


LEYENDA	
C	Subcuenca
N	Nudo
L	Conducto
D	Vertido
LLUVIA1	Estación pluviométrica

Cuadro Informativo					
Sector	Área	Cantidad de subcuencas	Cantidad de nudos	Cantidad de conductos	Cantidad de vertidos
DJA	5.190799503 Km ²	84	35	69	1
DJB	15.691885106 Km ²	58	38	77	1
DJC	7.910403575 Km ²	119	55	111	1
DJD	15.582373387 Km ²	171	86	171	3
Total	44.375461571 Km²	432	214	428	6

	UNIVERSIDAD NACIONAL DEL ALTIPLANO – PUNO	M-01
	Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM Plano: MAPA DE DEL MODELO DE SIMULACIÓN SWMM	
Escala: Sin escala Dibujo: PDRN-VHP Ubicación: San Román-Puno Fecha: Octubre del 2016	Lámina N°: 1 de 1	

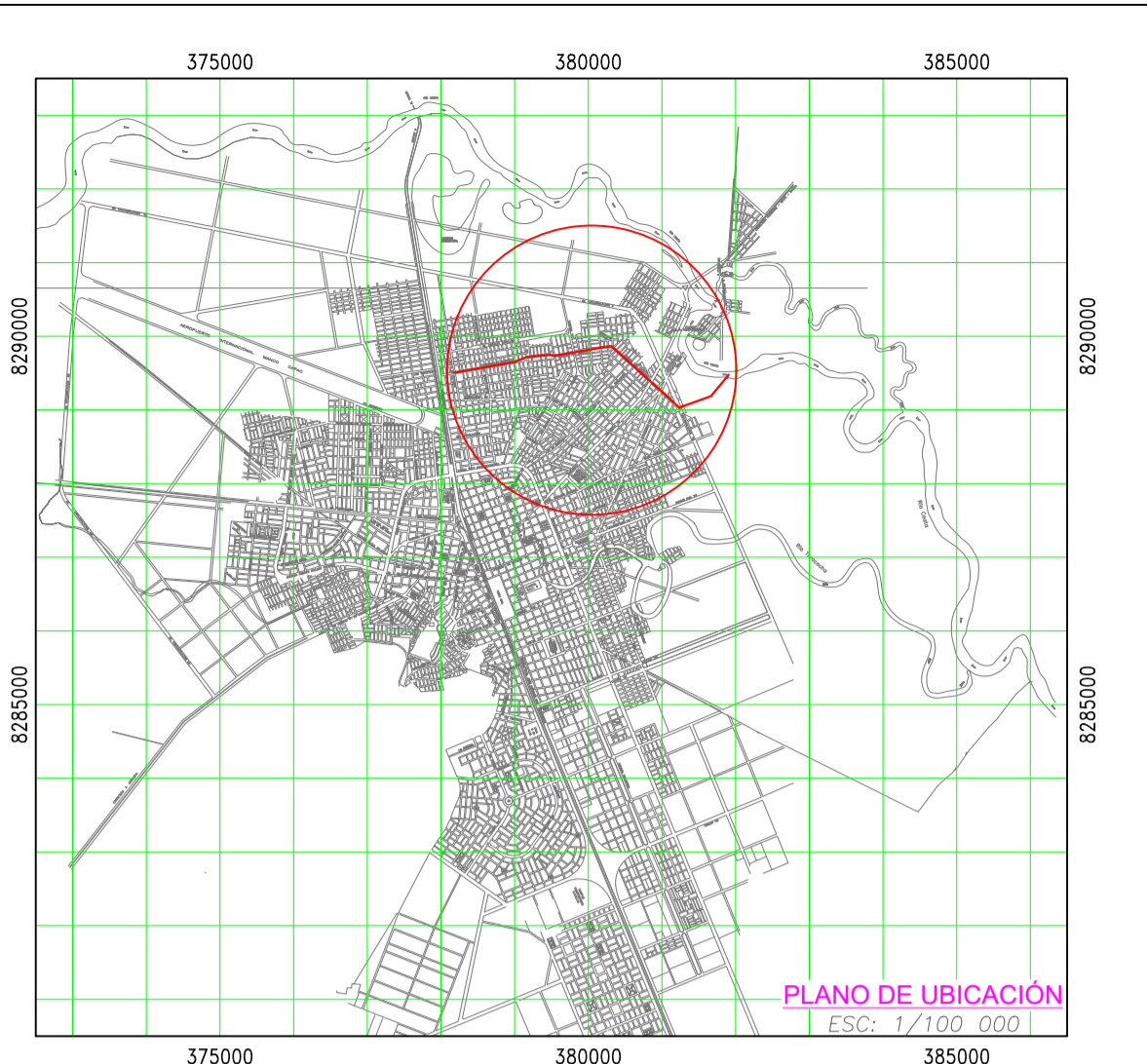
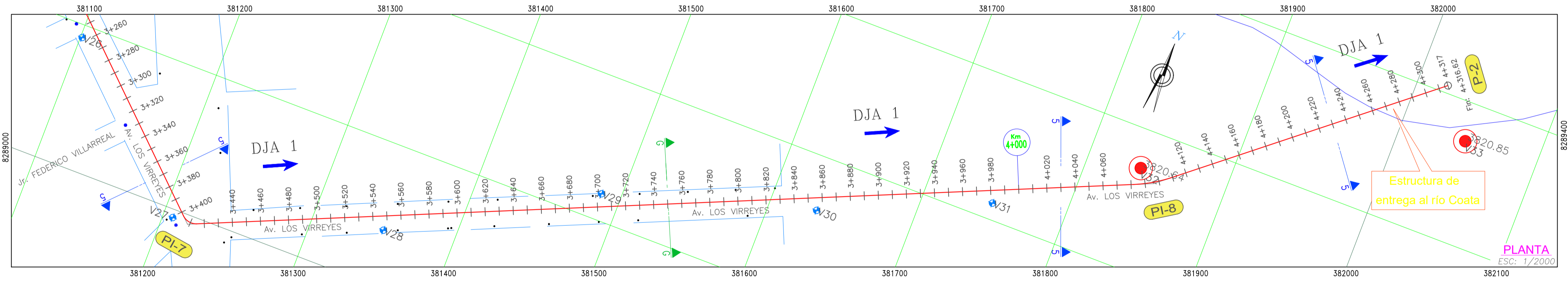
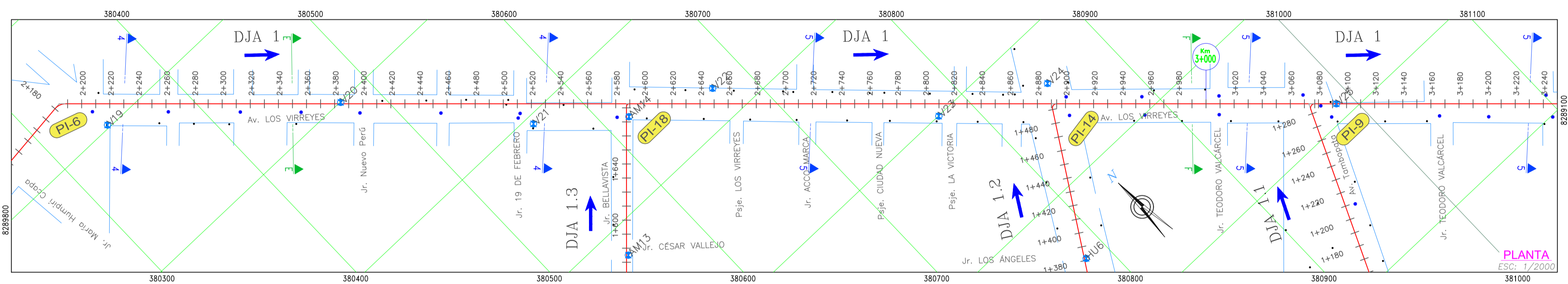
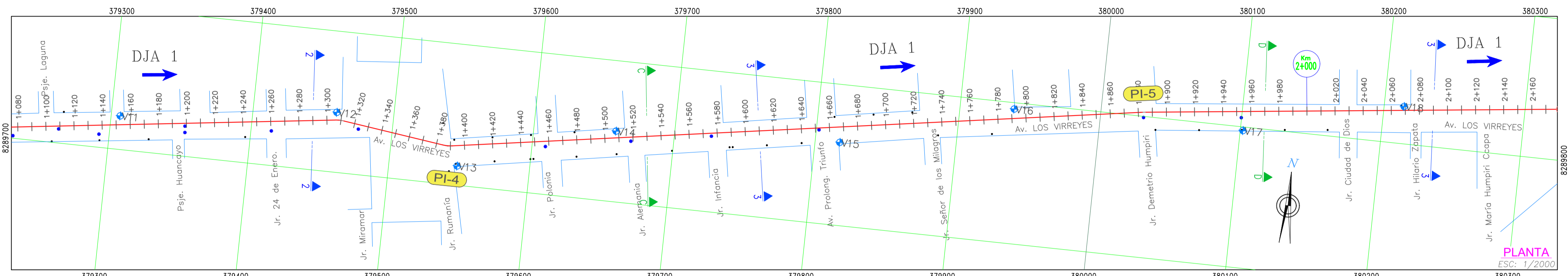
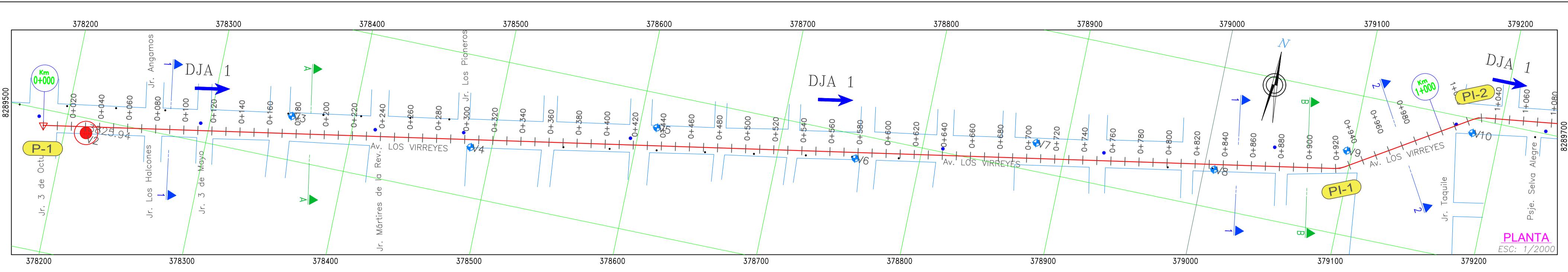


TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJA 1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-1	I	25	4.903	9.684	0+918.03	0+922.93	0+927.71	37890.820	8289512.358
P-2	D	25	5.481	10.791	1+022.50	1+027.38	1+032.26	37903.820	8289445.991
P-3	D	25	3.253	6.470	1+305.77	1+309.02	1+312.24	37941.953	8289737.336
P-4	I	25	3.596	7.143	1+384.35	1+387.85	1+391.50	37956.235	8289726.955
P-5	D	100	2.070	4.140	1+881.26	1+883.53	1+885.80	38009.885	8289802.891
P-6	D	10	4.854	9.712	2+175.94	2+184.00	2+192.06	38029.171	8289835.892
P-7	I	15	6.558	13.115	3+452.39	3+459.58	3+464.74	38118.615	8289903.517
P-8	I	100	14.079	27.975	4+081.79	4+095.67	4+109.77	38185.411	8289905.404
P-9	I	100	14.079	27.975	4+081.79	4+095.67	4+109.77	38201.347	8289405.376

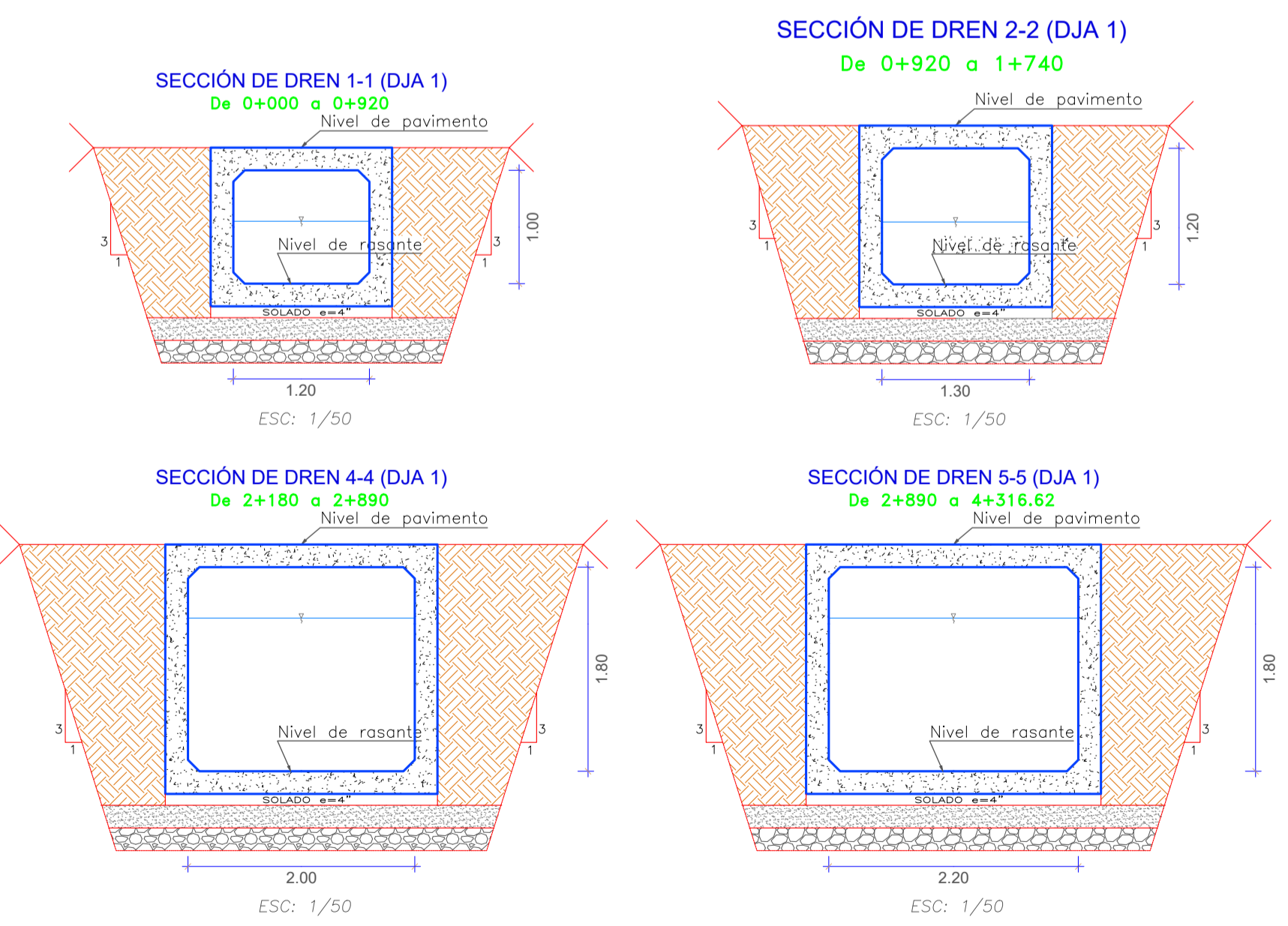
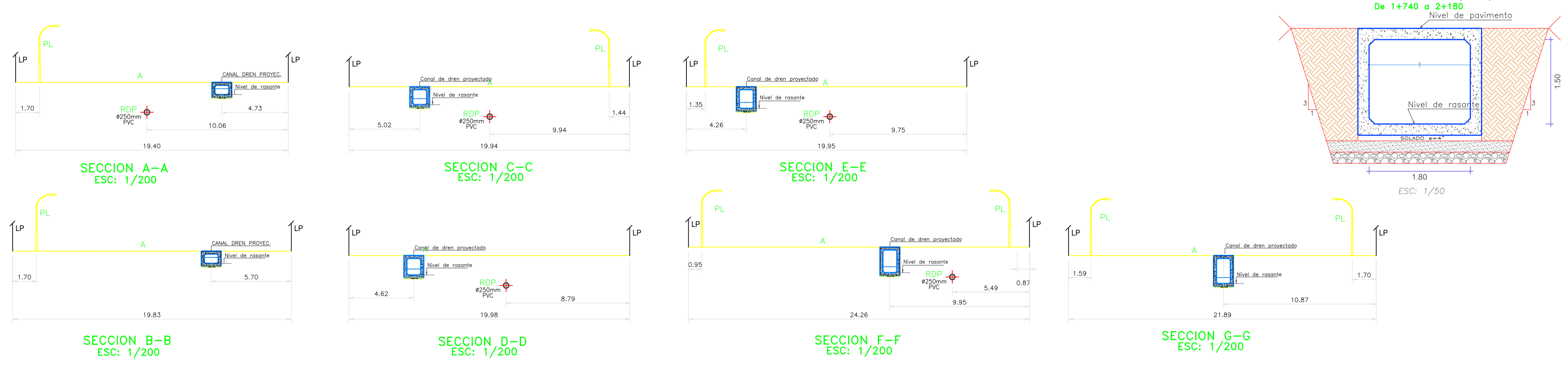
- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 19S) - DJA 1

Punto	Este	Norte	Elevación
VV1	378092.034	8289486.244	3825.846
VV2	378215.233	8289489.574	3825.936
V3	378356.256	8289531.055	3824.098
V4	378485.163	8289535.246	3824.044
V5	378612.178	8289575.770	3823.958
V6	378754.894	8289583.018	3823.976
V7	378878.793	8289620.064	3823.626
V8	379006.418	8289627.214	3823.967
V9	379096.216	8289659.574	3823.546
V10	379181.081	8289689.989	3823.679
V11	379306.414	8289723.807	3823.522
V12	379459.426	8289742.493	3823.221
V13	379548.523	8289713.637	3822.975
V14	379658.389	8289750.145	3822.864
V15	379817.497	8289758.880	3822.744
V16	379938.459	8289795.498	3822.854
V17	380101.888	8289797.391	3822.374

Coordenadas UTM WGS-84 (Zona 19S) - DJA 1

Punto	Este	Norte	Elevación
V18	380214.144	8289826.439	3822.389
V19	380343.732	8289802.021	3822.306
V20	380475.220	8289899.616	3822.604
V21	380564.248	8289954.142	3822.506
V22	380675.001	8289925.808	3822.648
V23	380777.347	8289939.717	3822.629
V24	380849.522	8289963.411	3822.751
V25	380988.717	8289921.470	3822.164
V26	381101.196	8289991.113	3821.634
V27	381207.075	8289994.178	3821.424
V28	381350.341	8289939.182	3821.529
V29	381486.029	8289919.085	3821.519
V30	381633.317	8289922.206	3821.612
V31	381748.375	8289921.620	3821.936
V32	381838.136	8289922.547	3820.645
V33	382046.995	8289932.703	3820.848





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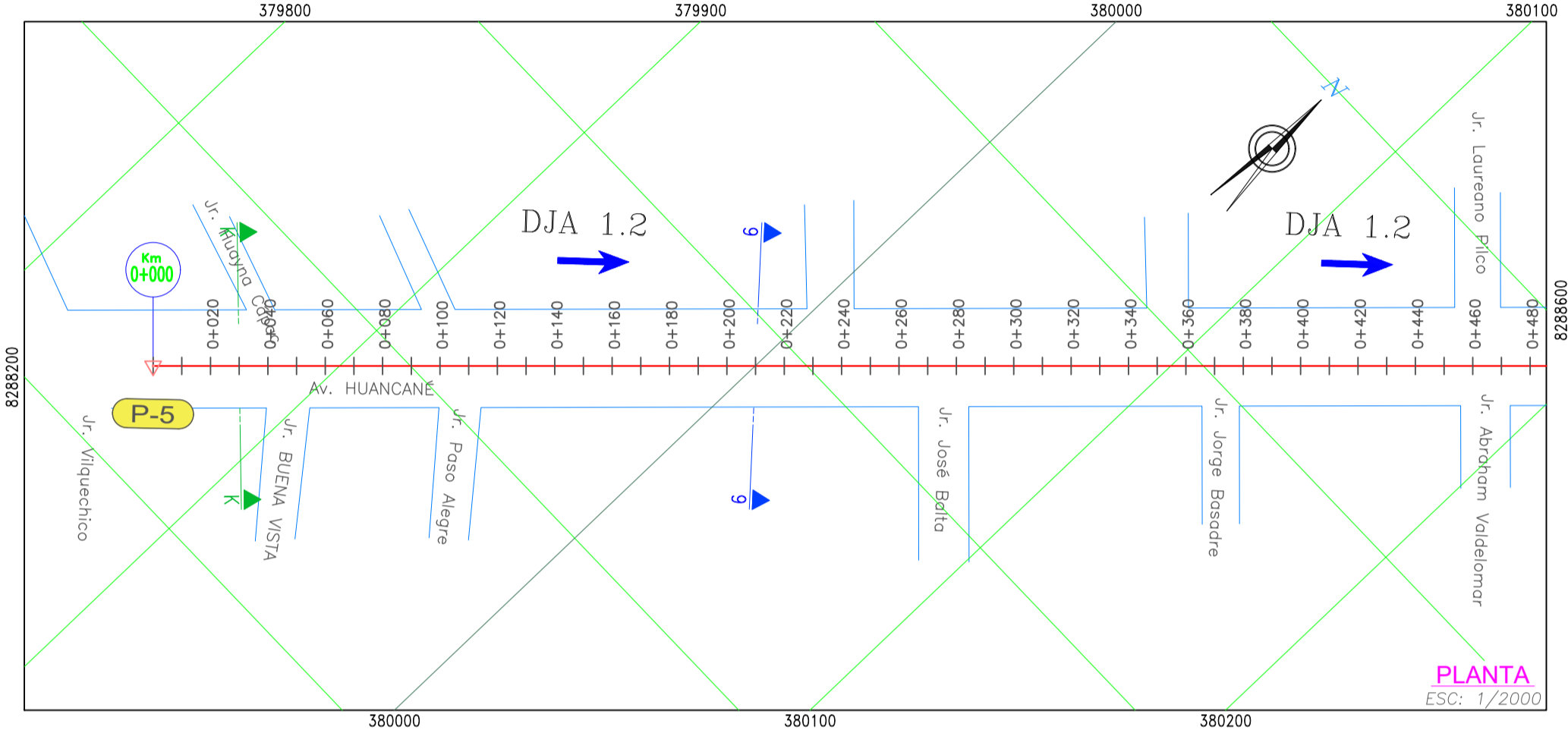
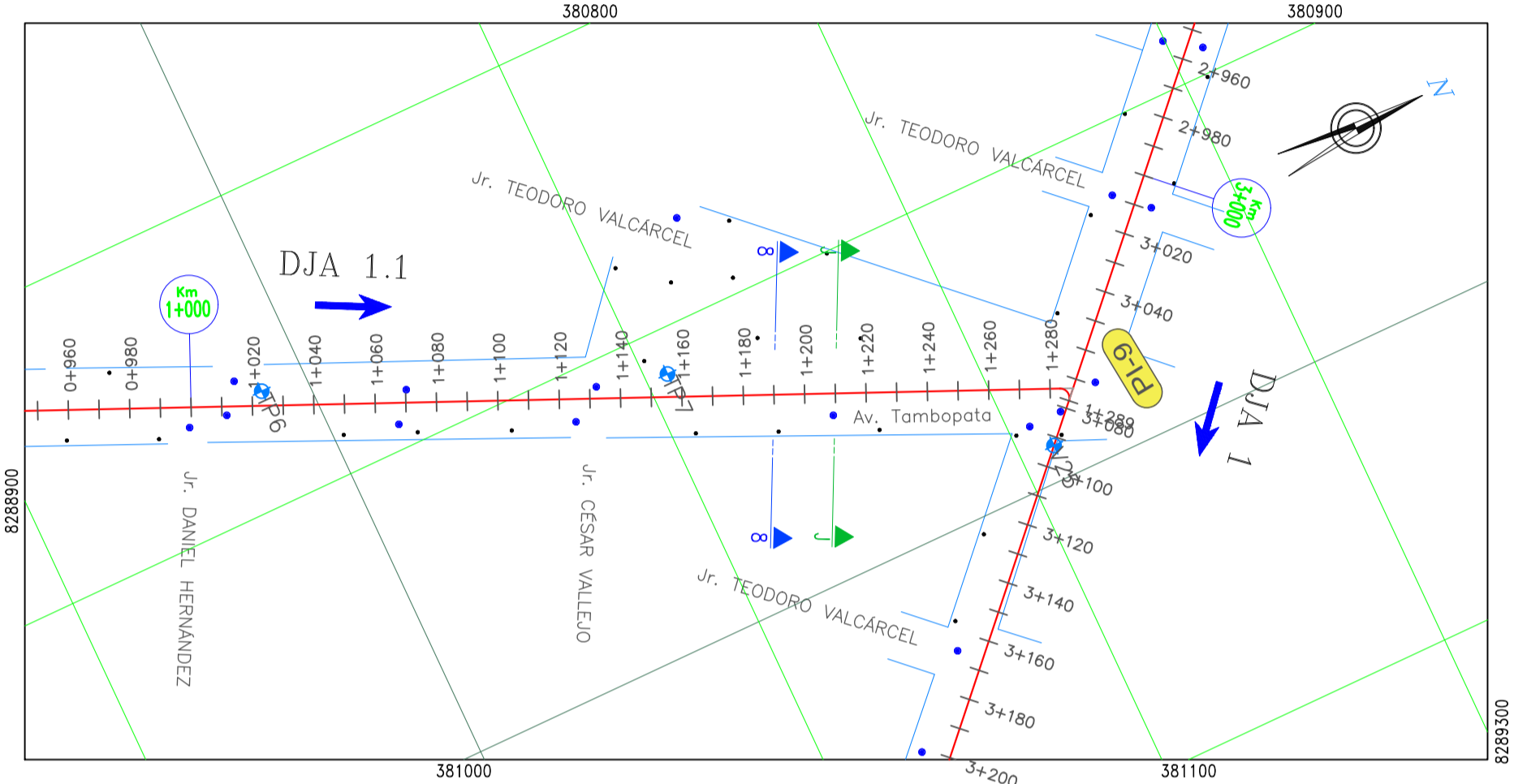
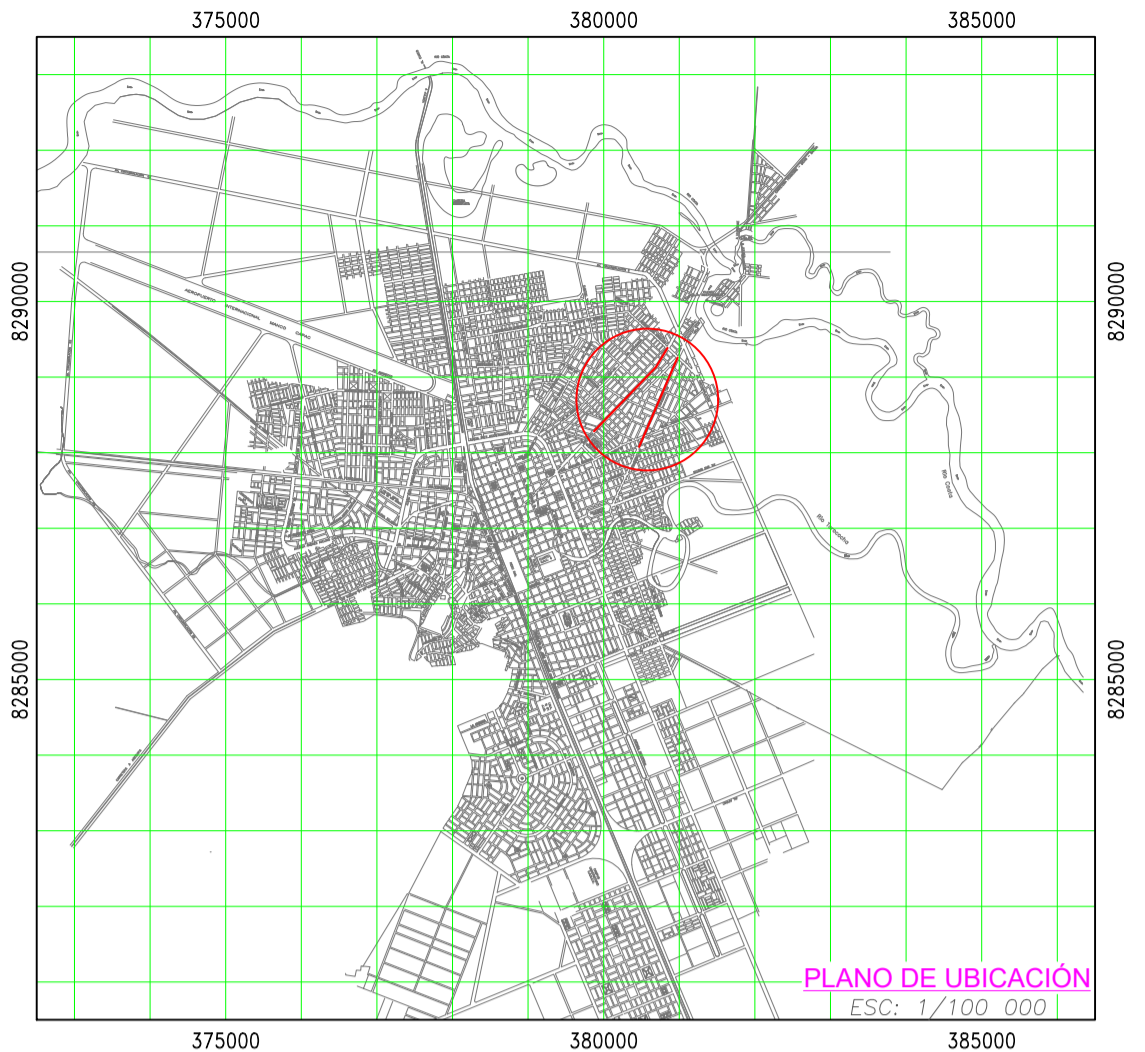
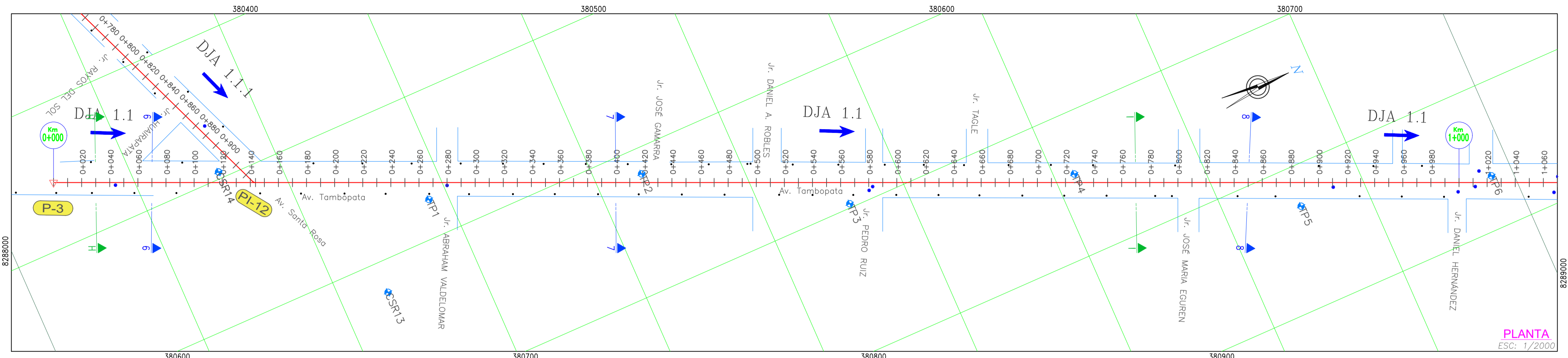
Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJA 1

Escala: Indicada | Dibujo: PORN - WHP | Ubicación: San Román - Puno | Fecha: Octubre del 2016

PS-01

Lámina N° 1 de 18

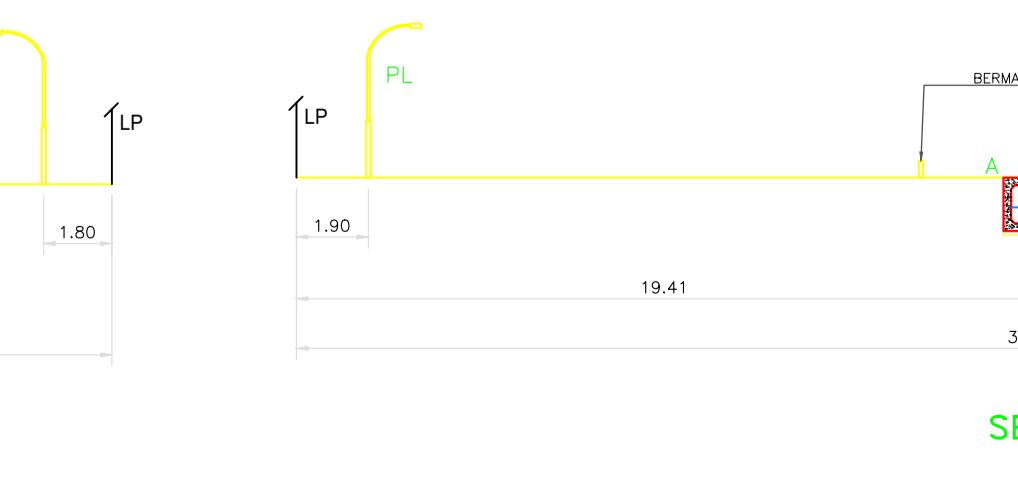
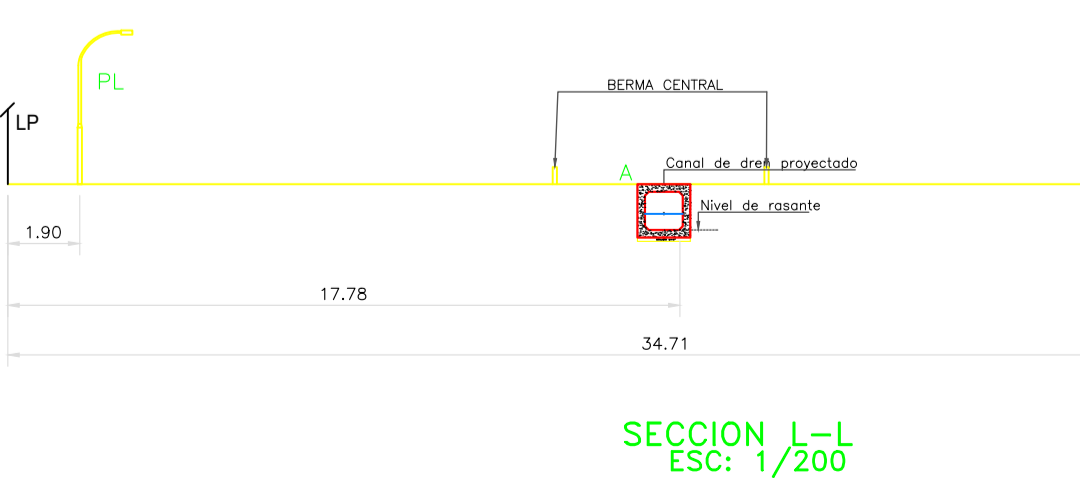
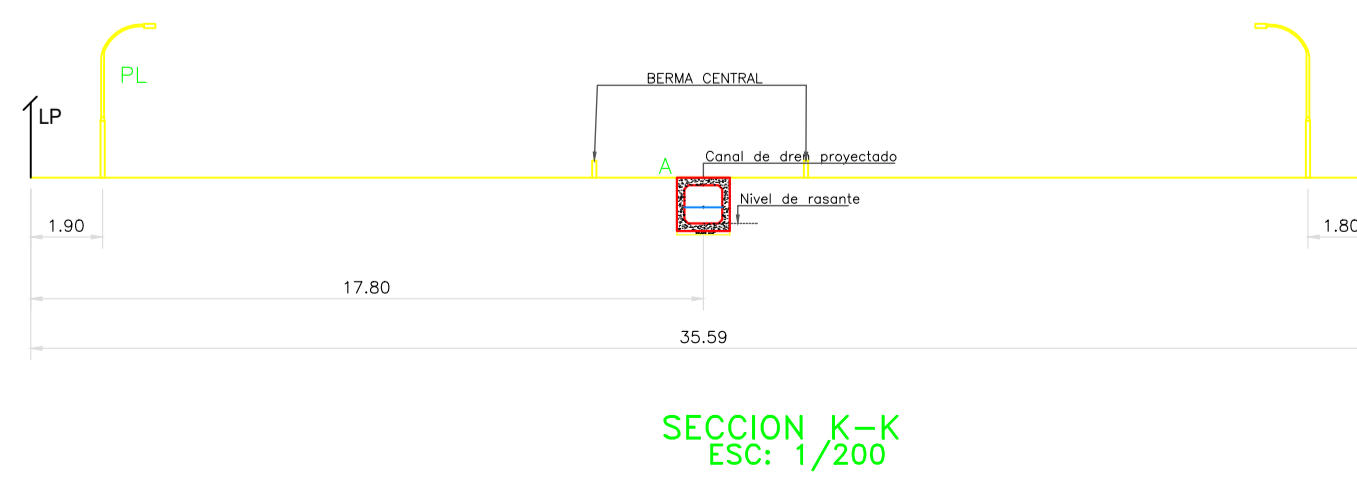
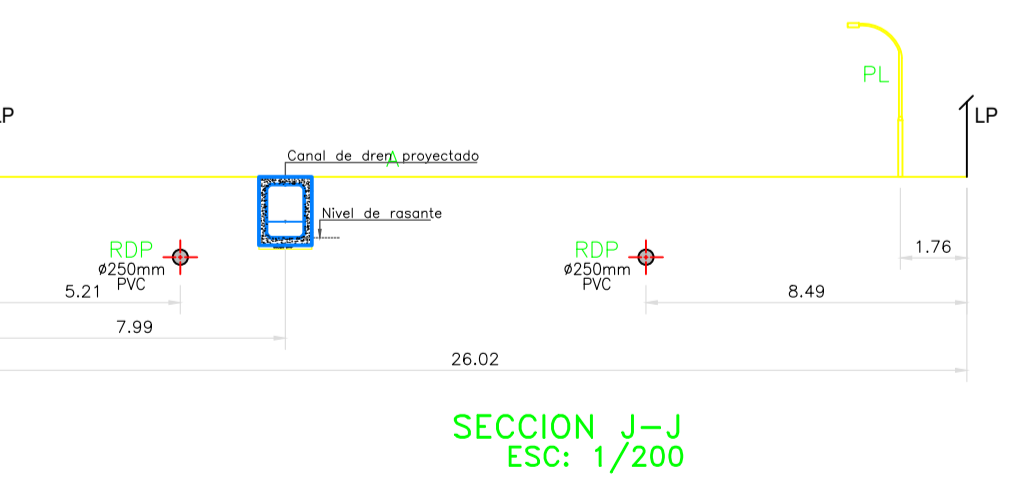
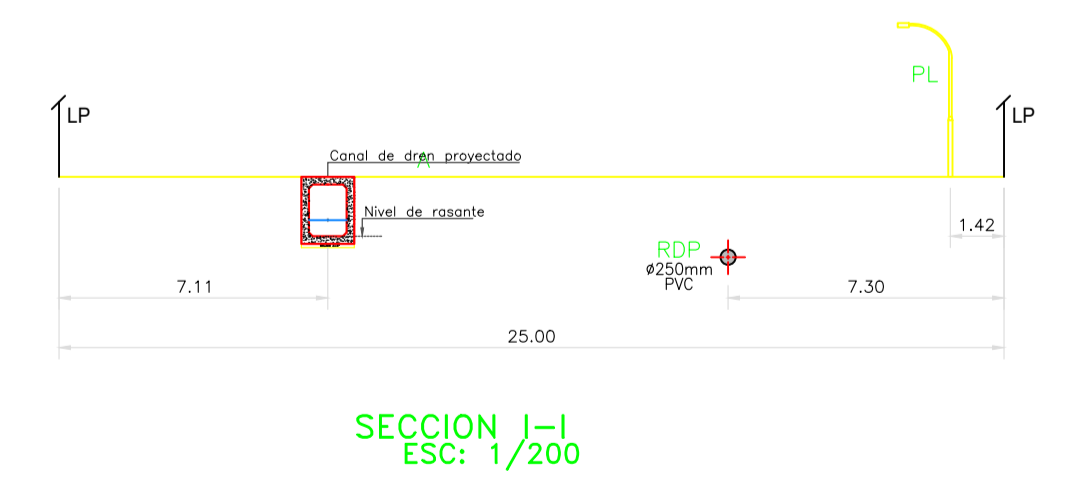
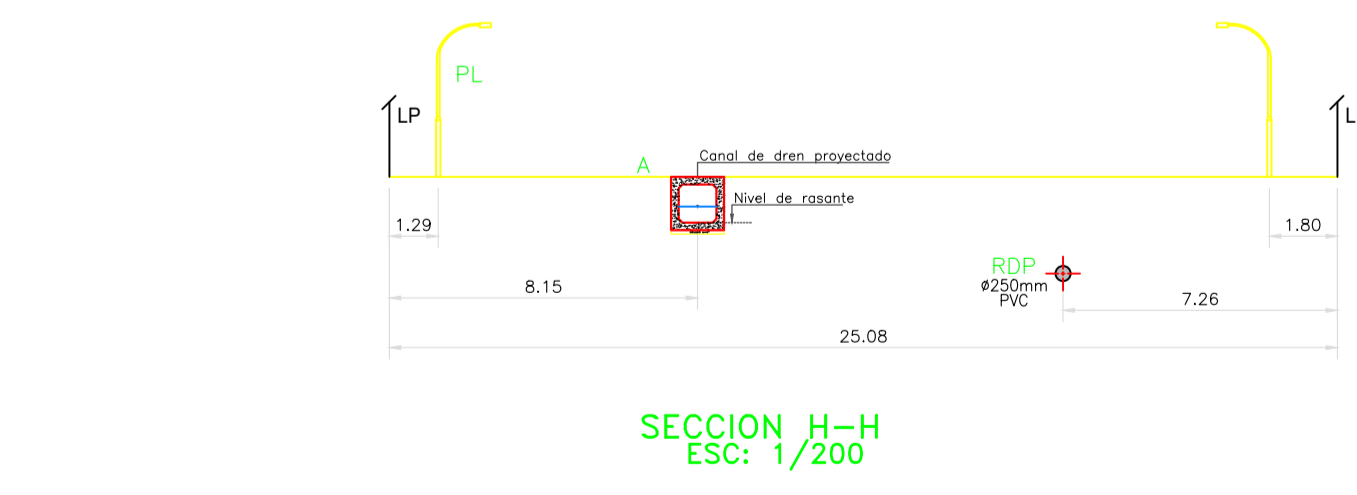
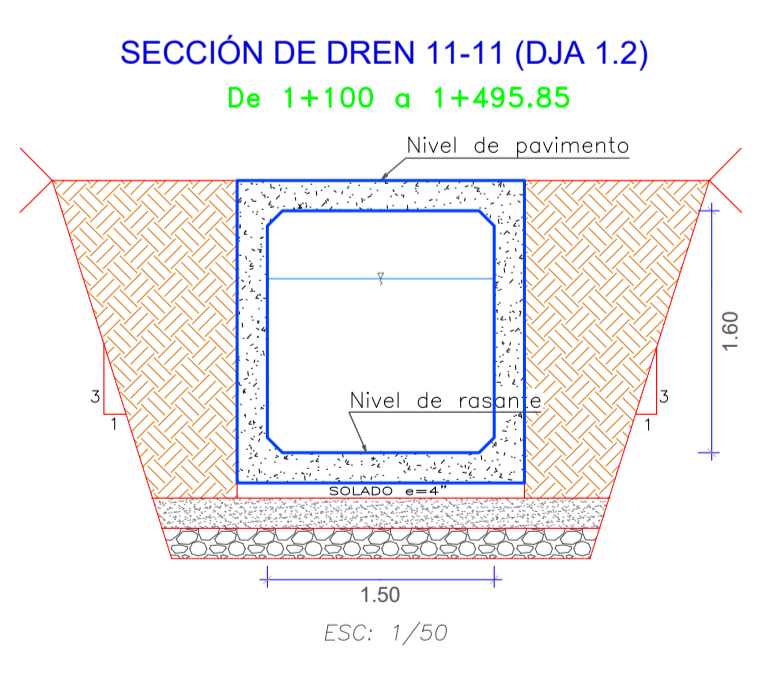
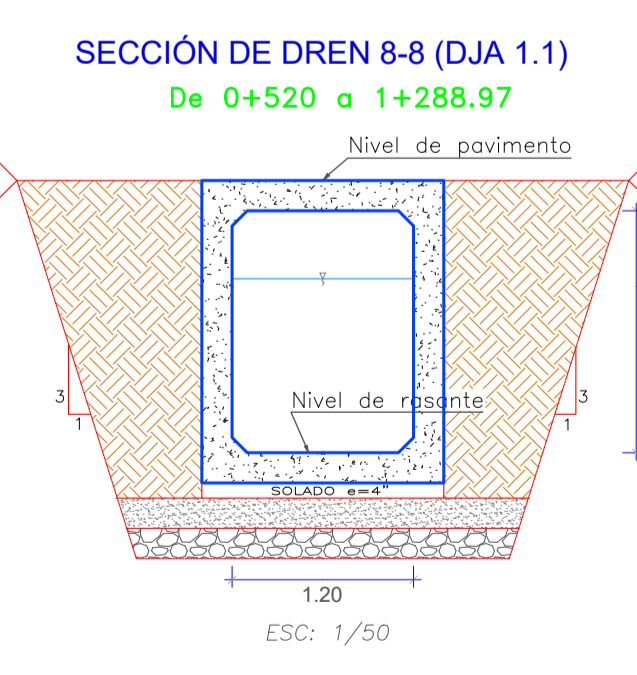
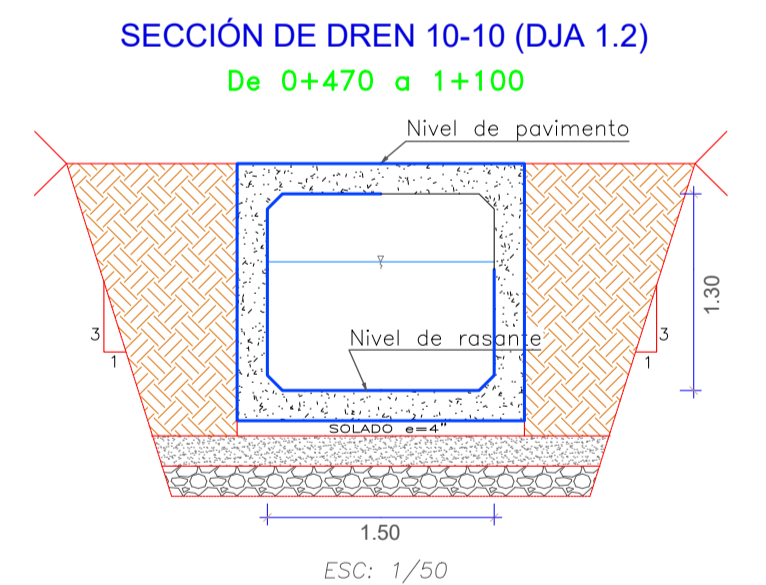
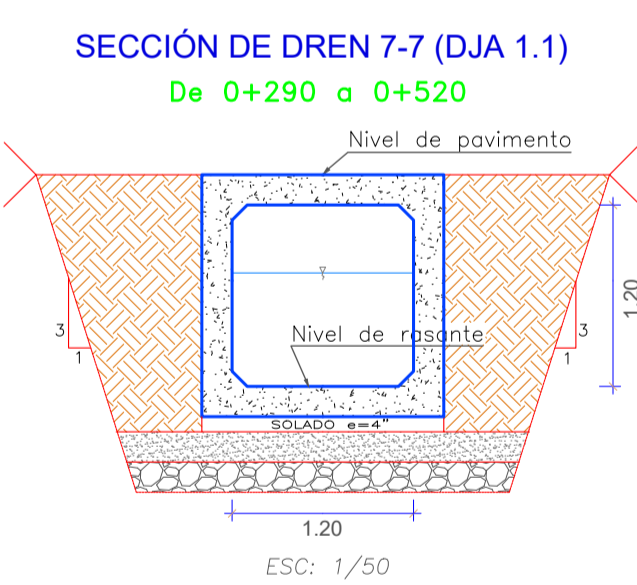
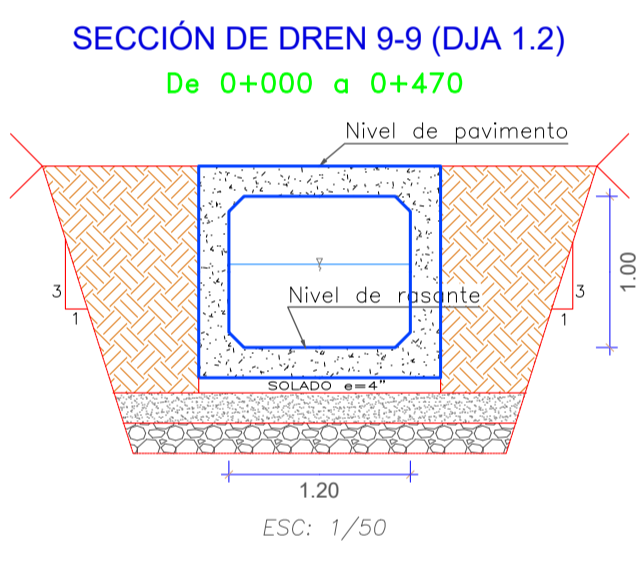
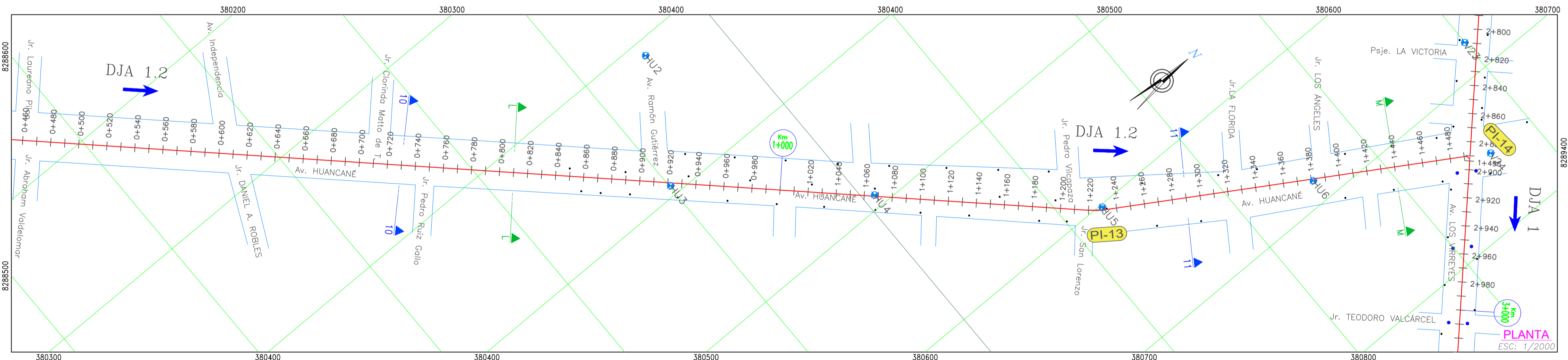


Legenda

- Límite de propiedad
- Carretera
- Ferrocarril
- Dren del proyecto
- BM geodésico
- BM (punto de control)
- Buzón de desague
- Poste de energía eléctrica
- Árboles

Coordenadas UTM WGS-84 (Zona 18E) - DJA 1.1 - DJA 1.2

Punto	Este	Norte	Elevación
CSR15	380027.511	8288113.520	3822.607
CSR14	380495.258	8288157.500	3822.334
TP1	380575.084	8288284.116	3822.408
TP2	380617.960	8288432.328	3822.456
TP3	380697.195	8288559.301	3822.544
TP4	380742.309	8288713.959	3822.483
TP5	380828.430	8288852.420	3822.115
TP6	380863.370	8288985.042	3821.916
TP7	380914.251	8289107.220	3821.870
V25	380888.717	8289211.470	3822.164
V26	381101.196	8289091.113	3821.634
AM11	380331.559	8289249.080	3822.489
AM10	380208.459	8289134.160	3822.621
HU1	380295.692	8289079.378	3822.729
HU2	380410.661	828946.626	3822.613
HU3	380493.124	8289900.943	3822.702
HU4	380591.210	8289008.035	3822.526
HU5	380701.771	8289126.719	3822.557
HU6	380783.687	8289254.004	3822.615
V24	380849.542	8289363.411	3822.751
V23	380777.347	8289399.717	3822.629



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DRENS DJA 1.1 - DJA 1.2

Escala: Indicada | Dibujo: PCRN - VHP | Ubicación: San Román - Puno | Fecha: Octubre del 2016

PS-02

Lámina N° 2 de 18

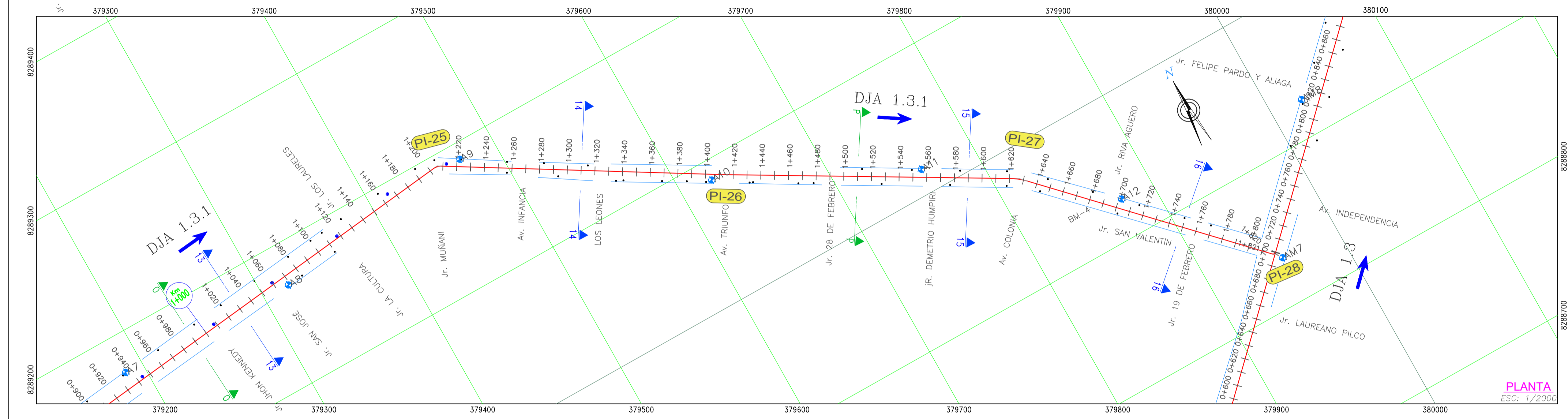
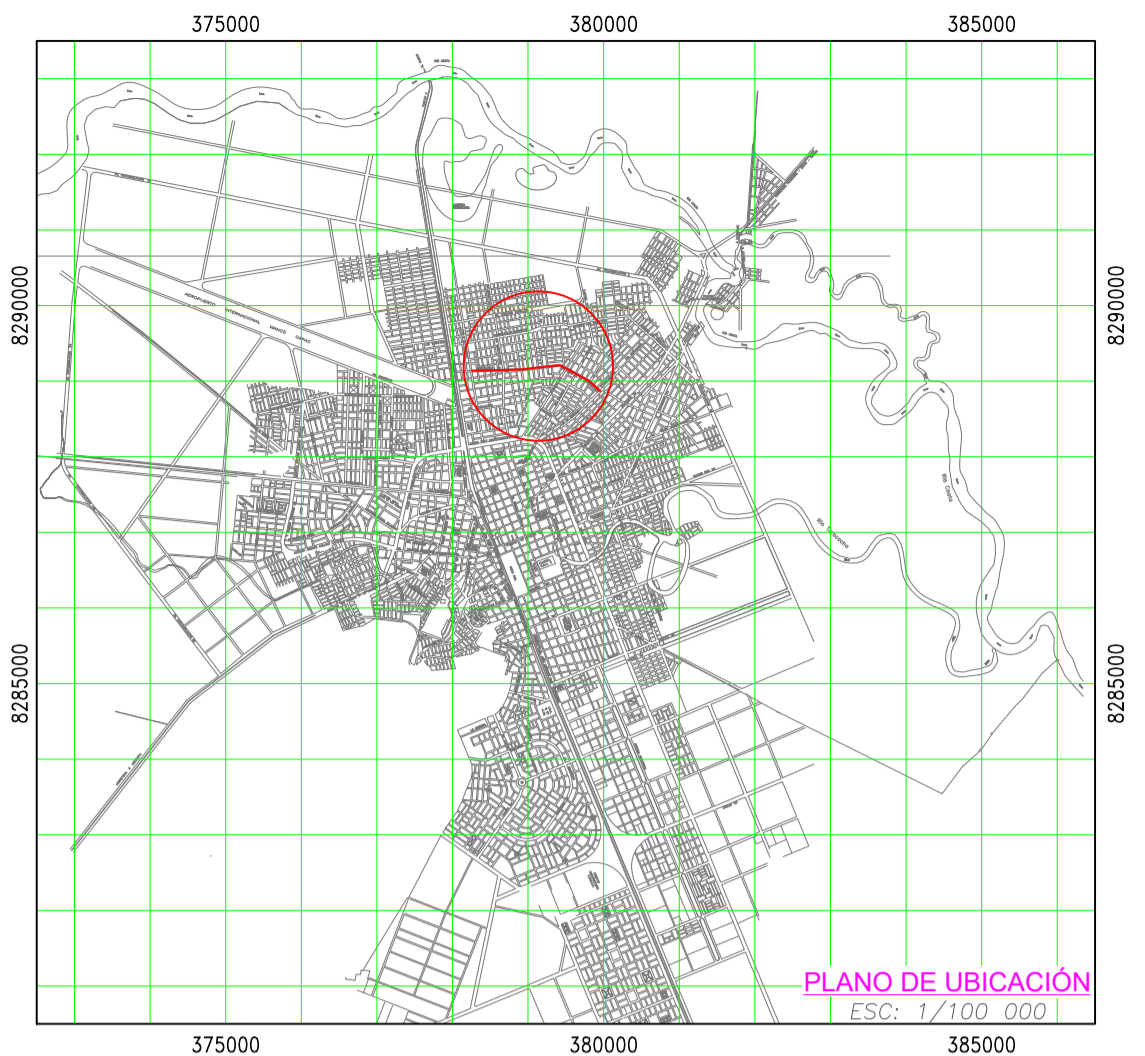
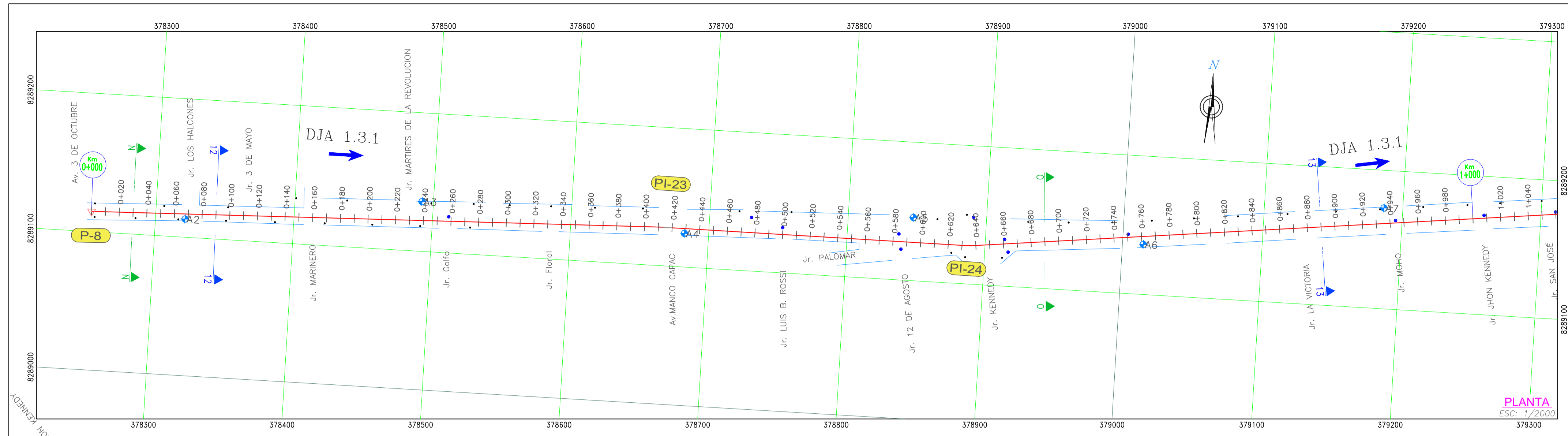


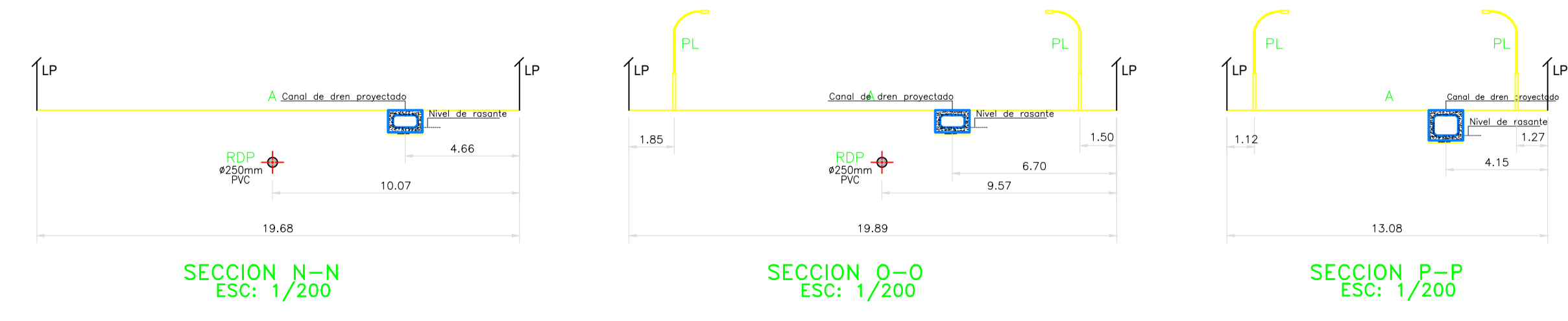
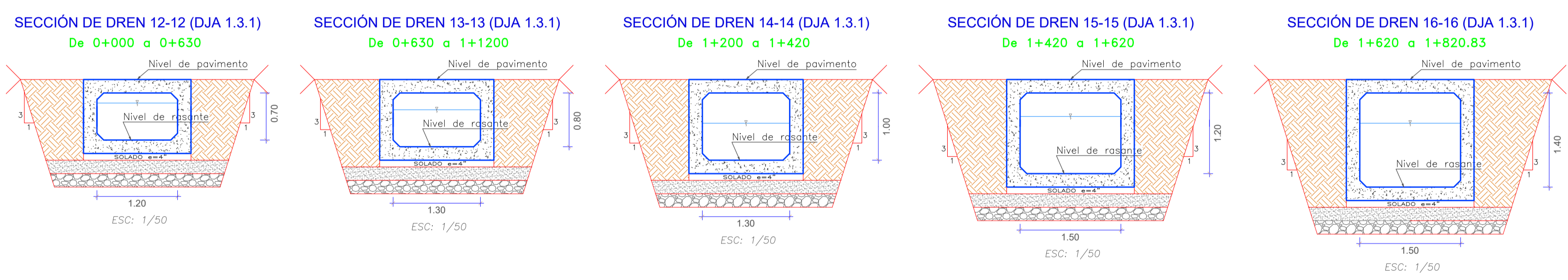
TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJA 1.3.1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-8	D	500	8.201	16.400	0+403.54	0+411.74	0+419.94	379523.589	8289114.650
PI-23	D	100	5.704	11.596	0+429.73	0+435.44	0+441.13	378888.816	8289127.660
PI-24	D	10	3.459	6.559	1+202.59	1+206.00	1+209.16	379455.739	8289162.130
PI-25	I	500	4.125	8.250	1+406.67	1+412.79	1+416.92	379432.924	8289085.031
PI-26	D	50	8.934	13.780	1+619.94	1+626.87	1+633.72	379817.338	8288977.329
PI-27	I	2	2.021	3.163	1+817.66	1+819.68	1+820.82	379951.943	8288838.579

- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 18E) - DJA 1.1 - DJA 1.3

Punto	Este	Norte	Elevación
CC29	379032.757	828977.945	3824.819
CC28	379045.757	8289114.180	3824.077
A1	379179.559	8289108.170	3824.156
A2	379321.355	8289113.157	3823.878
A3	379491.710	8289136.184	3823.833
A4	379675.226	8289123.940	3824.217
A5	379847.096	8289145.637	3823.405
A6	379914.190	8289136.155	3823.222
A7	379186.338	8289172.816	3823.074
A8	379319.924	8289170.049	3823.062
A9	379473.689	8289189.867	3823.116
A10	379623.822	8289085.704	3823.157
A11	379761.540	8289019.157	3822.986
A12	379876.641	8288929.753	3822.832
AM7	379955.901	8288833.884	3822.661
AMB	380023.876	8288926.803	3822.773



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJA 1.3.1

Escala: Indicada Dibujo: PCRN - VHP Ubicación: San Román - Puno Fecha: Octubre del 2016

PS-03

Lámina N° 3 de 18

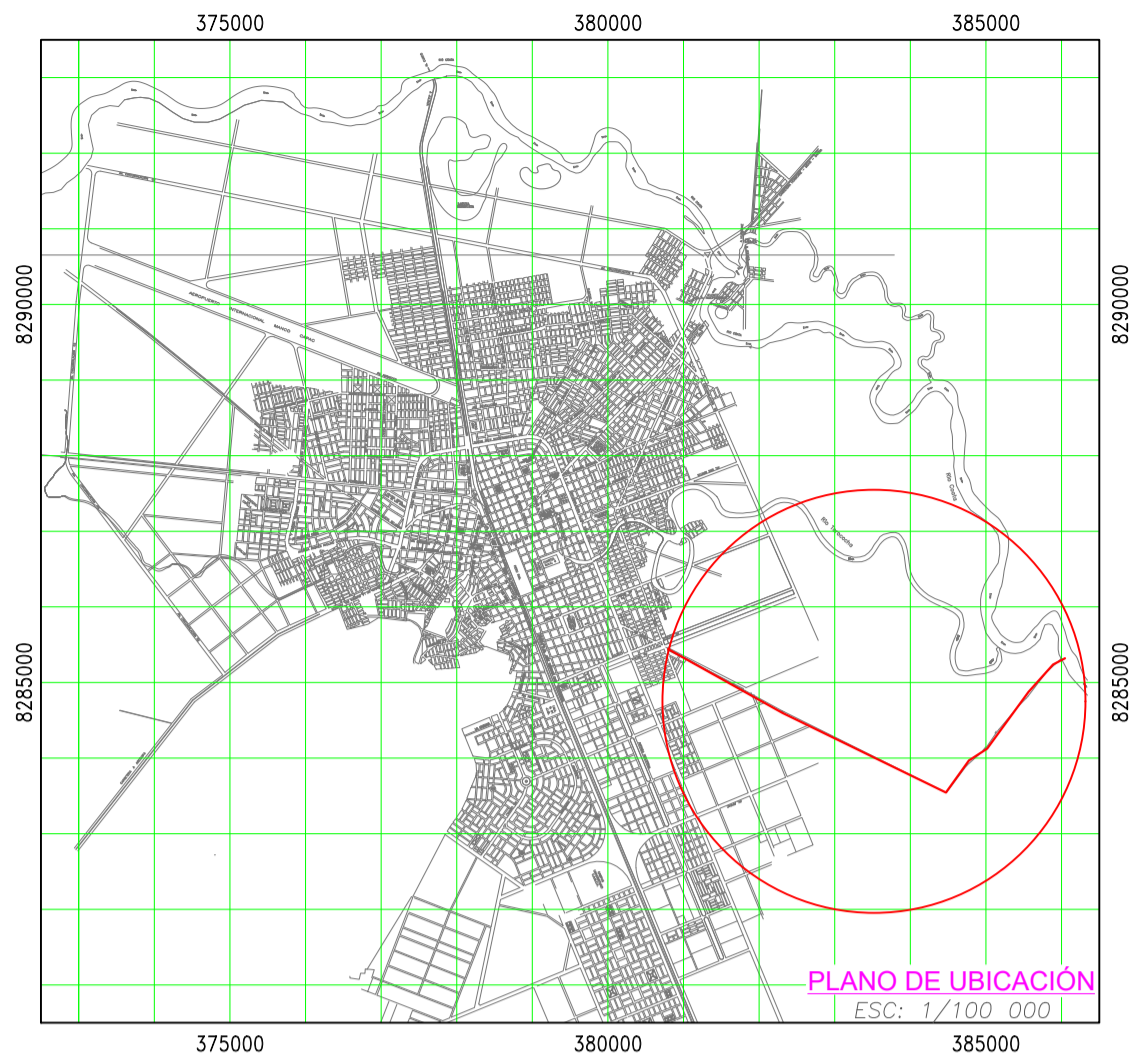
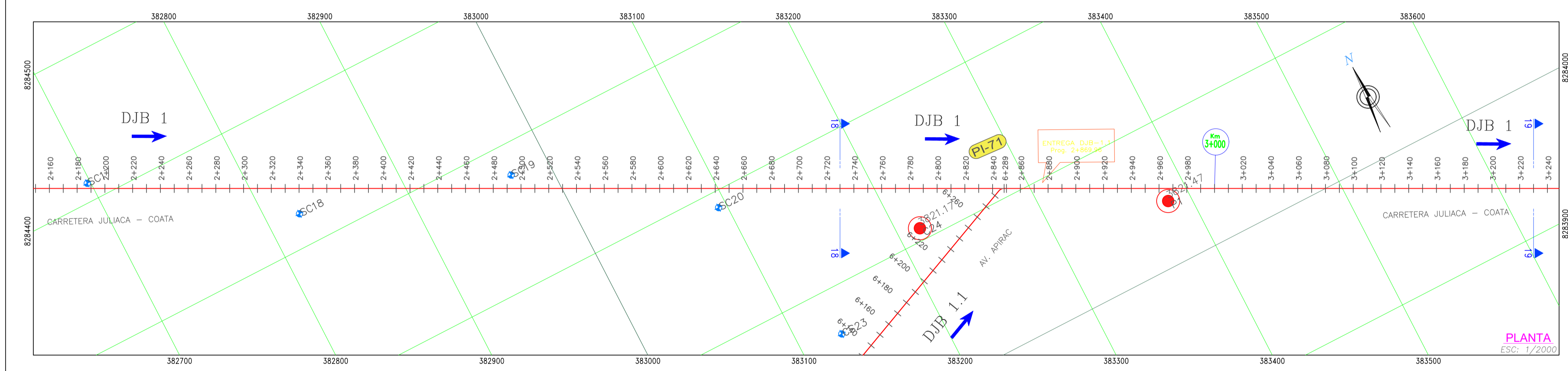
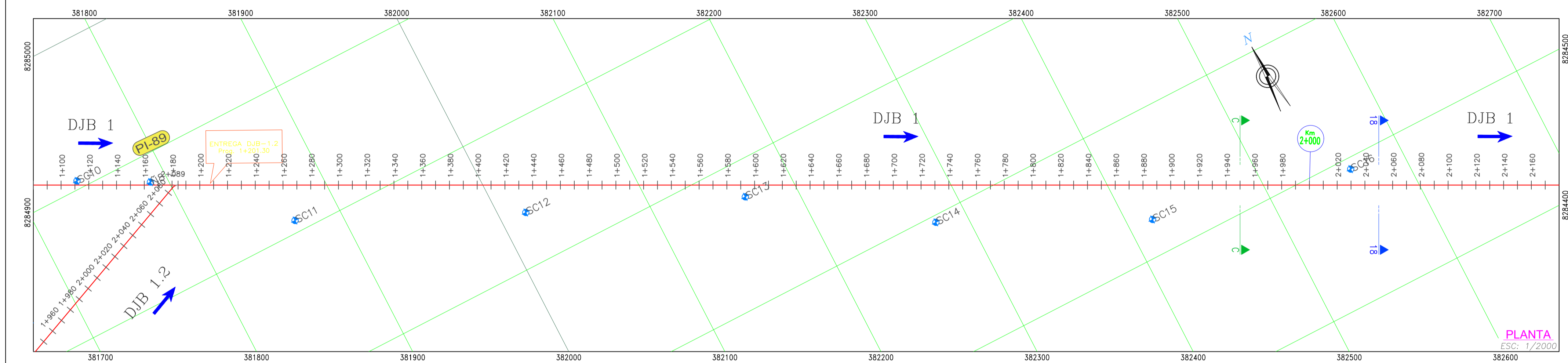
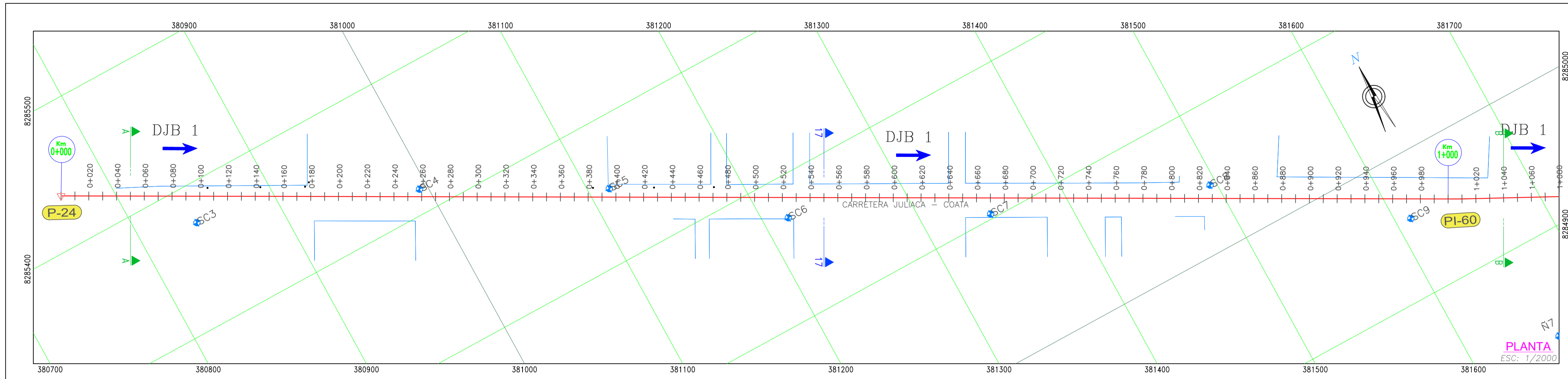
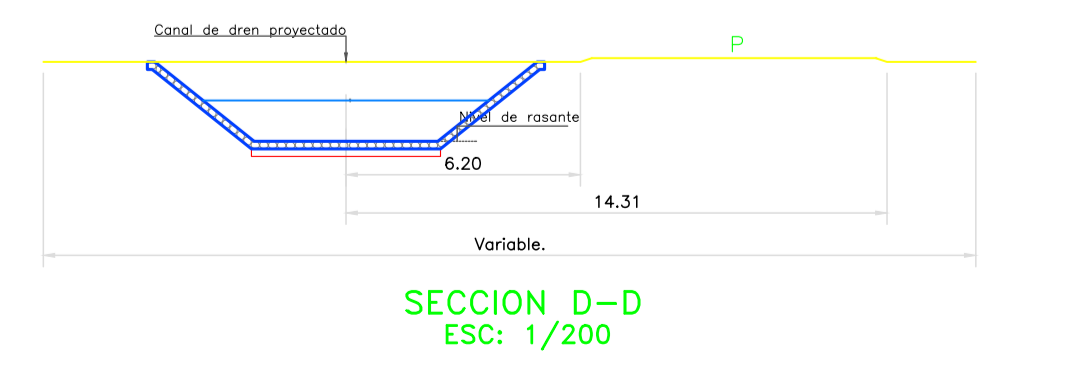
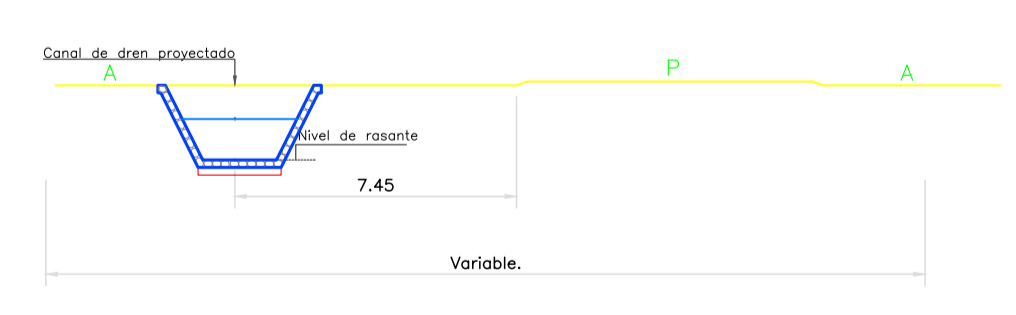
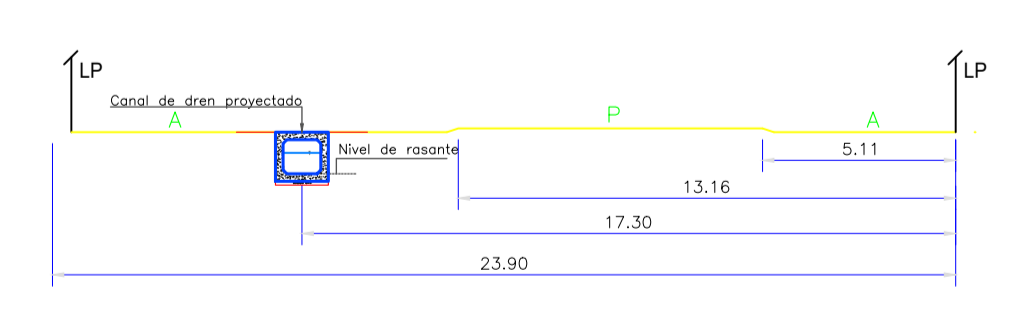
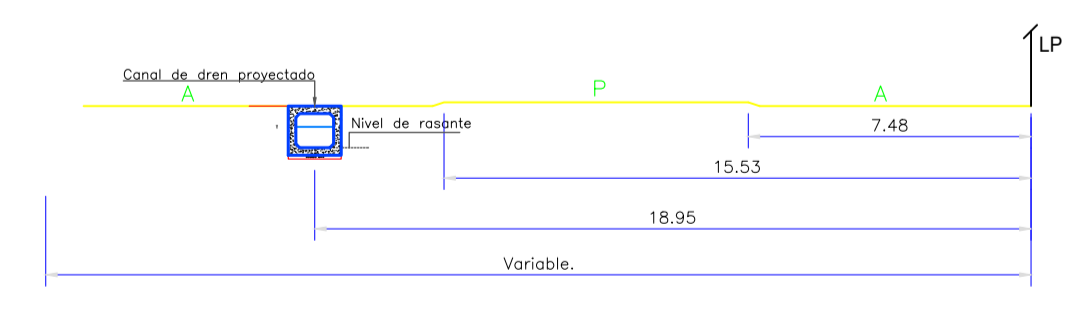
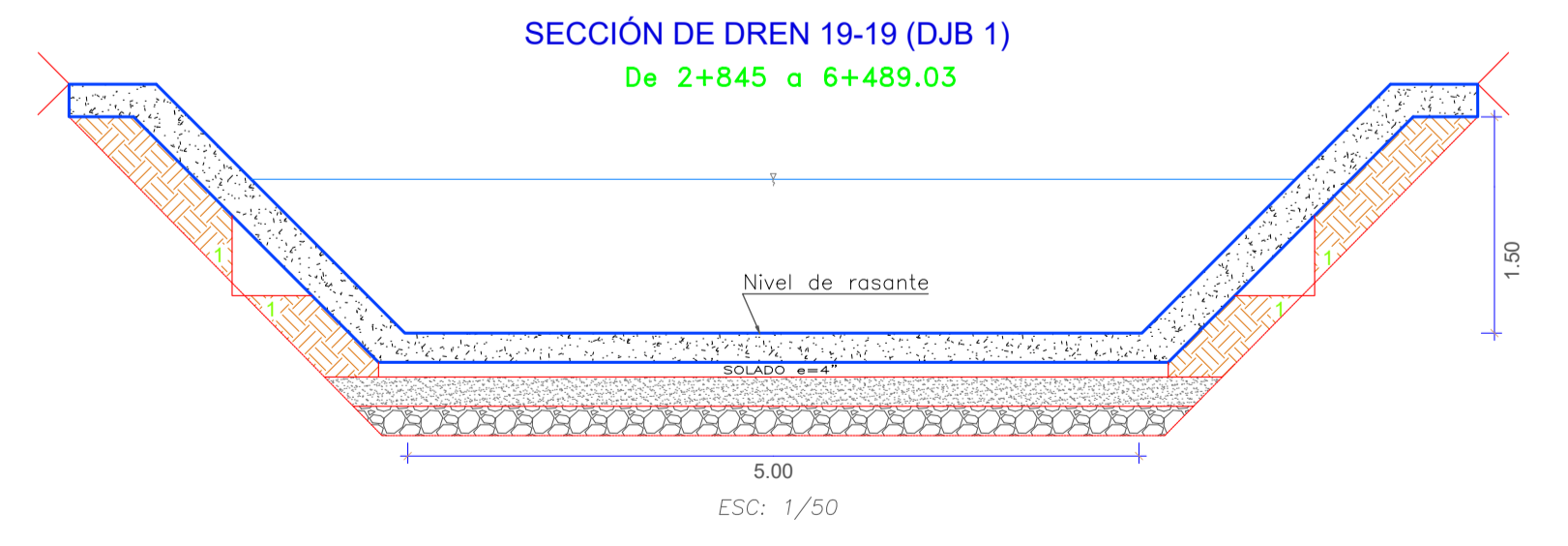
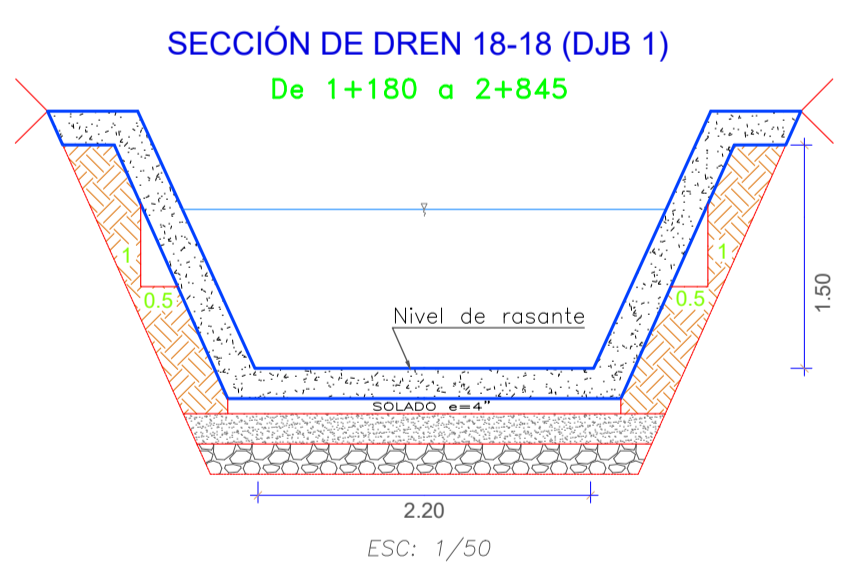
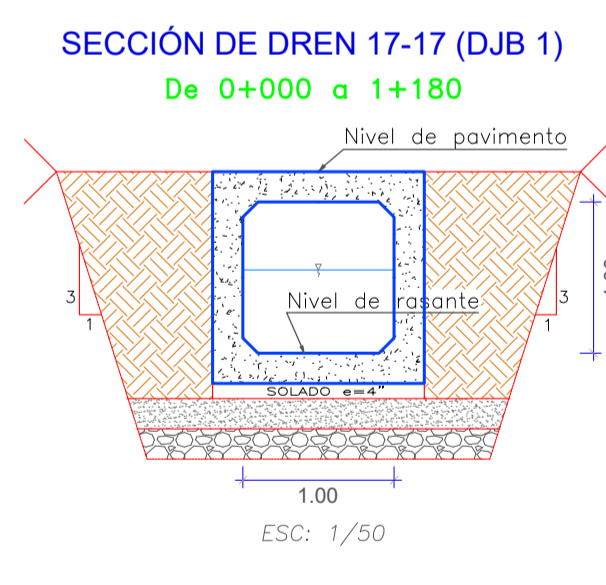


Tabla de Elementos de Curva y Coordenadas - DJB 1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-24	I	500	6.649	13.297	1+002.31	1+008.96	1+015.61	380765.074	828536.817
PI-61	I	50	34.681	69.643	4+077.83	4+072.50	4+038.46	384317.697	8283572.181
PI-62	D	100	72.534	125.506	6+130.14	6+135.11	386561.583	8285134.283	
PI-69	D	5	2.334	4.367	2+094.93	2+087.28	2+089.29	381862.709	8284870.628
P-25								386196.548	8285045.791

Coordenadas UTM WGS-84 (Zona 19S) - DJB 1

Punto	Este	Norte	Elevación
JB1	380277.395	8285363.610	3823.610
JB2	380466.133	8285425.294	3823.801
SC1	380624.755	8285519.568	3821.895
SC2	380738.351	8285466.984	3822.156
SC3	380841.677	8285372.844	3822.251
SC4	380994.042	8285316.930	3822.174
SC5	381114.229	8285251.559	3822.185
SC6	381217.359	8285171.111	3821.857
SC7	381346.608	8285103.473	3821.812
SC8	381495.356	8285045.722	3821.758
SC9	381610.785	8284955.103	3821.719
SC10	381741.365	8284895.852	3820.958
SC11	381868.015	8284808.386	3820.714
SC12	382018.473	8284737.177	3821.004
SC13	382164.260	8284674.604	3820.715
SC14	382277.925	8284595.232	3820.687
SC15	382417.655	8284525.389	3820.413
SC16	382561.223	8284492.110	3821.084
SC17	382697.644	8284412.873	3819.824
SC18	382823.535	8284323.158	3820.128
SC19	382971.890	8284277.948	3819.594
SC20	383094.023	8284188.473	3819.981
C24	383216.161	8284109.697	3821.171
PI	383384.208	8284043.968	3821.474



	UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM	PS-04
	Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJB 1	
Escala: Indicada	Dibujo: PORN - WHP	Ubicación: San Román - Puno
		Fecha: Octubre del 2016

Lámina N°: 4 de 18

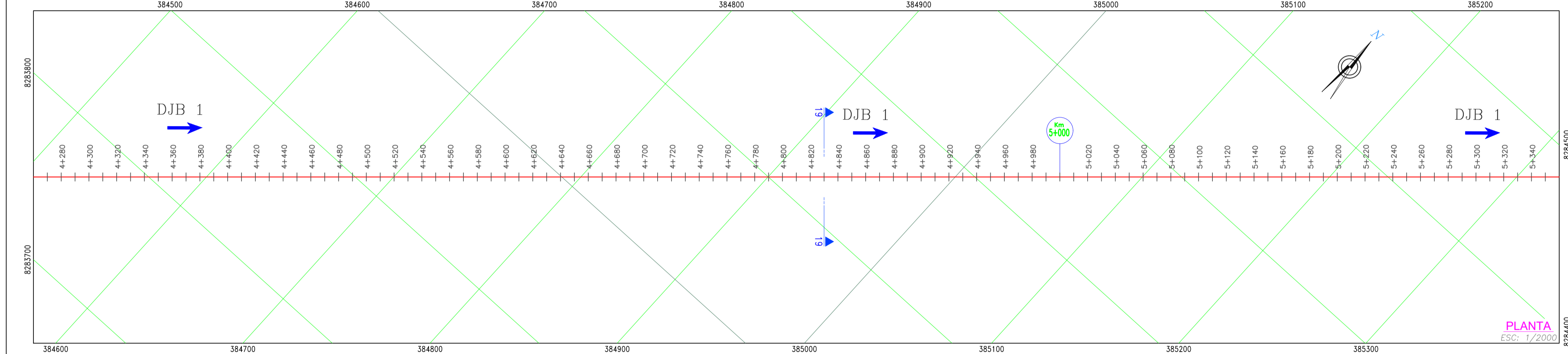
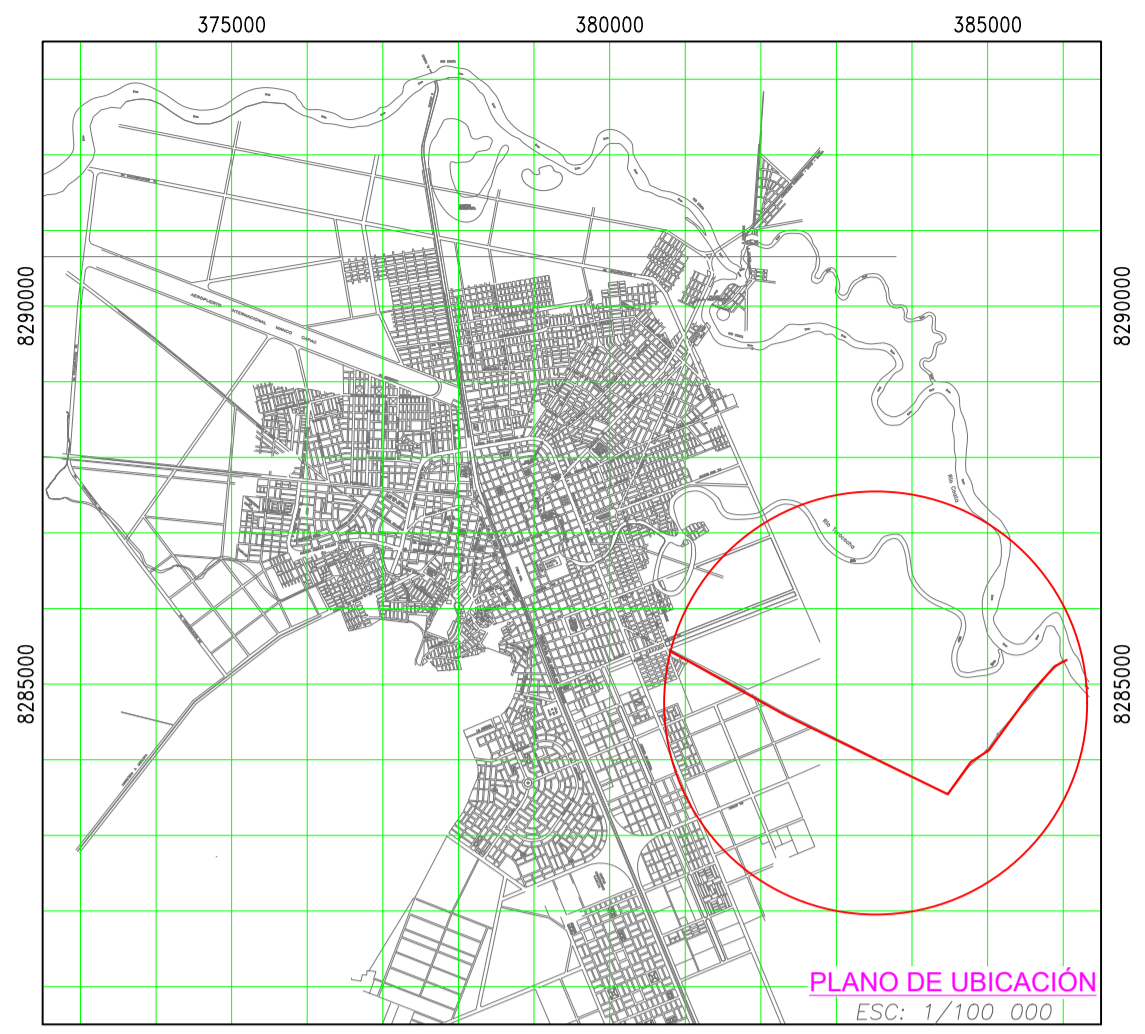
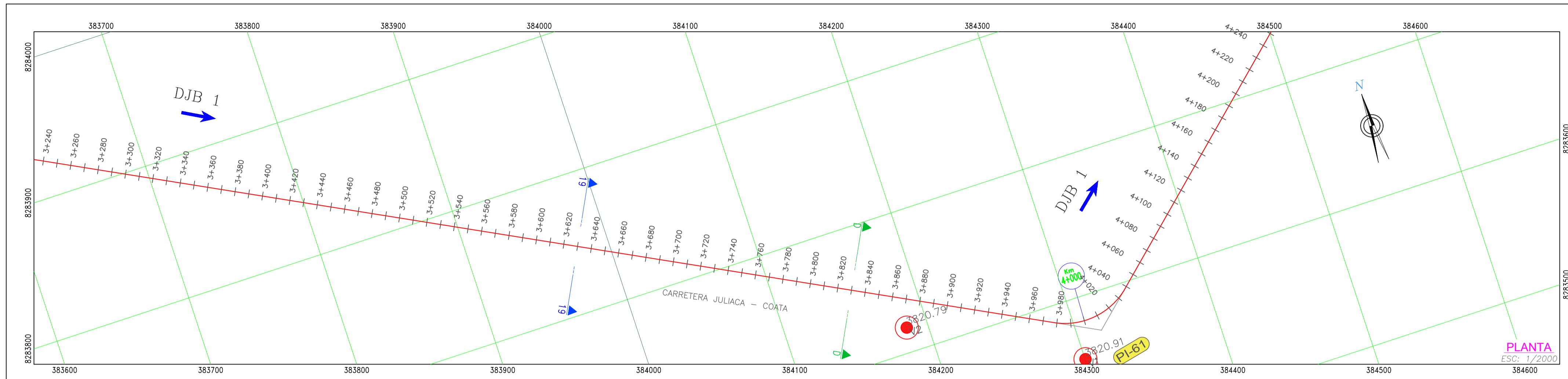


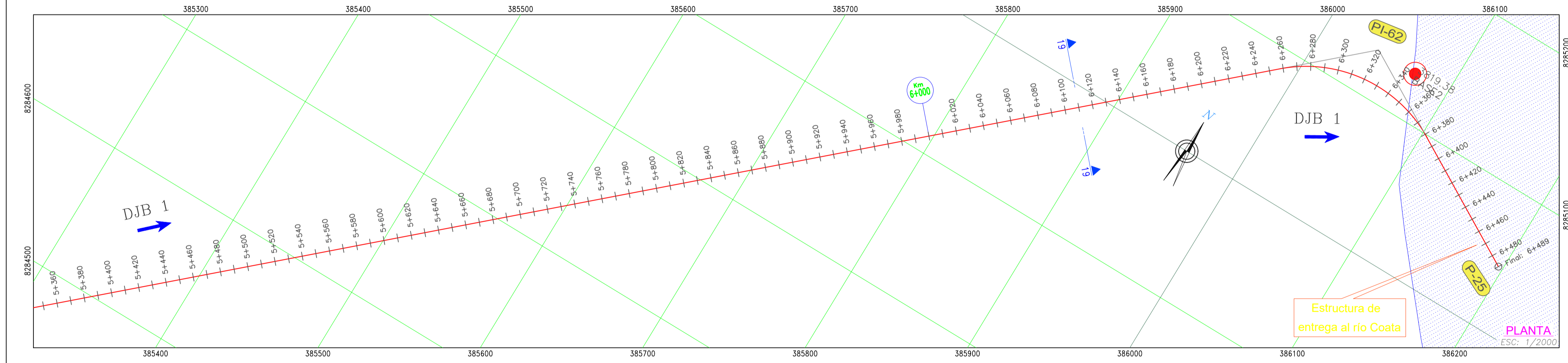
TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJB 1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-24	I	300	0.849	13.287	+002.31	+008.98	+015.61	38075.074	82854.367
P-40	I	50	34.681	00.643	+037.82	+038.46	+037.82	38168.944	828490.225
PI-61	I	50	34.681	00.643	+037.82	+038.46	+037.82	38168.944	828490.225
PI-62	D	100	72.534	125.568	+037.80	+030.14	+035.11	38054.583	8285134.283
PI-69	D	5	2.334	4.367	+084.93	+087.26	+089.29	38182.709	8284970.838
P-25								38191.548	8285045.791

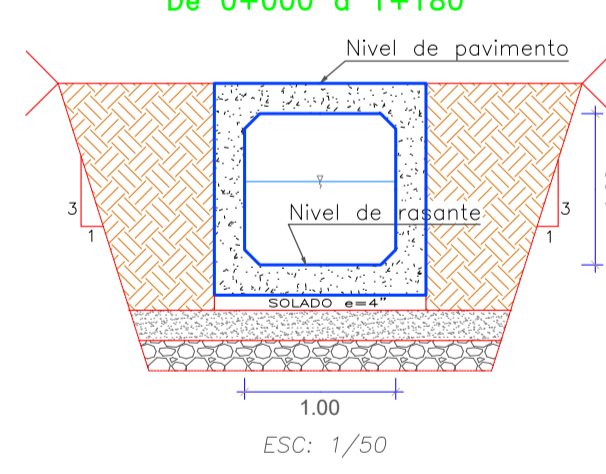
- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desajuste
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 19S) - DJB 1

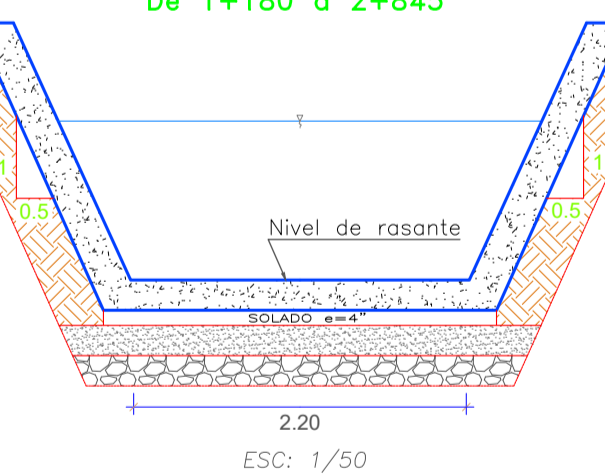
Punto	Este	Norte	Elevación
JB1	380277.395	8285363.610	3823.610
JB2	380466.133	8285425.294	3823.801
SC1	380624.765	8285519.568	3821.895
SC2	380738.351	8285466.984	3822.156
SC3	380841.677	8285372.844	3822.251
SC4	380994.042	8285316.930	3822.174
SC5	381114.229	8285251.559	3822.185
SC6	381217.359	8285171.111	3821.857
SC7	381346.608	8285103.473	3821.812
SC8	381495.356	8285045.722	3821.758
SC9	381610.785	8284955.103	3821.719
SC10	381741.365	8284905.852	3820.958
SC11	381868.015	8284808.386	3820.714
SC12	382018.473	8284737.177	3821.004
SC13	382164.260	8284674.604	3820.715
SC14	382277.925	8284595.232	3820.687
SC15	382417.655	8284525.389	3820.413
SC16	382561.223	8284492.110	3821.084
SC17	382697.644	8284412.873	3819.824
SC18	382823.535	8284323.158	3820.138
SC19	382971.890	8284277.948	3819.594
SC20	383094.023	8284188.473	3819.981
C24	383216.181	8284108.697	3821.171
P1	383384.208	8284043.988	3821.474



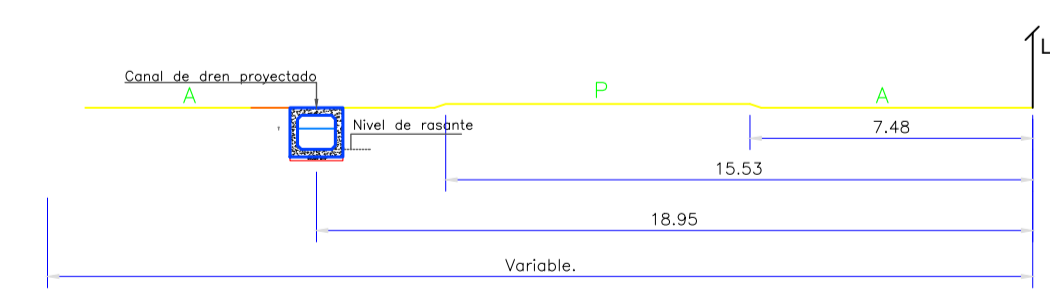
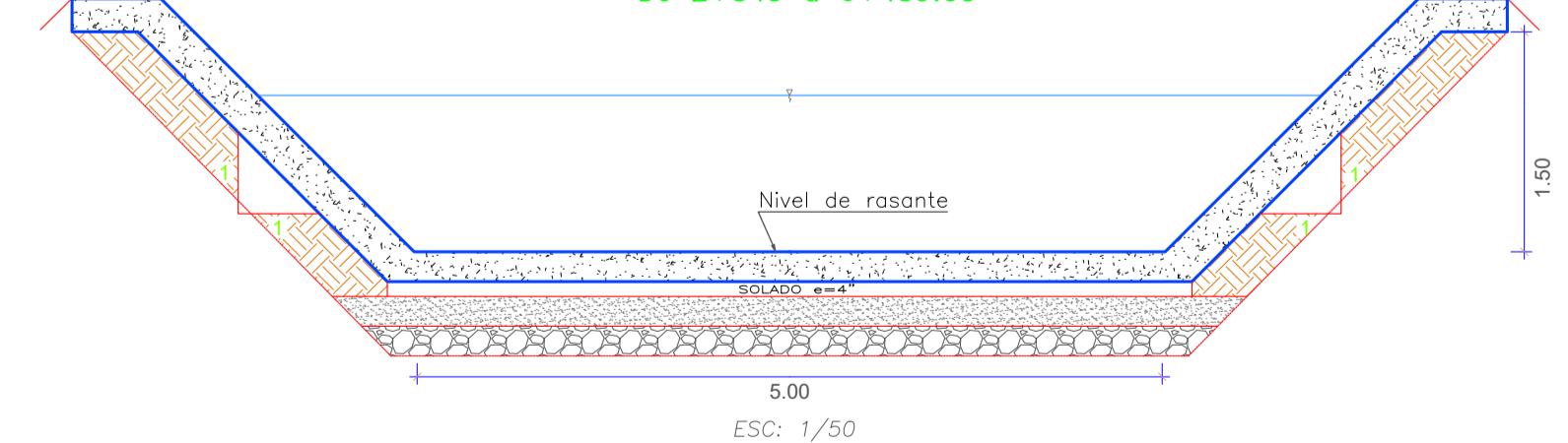
SECCIÓN DE DREN 17-17 (DJB 1)
De 0+000 a 1+180



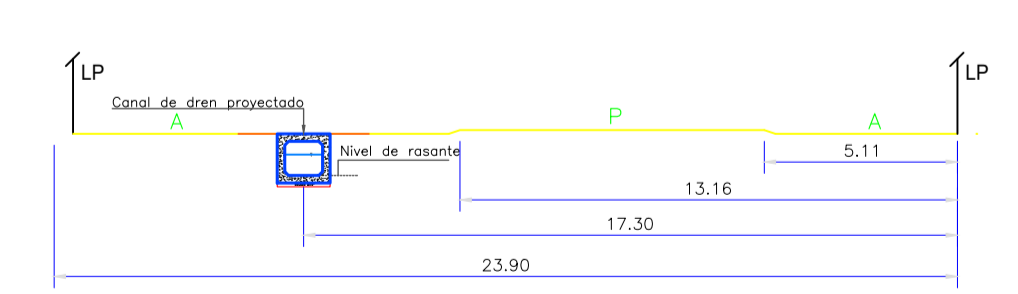
SECCIÓN DE DREN 18-18 (DJB 1)
De 1+180 a 2+845



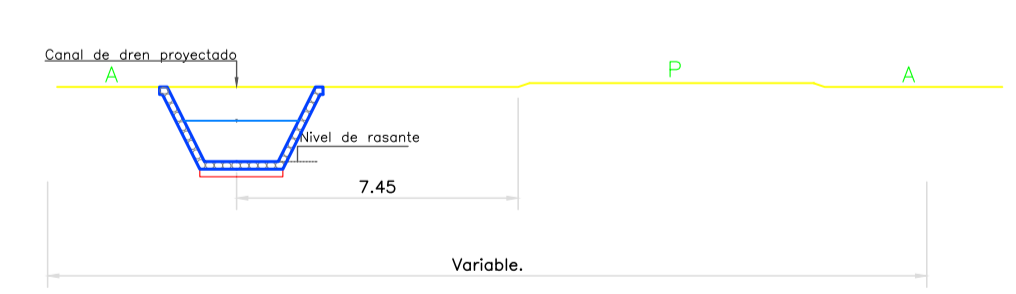
SECCIÓN DE DREN 19-19 (DJB 1)
De 2+845 a 6+489.03



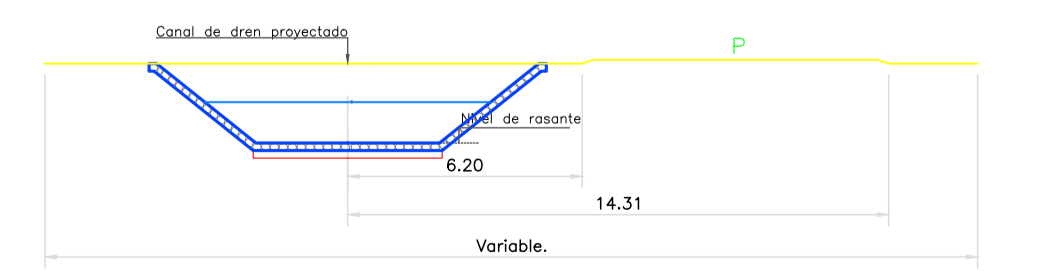
SECCION A-A
ESC: 1/200



SECCION B-B
ESC: 1/200



SECCION C-C
ESC: 1/200



SECCION D-D
ESC: 1/200



PS-05

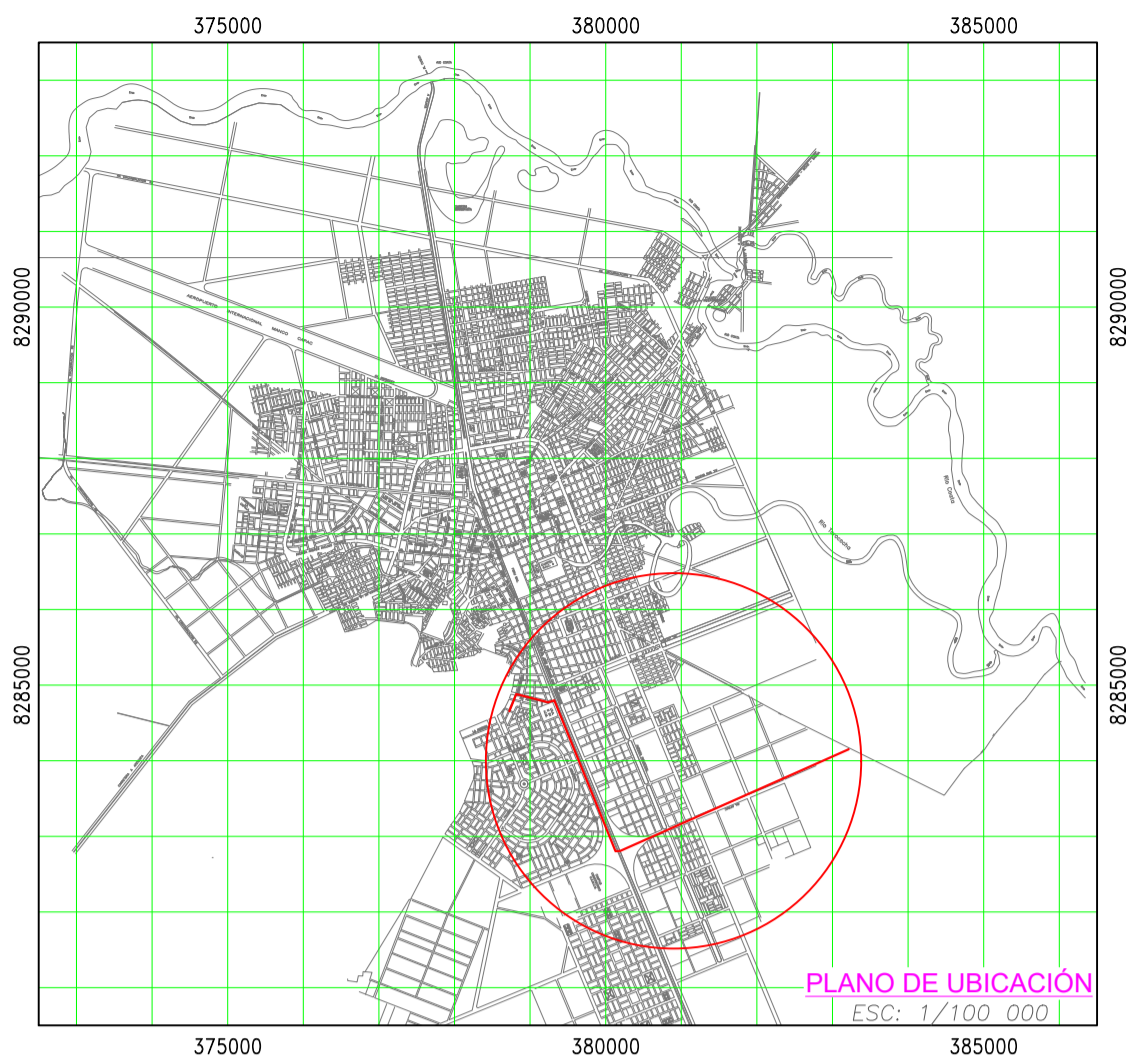
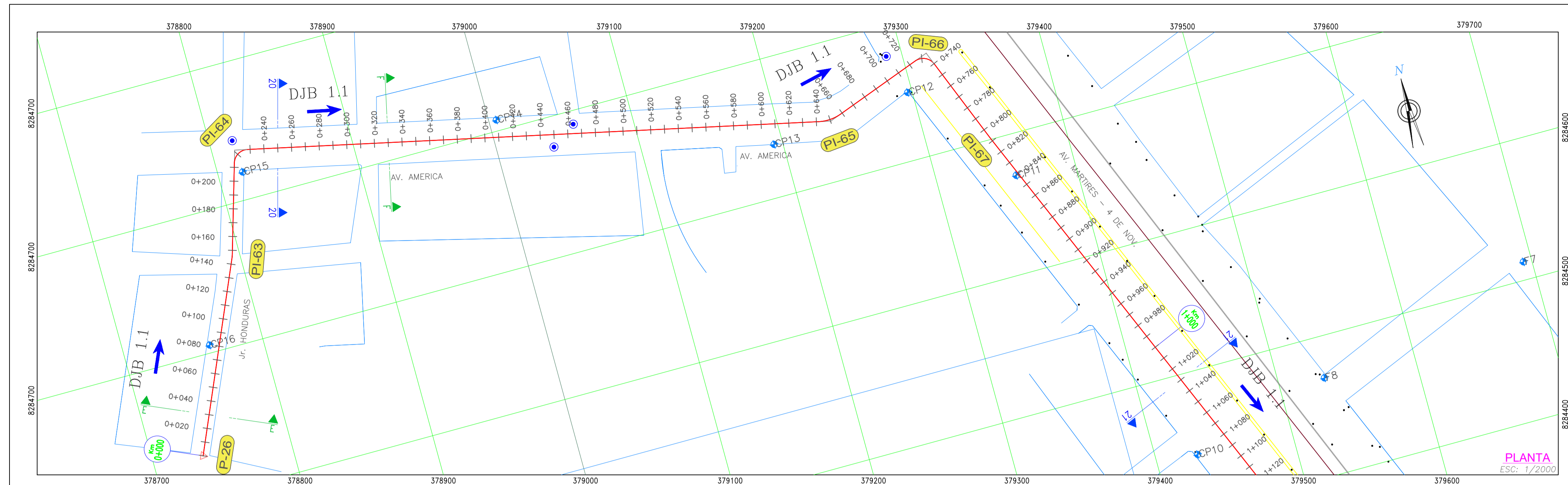
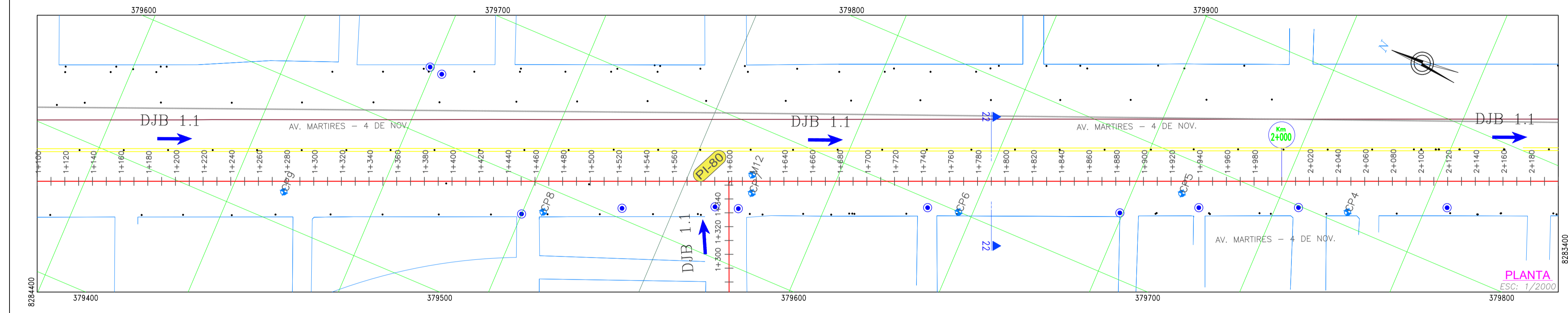


Tabla de Elementos de Curva y Coordenadas - DJB 1.1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
PI-26	I	30	1.898	8.871	0+143.97	0+143.81	0+147.64	37876.050	828420.788
PI-63	I	10	0.312	14.986	0+213.14	0+212.45	0+225.14	378916.337	828435.848
PI-65	I	30	8.105	17.002	0+441.65	0+440.74	0+458.74	379237.022	828443.317
PI-66	D	10	0.715	15.419	0+734.66	0+734.57	0+740.28	379317.141	828472.435
PI-67	I	100	1.057	213.000	0+806.90	0+807.95	0+809.01	379345.900	828470.571
PI-68	I	10	0.961	15.669	2+899.30	2+899.26	2+904.97	380162.794	828275.400
PI-69	I	100	10.203	20.335	3+969.22	3+969.22	3+969.55	381162.699	8283195.104
PI-70	D	100	9.931	19.798	4+034.65	4+034.65	4+034.65	381200.066	8283220.709
PI-71	D	5	2.352	4.397	6+284.38	6+286.73	6+288.78	383281.200	8284107.389
PI-72	I	2	2.440	3.537	0+608.58	0+611.02	0+612.11	381181.808	8283208.199
PI-73	I	2	1.995	3.136	0+559.55	0+561.54	0+562.68	380798.121	8283042.082

- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

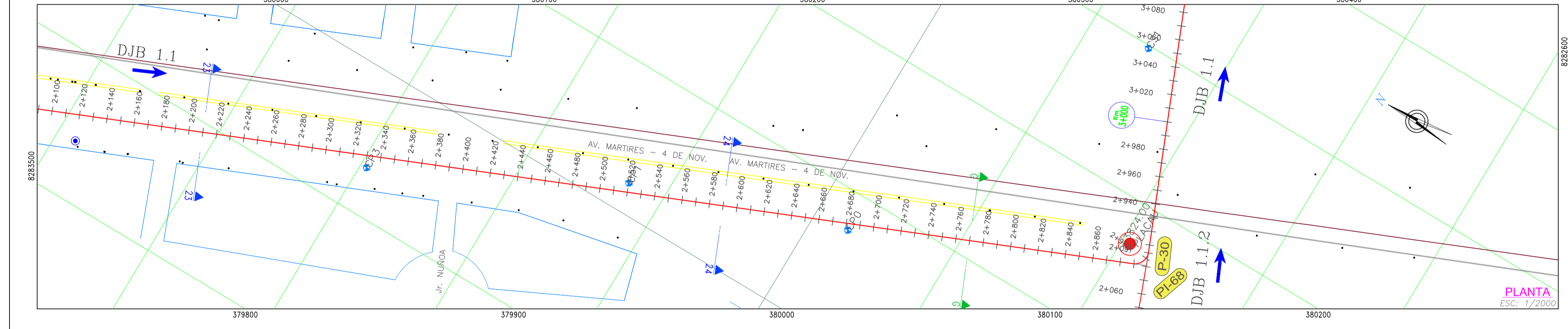


Coordenadas UTM WGS-84 (Zona 19S) - DJB 1.1

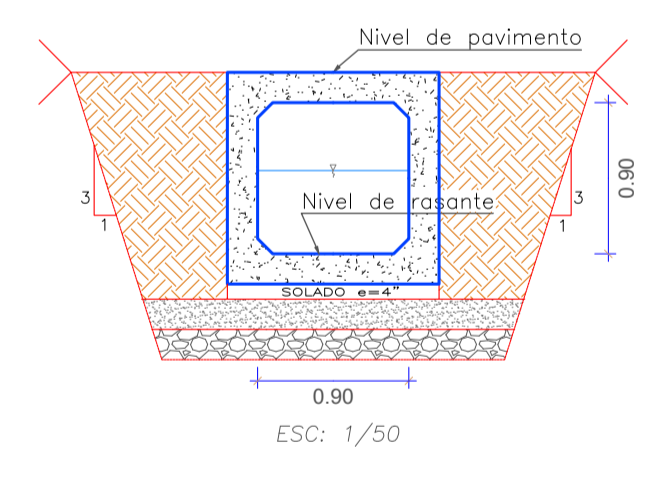
Punto	Este	Norte	Elevación
AM12	378502.022	8284426.707	—
AM11	378607.863	8284456.156	3827.694
CP18	378627.295	8284447.495	3827.863
CP18A	378665.472	8284480.074	3826.709
CP17	378722.259	8284587.547	3825.353
CP16	378761.740	8284705.712	3824.172
CP15	378817.736	8284820.043	3823.734
CP14	379004.644	8284807.906	3822.776
CP13	379193.693	8284737.872	3822.769
CP12	379296.783	8284748.579	3822.728
CP11	379356.712	8284670.047	3822.709

Coordenadas UTM WGS-84 (Zona 19S) - DJB 1.1

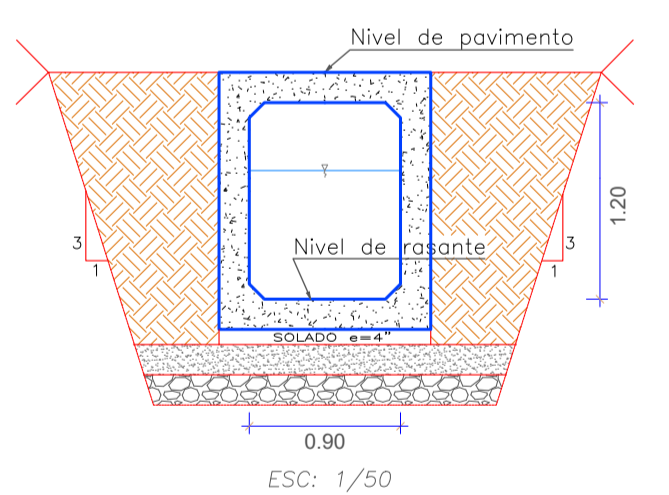
Punto	Este	Norte	Elevación
CP10	379430.006	8284440.916	3825.673
CP9	379522.667	8284264.596	3822.507
CP8	379552.450	8284086.253	3822.285
CP7	379653.976	8283952.728	3822.156
CP6	379699.913	8283809.731	3821.991
CP5	379775.231	8283666.321	3821.844
CP4	379809.597	8283550.710	3821.718
CP3	379932.699	8283295.289	3821.435
CP1	380020.993	8283126.978	3821.496
CP0	380073.397	8282973.724	3822.001
Placa U	380170.014	8282793.924	3824.002



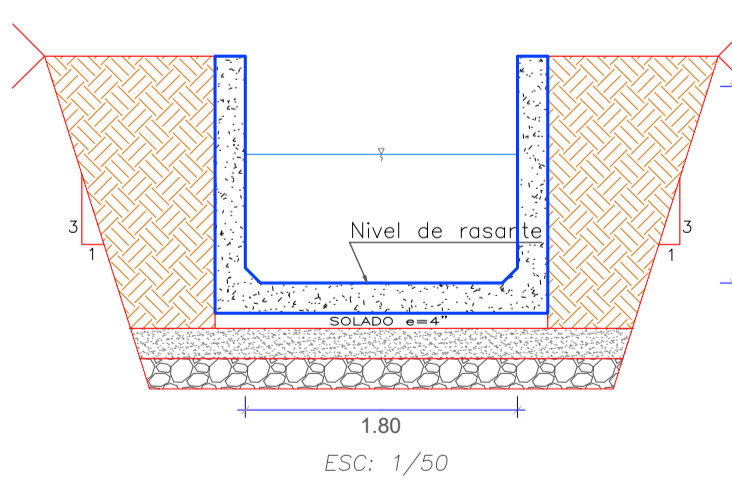
SECCIÓN DE DREN 20-20 (DJB 1.1)
De 0+000 a 0+732



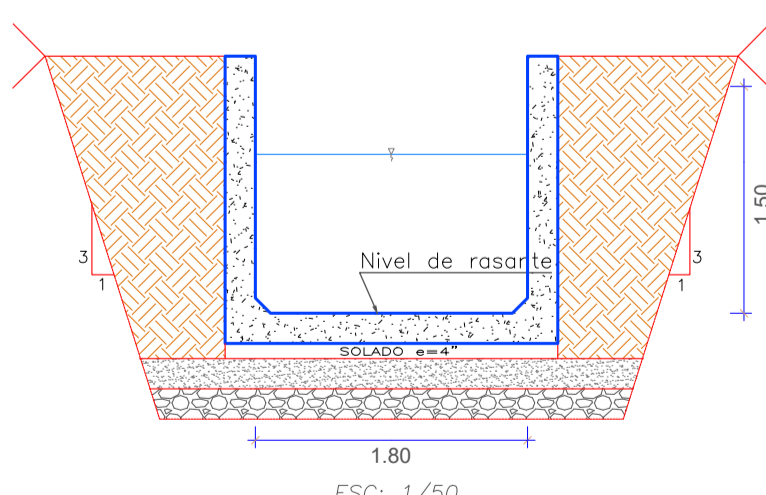
SECCIÓN DE DREN 21-21 (DJB 1.1)
De 0+732 a 1+606



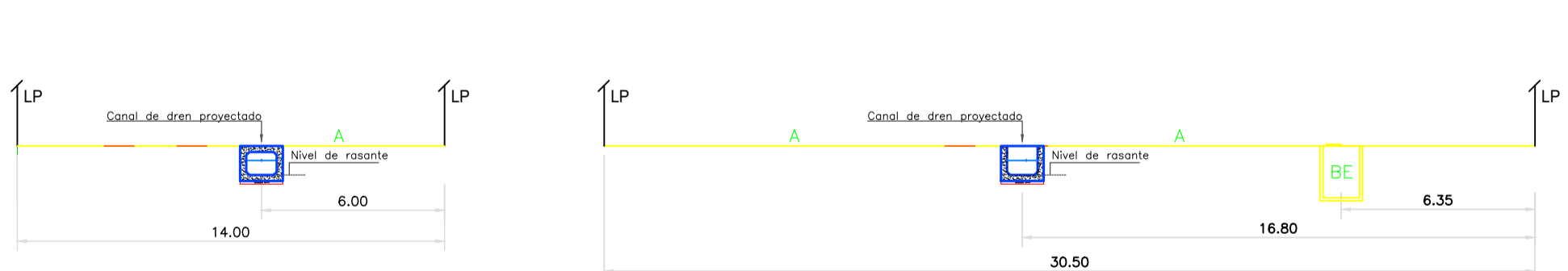
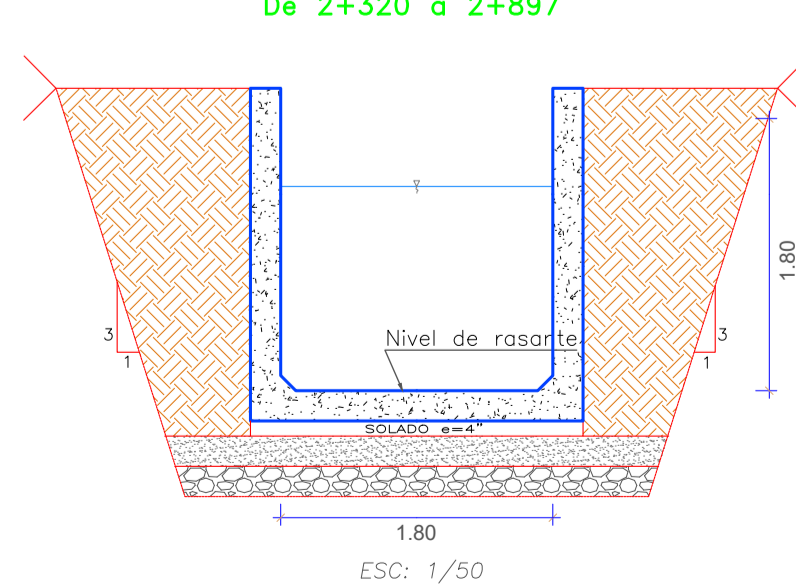
SECCIÓN DE DREN 22-22 (DJB 1.1)
De 1+606 a 2+060



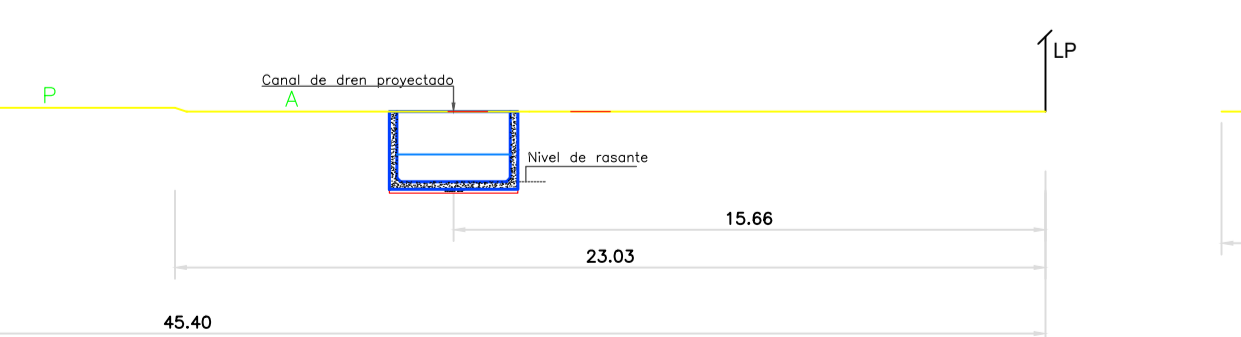
SECCIÓN DE DREN 23-23 (DJB 1.1)
De 2+060 a 2+320



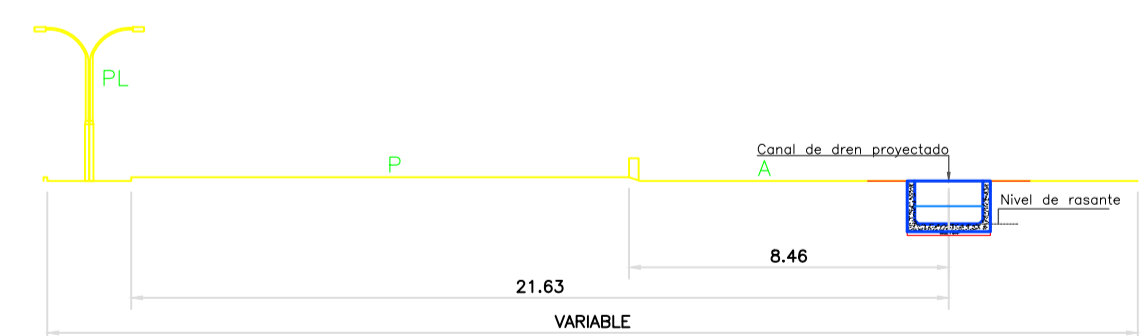
SECCIÓN DE DREN 24-24 (DJB 1.1)
De 2+320 a 2+897



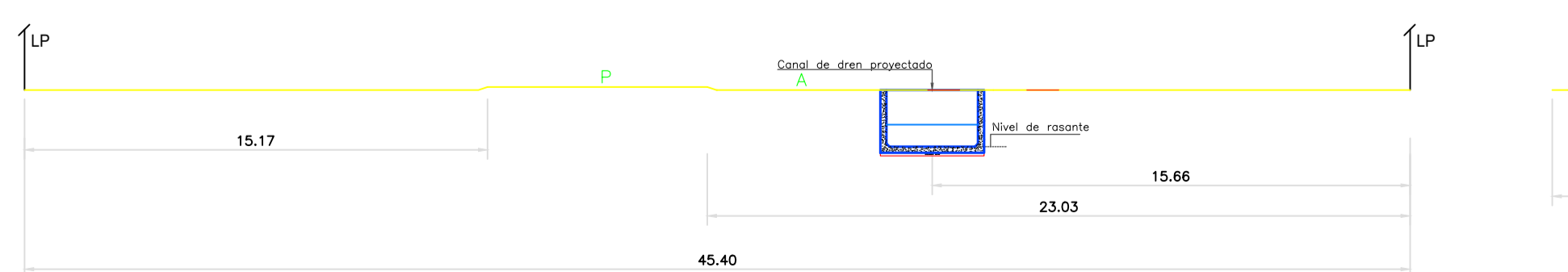
SECCION E-E
ESC: 1/200



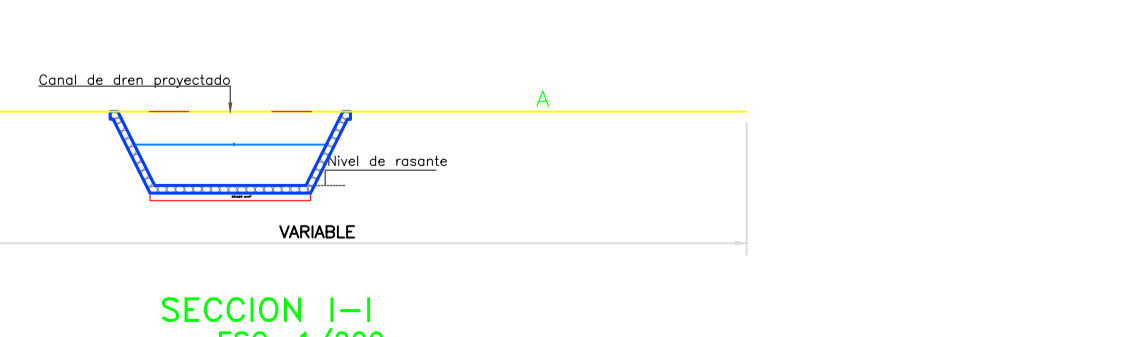
SECCION F-F
ESC: 1/200



SECCION G-G
ESC: 1/200



SECCION H-H
ESC: 1/200



SECCION I-I
ESC: 1/200

UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJB 1.1

Lámina N° 6 de 18

Fecha: Octubre del 2016

PS-06

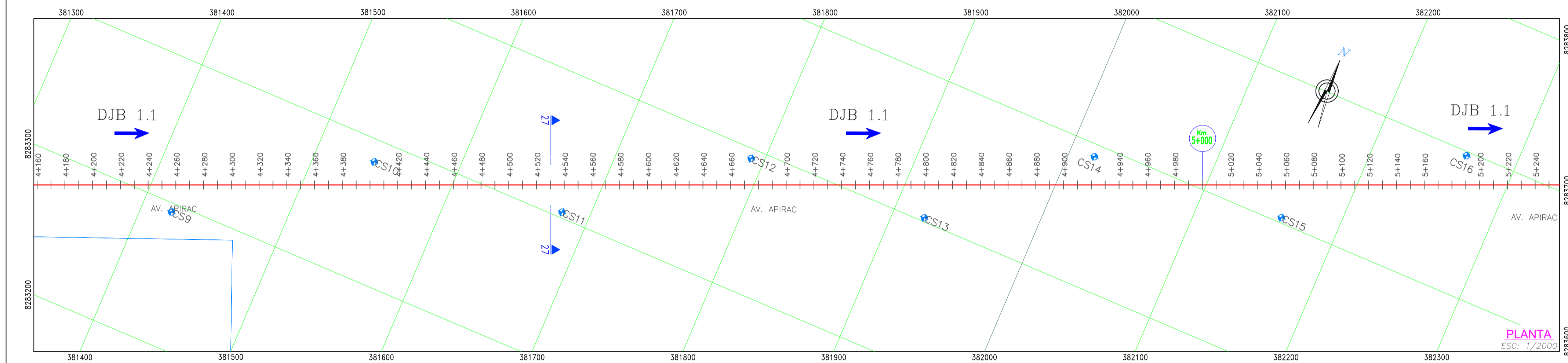
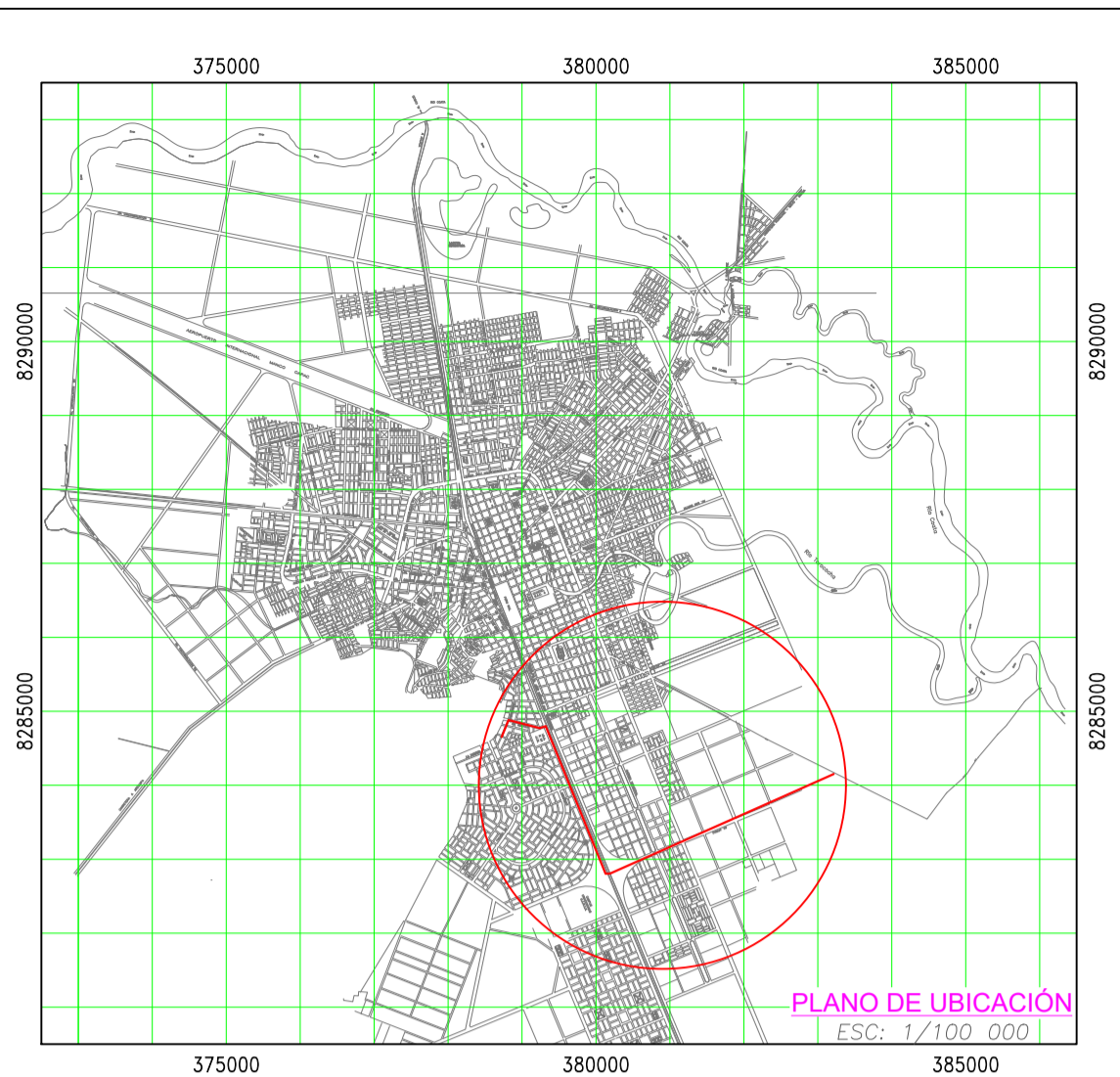
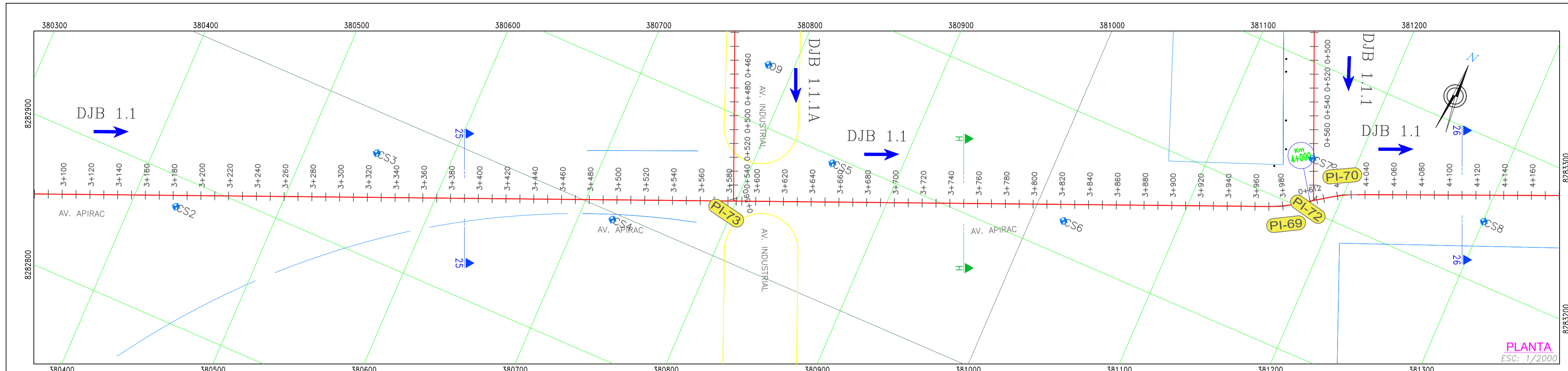


Tabla de Elementos de Curva y Coordenadas - DJB 1.1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
PI-38	I	30	1.838	3.671	0+143.27	0+145.81	0+147.66	37979.000	828420.788
PI-63	I	30	9.312	14.996	0+213.14	0+222.45	0+228.14	37974.444	828470.354
PI-64	D	10	8.785	17.092	0+541.65	0+550.44	0+558.74	379237.562	828474.317
PI-65	I	30	8.785	17.092	0+541.65	0+550.44	0+558.74	379237.562	828474.317
PI-66	D	10	9.715	15.419	0+724.86	0+734.57	0+740.28	379317.141	828472.435
PI-67	I	100	1.057	2113.000	0+808.90	0+807.65	0+809.01	379345.860	828470.571
PI-68	I	10	9.961	15.669	2+889.30	2+899.26	2+904.97	380162.794	828276.420
PI-69	I	100	10.203	20.335	3+969.22	3+979.42	3+989.55	381162.690	8283195.104
PI-70	D	100	9.931	19.798	4+014.72	4+024.65	4+034.52	381200.066	8283220.709
PI-71	D	5	2.352	4.397	6+284.38	6+286.73	6+288.78	383281.200	828417.389
PI-72	I	2	2.440	3.537	0+612.11	0+611.02	0+611.11	381181.809	8283208.199
PI-73	I	2	1.995	3.136	0+559.55	0+561.54	0+562.68	380798.121	8283042.082

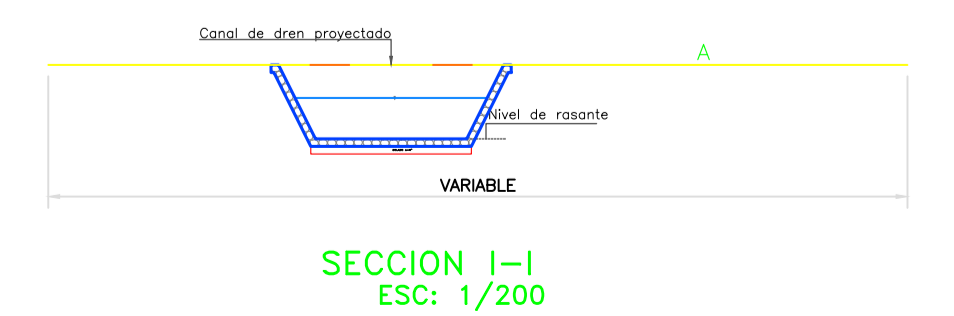
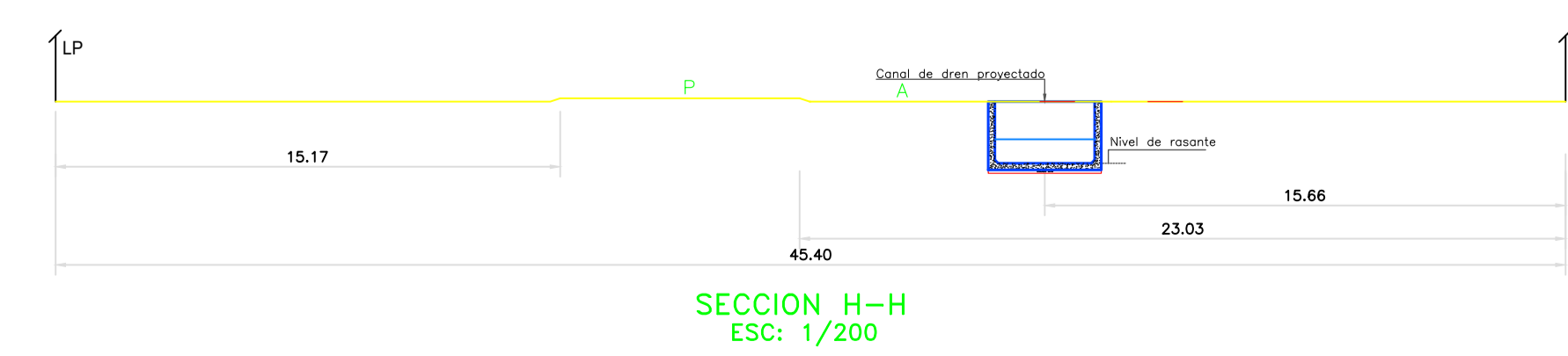
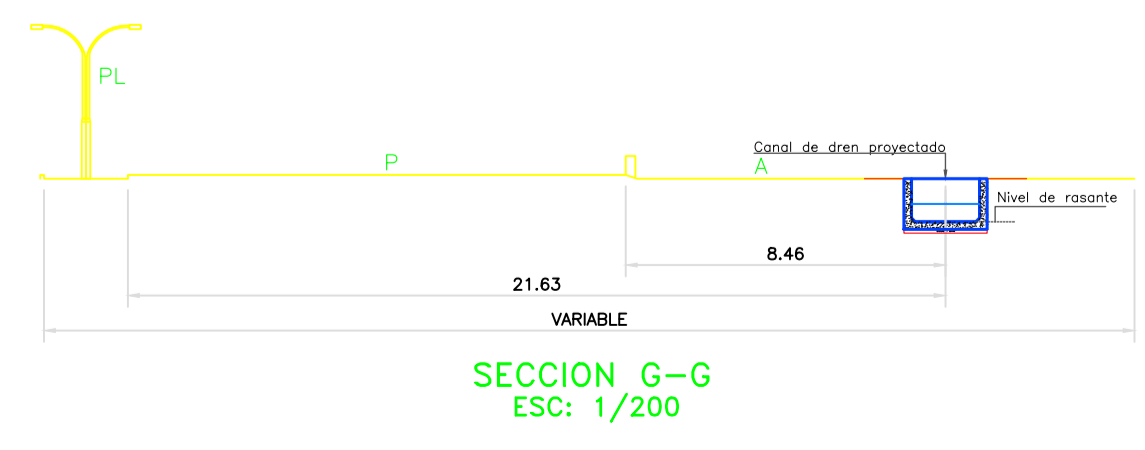
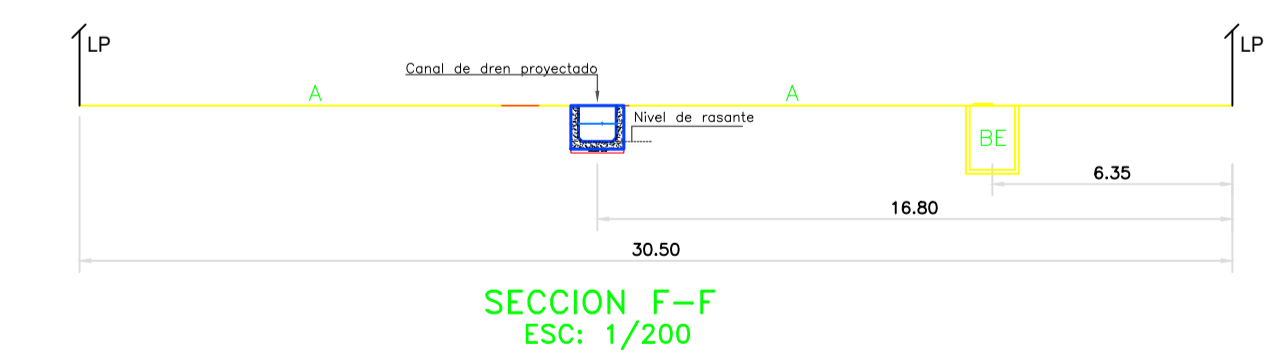
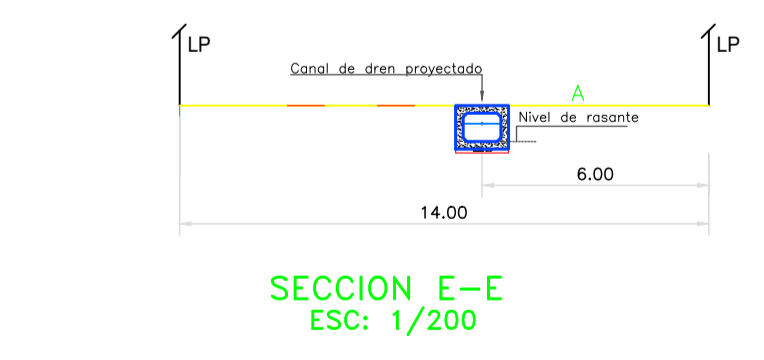
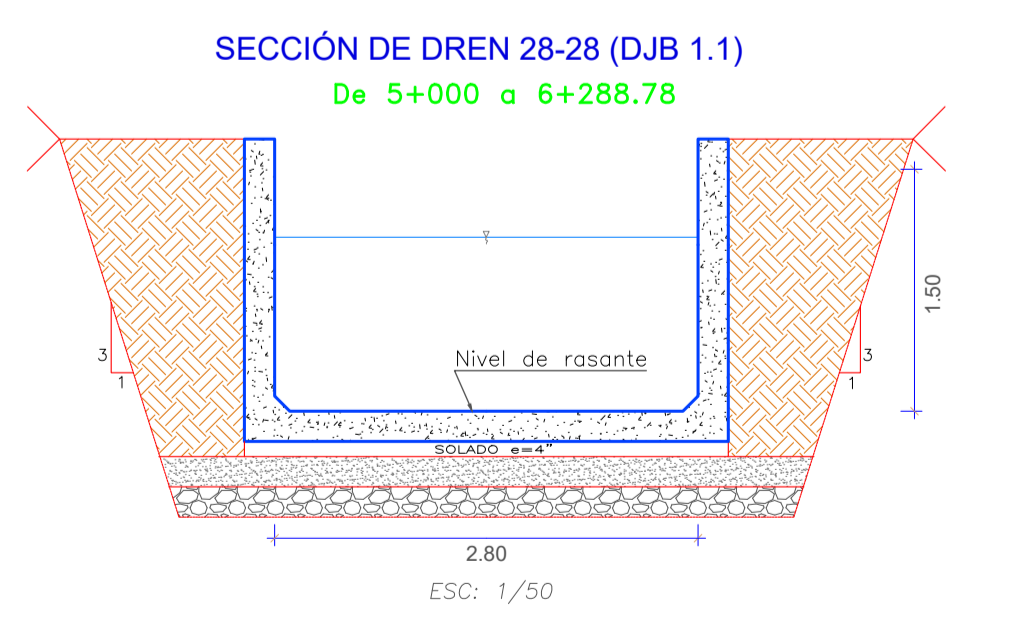
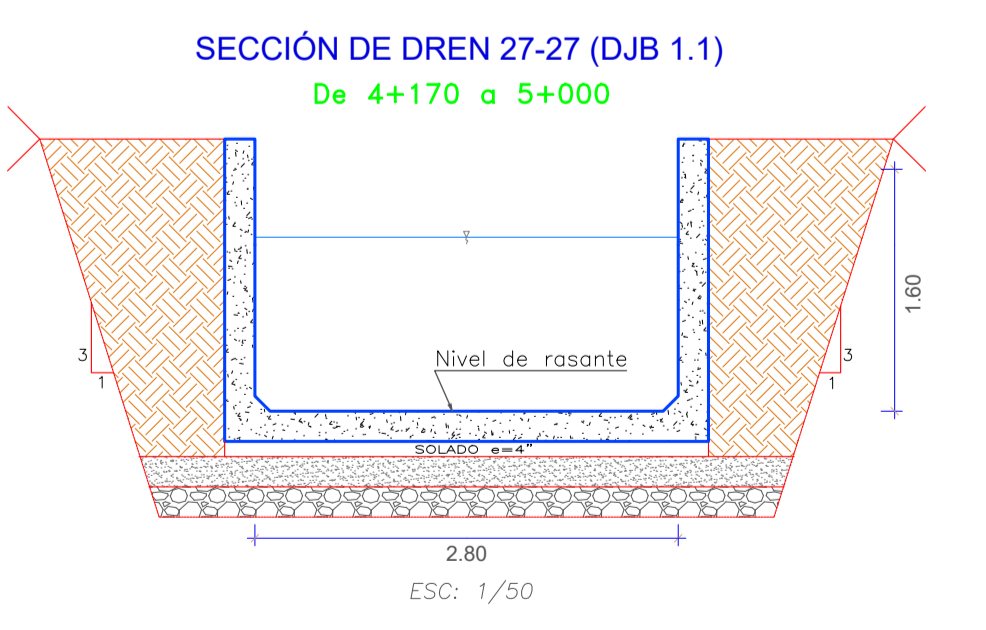
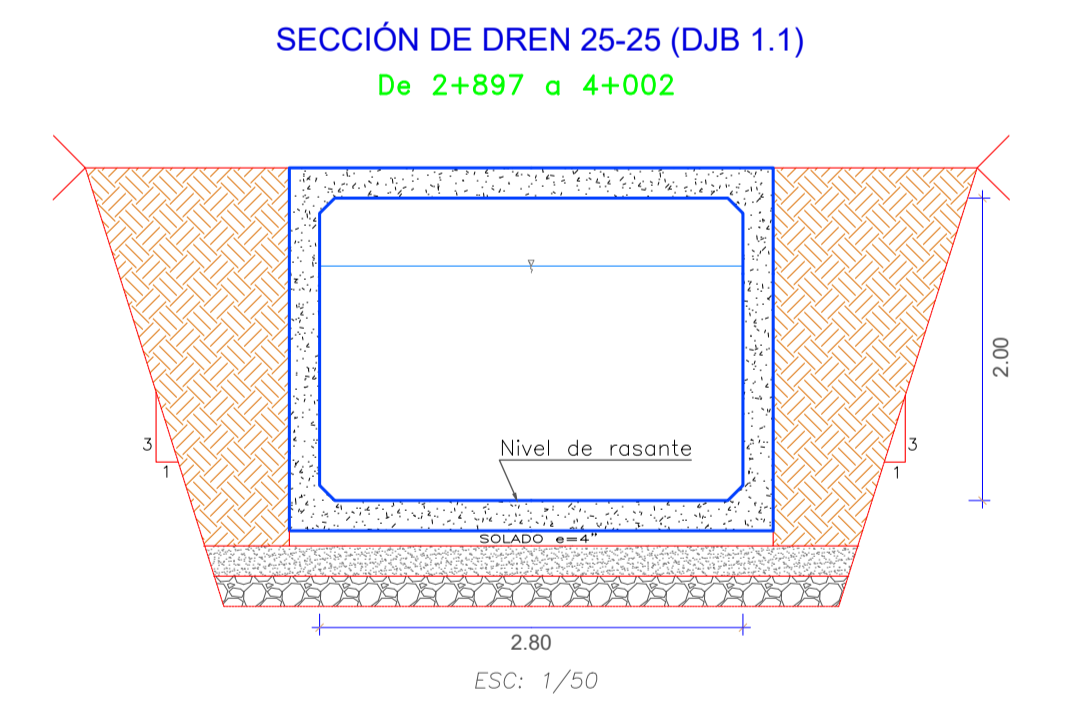
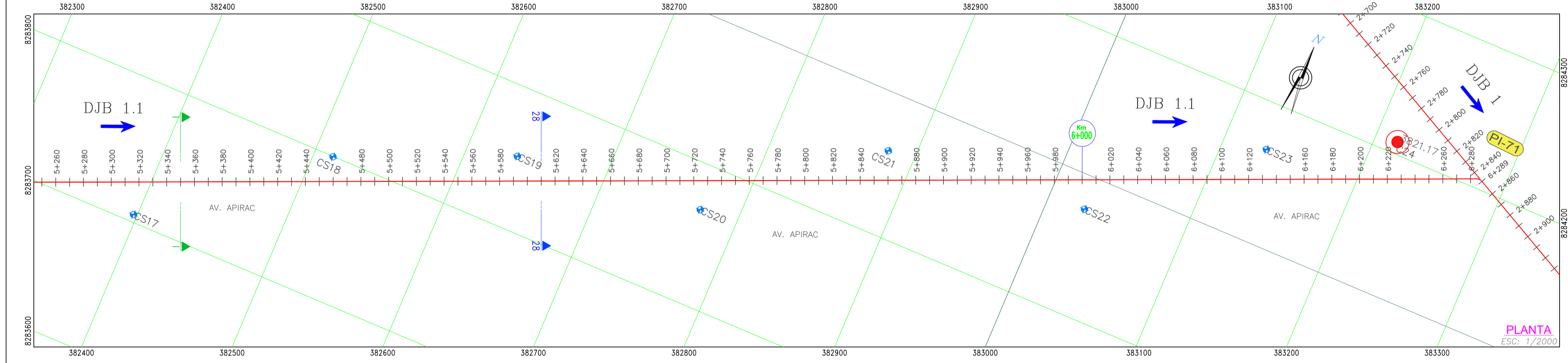
- Leyenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 19S) - DJB 1.1

Punto	Este	Norte	Elevación
Placa U	380170.014	8282793.924	3824.002
U16	380021.147	8282751.982	3822.804
CS1	380297.985	8282855.221	3821.315
CS2	380430.689	8282879.051	3821.033
CS3	380548.310	8282971.854	3820.521
CS4	380723.278	8282985.189	3820.888
CS5	380852.709	8283095.334	3820.624
CS6	381022.249	8283123.209	3820.452
CS7	381169.206	8283235.591	3820.528
CS8	381300.629	8283242.885	3820.320
CS9	381421.393	8283293.795	3820.442
CS10	381541.735	8283384.280	3820.299
CS11	381680.457	8283404.077	3820.050

Coordenadas UTM WGS-84 (Zona 19S) - DJB 1.1

Punto	Este	Norte	Elevación
CS12	381700.796	8283493.099	3819.571
CS13	381922.347	8283502.655	3819.816
CS14	382017.930	8283591.213	3819.863
CS15	382159.175	8283603.657	3819.934
CS16	382264.421	8283697.089	3819.712
CS17	382397.324	8283705.282	3819.717
CS18	382513.606	8283799.719	3819.686
CS19	382635.831	8283851.834	3819.641
CS20	382772.242	8283867.782	3819.555
CS21	382880.576	8283959.742	3819.600
CS22	383027.188	8283976.125	3819.455
CS23	383131.184	8284066.918	3819.270
C24	383216.181	8284108.697	3821.171
P1	383384.208	8284043.988	3821.474



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJB 1.1

Dibujo: PCRN - WHP

PS-07

Límina N°: 7 de 18

Fecha: Octubre del 2016

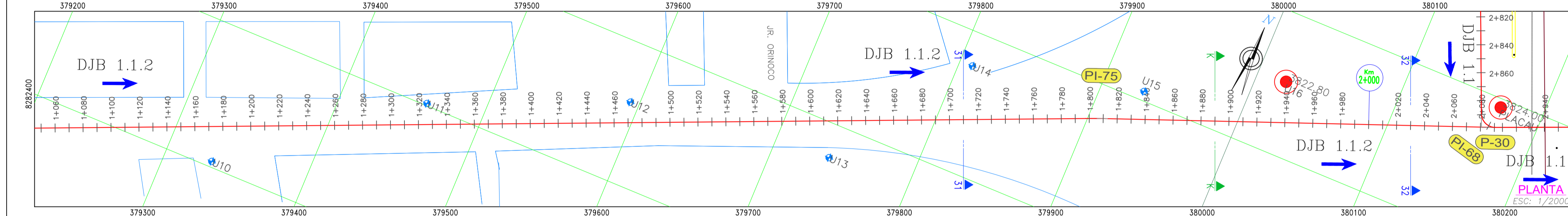
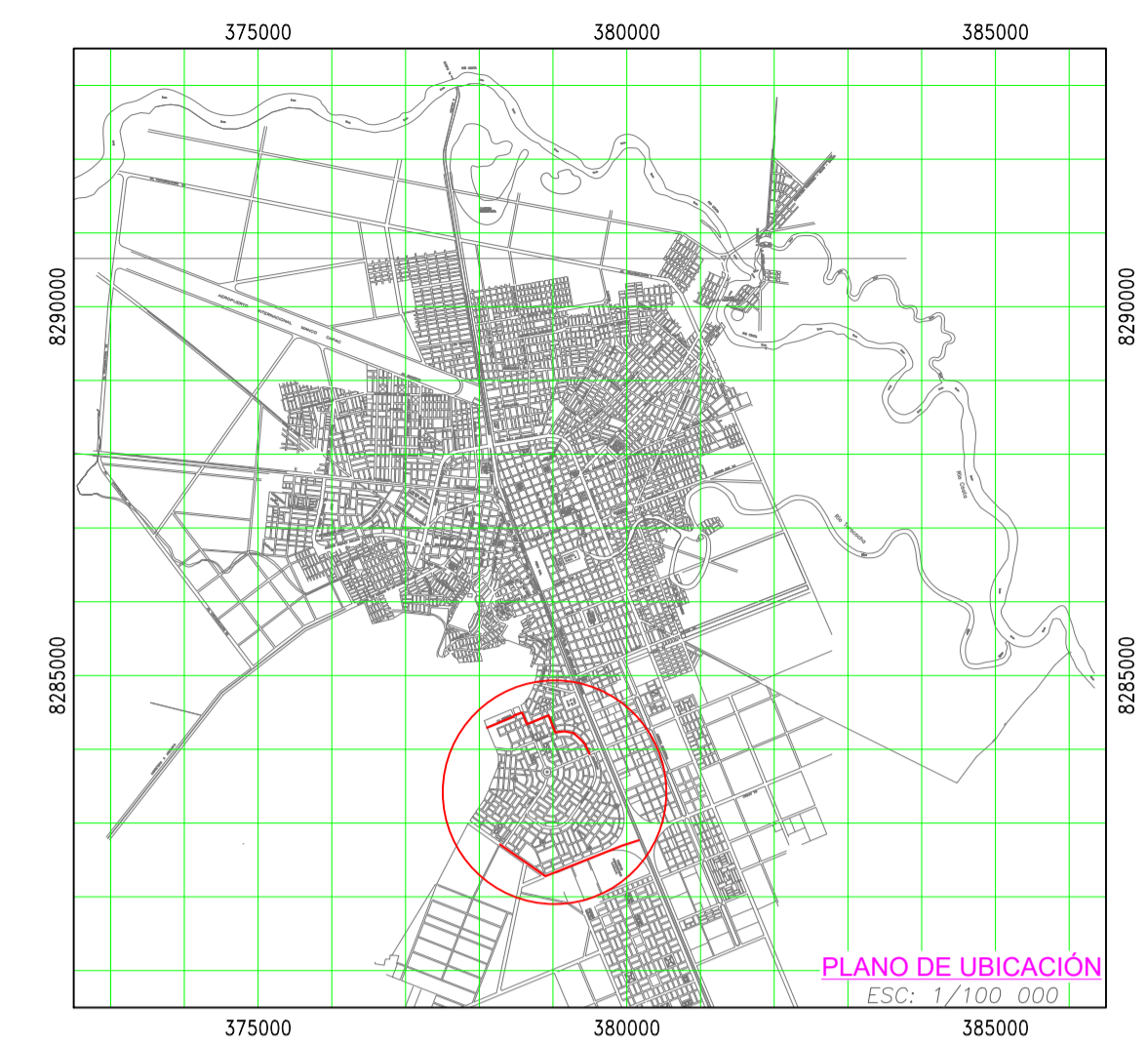
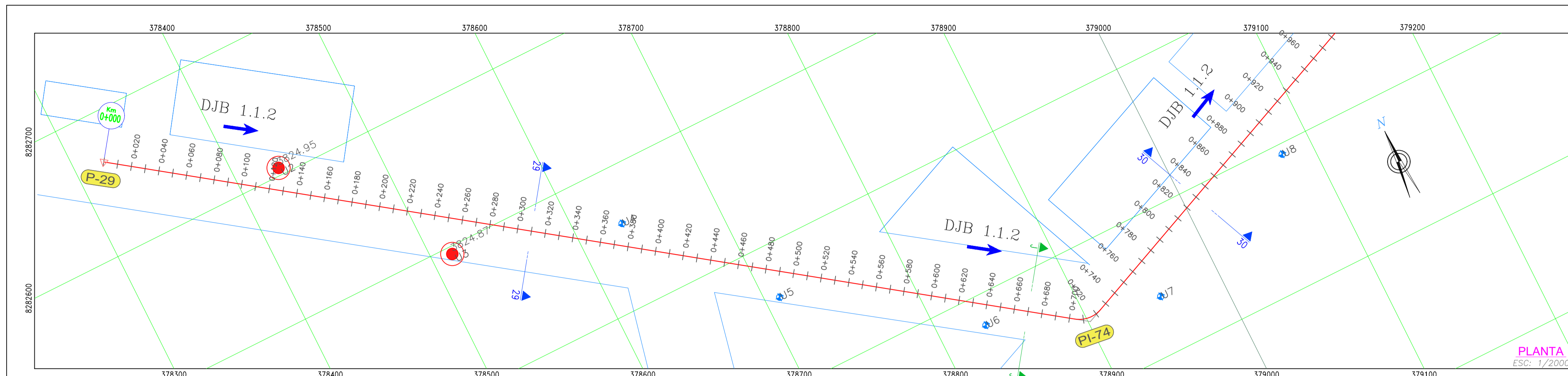


TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJB 1.1.2 - DJB 1.1.4.1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-29					37921.249	828285.122			
P-32					379329.267	828425.750			
PI-74	I	20	11.388	20.503	0+703.86	0+715.15	0+724.42	379501.472	828247.950
PI-75	D	500	7.956	15.910	1+757.59	1+805.54	1+813.50	379695.247	8282675.739
PI-80	D	2	2.003	3.145	1+350.73	1+352.74	1+353.88	379655.346	8283971.250
PI-81	I	10	3.673	7.390	0+159.73	0+163.80	0+167.12	378479.679	8284300.099
PI-82	D	10	3.866	7.413	0+193.12	0+197.01	0+200.54	378493.679	8284402.628
PI-83	D	10	10.032	15.740	0+292.01	0+302.04	0+307.75	378590.671	8284402.609
PI-84	I	10	10.011	15.719	0+469.66	0+479.67	0+485.37	378661.316	8284294.386
PI-85	D	10	10.025	15.733	0+771.26	0+781.29	0+786.99	378943.110	8284413.468
PI-86	I	10	9.681	15.384	1+009.28	1+018.95	1+024.65	379036.746	8284190.342
PI-87	D	300	290.646	461.738	1+034.68	1+325.33	1+496.42	379326.663	8284301.116
PI-88	I	2	2.013	3.154	1+536.12	1+538.13	1+539.27	379493.694	8283902.323

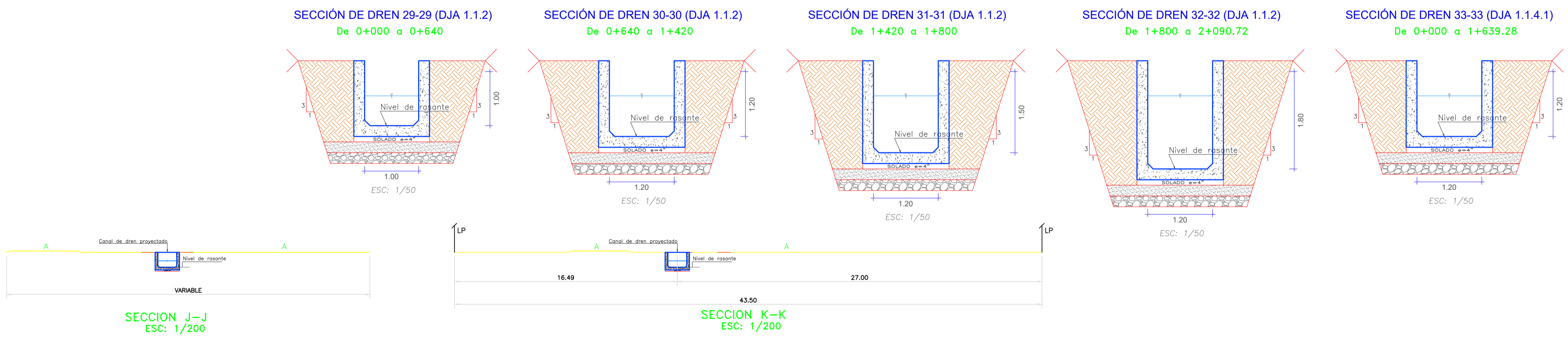
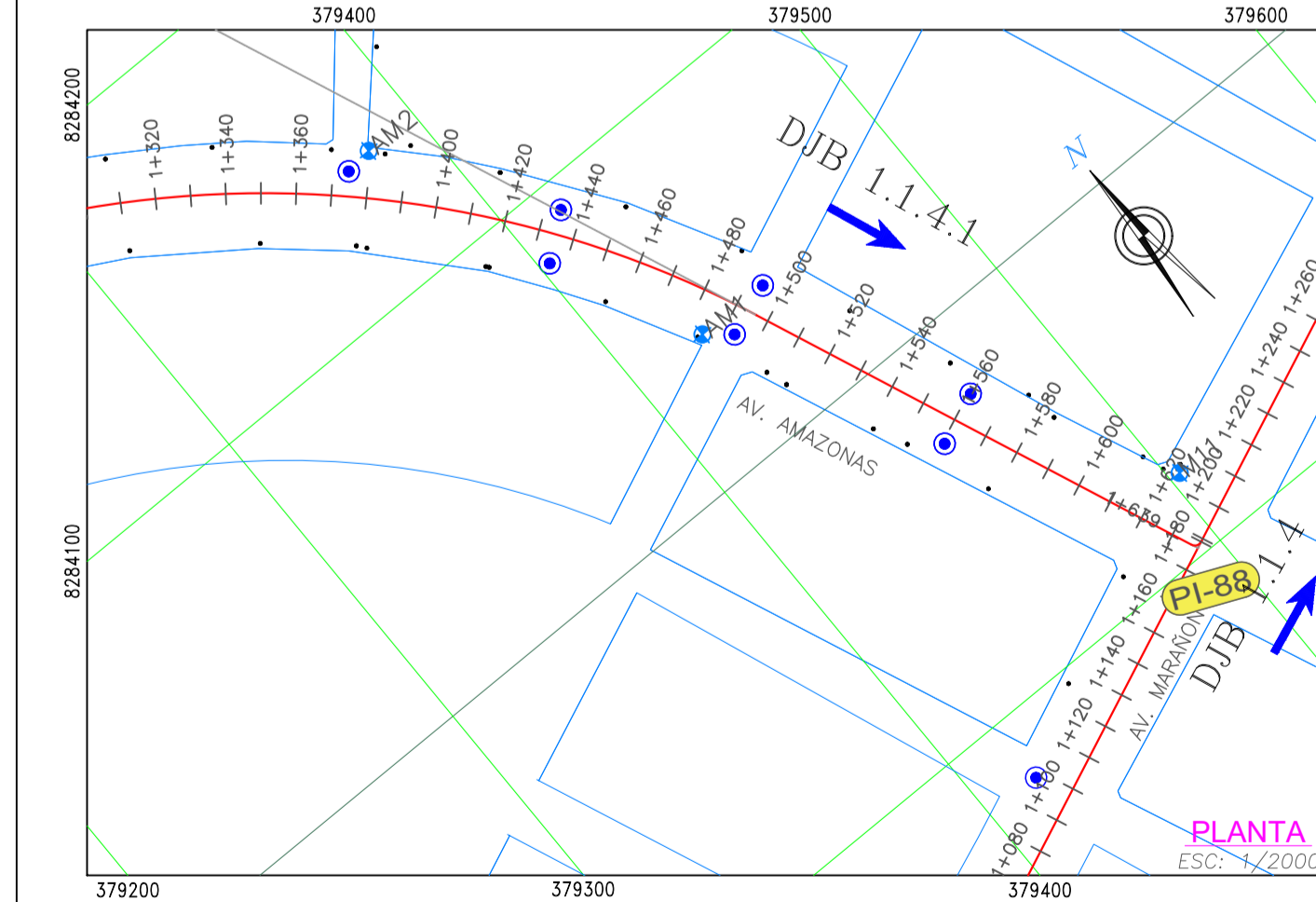
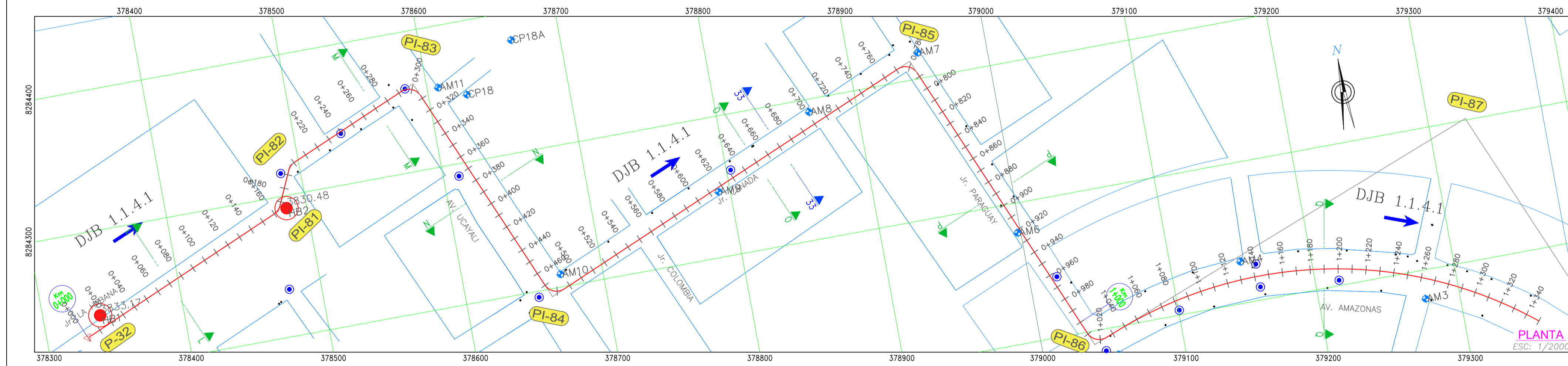
- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 18S) - DJB 1.1.2

Punto	Este	Norte	Elevación
U2	378431.197	8282805.349	3824.948
U3	378514.803	8282494.630	3824.871
U4	378633.197	8282459.766	3822.435
U5	378710.400	8282362.138	3822.167
U6	378833.509	8282278.160	3822.181
U7	378954.964	8282240.615	3821.856
U8	379077.856	8282292.693	3821.787
U9	379187.256	8282386.689	3821.898
U10	379333.253	8282404.076	3821.451
U11	379459.516	8282501.555	3821.375
U12	379593.539	8282558.356	3821.315
U13	379740.053	8282576.180	3821.435
U14	379899.539	8282676.212	3821.250
U15	379929.912	8282706.487	3821.504
U16	380021.147	8282751.982	3822.804
PLACAU	380170.014	8282793.924	3824.002

Coordenadas UTM WGS-84 (Zona 18S) - DJB 1.1.4.1

Punto	Este	Norte	Elevación
M10	379392.519	8283846.651	3821.915
M11	379503.259	8283922.078	3821.917
AM1	379423.620	8284038.611	3821.795
AM2	379383.567	8284139.077	3822.377
AM3	379275.467	8284179.583	3822.226
AM4	379149.866	8284229.662	3822.650
AM5	379052.250	8284180.214	3822.521
AM6	378996.881	8284278.877	3823.253
AM7	378949.790	8284416.517	3823.422
AM8	378895.776	8284390.802	3824.067
AM9	378791.778	8284346.537	3824.978
AM10	378669.866	8284300.103	3827.346
AM11	378607.883	8284456.156	3827.604
AM12	378502.022	8284426.707	—
HB2	378485.639	8284391.097	3830.478
HB1	378340.634	8284339.969	3833.166





UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DRENES DJB 1.1.2 - DJB 1.1.4.1

Escala: Indicada Dibujo: PCRN - WHP Ubicación: San Román - Puno Fecha: Octubre del 2016

PS-08

Lámina N°: 8 de 18

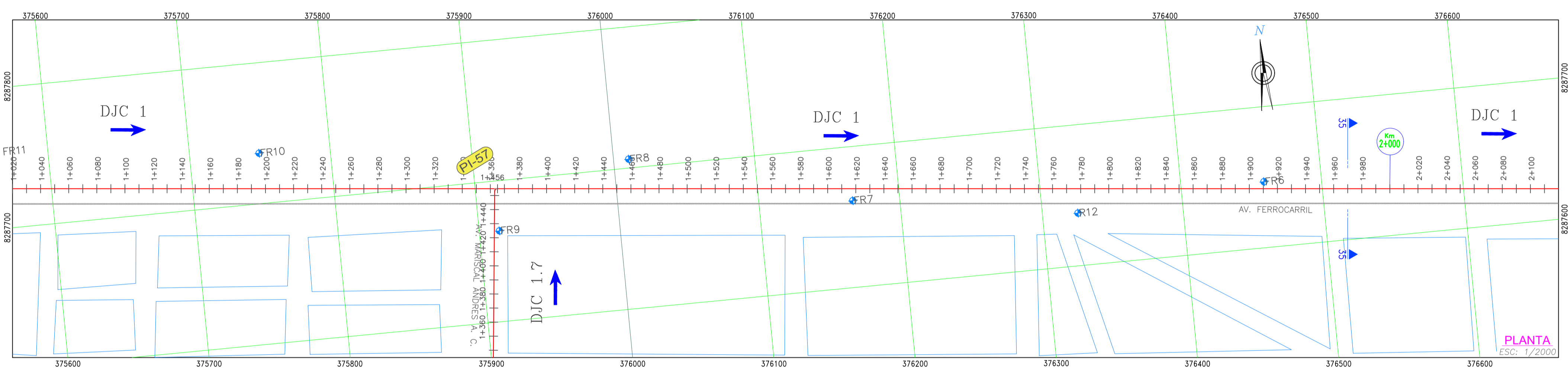
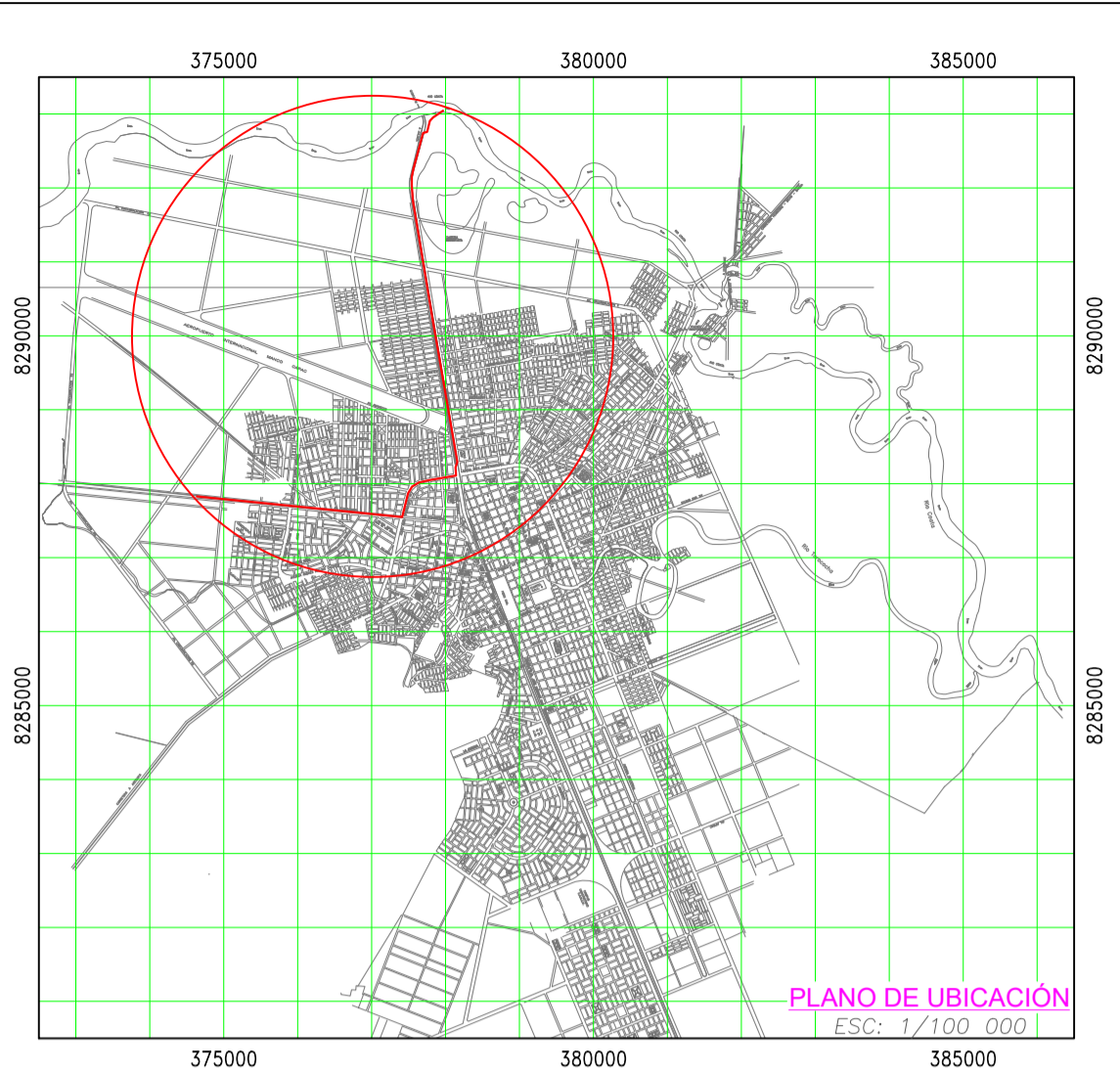
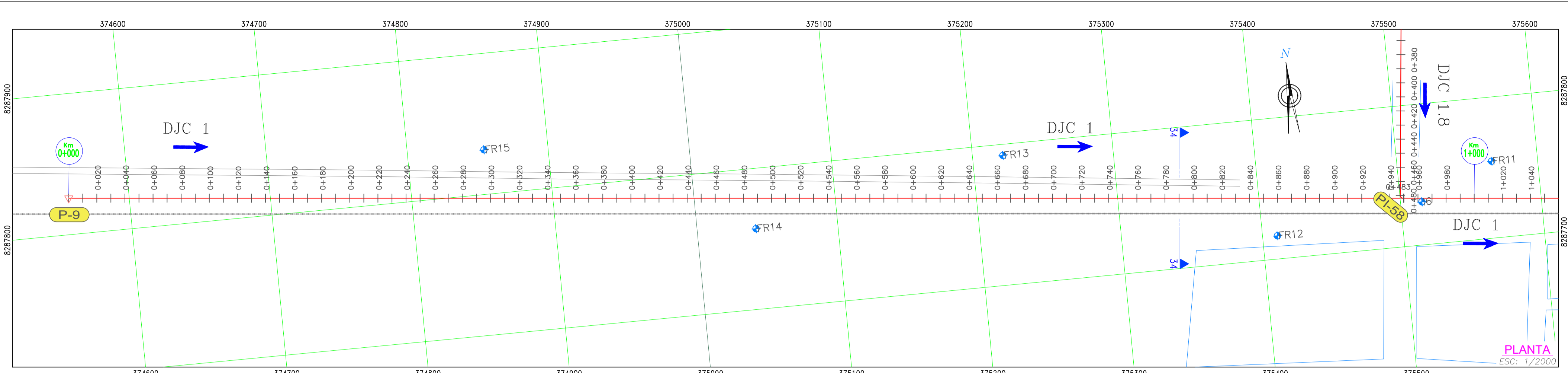


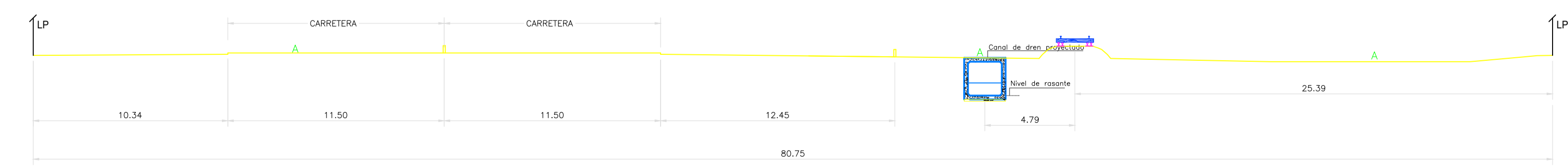
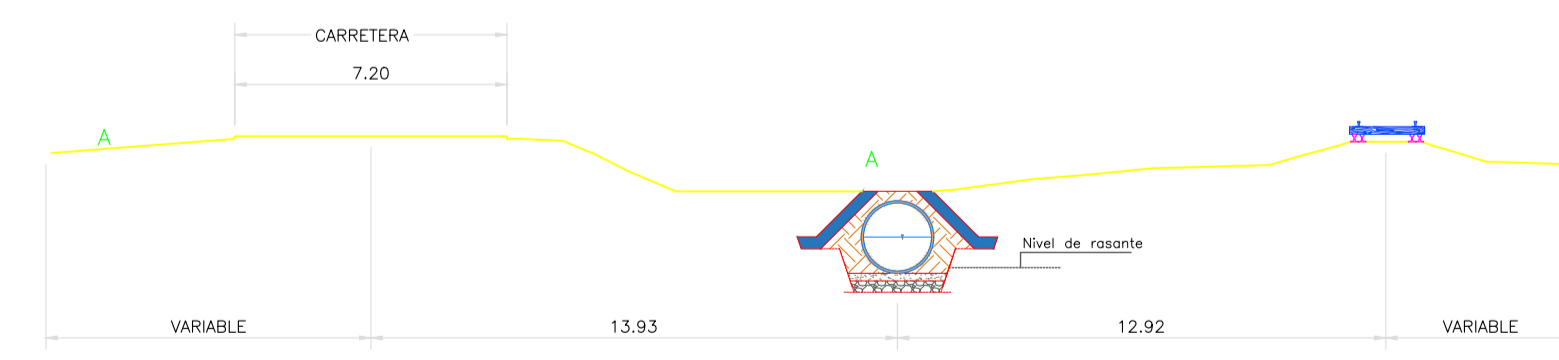
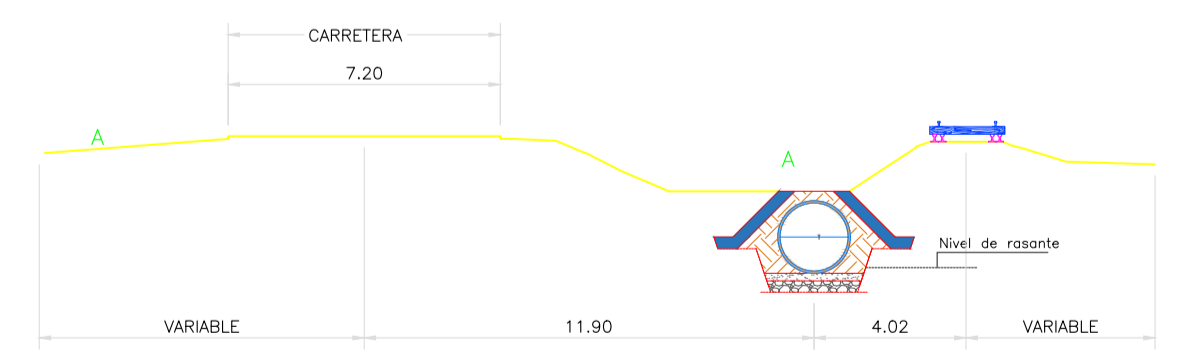
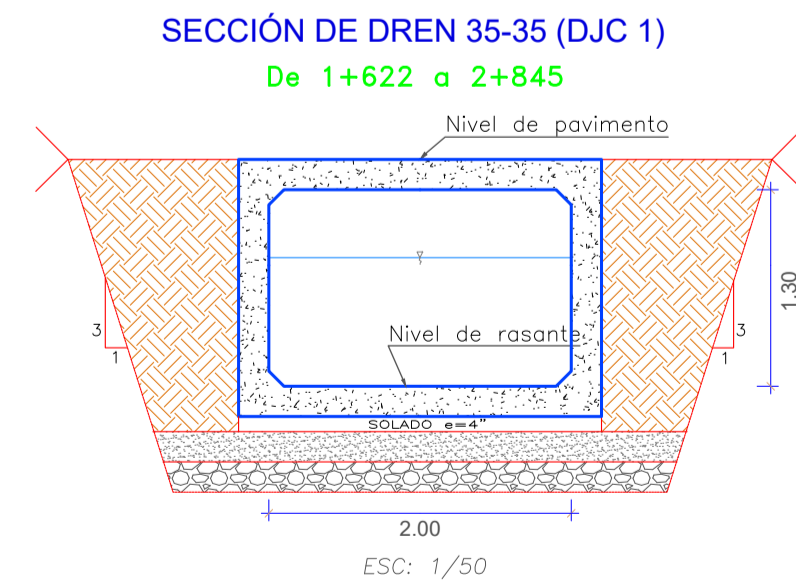
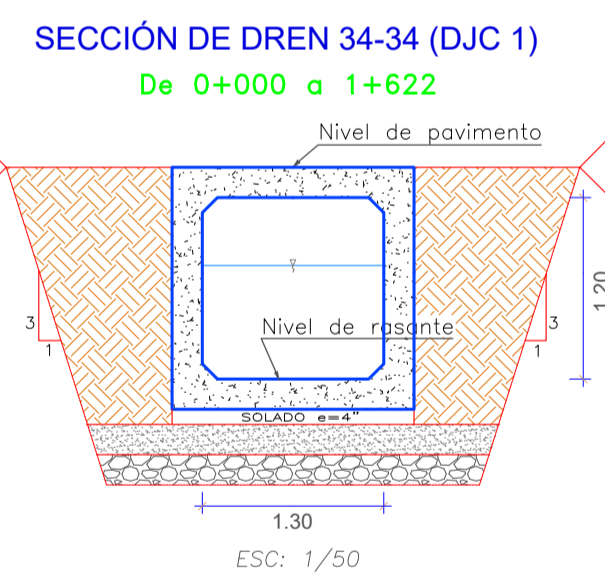
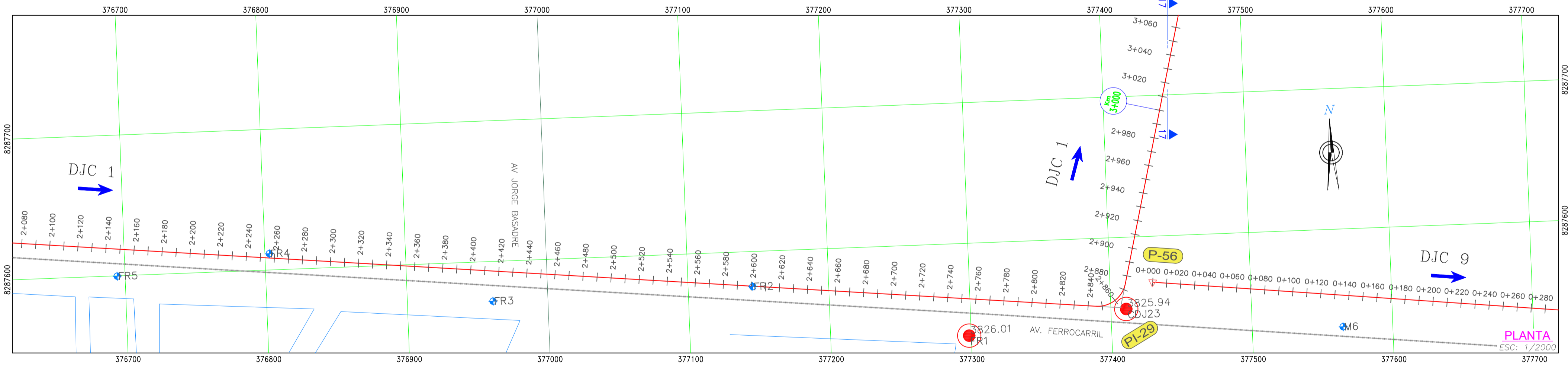
Tabla de Elementos de Curva y Coordenadas - DJC 1


PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-9	I	20	17.437	38.682	2+845.88	2+863.12	2+874.37	374557.133	828725.904
P-29	I	1	2.004	3.145	1+432.85	1+434.85	1+435.99	375913.881	828709.683
P-59	D	2	1.951	3.089	0+480.02	0+481.97	0+483.08	375500.102	828734.833

- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 19S) - DJC 1

Punto	Este	Norte	Elevación
FR15	374854.479	8287831.650	3826.127
FR14	375041.782	8287757.233	3825.606
FR13	375221.594	8287792.102	3825.252
FR12	375410.568	8287716.481	3825.368
FR11	375567.346	8287754.524	3825.610
FR10	375749.468	8287735.841	3825.076
FR9	375914.359	8287664.435	3825.210
FR8	376010.824	8287706.311	3825.332
FR7	376166.665	8287615.576	3824.776
R12	376325.321	8287637.363	3825.289
FR6	376459.169	8287646.813	3824.729
FR5	376694.370	8287599.742	3824.882
FR4	376803.159	8287611.587	3824.476
FR3	376960.924	8287571.743	3824.667
FR2	377145.967	8287575.029	3824.217
FR1	377298.566	8287534.322	3826.007
CDJ23	377410.912	8287548.998	3825.944





UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJC 1

PS-09

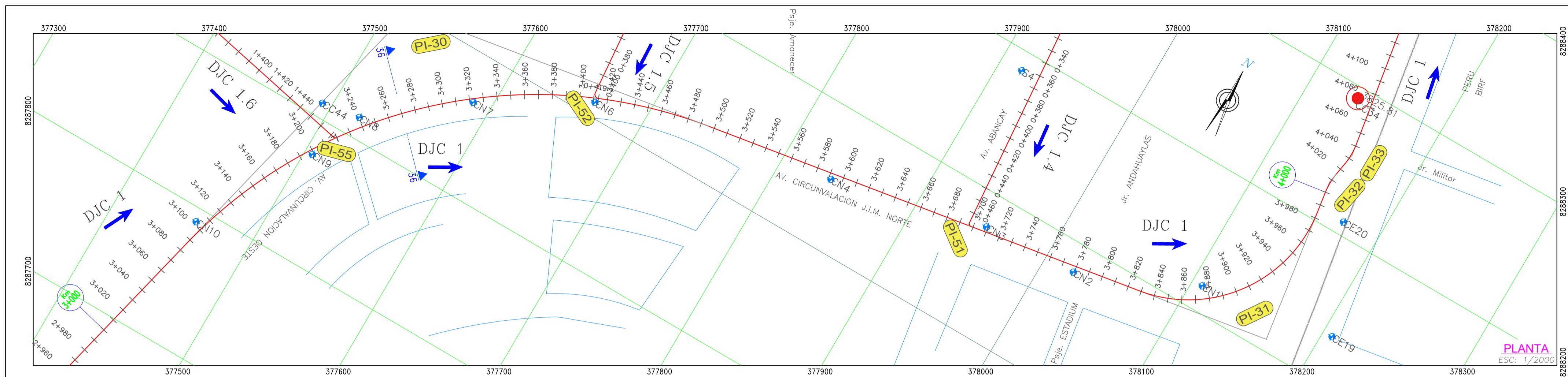
Escala: Indicada

Dibujó: PCRN - VHP

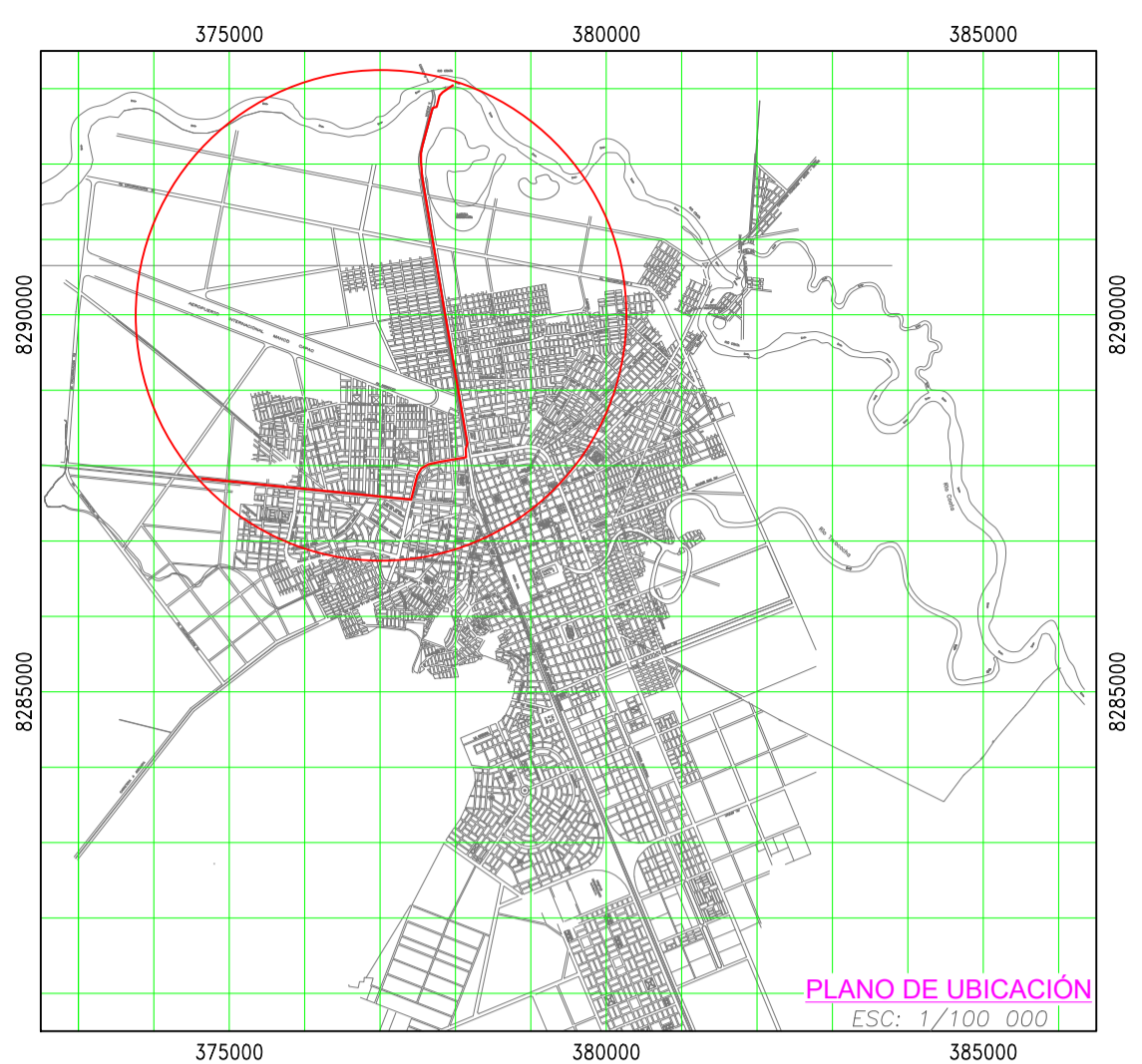
Ubicación: San Román - Puno

Fecha: Octubre del 2016

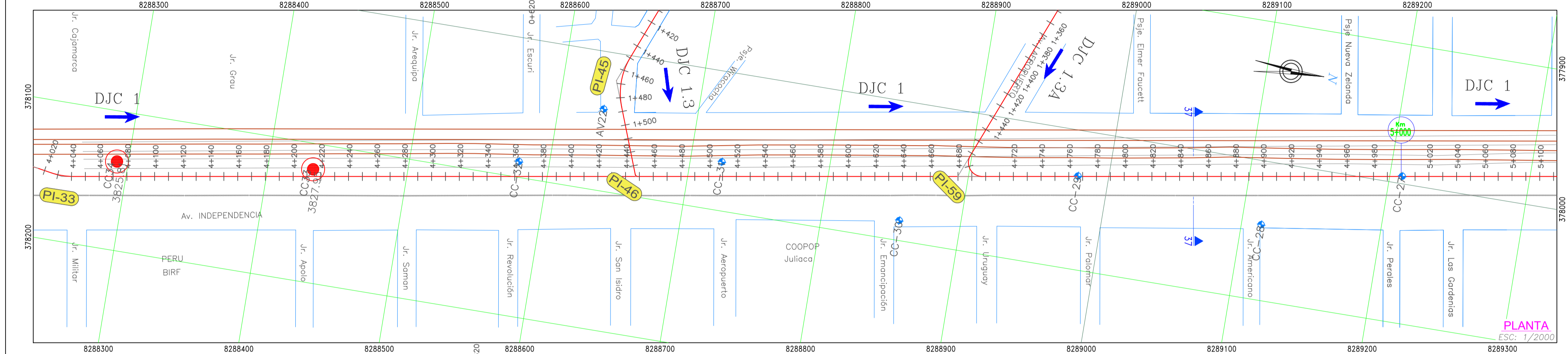
Lámina N°: 9 de 18



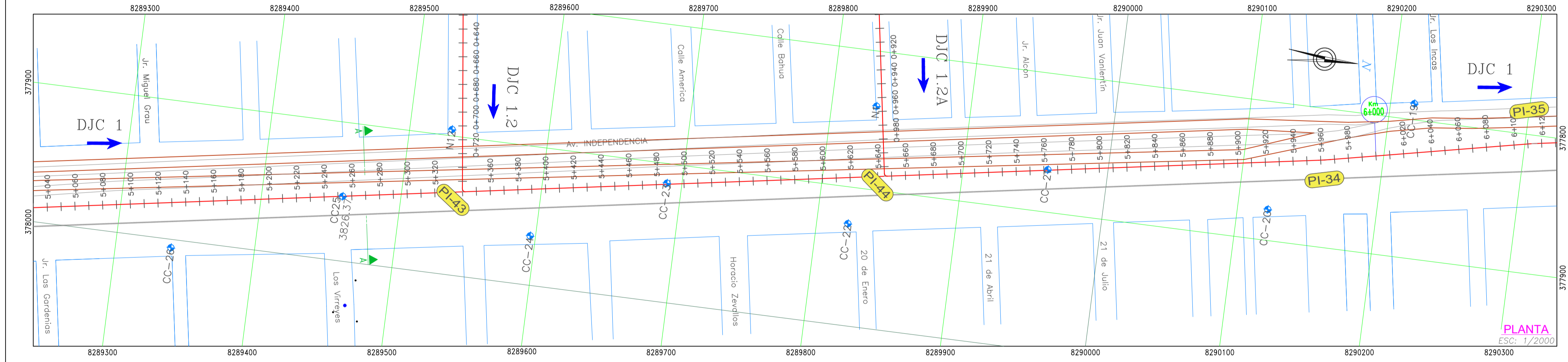
PLANTA
ESC: 1/2000



PLANO DE UBICACIÓN
ESC: 1/100.000



PLANTA
ESC: 1/2000



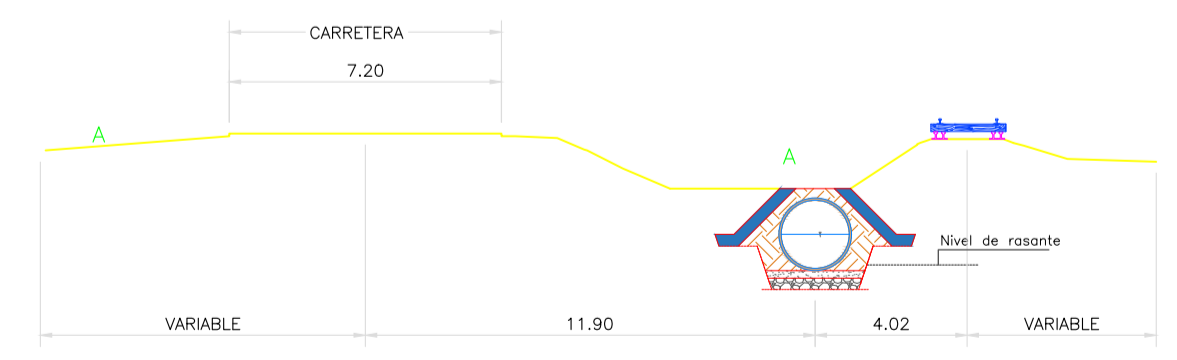
PLANTA
ESC: 1/2000

Legenda

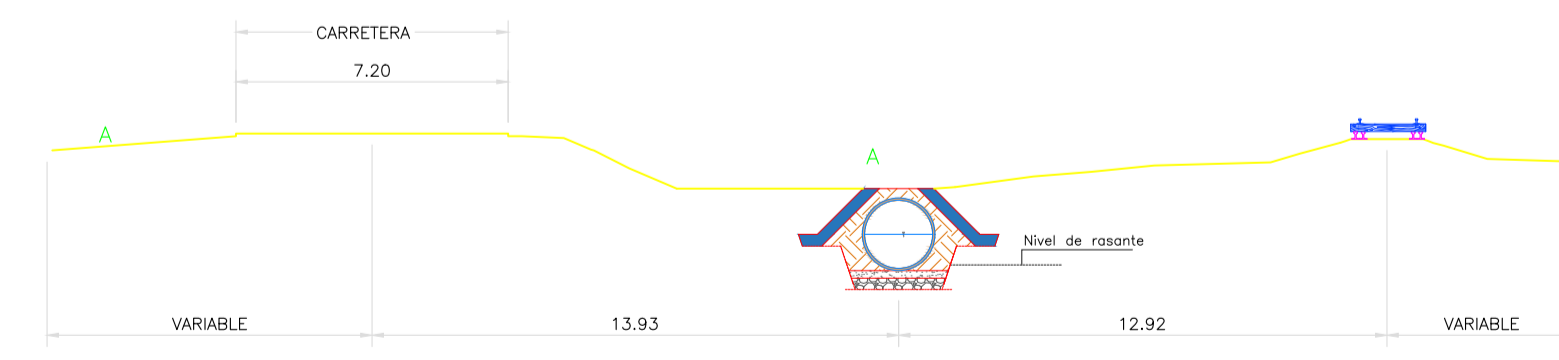
- Límite de propiedad
- Carretera
- Ferrocarril
- Dren del proyecto
- BM geodésico
- ⊕ BM (punto de control)
- Buzón de desagüe
- Poste de energía eléctrica
- Árboles

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PT	ESTE	NORTE
PI-30	D	390	232.395	418.302	37751.084	37751.084	37751.084	37751.084
PI-31	I	100	98.551	155.417	37751.084	37751.084	37751.084	37751.084
PI-32	D	50	7.039	15.747	37751.084	37751.084	37751.084	37751.084
PI-33	I	50	6.350	15.547	37751.084	37751.084	37751.084	37751.084
PI-34	I	200	4.207	8.413	37751.084	37751.084	37751.084	37751.084
PI-35	D	200	4.336	8.670	37751.084	37751.084	37751.084	37751.084
PI-36	I	2	2.083	3.223	37751.084	37751.084	37751.084	37751.084
PI-37	I	2	2.010	3.151	37751.084	37751.084	37751.084	37751.084
PI-38	I	2	2.156	3.292	37751.084	37751.084	37751.084	37751.084
PI-39	I	3	4.038	5.591	37751.084	37751.084	37751.084	37751.084
PI-40	I	2	1.248	2.232	37751.084	37751.084	37751.084	37751.084
PI-41	I	10	17.707	21.134	37751.084	37751.084	37751.084	37751.084

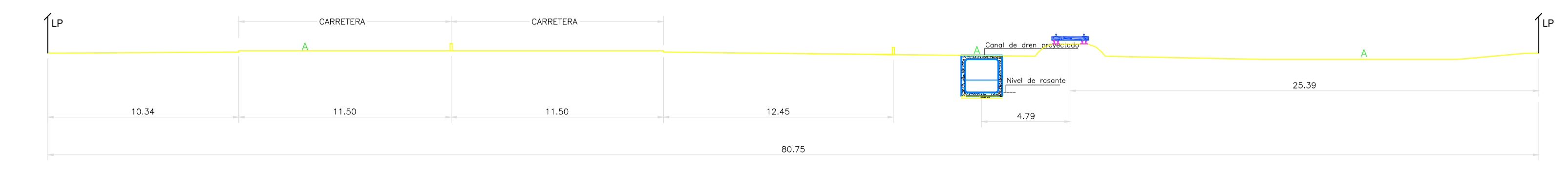
Punto	Este	Norte	Elevación
CN10	377457.934	828790.385	3824.048
CN9	377505.667	828784.745	3824.333
CN8	377521.421	828791.130	3824.063
CN7	377586.924	828796.026	3824.385
CN6	377662.655	828801.517	3824.363
CN4	377837.744	828804.757	3824.127
CN3	377951.982	828807.638	3824.287
CN2	378022.589	828807.534	3824.313
CN1	378107.877	828818.084	3824.408
CC34	378136.216	8288291.844	3825.813
CC33	378118.567	8288432.417	3827.949
CC32	378088.661	8288578.150	3824.332
CC31	378064.901	8288722.680	3824.486
CC30	378045.647	8288855.939	3824.015
CC29	378032.797	8288977.945	3824.818
CC28	378045.757	8289114.180	3824.077
CC27	377994.598	8289208.916	3824.964
CC26	378005.994	8289339.934	3824.072
CC25	377953.394	8289458.211	3825.219
CC24	377964.439	8289596.084	3825.001
CC23	377914.132	8289689.201	3825.276
CC22	377926.493	8289822.479	3824.512
CC21	377869.408	8289960.723	3825.326
CC20	377877.680	8290121.849	3824.923
CC19	377785.879	8290216.329	3824.918



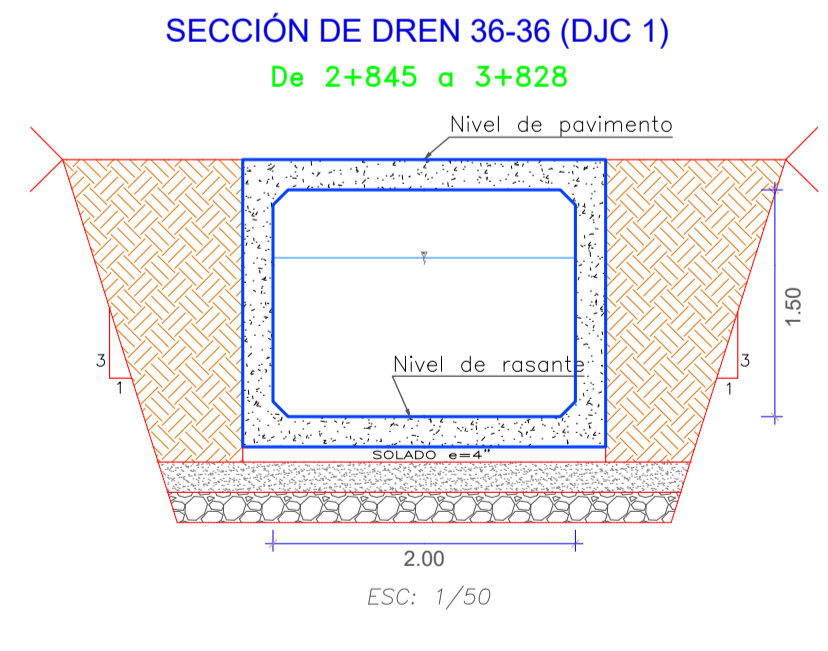
SECCION A-A
ESC: 1/200



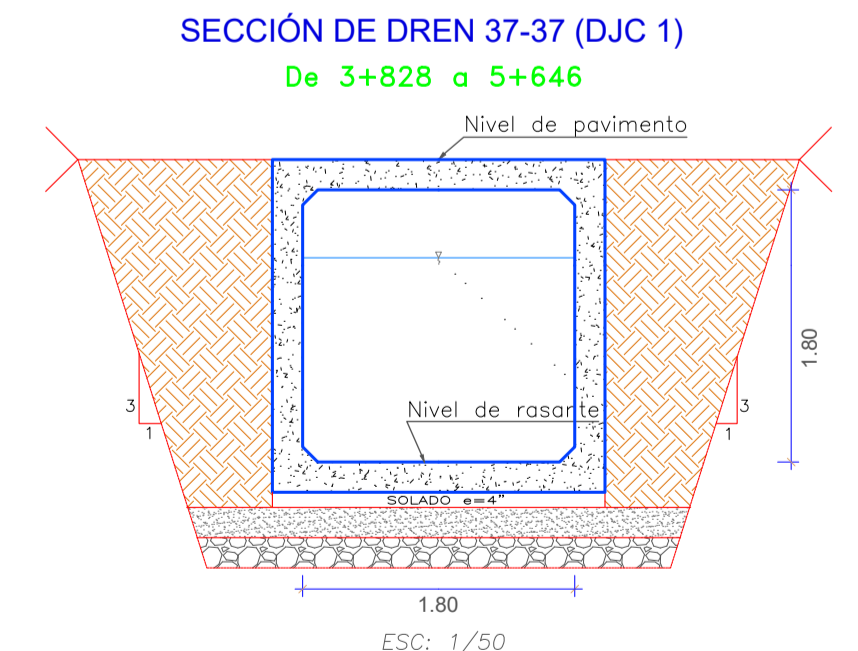
SECCION B-B
ESC: 1/200



SECCION C-C
ESC: 1/200



SECCION DE DREN 36-36 (DJC 1)
De 2+845 a 3+828
ESC: 1/50



SECCION DE DREN 37-37 (DJC 1)
De 3+828 a 5+646
ESC: 1/50

	UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM	PS-10 Lámina N°: 10 de 18 Fecha: Octubre del 2016
	Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJC 1	
Escala: Indicada	Dibujó: PORN - WHP	Ubicació: San Román - Puno

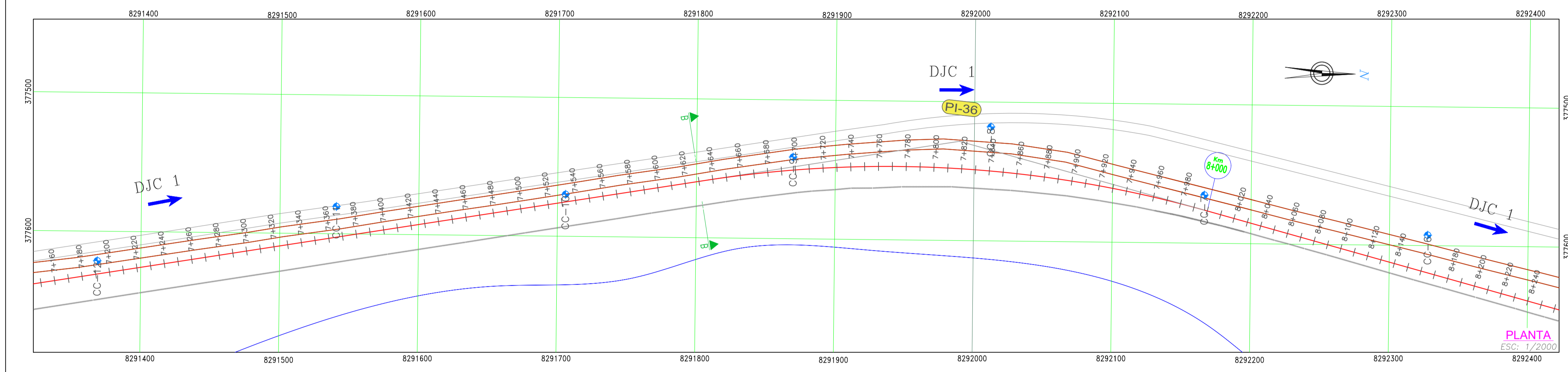
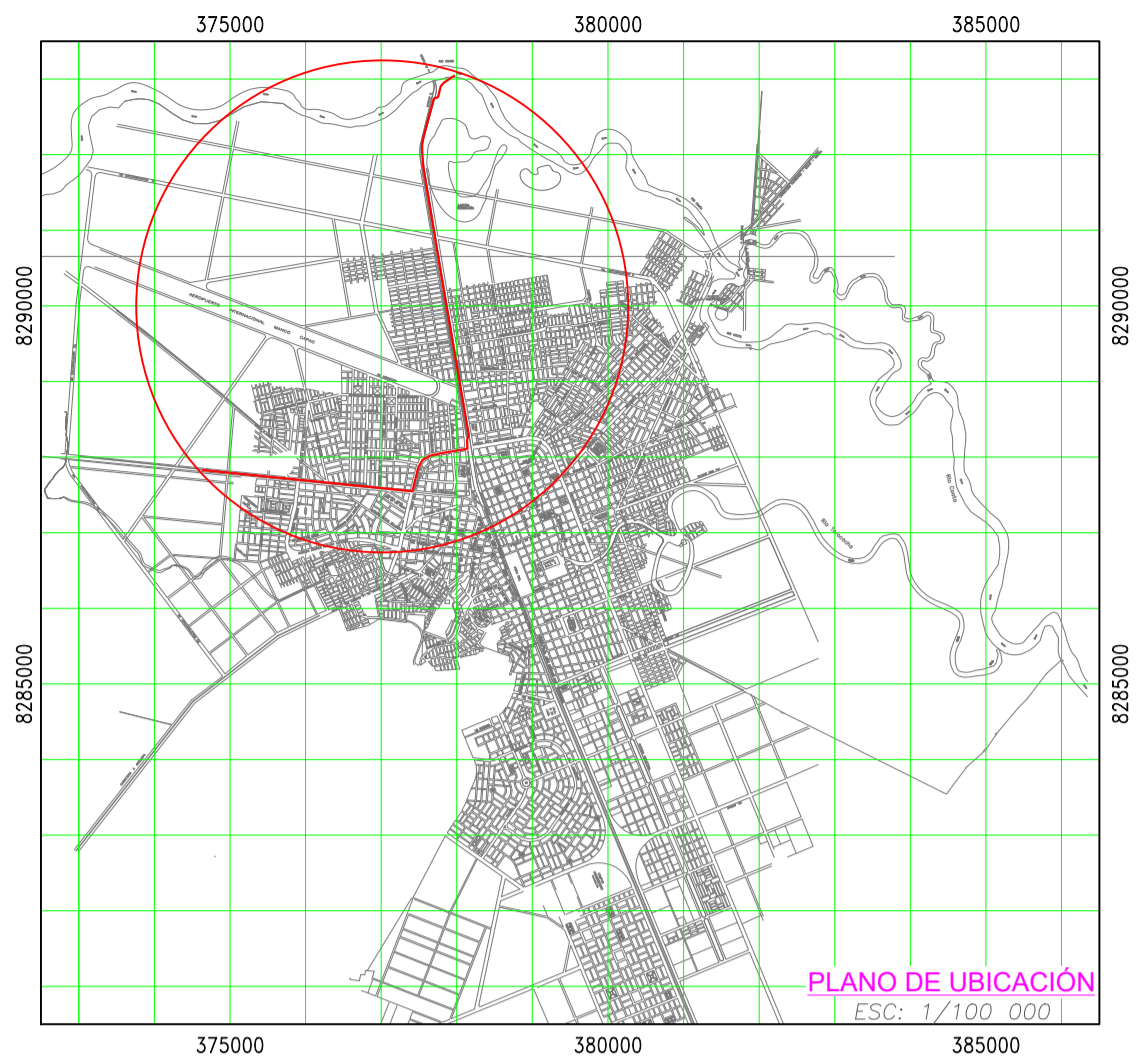
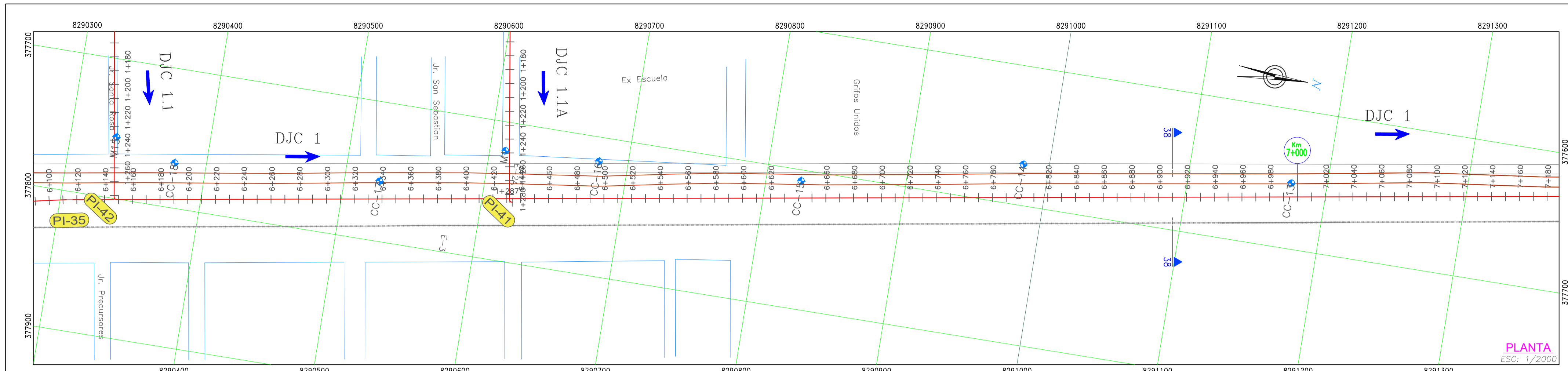


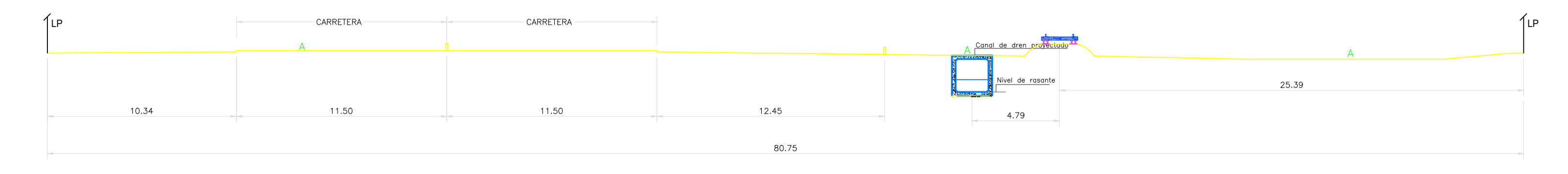
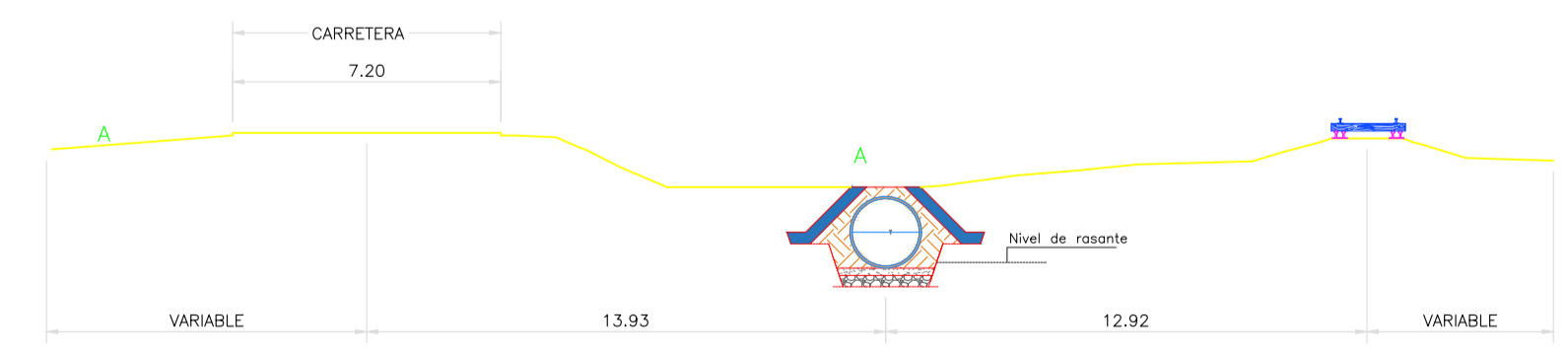
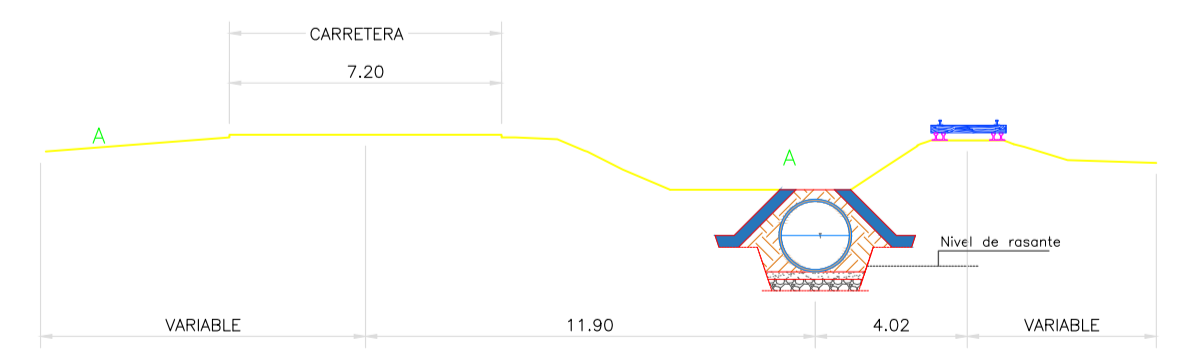
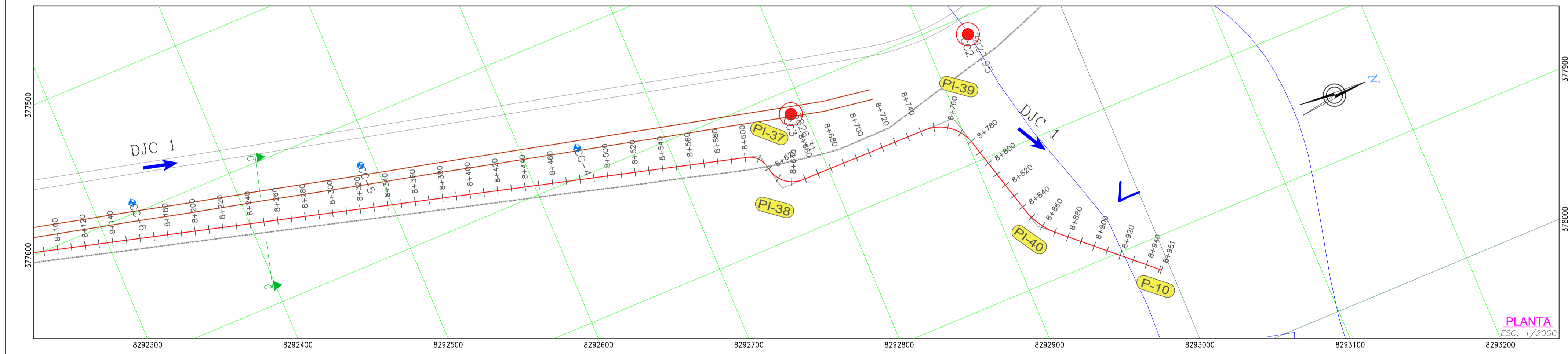
Tabla de Elementos de Curva y Coordenadas - DJC 1

PI N°	SENTIDO	RADIO	TANGENTE	LC	IPC	PI	PT	ESTE	NORTE
PI-36	D	850	184.020	362.448	7+636.02	7+620.04	7+696.47	377528.555	829199.335
PI-37	D	15	8.120	16.388	8+017.43	8+019.55	8+017.81	377738.479	829278.029
PI-38	I	20	15.564	26.946	8+421.28	8+437.24	8+468.22	377763.365	829274.108
PI-39	D	30	22.680	38.940	8+742.70	8+765.38	8+781.54	377764.463	829287.241
PI-40	I	50	14.536	28.391	8+842.88	8+857.42	8+871.18	377859.512	8292923.328
PI-41	I	2	2.011	3.153	1+283.51	1+285.52	1+286.66	377568.829	8290620.047
PI-42	I	2	1.699	2.664	1+283.13	1+282.83	1+283.79	377860.682	8290338.459
PI-10								377723.270	8292993.555

- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

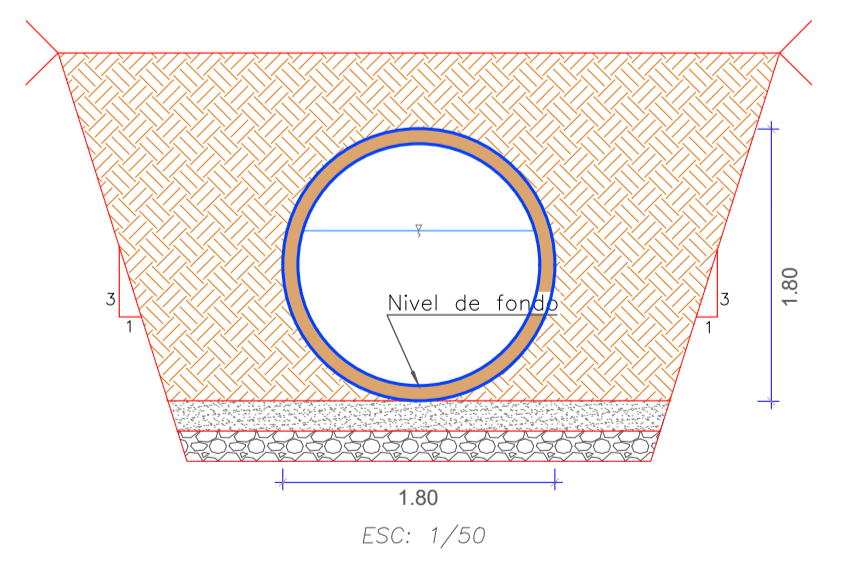
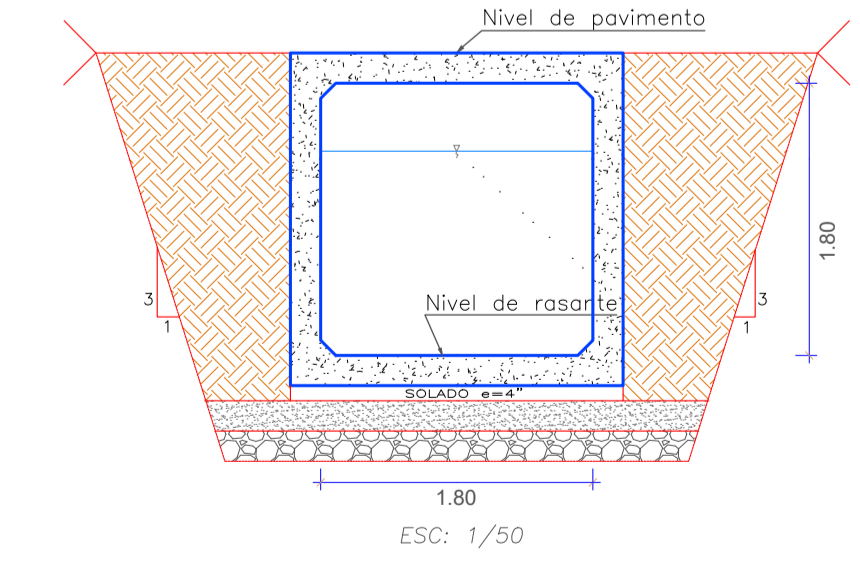
Coordenadas UTM WGS-84 (Zona 18S) - DJC 1

Punto	Este	Norte	Elevación
CC18	377767.639	8290377.332	3824.904
CC17	377756.884	8290525.227	3824.715
CC16	377711.098	8290677.502	3824.922
CC15	377707.895	8290825.141	3824.474
CC14	377670.383	8290981.415	3824.608
CC13	377652.759	8291174.317	3824.922
CC12	377621.281	8291368.625	3824.499
CC11	377578.819	8291539.775	3824.580
CC10	377567.161	8291704.968	3824.757
CC9	377541.151	8291869.464	3824.524
CC8	377517.886	8292011.870	3824.456
CC7	377565.293	8292166.245	3823.506
CC6	377592.432	8292327.534	3823.177
CC5	377631.025	8292489.872	3823.083
CC4	377679.683	8292638.693	3823.607
CC3	377716.551	8292790.413	3826.313
CC2	377712.636	8292930.325	3827.949



SECCIÓN DE DREN 37-37 (DJC 1)
De 3+828 a 5+646

SECCIÓN DE DREN 38-38 (DJC 1)
De 5+646 a 8+951.50



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJC 1

Escala: Indicada | Dibujo: POR - WHP | Ubicación: San Román - Puno | Fecha: Octubre del 2016

PS-11

Lámina N°: 11 de 18

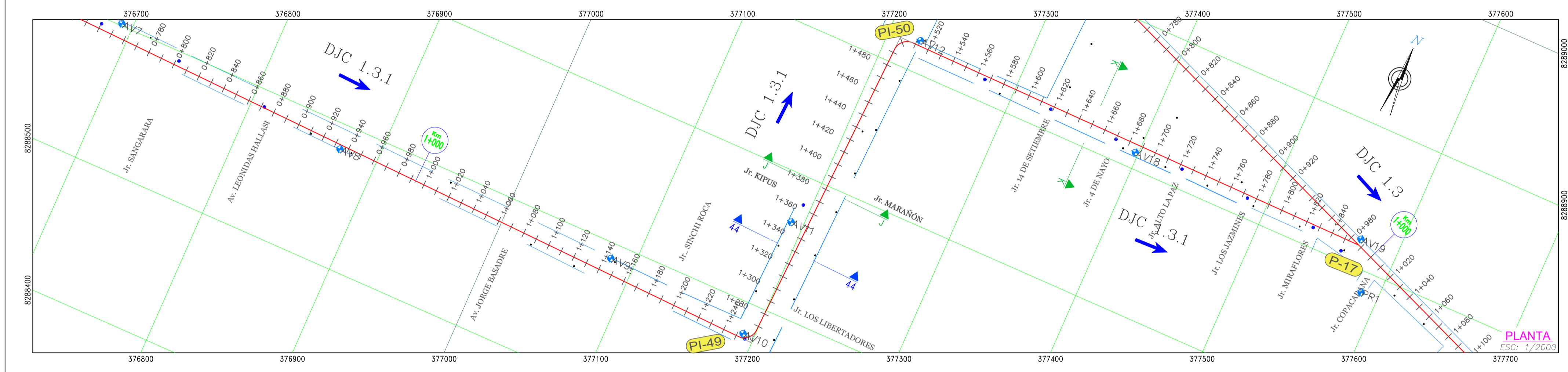
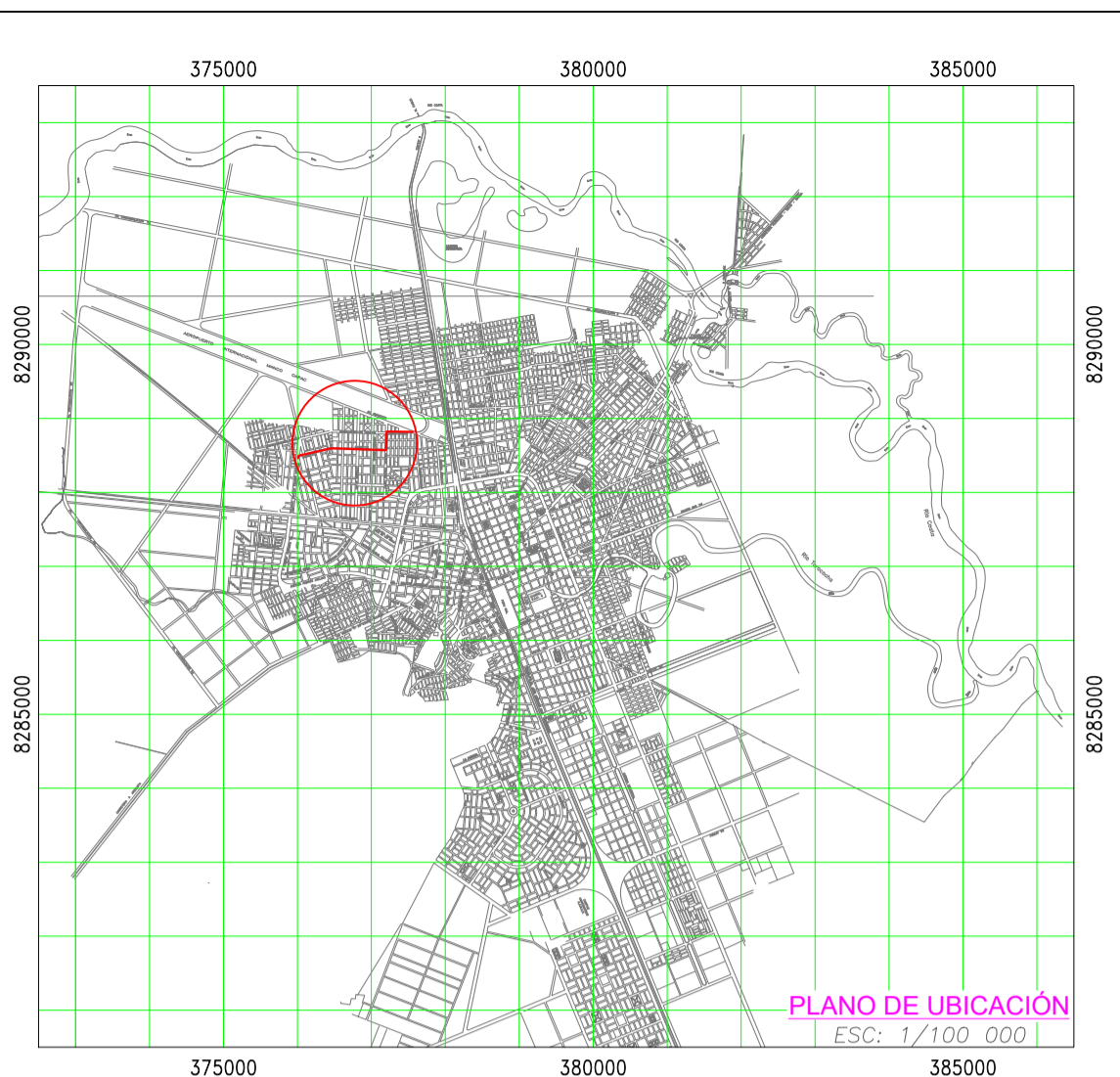
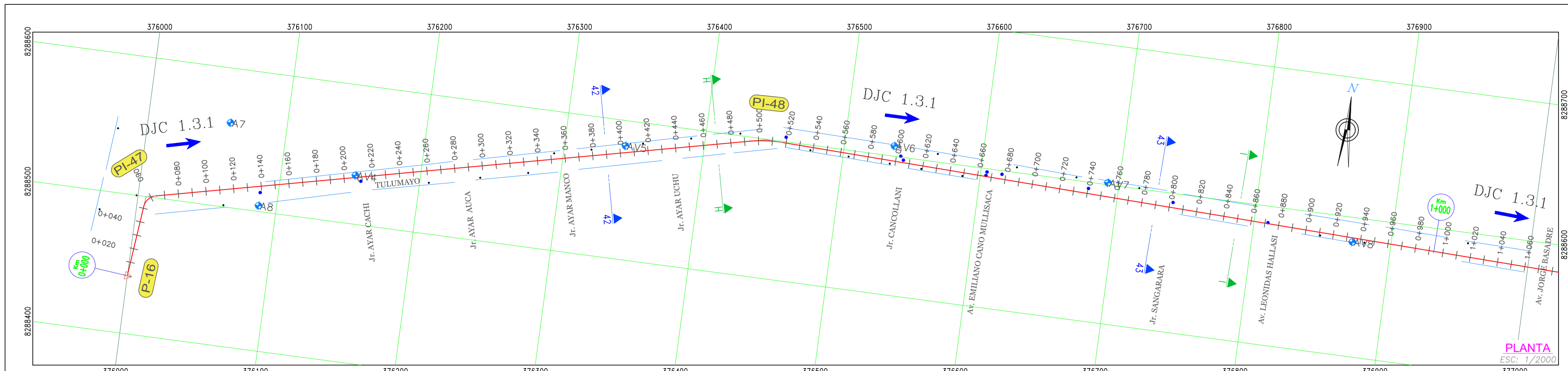


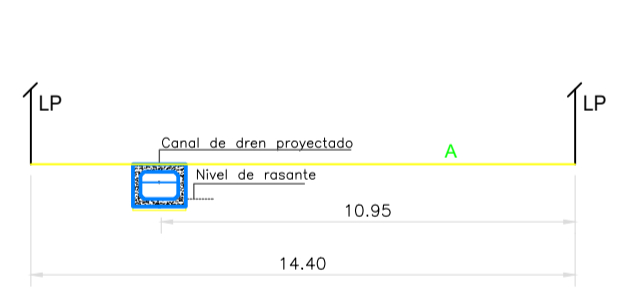
TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJC 1.3.1

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-16								37599.636	828841.595
PI-47	D	10	7.180	12.654	0+051.33	0+058.51	0+063.79	37600.845	828899.858
PI-48	D	100	12.946	25.748	0+492.35	0+505.29	0+518.10	37643.295	828899.944
PI-49	I	10	9.918	16.625	1+251.53	1+261.45	1+267.16	37719.170	828874.483
PI-50	D	10	9.688	15.391	1+492.44	1+502.13	1+507.83	37729.333	828819.158
P-17								37732.021	828819.609

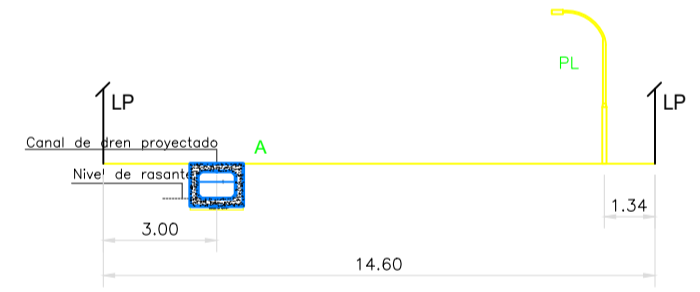
- Legenda**
- Límite de propiedad
 - Carretera
 - Ferrocarril
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desague
 - Poste de energía eléctrica
 - Árboles

Coordenadas UTM WGS-84 (Zona 18S) - DJC 1.3.1

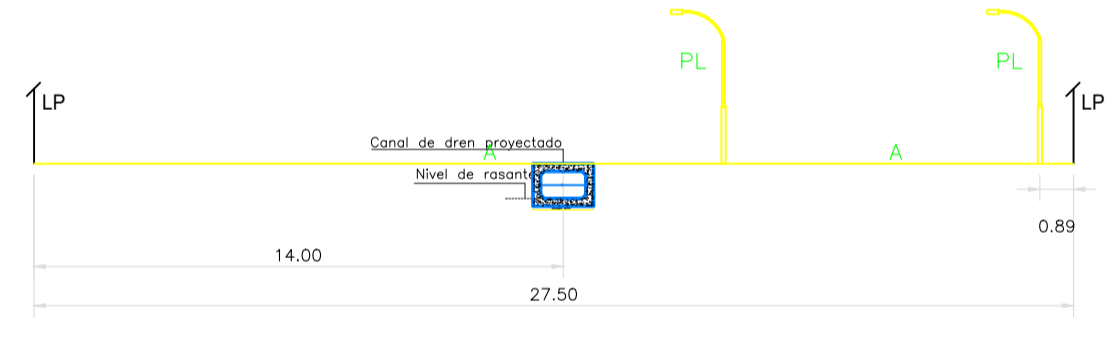
Punto	Este	Norte	Elevación
AB1	376635.722	8289173.410	3825.623
AB2	376472.595	8289129.687	3826.100
A1	378179.559	8289108.170	3824.156
A2	378321.355	8289113.157	3823.878
A3	378491.710	8289136.184	3823.833
A4	378675.226	8289123.940	3824.217
A5	378847.096	8289145.637	3823.405
A6	379014.190	8289136.155	3823.222
A7	379186.338	8289172.816	3823.074
A8	379319.924	8289170.049	3823.062
AV4	376153.475	8288535.066	3824.818
AV5	376343.629	8288581.852	3825.062
AV6	376535.833	8288607.342	3824.933
AV7	376691.876	8288601.419	3824.542
AV8	376872.159	8288582.353	3824.456
AV9	377082.602	8288589.079	3824.405
AV10	377191.702	8288578.059	3824.555
AV11	377190.947	8288665.568	3824.466
AV12	377223.447	8288824.923	3824.182
AV18	377307.693	8288811.630	3824.489
AV17	377328.882	8288892.725	3824.323



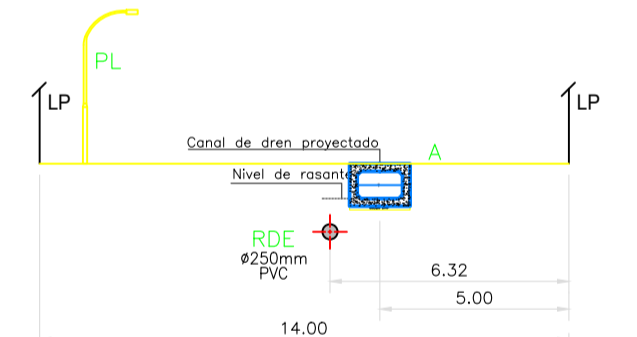
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ESC: 1/200



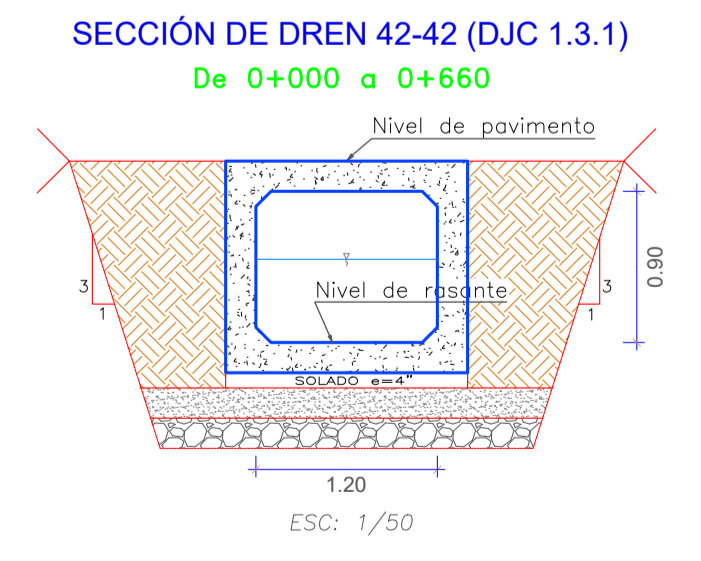
SECCION I-I
ESC: 1/200



SECCION J-J
ESC: 1/200



SECCION K-K
ESC: 1/200



ESC: 1/50



ESC: 1/50



ESC: 1/50

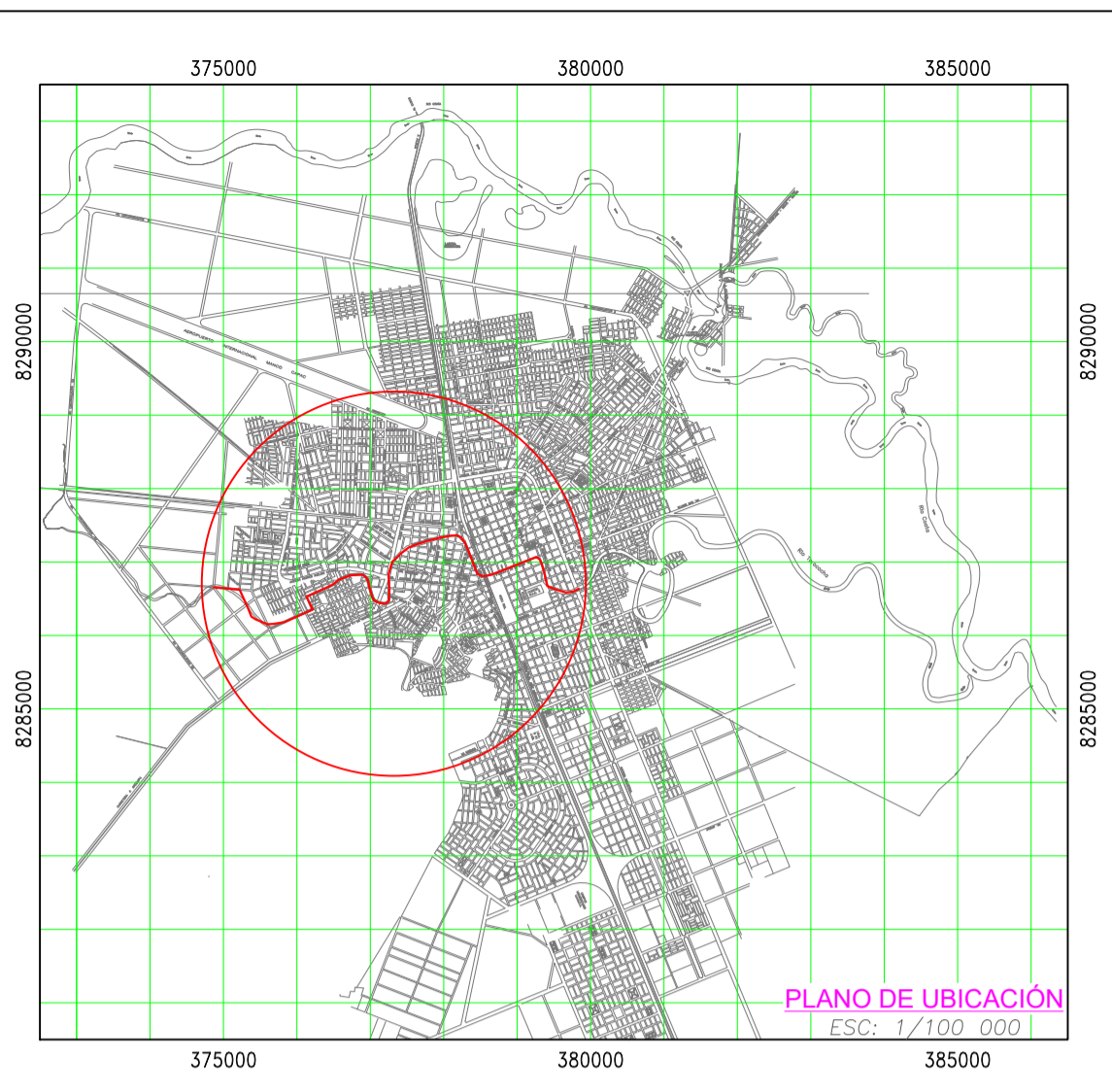
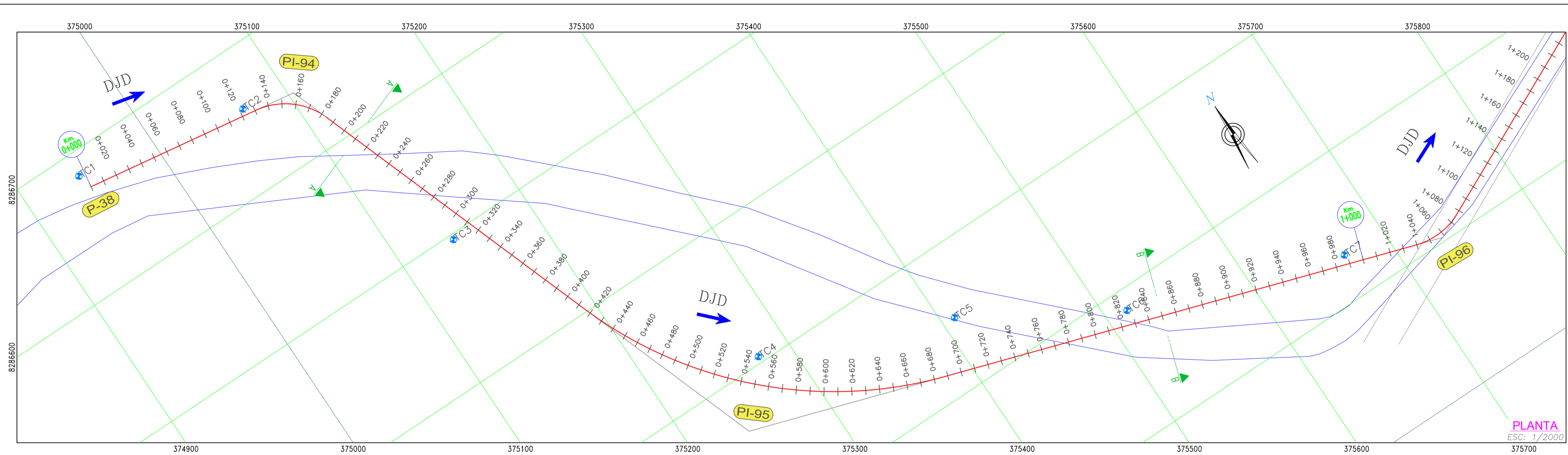
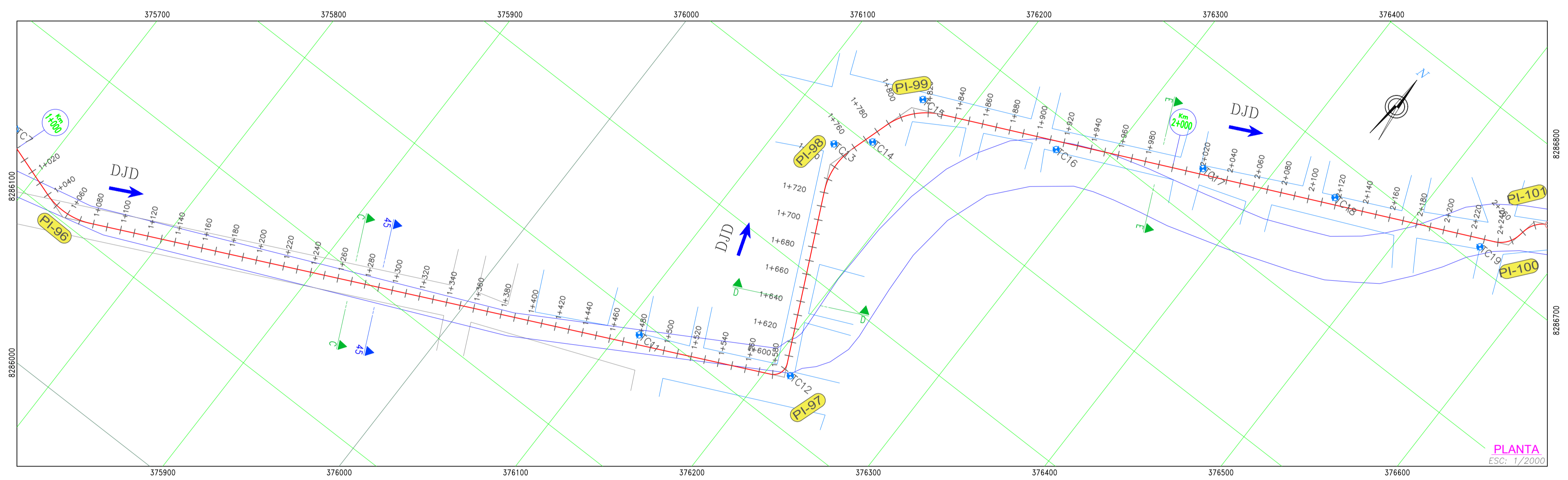


TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJD

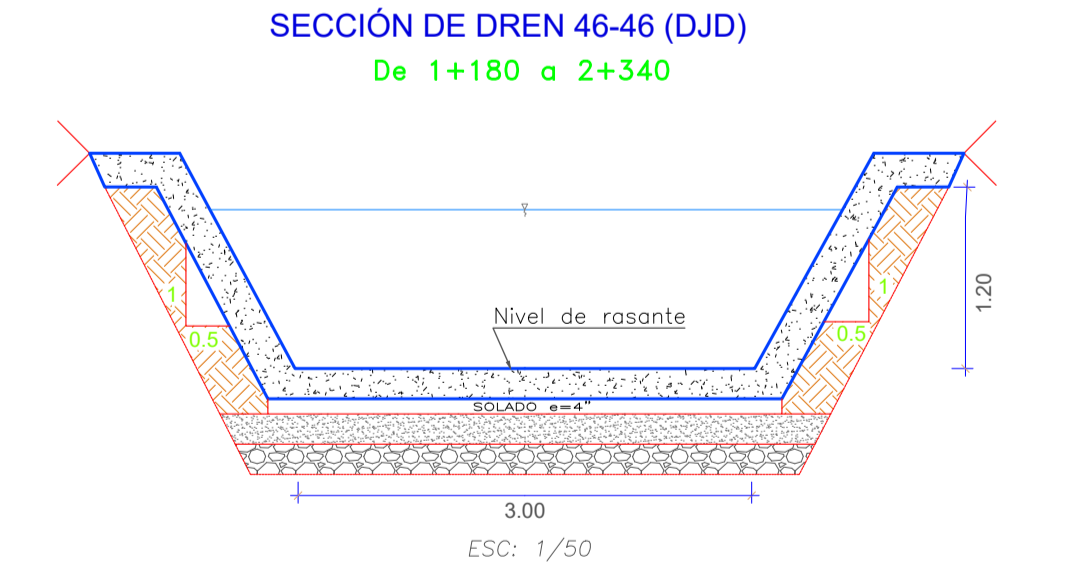
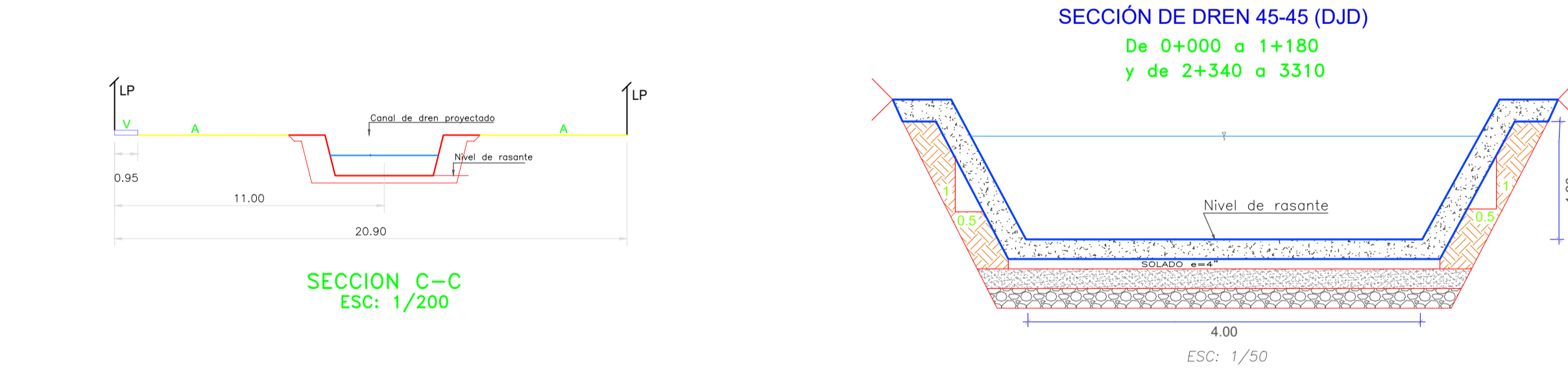
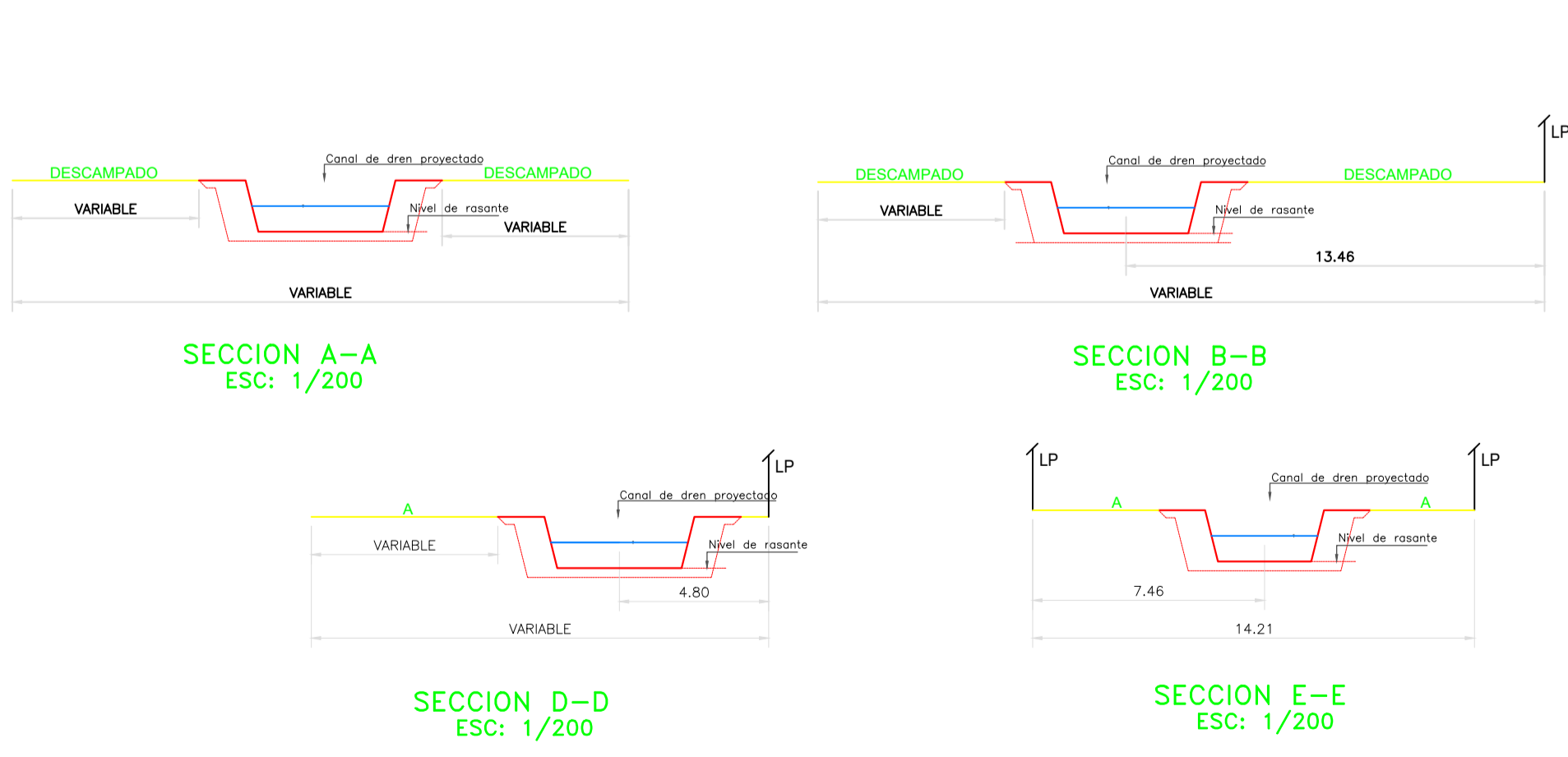
PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
PI-38	D	50	29.899	53.998	0+130.71	0+180.40	0+194.30	374945.273	828672.314
PI-94	I	300	148.032	273.068	0+415.53	0+560.35	0+608.00	375163.785	8286647.619
PI-96	I	50	19.985	37.981	1+039.55	1+059.51	1+077.54	375733.438	8286102.303
PI-97	I	10	10.060	15.768	1+578.56	1+588.62	1+594.33	376213.987	8286330.732
PI-98	D	50	19.983	37.902	1+729.97	1+740.86	1+758.48	376145.123	8286471.579
PI-99	D	50	22.168	41.732	1+788.02	1+810.19	1+829.76	376166.255	8286336.778
PI-100	I	20	10.329	19.069	2+237.47	2+247.80	2+256.54	376565.339	8286725.559
PI-101	D	20	10.281	18.993	2+281.17	2+271.45	2+280.16	376569.899	8286750.389

- Legenda**
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Coordenadas UTM WGS-84 (Zona 18E) - DJD

Punto	Este	Norte	Elevación
TC1	374942.231	8286683.437	8284.070
TC2	375067.048	8286658.120	8284.604
TC3	375140.925	8286496.178	8284.173
TC4	375276.614	8286304.598	8283.992
TC5	375409.500	8286249.665	8284.501
TC6	375515.462	8286185.200	8284.402
TC7	375667.486	8286131.646	8284.496
TC8	375764.398	8286115.809	8284.007
TC9	375846.832	8286169.974	8284.243
TC10	375978.596	8286208.050	8284.327
TC11	376112.170	8286290.677	8284.362
TC12	376215.631	8286334.250	8283.953
TC13	376138.238	8286484.934	8283.858
TC14	376159.265	8286503.045	8284.156
TC15	376169.061	8286549.362	8283.958
TC16	376269.435	8286576.961	8283.768
TC17	376358.631	8286631.976	8283.691
TC18	376454.674	8286676.924	8283.792
TC19	376552.159	8286702.916	8282.952



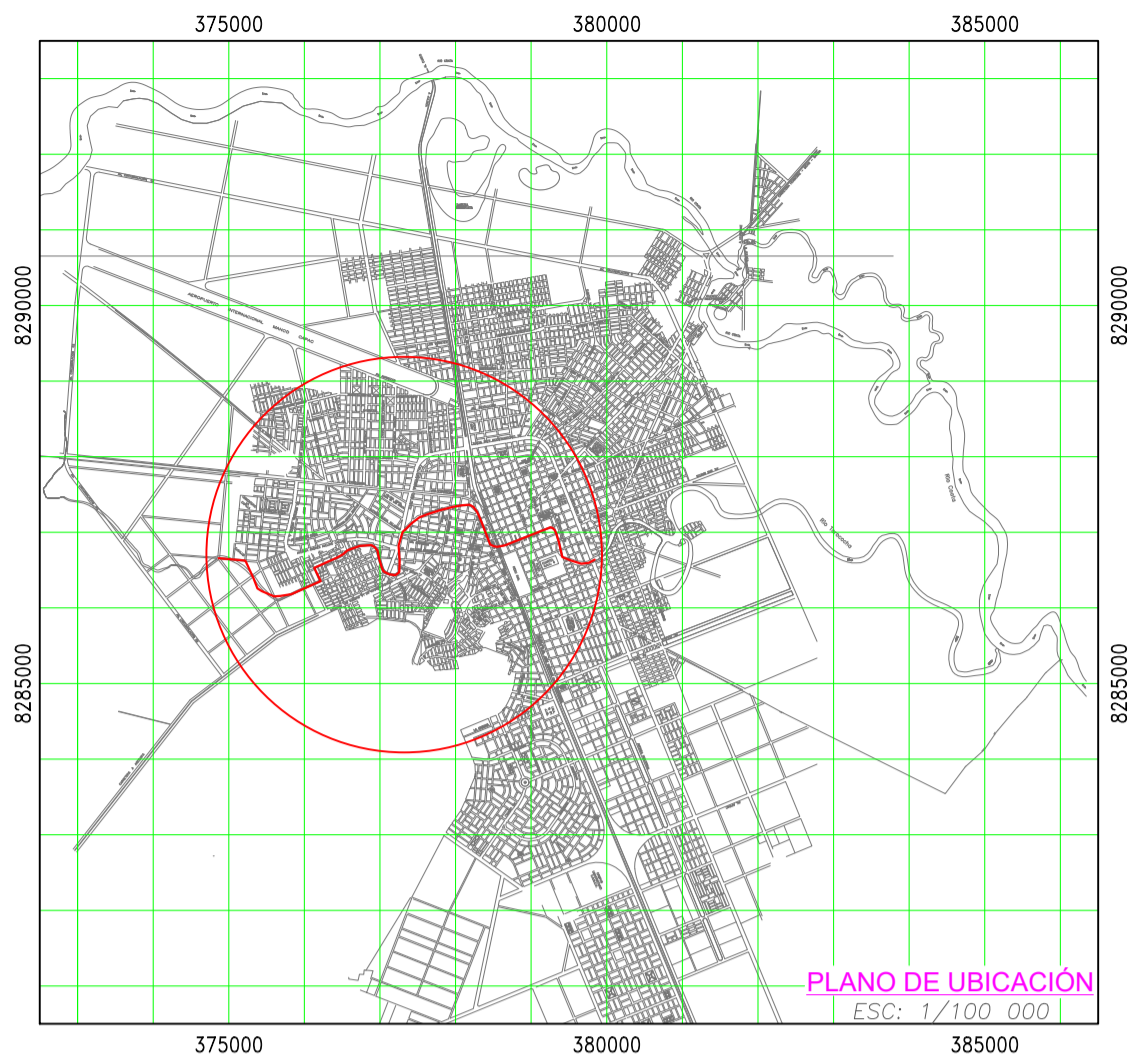
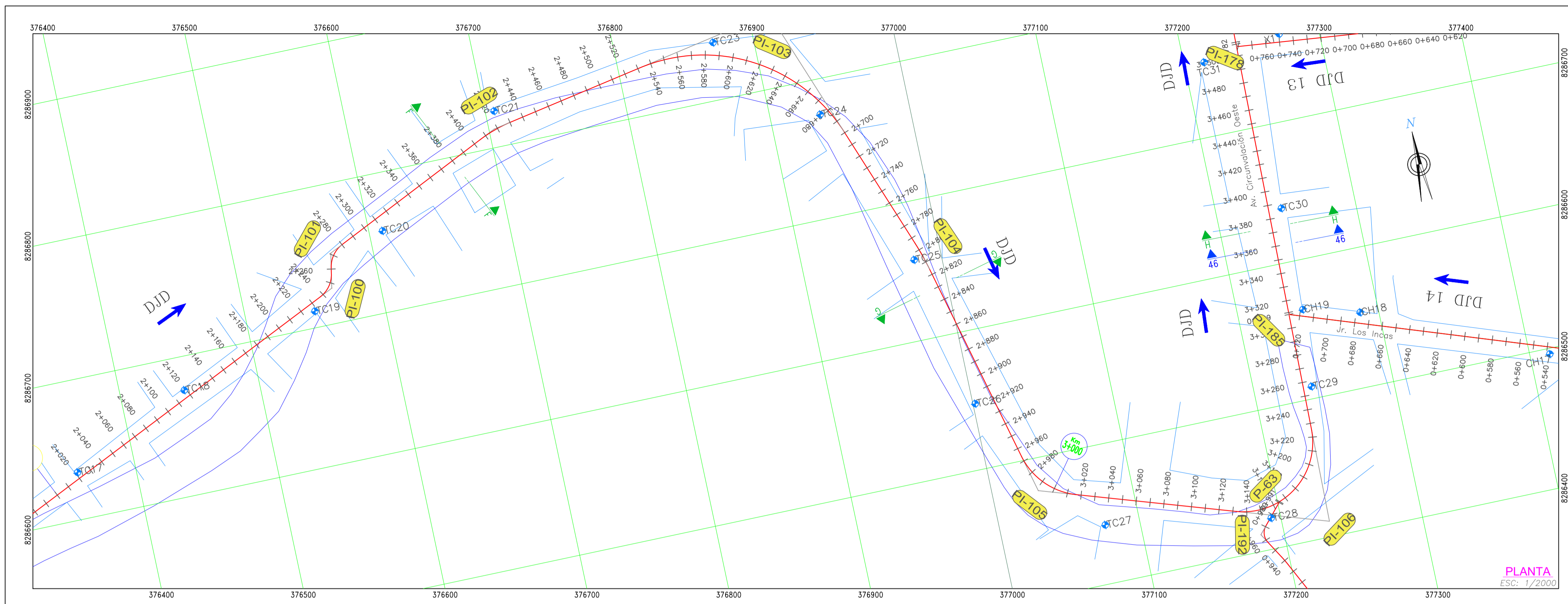
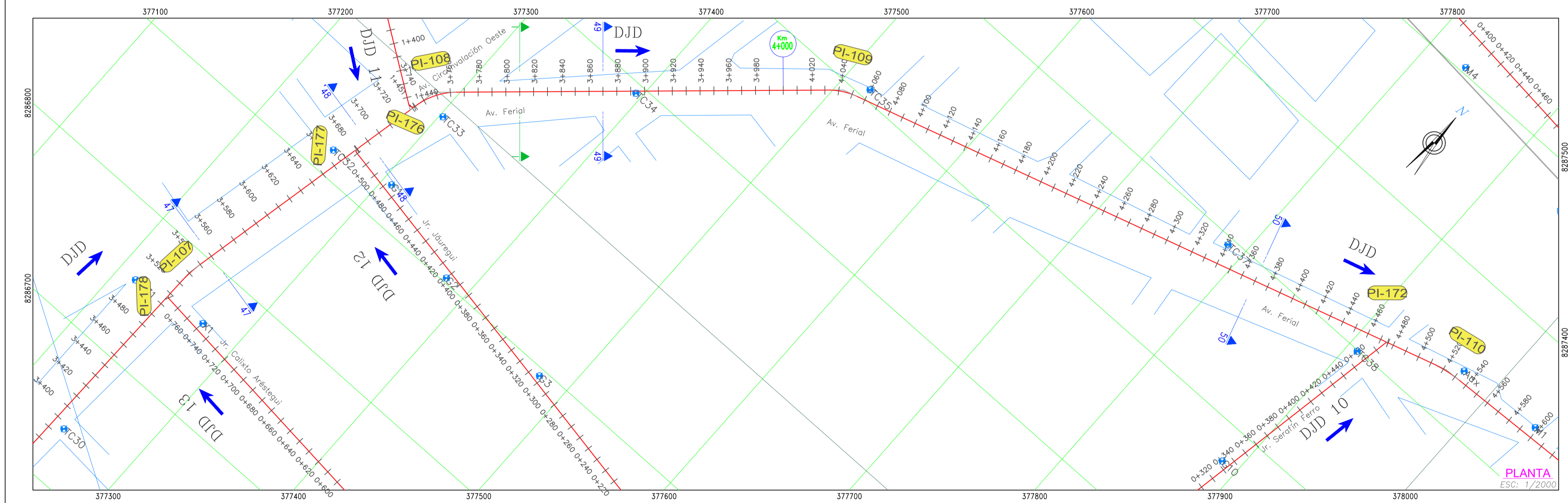


TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - D.D.J.

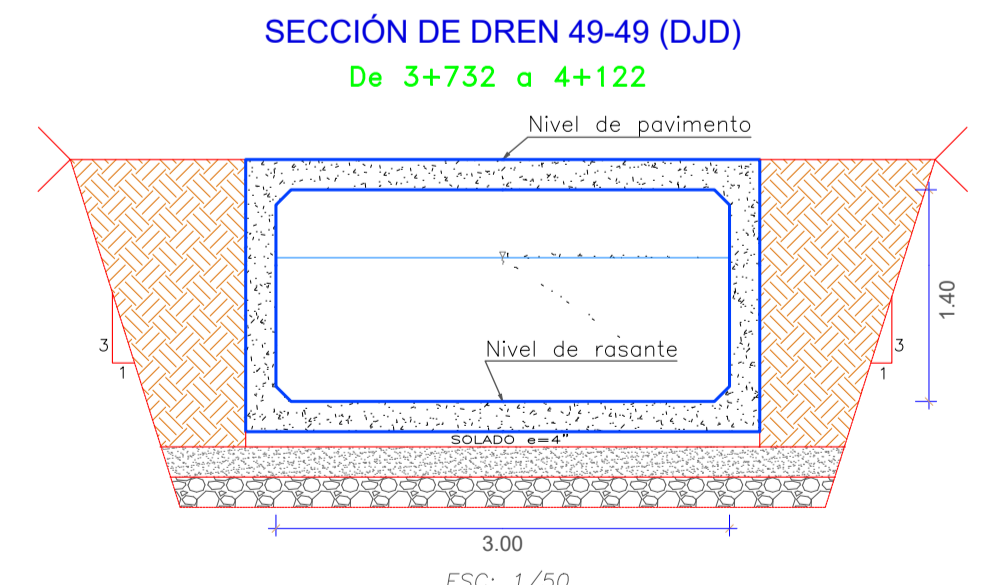
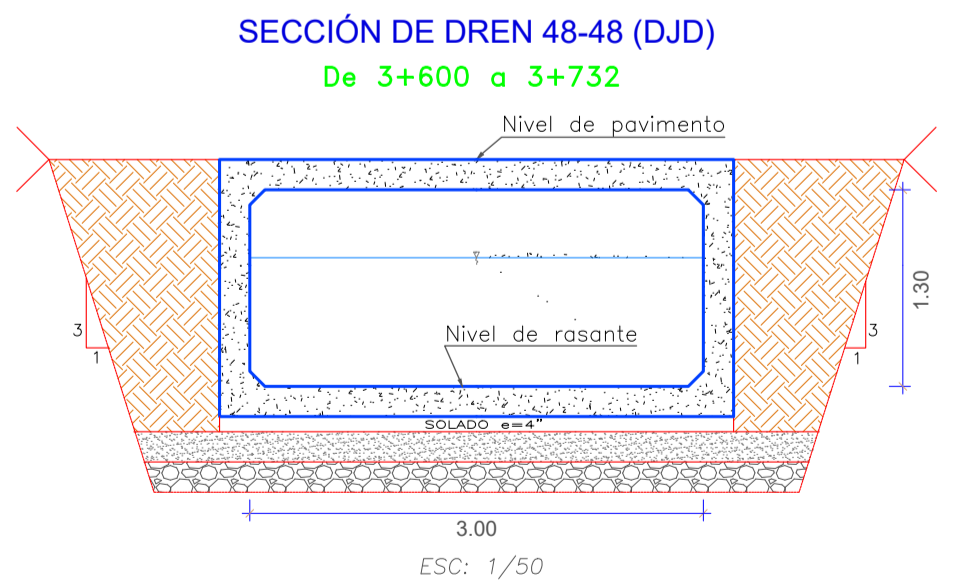
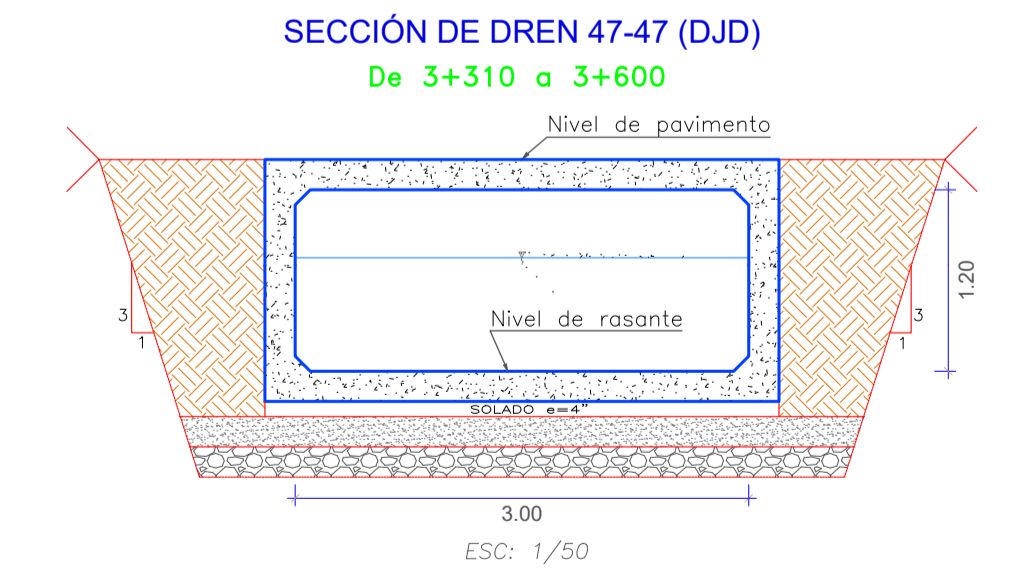
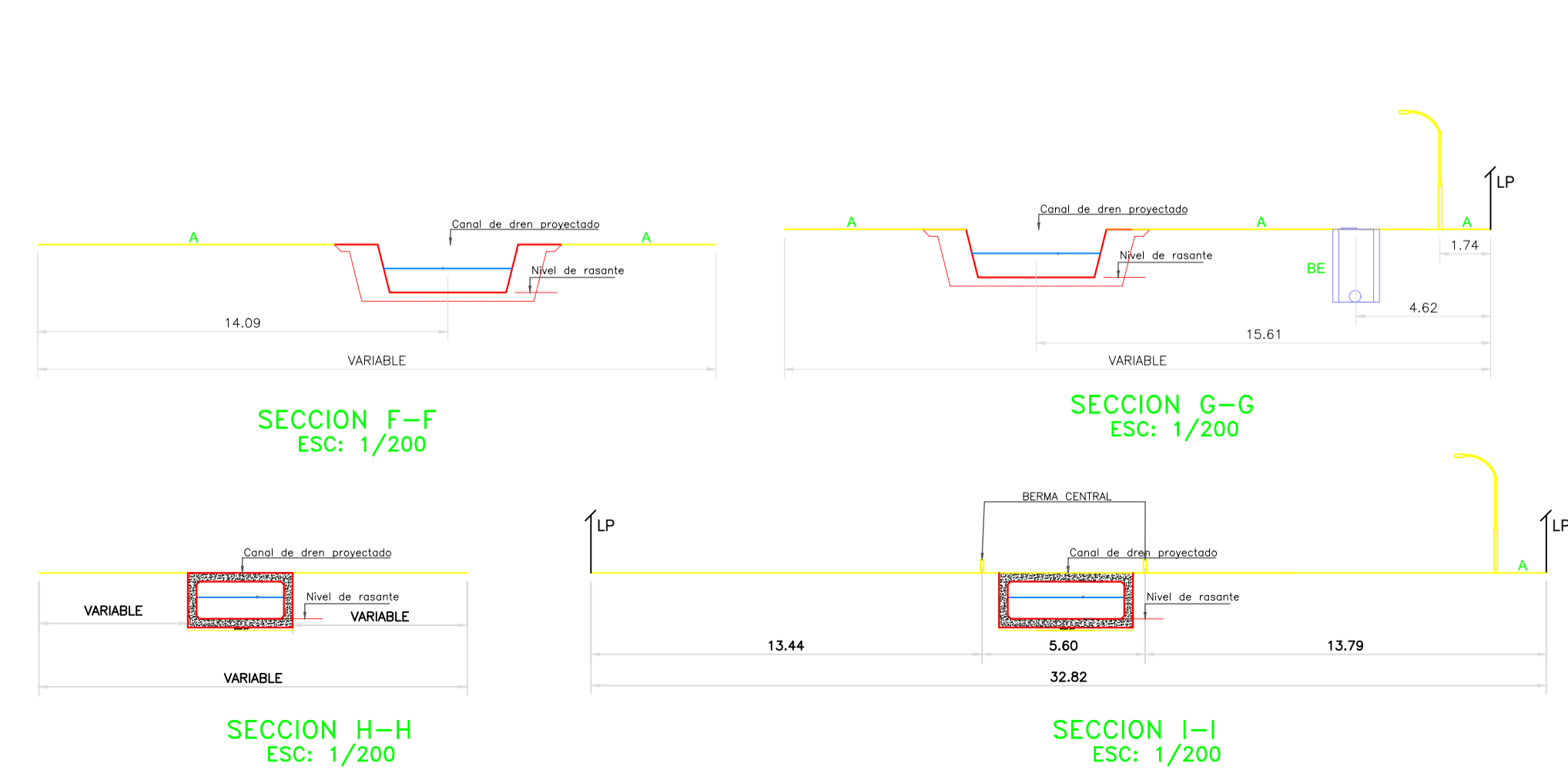
PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PT	ESTE	NORTE	
PI-101	D	20	10.281	18.963	2+251.17	2+271.45	2+268.989	828676.589	
PI-102	D	100	12.879	25.205	2+455.08	2+471.75	2+459.238	8286813.303	
PI-103	D	120	101.287	188.225	2+511.29	2+531.29	2+499.152	8286853.207	
PI-104	D	200	11.031	22.940	2+744.23	2+805.26	2+768.111	8286859.354	
PI-105	I	50	27.634	50.489	2+966.10	2+993.73	2+973.045	8286476.540	
PI-106	I	50	67.667	93.443	3+132.35	3+200.02	3+1723.736	8286411.178	
PI-107	D	100	9.783	19.504	3+551.14	3+550.92	3+540.65	3+7239.996	8286783.922
PI-108	D	50	16.248	31.419	3+733.16	3+749.41	3+754.58	3+7285.946	8286997.586
PI-109	D	50	11.175	21.989	4+052.06	4+043.24	4+054.05	3+7550.582	8287194.377
PI-110	D	100	12.219	24.318	4+509.88	4+522.20	4+534.30	3+7964.781	8287331.814
PI-112	D	2	1.224	2.196	0+478.18	0+479.40	0+479.40	3+7919.270	8287316.193
PI-117	D	2	2.083	3.204	0+520.71	0+522.92	0+523.92	3+7271.037	8286928.201
PI-178	D	2	1.834	2.968	0+779.34	0+781.18	0+782.31	3+7239.589	8286758.691
PI-192	D	10	7.316	12.632	0+958.61	0+965.33	0+970.64	3+7183.366	8286411.978

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Coordenadas UTM WGS-84 (Zona 18E) - D.D.J.

Punto	Este	Norte	Elevación
TC20	376599.816	8286762.280	3823.258
TC21	376604.768	8286826.604	3824.046
TC23	376871.076	8286845.046	3823.141
TC24	376938.665	8286777.130	3823.971
TC25	376980.262	8286657.910	3823.793
TC26	377008.650	8286549.045	3823.947
TC27	377076.252	8286450.270	3824.063
TC28	377103.159	8286422.223	3823.144
TC29	377241.397	8286508.922	3823.685
TC30	377246.932	8286539.053	3823.402
TC31	377214.330	8286753.579	3824.201
TC32	377259.167	8286918.252	3824.209
TC33	377302.397	8286988.536	3823.167
TC34	377395.245	8287093.504	3823.532
TC35	377520.001	8287207.286	3823.491
TC37	377787.246	8287294.856	3823.210
TC38	377907.754	8287299.157	3823.165



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUNO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJD

Lámina N°: 15 de 18

Fecha: Octubre del 2016

Escala: Indicada

Dibujó: PCRN - VHP

Ubicación: San Román - Puno

PS-15

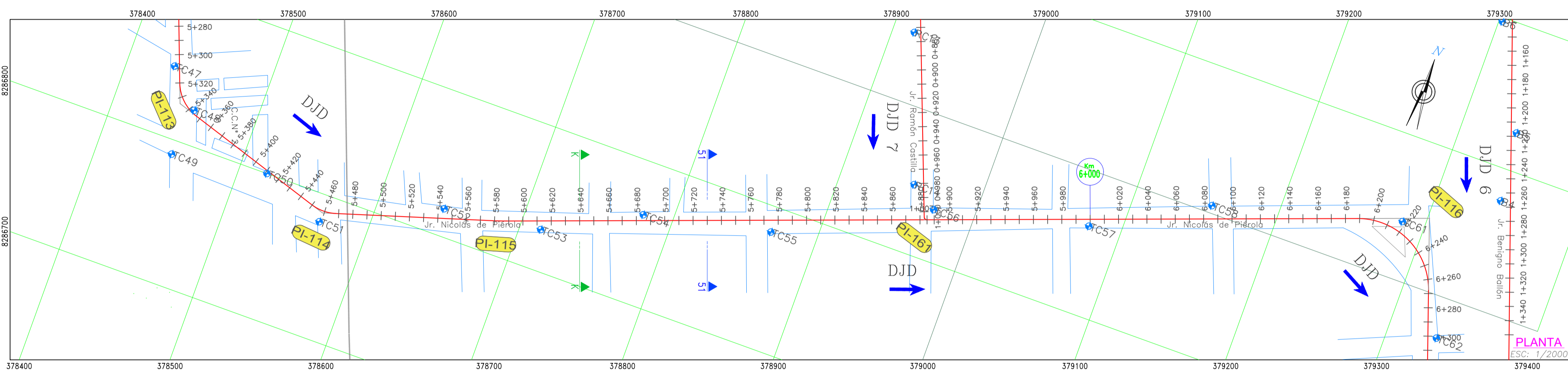
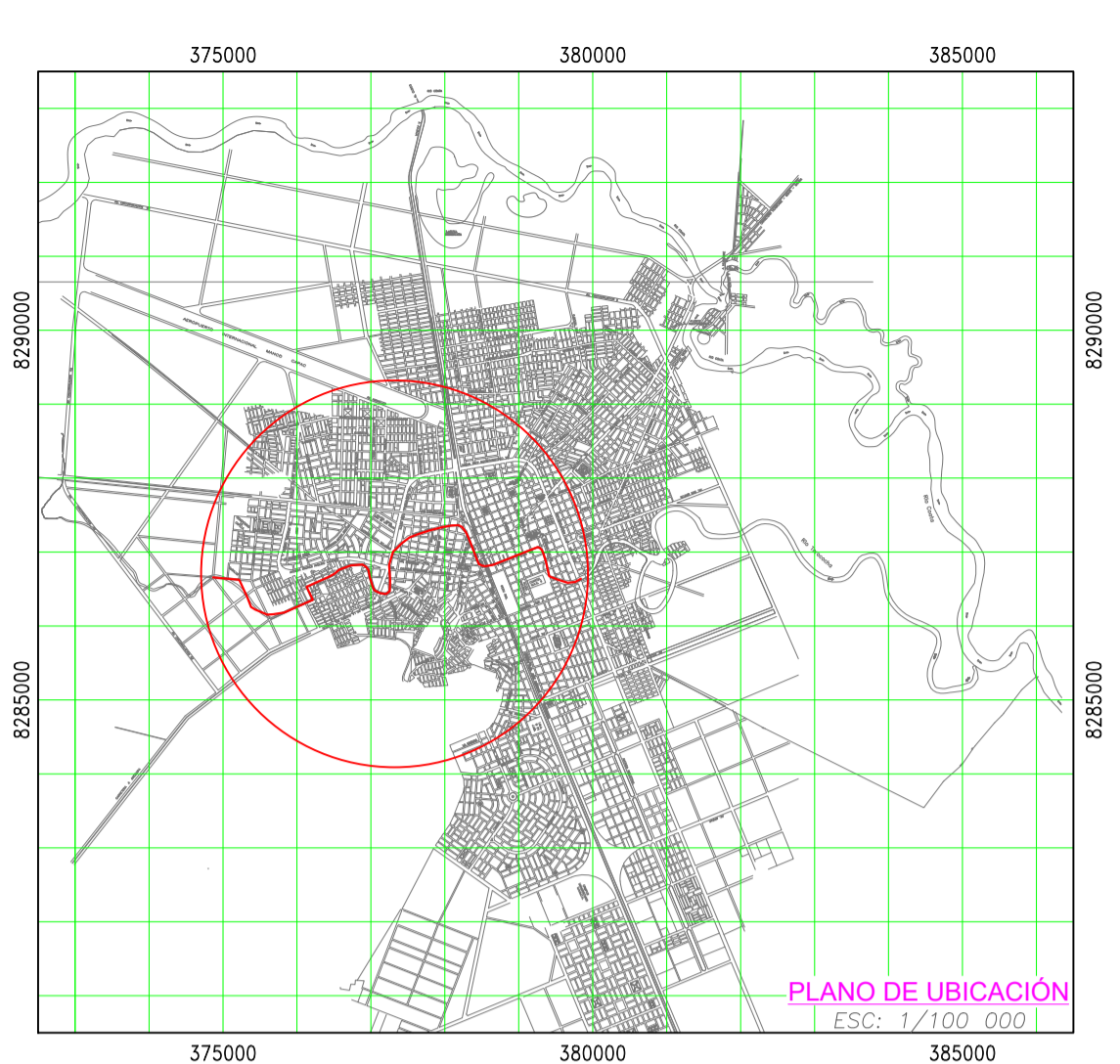
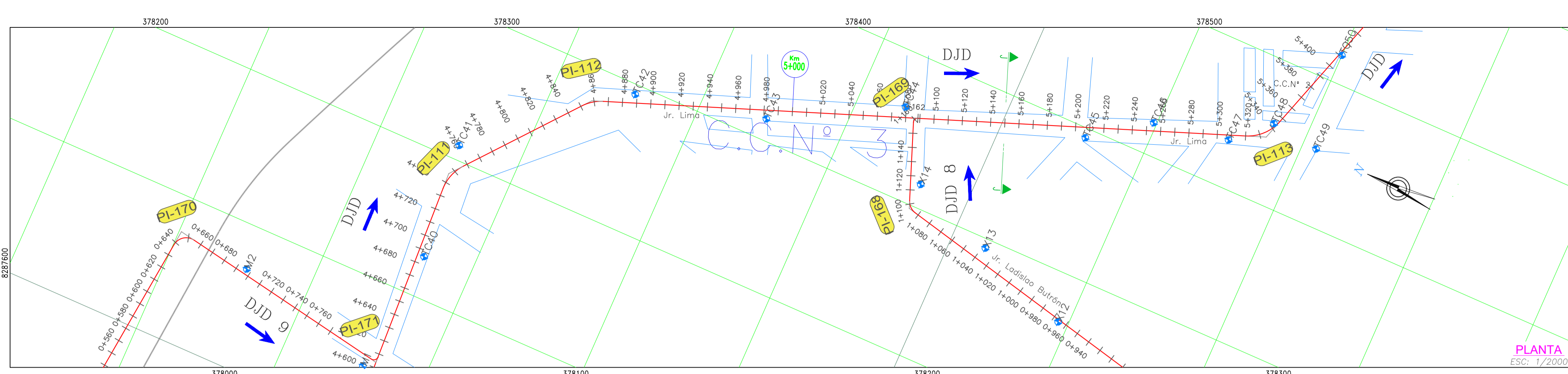


Tabla de Elementos de Curva y Coordenadas - DJD

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
PI-111	D	30	11.966	21.956	4+735.08	4+737.04	378199.024	8287342.503	
PI-112	D	30	8.338	15.745	4+867.74	4+869.80	378276.789	8287701.912	
PI-113	I	30	14.516	27.037	5+320.03	5+341.07	378445.278	8288205.603	
PI-114	I	30	9.427	18.369	5+449.68	5+459.11	378565.882	8287872.257	
PI-115	I	200	4.890	9.757	5+579.87	5+583.75	378685.475	8288284.307	
PI-116	D	50	50.795	79.328	6+188.38	6+239.18	379301.192	8287040.078	
PI-117	D	100	3.693	7.382	6+414.10	6+417.79	379367.068	8286859.312	
PI-118	I	30	16.685	30.455	6+629.67	6+646.36	379425.896	8286938.448	
PI-119	I	50	5.022	11.157	6+906.11	6+911.71	379492.556	8286956.019	
PI-120	I	50	11.555	22.712	6+960.32	6+971.88	379542.606	8286956.019	
PI-151	D	3	2.421	4.074	2+944.58	2+947.00	378662.370	8286956.546	
PI-181	I	2	1.969	3.111	1+003.71	1+005.68	378966.593	8286926.980	
PI-189	D	3	3.016	4.728	1+157.72	1+160.73	378357.181	8287058.439	
P-39							378634.253	8286992.842	

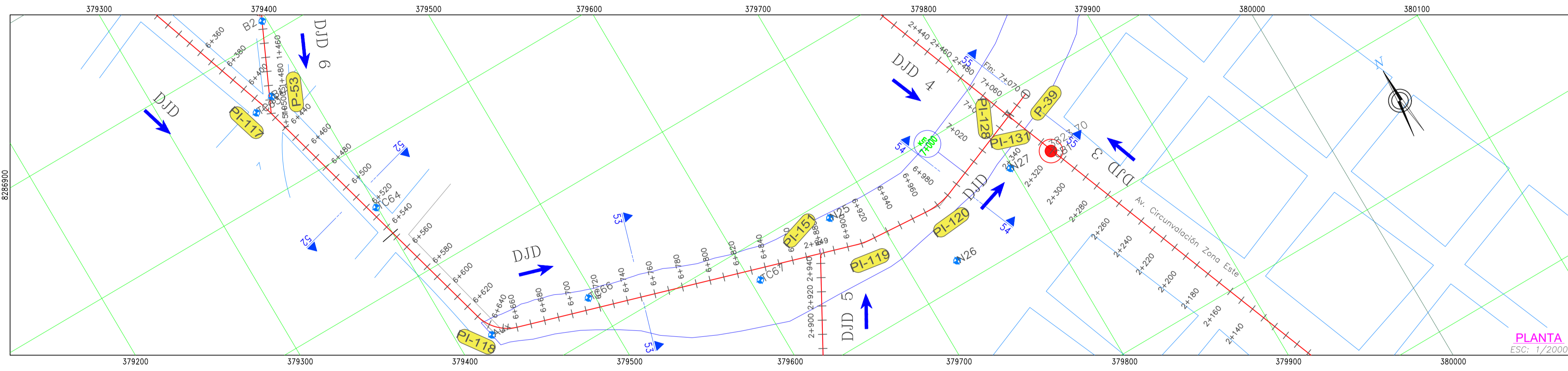
- Leyenda**
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Coordenadas UTM WGS-84 (Zona 19B) - DJD

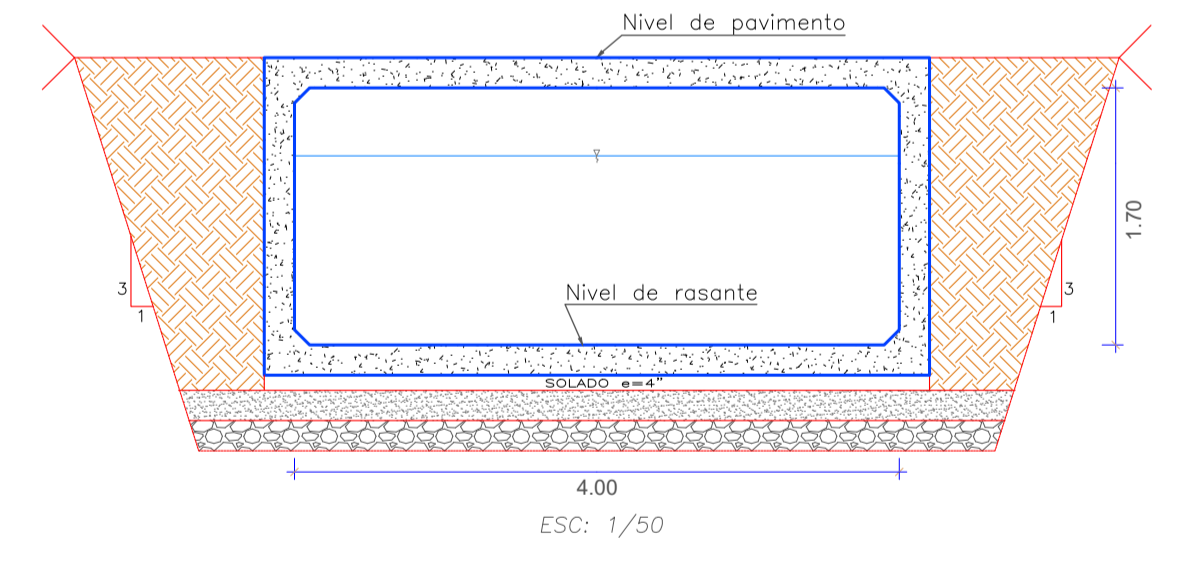
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TC40	378128.310	8287344.853	3823.038
TC41	378210.155	8287343.788	3823.179
TC42	378293.213	8287344.796	3822.861
TC43	378316.842	8287154.337	3822.855
TC44	378362.020	8287096.844	3822.793
TC45	378392.382	8286947.447	3822.619
TC46	378420.875	8286901.537	3822.558
TC47	378432.700	8286849.116	3822.507
TC48	378454.458	8286822.684	3822.436
TC49	378460.474	8286799.346	3822.300
TC50	378528.413	8286799.170	3822.400
TC51	378574.411	8286785.525	3823.829
TC52	378645.975	8286818.306	3822.173
TC53	378714.196	8286830.985	3822.090
TC54	378779.065	8286862.948	3822.080

Coordenadas UTM WGS-84 (Zona 19B) - DJD

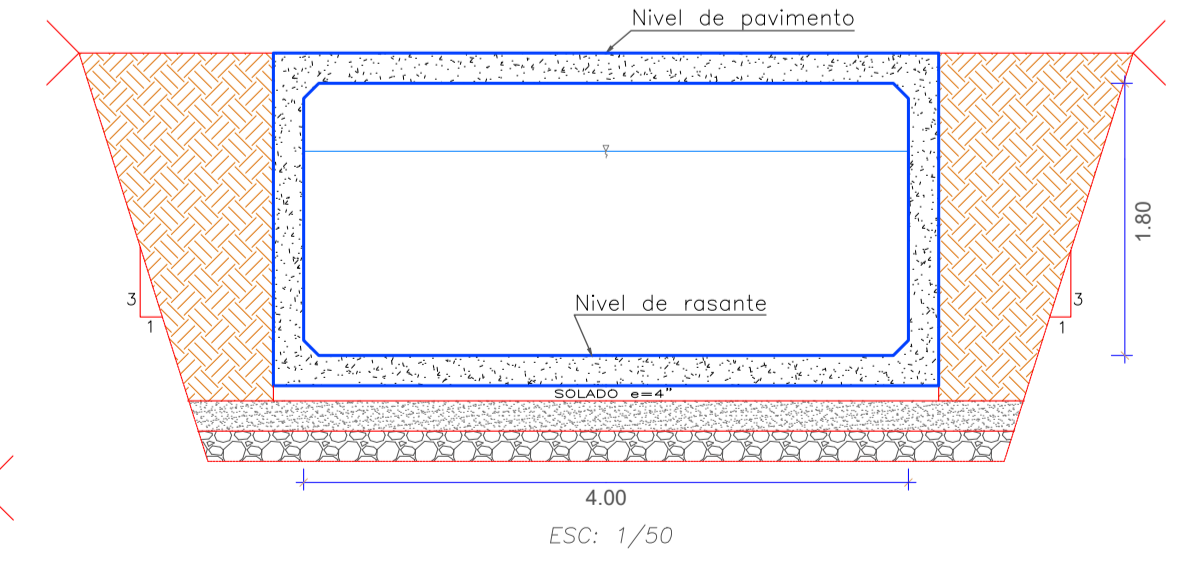
Punto	Este	Norte	Elevación
TC55	378869.240	8286885.204	3821.991
TC56	378970.141	8286932.316	3821.811
TC57	379077.273	8286962.220	3821.903
TC58	379165.605	8287004.917	3821.817
TC61	379284.113	8287040.430	3822.080
TC62	379334.540	8286971.308	3821.672
TC63	379360.386	8286857.226	3821.519
TC64	379390.116	8286756.757	3821.725
TC66	379485.548	8286825.714	3821.581
TC67	379606.374	8286575.019	3821.697
N25	379670.816	8286587.691	3821.657
N26	379732.670	8286516.172	3822.116
N27	379798.284	8286553.145	3821.991
CB1	379829.051	8286549.082	3823.705
CB2	379718.745	8286836.932	3824.256



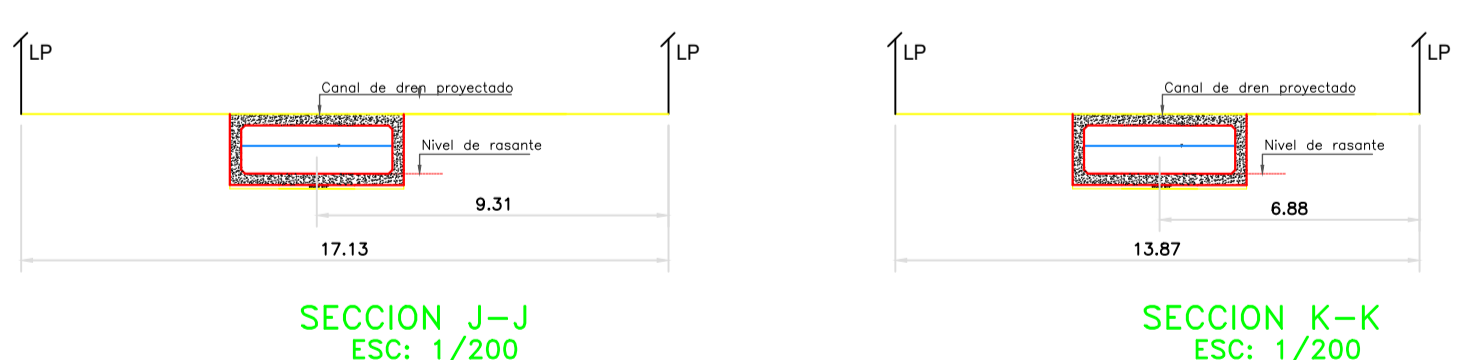
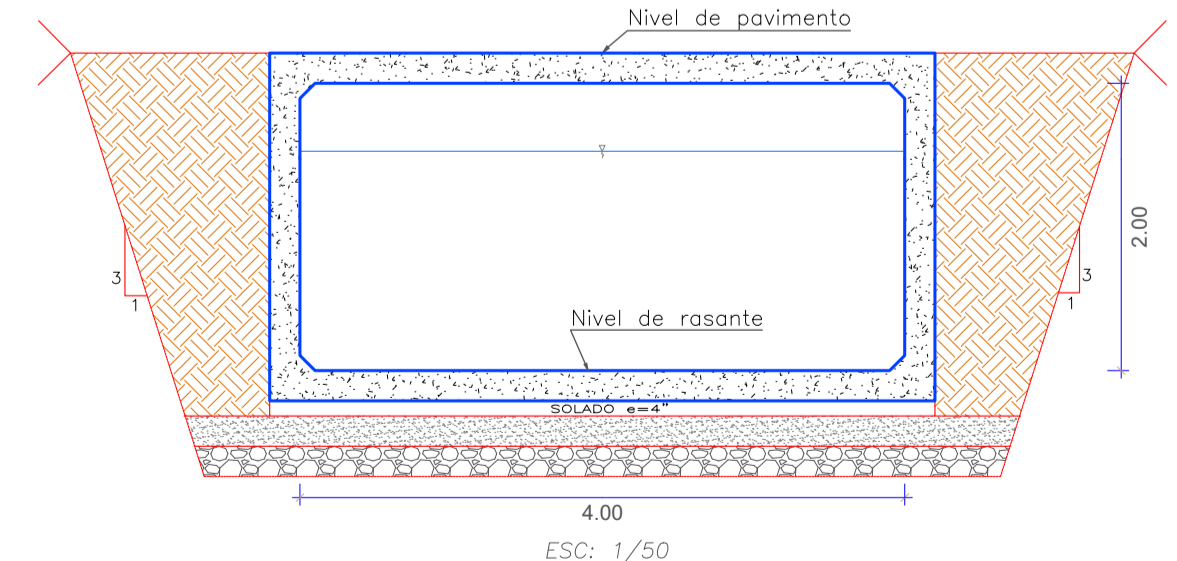
SECCIÓN DE DREN 53-53 (DJD)
De 6+618 a 6+758



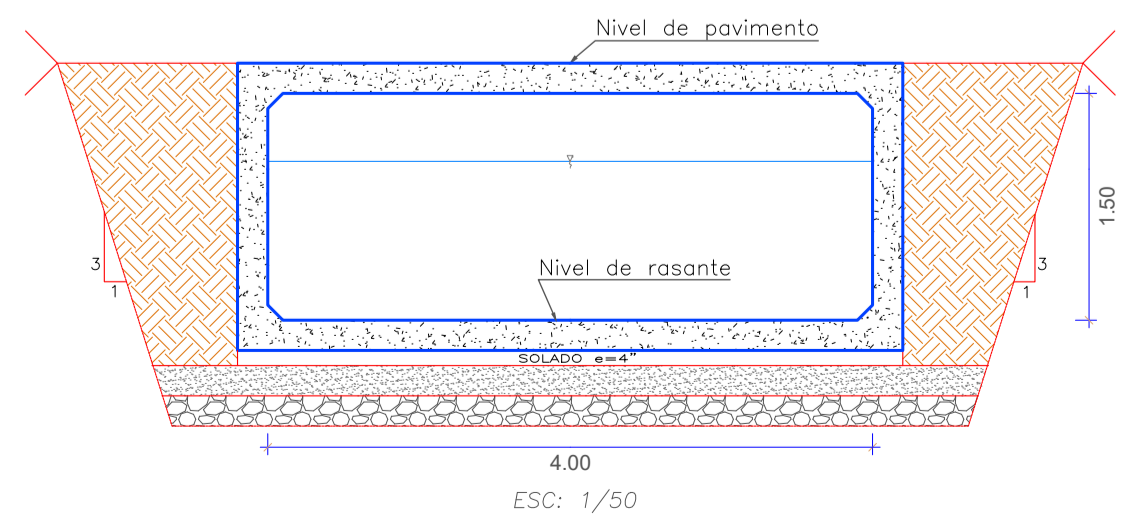
SECCIÓN DE DREN 54-54 (DJD)
De 6+758 a 7+051



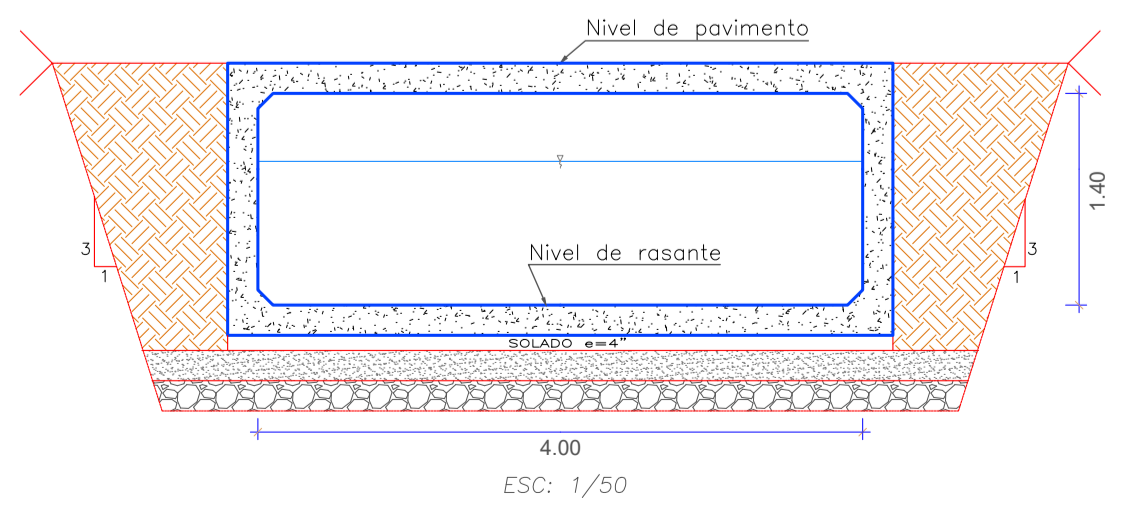
SECCIÓN DE DREN 55-55 (DJD)
De 7+051 a 7+070



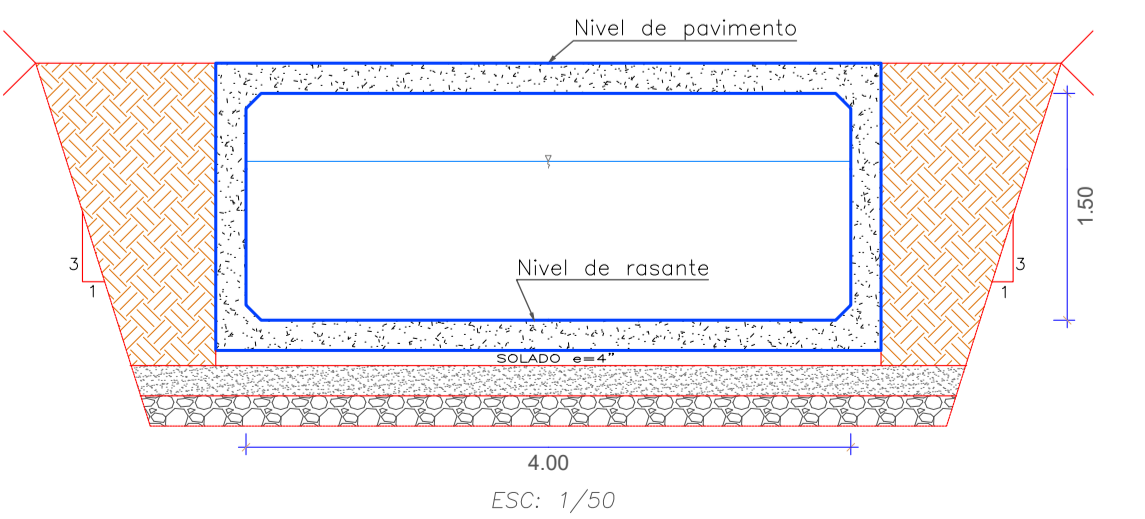
SECCIÓN DE DREN 50-50 (DJD)
De 4+122 a 5+401



SECCIÓN DE DREN 51-51 (DJD)
De 5+401 a 6+425



SECCIÓN DE DREN 52-52 (DJD)
De 6+425 a 6+618



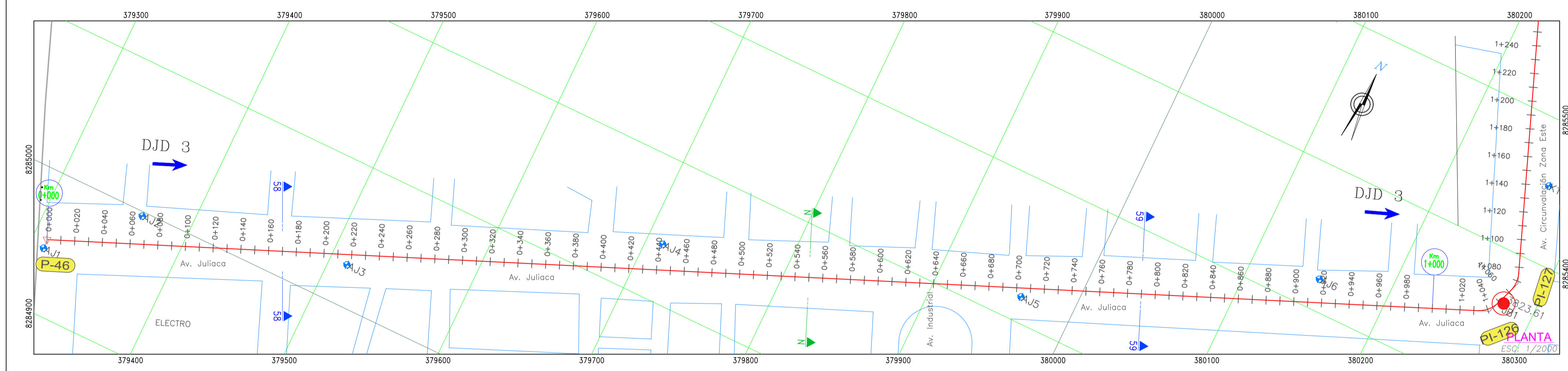
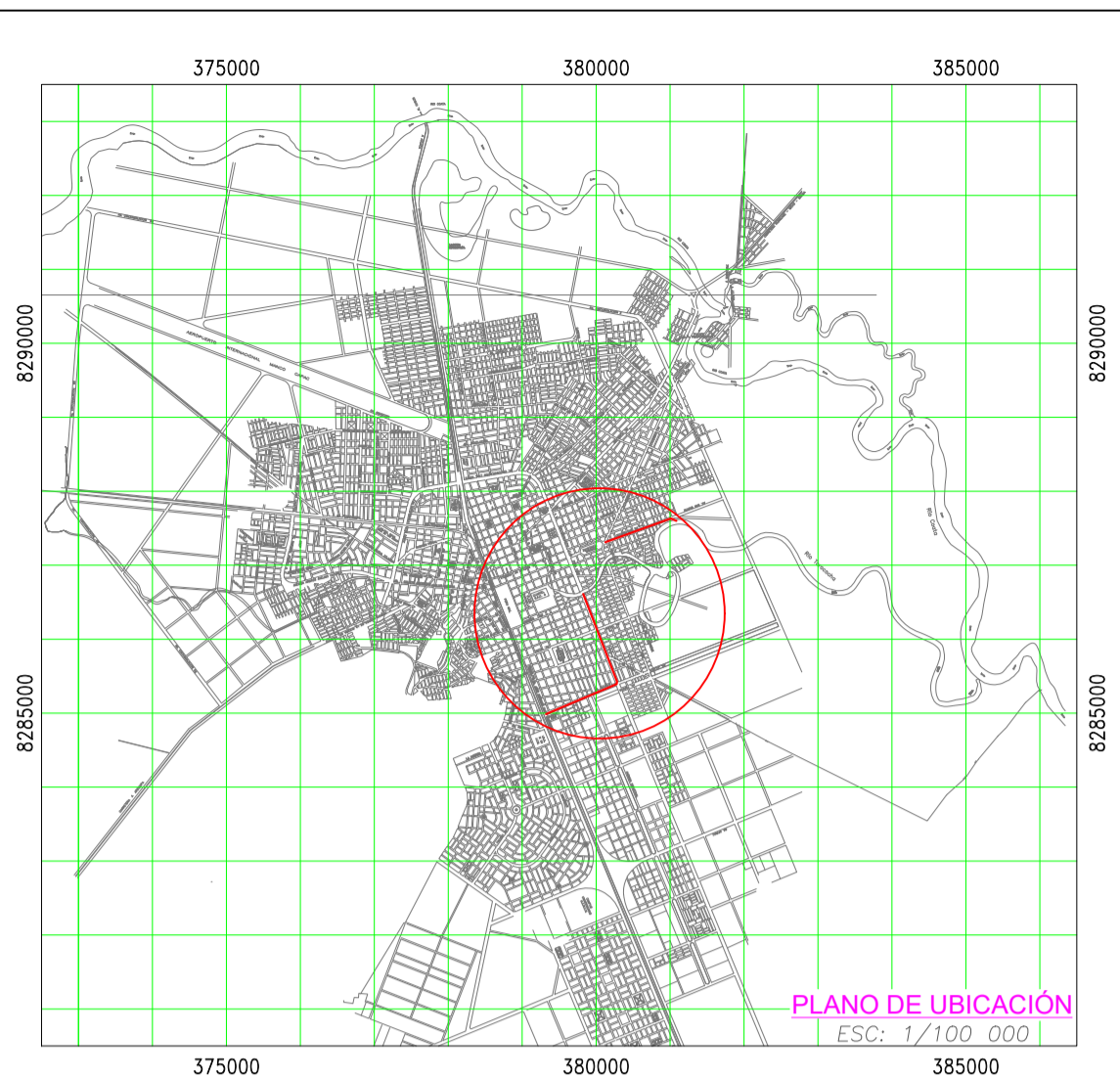
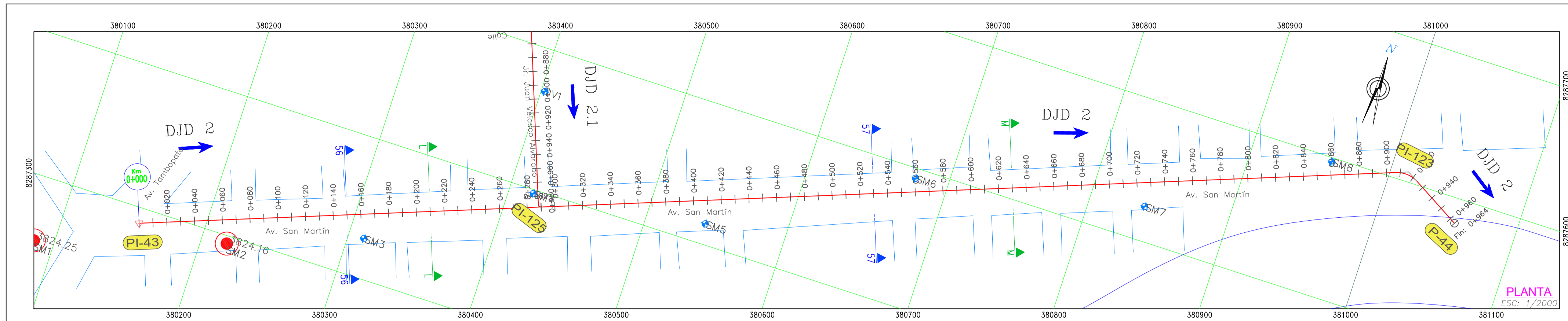


TABLA DE ELEMENTOS DE CURVA Y COORDENADAS - DJD 2 - DJD 3

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-43									
PI-123	D	20	9.461	17.874	0+906.61	0+916.07	0+924.29	381012.874	8287607.180
PI-124	D	10	10.152	15.859	0+954.02	0+964.17	0+969.86	380310.070	8287606.886
PI-125	I	2	2.001	3.142	0+988.03	0+988.03	0+989.17	380424.062	8287389.003
P-44									
P-46									
PI-126	I	20	8.726	16.456	1+032.64	1+041.36	1+049.09	380270.676	8283354.206
PI-127	I	20	7.523	14.392	1+061.38	1+069.17	1+075.77	380280.500	8283381.000
PI-128	D	2	1.972	3.114	2+359.22	2+360.36	2+369.22	379815.870	8286685.455
PI-129	I	2	2.000	3.142	0+886.47	0+886.47	0+887.62	380005.662	8286093.460
P-39									

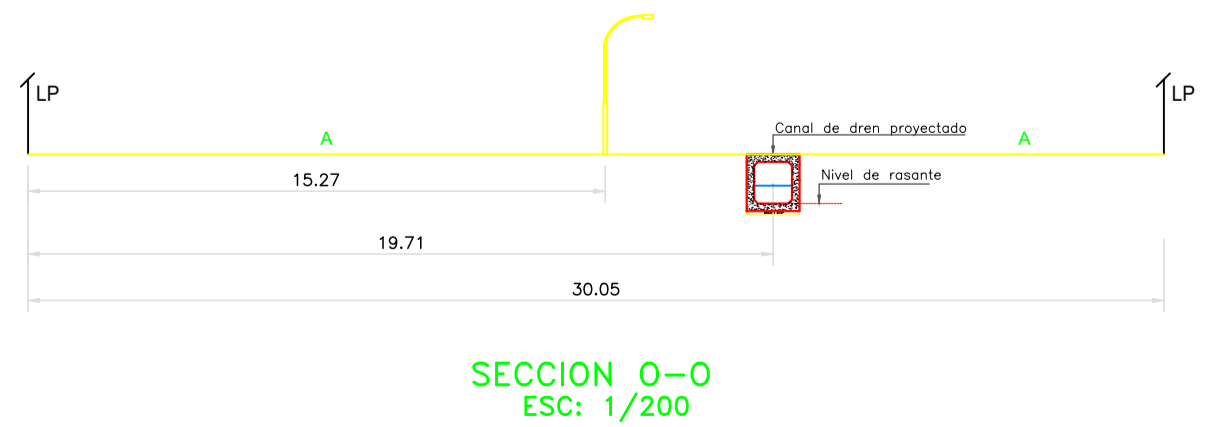
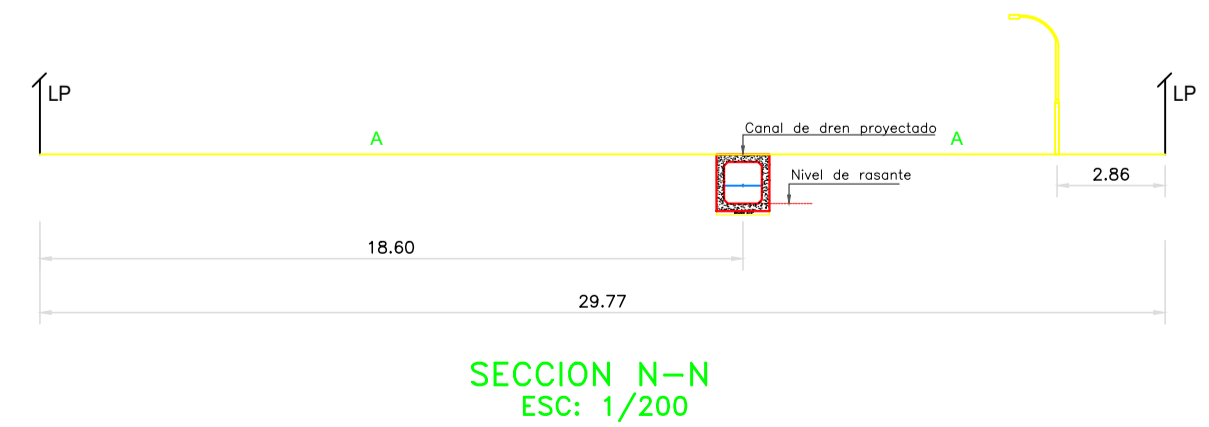
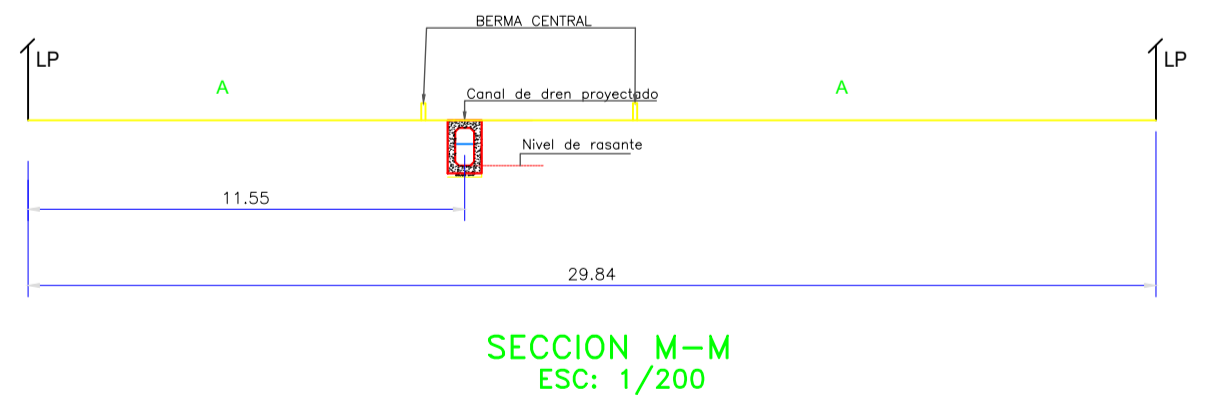
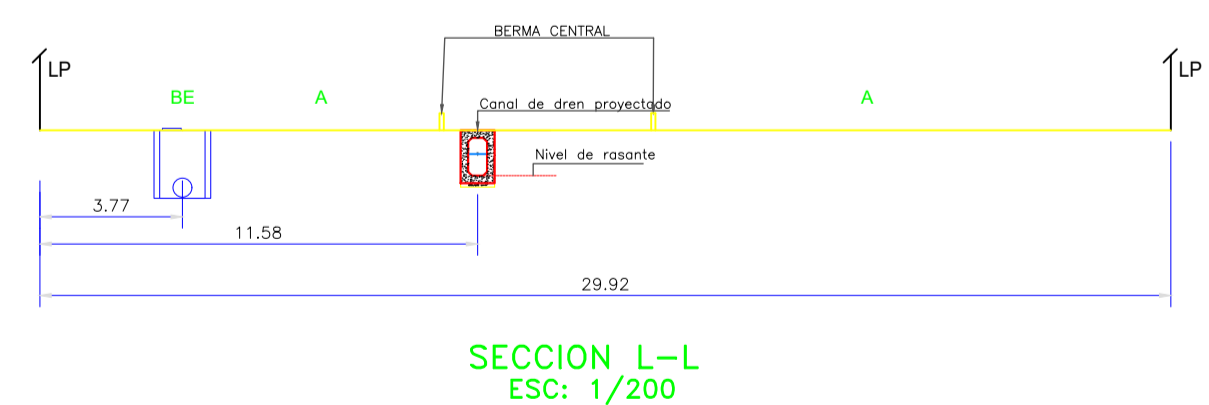
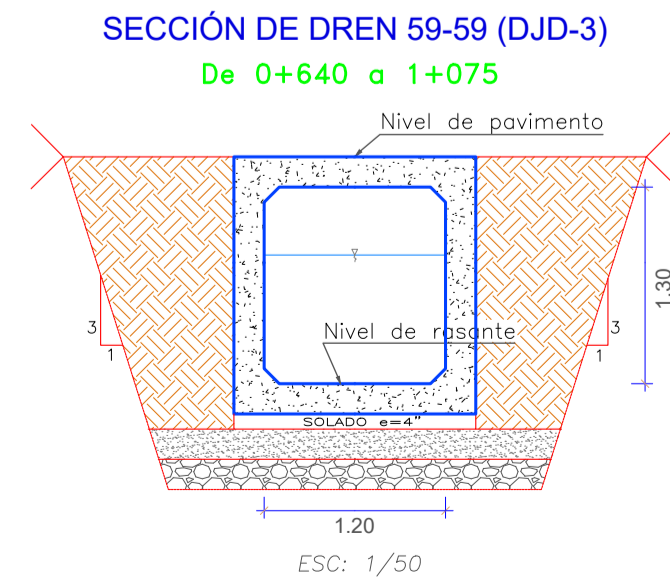
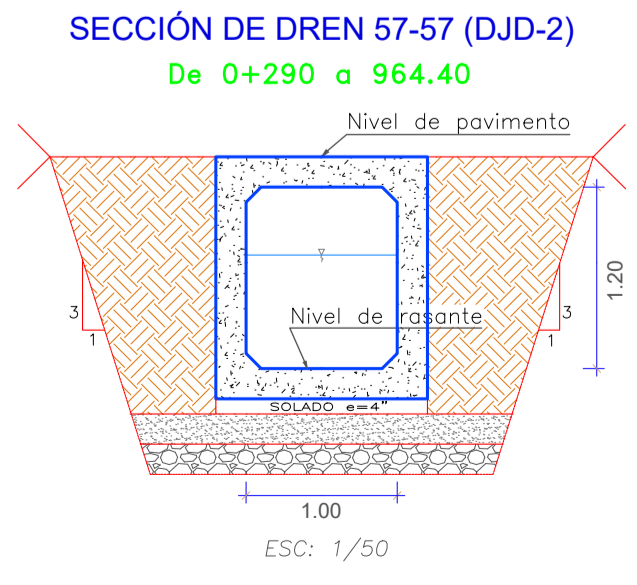
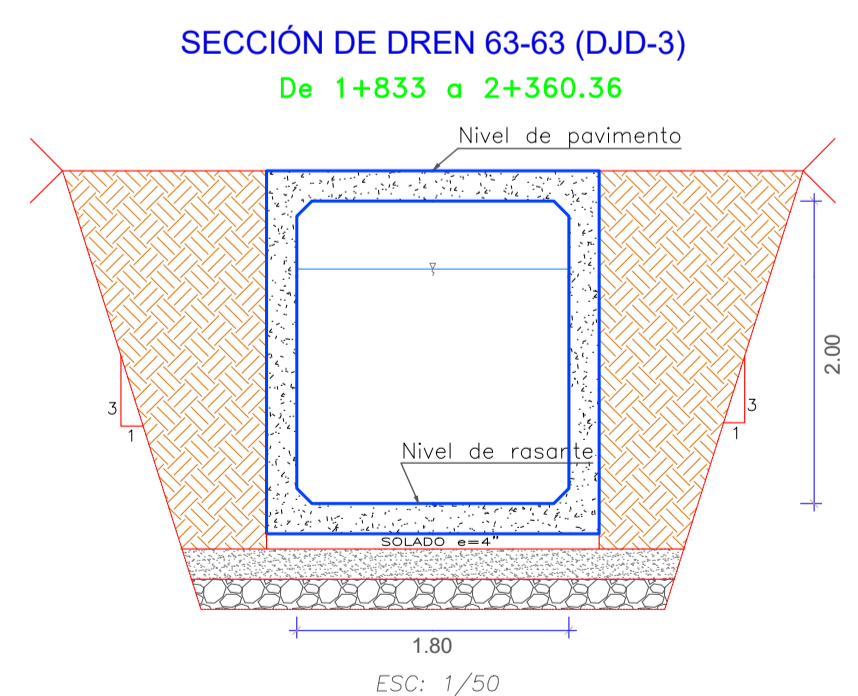
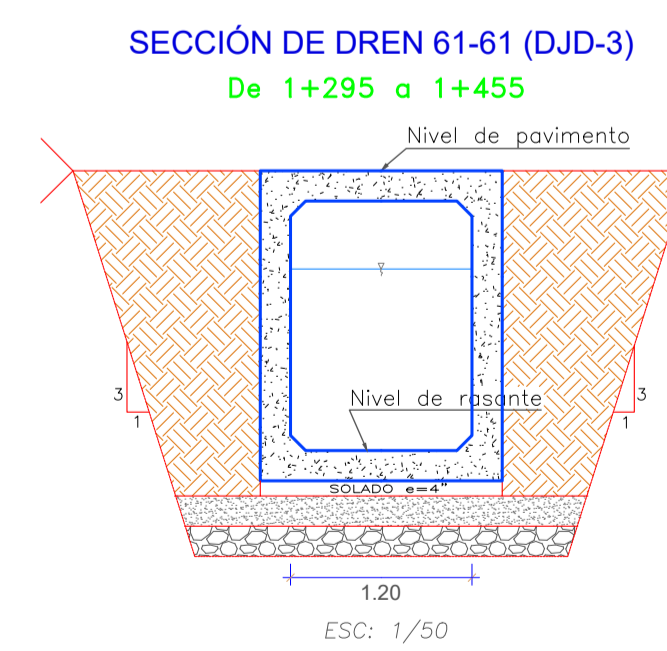
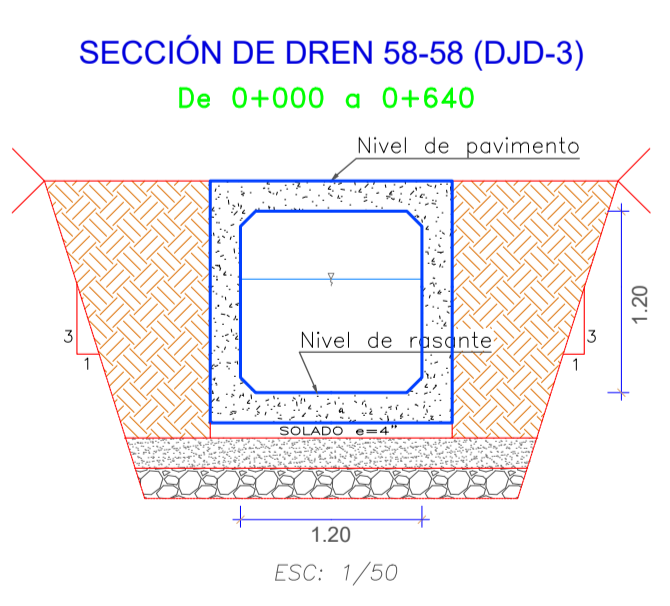
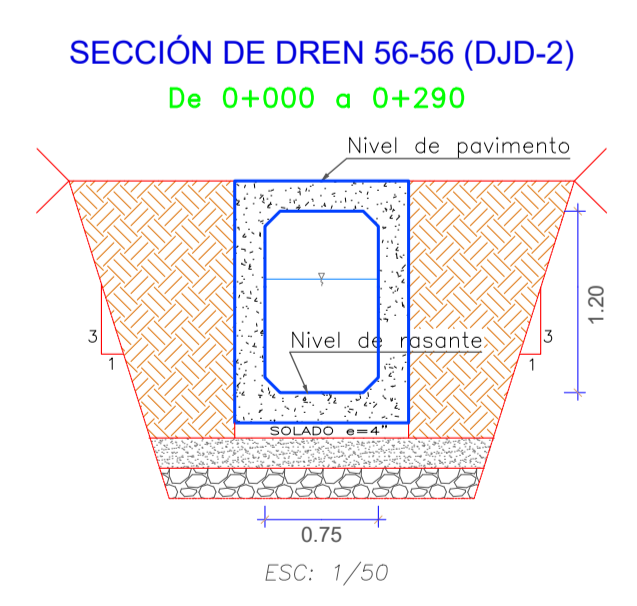
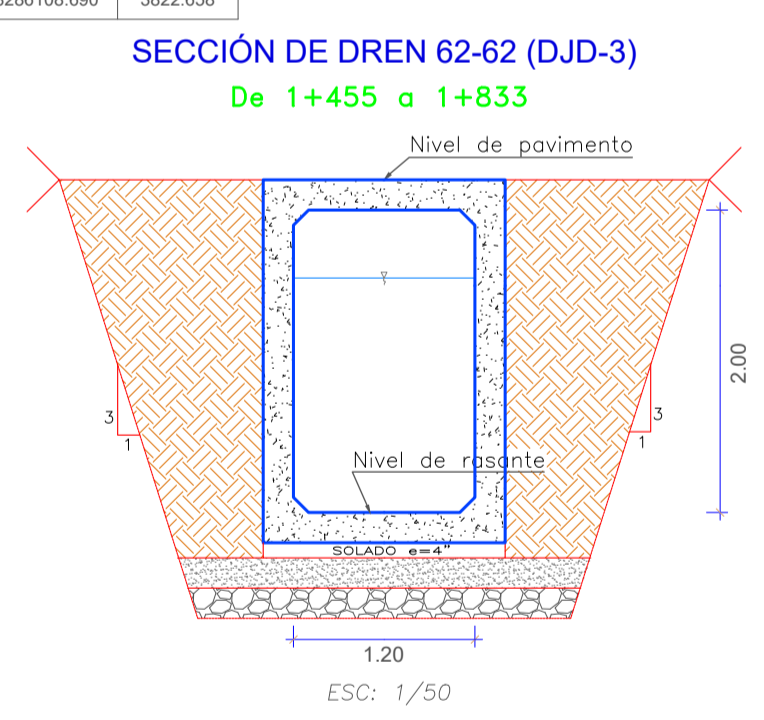
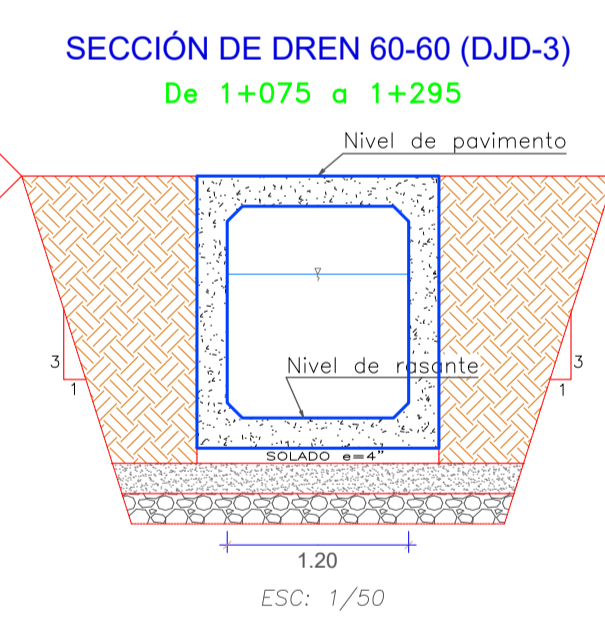
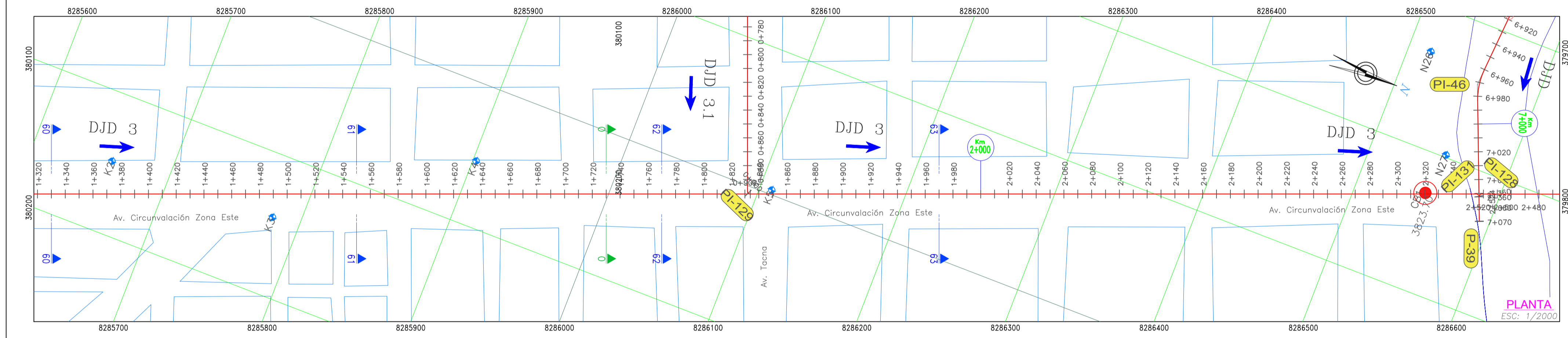
- Legenda**
- Límite de propiedad
 - Carretera
 - Fercorral
 - Dren del proyecto
 - BM geodésico
 - BM (punto de control)
 - Buzón de desahogue
 - Poste de energía eléctrica
 - Árboles

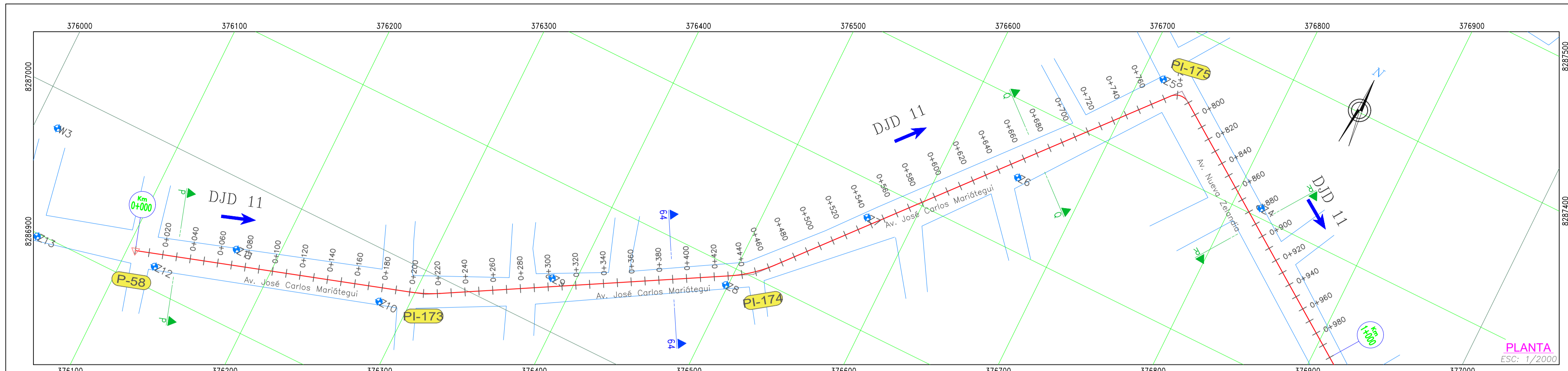
Coordenadas UTM WGS-84 (Zona 19S) - DJD 2

Punto	Este	Norte	Elevación
CSR2	381821.071	8287679.088	3820.698
CSR3	381701.990	8287845.132	3820.997
SM12	381544.824	8287817.088	3821.158
SM11	381386.850	8287727.315	3821.153
SM10	381220.560	8287694.621	3821.844
SM9	381129.256	8287631.700	3820.897
SM8	380967.936	8287597.000	3819.927
SM7	380839.505	8287524.627	3821.446
SM6	380676.191	8287492.915	3822.100
SM5	380542.135	8287414.693	3822.325
SM4	380417.558	8287307.169	3822.413
SM3	380311.385	8287328.541	3822.558
SM2	380218.530	8287204.484	3824.160
SM1	380085.499	8287253.627	3824.248

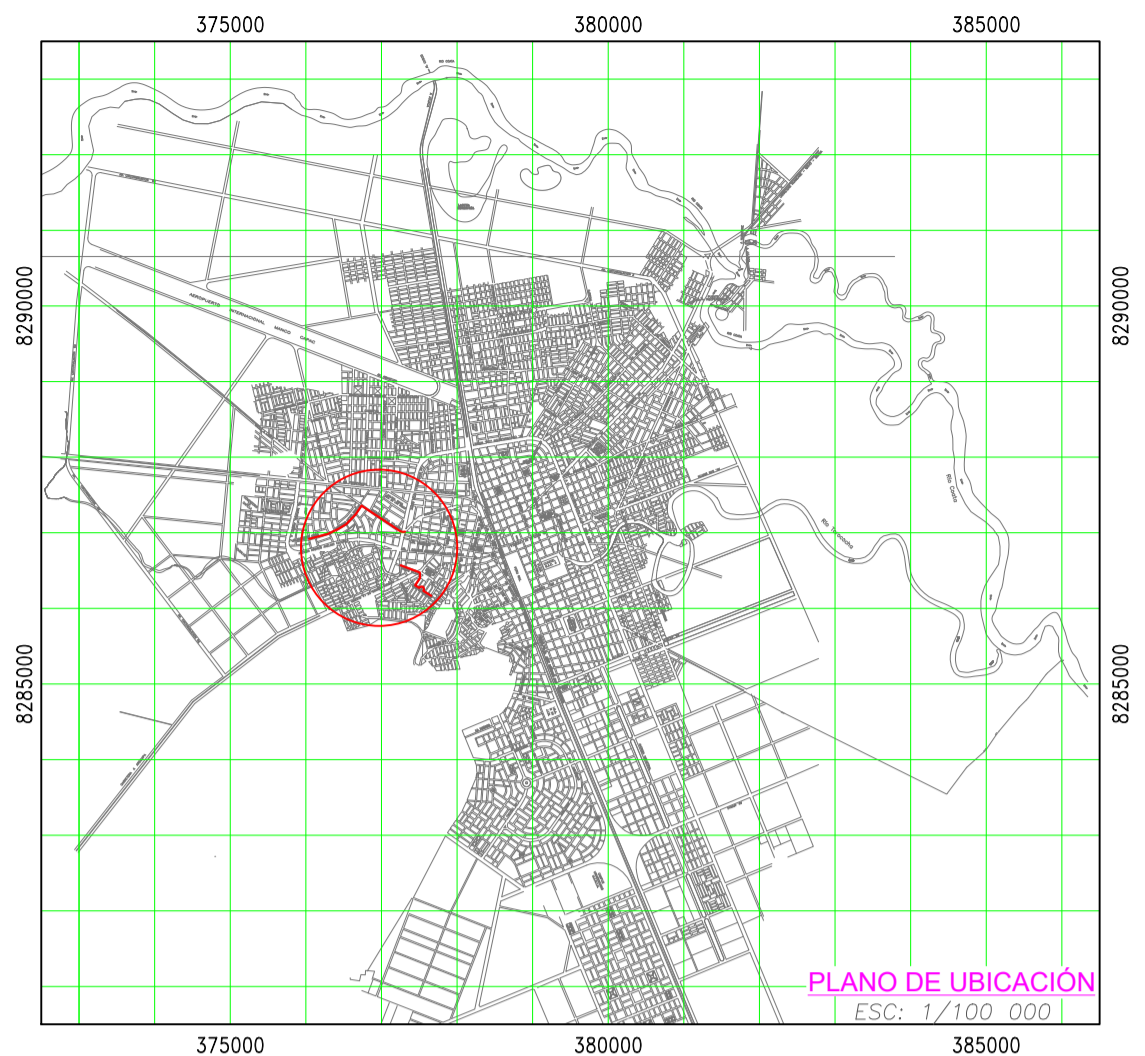
Coordenadas UTM WGS-84 (Zona 19S) - DJD 3

Punto	Este	Norte	Elevación
CP12	379296.783	8284748.579	3822.728
CP11	379356.712	8284670.047	3822.709
CP12	379296.783	8284748.579	3822.728
AJ0	379348.174	8284823.491	3822.856
AJ1	379310.509	8284845.394	3822.963
AJ2	379364.794	8284996.990	3822.520
AJ3	379513.042	8285028.960	3822.564
AJ4	379712.133	8285140.483	3821.998
AJ5	379961.411	8285217.795	3822.296
AJ6	380149.995	8285322.121	3821.833
JB1	380277.395	8285363.610	3823.610
JB2	380466.133	8285425.294	3823.801
K1	380270.338	8285453.996	3822.371
K2	380146.798	8285656.882	3822.825
K3	380144.587	8285780.008	3822.558
K4	380052.031	8285901.666	3822.554
K5	379996.700	8286108.690	3822.658

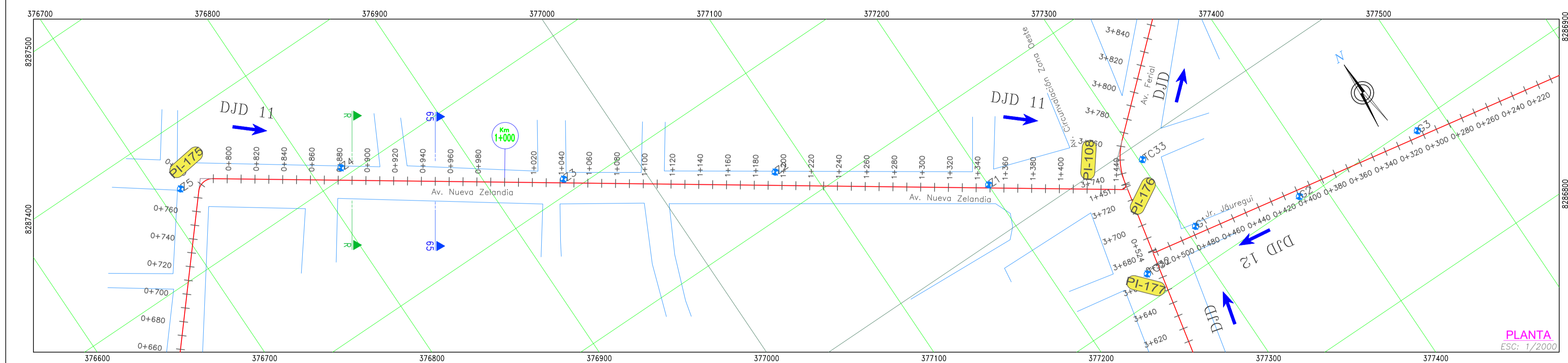




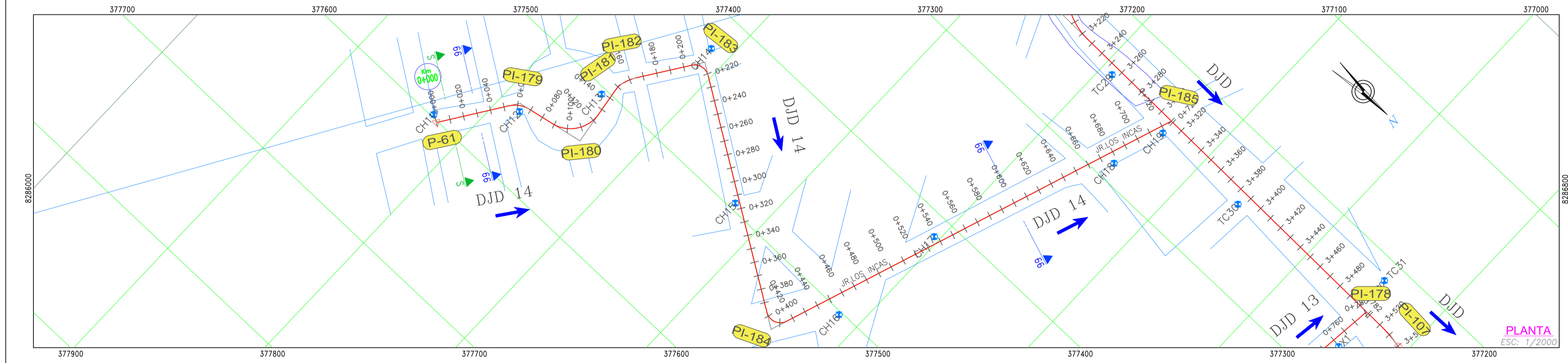
PLANTA
ESC: 1/2000



PLANO DE UBICACIÓN
ESC: 1/100,000



PLANTA
ESC: 1/2000



PLANTA
ESC: 1/2000

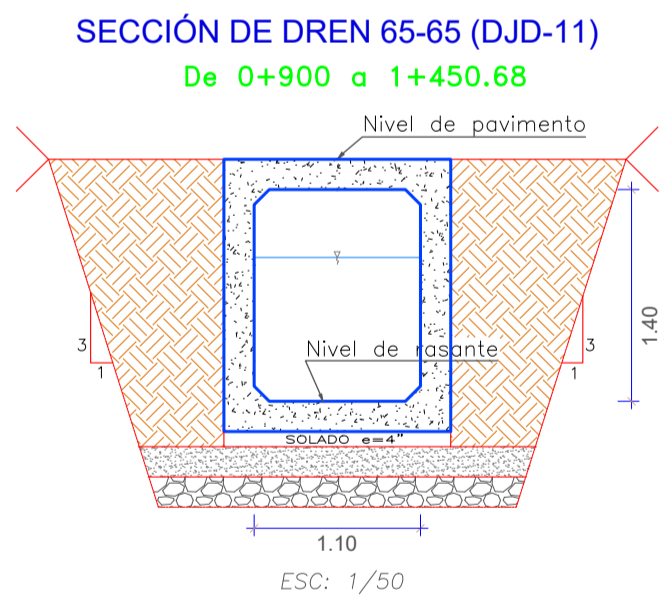
Tabla de Elementos de Curva y Coordenadas - DJD 11 - DJD 14

PI N°	SENTIDO	RADIO	TANGENTE	LC	PC	PI	PT	ESTE	NORTE
P-58	I	100	10.359	21.040	0+200.00	0+211.48	0+211.48	37615.775	828620.130
P-173	I	100	17.310	34.281	0+430.00	0+448.11	0+448.11	37637.229	828684.416
P-174	D	10	9.016	14.074	0+774.00	0+783.81	0+783.81	37631.525	828737.092
P-176	I	3	4.494	5.903	1+444.79	1+449.28	1+449.28	37728.142	8286976.553
P-61								37600.901	8286176.611
P-179	D	20	8.279	15.099	0+063.42	0+061.70	0+069.12	37549.558	8286212.794
P-180	I	25	23.720	37.907	0+088.20	0+111.92	0+126.16	37539.496	8286202.468
P-181	D	15	3.785	7.415	0+114.52	0+117.71	0+151.49	37480.949	8286255.732
P-182	D	30	3.661	7.286	0+157.68	0+161.34	0+164.96	37481.550	8286259.146
P-183	D	10	9.793	15.499	0+205.79	0+215.58	0+212.29	37436.482	8286289.402
P-184	I	10	12.691	18.068	0+387.12	0+409.81	0+415.18	37543.544	8286456.927
P-185	D	2	1.448	2.507	0+726.30	0+727.75	0+728.81	37726.286	8286953.029

- Leyenda**
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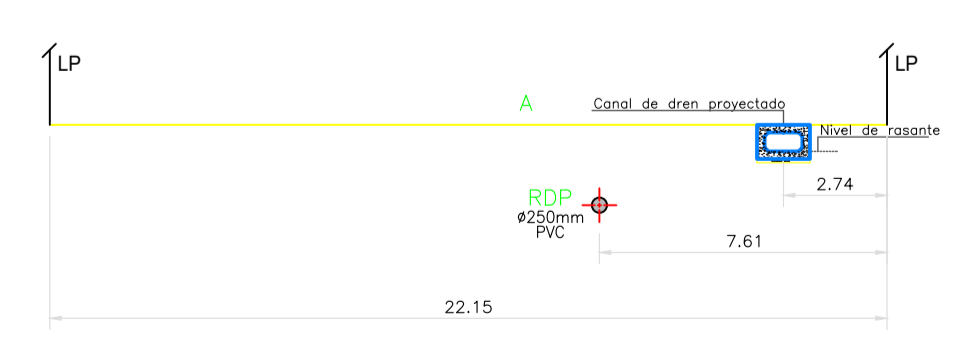
Coordenadas UTM WGS-84 (Zona 18S) - DJD 11

Punto	Este	Norte	Elevación
C3	375877.479	8287313.235	3824.956
O4	375822.602	8287228.413	3825.066
W1	375832.626	8287099.328	3825.082
W2	376010.311	8287102.004	3825.069
W3	376016.400	8286974.363	3825.000
Z13	376032.630	8286906.069	3824.989
Z12	376106.298	8286918.200	3825.020
Z11	376171.944	8286950.401	3825.136
Z10	376274.882	8286970.526	3824.243
Z9	376385.631	8287033.724	3823.986
Z8	376497.865	8287088.666	3824.510
Z7	376568.301	8287175.126	3824.684
Z6	376652.864	8287248.986	3824.563
Z5	376715.593	8287358.855	3824.471
Z4	376823.621	8287308.719	3824.274
Z3	376948.484	8287210.213	3824.052
Z2	377077.823	8287129.143	3823.645
Z1	377200.266	8287035.440	3823.666
TC33	377302.397	8286988.536	3823.167
TC34	377395.245	8287093.504	3823.532

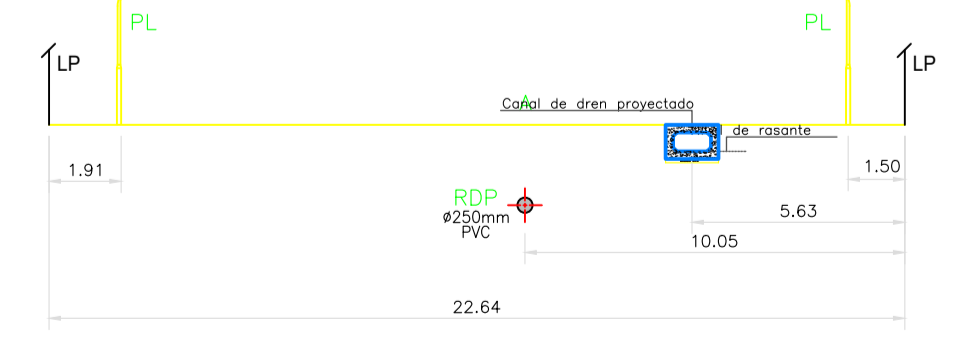


Coordenadas UTM WGS-84 (Zona 18S) - DJD 14

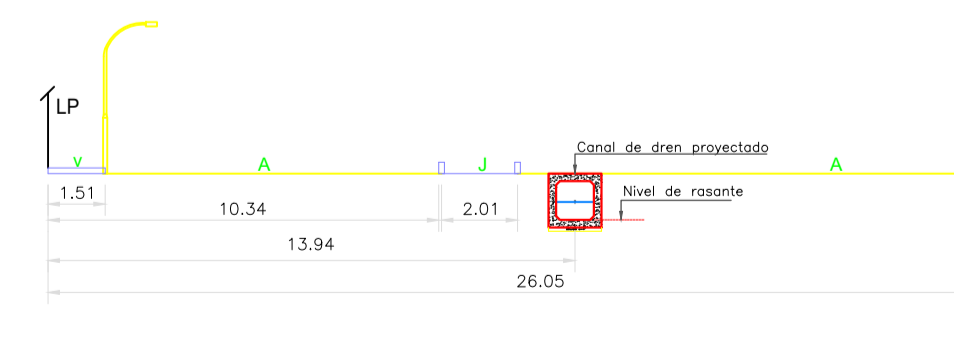
Punto	Este	Norte	Elevación
CH11	379455.059	8285395.232	3822.848
CH12	377554.063	8286216.679	3825.250
CH13	377504.274	8286251.147	3825.041
CH14	377426.137	8286286.025	3824.709
CH15	377495.170	8286375.143	3824.677
CH16	377502.320	8286484.628	3825.073
CH17	377414.250	8286495.928	3824.441
CH18	377286.815	8286553.621	3823.892
CH19	377246.796	8286564.469	3823.958
TC30	377246.932	8286639.053	3823.402
TC31	377214.330	8286753.579	3824.201



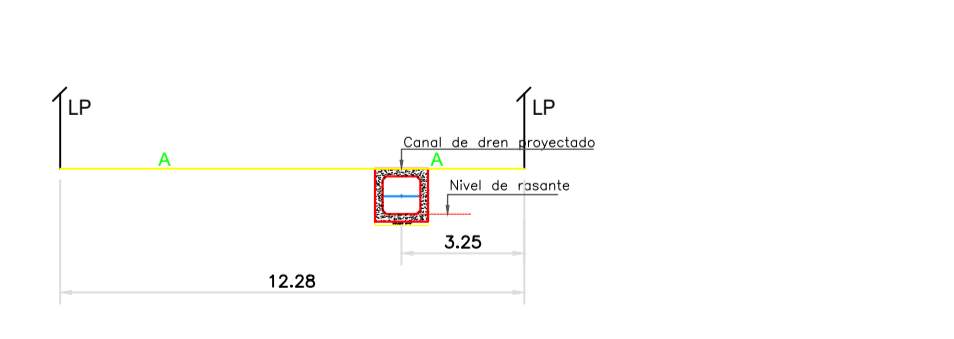
SECCION P-P
ESC: 1/200




SECCION Q-Q
ESC: 1/200



SECCION R-R
ESC: 1/200



SECCION S-S
ESC: 1/200



UNIVERSIDAD NACIONAL DEL ALTIPLANO - PUÑO

Proyecto: EVALUACIÓN, DISEÑO Y MODELAMIENTO DEL SISTEMA DE DRENAJE PLUVIAL DE LA CIUDAD DE JULIACA CON LA APLICACIÓN DEL SOFTWARE SWMM

Plano: PLANO DE ALINEAMIENTO HORIZONTAL Y SECCIONES DREN DJD 11 - DJD 14

PS-18

Escala: Indicada

Dibujo: PORN - WHP

Ubicación: San Román - Puno

Fecha: Octubre del 2016

Lámina N° 18 de 18

REDES DE AGUA POTABLE JULIACA

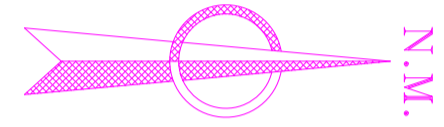
COLLANA

TARIACHI

CERRO MONOS

CERRO ESPINAL

URAY JARAN



REFUERZO PVC DN = #150mm
CLASE 7.5 ISO 4422
LONG. = 491 ml.

LINEA DE IMPULSION A
CONVERTIRSE EN ADUCCION
AC #350mm

REFUERZO PVC DN = #150mm
CLASE 10 ISO 4422
LONG. = 1075 ml.

PVC #250mm
PLANO N°
211-101-A-PL-600-17-13

REFUERZO PVC DN = #225mm
CLASE 10 ISO 4422
LONG. = 1500 ml.

PVC #200mm
PLANO N°
211-101-A-PL-600-17-09

REFUERZO DN = 150mm.
PVC CLASE = 7,5 ISO 4422

EMPALME N° 1
CON TUBERIA DE 200 mm.

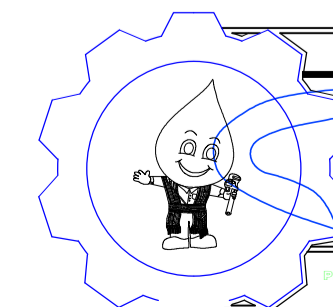
EMPALME N° 2
CON TUBERIA DE 100 mm.

EMPALME N° 3
CON TUBERIA DE 150 mm.

ESCURI

PVC #250mm
PLANO N°
211-101-A-PL-600-17-13

CHILLA



GERENCIA DE INGENIERIA
DIVISION DE INGENIERIA EN SANITARIO TECNICO Y COMUNICACION INTERNACIONAL

REDES EXISTENTES DE AGUA POTABLE

PUNO PUNO SAN ROMAN JULIACA
MAYO DEL 2014 S/E LUMBRA RA-01



REDES DE ALCANTARILLADO – JULIACA
 CAMARAS DE BOMBEO CON AREAS DE INFLUENCIA

