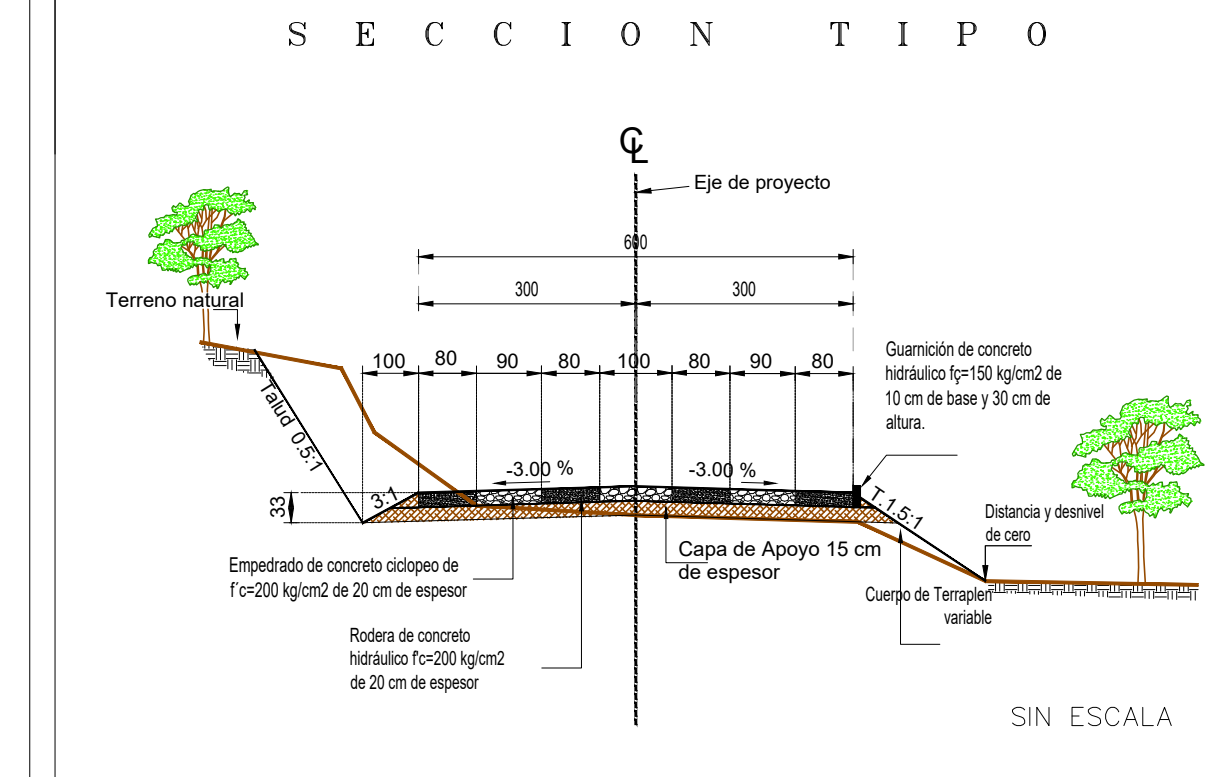
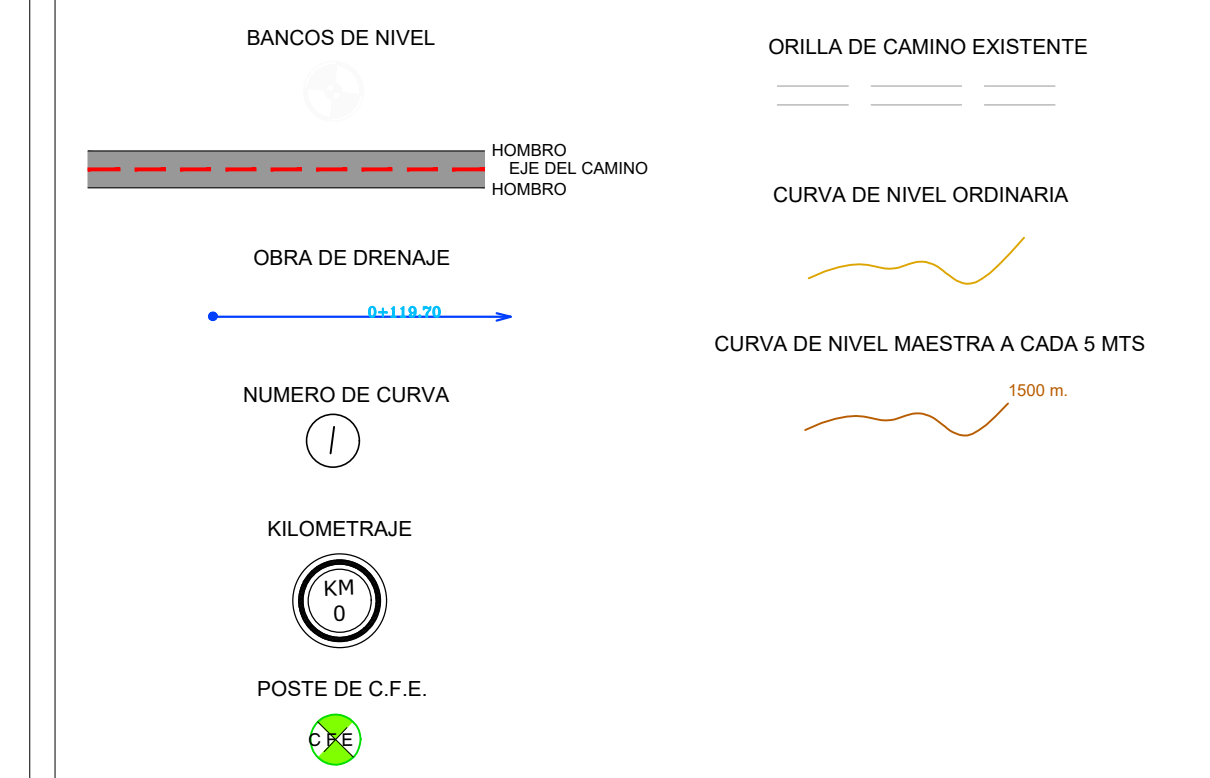


DATOS DE PROYECTO



SIMBOLOGIA



Camino: CONSTRUCCIÓN DE LA CARRETERA SIN NOMBRE CON CONCRETO HIDRÁULICO DEL E.C. (SAN PABLO VILLA DE MITLA – T.C.(TUXTEPEC PALOMARES) - SANTA CRUZ, TRAMO DEL KM 0+000 AL KM 1+927.82, SUBTRAMO DEL KM 0+715.00 AL KM 1+927.82, EN EL MUNICIPIO DE SANTA MARÍA TLAHUITOLTEPEC

PLANTA TOPOGRAFICA
DEL KM. 0+715.00 AL KM. 1+927.82

PROYECTO:

DIRECCION DE PROYECTOS Y CONTROL DE CALIDAD

REVISÃO:



JEFE DE LA UNIDAD DE ESTUDIOS Y PROYECTOS	DIRECTOR DE PROYECTOS Y CONTROL DE CALIDAD	EL DIRECTOR GENERAL
Cédula Profesional: 8652384 García	Cédula Profesional: 12890930 Lugo	ING. MOISES SALAZAR

COORDENADAS DEL EJE DE TRAZO

ESTACION	PUNTO OBSERVADO	SUBSANTENGA ALTURAS	TANGENTE	SUBSANTENGA ADELANTE	DISTANCIA	• * • SENTIDO		RUMBO		• * •		CÓSENO		SENO		PROYECCIONES		COORDENADAS			
						•	*	•	*	•	*	•	*	•	*	•	*	NORTE	ESTE		
NORTE																					
+0715.00	+0725.17	0.000	3.320	6.849	10.169			0° 0' 00" 00" 00"										1891804.202	#40027.709		
+0725.17	+0779.58	6.849	30.140	17.476	54.445			S 69° 28' 12.00" E	0.00350	0.93649	0.00	3.57	9.52	0.00				1891800.632	#40121.229		
+0779.58	+0834.47	13.698	59.980	32.440	102.465			S 56° 25' 55.20" E	0.55293	0.83321	0.00	30.12	43.38	0.00				1891770.512	#40157.609		
+0834.47	+0889.46	20.547	89.960	50.200	152.405			S 43° 33' 52.80" E	0.72480	0.68809	0.00	59.98	79.52	0.00				1891740.338	#40193.338		
+0889.46	+0966.70	27.119	80.570	44.556	122.645			S 30° 12' 39.60" E	0.70450	0.70917	0.00	93.31	63.76	0.00				1891633.562	#41851.199		
+0966.70	+1026.18	44.556	19.420	12.746	76.872			86° 00' 25.70" E	0.49683	0.75221	0.00	55.05	0.00	57.52				1891664.212	#41242.935		
+1026.18	+1051.84	44.556	16.000	7.185	25.761			N 60° 52' 12.30" E	0.46868	0.87351	0.00	22.50	22.50					1891696.752	#41265.439		
+1051.84	+1116.37	60.522	30.210	16.527	60.522			N 44° 56' 18.00" E	0.70917	0.68809	0.00	59.98	59.98	0.00				1891633.562	#41851.199		
+1116.37	+1174.16	46.262	13.270	16.682	72.574			S 47° 59' 56.40" E	0.66914	0.74313	0.00	48.56	93.93	0.00				1891682.892	#41371.389		
+1174.16	+1206.66	16.682	4.350	16.308	37.340			N 85° 32' 24.00" E	0.07776	0.99697	2.90	0.00	37.23	0.00				1891685.792	#41408.619		
+1206.66	+1248.06	16.308	13.090	13.130	42.528			S 98° 38' 39.00" E	0.96177	0.27388	40.00	0.00	11.65	0.00				1891766.692	#41531.338		
+1248.06	+1282.90	13.130	5.700	16.308	37.340			N 85° 32' 24.00" E	0.07776	0.99697	2.90	0.00	37.23	0.00				1891685.792	#41408.619		
+1282.90	+1302.64	17.030	42.020	11.309	68.564			S 51° 53' 59.90" E	0.62449	0.78259	0.00	67.13	1891762.632				1891762.632	#41531.338			
+1302.64	+1416.32	11.309	32.020	23.364	65.693			N 73° 29' 27.60" W	0.28417	0.95878	18.67	0.00	62.98	0.00				1891784.702	#41262.509		
+1416.32	+1487.80	22.364	1.800	50.399	74.563			S 21° 46' 15.60" E	0.96387	0.37090	68.00	0.00	22.68	0.00				1891653.342	#41234.849		
+1487.80	+1515.45	22.364	13.540	13.540	40.537			S 65° 10' 07.20" E	0.41574	0.90827	0.00	93.31	63.76	0.00				1891740.338	#41851.199		
+1515.45	+1550.25	13.540	14.930	7.203	25.473			S 68° 30' 21.30" E	0.46749	0.84480	0.00	20.09	29.23	0.00				1891624.512	#41369.899		
+1550.25	+1578.36	7.203	14.930	6.606	28.123			S 61° 48' 02.90" E	0.24970	0.88105	0.00	13.28	27.49	0.00				1891811.232	#41355.559		
+1578.36	+1633.89	6.630	35.680	10.234	57.544			S 34° 59' 54.70" E	0.33188	0.91703	0.00	22.95	57.27	0.00				1891788.282	#41408.123		
+1633.89	+1684.09	2.234	22.610	16.524	48.388			S 62° 25' 58.60" E	0.13969	0.99129	0.00	6.37	97.97	0.00				1891712.462	#41556.099		
+1684.09	+1739.58	10.549	15.820	15.820	31.670			N 80° 12' 00.00" E	0.17820	0.98492	0.00	43.77	97.97	0.00				1891700.632	#41556.099		
+1739.58	+1773.36	5.082	30.200	5.086	46.137			S 34° 37' 27.80" E	0.64006	0.76833	0.00	29.53	34.55	0.00				1891760.589	#41538.909		
+1773.36	+1803.56	21.796	2.890	20.249	28.225			S 36° 14' 12.40" E	0.80052	0.59930	0.00	23.29	16.92	0.00				1891737.992	#41555.829		
+1803.56	+1848.86	20.249	6.110	16.938	23.057			S 34° 38' 08.50" E	0.67469	0.74609	0.00	32.47	50.58	0.00				1891704.522	#41586.439		
+1848.86	+1906.71	37.150	24.477	58.670	58.670			S 11° 23' 27.60" E	0.98030	0.19750	0.00	71.52	11.99	0.00				1891707.616	#41597.884		
+1906.71	+1948.86	24.477	16.610	0.000	21.157			S 24° 52' 19.20" E	0.90728	0.42050	0.00	19.19	8.90	0.00				1891627.812	#41606.899		

REFERENCIAS DEL TRAZO (EJE DE CAMPO)

Pto. Referencial (P) ángulos (a) e a derecha desde la tangente de aristas (D) de P a C								
Ángulo (a°)	Ángulo (a°)	DR1/DR3 EN	Ubicación	Ángulo (a°)	DR2/DR4 EN	Ubicación		
PC	X=0718.317	173°59'22"	44.18	Y=+04130.824	2027°11'	8.51	X=+0240.344	Y=+1889.554
			CLAVO/SOPOLO CUNETA	Y=+0189.417			CLAVO SOPOLO CUNETA	Y=+1889.554
			5/NOQUEROS DE CONCRETO	X=+0190.673			X=+0190.673	Y=+1889.554
			5/NOQUEROS DE CONCRETO	Y=+0170.263			Y=+0170.263	
			5/NOQUEROS DE CONCRETO	X=+0138.012	233°34'19"	9.88	X=+0138.012	Y=+1853.218
			5/NOQUEROS DE CONCRETO	Y=+0138.012			Y=+0138.012	
			5/NOQUEROS DE CONCRETO	X=+0149.323			X=+0149.323	Y=+1853.218
			5/NOQUEROS DE CONCRETO	Y=+0149.323			Y=+0149.323	
			5/NOQUEROS DE CONCRETO	X=+0144.623			X=+0144.623	Y=+1853.218
			5/NOQUEROS DE CONCRETO	Y=+0144.623			Y=+0144.623	
			5/NOQUEROS DE CONCRETO	X=+0120.001	162°53'22"	48.45	X=+0120.001	Y=+1853.218
			5/NOQUEROS DE CONCRETO	Y=+0120.001			Y=+0120.001	
			5/NOQUEROS DE CONCRETO	X=+0117.718			X=+0117.718	Y=+1853.218
			5/NOQUEROS DE CONCRETO	Y=+0117.718			Y=+0117.718	
			5/NOQUEROS DE CONCRETO	X=+0144.139	99°52'32"	4.11	X=+0144.139	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0144.139			Y=+0144.139	
			5/NOQUEROS DE CONCRETO	X=+0130.803			X=+0130.803	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0130.803			Y=+0130.803	
			5/NOQUEROS DE CONCRETO	X=+0120.501			X=+0120.501	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0120.501			Y=+0120.501	
			5/NOQUEROS DE CONCRETO	X=+0120.501	157°12'22"	16.82	X=+0120.501	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0120.501			Y=+0120.501	
			5/NOQUEROS DE CONCRETO	X=+0119.846			X=+0119.846	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0119.846			Y=+0119.846	
			5/NOQUEROS DE CONCRETO	X=+0119.846			X=+0119.846	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0119.846			Y=+0119.846	
			5/NOQUEROS DE CONCRETO	X=+0115.055			X=+0115.055	Y=+1837.407
			5/NOQUEROS DE CONCRETO	Y=+0115.055			Y=+0115.055	
			5/NOQUEROS DE CONCRETO	X=+0102.559	173°25'11"	27.41	X=+0102.559	Y=+1845.805
			5/NOQUEROS DE CONCRETO	Y=+0102.559			Y=+0102.559	
			5/NOQUEROS DE CONCRETO	X=+0097.785			X=+0097.785	Y=+1845.805
			5/NOQUEROS DE CONCRETO	Y=+0097.785			Y=+0097.785	
			5/NOQUEROS DE CONCRETO	X=+0147.935			X=+0147.935	Y=+1845.805
			5/NOQUEROS DE CONCRETO	Y=+0147.935			Y=+0147.935	
			5/NOQUEROS DE CONCRETO	X=+0147.935			X=+0147.935	Y=+1845.805
			5/NOQUEROS DE CONCRETO	Y=+0147.935			Y=+0147.935	
			5/NOQUEROS DE CONCRETO	X=+0147.935	205°23'22"	69.09	X=+0147.935	Y=+1823.668
			5/NOQUEROS DE CONCRETO	Y=+0147.935			Y=+0147.935	
			5/NOQUEROS DE CONCRETO	X=+0147.935			X=+0147.935	Y=+1823.668
			5/NOQUEROS DE CONCRETO	Y=+0147.935			Y=+0147.935	
			5/NOQUEROS DE CONCRETO	X=+0147.935			X=+0147.935	Y=+1823.668
			5/NOQUEROS DE CONCRETO	Y=+0147.935			Y=+0147.935	



DATOS DE CURVAS HORIZONTALES

CURVA	P.I.	Def. t°	Gc	Rc	St/Ste	Lc	Øe	La	Xc	Yc	k	p
1	0+7523.76	13° 22' 31" 06"	19° 07' 30" 00"	59.8176	6.8468	13.6398						
2	0+77937.96	88° 53' 23" 08"	10° 57' 17" 00"	108.0000	17.4768	34.6546						
3	0+8424.41	7° 30' 47" 00"	10° 47' 43" 00"	108.0000	17.4768	34.6546						
4	0+9864.30	80° 05' 25" 02"	23° 59' 07" 00"	47.7556	44.6551	71.7166						
5	+10085.175	10° 12' 12" 08"	47° 47' 27" 00"	147.8111	24.7638	24.8608						
6	+10079.963	4° 15' 15" 02"	62° 18' 39" 00"	179.8125	15.8515	15.8515						
7	+10134.74	75° 42' 42" 30" 00"	20° 47' 27" 00"	54.8849	42.6232	72.6605						
8	+10134.142	46° 27' 48" 00"	29° 07' 27" 00"	38.6666	16.8482	31.5158						
9	+10203.65	88° 59' 39" 02"	10° 47' 35" 02"	25.4444	18.3586	26.1000						
10	+10206.062	43° 18' 24" 04" 00"	10° 47' 12" 00"	21.2500	13.5533	24.5533						
11	+10265.893	50° 51' 53" 08"	18° 30' 09" 00"	61.1761	17.0256	33.2426						
12	+10365.62	4° 47' 04" 08"	41° 03' 55" 00"	20.6270	20.6270	20.6204						
13	+10416.316	10° 45' 11" 47" 00"	20° 47' 10" 00"	45.2667	45.2667	45.2667						
14	+10471.799	119° 46' 20" 00"	10° 51' 53" 02"	23.5424	50.3636	61.1009						
15	+10515.249	20° 40' 33" 07" 00"	10° 51' 53" 02"	56.4646	13.2604	26.2000						
16	+10522.94	6° 10' 07" 00"	48° 01' 07" 00"	132.2222	22.9444	22.9444						
17	+10529.364	4° 39' 54" 04"	7° 02' 16" 02"	108.0000	6.8468	13.6325						
18	+10458.893	19° 56' 13" 04"	10° 37' 17" 00"	108.0000	15.2444	30.2716						
19	+10458.084	17° 25' 43" 07"	10° 37' 30" 00"	108.0000	15.2444	30.2600						
20	+11751.988	48° 37' 23" 00"	24° 23' 24" 00"	46.8333	21.7211	46.6920						
21	+11755.380	13° 23' 02" 08"	26° 48' 07" 00"	43.4848	50.0000	10.1266						
22	+10833.563	5° 36' 09" 02"	47° 08' 05" 00"	153.5333	20.2444	40.4666						
23	+10838.864	31° 01' 32" 00"	48° 14' 40" 00"	61.1576	16.9778	32.2222						
24	+10930.709	17° 28' 46" 04"	29° 47' 08" 00"	38.4722	45.5474	9.0511						

GEOMETRIA DEL ALINEAMIENTO HORIZONTAL

CURVA	PC/TE		EC		PV/PT		CE		PT/TE	
	X	Y	X	Y	X	Y	X	Y	X	Y
1	0.7167337				0.725168				0.737188	
1	814.055485	1.891.803.038			814.012232	1.891.800.837			814.017337	1.891.796.850
	0.767610				0.779376				0.786734	
	814.034204	1.891.780.183			814.015615	1.891.770.550			814.012625	1.891.766.550
	0.8027305				0.815434				0.8441752	
	814.068395	1.891.732.388			814.091285	1.891.726.743			814.098912	1.891.721.723
	0.9222144				0.956570				0.958580	
	814.153469	1.891.664.845			814.155121	1.891.633.575			814.218167	1.891.655.825
	1.0257305				1.0581176				1.0600002	
	814.233561	1.891.676.009			814.232494	1.891.689.024			814.253843	1.891.690.302
	1.0717163				1.0757184				1.0800002	
	814.258171	1.891.693.272			814.265446	1.891.696.770			814.274125	1.891.703.753
	1.1171743				1.1141205				1.1142000	
	814.282007	1.891.707.817			814.317164	1.891.725.000			814.345110	1.891.730.295
	1.1519440				1.1591064				1.1588967	
	814.359005	1.891.694.067			814.373139	1.891.682.003			814.380613	1.891.684.203
9	1.1938382				1.2047657				1.2021847	
	814.380369	1.891.684.541			814.435608	1.891.701.020			814.445108	1.891.701.493
	1.2394384				1.246004				1.2506467	
	814.416479	1.891.714.080			814.425275	1.891.728.708			814.415108	1.891.725.594
	1.2859862				1.2821897				1.2896125	
	814.402146	1.891.740.588			814.432622	1.891.752.126			814.375342	1.891.755.588
	1.3301358				1.3303135				1.3301358	
	814.338559	1.891.763.760			814.325485	1.891.762.106			814.314644	1.891.769.271
	1.3788431				1.3761628				1.3761628	
	814.283341	1.891.778.372			814.262498	1.891.784.737			814.254204	1.891.802.496
	1.4270020				1.4487801				1.4485511	
	814.253357	1.891.807.166			814.244844	1.891.824.995			814.237132	1.891.846.995
	1.5050191				1.5105321				1.5081313	
	814.288130	1.891.846.448			814.301357	1.891.844.073			814.310131	1.891.857.073
	1.5454262				1.5502425				1.5575434	
	814.324427	1.891.826.617			814.335363	1.891.824.536			814.336313	1.891.820.135
	1.5757127				1.5781372				1.5848479	
	814.349514	1.891.814.388			814.348185	1.891.811.258			814.361438	1.891.808.365
	1.6255141				1.6320854				1.6500001	
	814.394159	1.891.794.383			814.408128	1.891.788.306			814.423529	1.891.786.302
	1.6755141				1.6848265				1.6941647	
	814.445462	1.891.783.234			814.465404	1.891.781.738			814.468148	1.891.783.736
	1.7102208				1.7321489				1.750260	
	814.417605	1.891.786.433			814.435405	1.891.790.123			814.450414	1.891.791.273
20	1.7534989				1.777590				1.780420	
	814.534369	1.891.763.962			814.538987	1.891.760.767			814.543599	1.891.766.537
	1.7835134				1.8033465				1.8233790	
	814.543489	1.891.754.219			814.558252	1.891.738.009			814.569149	1.891.723.014
	1.8311886				1.8450184				1.8650008	
	814.574393	1.891.717.077			814.586495	1.891.704.053			814.598760	1.891.687.905
	1.9021162				1.9061708				1.9112125	
	814.587198	1.891.651.477			814.597598	1.891.647.025			814.598108	1.891.642.895

POLIGONAL DE CONTROL TERRESTRE

VAR	Y			OBSERVACIONES
FACTOR	Y	Y	Z	
PA1	814,020,074	1,891,803,252	2,244,441	5/ MONEDERA DE CONCRETO
PA2	814,091,217	1,891,719,628	2,255,875	5/ MONEDERA DE CONCRETO
PA3	814,091,217	1,891,719,628	2,267,072	5/ MONEDERA DE CONCRETO
PA4	814,201,189	1,891,648,730	2,259,458	5/ MONEDERA DE CONCRETO
PA5	814,302,083	1,891,723,105	2,282,147	5/ MONEDERA DE CONCRETO
PA6	814,341,614	1,891,682,189	2,294,972	5/ MONEDERA DE CONCRETO
PA7	814,341,614	1,891,682,189	2,297,133	5/ MONEDERA DE CONCRETO
PA8	814,400,913	1,891,749,647	2,280,661	5/ MONEDERA DE CONCRETO
PA9	814,525,833	1,891,765,961	2,301,402	5/ MONEDERA DE CONCRETO
PA10	814,525,833	1,891,765,961	2,307,832	5/ MONEDERA DE CONCRETO
PA11	814,525,833	1,891,804,609	2,311,777	5/ MONEDERA DE CONCRETO
PA12	814,297,504	1,891,848,369	2,318,066	5/ MONEDERA DE CONCRETO
PA13	814,418,546	1,891,782,028	2,328,916	5/ MONEDERA DE CONCRETO
PA14	814,418,546	1,891,782,028	2,335,346	5/ MONEDERA DE CONCRETO
PA15	816,020,629	1,891,627,005	2,352,508	5/ MONEDERA DE CONCRETO