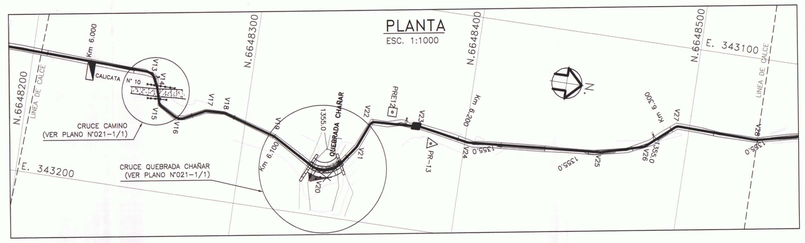
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN MOLINO EL BOSQUE CRUCE DE QUEBRADAS EL BOSQUE Y LAVADEROS PLANTAS Y DETALLES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 019-1/1

CANAL ORATORIO

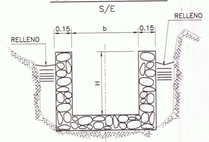
PLANTA
ESC. 1:1000



PLANTA
ESC. 1:1000



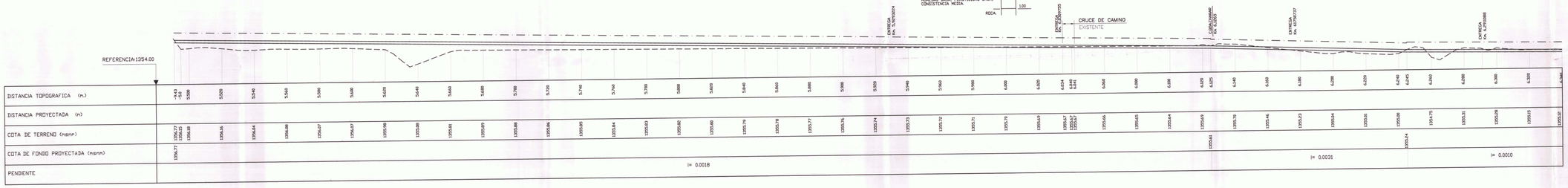
SECCION TIPO
S/E



CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	343369.581	6647830.457	0					0.0	0.0
2	343353.289	6647835.630	17.09	-9.54	2.5	0.19	0.37	16.9	17.3
3	343328.113	6647839.631	42.59	22.71	2.5	0.45	0.89	42.1	43.0
4	343307.991	6647851.124	66.94	28.34	2.5	0.57	1.11	65.4	66.5
5	343275.437	6647897.287	122.31	59.75	2.5	0.60	1.17	121.7	122.9
6	343272.283	6647919.333	144.58	-20.58	2.5	0.40	0.80	144.1	144.9
7	343260.017	6647943.856	171.99	-19.91	2.5	0.39	0.78	171.5	172.3
8	343239.571	6647984.668	201.13	30.21	10.0	2.43	4.75	198.6	203.4
9	343229.341	6648025.943	265.31	-43.08	2.5	0.88	1.69	264.3	266.0
10	343145.635	6648089.589	372.19	48.00	2.5	0.99	1.88	371.0	372.9
11	343144.439	6648176.234	458.61	-4.61	2.5	0.09	0.18	458.5	458.7
12	343146.726	6648255.104	536.91	70.69	5.0	3.15	5.55	534.8	540.3
13	343152.828	6648257.948	544.93	-4.84	2.5	0.09	0.19	544.8	544.9
14	343160.708	6648280.121	568.25	-89.25	2.5	1.02	1.93	567.1	569.1
15	343160.706	6648289.928	584.38	-83.14	5.0	1.96	3.92	582.4	586.4
16	343166.318	6648269.928	584.38	-83.14	5.0	1.96	3.92	582.4	586.4
17	343160.420	6648281.042	597.54	27.55	5.0	0.65	1.28	596.3	597.6
18	343160.100	6648290.082	585.93	21.09	2.5	0.48	0.95	585.5	586.4
19	343167.338	6648313.993	610.98	-74.25	2.5	0.92	1.83	610.1	611.9
20	343182.291	6648340.248	641.15	-93.07	10.0	8.87	14.62	632.6	647.2
21	343166.551	6648351.641	660.58	-15.19	2.5	0.30	0.60	660.3	660.9
22	343154.252	6648356.667	673.86	72.29	2.5	1.59	2.84	667.4	670.2
23	343153.199	6648378.885	698.11	-14.04	2.5	0.28	0.55	697.8	698.3
24	343157.135	6648401.384	718.95	-15.71	2.5	0.33	0.62	713.4	714.0
25	343152.682	6648461.796	779.52	-12.75	2.5	0.26	0.51	774.9	775.5
26	343147.282	6648481.090	799.56	-27.80	2.5	0.55	1.09	793.8	794.9
27	343135.888	6648484.110	817.00	46.85	2.5	0.96	1.84	815.8	817.6
28	343136.817	6648530.787	853.49	-18.06	2.5	0.32	0.63	847.8	848.5
29	343131.364	6648554.419	877.74	-14.05	2.5	0.28	0.55	873.1	873.7
30	343107.593	6648653.950	932.68	-31.71	2.5	0.64	1.25	926.7	928.0
31	343079.503	6648724.236	987.33	-31.00	2.5	0.62	1.22	981.3	982.6
32	343066.888	6648824.982	980.06	-25.57	2.5	0.51	1.00	974.2	975.1
33	343022.115	6648913.909	1026.64	58.11	10.0	5.31	9.76	1015.7	1025.5
34	343010.989	6648923.316	1041.14	28.86	2.5	0.59	1.18	1034.3	1035.5
35	343000.498	6648636.775	1055.49	28.94	2.5	0.59	1.00	1048.7	1049.7
36	343005.728	6648680.590	1099.10	-28.35	2.5	0.59	0.77	1092.4	1093.2
37	343021.552	6648728.771	1149.94	28.82	2.5	0.59	1.20	1143.1	1144.4
38	343028.026	6648733.946	1156.92	-66.28	2.5	1.45	2.93	1149.2	1152.1
39	343024.420	6648739.018	1162.24	25.31	2.5	0.50	0.99	1157.3	1158.3
40	343025.330	6648748.992	1172.25	23.12	2.5	0.46	0.91	1167.8	1168.7
41	343033.451	6648765.626	1190.76	-25.77	2.5	0.51	1.01	1183.6	1184.7
42	343034.075	6648778.271	1203.42	-64.95	2.5	1.40	2.68	1197.1	1199.8
43	343021.069	6648787.169	1219.18	-20.98	2.5	0.42	0.82	1217.3	1218.1
44	343019.917	6648799.983	1229.72	-12.46	2.5	0.25	0.49	1229.2	1229.6
45	342977.270	6648792.497	1263.46	-4.75	2.5	0.09	0.19	1256.5	1256.7

CALICATA N°10
Km 6.000

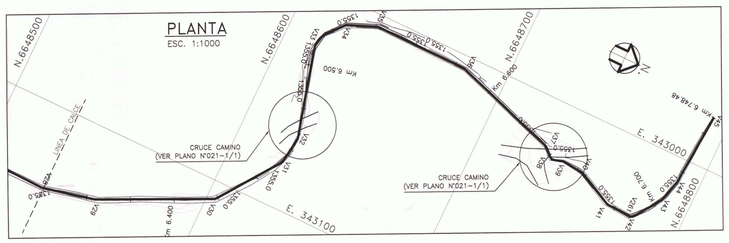


PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

CUADRO DE ENTREGAS PREDIALES

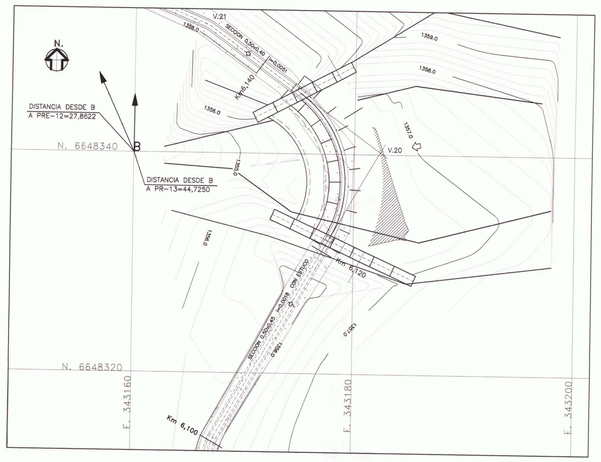
Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (m.m)	GRADA (m.) q	t	COTAS FONDO EXIST.	PROY.
5.9293224	0.60	0.60	75	0.15	0.45		1355.78
6.0309755	0.60	0.55	75	0.15	0.45		1355.69
6.1750737	0.60	0.55	75	0.10	0.45		1355.46
6.2911088	0.60	0.55	75	0.15	0.45		1355.18

PLANTA
ESC. 1:1000

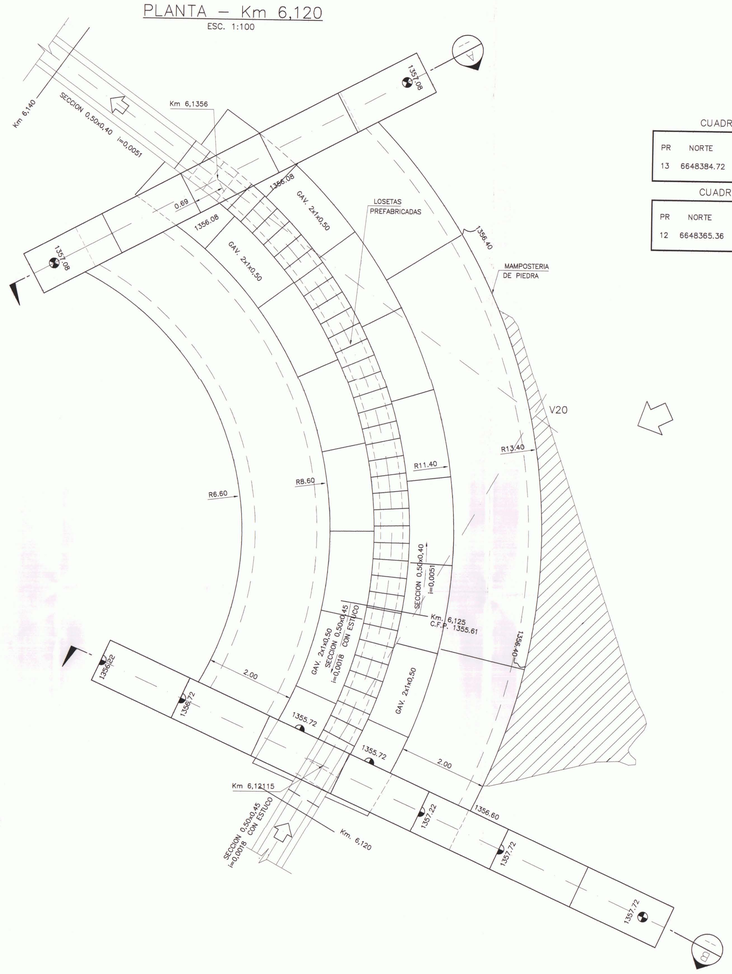


CANAL ORATORIO
CRUCE DE QUEBRADA CHAÑAR

PLANTA GENERAL
ESC. 1:200



PLANTA – Km 6,120
ESC. 1:100



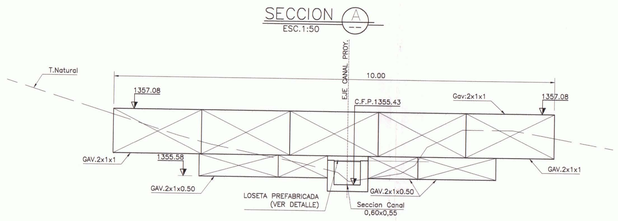
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
13	6648384.72	343160.06	1357.55

CUADRO DE PRE

PR	NORTE	ESTE	COTA (m.)
12	6648365.36	343148.46	1357.23

SECCION A
ESC.1:50



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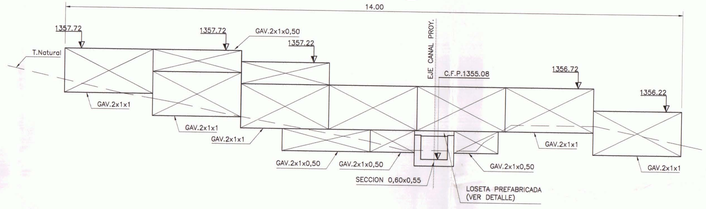
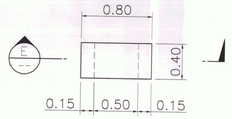
ESC.1:50



DETALLE DE LOSETA
PLANTA
ESC. 1:25



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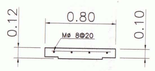
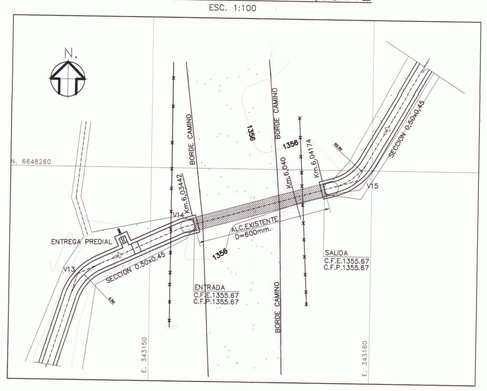


CANAL ORATORIO
CRUCES DE CAMINO EXISTENTES EN CANAL ORATORIO

PLANTA – KM 6,03442
ESC. 1:100



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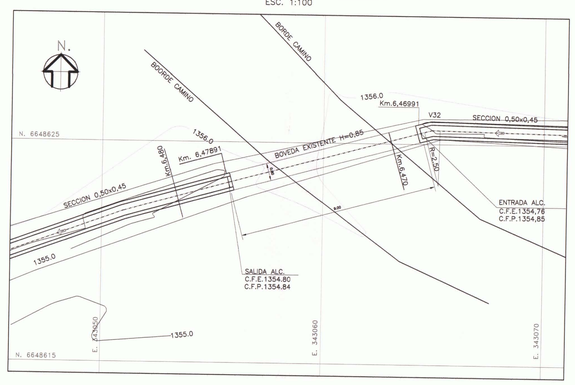
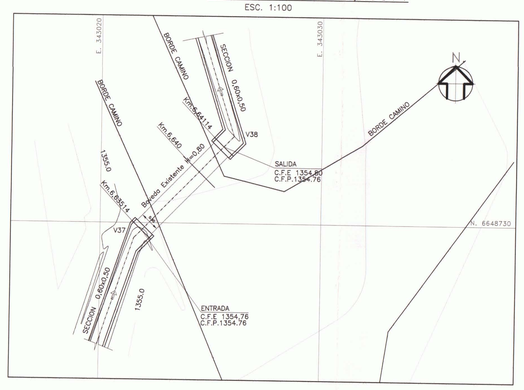
ESC. 1:100



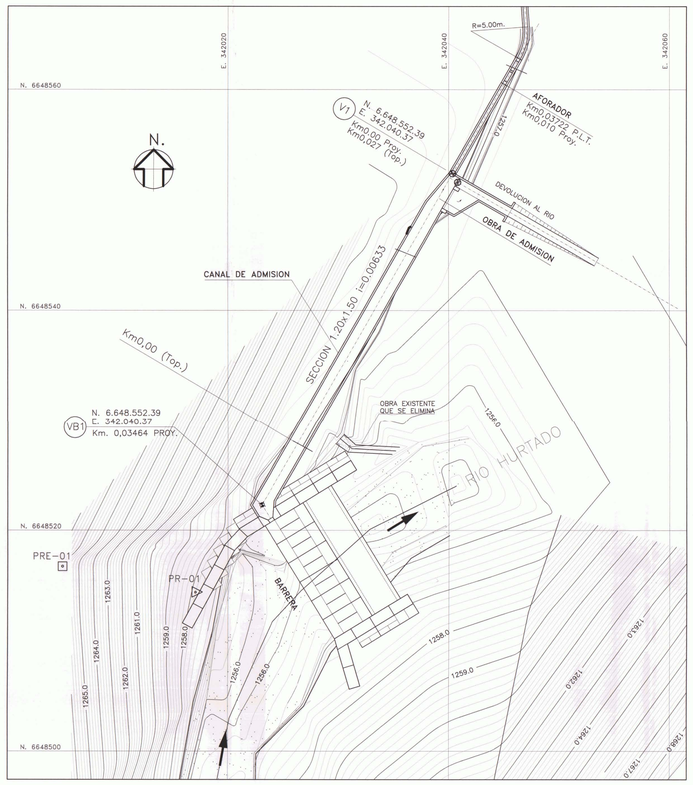
PLANTA – Km 6,63514
ESC. 1:100



GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: UNIFICACIÓN MOLINO EL BOSQUE Y ORATORIO CRUCE QUEBRADA - CRUCE DE CAMINOS PLANTAS Y DETALLES	
CONSULTOR	Escala	Proyección Cartográfica	Fecha / Lámina:

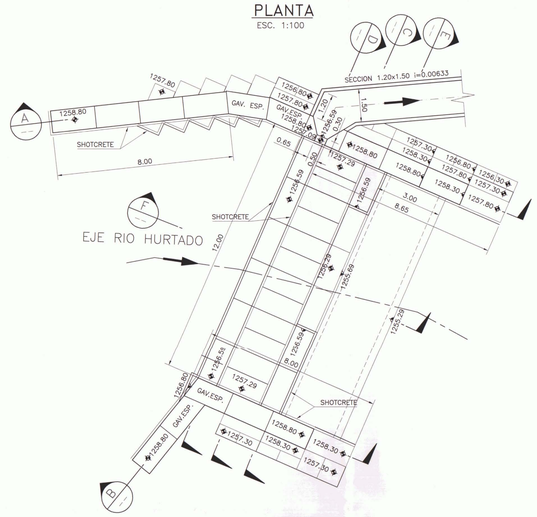
UNIFICACION ACHUPALLA – OBRAS DE CAPTACION

PLANTA
ESC.1:200



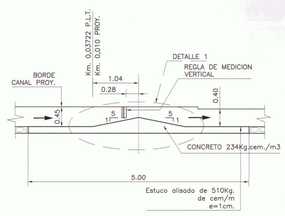
BARRERA

PLANTA
ESC. 1:100



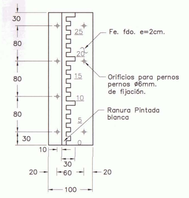
AFORADOR

CORTE LONGITUDINAL
ESC. 1:50

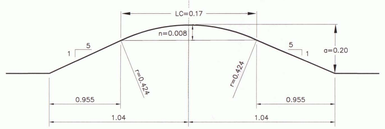


REGLA DE MEDICION VERTICAL
ESC. 1:5

Dimensiones en milímetros.

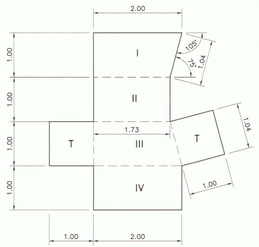


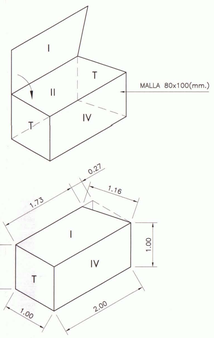
DETALLE 1
SIN ESCALA



GAVION ESPECIAL
ESC. 1:50

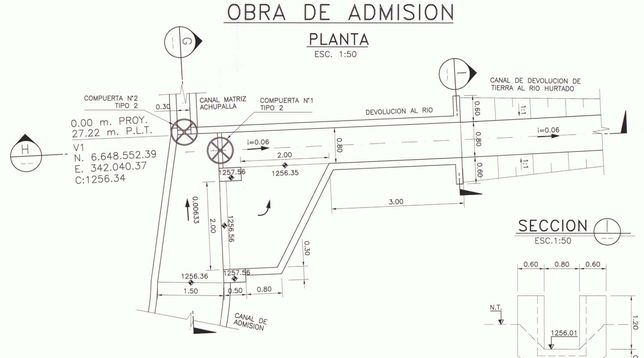
GAVION DESPLEGADO



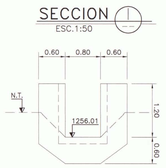


OBRA DE ADMISION

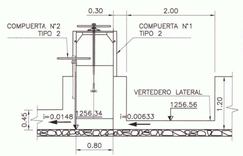
PLANTA
ESC. 1:50



SECCION I
ESC.1:50



SECCION G
ESC.1:50



SECCION H
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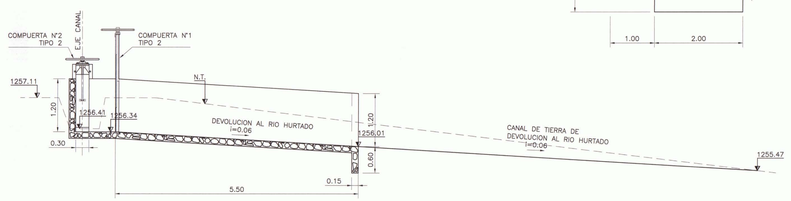
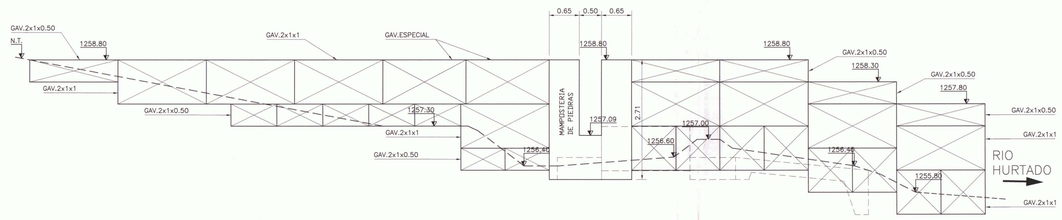
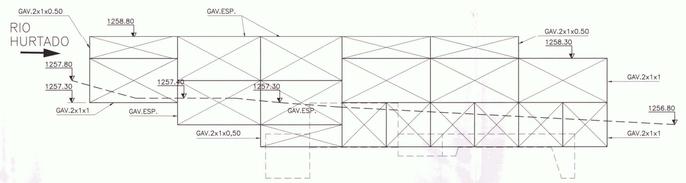


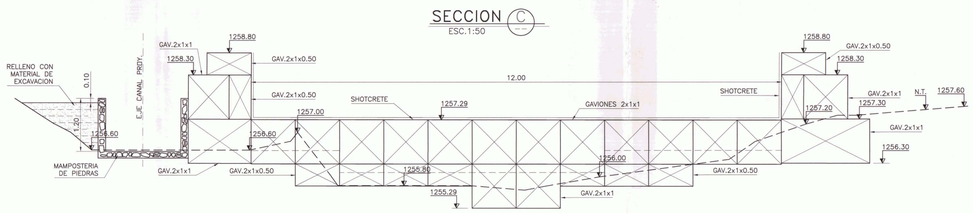
SECCION A
ESC.1:50



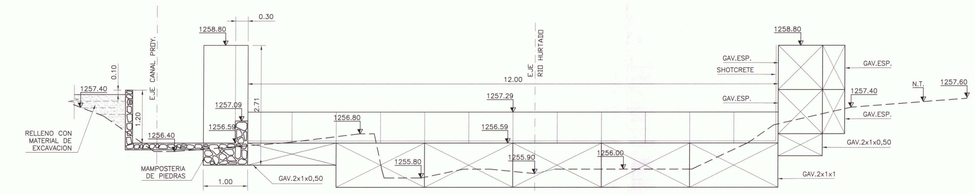
SECCION B
ESC.1:50



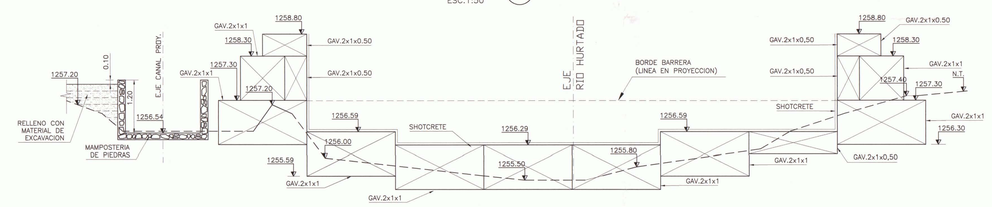
SECCION C
ESC.1:50



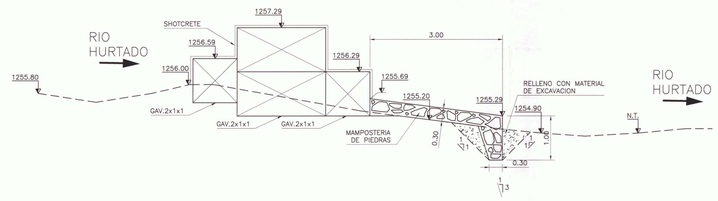
SECCION D
ESC.1:50



SECCION E
ESC.1:50



SECCION F
ESC.1:50



CUADRO DE DIMENSIONES COMPUERTAS TIPO 2

N° COMPUERTA	ANCHO CANAL (m.)	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)
1	0,80	0,80	1.32	1,50	0,39	0,39	0,39
2	0,30	0,30	1.32	1,50	0,39	0,39	0,39

CUBICACION DE GAVIONES BARRERA

DIMENSIONES GAVIONES	CANTIDAD
2x1x1	50
2x1x0,50	32
ESPECIAL (VER DETALLE)	6

CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
01	6648514.31	342017.07	1257.78

CUADRO DE PR. ESTACON

PRE	NORTE	ESTE	COTA (m.)
01	6648516.73	342005.03	1265.96

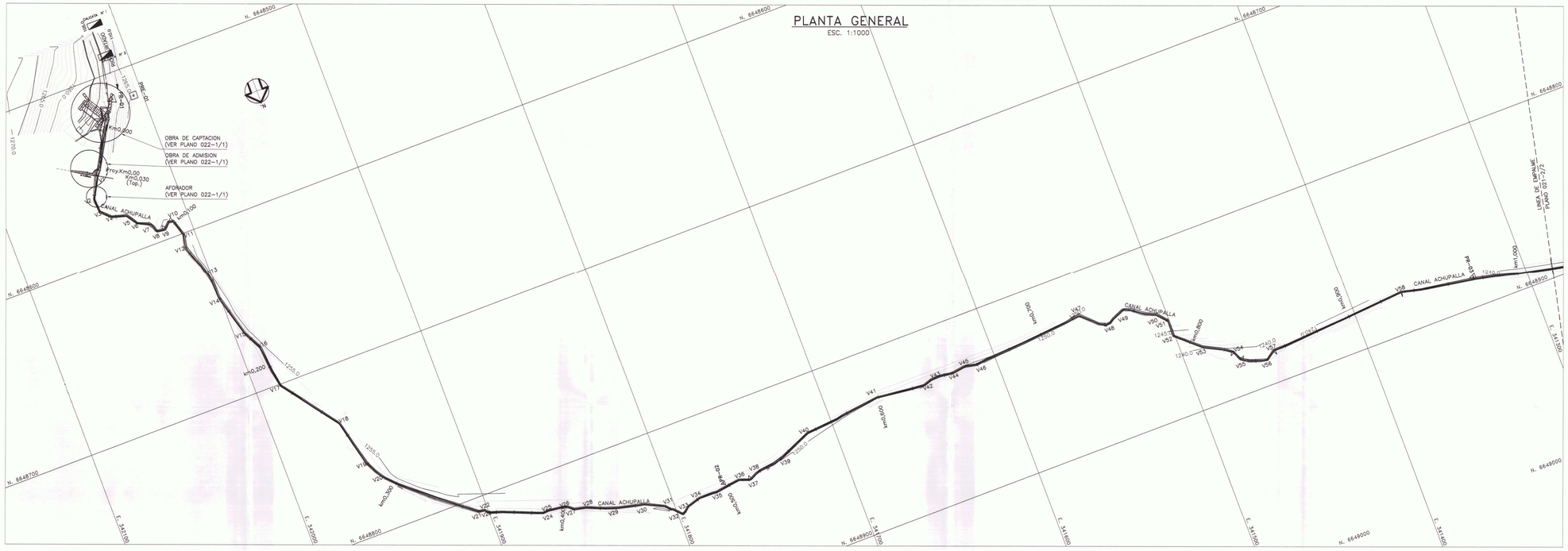
NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA DETALLES COMPUERTAS VER PLANO N°002–1/1

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN ACHUPALLA OBRA DE CAPTACIÓN PLANTAS Y DETALLES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 022-1/1

UNIFICACION ACHUPALLA–CANAL ACHUPALLA

PLANTA GENERAL
ESC. 1:1000



CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS ESTE (m)	COORDENADAS NORTE (m)	UBICACION VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FINAL CURVA (m)
	342040,37	6648503,39	0					0,0	0,0
2	342047,12	6648564,15	13,56	−37,78	5,0	1,43	2,97	12,0	15,0
3	342046,57	6648571,74	21,17	−41,06	5,0	1,64	3,10	19,1	22,8
4	342041,21	6648576,81	28,55	−30,25	5,0	1,21	2,37	27,1	29,4
5	342035,83	6648579,22	37,11	45,36	5,0	1,86	3,56	35,0	38,6
6	342028,99	6648585,30	44,42	−36,22	5,0	1,46	2,84	42,5	45,3
7	342021,51	6648588,63	53,18	64,55	5,0	2,78	5,07	48,0	54,0
8	342020,40	6648593,00	57,89	−84,28	2,5	1,85	3,51	54,9	58,2
9	342017,51	6648594,20	63,02	−54,98	2,5	1,20	2,24	60,2	62,4
10	342013,08	6648599,08	70,34	130,01	5,0	4,08	5,11	64,5	69,6
11	342008,43	6648600,67	82,52	13,45	10,0	2,69	5,25	75,0	80,2
12	342008,09	6648608,09	90,13	−35,13	10,0	2,84	5,53	82,3	87,8
13	342001,61	6648626,86	109,98	16,46	10,0	1,30	2,59	103,6	106,1
14	342000,49	6648642,01	125,17	−12,10	10,0	0,95	1,90	119,1	121,0
15	341993,97	6648666,15	150,17	−13,94	10,0	1,10	2,18	143,9	146,1
16	341988,46	6648678,68	162,99	22,97	10,0	1,82	3,61	155,1	158,7
17	341985,50	6648700,96	186,52	−32,91	10,0	2,64	5,17	178,7	183,9
18	341961,84	6648732,85	218,33	20,07	10,0	1,99	3,84	214,8	222,6
19	341955,21	6648759,42	253,61	−14,50	10,0	1,14	2,28	247,1	249,4
20	341950,48	6648768,68	264,11	−24,56	10,0	1,93	3,88	259,1	262,9
21	341905,31	6648807,72	324,71	−37,84	5,0	1,43	2,87	317,8	319,7
22	341901,86	6648808,13	327,19	50,91	5,0	2,11	4,00	319,6	323,6
23	341900,11	6648810,34	329,87	−39,06	5,0	1,58	3,08	324,5	327,6
24	341871,28	6648821,45	360,91	−27,83	5,0	1,11	2,19	354,0	356,2
25	341867,86	6648823,21	364,35	12,49	5,0	0,49	0,98	358,1	359,0
26	341858,02	6648822,46	374,27	35,30	5,0	1,42	2,77	367,0	369,8
27	341854,97	6648825,68	379,35	−28,99	5,0	1,15	2,26	372,1	374,4
28	341847,49	6648827,19	386,11	10,75	5,0	0,42	0,84	379,8	380,6
29	341834,72	6648832,55	399,95	−9,96	5,0	0,00	0,00	394,0	394,0
30	341815,74	6648837,24	419,51	13,80	5,0	0,54	1,08	413,0	414,1
31	341805,48	6648843,44	431,24	19,89	5,0	0,78	1,56	424,3	425,9
32	341796,80	6648850,83	442,99	−94,52	2,5	4,59	7,43	432,2	439,6
33	341801,41	6648847,23	448,19	27,43	5,0	1,09	2,15	439,4	441,6
34	341796,20	6648849,05	454,19	−17,83	5,0	0,70	1,39	447,8	449,2
35	341775,04	6648843,24	480,33	−10,85	5,0	0,42	0,84	458,2	459,0
36	341770,06	6648844,78	485,83	31,73	2,5	1,27	2,50	477,9	480,4
37	341764,50	6648845,52	487,43	−50,74	2,5	1,25	1,99	478,6	480,6
38	341747,85	6648842,40	494,76	31,89	2,5	0,43	0,86	486,4	487,3
39	341735,78	6648841,25	506,90	−19,96	2,5	0,39	0,78	498,6	499,4
40	341718,12	6648843,72	528,38	18,43	2,5	0,36	0,72	520,7	521,4
41	341670,94	6648827,36	573,80	13,75	2,5	0,27	0,54	569,6	569,2
42	341643,06	6648829,07	601,83	−22,44	2,5	0,45	0,89	593,5	594,4
43	341635,29	6648828,04	609,86	24,54	2,5	0,49	0,96	601,4	602,4
44	341601,43	6648828,58	621,14	−17,78	2,5	0,35	0,70	612,8	613,5
45	341618,85	6648828,41	628,48	22,59	2,5	0,45	0,89	620,1	621,0
46	341614,50	6648828,58	634,26	−17,84	2,5	0,35	0,70	625,7	626,4
47	341548,67	6648824,82	699,08	51,27	2,5	1,07	2,02	690,0	692,1
48	341534,61	6648835,66	715,20	−74,08	5,0	3,29	5,82	703,8	709,6
49	341521,71	6648839,79	729,37	61,99	2,5	1,32	2,43	719,2	721,6
50	341505,26	6648839,80	748,63	19,29	2,5	0,38	0,76	739,2	740,0
51	341500,54	6648845,17	755,78	68,10	2,5	0,99	1,89	745,1	747,0
52	341500,80	6648854,16	764,77	−58,27	2,5	1,18	2,21	754,4	756,6
53	341487,33	6648866,14	782,81	−13,62	2,5	0,27	0,53	773,5	773,9
54	341472,18	6648874,51	800,13	41,37	2,5	0,84	1,62	790,0	791,6
55	341460,39	6648880,87	807,08	−69,94	2,5	1,01	1,96	796,7	798,6
56	341456,33	6648885,98	821,10	−58,28	2,5	1,23	2,29	810,4	812,7
57	341450,22	6648892,30	828,23	30,30	2,5	0,61	1,19	818,0	819,2
58	341330,87	6648877,07	907,76	18,65	2,5	0,33	0,65	897,8	898,4
59	341226,37	6648905,73	1055,07	−21,04	2,5	0,42	0,83	1045,0	1045,8

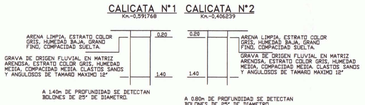
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
1	6648514.31	342017.07	1257.78
2	6648841.93	341769.45	1251.69
3	6648882.97	341329.76	1238.71

CUADRO DE PRE

PRE	NORTE	ESTE	COTA (m.)
1	6648516.73	342005.03	1265.96

CALICATA N°1
Km-0,591768

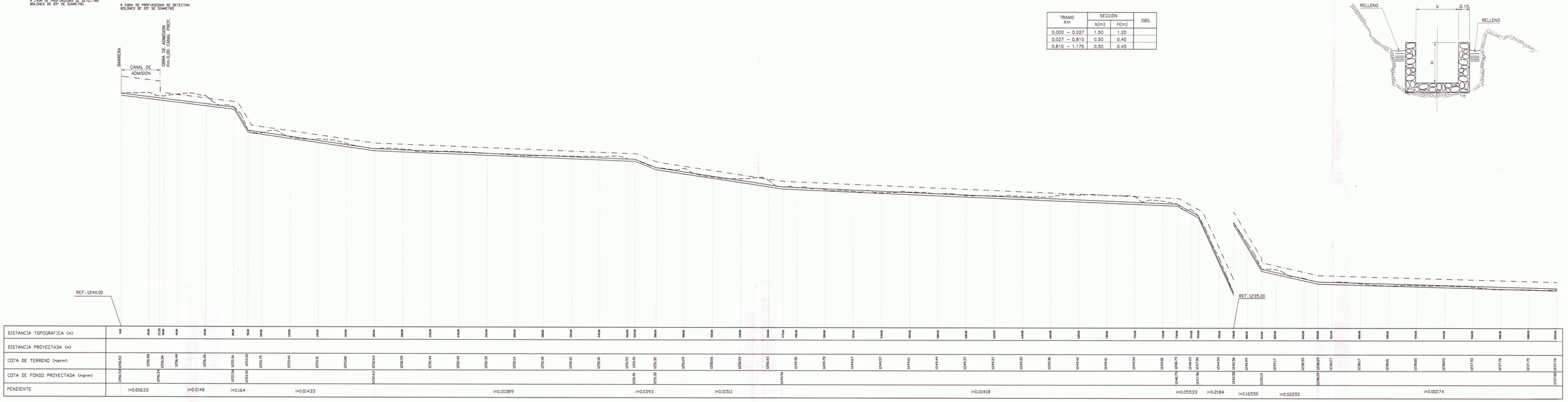


A 1.40m DE PROFUNDIDAD SE DETECTAN BOLONES DE 25" DE DIAMETRO.

CALICATA N°2
Km-0,406239

A 0.80m DE PROFUNDIDAD SE DETECTAN BOLONES DE 25" DE DIAMETRO

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

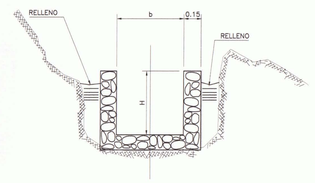


DISTANCIA TOPOGRAFICA (m)	0,00 20,00 27,02 40,00 60,00 80,00 100,00 120,00 140,00 160,00 180,00 200,00 220,00 240,00 260,00 280,00 300,00 320,00 340,00 360,00 380,00 400,00 420,00 440,00 460,00 480,00 500,00 520,00 540,00 560,00 580,00 600,00 620,00 640,00 660,00 680,00 700,00 720,00 740,00 760,00 780,00 800,00 820,00 840,00 860,00 880,00 900,00 920,00 940,00 960,00 980,00 1000,00
DISTANCIA PROYECTADA (m)	
COTA DE TERRENO (msnm)	1256,53 1256,38 1256,34 1256,48 1256,36 1255,56 1255,56 1253,93 1253,75 1253,46 1253,26 1253,00 1252,63 1252,59 1252,44 1252,42 1252,26 1252,14 1252,08 1252,02 1252,08 1251,93 1251,91 1251,82 1251,82 1252,29 1252,66 1252,54 1252,43 1249,96 1249,78 1249,67 1249,57 1249,41 1249,49 1249,57 1249,57 1249,33 1249,36 1249,42 1249,41 1249,34 1249,88 1248,79 1248,43 1247,96 1247,96 1244,94 1244,50 1244,79 1243,58 1243,17 1239,23 1238,29 1238,27 1238,17 1238,88 1238,85 1238,83 1237,93 1237,76 1237,75 1237,58 1237,74
COTA DE FONDO PROYECTADA (msnm)	1256,53 1256,38 1256,34 1256,48 1256,36 1255,56 1255,56 1253,93 1253,75 1253,46 1253,26 1253,00 1252,63 1252,59 1252,44 1252,42 1252,26 1252,14 1252,08 1252,02 1252,08 1251,93 1251,91 1251,82 1251,82 1252,29 1252,66 1252,54 1252,43 1249,96 1249,78 1249,67 1249,57 1249,41 1249,49 1249,57 1249,57 1249,33 1249,36 1249,42 1249,41 1249,34 1249,88 1248,79 1248,43 1247,96 1247,96 1244,94 1244,50 1244,79 1243,58 1243,17 1239,23 1238,29 1238,27 1238,17 1238,88 1238,85 1238,83 1237,93 1237,76 1237,75 1237,58 1237,74
PENDIENTE	i=0,00633 i=0,0148 i=0,164 i=0,01433 i=0,00389 i=0,0393 i=0,01511 i=0,00418 i=0,05533 i=0,2184 i=0,16550 i=0,02250 i=0,00274

CUADRO DE SECCIONES

TRAMO Km	SECCIÓN b(m)	SECCIÓN H(m)	OBS.
0,000 – 0,027	1,50	1,20	
0,027 – 0,810	0,50	0,40	
0,810 – 1,175	0,50	0,45	

SECCION TIPO
S/E



DISPOSICION DE LAMINAS

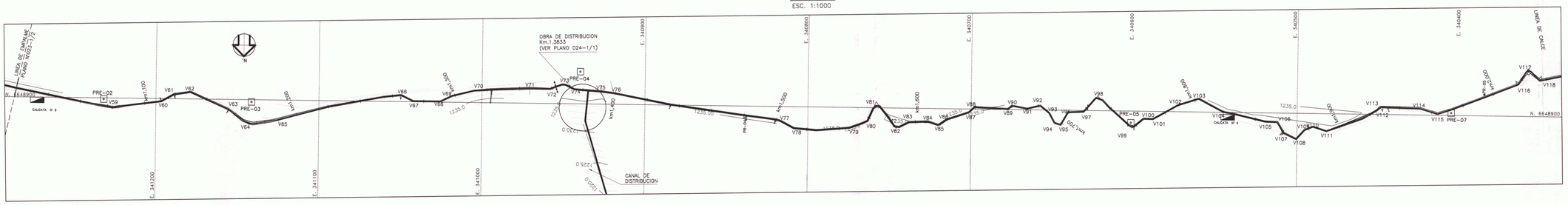
SIMBOLOGIA			
CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS–ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTA:
- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

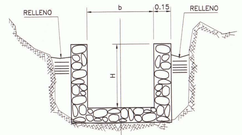
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN ACHUPALLA CANAL ACHUPALLA PLANTA Y PERFIL LONGITUDINAL
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 023-1/2

UNIFICACION ACHUPALLA – CANAL ACHUPALLA

PLANTA
ESC. 1:1000



SECCION TIPO
S/E



CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
4	6648907.19	340838.23	1235.34
5	6648887.22	340385.32	1234.35
6	6648872.46	339929.72	1233.19

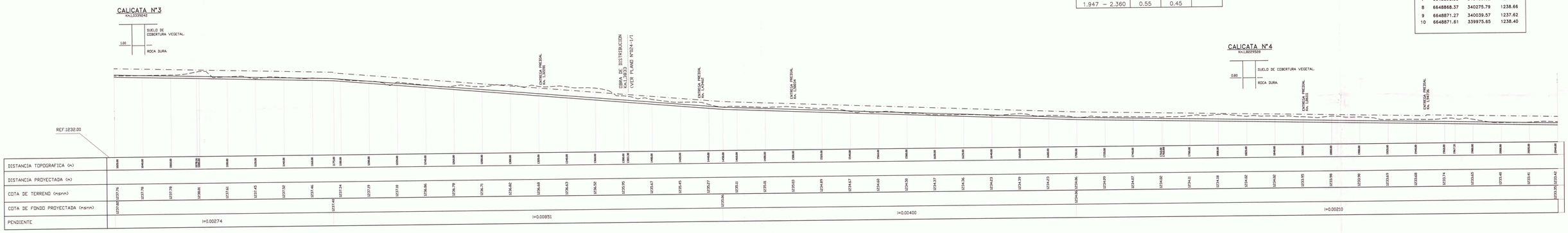
CUADRO DE PRE

PRE	NORTE	ESTE	COTA (m.)
2	6648900.70	341231.97	1240.21
3	6648901.37	341141.22	1244.50
4	6648880.30	340939.78	1240.39
5	6648907.14	340601.99	1234.88
6	6648934.85	340605.27	1227.81
7	6648898.53	340405.62	1233.70
8	6648868.37	340275.79	1238.66
9	6648871.27	340039.57	1237.62
10	6648871.61	339975.65	1238.40

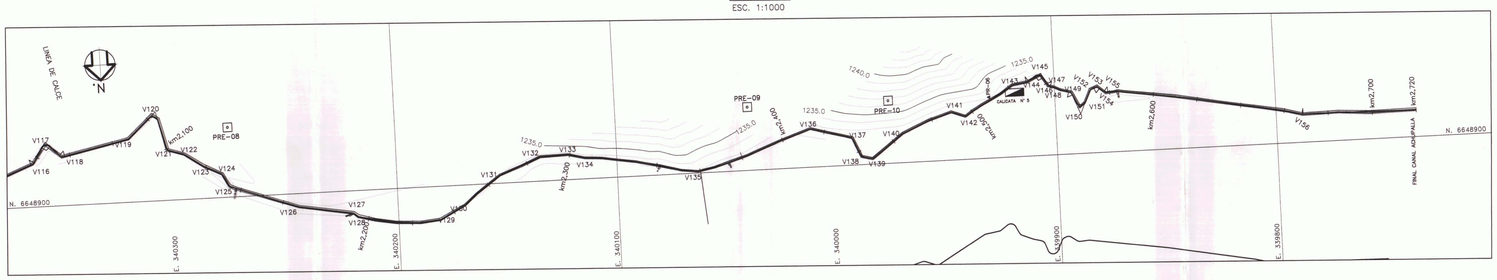
CUADRO DE SECCIONES

TRAMO Km	SECCIÓN b(m)	SECCIÓN H(m)	OBS.
0.027 – 0.810	0.50	0.40	
0.810 – 1.175	0.50	0.45	
1.175 – 1.947	0.50	0.40	
1.947 – 2.360	0.55	0.45	

PERFIL LONGITUDINAL
ESC. H=1:1000
V=1:100



PLANTA
ESC. 1:1000



CUADRO DE SECCIONES

TRAMO Km	SECCIÓN b(m)	SECCIÓN H(m)	OBS.
1.947 – 2.360	0.55	0.45	
2.360 – 2.720	0.40	0.40	

PERFIL LONGITUDINAL
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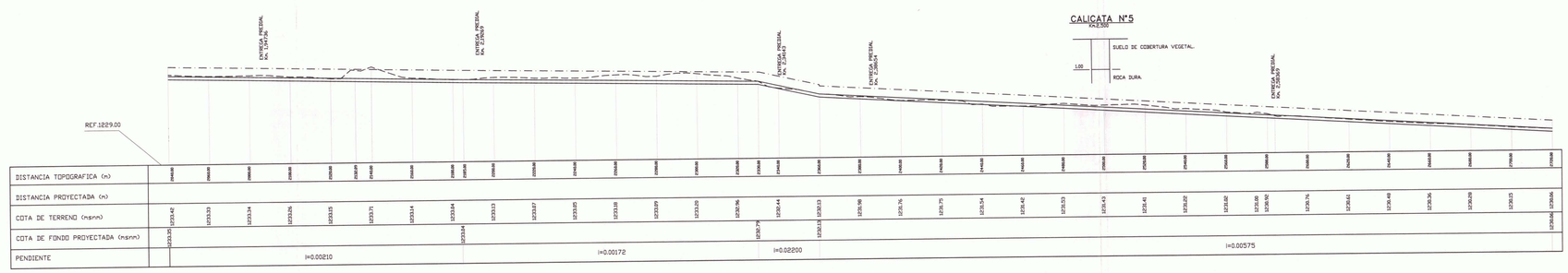
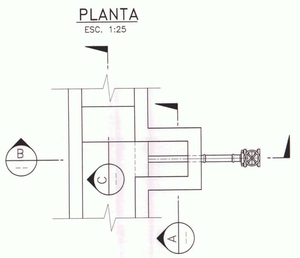
V=1:100



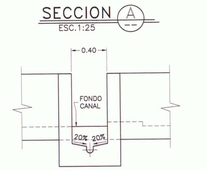
DISPOSICION DE LAMINAS

DETALLE ENTREGA PREDIAL

PLANTA
ESC. 1:25



SECCION A
ESC.1:25



SECCION B
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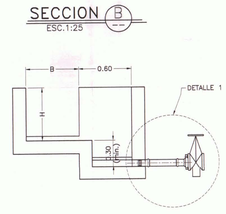
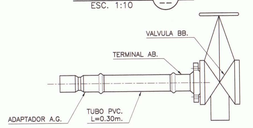


SECCION C
ESC.1:25

DETALLE 1
ESC. 1:10



CUADRO DE ENTREGAS PREDIALES

Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	t	COTAS FONDO EXIST.	PROY.
1,32281	0,40	0,40	75	0,05	0,45		1236,14
1,43462	0,40	0,40	75	0,05	0,45		1235,19
1,50034	0,40	0,40	75	0,10	0,45		1234,66
1,76161	0,50	0,40	75	0,10	0,35		1233,93
1,86111	0,50	0,40	75	0,10	0,35		1233,72
1,94736	0,50	0,40	75	0,10	0,35		1233,54
2,14223	0,50	0,40	75	0,10	0,35		1233,13
2,19269	0,50	0,40	75	0,15	0,35		1233,03
2,34143	0,40	0,40	75	0,05	0,45		1232,54
2,38654	0,40	0,40	75	0,05	0,45		1231,98
2,58369	0,40	0,40	75	0,05	0,45		1230,84

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY.	C.F.P.
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS ESTE (m)	NORTE (m)	UBICACION VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FINAL CURVA (m)
60	341196,72	6648921,71	1264,99	-23,60	2,5	0,47	0,93	1074,8	1075,8
61	341186,86	6648897,36	1093,97	22,10	2,5	0,44	0,87	1083,8	1084,7
62	341178,84	6648895,76	1104,12	36,86	2,5	0,74	1,45	1083,7	1085,1
63	341155,32	6648905,28	1129,89	12,15	2,5	0,24	0,48	1119,9	1120,4
64	341142,64	6648915,17	1145,37	-50,18	10,0	4,16	7,86	1131,1	1138,4
65	341124,78	6648911,98	1163,52	-2,01	0,0	0,00	0,00	1163,5	1163,5
66	341049,50	6648869,07	1240,48	42,05	2,5	0,86	1,65	1229,4	1231,1
67	341042,09	6648859,01	1249,70	-28,83	2,5	0,58	1,13	1297,6	1238,0
68	341025,39	6648869,66	1265,40	-28,80	2,5	0,58	1,14	1254,6	1255,7
69	341018,12	6648866,51	1272,49	13,27	2,5	0,26	0,50	1262,8	1263,3
70	341009,11	6648862,82	1286,91	12,05	2,5	0,24	0,47	1276,4	1276,9
71	340971,16	6648862,98	1330,83	4,81	0,0	0,00	0,00	1310,8	1310,8
72	340958,30	6648891,09	1333,78	-33,81	2,5	0,67	0,94	1323,0	1324,0
73	340949,86	6648887,85	1342,78	51,94	2,5	1,03	2,03	1333,3	1334,4
74	340943,34	6648897,14	1350,04	-34,82	2,5	0,69	0,97	1339,0	1340,0
75	340926,95	6648892,21	1366,47	3,58	0,0	0,00	0,00	1366,5	1366,5
76	340918,93	6648883,14	1374,14	-1,90	0,0	0,00	0,00	1374,1	1374,1
77	340818,13	6648908,16	1476,45	21,28	10,0	1,68	3,34	1464,8	1468,1
78	340808,80	6648913,14	1487,20	-31,85	2,5	0,64	1,25	1478,0	1479,2
79	340774,54	6648912,50	1521,27	-22,78	2,5	0,45	0,89	1510,2	1511,1
80	340763,58	6648906,09	1533,28	-49,16	2,5	1,00	1,93	1521,9	1523,8
81	340758,12	6648896,34	1546,14	131,59	2,5	4,20	5,77	1533,2	1538,9
82	340740,89	6648913,33	1566,27	-86,06	2,5	2,01	3,38	1550,4	1553,8
83	340737,74	6648908,55	1575,25	24,88	2,5	0,49	0,97	1565,2	1566,2
84	340736,56	6648904,70	1580,05	27,40	2,5	0,54	0,88	1571,8	1572,7
85	340719,92	6648910,05	1593,40	-57,53	2,5	1,21	2,26	1577,8	1579,8
86	340714,61	6648904,83	1599,48	17,45	2,5	0,34	0,69	1594,4	1595,0
87	340701,16	6648902,00	1613,97	-28,43	2,5	0,57	1,12	1598,6	1599,8
88	340687,89	6648898,82	1628,53	52,03	2,5	1,08	2,04	1602,7	1604,7
89	340677,05	6648899,17	1638,25	-21,22	2,5	0,42	0,83	1633,3	1634,1
90	340675,03	6648897,71	1642,24	59,78	2,5	1,26	2,36	1635,8	1638,2
91	340665,54	6648899,43	1651,88	-2,28	2,5	0,04	0,07	1636,1	1637,2
92	340667,63	6648897,42	1660,04	59,37	2,5	1,26	2,34	1643,4	1645,7
93	340652,12	6648907,91	1667,15	23,86	2,5	0,47	0,94	1661,5	1662,4
94	340648,74	6648907,92	1674,05	-49,63	2,5	1,03	1,95	1667,8	1669,8
95	340644,83	6648904,04	1678,11	-84,81	2,5	1,98	3,66	1666,6	1670,3
96	340640,44	6648901,33	1686,99	83,69	2,5	1,37	2,50	1669,5	1672,0
97	340630,87	6648900,83	1698,47	-20,64	2,5	0,40	1,99	1679,1	1681,0
98	340622,41	6648891,12	1708,41	101,10	2,5	2,54	3,97	1690,4	1694,4
99	340621,31	6648912,45	1706,09	-80,88	2,5	2,17	3,87	1717,8	1721,7
100	340598,21	6648904,68	1747,18	44,99	2,5	0,92	1,71	1727,9	1729,7
101	340588,35	6648894,79	1763,04	-34,36	2,5	0,69	1,35	1733,5	1734,8
102	340579,99	6648895,97	1770,75	13,38	2,5	0,26	0,53	1759,0	1759,5
103	340560,05	6648891,37	1810,83	50,00	2,5	1,04	1,96	1784,7	1786,7
104	340543,49	6648899,81	1805,98	-16,65	2,5	0,33	0,65	1789,1	1789,7
105	340519,55	6648905,39	1827,31	-11,73	2,5	0,23	0,44	1808,7	1809,2
106	340512,09	6648905,61	1834,77	13,83	2,5	0,27	0,51	1814,8	1815,3
107	340508,13	6648911,26	1842,51	-37,83	2,5	0,77	1,49	1823,8	1825,3
108	340500,41	6648915,89	1851,04	-81,46	2,5	1,70	3,20	1833,5	1836,7
109	340490,31	6648910,20	1858,68	39,38	2,5	0,78	1,15	1838,3	1839,5
110	340480,98	6648908,18	1868,14	42,81	2,5	0,86	1,69	1842,6	1844,3
111	340481,82	6648910,72	1872,83	-44,14	2,5	0,90	1,73	1850,2	1851,9
112	340471,30	6648897,82	1908,01	-21,84	2,5	0,43	0,86	1895,0	1895,9
113	340448,81	6648895,48	1909,47	48,86	2,5	1,01	1,92	1898,9	1900,8
114	340424,87	6648898,08	1933,41	16,69	2,5	0,33	0,66	1919,4	1914,1
115	340414,00	6648899,29	1944,75	-41,43	2,5	0,84	1,63	1924,2	1925,9
116	340384,65	6648898,51	1987,54	-41,85	2,5	0,85	1,64	1977,0	1978,6
117	340368,75	6648870,88	2008,84	114,74	2,5	3,16	4,51	1995,9	1990,4
118	340357,53	6648878,05	2019,02	-67,34	2,5	1,50	2,48	1998,1	1998,0
119	340350,83	6648871,44	2026,42	-34,34	2,5	0,69	1,35	2027,9	2029,3
120	340338,22	6648859,66	2047,68	131,13	2,5	4,17	5,77	2041,9	2046,8
121	340333,65	6648867,31	2055,81	-19,04	2,5	1,40	2,55	2059,4	2062,0
122	340295,97	6648879,85	2093,94	19,78	2,5	0,39	0,78	2068,2	2068,9
123	340287,45	6648885,56	2104,31	-10,45	2,5	0,21	0,41	2078,8	2079,2
124	340279,14	6648888,49	2113,50	40,38	2,5	0,82	1,58	2087,3	2088,9
125	340278,07	6648896,18	2119,85	-48,78	2,5	1,00	1,84	2093,4	2095,3
126	340245,04	6648906,14	2152,88	-11,00	2,5	0,22	0,43	2127,2	2127,6
127	340230,21	6648910,83	2177,94	54,40	2,5	0,69	1,35	2176,6	2177,9
128	340218,38	6648911,96	2180,48	-39,56	2,5	0,80	1,50	2154,2	2155,7
129	340180,88	6648899,16	2218,13	38,14	2,5	0,76	1,44	2179,0	2180,4
130	340169,68	6648909,20	2230,82	-10,01	2,5	0,21	0,40	2205,0	2205,4
131	340153,04	6648886,36	2251,84	17,80	2,5	0,35	0,70	2225,3	2226,0
132	340134,66	6648889,07	2271,81	22,38	2,5	0,44	0,88	2245,6	2246,4
133	340121,86	6648884,14	2284,36	18,82	2,5	0,38	0,69	2257,9	2258,0
134	340114,00	6648880,08	2292,10	-4,45	2,5	0,09	0,17	2286,1	2286,6
135	340063,23	6648859,31	2344,01	30,57	2,5	0,60	1,20	2317,2	2318,4
136	340051,98	6648862,63	2356,28	-36,05	2,5	0,74	1,43	2311,8	2313,3
137	339992,89	6648887,87	2417,84	58,85	2,5	1,20	2,33	2400,1	2402,5
138	339989,84	6648896,37	2418,25	-58,12	2,5	1,21	2,37	2401,3	2403,6
139	339983,82	6648887,80	2432,52	-56,66	2,5	1,19	2,32	2420,2	2422,5
140	339969,71	6648886,88	2450,24	18,05	2,5	0,36	0,71	2439,5	2440,2
141	339947,28	6648878,28	2474,26	45,23	2,5	0,93	1,78	2447,1	2448,9
142	339941,81	6648880,62	2481,14	-56,58	2,5	1,18	2,31	2460,4	2462,8
143	339919,02	6648867,51	2506,56	24,43	2,5	0,49	0,96	2479,6	2480,6
144	339917,02	6648860,40	2513,64	-24,12	2,5	0,48	0,96	2476,8	2477,7
145	339905,91	6648862,72	2520,75	103,89	2,5	2,66	4,08	2491,6	2495,7
146	339900,85	6648859,70	2527,44	-53,73	2,5	1,11	2,11	2498,6	2500,7
147	339900,01	6648869,40	2530,11	13,16	2,5	0,26	0,51	2502,1	2502,6
148	339897,41	6648870,78	2533,00	-13,81	2,5	0,28	0,53	2505,2	2505,8
149	339892,38	6648868,04	2538,49	60,88	2,5	1,30	2,39	2509,4	2511,8
150	339888,95	6648882,12	2549,18	-150,78	2,5	6,14	5,80	2515,0	2520,8
151	339886,43	6648877,06	2554,69	0,00	2,5	0,00	0,00	2520,3	2520,3
152	339883,83	6648871,24	2561,08	69,13	2,5	1,52	2,82	2523,6	2526,4
153	339880,89	6648870,06	2564,20	54,39	2,5	1,19	2,21	2528,4	2530,6
154	339876,80	6648873,03	2569,30	-45,78	2,5	0,94	1,79	2533,5	2535,3
155	339871,31	6648872,59	2574,21	16,66	2,5	0,35	0,65	2538,2	2538,8
156	339788,17	6648887,16	2659,21	-10,97	2,5	0,22	0,43	2624,2	2624,6

NOTA:

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

CONSULTOR
GCF Ingenieros Ltda.

Nombre Estudio
Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado
IV Región de Coquimbo

Escala
Indicadas

Proyección Cartográfica
UTM (Universal Transversal de mercator)
Huso 19 Sur. Datum PSAD 1956

Título Plano
UNIFICACIÓN ACHUPALLA
CANAL ACHUPALLA
PLANTA Y DETALLES

Fecha
FEBRERO 2010

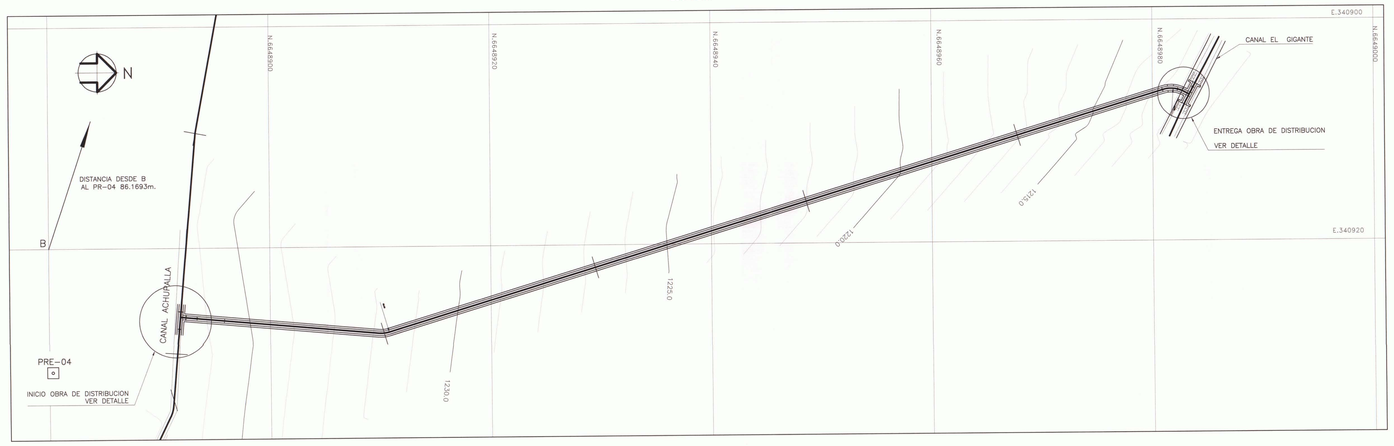
Lámina:
023-2/2

UNIFICACION ACHUPALLA–CANAL ACHUPALLA

OBRA DE DISTRIBUCION Km. 1,3833

PLANTA

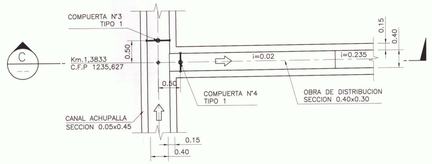
ESC.1:200



INICIO OBRA DE DISTRIBUCION–CANAL ACHUPALLA

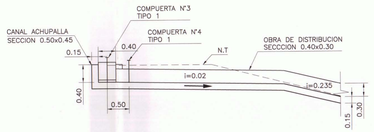
PLANTA

ESC.1:50



SECCION C

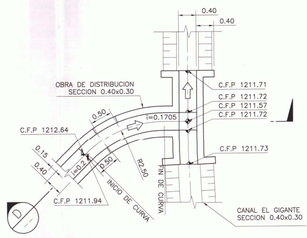
ESC.1:50



ENTREGA OBRA DE DISTRIBUCION–CANAL EL GIGANTE

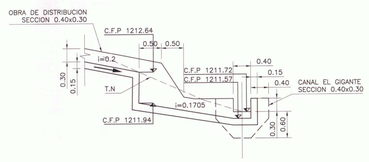
PLANTA

ESC.1:50



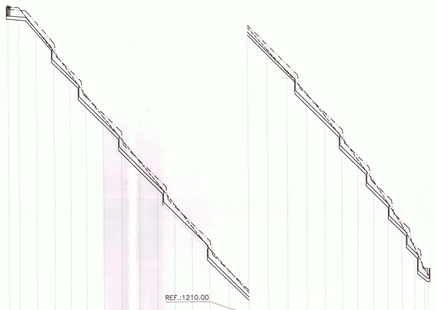
SECCION D

ESC.1:50



PERFIL LONGITUDINAL

ESC.H=1:500
ESC.V=1:100

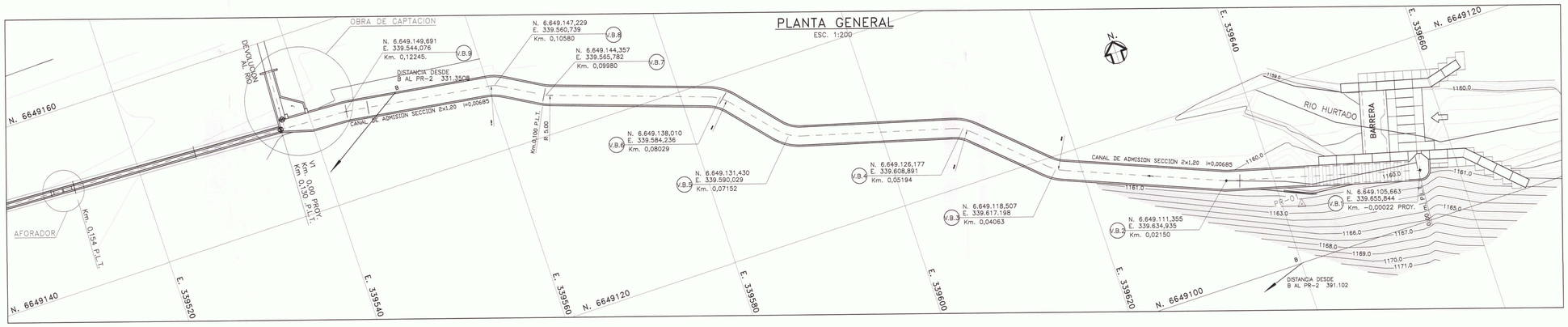


REF.:1222.00 — REF.:1210.00

| | | |

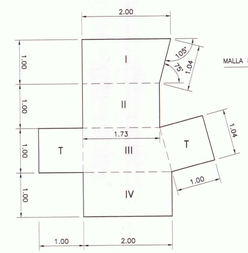
UNIFICACION FARELLONES–CANAL FARELLONES
OBRA DE CAPTACION

PLANTA GENERAL
ESC. 1:200



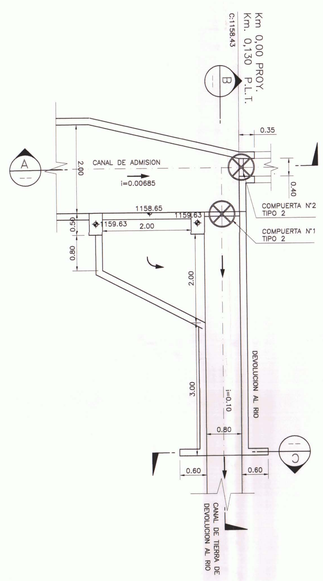
GAVION ESPECIAL
ESC. 1:50

GAVION DESPLEGADO

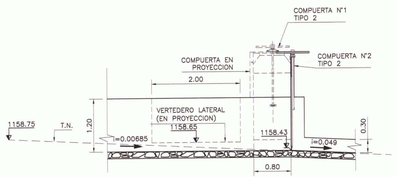


OBRA DE ADMISION

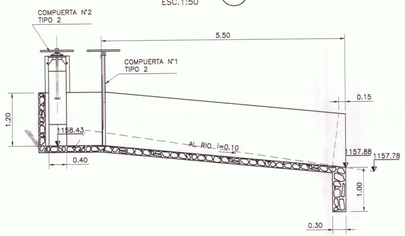
PLANTA
ESC. 1:50



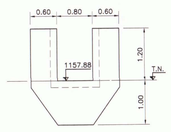
SECCION A
ESC.1:50



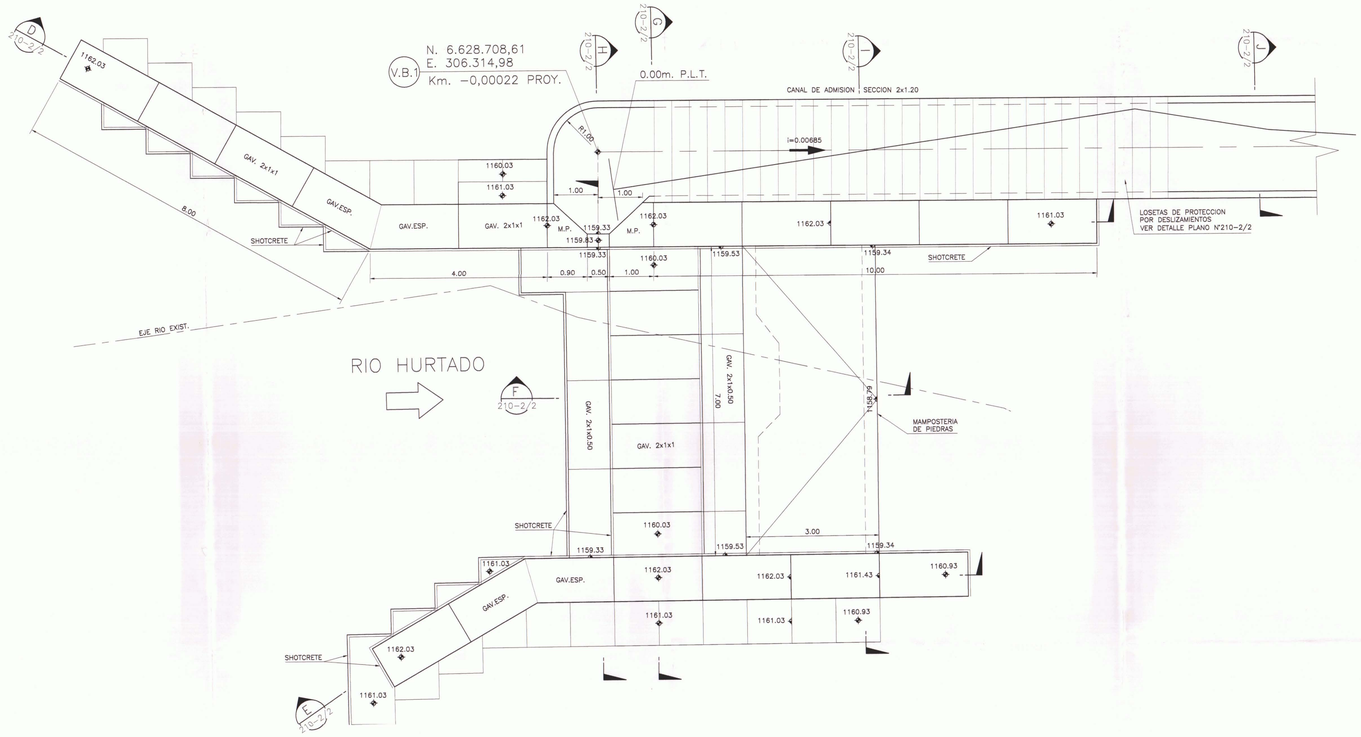
SECCION B
ESC.1:50



SECCION C
ESC.1:50

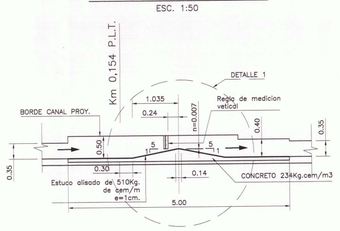


PLANTA
ESC. 1:50

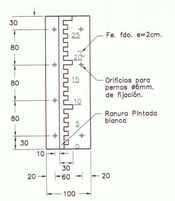


AFORADOR

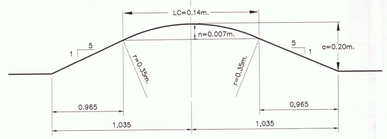
CORTE LONGITUDINAL
ESC. 1:50



REGLA DE MEDICION VERTICAL
ESC. 1:50
Dimensiones en milímetros.



DETALLE 1
SIN ESCALA



CUADRO DE DIMENSIONES COMPUERTAS TIPO 2

N° COMPUERTA	ANCHO CANAL (m)	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)
1	0,80	0,80	1,32	1,50	0,35	0,35	0,37
2	0,40	0,40	1,32	1,50	0,35	0,35	0,37

CUBICACION DE GAVIONES BARRERA

DIMENSIONES GAVIONES	CANTIDAD
2x1x1	54
2x1x0,50	15
ESPECIAL (VER DETALLE)	4

CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
01	6649106.59	339642.39	1160.87
02	6648972.63	339270.59	1156.46

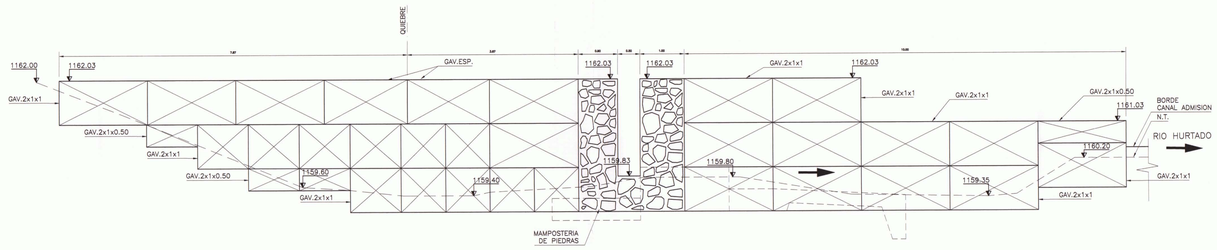
NOTA GENERAL:

– PARA DETALLES DE COMPUERTAS VER PLANO N°002–1/1

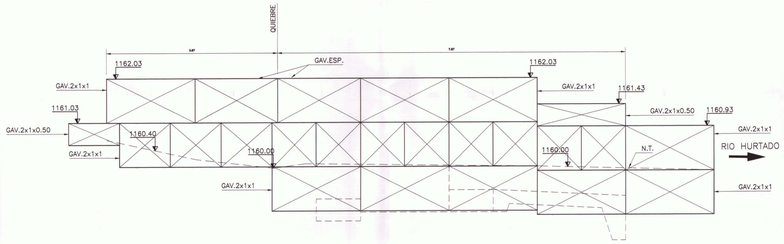
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN FARELLONES OBRA DE CAPTACIÓN PLANTA Y SECCIONES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 025-1/2

UNIFICACION FARELLONES–CANAL FARELLONES
OBRA DE CAPTACION

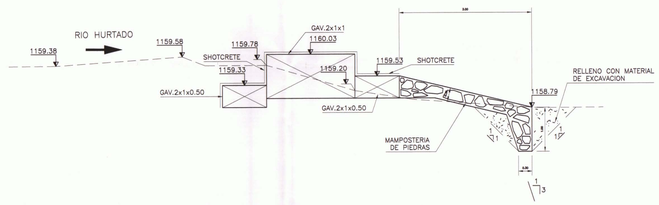
SECCION D
ESC.1:50 210–1/2



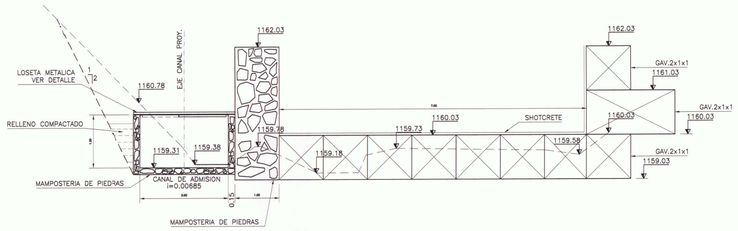
SECCION E
ESC.1:50 210–1/2



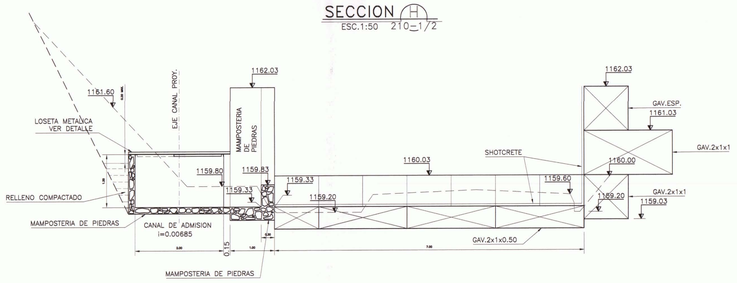
SECCION F
ESC.1:50 210–1/2



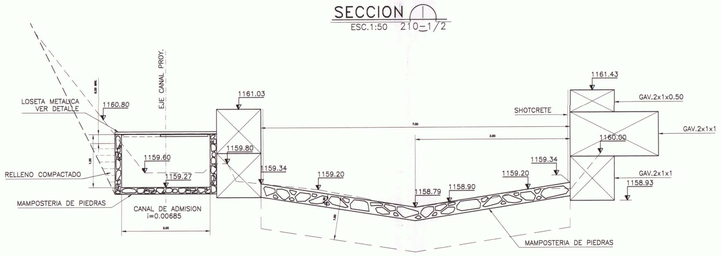
SECCION G
ESC.1:50 210–1/2



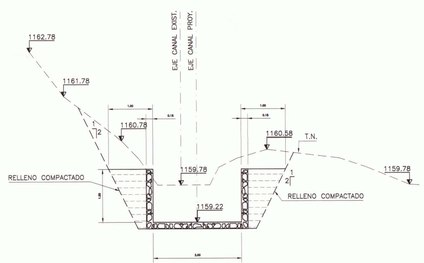
SECCION H
ESC.1:50 210–1/2



SECCION I
ESC.1:50 210–1/2

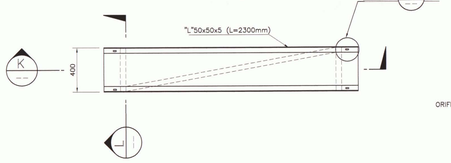


SECCION J
ESC.1:50 210–1/2

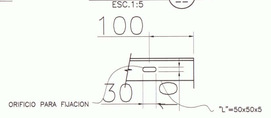


DETALLE LOSETA METALICA
ESC. 1:20
(Dimensiones en milímetros)

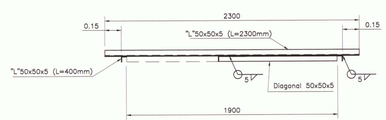
PLANTA
ESC. 1:20



DETALLE A
ESC.1:5



SECCION K
ESC. 1:20



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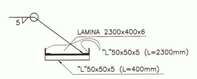

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN FARELLONES OBRA DE CAPTACIÓN SECCIONES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 025-2/2

UNIFICACION FARELLONES–CANAL FARELLONES

PLANTA
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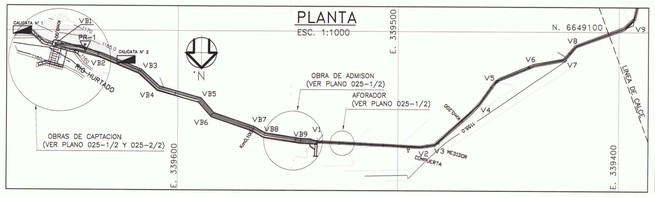

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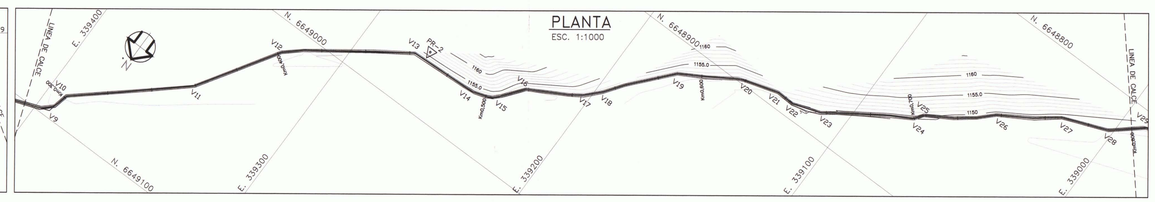

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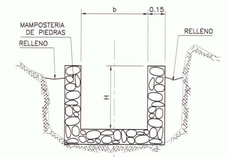
S/E



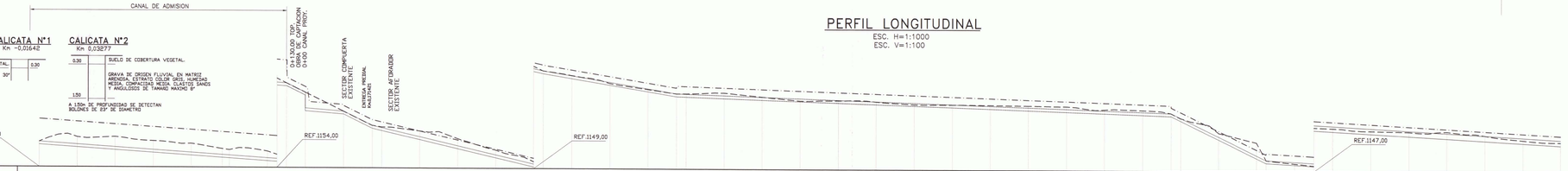
CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS/UBICACION ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	339655.844	6649105.683						0.0	0.0
2	339634.130	6649111.505	21.67	7.48	5.0	0.29	0.59	21.4	22.0
3	339617.198	6649118.507	40.79	23.07	5.0	0.92	1.81	39.9	41.7
4	339608.891	6649126.177	50.10	30.18	5.0	1.31	2.57	48.8	51.4
5	339590.029	6649131.430	71.68	36.75	5.0	1.48	2.89	70.1	73.0
6	339584.294	6649138.010	80.45	10.95	5.0	0.33	2.59	79.0	81.6
7	339565.782	6649144.307	99.96	11.88	5.0	0.47	0.93	99.3	100.2
8	339560.739	6649147.229	105.77	-43.61	5.0	0.94	1.85	104.8	106.6
9	339544.078	6649149.691	122.61	-6.21	5.0	0.24	0.49	122.1	122.6
10	339538.508	6649150.063	130.16	0.00	5.0	0.00	0.00	129.9	129.9
2	339489.861	6649152.360	176.89	-13.15	2.5	0.26	0.52	176.4	176.9
3	339483.231	6649151.309	183.60	-37.09	2.5	0.73	1.45	182.9	184.1
4	339465.241	6649133.057	210.67	-13.50	2.5	0.27	0.53	210.1	210.7
5	339435.453	6649112.156	234.05	36.19	10.0	2.82	5.65	230.9	236.5
6	339436.279	6649115.209	242.61	12.35	2.5	0.24	0.48	241.9	242.4
7	339434.809	6649117.621	248.33	-42.04	2.5	0.85	1.65	247.5	249.2
8	339419.408	6649106.471	264.51	31.50	2.5	0.61	1.21	263.9	265.1
9	339393.815	6649098.807	292.03	-45.38	10.0	5.43	9.96	286.1	296.0
10	339387.157	6649097.737	302.12	-12.45	2.5	0.85	1.59	299.6	301.2
11	339347.351	6649048.747	360.50	-18.50	2.5	0.37	0.73	358.8	359.4
12	339324.626	6649021.899	403.94	23.80	2.5	0.47	0.93	401.0	401.9
13	339275.899	6649017.205	453.35	57.28	2.5	0.75	1.48	451.1	452.5
14	339244.720	6649015.741	484.56	-16.59	2.5	0.33	0.65	482.7	483.3
15	339235.597	6648972.843	504.13	-37.79	10.0	3.06	5.94	499.5	505.5
16	339225.679	6648950.313	520.11	23.52	2.5	0.47	0.92	517.8	518.8
17	339203.016	6648946.982	548.41	-17.89	2.5	0.35	0.69	544.3	545.0
18	339196.886	6648940.339	559.58	-4.49	2.5	0.09	0.18	553.7	553.9
19	339174.648	6648913.880	590.17	20.88	2.5	0.41	0.82	588.0	588.8
20	339150.094	6648888.550	619.01	19.27	10.0	1.28	2.56	616.5	619.0
21	339132.721	6648853.246	637.17	21.68	2.5	0.43	0.85	635.0	635.8
22	339124.564	6648851.574	647.34	-23.81	2.5	0.48	0.94	643.1	644.0
23	339111.920	6648889.252	658.71	-15.51	2.5	0.31	0.61	656.6	657.2
24	339076.517	6648868.301	700.80	74.25	2.5	0.48	0.95	699.9	700.8
25	339073.709	6648862.324	708.77	19.80	2.5	0.39	0.78	703.8	704.5
26	339047.141	6648842.403	738.98	-1.86	2.5	0.04	0.07	737.1	737.2
27	339022.730	6648825.81	768.49	14.51	2.5	0.29	0.57	766.4	767.0
28	339002.353	6648811.801	792.36	-21.33	2.5	0.42	0.84	788.1	789.0
29	338985.171	6648806.743	807.63	20.63	2.5	0.41	0.81	804.3	805.1
30	338979.965	6648803.879	817.57	48.62	2.5	1.00	1.91	813.4	814.3
31	338972.372	6648807.867	825.76	-28.35	2.5	0.52	1.03	822.6	823.6
32	338944.262	6648808.845	851.90	-22.05	2.5	0.44	0.87	849.5	850.4
33	338940.250	6648801.163	858.19	18.03	2.5	0.35	0.71	855.7	856.4
34	338927.828	6648806.923	870.81	-9.45	2.5	0.19	0.37	868.7	869.0
35	338899.239	6648784.429	899.59	-64.20	2.5	1.40	2.76	896.8	899.6
36	338894.408	6648780.483	912.21	84.93	2.5	1.97	3.34	908.1	911.5
37	338887.707	6648784.554	919.32	-28.77	2.5	0.53	1.05	916.8	917.8
38	338827.813	6648791.865	948.29	19.89	2.5	0.39	0.78	945.4	946.1
39	338840.702	6648762.614	968.68	13.04	2.5	0.25	0.51	963.9	964.4
40	338833.059	6648764.565	974.80	-11.08	2.5	0.22	0.43	971.5	972.0
41	338818.151	6648749.832	997.53	23.72	2.5	0.47	0.93	993.3	994.2
42	338788.425	6648790.385	1010.10	-90.72	10.0	8.64	14.25	998.6	1012.9
43	338803.722	6648766.259	1033.69	-29.89	2.5	0.60	1.17	1032.5	1033.7
44	338806.161	6648754.298	1047.22	26.45	2.5	0.53	1.04	1046.2	1047.2
45	338808.028	6648744.470	1058.19	18.03	2.5	0.35	0.71	1057.5	1058.2
46	338784.539	6648740.749	1077.22	-77.64	2.5	1.75	3.05	1064.9	1068.0
47	338780.885	6648724.520	1098.35	84.66	2.5	1.79	3.10	1085.4	1088.5
48	338761.324	6648732.262	1119.35	17.16	2.5	0.34	0.67	1107.6	1108.2
49	338747.832	6648742.254	1136.06	-17.78	2.5	0.33	0.70	1124.1	1124.8
50	338733.987	6648747.545	1151.00	28.19	2.5	0.56	1.11	1139.0	1140.1
51	338716.877	6648740.857	1169.43	-47.31	4.0	1.29	2.58	1149.4	1152.0
52	338707.437	6648746.893	1184.85	94.25	2.5	2.85	3.70	1169.8	1173.5
53	338703.279	6648732.364	1191.76	36.48	2.5	0.74	1.43	1177.4	1178.8
54	338701.866	6648719.161	1208.65	-9.25	2.5	0.18	0.37	1194.8	1195.1
55	338700.759	6648713.853	1213.44	-19.27	2.5	0.38	0.76	1199.4	1200.1
56	338697.966	6648704.256	1218.91	-19.38	2.5	0.38	0.76	1204.4	1205.2
57	338691.786	6648684.087	1227.20	-40.06	2.5	0.81	1.57	1212.7	1214.2
58	338685.064	6648676.768	1233.96	-29.89	2.5	0.60	1.17	1219.0	1220.2
59	338668.634	6648678.423	1251.57	36.53	2.5	0.74	1.43	1237.0	1238.5
60	338653.759	6648681.510	1266.77	5.76	2.5	0.11	0.23	1265.9	1266.1
61	338635.040	6648787.220	1286.33	-20.73	2.5	0.45	0.89	1272.1	1272.9
62	338619.354	6648696.350	1302.05	14.76	2.5	0.29	0.58	1287.3	1288.0
63	338612.580	6648687.375	1308.91	-1.89	2.5	0.16	0.31	1294.9	1295.2
64	338581.613	6648682.113	1339.80	-51.39	4.0	2.14	4.04	1313.6	1317.6
65	338545.559	6648743.805	1393.88	-25.63	2.5	0.50	0.98	1378.3	1380.3
66	338532.619	6648744.763	1425.56	147.26	5.0	11.37	21.40	1403.4	1411.7
67	338523.238	6648736.546	1449.41	18.60	2.5	0.37	0.73	1433.8	1434.5
68	338517.279	6648743.660	1459.63	-49.83	2.5	1.01	1.97	1457.6	1459.6
69	338501.317	6648736.521	1511.40	-36.12	2.5	0.73	1.42	1491.1	1492.5
70	338489.564	6648717.826	1529.22	27.71	2.5	0.55	1.08	1527.6	1528.7
71	338481.911	6648707.262	1538.89	-35.14	2.5	0.69	1.35	1503.8	1504.0
72	338475.043	6648702.303	1543.38	8.68	2.5	0.17	0.34	1512.7	1513.1
73	338468.122	6648698.810	1553.35	63.13	2.5	1.16	2.29	1551.2	1553.5
74	338461.849	6648701.088	1559.95	-19.19	2.5	0.38	0.75	1534.0	1534.7
75	338456.396	6648671.585	1590.57	-29.72	2.5	0.60	1.17	1585.4	1586.6
76	338443.502	6648630.492	1578.35	47.52	2.5	0.98	1.87	1551.8	1553.6
77	338432.188	6648674.410	1588.18	-15.44	2.5	0.31	0.61	1582.0	1582.6
78	338429.008	6648709.395	1595.50	-25.61	2.5	0.51	1.01	1569.3	1570.3
79	338419.679	6648709.479	1604.99	-16.24	2.5	0.33	0.65	1579.8	1580.4
80	338382.183	6648700.094	1643.48	16.47	2.5	0.33	0.65	1617.4	1618.1
81	338363.988	6648690.339	1662.38	-69.74	2.5	1.52	2.74	1638.1	1637.8
82	338358.639	6648781.566	1672.30	-28.40	2.5	0.53	1.04	1645.7	1646.8
83	338357.267	6648771.113	1681.78	6.81	2.5	0.13	0.26	1655.6	1655.9
84	338355.901	6648760.665	1693.41	23.01	2.5	0.46	0.90	1666.9	1667.8
85	338348.742	6648750.350	1705.42	29.98	2.5	0.62	1.22	1678.8	1679.9
86	338340.887	6648743.870	1716.34	15.41	2.5	0.30	0.61	1690.0	1690.6
87	338317.353	6648741.472	1741.80	17.01	2.5	0.35	0.69	1714.3	1714.9
88	338308.813	6648741.172	1752.58	-39.97	2.5	0.81	1.57	1725.4	1727.0
89	338285.865	6648721.148	1779.53	44.25	2.5	0.95	1.82	1748.2	1750.0
90	338279.385	6648748.448	1784.58	-25.65	2.5	0.51	1.01	1757.6	1758.6
91	338262.301	6648734.978	1802.82	-29.88	2.5	0.60	1.17	1775.7	1776.9
92	338238.601	6648731.213	1838.77	38.38	2.5	0.78	1.52	1833.2	1834.7
93	338216.203	6648748.565	1849.51	-63.34	2.5	1.36	2.49	1821.6	1824.1
94	338211.128	6648731.304	1865.59	-58.31	2.5	1.15	2.17	1841.9	1844.0
95	338215.372	6648726.348	1873.74	19.61	2.5	0.39	0.77	1846.5	1847.2
96	338217.644	6648717.047	1883.30	68.46	2.5	1.49	2.89	1854.9	1857.8
97	338212.188	6648717.119	1890.87	51.72	2.5	1.00	1.93	1862.2	1864.1
98	338200.990	6648714.677	1902.18	-36.54	2.5	0.53	1.04	1874.3	1875.3
99	338184.302	6648712.394	1908.88	-24.02	2.5	0.35	0.69	1895.3	1895.9
100	338184.506	6648698.531	1928.43	-65.19	2.5	1.41	2.56	1899.5	1902.0
101	338184.312	6648686.171	1947.00	43.68	2.5	0.89	1.73	1918.3	1920.0
102	338191.847	6648673.163	1954.14	48.96	2.5	0.97	1.84	1925.3	1927.1
103	338179.453	6648663.875	1969.68	-67.83	2.5	1.48	2.87	1940.2	1942.9
104	338180.308	6648657.982	1975.65	68.09	2.5	1.48	2.87	1945.9	1948.8
105	338171.834	6648651.527	1986.45	27.47	2.5	0.55	1.08	1957.4	1958.4
106	338162.254	6648649.580	1996.03	30.30	10.0	2.43	4.76	1985.1	1989.8
107	338145.117	6648654.289	2013.81	41.34	2.5	0.84	1.63	1984.3	1985.9
108	338135.419	6648666.888	2029.79	-25.85	2.5	0.51	1.02	2000.6	2001.6
109	338121.312	6648674.925	2043.98	-13.36	2.5	0.26	0.52	2017.0	2017.5
110	338103.146	6648680.599	2065.01	-14.01	2.5	0.28	0.55	2036.0	2036.6
111	338078.324	6648682.574	2088.91	11.64	2.5	0.23	0.46	2060.0	2060.4
112	338066.546	6648685.233	2099.04	13.80	2.5	0.27	0.54	2070.0	2070.6
113	338054.559	6648688.111	2110.80	41.99	2.5	0.86	1.65	2082.2	2083.8
114	338041.218	6648706.284	2130.80	28.33	2.5	0.57	1.11	2098.4	2099.5
115	338034.540	6648714.417	2140.68	58.32	2.5	1.21	2.31	2113.1	2115.4
116	338017.838	6648734.645	2165.62	-26.59	2.5	0.53	1.04	2137.7	2138.7
117	338029.831	6648741.002	2175.20	-18.54	2.5	0.37	0.73	2146.0	2146.7
118	338021.402	6648741.470	2184.41	-11.83	2.5	0.23	0.47	2155.1	2155.6
119	337984.564	6648751.887	2221.96	-3.30	2.5	0.10	0.21	2193.0	2193.2
120	337958.150	6648754.959	2248.58	-29.64	2.5	0.59	1.16	2219.1	2220.3
121	337950.521	6648750.175	2258.70	-13.67	2.5	0.27	0.54	2227.8	2228.3
122	337943.171	6648747.519	2265.40	20.56	2.5	0.41	0.81	2234.7	2235.5
123	337934.377	6648745.499	2273.84	29.14	2.5	0.58	1.14	2244.4	2245.5
124	337919.877	6648748.857	2289.50	22.89	2.5	0.45	0.90	2260.1	2261.0
125	337872.038	6648779.772	2348.29	-11.20	2.5	0.22	0.44	2317.2	2317.6
126	337860.052	6648784.856	2359.36	-12.18	2.5	0.24	0.48	2330.3	2330.8
127	337848.151	6648787.361	2371.47	-23.44	2.5	0.47	0.92	2342.1	2343.0
128	337811.142	6648781.394	2408.96	-75.57	10.0	6.75	11.87	2373.3	2385.2
129	337806.803	6648762.346	2428.50	181.69	2.5	17.26	7.13	2360.7	2367.8

CUADRO DE SECCIONES

TRAMO Km	SECCION b(m)	SECCION H(m)	OBS.
0.000 – 0.130	2.00	1.20	
0.130 – 1.175	0.45	0.45	
1.175 – 2.100	0.40	0.40	
2.100 – 2.635	0.40	0.45	

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100



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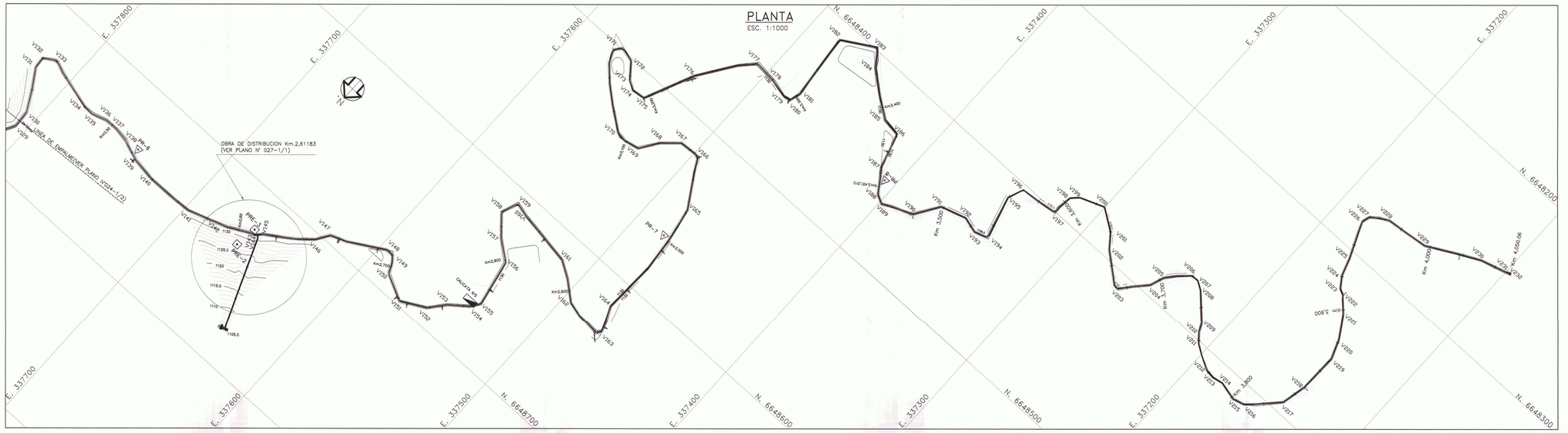
UNIFICACION FARELLONES–CANAL FARELLONES

PLANTA
ESC. 1:1000



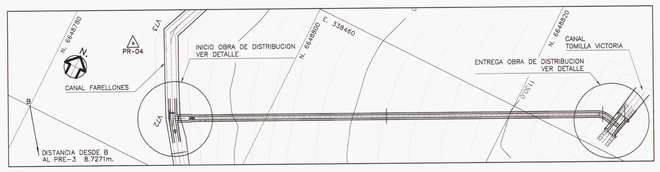
PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

CALICATA N°5
Km 2,76475
0.50 SUELO DE COBERTURA VEGETAL.
ROCA SURA.

| | | |

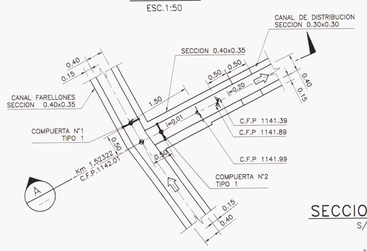
OBRA DE DISTRIBUCION–CANAL FARELLONES Km 1,52322

PLANTA
ESC.1:200



INICIO OBRA DE DISTRIBUCION

PLANTA
ESC.1:50



ENTREGA OBRA DE DISTRIBUCION

PLANTA
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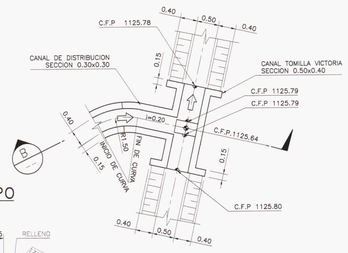
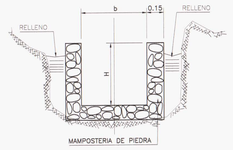


SECCION TIPO
S/E



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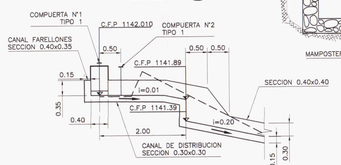

SECCION B
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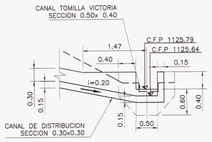

PERFIL LONGITUDINAL
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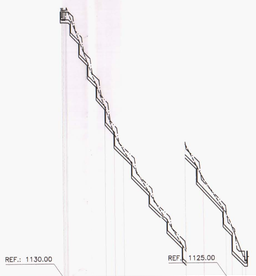
ESC.V=1:100



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