



ANEXO Nº 8

TRAZADO GEOMÉTRICO



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1. INTRODUCCIÓN.

El presente anexo, denominado trazado geométrico, tiene por finalidad exponer los datos geométricos de los trazados de las diferentes alternativas propuestas para la plataforma no motorizada objeto del estudio informativo.

Debido a que, tras las conclusiones obtenidas de un estudio informativo, en el proyecto constructivo pueden acabar desarrollándose opciones muy diferentes a las que inicialmente se proponían, se considera necesario incluir una información mínima de los trazados propuestos para que en posteriores fases de estudio puedan reproducirse.

Así pues, en el anexo se incluirán datos geométricos en planta y en alzado de las tres alternativas propuestas.

Además, el anexo se acompaña con la descripción de exhaustiva de la solución óptima, aquella que ha resultado con una mayor puntuación tras el estudio de alternativas, desde el punto de vista del trazado en planta, en alzada y las secciones transversales más comunes (denominadas para este caso secciones tipo) con las que cuenta dicha alternativa.

2. TRAZADO EN PLANTA DE LAS ALTERNATIVAS.

Los trazados de cada una de las alternativas se han diseñado mediante un único eje ubicado o bien en el borde izquierdo o bien el derecho de la plataforma en función de las características de cada alternativa.

El trazado en planta se ha diseñado mediante alineaciones rectas y curvas sin transiciones entre ambos elementos geométricos. Los radios utilizados se han diseñado con un valor mínimo de 10 m, valor mínimo aconsejado por el "Manual de Recomendaciones de Diseño, Construcción, Balizamiento, Infraestructuras, Conservación, Señalización y Mantenimiento de Carril Bici" editado por la Dirección General de Tráfico.

De cada una de las alternativas propuestas se ha incluido en el anexo un listado de sus ejes en planta. Dichos listados se componen de los datos de entrada, de los puntos singulares y de los puntos del eje cada diez metros.

Previa a la incorporación de estos listados, a continuación se adjunta la descripción de cada uno de los datos proporcionados en los listados:

Datos de entrada:

Al- Alineación.

Tipo - Tipo de alineación.

Radio - Radio de la alineación. Es positivo cuando el giro es hacia la derecha, y negativo si es hacia la izquierda.

X1/Y1 - Coordenadas del punto 1.

X2/Y2 - Coordenadas del punto 2.

Puntos Singulares:

Estación - Punto kilométrico. El primer y último Pk del eje en planta.

Longitud - Se refiere a la longitud del elemento anterior al punto singular, es decir, la longitud de las rectas, clotoides y circunferencias. La longitud del primer punto es nula ya que no existe desarrollo del eje antes de él.

Coordenadas X e Y - Coordenadas X e Y del eje.

Acimut - Es el ángulo, medido en grados centesimales, formado por la dirección del Norte (Y) y el vector tangente en el punto singular y en el sentido de avance del eje.

Radio - Radio instantáneo del punto singular. Con el criterio de signos definido.

X Centro e Y Centro - Coordenadas del centro del círculo de la alineación que contiene al punto singular.

Puntos del eje cada 10 metros:

Estación - Punto kilométrico. El primer y último Pk del eje en planta.

Coordenadas X e Y - Coordenadas X e Y del eje.

Acimut - Es el ángulo, medido en grados centesimales, formado por la dirección del Norte (Y) y el vector tangente en el punto singular y en el sentido de avance del eje.

Radio - Radio instantáneo del punto singular. Con el criterio de signos definido.



2.1. ALTERNATIVA 1.

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
1	Fijo	Infinito	730.208,634 4.382.274,416	730.498,563 4.382.152,042
2	Móvil	-10,000		
3	Fijo	Infinito	730.512,370 4.382.159,972	730.529,207 4.382.290,055
4	Móvil especial	-14,000		
5	Fijo	-31,000	730.502,058 4.382.287,376	730.527,943 4.382.266,483
6	Móvil	Infinito		
7	Fijo	100,000	730.644,906 4.382.253,232	730.673,275 4.382.245,439
8	Móvil	Infinito		
9	Fijo	100,000	730.691,024 4.382.237,603	730.726,983 4.382.210,070
10	Móvil	-36,000		
11	Fijo	Infinito	730.759,955 4.382.197,370	730.775,879 4.382.199,646
12	Móvil	23,000		
13	Fijo	Infinito	730.802,054 4.382.179,376	730.803,464 4.382.164,948
14	Móvil	-10,000		
15	Retrogiratorio	80,000	730.817,183 4.382.154,811	
16	Fijo	195,500	730.852,970 4.382.161,112	730.902,640 4.382.142,516
17	Móvil	Infinito		

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
18	Fijo	50,000	731.581,645 4.381.776,590	731.602,612 4.381.755,004
19	Móvil	-80,000		
20	Fijo	Infinito	731.637,748 4.381.719,632	731.662,569 4.381.706,966
21	Móvil	-122,000		
22	Fijo	Infinito	731.714,751 4.381.693,679	731.999,430 4.381.686,043
23	Móvil	230,000		
24	Fijo	Infinito	732.071,088 4.381.672,559	732.107,070 4.381.659,620
25	Móvil	105,000		
26	Fijo	Infinito	732.136,484 4.381.643,320	732.210,762 4.381.584,854
27	Móvil	91,000		
28	Fijo	Infinito	732.245,399 4.381.509,582	732.243,896 4.381.473,291
29	Móvil	-0,001		
30	Fijo	Infinito	732.240,873 4.381.473,419	732.324,878 4.381.469,583
31	Móvil	-0,001		
32	Fijo	Infinito	732.318,886 4.381.469,878	732.320,610 4.381.504,965
33	Giratorio	105,000		732.350,821 4.381.573,639

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
0+000,000	0,000	730.208,634	4.382.274,416	125,4264	Infinito		
0+314,698	314,698	730.498,564	4.382.152,042	125,4264	Infinito		
0+333,112	18,415	730.512,370	4.382.159,971	8,1944	-10,000	730.502,453	4.382.161,255
0+464,282	131,170	730.529,207	4.382.290,056	8,1944	Infinito		
0+514,621	50,339	730.502,057	4.382.287,378	179,2900	-14,000	730.515,323	4.382.291,853
0+549,735	35,114	730.527,942	4.382.266,483	107,1802	-31,000	730.531,431	4.382.297,286
0+666,680	116,945	730.644,145	4.382.253,321	107,1802	Infinito		
0+696,953	30,273	730.673,256	4.382.245,447	126,4529	100,000	730.632,890	4.382.153,957
0+715,424	18,471	730.690,156	4.382.237,991	126,4529	Infinito		
0+762,027	46,602	730.726,961	4.382.210,096	156,1209	100,000	730.649,789	4.382.146,500
0+798,873	36,846	730.759,837	4.382.197,353	90,9621	-36,000	730.754,743	4.382.232,991
0+815,133	16,260	730.775,934	4.382.199,654	90,9621	Infinito		
0+852,286	37,153	730.802,079	4.382.179,122	193,7982	23,000	730.779,188	4.382.176,885
0+868,314	16,028	730.803,638	4.382.163,171	193,7982	Infinito		
0+886,723	18,409	730.817,183	4.382.154,811	76,6047	-10,000	730.813,590	4.382.164,143
0+941,504	54,781	730.870,883	4.382.156,160	120,1983	80,000	730.845,925	4.382.080,153
0+976,111	34,607	730.902,639	4.382.142,517	131,4677	195,500	730.809,892	4.381.970,417
1+747,443	771,332	731.581,646	4.381.776,590	131,4677	Infinito		
1+778,009	30,566	731.602,612	4.381.755,003	170,3860	50,000	731.557,925	4.381.732,574
1+828,711	50,702	731.637,749	4.381.719,631	130,0388	-80,000	731.674,112	4.381.790,890
1+856,576	27,864	731.662,569	4.381.706,966	130,0388	Infinito		
1+910,870	54,294	731.714,751	4.381.693,679	101,7072	-122,000	731.718,022	4.381.815,635
2+195,652	284,783	731.999,431	4.381.686,043	101,7072	Infinito		
2+268,880	73,228	732.071,092	4.381.672,558	121,9760	230,000	731.993,264	4.381.456,126
2+307,113	38,233	732.107,070	4.381.659,620	121,9760	Infinito		
2+340,886	33,772	732.136,483	4.381.643,321	142,4524	105,000	732.071,539	4.381.560,814
2+435,414	94,528	732.210,761	4.381.584,855	142,4524	Infinito		
2+521,441	86,027	732.245,399	4.381.509,583	202,6351	91,000	732.154,477	4.381.513,349
2+557,773	36,332	732.243,896	4.381.473,282	202,6351	Infinito		
2+557,774	0,002	732.243,897	4.381.473,281	102,9050	-0,001	732.243,897	4.381.473,282
2+632,840	75,066	732.318,884	4.381.469,857	102,9050	Infinito		
2+632,842	0,002	732.318,885	4.381.469,858	3,1255	-0,001	732.318,884	4.381.469,858

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
2+667,991	35,149	732.320,610	4.381.504,964	3,1255	Infinito		
2+744,712	76,721	732.350,821	4.381.573,639	49,6421	105,000	732.425,483	4.381.499,811



PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+000,000	730.208,634	4.382.274,416	125,4264	Infinito
	0+010	730.217,847	4.382.270,527	125,4264	
	0+020	730.227,060	4.382.266,639	125,4264	
	0+030	730.236,273	4.382.262,750	125,4264	
	0+040	730.245,486	4.382.258,861	125,4264	
	0+050	730.254,699	4.382.254,973	125,4264	
	0+060	730.263,912	4.382.251,084	125,4264	
	0+070	730.273,125	4.382.247,196	125,4264	
	0+080	730.282,338	4.382.243,307	125,4264	
	0+090	730.291,551	4.382.239,418	125,4264	
	0+100	730.300,764	4.382.235,530	125,4264	
	0+110	730.309,977	4.382.231,641	125,4264	
	0+120	730.319,189	4.382.227,752	125,4264	
	0+130	730.328,402	4.382.223,864	125,4264	
	0+140	730.337,615	4.382.219,975	125,4264	
	0+150	730.346,828	4.382.216,087	125,4264	
	0+160	730.356,041	4.382.212,198	125,4264	
	0+170	730.365,254	4.382.208,309	125,4264	
	0+180	730.374,467	4.382.204,421	125,4264	
	0+190	730.383,680	4.382.200,532	125,4264	
	0+200	730.392,893	4.382.196,643	125,4264	
	0+210	730.402,106	4.382.192,755	125,4264	
	0+220	730.411,319	4.382.188,866	125,4264	
	0+230	730.420,532	4.382.184,978	125,4264	
	0+240	730.429,745	4.382.181,089	125,4264	
	0+250	730.438,958	4.382.177,200	125,4264	
	0+260	730.448,171	4.382.173,312	125,4264	
	0+270	730.457,384	4.382.169,423	125,4264	
	0+280	730.466,597	4.382.165,534	125,4264	
	0+290	730.475,810	4.382.161,646	125,4264	
	0+300	730.485,023	4.382.157,757	125,4264	
	0+310	730.494,236	4.382.153,869	125,4264	

PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+314,698	730.498,564	4.382.152,042	125,4264	Infinito
	0+320	730.503,757	4.382.151,340	91,6733	
	0+330	730.511,500	4.382.156,995	28,0113	
PS	0+333,112	730.512,370	4.382.159,971	8,1944	-10,000
	0+340	730.513,254	4.382.166,801	8,1944	
	0+350	730.514,538	4.382.176,718	8,1944	
	0+360	730.515,821	4.382.186,636	8,1944	
	0+370	730.517,105	4.382.196,553	8,1944	
	0+380	730.518,388	4.382.206,470	8,1944	
	0+390	730.519,672	4.382.216,387	8,1944	
	0+400	730.520,956	4.382.226,305	8,1944	
	0+410	730.522,239	4.382.236,222	8,1944	
	0+420	730.523,523	4.382.246,139	8,1944	
	0+430	730.524,806	4.382.256,057	8,1944	
	0+440	730.526,090	4.382.265,974	8,1944	
	0+450	730.527,374	4.382.275,891	8,1944	
	0+464,282	730.529,207	4.382.290,056	8,1944	
	0+470	730.528,779	4.382.295,717	382,1966	
PS	0+480	730.522,958	4.382.303,587	336,7237	-14,000
	0+490	730.513,405	4.382.305,721	291,2509	
	0+500	730.504,789	4.382.301,075	245,7781	
	0+510	730.501,323	4.382.291,920	200,3052	
	0+514,621	730.502,057	4.382.287,378	179,2900	
	0+520	730.504,209	4.382.282,456	168,2446	
	0+530	730.510,314	4.382.274,591	147,7085	
PS	0+540	730.518,598	4.382.269,067	127,1724	-31,000
	0+549,735	730.527,942	4.382.266,483	107,1802	
	0+550	730.528,206	4.382.266,453	107,1802	
	0+560	730.538,142	4.382.265,328	107,1802	
	0+570	730.548,078	4.382.264,202	107,1802	
	0+580	730.558,015	4.382.263,077	107,1802	
	0+590	730.567,951	4.382.261,951	107,1802	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	0+600	730.577,888	4.382.260,826	107,1802	
	0+610	730.587,824	4.382.259,700	107,1802	
	0+620	730.597,761	4.382.258,575	107,1802	
	0+630	730.607,697	4.382.257,449	107,1802	
	0+640	730.617,634	4.382.256,324	107,1802	
	0+650	730.627,570	4.382.255,199	107,1802	
	0+660	730.637,507	4.382.254,073	107,1802	
PS	0+666,680	730.644,145	4.382.253,321	107,1802	Infinito
	0+670	730.647,436	4.382.252,893	109,2936	
	0+680	730.657,241	4.382.250,946	115,6597	
	0+690	730.666,802	4.382.248,031	122,0259	
PS	0+696,953	730.673,256	4.382.245,447	126,4529	100,000
	0+700	730.676,043	4.382.244,218	126,4529	
	0+710	730.685,192	4.382.240,181	126,4529	
PS	0+715,424	730.690,156	4.382.237,991	126,4529	Infinito
	0+720	730.694,298	4.382.236,049	129,3655	
	0+730	730.703,015	4.382.231,158	135,7317	
	0+740	730.711,201	4.382.225,422	142,0979	
	0+750	730.718,773	4.382.218,896	148,4641	
	0+760	730.725,656	4.382.211,648	154,8303	
PS	0+762,027	730.726,961	4.382.210,096	156,1209	100,000
	0+770	730.732,669	4.382.204,553	142,0219	
	0+780	730.741,313	4.382.199,590	124,3380	
	0+790	730.750,987	4.382.197,187	106,6542	
PS	0+798,873	730.759,837	4.382.197,353	90,9621	-36,000
	0+800	730.760,952	4.382.197,512	90,9621	
	0+810	730.770,851	4.382.198,927	90,9621	
PS	0+815,133	730.775,934	4.382.199,654	90,9621	Infinito
	0+820	730.780,787	4.382.199,829	104,4311	
	0+830	730.790,303	4.382.197,021	132,1102	
	0+840	730.797,750	4.382.190,466	159,7893	
	0+850	730.801,744	4.382.181,383	187,4684	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	0+852,286	730.802,079	4.382.179,122	193,7982	23,000
	0+860	730.802,829	4.382.171,446	193,7982	
PS	0+868,314	730.803,638	4.382.163,171	193,7982	Infinito
	0+870	730.803,942	4.382.161,515	183,0673	
	0+880	730.810,589	4.382.154,604	119,4053	
PS	0+886,723	730.817,183	4.382.154,811	76,6047	-10,000
	0+890	730.820,264	4.382.155,925	79,2124	
	0+900	730.829,912	4.382.158,533	87,1701	
	0+910	730.839,809	4.382.159,918	95,1279	
	0+920	730.849,801	4.382.160,059	103,0856	
	0+930	730.859,733	4.382.158,952	111,0434	
	0+940	730.869,450	4.382.156,616	119,0011	
PS	0+941,504	730.870,883	4.382.156,160	120,1983	80,000
	0+950	730.878,895	4.382.153,335	122,9648	
	0+960	730.888,157	4.382.149,567	126,2211	
	0+970	730.897,214	4.382.145,332	129,4775	
PS	0+976,111	730.902,639	4.382.142,517	131,4677	195,500
	0+980	730.906,062	4.382.140,672	131,4677	
	0+990	730.914,865	4.382.135,928	131,4677	
	1+000	730.923,668	4.382.131,184	131,4677	
	1+010	730.932,471	4.382.126,440	131,4677	
	1+020	730.941,274	4.382.121,696	131,4677	
	1+030	730.950,077	4.382.116,952	131,4677	
	1+040	730.958,880	4.382.112,207	131,4677	
	1+050	730.967,683	4.382.107,463	131,4677	
	1+060	730.976,486	4.382.102,719	131,4677	
	1+070	730.985,289	4.382.097,975	131,4677	
	1+080	730.994,092	4.382.093,231	131,4677	
	1+090	731.002,895	4.382.088,487	131,4677	
	1+100	731.011,698	4.382.083,743	131,4677	
	1+110	731.020,501	4.382.078,999	131,4677	
	1+120	731.029,304	4.382.074,255	131,4677	

PUNTOS DEL EJE CADA 10 METROS

<u>Estación</u>	<u>Coord. X</u>	<u>Coord. Y</u>	<u>Acimut</u>	<u>Radio</u>
1+130	731.038,107	4.382.069,511	131,4677	
1+140	731.046,910	4.382.064,767	131,4677	
1+150	731.055,713	4.382.060,022	131,4677	
1+160	731.064,516	4.382.055,278	131,4677	
1+170	731.073,320	4.382.050,534	131,4677	
1+180	731.082,123	4.382.045,790	131,4677	
1+190	731.090,926	4.382.041,046	131,4677	
1+200	731.099,729	4.382.036,302	131,4677	
1+210	731.108,532	4.382.031,558	131,4677	
1+220	731.117,335	4.382.026,814	131,4677	
1+230	731.126,138	4.382.022,070	131,4677	
1+240	731.134,941	4.382.017,326	131,4677	
1+250	731.143,744	4.382.012,581	131,4677	
1+260	731.152,547	4.382.007,837	131,4677	
1+270	731.161,350	4.382.003,093	131,4677	
1+280	731.170,153	4.381.998,349	131,4677	
1+290	731.178,956	4.381.993,605	131,4677	
1+300	731.187,759	4.381.988,861	131,4677	
1+310	731.196,562	4.381.984,117	131,4677	
1+320	731.205,365	4.381.979,373	131,4677	
1+330	731.214,168	4.381.974,629	131,4677	
1+340	731.222,971	4.381.969,885	131,4677	
1+350	731.231,774	4.381.965,141	131,4677	
1+360	731.240,577	4.381.960,396	131,4677	
1+370	731.249,380	4.381.955,652	131,4677	
1+380	731.258,183	4.381.950,908	131,4677	
1+390	731.266,987	4.381.946,164	131,4677	
1+400	731.275,790	4.381.941,420	131,4677	
1+410	731.284,593	4.381.936,676	131,4677	
1+420	731.293,396	4.381.931,932	131,4677	
1+430	731.302,199	4.381.927,188	131,4677	
1+440	731.311,002	4.381.922,444	131,4677	

PUNTOS DEL EJE CADA 10 METROS

<u>Estación</u>	<u>Coord. X</u>	<u>Coord. Y</u>	<u>Acimut</u>	<u>Radio</u>
1+450	731.319,805	4.381.917,700	131,4677	
1+460	731.328,608	4.381.912,956	131,4677	
1+470	731.337,411	4.381.908,211	131,4677	
1+480	731.346,214	4.381.903,467	131,4677	
1+490	731.355,017	4.381.898,723	131,4677	
1+500	731.363,820	4.381.893,979	131,4677	
1+510	731.372,623	4.381.889,235	131,4677	
1+520	731.381,426	4.381.884,491	131,4677	
1+530	731.390,229	4.381.879,747	131,4677	
1+540	731.399,032	4.381.875,003	131,4677	
1+550	731.407,835	4.381.870,259	131,4677	
1+560	731.416,638	4.381.865,515	131,4677	
1+570	731.425,441	4.381.860,771	131,4677	
1+580	731.434,244	4.381.856,026	131,4677	
1+590	731.443,047	4.381.851,282	131,4677	
1+600	731.451,850	4.381.846,538	131,4677	
1+610	731.460,653	4.381.841,794	131,4677	
1+620	731.469,457	4.381.837,050	131,4677	
1+630	731.478,260	4.381.832,306	131,4677	
1+640	731.487,063	4.381.827,562	131,4677	
1+650	731.495,866	4.381.822,818	131,4677	
1+660	731.504,669	4.381.818,074	131,4677	
1+670	731.513,472	4.381.813,330	131,4677	
1+680	731.522,275	4.381.808,586	131,4677	
1+690	731.531,078	4.381.803,841	131,4677	
1+700	731.539,881	4.381.799,097	131,4677	
1+710	731.548,684	4.381.794,353	131,4677	
1+720	731.557,487	4.381.789,609	131,4677	
1+730	731.566,290	4.381.784,865	131,4677	
1+740	731.575,093	4.381.780,121	131,4677	
PS 1+747,443	731.581,646	4.381.776,590	131,4677	Infinito
1+750	731.583,864	4.381.775,320	134,7227	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
PS	1+760	731.591,839	4.381.769,315	147,4551	50,000
	1+770	731.598,462	4.381.761,844	160,1875	
	1+778,009	731.602,612	4.381.755,003	170,3860	
	1+780	731.603,527	4.381.753,236	168,8023	
	1+790	731.608,772	4.381.744,730	160,8446	
	1+800	731.615,037	4.381.736,944	152,8868	
	1+810	731.622,224	4.381.730,000	144,9291	
PS	1+820	731.630,220	4.381.724,005	136,9713	-80,000
	1+828,711	731.637,749	4.381.719,631	130,0388	
	1+830	731.638,897	4.381.719,046	130,0388	
	1+840	731.647,804	4.381.714,501	130,0388	
PS	1+850	731.656,711	4.381.709,955	130,0388	Infinito
	1+856,576	731.662,569	4.381.706,966	130,0388	
	1+860	731.665,640	4.381.705,453	128,2522	
	1+870	731.674,837	4.381.701,534	123,0340	
	1+880	731.684,324	4.381.698,381	117,8158	
	1+890	731.694,037	4.381.696,016	112,5976	
	1+900	731.703,912	4.381.694,454	107,3794	
PS	1+910	731.713,881	4.381.693,705	102,1612	-122,000
	1+910,870	731.714,751	4.381.693,679	101,7072	
	1+920	731.723,877	4.381.693,434	101,7072	
	1+930	731.733,874	4.381.693,166	101,7072	
	1+940	731.743,870	4.381.692,898	101,7072	
	1+950	731.753,866	4.381.692,630	101,7072	
	1+960	731.763,863	4.381.692,362	101,7072	
	1+970	731.773,859	4.381.692,094	101,7072	
	1+980	731.783,856	4.381.691,825	101,7072	
	1+990	731.793,852	4.381.691,557	101,7072	
	2+000	731.803,849	4.381.691,289	101,7072	
	2+010	731.813,845	4.381.691,021	101,7072	
	2+020	731.823,841	4.381.690,753	101,7072	
	2+030	731.833,838	4.381.690,485	101,7072	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
	2+040	731.843,834	4.381.690,217	101,7072	Infinito
	2+050	731.853,831	4.381.689,948	101,7072	
	2+060	731.863,827	4.381.689,680	101,7072	
	2+070	731.873,823	4.381.689,412	101,7072	
	2+080	731.883,820	4.381.689,144	101,7072	
	2+090	731.893,816	4.381.688,876	101,7072	
	2+100	731.903,813	4.381.688,608	101,7072	
	2+110	731.913,809	4.381.688,340	101,7072	
	2+120	731.923,805	4.381.688,071	101,7072	
	2+130	731.933,802	4.381.687,803	101,7072	
	2+140	731.943,798	4.381.687,535	101,7072	
	2+150	731.953,795	4.381.687,267	101,7072	
	2+160	731.963,791	4.381.686,999	101,7072	
	2+170	731.973,787	4.381.686,731	101,7072	
	2+180	731.983,784	4.381.686,463	101,7072	
	2+190	731.993,780	4.381.686,195	101,7072	
	2+195,652	731.999,431	4.381.686,043	101,7072	
	2+200	732.003,775	4.381.685,885	102,9105	
	2+210	732.013,752	4.381.685,211	105,6784	
	2+220	732.023,689	4.381.684,104	108,4463	230,000
	2+230	732.033,570	4.381.682,566	111,2142	
	2+240	732.043,374	4.381.680,601	113,9822	
	2+250	732.053,083	4.381.678,210	116,7501	
	2+260	732.062,679	4.381.675,401	119,5180	
	2+268,880	732.071,092	4.381.672,558	121,9760	
	2+270	732.072,145	4.381.672,179	121,9760	
	2+280	732.081,555	4.381.668,795	121,9760	
	2+290	732.090,966	4.381.665,411	121,9760	
	2+300	732.100,376	4.381.662,027	121,9760	
	2+307,113	732.107,070	4.381.659,620	121,9760	
	2+310	732.109,772	4.381.658,606	123,7260	
	2+320	732.118,898	4.381.654,527	129,7891	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
PS	2+330	732.127,595	4.381.649,599	135,8521	105,000
	2+340	732.135,784	4.381.643,866	141,9152	
	2+340,886	732.136,483	4.381.643,321	142,4524	
	2+350	732.143,644	4.381.637,684	142,4524	
	2+360	732.151,502	4.381.631,499	142,4524	
	2+370	732.159,360	4.381.625,314	142,4524	
	2+380	732.167,218	4.381.619,129	142,4524	
	2+390	732.175,075	4.381.612,944	142,4524	
	2+400	732.182,933	4.381.606,759	142,4524	
	2+410	732.190,791	4.381.600,574	142,4524	
PS	2+420	732.198,649	4.381.594,389	142,4524	Infinito
	2+430	732.206,507	4.381.588,204	142,4524	
	2+435,414	732.210,761	4.381.584,855	142,4524	
	2+440	732.214,291	4.381.581,929	145,6604	
	2+450	732.221,452	4.381.574,956	152,6562	
	2+460	732.227,804	4.381.567,239	159,6520	
	2+470	732.233,272	4.381.558,872	166,6478	
	2+480	732.237,789	4.381.549,956	173,6436	
	2+490	732.241,301	4.381.540,599	180,6395	
	2+500	732.243,766	4.381.530,912	187,6353	
PS	2+510	732.245,154	4.381.521,014	194,6311	91,000
	2+520	732.245,447	4.381.511,023	201,6269	
	2+521,441	732.245,399	4.381.509,583	202,6351	
	2+530	732.245,045	4.381.501,032	202,6351	
PS	2+540	732.244,631	4.381.491,040	202,6351	Infinito
	2+550	732.244,217	4.381.481,049	202,6351	
PS	2+557,773	732.243,896	4.381.473,282	202,6351	-0,001
PS	2+557,774	732.243,897	4.381.473,281	102,9050	
	2+560	732.246,119	4.381.473,179	102,9050	
	2+570	732.256,109	4.381.472,723	102,9050	
	2+580	732.266,098	4.381.472,267	102,9050	
	2+590	732.276,088	4.381.471,811	102,9050	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
PS	2+600	732.286,078	4.381.471,355	102,9050	Infinito
	2+610	732.296,067	4.381.470,899	102,9050	
	2+620	732.306,057	4.381.470,442	102,9050	
	2+630	732.316,046	4.381.469,986	102,9050	
	2+632,840	732.318,884	4.381.469,857	102,9050	
PS	2+632,842	732.318,885	4.381.469,858	3,1255	-0,001
	2+640	732.319,236	4.381.477,007	3,1255	
PS	2+650	732.319,727	4.381.486,995	3,1255	Infinito
	2+660	732.320,218	4.381.496,983	3,1255	
	2+667,991	732.320,610	4.381.504,964	3,1255	
	2+670	732.320,728	4.381.506,970	4,3435	
	2+680	732.321,883	4.381.516,899	10,4066	
	2+690	732.323,978	4.381.526,673	16,4696	
	2+700	732.326,992	4.381.536,204	22,5327	
	2+710	732.330,899	4.381.545,405	28,5957	
	2+720	732.335,663	4.381.554,193	34,6588	
	2+730	732.341,242	4.381.562,488	40,7218	
	2+740	732.347,584	4.381.570,215	46,7849	49,6418
	2+744,712	732.350,821	4.381.573,639	49,6418	



2.2. ALTERNATIVA 2.

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
1	Fijo	Infinito	730.498,563 4.382.152,020	730.208,634 4.382.274,416
2	Móvil	10,000		
3	Fijo	Infinito	730.215,996 4.382.281,546	730.220,433 4.382.314,999
4	Móvil	-10,000		
5	Fijo	Infinito	730.214,372 4.382.330,532	730.136,432 4.382.357,936
6	Móvil	10,000		
7	Fijo	Infinito	730.130,783 4.382.374,999	730.138,309 4.382.425,840
8	Móvil	-5,000		
9	Fijo	Infinito	730.135,764 4.382.431,064	730.125,689 4.382.435,470
10	Móvil	5,000		
11	Fijo	75,000	730.124,047 4.382.442,547	730.138,308 4.382.459,182
12	Móvil	-60,000		
13	Fijo	-15,000	730.157,421 4.382.493,173	730.155,431 4.382.501,712
14	Móvil	5,000		
15	Fijo	Infinito	730.152,379 4.382.511,490	730.155,307 4.382.516,433
16	Móvil	5,000		
17	Fijo	Infinito	730.159,308 4.382.518,101	730.171,263 4.382.522,548
18	Móvil	3,000		

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
19	Fijo	Infinito	730.171,770 4.382.516,244	730.130,601 4.382.537,409
20	Móvil	0,010		
21	Fijo	Infinito	730.130,565 4.382.537,441	730.133,235 4.382.542,494
22	Móvil	0,010		
23	Fijo	Infinito	730.133,134 4.382.542,279	730.173,629 4.382.521,581
24	Móvil	-0,010		
25	Fijo	Infinito	730.173,633 4.382.521,585	730.191,543 4.382.557,648
26	Móvil	-0,010		
27	Fijo	Infinito	730.191,542 4.382.557,662	730.151,221 4.382.577,178
28	Móvil	0,010		
29	Fijo	Infinito	730.151,221 4.382.577,209	730.153,441 4.382.581,630
30	Móvil	0,010		
31	Fijo	Infinito	730.153,539 4.382.581,822	730.193,591 4.382.562,063
32	Móvil	-6,000		
33	Fijo	Infinito	730.205,838 4.382.561,554	730.211,234 4.382.578,981
34	Móvil	10,000		
35	Fijo	-25,000	730.219,094 4.382.580,162	730.229,812 4.382.582,131
36	Móvil	50,000		



DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
37	Fijo	-24,000	730.239,146 4.382.584,975	730.249,135 4.382.590,370
38	Móvil	7,000		
39	Fijo	Infinito	730.258,556 4.382.590,162	730.263,425 4.382.588,328
40	Móvil	7,000		
41	Fijo	-90,000	730.269,944 4.382.581,311	730.285,707 4.382.531,717
42	Móvil	-40,000		
43	Fijo	Infinito	730.298,817 4.382.521,934	730.593,828 4.382.394,205
44	Móvil	-100,000		
45	Fijo	30,000	730.648,704 4.382.392,077	730.667,647 4.382.390,846
46	Móvil	Infinito		
47	Fijo	10,000	730.711,669 4.382.366,986	730.715,388 4.382.354,372
48	Móvil	Infinito		
49	Fijo	-10,000	730.702,710 4.382.331,483	730.707,413 4.382.317,155
50	Móvil	Infinito		
51	Fijo	20,000	731.289,927 4.381.999,597	731.299,552 4.381.988,077
52	Móvil	-20,000		
53	Fijo	Infinito	731.307,563 4.381.980,116	731.426,079 4.381.915,007
54	Móvil	-60,000		

DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
55	Fijo	15,000	731.458,668 4.381.911,433	731.474,563 4.381.903,413
56	Móvil	-50,000		
57	Fijo	25,000	731.502,416 4.381.874,844	731.504,384 4.381.873,604
58	Móvil	Infinito		
59	Fijo	-30,000	731.631,237 4.381.806,976	731.652,620 4.381.806,306
60	Móvil	30,000		
61	Fijo	Infinito	731.681,129 4.381.809,650	731.702,566 4.381.799,150
62	Móvil	25,000		
63	Fijo	-65,000	731.717,332 4.381.775,477	731.727,832 4.381.758,415
64	Móvil	-50,000		
65	Fijo	Infinito	731.768,244 4.381.737,027	732.062,606 4.381.720,192
66	Móvil	-32,000		
67	Fijo	-10,000	732.072,170 4.381.727,983	732.072,900 4.381.736,149
68	Móvil	30,000		
69	Fijo	-100,000	732.116,140 4.381.773,109	732.246,574 4.381.818,099
70	Móvil	-200,000		
71	Fijo	1,000	732.274,159 4.381.905,473	732.275,195 4.381.906,464
72	Móvil	Infinito		



DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
73	Fijo	1,000	732.344,254 4.381.904,149	732.345,421 4.381.903,274
74	Móvil	-200,000		
75	Fijo	-100,000	732.374,077 4.381.803,524	732.435,690 4.381.772,900
76	Móvil	Infinito		
77	Fijo	48,000	732.460,214 4.381.772,561	732.504,839 4.381.748,208
78	Móvil	35,000		
79	Fijo	-45,000	732.506,734 4.381.722,178	732.506,588 4.381.704,240
80	Móvil	Infinito		
81	Fijo	90,000	732.508,449 4.381.695,672	732.507,798 4.381.656,696

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
0+000,000	0,000	730.498,563	4.382.152,020	325,4305	infinito		
0+300,482	300,483	730.221,737	4.382.268,884	325,4305	infinito		
0+313,514	13,032	730.215,713	4.382.279,412	8,3947	10,000	730.225,626	4.382.278,097
0+354,206	40,691	730.221,063	4.382.319,750	8,3947	infinito		
0+367,851	13,646	730.214,467	4.382.330,499	321,5243	-10,000	730.211,150	4.382.321,065
0+450,555	82,704	730.136,445	4.382.357,931	321,5243	infinito		
0+464,352	13,797	730.129,870	4.382.368,830	9,3559	10,000	730.139,762	4.382.367,365
0+522,064	57,712	730.138,321	4.382.425,920	9,3559	infinito		
0+528,591	6,527	730.135,378	4.382.431,233	326,2453	-5,000	730.133,375	4.382.426,652
0+538,575	9,983	730.126,231	4.382.435,233	326,2453	infinito		
0+547,172	8,597	730.124,001	4.382.442,474	35,7118	5,000	730.128,235	4.382.439,814
0+568,968	21,796	730.138,097	4.382.458,998	54,2131	75,000	730.187,507	4.382.402,574
0+606,685	37,717	730.157,084	4.382.490,870	14,1945	-60,000	730.098,569	4.382.504,137
0+621,996	15,311	730.152,930	4.382.504,924	349,2108	-15,000	730.142,455	4.382.494,187
0+628,659	6,663	730.152,119	4.382.511,051	34,0450	5,000	730.156,421	4.382.508,503
0+633,414	4,755	730.154,542	4.382.515,142	34,0450	infinito		
0+636,813	3,399	730.157,101	4.382.517,280	77,3288	5,000	730.158,844	4.382.512,594
0+651,446	14,633	730.170,816	4.382.522,382	77,3288	infinito		
0+663,364	11,918	730.170,490	4.382.516,902	330,2308	3,000	730.171,862	4.382.519,570
0+708,253	44,889	730.130,568	4.382.537,426	330,2308	infinito		
0+708,269	0,016	730.130,564	4.382.537,439	30,9466	0,010	730.130,573	4.382.537,435
0+713,738	5,470	730.133,119	4.382.542,275	30,9466	infinito		
0+713,754	0,016	730.133,133	4.382.542,280	130,0808	0,010	730.133,128	4.382.542,271
0+759,225	45,471	730.173,622	4.382.521,585	130,0808	infinito		
0+759,241	0,016	730.173,635	4.382.521,589	29,3449	-0,010	730.173,626	4.382.521,594
0+799,503	40,263	730.191,544	4.382.557,650	29,3449	infinito		
0+799,519	0,016	730.191,539	4.382.557,663	328,6975	-0,010	730.191,535	4.382.557,654
0+844,316	44,797	730.151,218	4.382.577,180	328,6975	infinito		
0+844,332	0,016	730.151,213	4.382.577,193	29,6261	0,010	730.151,222	4.382.577,189
0+849,502	5,170	730.153,533	4.382.581,814	29,6261	infinito		
0+849,518	0,016	730.153,547	4.382.581,818	129,1763	0,010	730.153,542	4.382.581,809
0+899,137	49,619	730.198,046	4.382.559,865	129,1763	infinito		

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
0+909,510	10,373	730.206,432	4.382.563,472	19,1159	-6,000	730.200,700	4.382.565,246
0+919,609	10,099	730.209,419	4.382.573,118	19,1159	infinito		
0+932,621	13,012	730.219,278	4.382.580,156	101,9524	10,000	730.218,971	4.382.570,160
0+943,240	10,619	730.229,644	4.382.582,060	74,9113	-25,000	730.220,044	4.382.605,144
0+952,197	8,958	730.238,178	4.382.584,743	86,3166	50,000	730.248,842	4.382.535,893
0+964,073	11,876	730.248,699	4.382.589,986	54,8143	-24,000	730.233,059	4.382.608,190
0+971,564	7,490	730.255,728	4.382.591,227	122,9331	7,000	730.253,261	4.382.584,677
0+981,915	10,351	730.265,415	4.382.587,578	122,9331	infinito		
0+990,275	8,360	730.269,947	4.382.581,142	198,9604	7,000	730.262,948	4.382.581,028
1+035,386	45,111	730.281,722	4.382.538,083	167,0508	-90,000	730.359,935	4.382.582,612
1+061,171	25,785	730.300,590	4.382.521,166	126,0121	-40,000	730.316,483	4.382.557,873
1+372,106	310,935	730.585,929	4.382.397,625	126,0121	infinito		
1+436,782	64,676	730.649,253	4.382.392,216	84,8382	-100,000	730.625,661	4.382.489,393
1+458,929	22,147	730.670,715	4.382.389,389	131,8361	30,000	730.656,330	4.382.363,062
1+504,946	46,017	730.711,097	4.382.367,324	131,8361	infinito		
1+520,724	15,778	730.715,043	4.382.353,692	232,2834	10,000	730.706,302	4.382.358,548
1+546,426	25,702	730.702,561	4.382.331,224	232,2834	infinito		
1+562,215	15,789	730.706,517	4.382.317,587	131,7697	-10,000	730.711,303	4.382.326,368
2+226,838	664,623	731.290,085	4.381.999,512	131,7697	infinito		
2+240,253	13,416	731.298,927	4.381.989,757	174,4726	20,000	731.280,513	4.381.981,951
2+253,603	13,349	731.307,711	4.381.980,035	131,9811	-20,000	731.317,340	4.381.997,564
2+382,206	128,603	731.420,425	4.381.918,113	131,9811	infinito		
2+421,877	39,672	731.458,804	4.381.911,456	89,8882	-60,000	731.449,314	4.381.970,700
2+441,991	20,114	731.475,058	4.381.902,329	175,2538	15,000	731.461,177	4.381.896,644
2+479,613	37,622	731.500,501	4.381.875,823	127,3516	-50,000	731.521,328	4.381.921,279
2+481,017	1,404	731.501,760	4.381.875,203	130,9268	25,000	731.490,087	4.381.853,095
2+624,677	143,660	731.628,799	4.381.808,126	130,9268	infinito		
2+653,656	28,979	731.656,664	4.381.808,048	69,4320	-30,000	731.642,806	4.381.834,655
2+681,725	28,069	731.683,718	4.381.808,382	128,9955	30,000	731.670,522	4.381.781,440
2+701,354	19,629	731.701,346	4.381.799,748	128,9955	infinito		
2+722,687	21,334	731.714,496	4.381.783,771	183,3214	25,000	731.690,349	4.381.777,296
2+780,072	57,385	731.750,420	4.381.741,415	127,1180	-65,000	731.777,278	4.381.800,606



PUNTOS SINGULARES

<u>Estación</u>	<u>Longitud</u>	<u>Coord. X</u>	<u>Coord. Y</u>	<u>Acimut</u>	<u>Radio</u>	<u>X Centro</u>	<u>Y Centro</u>
2+798,514	18,442	731.768,225	4.381.737,028	103,6370	-50,000	731.771,080	4.381.786,947
3+082,910	284,396	732.052,157	4.381.720,790	103,6370	infinito		
3+098,972	16,062	732.067,753	4.381.723,851	71,6827	-32,000	732.053,984	4.381.752,737
3+113,887	14,915	732.072,789	4.381.736,452	376,7306	-10,000	732.063,450	4.381.732,878
3+185,578	71,692	732.113,949	4.381.774,144	128,8648	30,000	732.100,808	4.381.747,175
3+328,990	143,411	732.240,841	4.381.808,397	37,5662	-100,000	732.157,752	4.381.864,040
3+432,847	103,858	732.274,161	4.381.905,535	4,5073	-200,000	732.074,663	4.381.919,684
3+434,381	1,533	732.275,192	4.381.906,464	102,1136	1,000	732.275,159	4.381.905,465
3+503,687	69,306	732.344,460	4.381.904,164	102,1136	infinito		
3+505,288	1,601	732.345,425	4.381.903,101	204,0432	1,000	732.344,427	4.381.903,164
3+554,416	49,128	732.348,330	4.381.854,182	188,4053	-200,000	732.545,022	4.381.890,407
3+695,672	141,257	732.449,066	4.381.772,323	98,4785	-100,000	732.446,676	4.381.872,295
3+708,485	12,813	732.461,874	4.381.772,629	98,4785	infinito		
3+753,101	44,616	732.500,788	4.381.754,269	157,6523	48,000	732.463,022	4.381.724,643
3+785,144	32,043	732.507,159	4.381.723,997	215,9357	35,000	732.473,250	4.381.732,667
3+806,151	21,007	732.506,807	4.381.703,184	186,2174	-45,000	732.550,757	4.381.712,850
3+812,498	6,348	732.508,171	4.381.696,984	186,2174	infinito		
3+853,132	40,634	732.507,798	4.381.656,696	214,9602	90,000	732.420,272	4.381.677,651



PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+000,000	730.208,634	4.382.274,416	125,4264	Infinito
	0+010	730.217,847	4.382.270,527	125,4264	
	0+020	730.227,060	4.382.266,639	125,4264	
	0+030	730.236,273	4.382.262,750	125,4264	
	0+040	730.245,486	4.382.258,861	125,4264	
	0+050	730.254,699	4.382.254,973	125,4264	
	0+060	730.263,912	4.382.251,084	125,4264	
	0+070	730.273,125	4.382.247,196	125,4264	
	0+080	730.282,338	4.382.243,307	125,4264	
	0+090	730.291,551	4.382.239,418	125,4264	
	0+100	730.300,764	4.382.235,530	125,4264	
	0+110	730.309,977	4.382.231,641	125,4264	
	0+120	730.319,189	4.382.227,752	125,4264	
	0+130	730.328,402	4.382.223,864	125,4264	
	0+140	730.337,615	4.382.219,975	125,4264	
	0+150	730.346,828	4.382.216,087	125,4264	
	0+160	730.356,041	4.382.212,198	125,4264	
	0+170	730.365,254	4.382.208,309	125,4264	
	0+180	730.374,467	4.382.204,421	125,4264	
	0+190	730.383,680	4.382.200,532	125,4264	
	0+200	730.392,893	4.382.196,643	125,4264	
	0+210	730.402,106	4.382.192,755	125,4264	
	0+220	730.411,319	4.382.188,866	125,4264	
	0+230	730.420,532	4.382.184,978	125,4264	
	0+240	730.429,745	4.382.181,089	125,4264	
	0+250	730.438,958	4.382.177,200	125,4264	
	0+260	730.448,171	4.382.173,312	125,4264	
	0+270	730.457,384	4.382.169,423	125,4264	
	0+280	730.466,597	4.382.165,534	125,4264	
	0+290	730.475,810	4.382.161,646	125,4264	
	0+300	730.485,023	4.382.157,757	125,4264	
	0+310	730.494,236	4.382.153,869	125,4264	

PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+314,698	730.498,564	4.382.152,042	125,4264	Infinito
	0+320	730.503,757	4.382.151,340	91,6733	
	0+330	730.511,500	4.382.156,995	28,0113	
PS	0+333,112	730.512,370	4.382.159,971	8,1944	-10,000
	0+340	730.513,254	4.382.166,801	8,1944	
	0+350	730.514,538	4.382.176,718	8,1944	
	0+360	730.515,821	4.382.186,636	8,1944	
	0+370	730.517,105	4.382.196,553	8,1944	
	0+380	730.518,388	4.382.206,470	8,1944	
	0+390	730.519,672	4.382.216,387	8,1944	
	0+400	730.520,956	4.382.226,305	8,1944	
	0+410	730.522,239	4.382.236,222	8,1944	
	0+420	730.523,523	4.382.246,139	8,1944	
	0+430	730.524,806	4.382.256,057	8,1944	
	0+440	730.526,090	4.382.265,974	8,1944	
	0+450	730.527,374	4.382.275,891	8,1944	
	0+464,282	730.529,207	4.382.290,056	8,1944	Infinito
	0+470	730.528,779	4.382.295,717	382,1966	
PS	0+480	730.522,958	4.382.303,587	336,7237	
	0+490	730.513,405	4.382.305,721	291,2509	
	0+500	730.504,789	4.382.301,075	245,7781	
	0+510	730.501,323	4.382.291,920	200,3052	
	0+514,621	730.502,057	4.382.287,378	179,2900	-14,000
	0+520	730.504,209	4.382.282,456	168,2446	
PS	0+530	730.510,314	4.382.274,591	147,7085	
	0+540	730.518,598	4.382.269,067	127,1724	
	0+549,735	730.527,942	4.382.266,483	107,1802	-31,000
	0+550	730.528,206	4.382.266,453	107,1802	
	0+560	730.538,142	4.382.265,328	107,1802	
	0+570	730.548,078	4.382.264,202	107,1802	
	0+580	730.558,015	4.382.263,077	107,1802	
	0+590	730.567,951	4.382.261,951	107,1802	



PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+000,000	730.498,563	4.382.152,020	325,4305	infinito
	0+010	730.489,350	4.382.155,909	325,4305	
	0+020	730.480,138	4.382.159,798	325,4305	
	0+030	730.470,925	4.382.163,688	325,4305	
	0+040	730.461,712	4.382.167,577	325,4305	
	0+050	730.452,499	4.382.171,466	325,4305	
	0+060	730.443,287	4.382.175,355	325,4305	
	0+070	730.434,074	4.382.179,245	325,4305	
	0+080	730.424,861	4.382.183,134	325,4305	
	0+090	730.415,649	4.382.187,023	325,4305	
	0+100	730.406,436	4.382.190,912	325,4305	
	0+110	730.397,223	4.382.194,801	325,4305	
	0+120	730.388,011	4.382.198,691	325,4305	
	0+130	730.378,798	4.382.202,580	325,4305	
	0+140	730.369,585	4.382.206,469	325,4305	
	0+150	730.360,372	4.382.210,358	325,4305	
	0+160	730.351,160	4.382.214,248	325,4305	
	0+170	730.341,947	4.382.218,137	325,4305	
	0+180	730.332,734	4.382.222,026	325,4305	
	0+190	730.323,522	4.382.225,915	325,4305	
	0+200	730.314,309	4.382.229,804	325,4305	
	0+210	730.305,096	4.382.233,694	325,4305	
	0+220	730.295,883	4.382.237,583	325,4305	
	0+230	730.286,671	4.382.241,472	325,4305	
	0+240	730.277,458	4.382.245,361	325,4305	
	0+250	730.268,245	4.382.249,251	325,4305	
	0+260	730.259,033	4.382.253,140	325,4305	
	0+270	730.249,820	4.382.257,029	325,4305	
	0+280	730.240,607	4.382.260,918	325,4305	
	0+290	730.231,395	4.382.264,807	325,4305	
	0+300	730.222,182	4.382.268,697	325,4305	
PS	0+300,482	730.221,737	4.382.268,884	325,4305	infinito

PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+310	730.215,866	4.382.275,919	386,0181	10,000
	0+313,514	730.215,713	4.382.279,412	8,3947	
	0+320	730.216,566	4.382.285,841	8,3947	
	0+330	730.217,880	4.382.295,754	8,3947	
	0+340	730.219,195	4.382.305,667	8,3947	
	0+350	730.220,510	4.382.315,580	8,3947	
	0+354,206	730.221,063	4.382.319,750	8,3947	
	0+360	730.220,165	4.382.325,392	371,5096	
	0+367,851	730.214,467	4.382.330,499	321,5243	
	0+370	730.212,440	4.382.331,211	321,5243	
	0+380	730.203,006	4.382.334,528	321,5243	
	0+390	730.193,573	4.382.337,845	321,5243	
	0+400	730.184,139	4.382.341,162	321,5243	
	0+410	730.174,705	4.382.344,479	321,5243	
	0+420	730.165,271	4.382.347,796	321,5243	
	0+430	730.155,837	4.382.351,113	321,5243	
	0+440	730.146,403	4.382.354,430	321,5243	
	0+450	730.136,969	4.382.357,747	321,5243	
	0+450,555	730.136,445	4.382.357,931	321,5243	
	0+460	730.130,175	4.382.364,522	381,6475	
	0+464,352	730.129,870	4.382.368,830	9,3559	
	0+470	730.130,697	4.382.374,416	9,3559	
	0+480	730.132,161	4.382.384,309	9,3559	
	0+490	730.133,625	4.382.394,201	9,3559	
	0+500	730.135,090	4.382.404,093	9,3559	
	0+510	730.136,554	4.382.413,985	9,3559	
	0+520	730.138,018	4.382.423,877	9,3559	
	0+522,064	730.138,321	4.382.425,920	9,3559	
	0+528,591	730.135,378	4.382.431,233	326,2453	
	0+530	730.134,088	4.382.431,797	326,2453	
	0+538,575	730.126,231	4.382.435,233	326,2453	
	0+540	730.125,024	4.382.435,981	344,3881	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	0+547,172	730.124,001	4.382.442,474	35,7118	5,000
	0+550	730.125,550	4.382.444,839	38,1118	
	0+560	730.131,719	4.382.452,700	46,6001	
PS	0+568,968	730.138,097	4.382.458,998	54,2131	75,000
	0+570	730.138,867	4.382.459,684	53,1190	
	0+580	730.145,683	4.382.466,985	42,5087	
PS	0+590	730.151,194	4.382.475,316	31,8983	
	0+600	730.155,246	4.382.484,446	21,2880	
	0+606,685	730.157,084	4.382.490,870	14,1945	-60,000
PS	0+610	730.157,455	4.382.494,157	0,1272	
	0+620	730.154,262	4.382.503,439	357,6859	
	0+621,996	730.152,930	4.382.504,924	349,2108	-15,000
PS	0+628,659	730.152,119	4.382.511,051	34,0450	5,000
	0+630	730.152,802	4.382.512,204	34,0450	
	0+633,414	730.154,542	4.382.515,142	34,0450	infinito
PS	0+636,813	730.157,101	4.382.517,280	77,3288	5,000
	0+640	730.160,087	4.382.518,391	77,3288	
	0+650	730.169,460	4.382.521,877	77,3288	
PS	0+651,446	730.170,816	4.382.522,382	77,3288	infinito
	0+660	730.173,670	4.382.517,176	258,8291	
	0+663,364	730.170,490	4.382.516,902	330,2308	3,000
PS	0+670	730.164,589	4.382.519,936	330,2308	
	0+680	730.155,696	4.382.524,508	330,2308	
	0+690	730.146,802	4.382.529,080	330,2308	
PS	0+700	730.137,909	4.382.533,652	330,2308	
	0+708,253	730.130,568	4.382.537,426	330,2308	infinito
	0+708,269	730.130,564	4.382.537,439	30,9466	0,010
PS	0+710	730.131,373	4.382.538,970	30,9466	
	0+713,738	730.133,119	4.382.542,275	30,9466	infinito
	0+713,754	730.133,133	4.382.542,280	130,0808	0,010
PS	0+720	730.138,694	4.382.539,437	130,0808	
	0+730	730.147,598	4.382.534,886	130,0808	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	0+740	730.156,503	4.382.530,335	130,0808	
	0+750	730.165,407	4.382.525,783	130,0808	
	0+759,225	730.173,622	4.382.521,585	130,0808	infinito
PS	0+759,241	730.173,635	4.382.521,589	29,3449	-0,010
	0+760	730.173,973	4.382.522,269	29,3449	
	0+770	730.178,421	4.382.531,225	29,3449	
PS	0+780	730.182,869	4.382.540,181	29,3449	
	0+790	730.187,317	4.382.549,138	29,3449	
	0+799,503	730.191,544	4.382.557,650	29,3449	infinito
PS	0+799,519	730.191,539	4.382.557,663	328,6975	-0,010
	0+800	730.191,107	4.382.557,873	328,6975	
	0+810	730.182,106	4.382.562,229	328,6975	
PS	0+820	730.173,105	4.382.566,586	328,6975	
	0+830	730.164,104	4.382.570,942	328,6975	
	0+840	730.155,103	4.382.575,299	328,6975	
PS	0+844,316	730.151,218	4.382.577,180	328,6975	infinito
	0+844,332	730.151,213	4.382.577,193	29,6261	0,010
	0+849,502	730.153,533	4.382.581,814	29,6261	infinito
PS	0+849,518	730.153,547	4.382.581,818	129,1763	0,010
	0+850	730.153,979	4.382.581,605	129,1763	
	0+860	730.162,947	4.382.577,181	129,1763	
PS	0+870	730.171,915	4.382.572,757	129,1763	
	0+880	730.180,883	4.382.568,332	129,1763	
	0+890	730.189,851	4.382.563,908	129,1763	
PS	0+899,137	730.198,046	4.382.559,865	129,1763	infinito
	0+900	730.198,844	4.382.559,541	120,0274	
	0+909,510	730.206,432	4.382.563,472	19,1159	-6,000
PS	0+910	730.206,576	4.382.563,939	19,1159	
	0+919,609	730.209,419	4.382.573,118	19,1159	infinito
	0+920	730.209,542	4.382.573,489	21,6039	
PS	0+930	730.216,677	4.382.579,894	85,2659	
	0+932,621	730.219,278	4.382.580,156	101,9524	10,000



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	0+940	730.226,580	4.382.581,013	83,1622	
PS	0+943,240	730.229,644	4.382.582,060	74,9113	-25,000
	0+950	730.236,042	4.382.584,227	83,5182	
PS	0+952,197	730.238,178	4.382.584,743	86,3166	50,000
	0+960	730.245,399	4.382.587,606	65,6207	
PS	0+964,073	730.248,699	4.382.589,986	54,8143	-24,000
	0+970	730.254,215	4.382.591,611	108,7092	
PS	0+971,564	730.255,728	4.382.591,227	122,9331	7,000
	0+980	730.263,623	4.382.588,254	122,9331	
PS	0+981,915	730.265,415	4.382.587,578	122,9331	infinito
	0+990	730.269,937	4.382.581,417	196,4592	
PS	0+990,275	730.269,947	4.382.581,142	198,9604	7,000
	1+000	730.270,630	4.382.571,446	192,0814	
	1+010	730.272,419	4.382.561,612	185,0079	
	1+020	730.275,287	4.382.552,038	177,9343	
	1+030	730.279,199	4.382.542,840	170,8608	
PS	1+035,386	730.281,722	4.382.538,083	167,0508	-90,000
	1+040	730.284,231	4.382.534,214	159,7077	
	1+050	730.291,087	4.382.526,970	143,7922	
	1+060	730.299,522	4.382.521,647	127,8767	
PS	1+061,171	730.300,590	4.382.521,166	126,0121	-40,000
	1+070	730.308,692	4.382.517,658	126,0121	
	1+080	730.317,869	4.382.513,685	126,0121	
	1+090	730.327,046	4.382.509,712	126,0121	
	1+100	730.336,222	4.382.505,739	126,0121	
	1+110	730.345,399	4.382.501,766	126,0121	
	1+120	730.354,576	4.382.497,792	126,0121	
	1+130	730.363,753	4.382.493,819	126,0121	
	1+140	730.372,930	4.382.489,846	126,0121	
	1+150	730.382,106	4.382.485,873	126,0121	
	1+160	730.391,283	4.382.481,900	126,0121	
	1+170	730.400,460	4.382.477,926	126,0121	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	1+180	730.409,637	4.382.473,953	126,0121	
	1+190	730.418,814	4.382.469,980	126,0121	
	1+200	730.427,990	4.382.466,007	126,0121	
	1+210	730.437,167	4.382.462,033	126,0121	
	1+220	730.446,344	4.382.458,060	126,0121	
	1+230	730.455,521	4.382.454,087	126,0121	
	1+240	730.464,698	4.382.450,114	126,0121	
	1+250	730.473,874	4.382.446,141	126,0121	
	1+260	730.483,051	4.382.442,167	126,0121	
	1+270	730.492,228	4.382.438,194	126,0121	
	1+280	730.501,405	4.382.434,221	126,0121	
	1+290	730.510,582	4.382.430,248	126,0121	
	1+300	730.519,758	4.382.426,274	126,0121	
	1+310	730.528,935	4.382.422,301	126,0121	
	1+320	730.538,112	4.382.418,328	126,0121	
	1+330	730.547,289	4.382.414,355	126,0121	
	1+340	730.556,465	4.382.410,382	126,0121	
	1+350	730.565,642	4.382.406,408	126,0121	
	1+360	730.574,819	4.382.402,435	126,0121	
	1+370	730.583,996	4.382.398,462	126,0121	
PS	1+372,106	730.585,929	4.382.397,625	126,0121	infinito
	1+380	730.593,289	4.382.394,778	120,9868	
	1+390	730.602,896	4.382.392,019	114,6206	
	1+400	730.612,731	4.382.390,232	108,2544	
	1+410	730.622,695	4.382.389,437	101,8882	
	1+420	730.632,689	4.382.389,640	95,5220	
	1+430	730.642,613	4.382.390,840	89,1558	
PS	1+436,782	730.649,253	4.382.392,216	84,8382	-100,000
	1+440	730.652,414	4.382.392,806	91,6669	
	1+450	730.662,362	4.382.392,450	112,8876	
PS	1+458,929	730.670,715	4.382.389,389	131,8361	30,000
	1+460	730.671,654	4.382.388,875	131,8361	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	1+470	730.680,430	4.382.384,080	131,8361	
	1+480	730.689,205	4.382.379,285	131,8361	
	1+490	730.697,981	4.382.374,490	131,8361	
	1+500	730.706,756	4.382.369,696	131,8361	
PS	1+504,946	730.711,097	4.382.367,324	131,8361	infinito
	1+510	730.714,746	4.382.363,905	164,0091	
	1+520	730.715,372	4.382.354,337	227,6711	
PS	1+520,724	730.715,043	4.382.353,692	232,2834	10,000
	1+530	730.710,539	4.382.345,584	232,2834	
	1+540	730.705,682	4.382.336,842	232,2834	
PS	1+546,426	730.702,561	4.382.331,224	232,2834	infinito
	1+550	730.701,415	4.382.327,860	209,5361	
	1+560	730.704,704	4.382.318,853	145,8741	
PS	1+562,215	730.706,517	4.382.317,587	131,7697	-10,000
	1+570	730.713,352	4.382.313,862	131,7697	
	1+580	730.722,132	4.382.309,076	131,7697	
	1+590	730.730,913	4.382.304,290	131,7697	
	1+600	730.739,693	4.382.299,504	131,7697	
	1+610	730.748,474	4.382.294,718	131,7697	
	1+620	730.757,254	4.382.289,933	131,7697	
	1+630	730.766,035	4.382.285,147	131,7697	
	1+640	730.774,815	4.382.280,361	131,7697	
	1+650	730.783,595	4.382.275,575	131,7697	
	1+660	730.792,376	4.382.270,789	131,7697	
	1+670	730.801,156	4.382.266,004	131,7697	
	1+680	730.809,937	4.382.261,218	131,7697	
	1+690	730.818,717	4.382.256,432	131,7697	
	1+700	730.827,498	4.382.251,646	131,7697	
	1+710	730.836,278	4.382.246,860	131,7697	
	1+720	730.845,058	4.382.242,075	131,7697	
	1+730	730.853,839	4.382.237,289	131,7697	
	1+740	730.862,619	4.382.232,503	131,7697	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	1+750	730.871,400	4.382.227,717	131,7697	
	1+760	730.880,180	4.382.222,931	131,7697	
	1+770	730.888,961	4.382.218,146	131,7697	
	1+780	730.897,741	4.382.213,360	131,7697	
	1+790	730.906,522	4.382.208,574	131,7697	
	1+800	730.915,302	4.382.203,788	131,7697	
	1+810	730.924,082	4.382.199,002	131,7697	
	1+820	730.932,863	4.382.194,217	131,7697	
	1+830	730.941,643	4.382.189,431	131,7697	
	1+840	730.950,424	4.382.184,645	131,7697	
	1+850	730.959,204	4.382.179,859	131,7697	
	1+860	730.967,985	4.382.175,073	131,7697	
	1+870	730.976,765	4.382.170,288	131,7697	
	1+880	730.985,546	4.382.165,502	131,7697	
	1+890	730.994,326	4.382.160,716	131,7697	
	1+900	731.003,106	4.382.155,930	131,7697	
	1+910	731.011,887	4.382.151,144	131,7697	
	1+920	731.020,667	4.382.146,359	131,7697	
	1+930	731.029,448	4.382.141,573	131,7697	
	1+940	731.038,228	4.382.136,787	131,7697	
	1+950	731.047,009	4.382.132,001	131,7697	
	1+960	731.055,789	4.382.127,215	131,7697	
	1+970	731.064,569	4.382.122,430	131,7697	
	1+980	731.073,350	4.382.117,644	131,7697	
	1+990	731.082,130	4.382.112,858	131,7697	
	2+000	731.090,911	4.382.108,072	131,7697	
	2+010	731.099,691	4.382.103,286	131,7697	
	2+020	731.108,472	4.382.098,501	131,7697	
	2+030	731.117,252	4.382.093,715	131,7697	
	2+040	731.126,033	4.382.088,929	131,7697	
	2+050	731.134,813	4.382.084,143	131,7697	
	2+060	731.143,593	4.382.079,357	131,7697	



PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
2+070	731.152,374	4.382.074,572	131,7697	
2+080	731.161,154	4.382.069,786	131,7697	
2+090	731.169,935	4.382.065,000	131,7697	
2+100	731.178,715	4.382.060,214	131,7697	
2+110	731.187,496	4.382.055,428	131,7697	
2+120	731.196,276	4.382.050,643	131,7697	
2+130	731.205,056	4.382.045,857	131,7697	
2+140	731.213,837	4.382.041,071	131,7697	
2+150	731.222,617	4.382.036,285	131,7697	
2+160	731.231,398	4.382.031,499	131,7697	
2+170	731.240,178	4.382.026,714	131,7697	
2+180	731.248,959	4.382.021,928	131,7697	
2+190	731.257,739	4.382.017,142	131,7697	
2+200	731.266,520	4.382.012,356	131,7697	
2+210	731.275,300	4.382.007,570	131,7697	
2+220	731.284,080	4.382.002,785	131,7697	
PS 2+226,838	731.290,085	4.381.999,512	131,7697	infinito
2+230	731.292,730	4.381.997,786	141,8332	
2+240	731.298,826	4.381.989,991	173,6642	
PS 2+240,253	731.298,927	4.381.989,757	174,4726	20,000
2+250	731.304,726	4.381.982,044	143,4500	
PS 2+253,603	731.307,711	4.381.980,035	131,9811	-20,000
2+260	731.313,317	4.381.976,955	131,9811	
2+270	731.322,082	4.381.972,140	131,9811	
2+280	731.330,846	4.381.967,325	131,9811	
2+290	731.339,611	4.381.962,510	131,9811	
2+300	731.348,375	4.381.957,695	131,9811	
2+310	731.357,140	4.381.952,880	131,9811	
2+320	731.365,904	4.381.948,065	131,9811	
2+330	731.374,669	4.381.943,250	131,9811	
2+340	731.383,433	4.381.938,435	131,9811	
2+350	731.392,198	4.381.933,620	131,9811	

PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
2+360	731.400,962	4.381.928,805	131,9811	
2+370	731.409,727	4.381.923,991	131,9811	
2+380	731.418,491	4.381.919,176	131,9811	
PS 2+382,206	731.420,425	4.381.918,113	131,9811	infinito
2+390	731.427,480	4.381.914,814	123,7117	
2+400	731.437,054	4.381.911,966	113,1014	
2+410	731.446,967	4.381.910,746	102,4911	
2+420	731.456,946	4.381.911,188	91,8807	
PS 2+421,877	731.458,804	4.381.911,456	89,8882	-60,000
2+430	731.466,778	4.381.910,560	124,3595	
2+440	731.474,183	4.381.904,117	166,8008	
PS 2+441,991	731.475,058	4.381.902,329	175,2538	15,000
2+450	731.478,672	4.381.895,193	165,0573	
2+460	731.484,705	4.381.887,238	152,3249	
2+470	731.492,198	4.381.880,641	139,5925	
PS 2+479,613	731.500,501	4.381.875,823	127,3516	-50,000
2+480	731.500,850	4.381.875,660	128,3345	
PS 2+481,017	731.501,760	4.381.875,203	130,9268	25,000
2+490	731.509,703	4.381.871,009	130,9268	
2+500	731.518,546	4.381.866,340	130,9268	
2+510	731.527,389	4.381.861,671	130,9268	
2+520	731.536,232	4.381.857,002	130,9268	
2+530	731.545,075	4.381.852,333	130,9268	
2+540	731.553,918	4.381.847,663	130,9268	
2+550	731.562,761	4.381.842,994	130,9268	
2+560	731.571,604	4.381.838,325	130,9268	
2+570	731.580,447	4.381.833,656	130,9268	
2+580	731.589,290	4.381.828,987	130,9268	
2+590	731.598,133	4.381.824,318	130,9268	
2+600	731.606,976	4.381.819,649	130,9268	
2+610	731.615,819	4.381.814,980	130,9268	
2+620	731.624,662	4.381.810,310	130,9268	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	2+624,677	731.628,799	4.381.808,126	130,9268	infinito
	2+630	731.633,701	4.381.806,071	119,6326	
	2+640	731.643,555	4.381.804,665	98,4120	
	2+650	731.653,326	4.381.806,560	77,1913	
PS	2+653,656	731.656,664	4.381.808,048	69,4320	-30,000
	2+660	731.662,557	4.381.810,364	82,8934	
	2+670	731.672,459	4.381.811,378	104,1141	
	2+680	731.682,148	4.381.809,096	125,3347	
PS	2+681,725	731.683,718	4.381.808,382	128,9955	30,000
	2+690	731.691,149	4.381.804,742	128,9955	
	2+700	731.700,130	4.381.800,343	128,9955	
PS	2+701,354	731.701,346	4.381.799,748	128,9955	infinito
	2+710	731.708,305	4.381.794,691	151,0117	
	2+720	731.713,662	4.381.786,325	176,4765	
PS	2+722,687	731.714,496	4.381.783,771	183,3214	25,000
	2+730	731.716,783	4.381.776,830	176,1599	
	2+740	731.721,141	4.381.767,840	166,3658	
	2+750	731.726,825	4.381.759,625	156,5716	
	2+760	731.733,701	4.381.752,377	146,7775	
	2+770	731.741,606	4.381.746,269	136,9833	
	2+780	731.750,354	4.381.741,445	127,1892	
	2+780,072	731.750,420	4.381.741,415	127,1180	
	2+790	731.759,807	4.381.738,234	114,4781	
	2+798,514	731.768,225	4.381.737,028	103,6370	
PS	2+800	731.769,708	4.381.736,943	103,6370	-50,000
	2+810	731.779,692	4.381.736,372	103,6370	
	2+820	731.789,675	4.381.735,801	103,6370	
	2+830	731.799,659	4.381.735,230	103,6370	
	2+840	731.809,643	4.381.734,659	103,6370	
	2+850	731.819,626	4.381.734,088	103,6370	
	2+860	731.829,610	4.381.733,517	103,6370	
	2+870	731.839,594	4.381.732,946	103,6370	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	2+880	731.849,578	4.381.732,375	103,6370	
	2+890	731.859,561	4.381.731,804	103,6370	
	2+900	731.869,545	4.381.731,233	103,6370	
	2+910	731.879,529	4.381.730,662	103,6370	
	2+920	731.889,512	4.381.730,091	103,6370	
	2+930	731.899,496	4.381.729,521	103,6370	
	2+940	731.909,480	4.381.728,950	103,6370	
	2+950	731.919,463	4.381.728,379	103,6370	
	2+960	731.929,447	4.381.727,808	103,6370	
	2+970	731.939,431	4.381.727,237	103,6370	
	2+980	731.949,414	4.381.726,666	103,6370	
	2+990	731.959,398	4.381.726,095	103,6370	
	3+000	731.969,382	4.381.725,524	103,6370	
	3+010	731.979,365	4.381.724,953	103,6370	
	3+020	731.989,349	4.381.724,382	103,6370	
	3+030	731.999,333	4.381.723,811	103,6370	
	3+040	732.009,316	4.381.723,240	103,6370	
	3+050	732.019,300	4.381.722,669	103,6370	
	3+060	732.029,284	4.381.722,098	103,6370	
	3+070	732.039,268	4.381.721,527	103,6370	
	3+080	732.049,251	4.381.720,956	103,6370	
PS	3+082,910	732.052,157	4.381.720,790	103,6370	infinito
	3+090	732.059,222	4.381.721,169	89,5322	
PS	3+098,972	732.067,753	4.381.723,851	71,6827	-32,000
	3+100	732.068,656	4.381.724,340	65,1391	
	3+110	732.073,447	4.381.732,646	1,4772	
PS	3+113,887	732.072,789	4.381.736,452	376,7306	-10,000
	3+120	732.071,199	4.381.742,344	389,7025	
	3+130	732.071,248	4.381.752,298	10,9231	
	3+140	732.074,551	4.381.761,687	32,1438	
	3+150	732.080,745	4.381.769,479	53,3644	
	3+160	732.089,147	4.381.774,816	74,5851	



PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
	3+170	732.098,833	4.381.777,110	95,8058
	3+180	732.108,736	4.381.776,109	117,0264
PS	3+185,578	732.113,949	4.381.774,144	128,8648
	3+190	732.117,965	4.381.772,296	126,0501
	3+200	732.127,323	4.381.768,782	119,6839
	3+210	732.136,985	4.381.766,220	113,3177
	3+220	732.146,854	4.381.764,636	106,9515
	3+230	732.156,832	4.381.764,044	100,5853
	3+240	732.166,820	4.381.764,452	94,2191
	3+250	732.176,717	4.381.765,855	87,8529
	3+260	732.186,424	4.381.768,239	81,4867
	3+270	732.195,845	4.381.771,580	75,1205
	3+280	732.204,885	4.381.775,845	68,7543
	3+290	732.213,455	4.381.780,991	62,3881
	3+300	732.221,468	4.381.786,967	56,0219
	3+310	732.228,844	4.381.793,713	49,6557
	3+320	732.235,510	4.381.801,162	43,2895
PS	3+328,990	732.240,841	4.381.808,397	37,5662
	3+330	732.241,401	4.381.809,237	37,2448
	3+340	732.246,712	4.381.817,709	34,0617
	3+350	732.251,594	4.381.826,435	30,8786
	3+360	732.256,033	4.381.835,394	27,6955
	3+370	732.260,019	4.381.844,564	24,5124
	3+380	732.263,542	4.381.853,922	21,3293
	3+390	732.266,593	4.381.863,445	18,1462
	3+400	732.269,164	4.381.873,107	14,9631
	3+410	732.271,248	4.381.882,887	11,7800
	3+420	732.272,842	4.381.892,758	8,5969
	3+430	732.273,940	4.381.902,696	5,4138
PS	3+432,847	732.274,161	4.381.905,535	4,5073
PS	3+434,381	732.275,192	4.381.906,464	102,1136
	3+440	732.280,808	4.381.906,278	102,1136

PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
	3+450	732.290,803	4.381.905,946	102,1136
	3+460	732.300,797	4.381.905,614	102,1136
	3+470	732.310,791	4.381.905,282	102,1136
	3+480	732.320,786	4.381.904,950	102,1136
	3+490	732.330,780	4.381.904,618	102,1136
	3+500	732.340,775	4.381.904,286	102,1136
PS	3+503,687	732.344,460	4.381.904,164	102,1136
PS	3+505,288	732.345,425	4.381.903,101	204,0432
	3+510	732.345,181	4.381.898,395	202,5434
	3+520	732.345,032	4.381.888,398	199,3603
	3+530	732.345,382	4.381.878,405	196,1772
	3+540	732.346,232	4.381.868,442	192,9941
	3+550	732.347,578	4.381.858,534	189,8110
PS	3+554,416	732.348,330	4.381.854,182	188,4053
	3+560	732.349,494	4.381.848,722	184,8506
	3+570	732.352,333	4.381.839,138	178,4844
	3+580	732.356,114	4.381.829,885	172,1182
	3+590	732.360,801	4.381.821,056	165,7520
	3+600	732.366,345	4.381.812,738	159,3858
	3+610	732.372,692	4.381.805,016	153,0196
	3+620	732.379,778	4.381.797,966	146,6534
	3+630	732.387,533	4.381.791,659	140,2872
	3+640	732.395,878	4.381.786,157	133,9210
	3+650	732.404,732	4.381.781,516	127,5548
	3+660	732.414,004	4.381.777,783	121,1886
	3+670	732.423,603	4.381.774,993	114,8224
	3+680	732.433,432	4.381.773,176	108,4562
	3+690	732.443,393	4.381.772,349	102,0900
PS	3+695,672	732.449,066	4.381.772,323	98,4785
	3+700	732.453,391	4.381.772,427	98,4785
PS	3+708,485	732.461,874	4.381.772,629	98,4785
	3+710	732.463,389	4.381.772,642	100,4871



PUNTOS DEL EJE CADA 10 METROS

	<u>Estación</u>	<u>Coor. X</u>	<u>Coor. Y</u>	<u>Acimut</u>	<u>Radio</u>
	3+720	732.473,308	4.381.771,528	113,7500	
	3+730	732.482,783	4.381.768,387	127,0129	
	3+740	732.491,403	4.381.763,353	140,2758	
	3+750	732.498,796	4.381.756,646	153,5387	
PS	3+753,101	732.500,788	4.381.754,269	157,6523	48,000
	3+760	732.504,485	4.381.748,459	170,2000	
	3+770	732.507,669	4.381.739,015	188,3891	
	3+780	732.508,063	4.381.729,057	206,5783	
PS	3+785,144	732.507,159	4.381.723,997	215,9357	35,000
	3+790	732.506,212	4.381.719,237	209,0665	
	3+800	732.505,900	4.381.709,263	194,9194	
PS	3+806,151	732.506,807	4.381.703,184	186,2174	-45,000
	3+810	732.507,634	4.381.699,425	186,2174	
PS	3+812,498	732.508,171	4.381.696,984	186,2174	infinito
	3+820	732.509,475	4.381.689,599	191,5234	
	3+830	732.510,250	4.381.679,635	198,5970	
	3+840	732.509,915	4.381.669,645	205,6705	
	3+850	732.508,474	4.381.659,755	212,7441	
PS	3+853,132	732.507,798	4.381.656,696	214,9602	90,000



2.3. ALTERNATIVA 3.

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
1	Fijo	Infinito	730.498,563 4.382.152,020	730.208,634 4.382.274,416
2	Móvil	10,000		
3	Fijo	Infinito	730.215,996 4.382.281,546	730.220,433 4.382.314,999
4	Móvil	-10,000		
5	Fijo	Infinito	730.214,372 4.382.330,532	730.136,432 4.382.357,936
6	Móvil	10,000		
7	Fijo	Infinito	730.130,783 4.382.374,999	730.138,309 4.382.425,840
8	Móvil	-5,000		
9	Fijo	Infinito	730.135,764 4.382.431,064	730.125,689 4.382.435,470
10	Móvil	5,000		
11	Fijo	75,000	730.124,047 4.382.442,547	730.138,308 4.382.459,182
12	Móvil	-60,000		
13	Fijo	-15,000	730.157,421 4.382.493,173	730.155,431 4.382.501,712
14	Móvil	5,000		
15	Fijo	Infinito	730.152,379 4.382.511,490	730.155,307 4.382.516,433
16	Móvil	5,000		
17	Fijo	Infinito	730.159,308 4.382.518,101	730.171,263 4.382.522,548
18	Móvil	3,000		

DATOS DE ENTRADA

Al.	Tipo	Radio	X1/Y1	X2/Y2
19	Fijo	Infinito	730.171,770 4.382.516,244	730.130,601 4.382.537,409
20	Móvil	0,010		
21	Fijo	Infinito	730.130,565 4.382.537,441	730.133,235 4.382.542,494
22	Móvil	0,010		
23	Fijo	Infinito	730.133,134 4.382.542,279	730.173,629 4.382.521,581
24	Móvil	-0,010		
25	Fijo	Infinito	730.173,633 4.382.521,585	730.191,543 4.382.557,648
26	Móvil	-0,010		
27	Fijo	Infinito	730.191,542 4.382.557,662	730.151,221 4.382.577,178
28	Móvil	0,010		
29	Fijo	Infinito	730.151,221 4.382.577,209	730.153,441 4.382.581,630
30	Móvil	0,010		
31	Fijo	Infinito	730.153,539 4.382.581,822	730.193,591 4.382.562,063
32	Móvil	-6,000		
33	Fijo	Infinito	730.205,838 4.382.561,554	730.211,234 4.382.578,981
34	Móvil	10,000		
35	Fijo	-25,000	730.219,094 4.382.580,162	730.229,812 4.382.582,131
36	Móvil	50,000		

DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
37	Fijo	-24,000	730.239,146 4.382.584,975	730.249,135 4.382.590,370
38	Móvil	7,000		
39	Fijo	Infinito	730.258,556 4.382.590,162	730.263,425 4.382.588,328
40	Móvil	7,000		
41	Fijo	-90,000	730.269,944 4.382.581,311	730.285,707 4.382.531,717
42	Móvil	-40,000		
43	Fijo	Infinito	730.298,817 4.382.521,934	730.593,828 4.382.394,205
44	Móvil	-100,000		
45	Fijo	30,000	730.648,704 4.382.392,077	730.667,647 4.382.390,846
46	Móvil	Infinito		
47	Fijo	10,000	730.711,669 4.382.366,986	730.715,388 4.382.354,372
48	Móvil	Infinito		
49	Fijo	-10,000	730.702,710 4.382.331,483	730.707,413 4.382.317,155
50	Móvil	Infinito		
51	Fijo	-20,000	731.288,940 4.381.997,538	731.314,181 4.382.007,231
52	Móvil	Infinito		
53	Fijo	20,000	731.368,868 4.382.125,719	731.403,138 4.382.136,656
54	Móvil	Infinito		

DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
55	Fijo	20,000	731.540,584 4.382.064,471	731.546,398 4.382.033,969
56	Móvil	Infinito		
57	Fijo	-20,000	731.532,928 4.382.000,306	731.540,220 4.381.977,338
58	Móvil	Infinito		
59	Fijo	-20,000	731.694,947 4.381.903,910	731.714,269 4.381.906,244
60	Móvil	30,000		
61	Fijo	-20,000	731.723,091 4.381.909,016	731.735,997 4.381.922,138
62	Móvil	Infinito		
63	Fijo	20,000	731.754,372 4.381.979,888	731.786,456 4.381.993,013
64	Móvil	Infinito		
65	Fijo	-30,000	732.207,179 4.381.795,779	732.235,532 4.381.795,474
66	Móvil	-200,000		
67	Fijo	1,000	732.274,159 4.381.905,473	732.275,195 4.381.906,464
68	Móvil	Infinito		
69	Fijo	1,000	732.344,254 4.381.904,149	732.345,421 4.381.903,274
70	Móvil	-200,000		
71	Fijo	-100,000	732.374,077 4.381.803,524	732.435,690 4.381.772,900
72	Móvil	Infinito		



DATOS DE ENTRADA

<u>Al.</u>	<u>Tipo</u>	<u>Radio</u>	<u>X1/Y1</u>	<u>X2/Y2</u>
73	Fijo	48,000	732.460,214 4.381.772,561	732.504,839 4.381.748,208
74	Móvil	35,000		
75	Fijo	-45,000	732.506,734 4.381.722,178	732.506,588 4.381.704,240
76	Móvil	Infinito		
77	Fijo	90,000	732.508,449 4.381.695,672	732.507,798 4.381.656,696

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
0+000,000	0,000	730.498,563	4.382.152,020	325,4305	infinito		
0+300,482	300,483	730.221,737	4.382.268,884	325,4305	infinito		
0+313,514	13,032	730.215,713	4.382.279,412	8,3947	10,000	730.225,626	4.382.278,097
0+354,206	40,691	730.221,063	4.382.319,750	8,3947	infinito		
0+367,851	13,646	730.214,467	4.382.330,499	321,5243	-10,000	730.211,150	4.382.321,065
0+450,555	82,704	730.136,445	4.382.357,931	321,5243	infinito		
0+464,352	13,797	730.129,870	4.382.368,830	9,3559	10,000	730.139,762	4.382.367,365
0+522,064	57,712	730.138,321	4.382.425,920	9,3559	infinito		
0+528,591	6,527	730.135,378	4.382.431,233	326,2453	-5,000	730.133,375	4.382.426,652
0+538,575	9,983	730.126,231	4.382.435,233	326,2453	infinito		
0+547,172	8,597	730.124,001	4.382.442,474	35,7118	5,000	730.128,235	4.382.439,814
0+568,968	21,796	730.138,097	4.382.458,998	54,2131	75,000	730.187,507	4.382.402,574
0+606,685	37,717	730.157,084	4.382.490,870	14,1945	-60,000	730.098,569	4.382.504,137
0+621,996	15,311	730.152,930	4.382.504,924	349,2108	-15,000	730.142,455	4.382.494,187
0+628,659	6,663	730.152,119	4.382.511,051	34,0450	5,000	730.156,421	4.382.508,503
0+633,414	4,755	730.154,542	4.382.515,142	34,0450	infinito		
0+636,813	3,399	730.157,101	4.382.517,280	77,3288	5,000	730.158,844	4.382.512,594
0+651,446	14,633	730.170,816	4.382.522,382	77,3288	infinito		
0+663,364	11,918	730.170,490	4.382.516,902	330,2308	3,000	730.171,862	4.382.519,570
0+708,253	44,889	730.130,568	4.382.537,426	330,2308	infinito		
0+708,269	0,016	730.130,564	4.382.537,439	30,9466	0,010	730.130,573	4.382.537,435
0+713,738	5,470	730.133,119	4.382.542,275	30,9466	infinito		
0+713,754	0,016	730.133,133	4.382.542,280	130,0808	0,010	730.133,128	4.382.542,271
0+759,225	45,471	730.173,622	4.382.521,585	130,0808	infinito		
0+759,241	0,016	730.173,635	4.382.521,589	29,3449	-0,010	730.173,626	4.382.521,594
0+799,503	40,263	730.191,544	4.382.557,650	29,3449	infinito		
0+799,519	0,016	730.191,539	4.382.557,663	328,6975	-0,010	730.191,535	4.382.557,654
0+844,316	44,797	730.151,218	4.382.577,180	328,6975	infinito		
0+844,332	0,016	730.151,213	4.382.577,193	29,6261	0,010	730.151,222	4.382.577,189
0+849,502	5,170	730.153,533	4.382.581,814	29,6261	infinito		
0+849,518	0,016	730.153,547	4.382.581,818	129,1763	0,010	730.153,542	4.382.581,809
0+899,137	49,619	730.198,046	4.382.559,865	129,1763	infinito		

PUNTOS SINGULARES

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	X Centro	Y Centro
0+909,510	10,373	730.206,432	4.382.563,472	19,1159	-6,000	730.200,700	4.382.565,246
0+919,609	10,099	730.209,419	4.382.573,118	19,1159	infinito		
0+932,621	13,012	730.219,278	4.382.580,156	101,9524	10,000	730.218,971	4.382.570,160
0+943,240	10,619	730.229,644	4.382.582,060	74,9113	-25,000	730.220,044	4.382.605,144
0+952,197	8,958	730.238,178	4.382.584,743	86,3166	50,000	730.248,842	4.382.535,893
0+964,073	11,876	730.248,699	4.382.589,986	54,8143	-24,000	730.233,059	4.382.608,190
0+971,564	7,490	730.255,728	4.382.591,227	122,9331	7,000	730.253,261	4.382.584,677
0+981,915	10,351	730.265,415	4.382.587,578	122,9331	infinito		
0+990,275	8,360	730.269,947	4.382.581,142	198,9604	7,000	730.262,948	4.382.581,028
1+035,386	45,111	730.281,722	4.382.538,083	167,0508	-90,000	730.359,935	4.382.582,612
1+061,171	25,785	730.300,590	4.382.521,166	126,0121	-40,000	730.316,483	4.382.557,873
1+372,106	310,935	730.585,929	4.382.397,625	126,0121	infinito		
1+436,782	64,676	730.649,253	4.382.392,216	84,8382	-100,000	730.625,661	4.382.489,393
1+458,929	22,147	730.670,715	4.382.389,389	131,8361	30,000	730.656,330	4.382.363,062
1+504,946	46,017	730.711,097	4.382.367,324	131,8361	infinito		
1+520,724	15,778	730.715,043	4.382.353,692	232,2834	10,000	730.706,302	4.382.358,548
1+546,426	25,702	730.702,561	4.382.331,224	232,2834	infinito		
1+562,178	15,752	730.706,485	4.382.317,605	132,0036	-10,000	730.711,303	4.382.326,368
2+224,246	662,068	731.286,641	4.381.998,618	132,0036	infinito		
2+257,191	32,945	731.314,487	4.382.007,875	27,1349	-20,000	731.296,277	4.382.016,144
2+392,552	135,361	731.370,451	4.382.131,125	27,1349	infinito		
2+425,245	32,693	731.398,076	4.382.140,502	131,2008	20,000	731.388,662	4.382.122,856
2+586,694	161,449	731.540,520	4.382.064,505	131,2008	infinito		
2+616,421	29,727	731.549,483	4.382.038,967	225,8238	20,000	731.531,106	4.382.046,859
2+657,149	40,728	731.533,412	4.382.001,545	225,8238	infinito		
2+687,848	30,699	731.543,243	4.381.975,570	128,1048	-20,000	731.551,789	4.381.993,652
2+854,555	166,707	731.693,967	4.381.904,341	128,1048	infinito		
2+873,919	19,364	731.712,567	4.381.905,135	66,4681	-20,000	731.702,513	4.381.922,424
2+883,211	9,293	731.721,189	4.381.908,497	86,1875	30,000	731.727,648	4.381.879,201
2+904,221	21,010	731.735,971	4.381.922,054	19,3109	-20,000	731.716,884	4.381.928,028
2+968,279	64,058	731.755,106	4.381.983,188	19,3109	infinito		
3+002,420	34,140	731.782,703	4.381.995,313	127,9825	20,000	731.774,192	4.381.977,214

PUNTOS SINGULARES

<u>Estación</u>	<u>Longitud</u>	<u>Coord. X</u>	<u>Coord. Y</u>	<u>Acimut</u>	<u>Radio</u>	<u>X Centro</u>	<u>Y Centro</u>
3+473,356	470,936	732.208,874	4.381.794,915	127,9825	infinito		
3+518,048	44,692	732.247,665	4.381.807,141	33,1432	-30,000	732.221,640	4.381.822,064
3+621,017	102,969	732.274,159	4.381.905,470	0,3670	-200,000	732.074,162	4.381.906,623
3+622,615	1,598	732.275,192	4.381.906,464	102,1136	1,000	732.275,159	4.381.905,465
3+691,922	69,306	732.344,460	4.381.904,164	102,1136	infinito		
3+693,523	1,601	732.345,425	4.381.903,101	204,0432	1,000	732.344,427	4.381.903,164
3+742,651	49,128	732.348,330	4.381.854,182	188,4053	-200,000	732.545,022	4.381.890,407
3+883,907	141,257	732.449,066	4.381.772,323	98,4785	-100,000	732.446,676	4.381.872,295
3+896,720	12,813	732.461,874	4.381.772,629	98,4785	infinito		
3+941,336	44,616	732.500,788	4.381.754,269	157,6523	48,000	732.463,022	4.381.724,643
3+973,379	32,043	732.507,159	4.381.723,997	215,9357	35,000	732.473,250	4.381.732,667
3+994,385	21,007	732.506,807	4.381.703,184	186,2174	-45,000	732.550,757	4.381.712,850
4+000,733	6,348	732.508,171	4.381.696,984	186,2174	infinito		
4+041,367	40,634	732.507,798	4.381.656,696	214,9602	90,000	732.420,272	4.381.677,651
3+473,356	470,936	732.208,874	4.381.794,915	127,9825	infinito		
3+518,048	44,692	732.247,665	4.381.807,141	33,1432	-30,000	732.221,640	4.381.822,064
3+621,017	102,969	732.274,159	4.381.905,470	0,3670	-200,000	732.074,162	4.381.906,623
3+622,615	1,598	732.275,192	4.381.906,464	102,1136	1,000	732.275,159	4.381.905,465
3+691,922	69,306	732.344,460	4.381.904,164	102,1136	infinito		
3+693,523	1,601	732.345,425	4.381.903,101	204,0432	1,000	732.344,427	4.381.903,164
3+742,651	49,128	732.348,330	4.381.854,182	188,4053	-200,000	732.545,022	4.381.890,407
3+883,907	141,257	732.449,066	4.381.772,323	98,4785	-100,000	732.446,676	4.381.872,295
3+896,720	12,813	732.461,874	4.381.772,629	98,4785	infinito		
3+941,336	44,616	732.500,788	4.381.754,269	157,6523	48,000	732.463,022	4.381.724,643
3+973,379	32,043	732.507,159	4.381.723,997	215,9357	35,000	732.473,250	4.381.732,667
3+994,385	21,007	732.506,807	4.381.703,184	186,2174	-45,000	732.550,757	4.381.712,850
4+000,733	6,348	732.508,171	4.381.696,984	186,2174	infinito		
4+041,367	40,634	732.507,798	4.381.656,696	214,9602	90,000	732.420,272	4.381.677,651



PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+000,000	730.498,563	4.382.152,020	325,4305	infinito
	0+010	730.489,350	4.382.155,909	325,4305	
	0+020	730.480,138	4.382.159,798	325,4305	
	0+030	730.470,925	4.382.163,688	325,4305	
	0+040	730.461,712	4.382.167,577	325,4305	
	0+050	730.452,499	4.382.171,466	325,4305	
	0+060	730.443,287	4.382.175,355	325,4305	
	0+070	730.434,074	4.382.179,245	325,4305	
	0+080	730.424,861	4.382.183,134	325,4305	
	0+090	730.415,649	4.382.187,023	325,4305	
	0+100	730.406,436	4.382.190,912	325,4305	
	0+110	730.397,223	4.382.194,801	325,4305	
	0+120	730.388,011	4.382.198,691	325,4305	
	0+130	730.378,798	4.382.202,580	325,4305	
	0+140	730.369,585	4.382.206,469	325,4305	
	0+150	730.360,372	4.382.210,358	325,4305	
	0+160	730.351,160	4.382.214,248	325,4305	
	0+170	730.341,947	4.382.218,137	325,4305	
	0+180	730.332,734	4.382.222,026	325,4305	
	0+190	730.323,522	4.382.225,915	325,4305	
	0+200	730.314,309	4.382.229,804	325,4305	
	0+210	730.305,096	4.382.233,694	325,4305	
	0+220	730.295,883	4.382.237,583	325,4305	
	0+230	730.286,671	4.382.241,472	325,4305	
	0+240	730.277,458	4.382.245,361	325,4305	
	0+250	730.268,245	4.382.249,251	325,4305	
	0+260	730.259,033	4.382.253,140	325,4305	
	0+270	730.249,820	4.382.257,029	325,4305	
	0+280	730.240,607	4.382.260,918	325,4305	
	0+290	730.231,395	4.382.264,807	325,4305	
	0+300	730.222,182	4.382.268,697	325,4305	
PS	0+300,482	730.221,737	4.382.268,884	325,4305	infinito

PUNTOS DEL EJE CADA 10 METROS

Estación		Coor. X	Coor. Y	Acimut	Radio
PS	0+310	730.215,866	4.382.275,919	386,0181	10,000
	0+313,514	730.215,713	4.382.279,412	8,3947	
	0+320	730.216,566	4.382.285,841	8,3947	
	0+330	730.217,880	4.382.295,754	8,3947	
	0+340	730.219,195	4.382.305,667	8,3947	
	0+350	730.220,510	4.382.315,580	8,3947	
	0+354,206	730.221,063	4.382.319,750	8,3947	
	0+360	730.220,165	4.382.325,392	371,5096	
	0+367,851	730.214,467	4.382.330,499	321,5243	
	0+370	730.212,440	4.382.331,211	321,5243	
	0+380	730.203,006	4.382.334,528	321,5243	
	0+390	730.193,573	4.382.337,845	321,5243	
	0+400	730.184,139	4.382.341,162	321,5243	
	0+410	730.174,705	4.382.344,479	321,5243	
	0+420	730.165,271	4.382.347,796	321,5243	
	0+430	730.155,837	4.382.351,113	321,5243	
	0+440	730.146,403	4.382.354,430	321,5243	
	0+450	730.136,969	4.382.357,747	321,5243	
	0+450,555	730.136,445	4.382.357,931	321,5243	
	0+460	730.130,175	4.382.364,522	381,6475	
	0+464,352	730.129,870	4.382.368,830	9,3559	
	0+470	730.130,697	4.382.374,416	9,3559	
	0+480	730.132,161	4.382.384,309	9,3559	
	0+490	730.133,625	4.382.394,201	9,3559	
	0+500	730.135,090	4.382.404,093	9,3559	
	0+510	730.136,554	4.382.413,985	9,3559	
	0+520	730.138,018	4.382.423,877	9,3559	
	0+522,064	730.138,321	4.382.425,920	9,3559	
	0+528,591	730.135,378	4.382.431,233	326,2453	
	0+530	730.134,088	4.382.431,797	326,2453	
	0+538,575	730.126,231	4.382.435,233	326,2453	
	0+540	730.125,024	4.382.435,981	344,3881	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	0+547,172	730.124,001	4.382.442,474	35,7118	5,000
	0+550	730.125,550	4.382.444,839	38,1118	
	0+560	730.131,719	4.382.452,700	46,6001	
PS	0+568,968	730.138,097	4.382.458,998	54,2131	75,000
	0+570	730.138,867	4.382.459,684	53,1190	
	0+580	730.145,683	4.382.466,985	42,5087	
PS	0+590	730.151,194	4.382.475,316	31,8983	
	0+600	730.155,246	4.382.484,446	21,2880	
	0+606,685	730.157,084	4.382.490,870	14,1945	-60,000
PS	0+610	730.157,455	4.382.494,157	0,1272	
	0+620	730.154,262	4.382.503,439	357,6859	
	0+621,996	730.152,930	4.382.504,924	349,2108	-15,000
PS	0+628,659	730.152,119	4.382.511,051	34,0450	5,000
	0+630	730.152,802	4.382.512,204	34,0450	
	0+633,414	730.154,542	4.382.515,142	34,0450	infinito
PS	0+636,813	730.157,101	4.382.517,280	77,3288	5,000
	0+640	730.160,087	4.382.518,391	77,3288	
	0+650	730.169,460	4.382.521,877	77,3288	
PS	0+651,446	730.170,816	4.382.522,382	77,3288	infinito
	0+660	730.173,670	4.382.517,176	258,8291	
	0+663,364	730.170,490	4.382.516,902	330,2308	3,000
PS	0+670	730.164,589	4.382.519,936	330,2308	
	0+680	730.155,696	4.382.524,508	330,2308	
	0+690	730.146,802	4.382.529,080	330,2308	
PS	0+700	730.137,909	4.382.533,652	330,2308	
	0+708,253	730.130,568	4.382.537,426	330,2308	infinito
	0+708,269	730.130,564	4.382.537,439	30,9466	0,010
PS	0+710	730.131,373	4.382.538,970	30,9466	
	0+713,738	730.133,119	4.382.542,275	30,9466	infinito
	0+713,754	730.133,133	4.382.542,280	130,0808	0,010
PS	0+720	730.138,694	4.382.539,437	130,0808	
	0+730	730.147,598	4.382.534,886	130,0808	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
PS	0+740	730.156,503	4.382.530,335	130,0808	
	0+750	730.165,407	4.382.525,783	130,0808	
	0+759,225	730.173,622	4.382.521,585	130,0808	infinito
PS	0+759,241	730.173,635	4.382.521,589	29,3449	-0,010
	0+760	730.173,973	4.382.522,269	29,3449	
	0+770	730.178,421	4.382.531,225	29,3449	
PS	0+780	730.182,869	4.382.540,181	29,3449	
	0+790	730.187,317	4.382.549,138	29,3449	
	0+799,503	730.191,544	4.382.557,650	29,3449	infinito
PS	0+799,519	730.191,539	4.382.557,663	328,6975	-0,010
	0+800	730.191,107	4.382.557,873	328,6975	
	0+810	730.182,106	4.382.562,229	328,6975	
PS	0+820	730.173,105	4.382.566,586	328,6975	
	0+830	730.164,104	4.382.570,942	328,6975	
	0+840	730.155,103	4.382.575,299	328,6975	
PS	0+844,316	730.151,218	4.382.577,180	328,6975	infinito
	0+844,332	730.151,213	4.382.577,193	29,6261	0,010
	0+849,502	730.153,533	4.382.581,814	29,6261	infinito
PS	0+849,518	730.153,547	4.382.581,818	129,1763	0,010
	0+850	730.153,979	4.382.581,605	129,1763	
	0+860	730.162,947	4.382.577,181	129,1763	
PS	0+870	730.171,915	4.382.572,757	129,1763	
	0+880	730.180,883	4.382.568,332	129,1763	
	0+890	730.189,851	4.382.563,908	129,1763	
PS	0+899,137	730.198,046	4.382.559,865	129,1763	infinito
	0+900	730.198,844	4.382.559,541	120,0274	
	0+909,510	730.206,432	4.382.563,472	19,1159	-6,000
PS	0+910	730.206,576	4.382.563,939	19,1159	
	0+919,609	730.209,419	4.382.573,118	19,1159	infinito
	0+920	730.209,542	4.382.573,489	21,6039	
PS	0+930	730.216,677	4.382.579,894	85,2659	
	0+932,621	730.219,278	4.382.580,156	101,9524	10,000



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	0+940	730.226,580	4.382.581,013	83,1622	
PS	0+943,240	730.229,644	4.382.582,060	74,9113	-25,000
	0+950	730.236,042	4.382.584,227	83,5182	
PS	0+952,197	730.238,178	4.382.584,743	86,3166	50,000
	0+960	730.245,399	4.382.587,606	65,6207	
PS	0+964,073	730.248,699	4.382.589,986	54,8143	-24,000
	0+970	730.254,215	4.382.591,611	108,7092	
PS	0+971,564	730.255,728	4.382.591,227	122,9331	7,000
	0+980	730.263,623	4.382.588,254	122,9331	
PS	0+981,915	730.265,415	4.382.587,578	122,9331	infinito
	0+990	730.269,937	4.382.581,417	196,4592	
PS	0+990,275	730.269,947	4.382.581,142	198,9604	7,000
	1+000	730.270,630	4.382.571,446	192,0814	
	1+010	730.272,419	4.382.561,612	185,0079	
	1+020	730.275,287	4.382.552,038	177,9343	
	1+030	730.279,199	4.382.542,840	170,8608	
PS	1+035,386	730.281,722	4.382.538,083	167,0508	-90,000
	1+040	730.284,231	4.382.534,214	159,7077	
	1+050	730.291,087	4.382.526,970	143,7922	
	1+060	730.299,522	4.382.521,647	127,8767	
PS	1+061,171	730.300,590	4.382.521,166	126,0121	-40,000
	1+070	730.308,692	4.382.517,658	126,0121	
	1+080	730.317,869	4.382.513,685	126,0121	
	1+090	730.327,046	4.382.509,712	126,0121	
	1+100	730.336,222	4.382.505,739	126,0121	
	1+110	730.345,399	4.382.501,766	126,0121	
	1+120	730.354,576	4.382.497,792	126,0121	
	1+130	730.363,753	4.382.493,819	126,0121	
	1+140	730.372,930	4.382.489,846	126,0121	
	1+150	730.382,106	4.382.485,873	126,0121	
	1+160	730.391,283	4.382.481,900	126,0121	
	1+170	730.400,460	4.382.477,926	126,0121	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coord. X	Coord. Y	Acimut	Radio
	1+180	730.409,637	4.382.473,953	126,0121	
	1+190	730.418,814	4.382.469,980	126,0121	
	1+200	730.427,990	4.382.466,007	126,0121	
	1+210	730.437,167	4.382.462,033	126,0121	
	1+220	730.446,344	4.382.458,060	126,0121	
	1+230	730.455,521	4.382.454,087	126,0121	
	1+240	730.464,698	4.382.450,114	126,0121	
	1+250	730.473,874	4.382.446,141	126,0121	
	1+260	730.483,051	4.382.442,167	126,0121	
	1+270	730.492,228	4.382.438,194	126,0121	
	1+280	730.501,405	4.382.434,221	126,0121	
	1+290	730.510,582	4.382.430,248	126,0121	
	1+300	730.519,758	4.382.426,274	126,0121	
	1+310	730.528,935	4.382.422,301	126,0121	
	1+320	730.538,112	4.382.418,328	126,0121	
	1+330	730.547,289	4.382.414,355	126,0121	
	1+340	730.556,465	4.382.410,382	126,0121	
	1+350	730.565,642	4.382.406,408	126,0121	
	1+360	730.574,819	4.382.402,435	126,0121	
	1+370	730.583,996	4.382.398,462	126,0121	
PS	1+372,106	730.585,929	4.382.397,625	126,0121	infinito
	1+380	730.593,289	4.382.394,778	120,9868	
	1+390	730.602,896	4.382.392,019	114,6206	
	1+400	730.612,731	4.382.390,232	108,2544	
	1+410	730.622,695	4.382.389,437	101,8882	
	1+420	730.632,689	4.382.389,640	95,5220	
	1+430	730.642,613	4.382.390,840	89,1558	
PS	1+436,782	730.649,253	4.382.392,216	84,8382	-100,000
	1+440	730.652,414	4.382.392,806	91,6669	
	1+450	730.662,362	4.382.392,450	112,8876	
PS	1+458,929	730.670,715	4.382.389,389	131,8361	30,000
	1+460	730.671,654	4.382.388,875	131,8361	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
	1+470	730.680,430	4.382.384,080	131,8361	
	1+480	730.689,205	4.382.379,285	131,8361	
	1+490	730.697,981	4.382.374,490	131,8361	
	1+500	730.706,756	4.382.369,696	131,8361	
PS	1+504,946	730.711,097	4.382.367,324	131,8361	infinito
	1+510	730.714,746	4.382.363,905	164,0091	
	1+520	730.715,372	4.382.354,337	227,6711	
PS	1+520,724	730.715,043	4.382.353,692	232,2834	10,000
	1+530	730.710,539	4.382.345,584	232,2834	
	1+540	730.705,682	4.382.336,842	232,2834	
PS	1+546,426	730.702,561	4.382.331,224	232,2834	infinito
	1+550	730.701,415	4.382.327,860	209,5361	
	1+560	730.704,704	4.382.318,853	145,8741	
PS	1+562,178	730.706,485	4.382.317,605	132,0036	-10,000
	1+570	730.713,338	4.382.313,836	132,0036	
	1+580	730.722,101	4.382.309,018	132,0036	
	1+590	730.730,864	4.382.304,200	132,0036	
	1+600	730.739,626	4.382.299,382	132,0036	
	1+610	730.748,389	4.382.294,564	132,0036	
	1+620	730.757,152	4.382.289,746	132,0036	
	1+630	730.765,915	4.382.284,928	132,0036	
	1+640	730.774,678	4.382.280,110	132,0036	
	1+650	730.783,440	4.382.275,292	132,0036	
	1+660	730.792,203	4.382.270,474	132,0036	
	1+670	730.800,966	4.382.265,656	132,0036	
	1+680	730.809,729	4.382.260,838	132,0036	
	1+690	730.818,492	4.382.256,020	132,0036	
	1+700	730.827,254	4.382.251,202	132,0036	
	1+710	730.836,017	4.382.246,384	132,0036	
	1+720	730.844,780	4.382.241,566	132,0036	
	1+730	730.853,543	4.382.236,748	132,0036	
	1+740	730.862,306	4.382.231,930	132,0036	

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
	1+750	730.871,068	4.382.227,112	132,0036	
	1+760	730.879,831	4.382.222,294	132,0036	
	1+770	730.888,594	4.382.217,476	132,0036	
	1+780	730.897,357	4.382.212,658	132,0036	
	1+790	730.906,120	4.382.207,840	132,0036	
	1+800	730.914,882	4.382.203,022	132,0036	
	1+810	730.923,645	4.382.198,204	132,0036	
	1+820	730.932,408	4.382.193,386	132,0036	
	1+830	730.941,171	4.382.188,568	132,0036	
	1+840	730.949,933	4.382.183,749	132,0036	
	1+850	730.958,696	4.382.178,931	132,0036	
	1+860	730.967,459	4.382.174,113	132,0036	
	1+870	730.976,222	4.382.169,295	132,0036	
	1+880	730.984,985	4.382.164,477	132,0036	
	1+890	730.993,747	4.382.159,659	132,0036	
	1+900	731.002,510	4.382.154,841	132,0036	
	1+910	731.011,273	4.382.150,023	132,0036	
	1+920	731.020,036	4.382.145,205	132,0036	
	1+930	731.028,799	4.382.140,387	132,0036	
	1+940	731.037,561	4.382.135,569	132,0036	
	1+950	731.046,324	4.382.130,751	132,0036	
	1+960	731.055,087	4.382.125,933	132,0036	
	1+970	731.063,850	4.382.121,115	132,0036	
	1+980	731.072,613	4.382.116,297	132,0036	
	1+990	731.081,375	4.382.111,479	132,0036	
	2+000	731.090,138	4.382.106,661	132,0036	
	2+010	731.098,901	4.382.101,843	132,0036	
	2+020	731.107,664	4.382.097,025	132,0036	
	2+030	731.116,427	4.382.092,207	132,0036	
	2+040	731.125,189	4.382.087,389	132,0036	
	2+050	731.133,952	4.382.082,571	132,0036	
	2+060	731.142,715	4.382.077,753	132,0036	



PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
2+070	731.151,478	4.382.072,935	132,0036	
2+080	731.160,241	4.382.068,117	132,0036	
2+090	731.169,003	4.382.063,299	132,0036	
2+100	731.177,766	4.382.058,481	132,0036	
2+110	731.186,529	4.382.053,662	132,0036	
2+120	731.195,292	4.382.048,844	132,0036	
2+130	731.204,054	4.382.044,026	132,0036	
2+140	731.212,817	4.382.039,208	132,0036	
2+150	731.221,580	4.382.034,390	132,0036	
2+160	731.230,343	4.382.029,572	132,0036	
2+170	731.239,106	4.382.024,754	132,0036	
2+180	731.247,868	4.382.019,936	132,0036	
2+190	731.256,631	4.382.015,118	132,0036	
2+200	731.265,394	4.382.010,300	132,0036	
2+210	731.274,157	4.382.005,482	132,0036	
2+220	731.282,920	4.382.000,664	132,0036	
PS 2+224,246	731.286,641	4.381.998,618	132,0036	infinito
2+230	731.292,009	4.381.996,604	113,6894	
2+240	731.301,899	4.381.996,950	81,8584	
2+250	731.310,413	4.382.001,995	50,0274	
PS 2+257,191	731.314,487	4.382.007,875	27,1349	-20,000
2+260	731.315,648	4.382.010,432	27,1349	
2+270	731.319,783	4.382.019,537	27,1349	
2+280	731.323,917	4.382.028,642	27,1349	
2+290	731.328,052	4.382.037,748	27,1349	
2+300	731.332,186	4.382.046,853	27,1349	
2+310	731.336,321	4.382.055,958	27,1349	
2+320	731.340,455	4.382.065,063	27,1349	
2+330	731.344,589	4.382.074,169	27,1349	
2+340	731.348,724	4.382.083,274	27,1349	
2+350	731.352,858	4.382.092,379	27,1349	
2+360	731.356,993	4.382.101,485	27,1349	

PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
2+370	731.361,127	4.382.110,590	27,1349	
2+380	731.365,262	4.382.119,695	27,1349	
2+390	731.369,396	4.382.128,800	27,1349	
PS 2+392,552	731.370,451	4.382.131,125	27,1349	infinito
2+400	731.374,708	4.382.137,183	50,8407	
2+410	731.383,285	4.382.142,119	82,6717	
2+420	731.393,179	4.382.142,339	114,5027	
PS 2+425,245	731.398,076	4.382.140,502	131,2008	20,000
2+430	731.402,271	4.382.138,264	131,2008	
2+440	731.411,094	4.382.133,557	131,2008	
2+450	731.419,917	4.382.128,849	131,2008	
2+460	731.428,739	4.382.124,142	131,2008	
2+470	731.437,562	4.382.119,435	131,2008	
2+480	731.446,385	4.382.114,728	131,2008	
2+490	731.455,208	4.382.110,021	131,2008	
2+500	731.464,031	4.382.105,314	131,2008	
2+510	731.472,854	4.382.100,606	131,2008	
2+520	731.481,676	4.382.095,899	131,2008	
2+530	731.490,499	4.382.091,192	131,2008	
2+540	731.499,322	4.382.086,485	131,2008	
2+550	731.508,145	4.382.081,778	131,2008	
2+560	731.516,968	4.382.077,071	131,2008	
2+570	731.525,791	4.382.072,364	131,2008	
2+580	731.534,614	4.382.067,656	131,2008	
PS 2+586,694	731.540,520	4.382.064,505	131,2008	infinito
2+590	731.543,295	4.382.062,716	141,7211	
2+600	731.549,405	4.382.054,931	173,5520	
2+610	731.551,035	4.382.045,170	205,3830	
PS 2+616,421	731.549,483	4.382.038,967	225,8238	20,000
2+620	731.548,071	4.382.035,679	225,8238	
2+630	731.544,125	4.382.026,491	225,8238	
2+640	731.540,179	4.382.017,302	225,8238	



PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
	2+650	731.536,233	4.382.008,114	225,8238	
PS	2+657,149	731.533,412	4.382.001,545	225,8238	infinito
	2+660	731.532,477	4.381.998,854	216,7497	
	2+670	731.532,347	4.381.988,959	184,9187	
	2+680	731.536,978	4.381.980,213	153,0877	
PS	2+687,848	731.543,243	4.381.975,570	128,1048	-20,000
	2+690	731.545,189	4.381.974,651	128,1048	
	2+700	731.554,230	4.381.970,378	128,1048	
	2+710	731.563,271	4.381.966,105	128,1048	
	2+720	731.572,312	4.381.961,833	128,1048	
	2+730	731.581,354	4.381.957,560	128,1048	
	2+740	731.590,395	4.381.953,287	128,1048	
	2+750	731.599,436	4.381.949,015	128,1048	
	2+760	731.608,477	4.381.944,742	128,1048	
	2+770	731.617,519	4.381.940,469	128,1048	
	2+780	731.626,560	4.381.936,197	128,1048	
	2+790	731.635,601	4.381.931,924	128,1048	
	2+800	731.644,642	4.381.927,651	128,1048	
	2+810	731.653,684	4.381.923,378	128,1048	
	2+820	731.662,725	4.381.919,106	128,1048	
	2+830	731.671,766	4.381.914,833	128,1048	
	2+840	731.680,807	4.381.910,560	128,1048	
	2+850	731.689,849	4.381.906,288	128,1048	
PS	2+854,555	731.693,967	4.381.904,341	128,1048	infinito
	2+860	731.699,144	4.381.902,710	110,7743	
	2+870	731.709,008	4.381.903,508	78,9433	
PS	2+873,919	731.712,567	4.381.905,135	66,4681	-20,000
	2+880	731.718,096	4.381.907,640	79,3720	
PS	2+883,211	731.721,189	4.381.908,497	86,1875	30,000
	2+890	731.727,446	4.381.911,045	64,5798	
	2+900	731.734,296	4.381.918,188	32,7488	
PS	2+904,221	731.735,971	4.381.922,054	19,3109	-20,000

PUNTOS DEL EJE CADA 10 METROS

	Estación	Coor. X	Coor. Y	Acimut	Radio
	2+910	731.737,697	4.381.927,569	19,3109	
	2+920	731.740,684	4.381.937,112	19,3109	
	2+930	731.743,671	4.381.946,656	19,3109	
	2+940	731.746,658	4.381.956,199	19,3109	
	2+950	731.749,645	4.381.965,743	19,3109	
	2+960	731.752,632	4.381.975,286	19,3109	
PS	2+968,279	731.755,106	4.381.983,188	19,3109	infinito
	2+970	731.755,689	4.381.984,806	24,7859	
	2+980	731.761,594	4.381.992,747	56,6169	
	2+990	731.770,583	4.381.996,886	88,4479	
	3+000	731.780,456	4.381.996,208	120,2789	
PS	3+002,420	731.782,703	4.381.995,313	127,9825	20,000
	3+010	731.789,562	4.381.992,088	127,9825	
	3+020	731.798,612	4.381.987,832	127,9825	
	3+030	731.807,661	4.381.983,577	127,9825	
	3+040	731.816,711	4.381.979,322	127,9825	
	3+050	731.825,760	4.381.975,066	127,9825	
	3+060	731.834,810	4.381.970,811	127,9825	
	3+070	731.843,859	4.381.966,556	127,9825	
	3+080	731.852,908	4.381.962,300	127,9825	
	3+090	731.861,958	4.381.958,045	127,9825	
	3+100	731.871,007	4.381.953,790	127,9825	
	3+110	731.880,057	4.381.949,534	127,9825	
	3+120	731.889,106	4.381.945,279	127,9825	
	3+130	731.898,156	4.381.941,024	127,9825	
	3+140	731.907,205	4.381.936,769	127,9825	
	3+150	731.916,255	4.381.932,513	127,9825	
	3+160	731.925,304	4.381.928,258	127,9825	
	3+170	731.934,353	4.381.924,003	127,9825	
	3+180	731.943,403	4.381.919,747	127,9825	
	3+190	731.952,452	4.381.915,492	127,9825	
	3+200	731.961,502	4.381.911,237	127,9825	



PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
3+210	731.970,551	4.381.906,981	127,9825	
3+220	731.979,601	4.381.902,726	127,9825	
3+230	731.988,650	4.381.898,471	127,9825	
3+240	731.997,700	4.381.894,216	127,9825	
3+250	732.006,749	4.381.889,960	127,9825	
3+260	732.015,798	4.381.885,705	127,9825	
3+270	732.024,848	4.381.881,450	127,9825	
3+280	732.033,897	4.381.877,194	127,9825	
3+290	732.042,947	4.381.872,939	127,9825	
3+300	732.051,996	4.381.868,684	127,9825	
3+310	732.061,046	4.381.864,428	127,9825	
3+320	732.070,095	4.381.860,173	127,9825	
3+330	732.079,145	4.381.855,918	127,9825	
3+340	732.088,194	4.381.851,662	127,9825	
3+350	732.097,243	4.381.847,407	127,9825	
3+360	732.106,293	4.381.843,152	127,9825	
3+370	732.115,342	4.381.838,897	127,9825	
3+380	732.124,392	4.381.834,641	127,9825	
3+390	732.133,441	4.381.830,386	127,9825	
3+400	732.142,491	4.381.826,131	127,9825	
3+410	732.151,540	4.381.821,875	127,9825	
3+420	732.160,589	4.381.817,620	127,9825	
3+430	732.169,639	4.381.813,365	127,9825	
3+440	732.178,688	4.381.809,109	127,9825	
3+450	732.187,738	4.381.804,854	127,9825	
3+460	732.196,787	4.381.800,599	127,9825	
3+470	732.205,837	4.381.796,344	127,9825	
PS 3+473,356	732.208,874	4.381.794,915	127,9825	infinito
3+480	732.215,149	4.381.792,774	113,8842	
3+490	732.225,089	4.381.792,263	92,6635	
3+500	732.234,650	4.381.795,032	71,4429	
3+510	732.242,779	4.381.800,777	50,2222	

PUNTOS DEL EJE CADA 10 METROS

Estación	Coord. X	Coord. Y	Acimut	Radio
PS 3+518,048	732.247,665	4.381.807,141	33,1432	-30,000
3+520	732.248,628	4.381.808,839	32,5219	
3+530	732.253,297	4.381.817,681	29,3388	
3+540	732.257,518	4.381.826,745	26,1557	
3+550	732.261,282	4.381.836,009	22,9726	
3+560	732.264,577	4.381.845,449	19,7895	
3+570	732.267,396	4.381.855,042	16,6064	
3+580	732.269,733	4.381.864,765	13,4233	
3+590	732.271,581	4.381.874,591	10,2402	
3+600	732.272,935	4.381.884,498	7,0571	
3+610	732.273,792	4.381.894,460	3,8740	
3+620	732.274,151	4.381.904,453	0,6909	
PS 3+621,017	732.274,159	4.381.905,470	0,3670	-200,000
PS 3+622,615	732.275,192	4.381.906,464	102,1136	1,000
3+630	732.282,572	4.381.906,219	102,1136	
3+640	732.292,567	4.381.905,887	102,1136	
3+650	732.302,561	4.381.905,555	102,1136	
3+660	732.312,556	4.381.905,223	102,1136	
3+670	732.322,550	4.381.904,891	102,1136	
3+680	732.332,545	4.381.904,559	102,1136	
3+690	732.342,539	4.381.904,227	102,1136	
PS 3+691,922	732.344,460	4.381.904,164	102,1136	infinito
PS 3+693,523	732.345,425	4.381.903,101	204,0432	1,000
3+700	732.345,119	4.381.896,631	201,9815	
3+710	732.345,057	4.381.886,633	198,7984	
3+720	732.345,496	4.381.876,643	195,6153	
3+730	732.346,433	4.381.866,688	192,4322	
3+740	732.347,867	4.381.856,793	189,2491	
PS 3+742,651	732.348,330	4.381.854,182	188,4053	-200,000
3+750	732.349,925	4.381.847,010	183,7268	
3+760	732.352,933	4.381.837,478	177,3606	
3+770	732.356,877	4.381.828,293	170,9944	



PUNTOS DEL EJE CADA 10 METROS

	<u>Estación</u>	<u>Coor. X</u>	<u>Coor. Y</u>	<u>Acimut</u>	<u>Radio</u>
	3+780	732.361,718	4.381.819,548	164,6282	
	3+790	732.367,409	4.381.811,330	158,2620	
	3+800	732.373,891	4.381.803,721	151,8958	
	3+810	732.381,101	4.381.796,797	145,5296	
	3+820	732.388,965	4.381.790,628	139,1634	
	3+830	732.397,407	4.381.785,274	132,7972	
	3+840	732.406,341	4.381.780,790	126,4310	
	3+850	732.415,677	4.381.777,221	120,0648	
	3+860	732.425,324	4.381.774,601	113,6986	
	3+870	732.435,183	4.381.772,957	107,3324	
	3+880	732.445,158	4.381.772,306	100,9662	
PS	3+883,907	732.449,066	4.381.772,323	98,4785	-100,000
	3+890	732.455,156	4.381.772,469	98,4785	
PS	3+896,720	732.461,874	4.381.772,629	98,4785	infinito
	3+900	732.465,153	4.381.772,596	102,8283	
	3+910	732.475,025	4.381.771,118	116,0912	
	3+920	732.484,378	4.381.767,630	129,3541	
	3+930	732.492,807	4.381.762,284	142,6171	
	3+940	732.499,948	4.381.755,309	155,8800	
PS	3+941,336	732.500,788	4.381.754,269	157,6523	48,000
	3+950	732.505,241	4.381.746,864	173,4108	
	3+960	732.507,946	4.381.737,272	191,6000	
	3+970	732.507,837	4.381.727,306	209,7891	
PS	3+973,379	732.507,159	4.381.723,997	215,9357	35,000
	3+980	732.505,996	4.381.717,485	206,5692	
	3+990	732.506,075	4.381.707,506	192,4221	
PS	3+994,385	732.506,807	4.381.703,184	186,2174	-45,000
	4+000	732.508,013	4.381.697,701	186,2174	
PS	4+000,733	732.508,171	4.381.696,984	186,2174	infinito
	4+010	732.509,692	4.381.687,848	192,7721	
	4+020	732.510,271	4.381.677,870	199,8457	
	4+030	732.509,741	4.381.667,889		

PUNTOS DEL EJE CADA 10 METROS

	<u>Estación</u>	<u>Coor. X</u>	<u>Coor. Y</u>	<u>Acimut</u>	<u>Radio</u>
	4+040	732.508,106	4.381.658,028	213,9928	
PS	4+041,367	732.507,798	4.381.656,696	214,9602	90,000

3. TRAZADO EN ALZADO DE LAS ALTERNATIVAS.

Para el diseño del trazado en alzado, debido a que la zona en la que se ubica la plataforma no presenta desniveles geográficos de importancia, las pendientes no rebasan el 2 %. Por otra parte, y debido a la necesidad de hacer pasar la plataforma por pasos superiores e inferiores, las pendientes utilizadas superan el anterior valor y alcanzan hasta un 7 %.

El alzado se ha definido siguiendo las especificaciones del "Manual de Recomendaciones de Diseño, Construcción, Balizamiento, Infraestructuras, Conservación, Señalización y Mantenimiento de Carril Bici" editado por la Dirección General de Tráfico. La única recomendación que no se ha podido cumplir es la de pendiente máxima, ya que para rampas con longitudes comprendidas entre 120 y 65 metros se recomienda no superar pendientes del 6%.

Al igual que en el apartado anterior, de cada una de las alternativas propuestas se ha incluido en el anexo un listado con el estado de rasantes. Dichos listados incluyen información referente a los datos de cada acuerdo, pendientes de los tramos y caracterización de los puntos tanto de acuerdo como de tangencia.

Previa a la incorporación de estos listados, a continuación se adjunta la descripción de cada uno de los datos proporcionados en los listados:

Datos de entrada:

Ver.- Vértice.

Estación - Punto kilométrico.

Cota - Cota real del vértice. Esta cota, al existir un acuerdo vertical, no se corresponde con la cota de la rasante.

Pente (%).- Pendiente de la alineación formada por dicho vértice y el anterior.

Long. (L).- Longitud del acuerdo vertical correspondiente a cada vértice. Está medido en metros.

Radio (Kv) - Parámetro en metros del acuerdo vertical. El signo representa si el acuerdo es cóncavo (positivo) o convexo (negativo).

Flecha - Distancia del vértice al acuerdo, medida en metros. Es negativa si el acuerdo es convexo y positiva si es cóncavo.

Listado de vértices:

Ver.- Vértice.

Est. /Cota -. Punto kilométrico.

Cota.- Cota real del vértice. Esta cota, al existir un acuerdo vertical, no se corresponde con la cota de la rasante.

TE y TS.- Puntos kilométricos de las tangentes de entrada y salida de cada acuerdo vertical. En el primer y último vértice, que no tienen acuerdo vertical, se imprime el mismo Pk que el vértice.

Cota TE y TS.- Es la cota de las tangentes de entrada y salida de cada acuerdo vertical. En el primer y último vértice, que no tienen acuerdo vertical, se imprime la misma cota que la del vértice.

Pente. E (%) y Pente. S (%).- Pendientes de los puntos correspondientes a las tangentes de entrada y salida de cada acuerdo vertical. En el primer y último vértice se imprime la pendiente de la alineación a la que pertenece dicho vértice.

Longitud y Flecha.- Longitudes y flechas del acuerdo vertical correspondiente a cada vértice. En metros.

Kv y Theta (%).- Parámetro en metros y diferencia de pendiente en % en los acuerdos verticales.

Puntos del eje cada 10 metros:

Estación - Punto kilométrico.

Cota - Cota de la rasante en el punto kilométrico.

Pente. (%) - Pendiente en el punto kilométrico.

Cota - Cota real del vértice. Esta cota, al existir un acuerdo vertical, no se corresponde con la cota de la rasante.

Long. (L) - Longitud del acuerdo vertical medido en metros.

Radio (Kv) - Parámetro en metros del acuerdo vertical. El signo representa si el acuerdo es cóncavo (positivo) o convexo (negativo).

Flecha - Distancia del vértice al acuerdo, medida en metros. Es negativa si el acuerdo es convexo y positiva si es cóncavo.

Theta (%) - Diferencia de pendiente en % en los acuerdos verticales.



3.1. ALTERNATIVA 1.

DATOS DE ENTRADA

Ver.	Estación	Cota	Pente. (%)	Long. (L)	Radio (kv)	Flecha
1	0+000,000	10,347				
2	0+462,870	7,848	-0,5399	35,000	-788,236	-0,194
3	0+531,000	4,455	-4,9802	35,000	781,218	0,196
4	0+605,000	4,085	-0,5000	35,000	646,006	0,237
5	0+672,000	7,380	4,9179	40,000	-727,715	-0,275
6	1+778,009	0,979	-0,5787	40,000	-622,958	-0,321
7	1+828,711	-2,570	-6,9997	10,000	153,825	0,081
8	1+856,576	-2,709	-0,4988	10,000	133,373	0,094
9	1+920,000	1,730	6,9989	40,000	-548,026	-0,365
10	2+195,000	0,905	-0,3000	45,000	-957,447	-0,264
11	2+269,000	-2,795	-5,0000	20,000	444,444	0,113
12	2+320,000	-3,050	-0,5000	20,000	452,447	0,111
13	2+418,000	0,792	3,9204	40,000	-1.020,302	-0,196
14	2+443,700	0,792	0,0000	10,000	189,869	0,066
15	2+557,773	6,800	5,2668	2,000	-37,974	-0,013
16	2+632,842	6,800	0,0000	2,000	-36,440	-0,014
17	2+744,713	0,660	-5,4885			



LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
1	0+000,000 10,347	0+000,000	10,347	-0,5399		
2	0+462,870 7,848	0+445,370 0+480,370	7,942 6,976	-0,5399 -4,9802	35,000 -0,194	-788,236 -4,4403
3	0+531,000 4,455	0+513,500 0+548,500	5,327 4,367	-4,9802 -0,5000	35,000 0,196	781,218 4,4802
4	0+605,000 4,085	0+587,500 0+622,500	4,173 4,946	-0,5000 4,9179	35,000 0,237	646,006 5,4179
5	0+672,000 7,380	0+652,000 0+692,000	6,396 7,264	4,9179 -0,5787	40,000 -0,275	-727,715 -5,4967
6	1+778,009 0,979	1+758,009 1+798,009	1,095 -0,421	-0,5787 -6,9997	40,000 -0,321	-622,958 -6,4210
7	1+828,711 -2,570	1+823,711 1+833,711	-2,220 -2,595	-6,9997 -0,4988	10,000 0,081	153,825 6,5009
8	1+856,576 -2,709	1+851,576 1+861,576	-2,684 -2,359	-0,4988 6,9989	10,000 0,094	133,373 7,4978
9	1+920,000 1,730	1+900,000 1+940,000	0,330 1,670	6,9989 -0,3000	40,000 -0,365	-548,026 -7,2989
10	2+195,000 0,905	2+172,500 2+217,500	0,972 -0,220	-0,3000 -5,0000	45,000 -0,264	-957,447 -4,7000
11	2+269,000 -2,795	2+259,000 2+279,000	-2,295 -2,845	-5,0000 -0,5000	20,000 0,113	444,444 4,5000
12	2+320,000 -3,050	2+310,000 2+330,000	-3,000 -2,658	-0,5000 3,9204	20,000 0,111	452,447 4,4204

LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
13	2+418,000 0,792	2+398,000 2+438,000	0,008 0,792	3,9204 0,0000	40,000 -0,196	-1.020,302 -3,9204
14	2+443,700 0,792	2+438,700 2+448,700	0,792 1,055	0,0000 5,2668	10,000 0,066	189,869 5,2668
15	2+557,773 6,800	2+556,773 2+558,773	6,747 6,800	5,2668 0,0000	2,000 -0,013	-37,974 -5,2668
16	2+632,842 6,800	2+631,842 2+633,842	6,800 6,745	0,0000 -5,4885	2,000 -0,014	-36,440 -5,4885
17	2+744,713 0,660	2+739,713	0,934	-5,4885		



PUNTOS DE LA RASANTE CADA 10 METROS

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+000,000	10,347	-0,5399					
0+010,000	10,293						
0+020,000	10,239						
0+030,000	10,185						
0+040,000	10,131						
0+050,000	10,077						
0+060,000	10,023						
0+070,000	9,969						
0+080,000	9,915						
0+090,000	9,861						
0+100,000	9,807						
0+110,000	9,753						
0+120,000	9,699						
0+130,000	9,645						
0+140,000	9,591						
0+150,000	9,537						
0+160,000	9,483						
0+170,000	9,429						
0+180,000	9,375						
0+190,000	9,321						
0+200,000	9,267						
0+210,000	9,213						
0+220,000	9,159						
0+230,000	9,105						
0+240,000	9,051						
0+250,000	8,997						
0+260,000	8,943						
0+270,000	8,889						
0+280,000	8,835						
0+290,000	8,781						
0+300,000	8,727						
0+310,000	8,673						

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+320,000	8,619						
0+330,000	8,565						
0+340,000	8,511						
0+350,000	8,457						
0+360,000	8,403						
0+370,000	8,349						
0+380,000	8,295						
0+390,000	8,241						
0+400,000	8,187						
0+410,000	8,133						
0+420,000	8,079						
0+430,000	8,025						
0+440,000	7,971						
TE 0+445,370	7,942	-0,5399					
0+450,000	7,904						
0+460,000	7,728						
V 0+462,870	7,654	-2,7600	7,848	35,000	-788,236	-0,194	-4,4403
0+470,000	7,425						
0+480,000	6,995						
TS 0+480,370	6,976	-4,9802					
0+490,000	6,497						
0+500,000	5,999						
0+510,000	5,501						
TE 0+513,500	5,327	-4,9802					
0+520,000	5,030						
0+530,000	4,679						
V 0+531,000	4,651	-2,7401	4,455	35,000	781,218	0,196	4,4802
0+540,000	4,456						
TS 0+548,500	4,367	-0,5000					
0+550,000	4,360						
0+560,000	4,310						
0+570,000	4,260						



PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	0+580,000	4,210						
TE	0+587,500	4,173	-0,5000					
	0+590,000	4,165						
	0+600,000	4,231						
V	0+605,000	4,322	2,2090	4,085	35,000	646,006	0,237	5,4179
	0+610,000	4,452						
	0+620,000	4,828						
TS	0+622,500	4,946	4,9179					
	0+630,000	5,314						
	0+640,000	5,806						
	0+650,000	6,298						
TE	0+652,000	6,396	4,9179					
	0+660,000	6,746						
	0+670,000	7,059						
V	0+672,000	7,105	2,1696	7,380	40,000	-727,715	-0,275	-5,4967
	0+680,000	7,235						
	0+690,000	7,273						
TS	0+692,000	7,264	-0,5787					
	0+700,000	7,218						
	0+710,000	7,160						
	0+720,000	7,102						
	0+730,000	7,044						
	0+740,000	6,986						
	0+750,000	6,929						
	0+760,000	6,871						
	0+770,000	6,813						
	0+780,000	6,755						
	0+790,000	6,697						
	0+800,000	6,639						
	0+810,000	6,581						
	0+820,000	6,523						
	0+830,000	6,466						

PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	0+840,000	6,408						
	0+850,000	6,350						
	0+860,000	6,292						
	0+870,000	6,234						
	0+880,000	6,176						
	0+890,000	6,118						
	0+900,000	6,060						
	0+910,000	6,003						
	0+920,000	5,945						
	0+930,000	5,887						
	0+940,000	5,829						
	0+950,000	5,771						
	0+960,000	5,713						
	0+970,000	5,655						
	0+980,000	5,597						
	0+990,000	5,540						
	1+000,000	5,482						
	1+010,000	5,424						
	1+020,000	5,366						
	1+030,000	5,308						
	1+040,000	5,250						
	1+050,000	5,192						
	1+060,000	5,134						
	1+070,000	5,077						
	1+080,000	5,019						
	1+090,000	4,961						
	1+100,000	4,903						
	1+110,000	4,845						
	1+120,000	4,787						
	1+130,000	4,729						
	1+140,000	4,671						
	1+150,000	4,614						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+160,000	4,556						
1+170,000	4,498						
1+180,000	4,440						
1+190,000	4,382						
1+200,000	4,324						
1+210,000	4,266						
1+220,000	4,208						
1+230,000	4,151						
1+240,000	4,093						
1+250,000	4,035						
1+260,000	3,977						
1+270,000	3,919						
1+280,000	3,861						
1+290,000	3,803						
1+300,000	3,745						
1+310,000	3,688						
1+320,000	3,630						
1+330,000	3,572						
1+340,000	3,514						
1+350,000	3,456						
1+360,000	3,398						
1+370,000	3,340						
1+380,000	3,282						
1+390,000	3,225						
1+400,000	3,167						
1+410,000	3,109						
1+420,000	3,051						
1+430,000	2,993						
1+440,000	2,935						
1+450,000	2,877						
1+460,000	2,819						
1+470,000	2,762						

PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+480,000	2,704						
1+490,000	2,646						
1+500,000	2,588						
1+510,000	2,530						
1+520,000	2,472						
1+530,000	2,414						
1+540,000	2,356						
1+550,000	2,299						
1+560,000	2,241						
1+570,000	2,183						
1+580,000	2,125						
1+590,000	2,067						
1+600,000	2,009						
1+610,000	1,951						
1+620,000	1,893						
1+630,000	1,836						
1+640,000	1,778						
1+650,000	1,720						
1+660,000	1,662						
1+670,000	1,604						
1+680,000	1,546						
1+690,000	1,488						
1+700,000	1,430						
1+710,000	1,373						
1+720,000	1,315						
1+730,000	1,257						
1+740,000	1,199						
1+750,000	1,141						
TE 1+758,009	1,095	-0,5787					
1+760,000	1,080						
1+770,000	0,910						
V 1+778,009	0,658	-3,7892	0,979	40,000	-622,958	-0,321	-6,4210



PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
TS	1+780,000	0,579						
	1+790,000	0,088						
	1+798,009	-0,421	-6,9997					
	1+800,000	-0,560						
	1+810,000	-1,260						
	1+820,000	-1,960						
TE	1+823,711	-2,220	-6,9997					
V	1+828,711	-2,489	-3,7493	-2,570	10,000	153,825	0,081	6,5009
	1+830,000	-2,532						
TS	1+833,711	-2,595	-0,4988					
	1+840,000	-2,626						
	1+850,000	-2,676						
TE	1+851,576	-2,684	-0,4988					
V	1+856,576	-2,615	3,2500	-2,709	10,000	133,373	0,094	7,4978
	1+860,000	-2,460						
TS	1+861,576	-2,359	6,9989					
	1+870,000	-1,769						
	1+880,000	-1,070						
	1+890,000	-0,370						
TE	1+900,000	0,330	6,9989					
	1+900,000	0,330						
	1+910,000	0,939						
V	1+920,000	1,365	3,3495	1,730	40,000	-548,026	-0,365	-7,2989
	1+920,000	1,365						
	1+930,000	1,609						
TS	1+940,000	1,670	-0,3000					
	1+940,000	1,670						
	1+950,000	1,640						
	1+960,000	1,610						
	1+970,000	1,580						
	1+980,000	1,550						
	1+990,000	1,520						

PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
	2+000,000	1,490						
	2+010,000	1,460						
	2+020,000	1,430						
	2+030,000	1,400						
	2+040,000	1,370						
	2+050,000	1,340						
	2+060,000	1,310						
	2+070,000	1,280						
	2+080,000	1,250						
	2+090,000	1,220						
	2+100,000	1,190						
	2+110,000	1,160						
	2+120,000	1,130						
	2+130,000	1,100						
	2+140,000	1,070						
	2+150,000	1,040						
	2+160,000	1,010						
	2+170,000	0,980						
TE	2+172,500	0,972	-0,3000					
	2+180,000	0,921						
	2+190,000	0,760						
V	2+195,000	0,641	-2,6500	0,905	45,000	-957,447	-0,264	-4,7000
	2+200,000	0,495						
	2+210,000	0,126						
TS	2+217,500	-0,220	-5,0000					
	2+220,000	-0,345						
	2+230,000	-0,845						
	2+240,000	-1,345						
	2+250,000	-1,845						
TE	2+259,000	-2,295	-5,0000					
	2+260,000	-2,344						
V	2+269,000	-2,683	-2,7500	-2,795	20,000	444,444	0,113	4,5000



PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	2+270,000	-2,709						
TS	2+279,000	-2,845	-0,5000					
	2+280,000	-2,850						
	2+290,000	-2,900						
	2+300,000	-2,950						
TE	2+310,000	-3,000	-0,5000					
	2+310,000	-3,000						
V	2+320,000	-2,939	1,7102	-3,050	20,000	452,447	0,111	4,4204
	2+320,000	-2,939						
TS	2+330,000	-2,658	3,9204					
	2+330,000	-2,658						
	2+340,000	-2,266						
	2+350,000	-1,874						
	2+360,000	-1,482						
	2+370,000	-1,090						
	2+380,000	-0,698						
	2+390,000	-0,306						
TE	2+398,000	0,008	3,9204					
	2+400,000	0,084						
	2+410,000	0,408						
V	2+418,000	0,596	1,9602	0,792	40,000	-1.020,302	-0,196	-3,9204
	2+420,000	0,633						
	2+430,000	0,761						
TS	2+438,000	0,792	0,0000					
TE	2+438,700	0,792	0,0000					
	2+440,000	0,796						
V	2+443,700	0,858	2,6334	0,792	10,000	189,869	0,066	5,2668
TS	2+448,700	1,055	5,2668					
	2+450,000	1,124						
	2+460,000	1,650						
	2+470,000	2,177						
	2+480,000	2,704						

PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	2+490,000	3,231						
	2+500,000	3,757						
	2+510,000	4,284						
	2+520,000	4,811						
	2+530,000	5,337						
	2+540,000	5,864						
	2+550,000	6,391						
TE	2+556,773	6,747	5,2668					
V	2+557,773	6,787	2,6334	6,800	2,000	-37,974	-0,013	-5,2668
TS	2+558,773	6,800	0,0000					
	2+560,000	6,800						
	2+570,000	6,800						
	2+580,000	6,800						
	2+590,000	6,800						
	2+600,000	6,800						
	2+610,000	6,800						
	2+620,000	6,800						
	2+630,000	6,800						
TE	2+631,842	6,800	0,0000					
V	2+632,842	6,786	-2,7442	6,800	2,000	-36,440	-0,014	-5,4885
TS	2+633,842	6,745	-5,4885					
	2+640,000	6,407						
	2+650,000	5,858						
	2+660,000	5,309						
	2+670,000	4,761						
	2+680,000	4,212						
	2+690,000	3,663						
	2+700,000	3,114						
	2+710,000	2,565						
	2+720,000	2,016						
	2+730,000	1,468						
	2+740,000	0,919						



3.2. ALTERNATIVA 2.

DATOS DE ENTRADA

Ver.	Estación	Cota	Pente.(%)	Long.(L)	Radio(kv)	Flecha
1	0+000,000	8,364				
2	0+250,000	9,900	0,6144	50,000	-10.535,823	-0,030
3	0+663,364	10,478	0,1398	10,000	170,633	0,073
4	0+759,225	16,230	6,0004	2,000	-33,331	-0,015
5	0+799,519	16,230	0,0000	2,000	-33,317	-0,015
6	0+899,137	10,250	-6,0029	10,000	184,063	0,068
7	1+250,000	8,250	-0,5700	40,000	-891,107	-0,224
8	1+335,000	3,950	-5,0588	25,000	494,186	0,158
9	1+365,000	3,950	0,0000	25,000	707,547	0,110
10	1+440,000	6,600	3,5333	40,000	-1.013,396	-0,197
11	2+600,000	1,800	-0,4138	40,000	-972,388	-0,206
12	2+681,725	-1,900	-4,5274	20,000	441,757	0,113
13	2+701,354	-1,900	0,0000	19,000	415,076	0,109
14	2+780,000	1,700	4,5775	40,000	-849,241	-0,236
15	3+307,848	1,000	-0,1326	10,000	209,529	0,060
16	3+432,848	6,800	4,6400	2,000	-43,103	-0,012
17	3+505,288	6,800	0,0000	2,000	-48,544	-0,010
18	3+630,288	1,650	-4,1200	10,000	240,210	0,052
19	3+920,777	1,775	0,0430			



LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
1	0+000,000 8,364	0+000,000	8,364	0,6144		
2	0+250,000 9,900	0+225,000 0+275,000	9,746 9,935	0,6144 0,1398	50,000 -0,030	-10.535,823 -0,4746
3	0+663,364 10,478	0+658,364 0+668,364	10,471 10,778	0,1398 6,0004	10,000 0,073	170,633 5,8605
4	0+759,225 16,230	0+758,225 0+760,225	16,170 16,230	6,0004 0,0000	2,000 -0,015	-33,331 -6,0004
5	0+799,519 16,230	0+798,519 0+800,519	16,230 16,170	0,0000 -6,0029	2,000 -0,015	-33,317 -6,0029
6	0+899,137 10,250	0+894,137 0+904,137	10,550 10,221	-6,0029 -0,5700	10,000 0,068	184,063 5,4329
7	1+250,000 8,250	1+230,000 1+270,000	8,364 7,238	-0,5700 -5,0588	40,000 -0,224	-891,107 -4,4888
8	1+335,000 3,950	1+322,500 1+347,500	4,582 3,950	-5,0588 0,0000	25,000 0,158	494,186 5,0588
9	1+365,000 3,950	1+352,500 1+377,500	3,950 4,392	0,0000 3,5333	25,000 0,110	707,547 3,5333
10	1+440,000 6,600	1+420,000 1+460,000	5,893 6,517	3,5333 -0,4138	40,000 -0,197	-1.013,396 -3,9471
11	2+600,000 1,800	2+580,000 2+620,000	1,883 0,895	-0,4138 -4,5274	40,000 -0,206	-972,388 -4,1136
12	2+681,725 -1,900	2+671,725 2+691,725	-1,447 -1,900	-4,5274 0,0000	20,000 0,113	441,757 4,5274

LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
13	2+701,354 -1,900	2+691,854 2+710,854	-1,900 -1,465	0,0000 4,5775	19,000 0,109	415,076 4,5775
14	2+780,000 1,700	2+760,000 2+800,000	0,785 1,673	4,5775 -0,1326	40,000 -0,236	-849,241 -4,7101
15	3+307,848 1,000	3+302,848 3+312,848	1,007 1,232	-0,1326 4,6400	10,000 0,060	209,529 4,7726
16	3+432,848 6,800	3+431,848 3+433,848	6,754 6,800	4,6400 0,0000	2,000 -0,012	-43,103 -4,6400
17	3+505,288 6,800	3+504,288 3+506,288	6,800 6,759	0,0000 -4,1200	2,000 -0,010	-48,544 -4,1200
18	3+630,288 1,650	3+625,288 3+635,288	1,856 1,652	-4,1200 0,0430	10,000 0,052	240,210 4,1630
19	3+920,777 1,775	3+920,777	1,775	0,0430		



PUNTOS DE LA RASANTE CADA 10 METROS

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+000,000	8,364	0,6144					
0+010,000	8,425						
0+020,000	8,487						
0+030,000	8,548						
0+040,000	8,610						
0+050,000	8,671						
0+060,000	8,733						
0+070,000	8,794						
0+080,000	8,856						
0+090,000	8,917						
0+100,000	8,978						
0+110,000	9,040						
0+120,000	9,101						
0+130,000	9,163						
0+140,000	9,224						
0+150,000	9,286						
0+160,000	9,347						
0+170,000	9,408						
0+180,000	9,470						
0+190,000	9,531						
0+200,000	9,593						
0+210,000	9,654						
0+220,000	9,716						
TE 0+225,000	9,746	0,6144					
0+230,000	9,776						
0+240,000	9,828						
V 0+250,000	9,870	0,3771	9,900	50,000	-10.535,823	-0,030	-0,4746
0+250,000	9,870						
0+260,000	9,903						
0+270,000	9,927						
TS 0+275,000	9,935	0,1398					
0+280,000	9,942						

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+290,000	9,956						
0+300,000	9,970						
0+310,000	9,984						
0+320,000	9,998						
0+330,000	10,012						
0+340,000	10,026						
0+350,000	10,040						
0+360,000	10,054						
0+370,000	10,068						
0+380,000	10,082						
0+390,000	10,096						
0+400,000	10,110						
0+410,000	10,124						
0+420,000	10,138						
0+430,000	10,152						
0+440,000	10,166						
0+450,000	10,180						
0+460,000	10,194						
0+470,000	10,208						
0+480,000	10,222						
0+490,000	10,236						
0+500,000	10,250						
0+510,000	10,264						
0+520,000	10,278						
0+530,000	10,292						
0+540,000	10,306						
0+550,000	10,319						
0+560,000	10,333						
0+570,000	10,347						
0+580,000	10,361						
0+590,000	10,375						
0+600,000	10,389						



PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+610,000	10,403						
0+620,000	10,417						
0+630,000	10,431						
0+640,000	10,445						
0+650,000	10,459						
TE 0+658,364	10,471	0,1398					
0+660,000	10,481						
V 0+663,364	10,551	3,0701	10,478	10,000	170,633	0,073	5,8605
TS 0+668,364	10,778	6,0004					
0+670,000	10,876						
0+680,000	11,476						
0+690,000	12,076						
0+700,000	12,676						
0+710,000	13,276						
0+720,000	13,876						
0+730,000	14,476						
0+740,000	15,076						
0+750,000	15,676						
TE 0+758,225	16,170	6,0004					
V 0+759,225	16,215	3,0002	16,230	2,000	-33,331	-0,015	-6,0004
0+760,000	16,229						
TS 0+760,225	16,230	0,0000					
0+770,000	16,230						
0+780,000	16,230						
0+790,000	16,230						
TE 0+798,519	16,230	0,0000					
V 0+799,519	16,215	-3,0015	16,230	2,000	-33,317	-0,015	-6,0029
0+800,000	16,197						
TS 0+800,519	16,170	-6,0029					
0+810,000	15,601						
0+820,000	15,001						
0+830,000	14,400						

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+840,000	13,800						
0+850,000	13,200						
0+860,000	12,599						
0+870,000	11,999						
0+880,000	11,399						
TE 0+889,137	10,850	-6,0029					
0+890,000	10,799						
V 0+899,137	10,386	-3,2865	10,250	20,000	368,127	0,136	5,4329
0+900,000	10,358						
TS 0+909,137	10,193	-0,5700					
0+910,000	10,188						
0+920,000	10,131						
0+930,000	10,074						
0+940,000	10,017						
0+950,000	9,960						
0+960,000	9,903						
0+970,000	9,846						
0+980,000	9,789						
0+990,000	9,732						
1+000,000	9,675						
1+010,000	9,618						
1+020,000	9,561						
1+030,000	9,504						
1+040,000	9,447						
1+050,000	9,390						
1+060,000	9,333						
1+070,000	9,276						
1+080,000	9,219						
1+090,000	9,162						
1+100,000	9,105						
1+110,000	9,048						
1+120,000	8,991						



PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
1+130,000	8,934						
1+140,000	8,877						
1+150,000	8,820						
1+160,000	8,763						
1+170,000	8,706						
1+180,000	8,649						
1+190,000	8,592						
1+200,000	8,535						
1+210,000	8,478						
1+220,000	8,421						
TE 1+230,000	8,364	-0,5700					
1+230,000	8,364						
1+240,000	8,251						
V 1+250,000	8,026	-2,8144	8,250	40,000	-891,107	-0,224	-4,4888
1+250,000	8,026						
1+260,000	7,688						
TS 1+270,000	7,238	-5,0588					
1+270,000	7,238						
1+280,000	6,732						
1+290,000	6,226						
1+300,000	5,721						
1+310,000	5,215						
1+320,000	4,709						
TE 1+322,500	4,582	-5,0588					
1+330,000	4,260						
V 1+335,000	4,108	-2,5294	3,950	25,000	494,186	0,158	5,0588
1+340,000	4,007						
TS 1+347,500	3,950	0,0000					
1+350,000	3,950						
TE 1+352,500	3,950	0,0000					
1+360,000	3,990						
V 1+365,000	4,060	1,7667	3,950	25,000	707,547	0,110	3,5333

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
1+370,000	4,166						
TS 1+377,500	4,392	3,5333					
1+380,000	4,480						
1+390,000	4,833						
1+400,000	5,187						
1+410,000	5,540						
TE 1+420,000	5,893	3,5333					
1+420,000	5,893						
1+430,000	6,197						
V 1+440,000	6,403	1,5598	6,600	40,000	-1.013,396	-0,197	-3,9471
1+440,000	6,403						
1+450,000	6,509						
TS 1+460,000	6,517	-0,4138					
1+460,000	6,517						
1+470,000	6,476						
1+480,000	6,434						
1+490,000	6,393						
1+500,000	6,352						
1+510,000	6,310						
1+520,000	6,269						
1+530,000	6,228						
1+540,000	6,186						
1+550,000	6,145						
1+560,000	6,103						
1+570,000	6,062						
1+580,000	6,021						
1+590,000	5,979						
1+600,000	5,938						
1+610,000	5,897						
1+620,000	5,855						
1+630,000	5,814						
1+640,000	5,772						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+650,000	5,731						
1+660,000	5,690						
1+670,000	5,648						
1+680,000	5,607						
1+690,000	5,566						
1+700,000	5,524						
1+710,000	5,483						
1+720,000	5,441						
1+730,000	5,400						
1+740,000	5,359						
1+750,000	5,317						
1+760,000	5,276						
1+770,000	5,234						
1+780,000	5,193						
1+790,000	5,152						
1+800,000	5,110						
1+810,000	5,069						
1+820,000	5,028						
1+830,000	4,986						
1+840,000	4,945						
1+850,000	4,903						
1+860,000	4,862						
1+870,000	4,821						
1+880,000	4,779						
1+890,000	4,738						
1+900,000	4,697						
1+910,000	4,655						
1+920,000	4,614						
1+930,000	4,572						
1+940,000	4,531						
1+950,000	4,490						
1+960,000	4,448						

PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+970,000	4,407						
1+980,000	4,366						
1+990,000	4,324						
2+000,000	4,283						
2+010,000	4,241						
2+020,000	4,200						
2+030,000	4,159						
2+040,000	4,117						
2+050,000	4,076						
2+060,000	4,034						
2+070,000	3,993						
2+080,000	3,952						
2+090,000	3,910						
2+100,000	3,869						
2+110,000	3,828						
2+120,000	3,786						
2+130,000	3,745						
2+140,000	3,703						
2+150,000	3,662						
2+160,000	3,621						
2+170,000	3,579						
2+180,000	3,538						
2+190,000	3,497						
2+200,000	3,455						
2+210,000	3,414						
2+220,000	3,372						
2+230,000	3,331						
2+240,000	3,290						
2+250,000	3,248						
2+260,000	3,207						
2+270,000	3,166						
2+280,000	3,124						



PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
2+290,000	3,083						
2+300,000	3,041						
2+310,000	3,000						
2+320,000	2,959						
2+330,000	2,917						
2+340,000	2,876						
2+350,000	2,834						
2+360,000	2,793						
2+370,000	2,752						
2+380,000	2,710						
2+390,000	2,669						
2+400,000	2,628						
2+410,000	2,586						
2+420,000	2,545						
2+430,000	2,503						
2+440,000	2,462						
2+450,000	2,421						
2+460,000	2,379						
2+470,000	2,338						
2+480,000	2,297						
2+490,000	2,255						
2+500,000	2,214						
2+510,000	2,172						
2+520,000	2,131						
2+530,000	2,090						
2+540,000	2,048						
2+550,000	2,007						
2+560,000	1,966						
2+570,000	1,924						
TE 2+580,000	1,883	-0,4138					
2+580,000	1,883						
2+590,000	1,790						

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
V 2+600,000	1,594	-2,4706	1,800	40,000	-972,388	-0,206	-4,1136
2+600,000	1,594						
2+610,000	1,296						
TS 2+620,000	0,895	-4,5274					
2+620,000	0,895						
2+630,000	0,442						
2+640,000	-0,011						
2+650,000	-0,464						
2+660,000	-0,916						
2+670,000	-1,369						
TE 2+671,725	-1,447	-4,5274					
2+680,000	-1,744						
V 2+681,725	-1,787	-2,2637	-1,900	20,000	441,757	0,113	4,5274
2+690,000	-1,897						
TS 2+691,725	-1,900	0,0000					
TE 2+691,854	-1,900	0,0000					
2+700,000	-1,820						
V 2+701,354	-1,791	2,2887	-1,900	19,000	415,076	0,109	4,5775
2+710,000	-1,503						
TS 2+710,854	-1,465	4,5775					
2+720,000	-1,046						
2+730,000	-0,589						
2+740,000	-0,131						
2+750,000	0,327						
TE 2+760,000	0,785	4,5775					
2+760,000	0,785						
2+770,000	1,183						
V 2+780,000	1,464	2,2224	1,700	40,000	-849,241	-0,236	-4,7101
2+780,000	1,464						
2+790,000	1,628						
TS 2+800,000	1,673	-0,1326					
2+800,000	1,673						



PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
V	2+600,000	1,594	-2,4706	1,800	40,000	-972,388	-0,206	-4,1136
	2+600,000	1,594						
	2+610,000	1,296						
TS	2+620,000	0,895	-4,5274					
	2+620,000	0,895						
	2+630,000	0,442						
	2+640,000	-0,011						
	2+650,000	-0,464						
	2+660,000	-0,916						
	2+670,000	-1,369						
TE	2+671,725	-1,447	-4,5274					
	2+680,000	-1,744						
V	2+681,725	-1,787	-2,2637	-1,900	20,000	441,757	0,113	4,5274
	2+690,000	-1,897						
TS	2+691,725	-1,900	0,0000					
TE	2+691,854	-1,900	0,0000					
	2+700,000	-1,820						
V	2+701,354	-1,791	2,2887	-1,900	19,000	415,076	0,109	4,5775
	2+710,000	-1,503						
TS	2+710,854	-1,465	4,5775					
	2+720,000	-1,046						
	2+730,000	-0,589						
	2+740,000	-0,131						
	2+750,000	0,327						
TE	2+760,000	0,785	4,5775					
	2+760,000	0,785						
	2+770,000	1,183						
V	2+780,000	1,464	2,2224	1,700	40,000	-849,241	-0,236	-4,7101
	2+780,000	1,464						
	2+790,000	1,628						
TS	2+800,000	1,673	-0,1326					
	2+810,000	1,660						

PUNTOS DE LA RASANTE CADA 10 METROS

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	2+820,000	1,647						
	2+830,000	1,634						
	2+840,000	1,620						
	2+850,000	1,607						
	2+860,000	1,594						
	2+870,000	1,581						
	2+880,000	1,567						
	2+890,000	1,554						
	2+900,000	1,541						
	2+910,000	1,528						
	2+920,000	1,514						
	2+930,000	1,501						
	2+940,000	1,488						
	2+950,000	1,475						
	2+960,000	1,461						
	2+970,000	1,448						
	2+980,000	1,435						
	2+990,000	1,422						
	3+000,000	1,408						
	3+010,000	1,395						
	3+020,000	1,382						
	3+030,000	1,368						
	3+040,000	1,355						
	3+050,000	1,342						
	3+060,000	1,329						
	3+070,000	1,315						
	3+080,000	1,302						
	3+090,000	1,289						
	3+100,000	1,276						
	3+110,000	1,262						
	3+120,000	1,249						
	3+130,000	1,236						



PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
3+140,000	1,223						
3+150,000	1,209						
3+160,000	1,196						
3+170,000	1,183						
3+180,000	1,170						
3+190,000	1,156						
3+200,000	1,143						
3+210,000	1,130						
3+220,000	1,116						
3+230,000	1,103						
3+240,000	1,090						
3+250,000	1,077						
3+260,000	1,063						
3+270,000	1,050						
3+280,000	1,037						
3+290,000	1,024						
3+300,000	1,010						
TE 3+302,848	1,007	-0,1326					
V 3+307,848	1,060	2,2537	1,000	10,000	209,529	0,060	4,7726
3+310,000	1,119						
TS 3+312,848	1,232	4,6400					
3+320,000	1,564						
3+330,000	2,028						
3+340,000	2,492						
3+350,000	2,956						
3+360,000	3,420						
3+370,000	3,884						
3+380,000	4,348						
3+390,000	4,812						
3+400,000	5,276						
3+410,000	5,740						
3+420,000	6,204						

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
3+430,000	6,668						
TE 3+431,848	6,754	4,6400					
V 3+432,848	6,788	2,3200	6,800	2,000	-43,103	-0,012	-4,6400
TS 3+433,848	6,800	0,0000					
3+440,000	6,800						
3+450,000	6,800						
3+460,000	6,800						
3+470,000	6,800						
3+480,000	6,800						
3+490,000	6,800						
3+500,000	6,800						
TE 3+504,288	6,800	0,0000					
V 3+505,288	6,790	-2,0600	6,800	2,000	-48,544	-0,010	-4,1200
TS 3+506,288	6,759	-4,1200					
3+510,000	6,606						
3+520,000	6,194						
3+530,000	5,782						
3+540,000	5,370						
3+550,000	4,958						
3+560,000	4,546						
3+570,000	4,134						
3+580,000	3,722						
3+590,000	3,310						
3+600,000	2,898						
3+610,000	2,486						
3+620,000	2,074						
TE 3+625,288	1,856	-4,1200					
3+630,000	1,708						
V 3+630,288	1,702	-2,0385	1,650	10,000	240,210	0,052	4,1630
TS 3+635,288	1,652	0,0430					
3+640,000	1,654						
3+650,000	1,658						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
3+660,000	1,663						
3+670,000	1,667						
3+680,000	1,671						
3+690,000	1,676						
3+700,000	1,680						
3+710,000	1,684						
3+720,000	1,689						
3+730,000	1,693						
3+740,000	1,697						
3+750,000	1,702						
3+760,000	1,706						
3+770,000	1,710						
3+780,000	1,714						
3+790,000	1,719						
3+800,000	1,723						
3+810,000	1,727						
3+820,000	1,732						
3+830,000	1,736						
3+840,000	1,740						
3+850,000	1,745						
3+860,000	1,749						
3+870,000	1,753						
3+880,000	1,757						
3+890,000	1,762						
3+900,000	1,766						
3+910,000	1,770						
3+920,000	1,775						



3.3. ALTERNATIVA 3.

DATOS DE ENTRADA

Ver.	Estación	Cota	Pente.(%)	Long.(L)	Radio(kv)	Flecha
1	0+000,000	8,364				
2	0+250,000	9,900	0,6144	50,000	-10.513,503	-0,030
3	0+666,364	10,478	0,1388	10,000	164,733	0,076
4	0+759,000	16,230	6,2092	2,000	-32,210	-0,016
5	0+799,519	16,230	0,0000	2,000	-33,317	-0,015
6	0+899,137	10,250	-6,0029	10,000	184,063	0,068
7	1+250,000	8,250	-0,5700	40,000	-891,107	-0,224
8	1+335,000	3,950	-5,0588	25,000	494,186	0,158
9	1+365,000	3,950	0,0000	25,000	707,547	0,110
10	1+440,000	6,600	3,5333	40,000	-1.092,190	-0,183
11	1+750,000	6,200	-0,1290	50,000	-10.324,158	-0,030
12	2+500,000	1,600	-0,6133	50,000	9.040,064	0,035
13	3+496,018	1,000	-0,0602	10,000	212,755	0,059
14	3+621,018	6,800	4,6400	2,000	-43,103	-0,012
15	3+693,523	6,800	0,0000	2,000	-48,544	-0,010
16	3+818,523	1,650	-4,1200	10,000	233,669	0,053
17	3+900,000	1,780	0,1596	30,000	-18.394,626	-0,006
18	4+041,367	1,775	-0,0035			



LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
1	0+000,000 8,364	0+000,000	8,364	0,6144		
2	0+250,000 9,900	0+225,000 0+275,000	9,746 9,935	0,6144 0,1388	50,000 -0,030	-10.513,503 -0,4756
3	0+666,364 10,478	0+661,364 0+671,364	10,471 10,788	0,1388 6,2092	10,000 0,076	164,733 6,0704
4	0+759,000 16,230	0+758,000 0+760,000	16,168 16,230	6,2092 0,0000	2,000 -0,016	-32,210 -6,2092
5	0+799,519 16,230	0+798,519 0+800,519	16,230 16,170	0,0000 -6,0029	2,000 -0,015	-33,317 -6,0029
6	0+899,137 10,250	0+894,137 0+904,137	10,550 10,221	-6,0029 -0,5700	10,000 0,068	184,063 5,4329
7	1+250,000 8,250	1+230,000 1+270,000	8,364 7,238	-0,5700 -5,0588	40,000 -0,224	-891,107 -4,4888
8	1+335,000 3,950	1+322,500 1+347,500	4,582 3,950	-5,0588 0,0000	25,000 0,158	494,186 5,0588
9	1+365,000 3,950	1+352,500 1+377,500	3,950 4,392	0,0000 3,5333	25,000 0,110	707,547 3,5333
10	1+440,000 6,600	1+420,000 1+460,000	5,893 6,574	3,5333 -0,1290	40,000 -0,183	-1.092,190 -3,6624
11	1+750,000 6,200	1+725,000 1+775,000	6,232 6,047	-0,1290 -0,6133	50,000 -0,030	-10.324,158 -0,4843
12	2+500,000 1,600	2+475,000 2+525,000	1,753 1,585	-0,6133 -0,0602	50,000 0,035	9.040,064 0,5531

LISTADO DE VÉRTICES

Ver.	Esta./Cota	TE/TS	Cota TE/TS	Pente.E/S	L/Flecha	Kv/Theta(%)
13	3+496,018 1,000	3+491,018 3+501,018	1,003 1,232	-0,0602 4,6400	10,000 0,059	212,755 4,7002
14	3+621,018 6,800	3+620,018 3+622,018	6,754 6,800	4,6400 0,0000	2,000 -0,012	-43,103 -4,6400
15	3+693,523 6,800	3+692,523 3+694,523	6,800 6,759	0,0000 -4,1200	2,000 -0,010	-48,544 -4,1200
16	3+818,523 1,650	3+813,523 3+823,523	1,856 1,658	-4,1200 0,1596	10,000 0,053	233,669 4,2796
17	3+900,000 1,780	3+885,000 3+915,000	1,756 1,779	0,1596 -0,0035	30,000 -0,006	-18.394,626 -0,1631
18	4+041,367 1,775	4+041,367	1,775	-0,0035		



PUNTOS DE LA RASANTE CADA 10 METROS

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+000,000	8,364	0,6144					
0+010,000	8,425						
0+020,000	8,487						
0+030,000	8,548						
0+040,000	8,610						
0+050,000	8,671						
0+060,000	8,733						
0+070,000	8,794						
0+080,000	8,856						
0+090,000	8,917						
0+100,000	8,978						
0+110,000	9,040						
0+120,000	9,101						
0+130,000	9,163						
0+140,000	9,224						
0+150,000	9,286						
0+160,000	9,347						
0+170,000	9,408						
0+180,000	9,470						
0+190,000	9,531						
0+200,000	9,593						
0+210,000	9,654						
0+220,000	9,716						
TE 0+225,000	9,746	0,6144					
0+230,000	9,776						
0+240,000	9,828						
V 0+250,000	9,870	0,3766	9,900	50,000	-10.513,503	-0,030	-0,4756
0+250,000	9,870						
0+260,000	9,903						
0+270,000	9,927						
TS 0+275,000	9,935	0,1388					
0+280,000	9,942						

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+290,000	9,956						
0+300,000	9,969						
0+310,000	9,983						
0+320,000	9,997						
0+330,000	10,011						
0+340,000	10,025						
0+350,000	10,039						
0+360,000	10,053						
0+370,000	10,067						
0+380,000	10,080						
0+390,000	10,094						
0+400,000	10,108						
0+410,000	10,122						
0+420,000	10,136						
0+430,000	10,150						
0+440,000	10,164						
0+450,000	10,178						
0+460,000	10,192						
0+470,000	10,205						
0+480,000	10,219						
0+490,000	10,233						
0+500,000	10,247						
0+510,000	10,261						
0+520,000	10,275						
0+530,000	10,289						
0+540,000	10,303						
0+550,000	10,316						
0+560,000	10,330						
0+570,000	10,344						
0+580,000	10,358						
0+590,000	10,372						
0+600,000	10,386						



PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+610,000	10,400						
0+620,000	10,414						
0+630,000	10,428						
0+640,000	10,441						
0+650,000	10,455						
0+660,000	10,469						
TE 0+661,364	10,471	0,1388					
V 0+666,364	10,554	3,1740	10,478	10,000	164,733	0,076	6,0704
0+670,000	10,709						
TS 0+671,364	10,788	6,2092					
0+680,000	11,325						
0+690,000	11,946						
0+700,000	12,567						
0+710,000	13,187						
0+720,000	13,808						
0+730,000	14,429						
0+740,000	15,050						
0+750,000	15,671						
TE 0+758,000	16,168	6,2092					
V 0+759,000	16,214	3,1046	16,230	2,000	-32,210	-0,016	-6,2092
TS 0+760,000	16,230	0,0000					
0+760,000	16,230						
0+770,000	16,230						
0+780,000	16,230						
0+790,000	16,230						
TE 0+798,519	16,230	0,0000					
V 0+799,519	16,215	-3,0015	16,230	2,000	-33,317	-0,015	-6,0029
0+800,000	16,197						
TS 0+800,519	16,170	-6,0029					
0+810,000	15,601						
0+820,000	15,001						
0+830,000	14,400						

PUNTOS DE LA RASANTE CADA 10 METROS

Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
0+840,000	13,800						
0+850,000	13,200						
0+860,000	12,599						
0+870,000	11,999						
0+880,000	11,399						
0+890,000	10,798						
TE 0+894,137	10,550	-6,0029					
V 0+899,137	10,318	-3,2865	10,250	10,000	184,063	0,068	5,4329
0+900,000	10,292						
TS 0+904,137	10,221	-0,5700					
0+910,000	10,188						
0+920,000	10,131						
0+930,000	10,074						
0+940,000	10,017						
0+950,000	9,960						
0+960,000	9,903						
0+970,000	9,846						
0+980,000	9,789						
0+990,000	9,732						
1+000,000	9,675						
1+010,000	9,618						
1+020,000	9,561						
1+030,000	9,504						
1+040,000	9,447						
1+050,000	9,390						
1+060,000	9,333						
1+070,000	9,276						
1+080,000	9,219						
1+090,000	9,162						
1+100,000	9,105						
1+110,000	9,048						
1+120,000	8,991						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+160,000	4,556						
1+170,000	4,498						
1+180,000	4,440						
1+190,000	4,382						
1+200,000	4,324						
1+210,000	4,266						
1+220,000	4,208						
1+230,000	4,151						
1+240,000	4,093						
1+250,000	4,035						
1+260,000	3,977						
1+270,000	3,919						
1+280,000	3,861						
1+290,000	3,803						
1+300,000	3,745						
1+310,000	3,688						
1+320,000	3,630						
1+330,000	3,572						
1+340,000	3,514						
1+350,000	3,456						
1+360,000	3,398						
1+370,000	3,340						
1+380,000	3,282						
1+390,000	3,225						
1+400,000	3,167						
1+410,000	3,109						
1+420,000	3,051						
1+430,000	2,993						
1+440,000	2,935						
1+450,000	2,877						
1+460,000	2,819						
1+470,000	2,762						

PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
1+480,000	6,548						
1+490,000	6,535						
1+500,000	6,523						
1+510,000	6,510						
1+520,000	6,497						
1+530,000	6,484						
1+540,000	6,471						
1+550,000	6,458						
1+560,000	6,445						
1+570,000	6,432						
1+580,000	6,419						
1+590,000	6,406						
1+600,000	6,394						
1+610,000	6,381						
1+620,000	6,368						
1+630,000	6,355						
1+640,000	6,342						
1+650,000	6,329						
1+660,000	6,316						
1+670,000	6,303						
1+680,000	6,290						
1+690,000	6,277						
1+700,000	6,265						
1+710,000	6,252						
1+720,000	6,239						
TE 1+725,000	6,232	-0,1290					
1+730,000	6,225						
1+740,000	6,202						
V 1+750,000	6,170	-0,3712	6,200	50,000	-10.324,158	-0,030	-0,4843
1+750,000	6,170						
1+760,000	6,128						
1+770,000	6,076						



PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
TS	1+775,000	6,047	-0,6133					
	1+780,000	6,016						
	1+790,000	5,955						
	1+800,000	5,893						
	1+810,000	5,832						
	1+820,000	5,771						
	1+830,000	5,709						
	1+840,000	5,648						
	1+850,000	5,587						
	1+860,000	5,525						
	1+870,000	5,464						
	1+880,000	5,403						
	1+890,000	5,341						
	1+900,000	5,280						
	1+910,000	5,219						
	1+920,000	5,157						
	1+930,000	5,096						
	1+940,000	5,035						
	1+950,000	4,973						
	1+960,000	4,912						
	1+970,000	4,851						
	1+980,000	4,789						
	1+990,000	4,728						
	2+000,000	4,667						
	2+010,000	4,605						
	2+020,000	4,544						
	2+030,000	4,483						
	2+040,000	4,421						
	2+050,000	4,360						
	2+060,000	4,299						
	2+070,000	4,237						
	2+080,000	4,176						

PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
	2+090,000	4,115						
	2+100,000	4,053						
	2+110,000	3,992						
	2+120,000	3,931						
	2+130,000	3,869						
	2+140,000	3,808						
	2+150,000	3,747						
	2+160,000	3,685						
	2+170,000	3,624						
	2+180,000	3,563						
	2+190,000	3,501						
	2+200,000	3,440						
	2+210,000	3,379						
	2+220,000	3,317						
	2+230,000	3,256						
	2+240,000	3,195						
	2+250,000	3,133						
	2+260,000	3,072						
	2+270,000	3,011						
	2+280,000	2,949						
	2+290,000	2,888						
	2+300,000	2,827						
	2+310,000	2,765						
	2+320,000	2,704						
	2+330,000	2,643						
	2+340,000	2,581						
	2+350,000	2,520						
	2+360,000	2,459						
	2+370,000	2,397						
	2+380,000	2,336						
	2+390,000	2,275						
	2+400,000	2,213						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
2+410,000	2,152						
2+420,000	2,091						
2+430,000	2,029						
2+440,000	1,968						
2+450,000	1,907						
2+460,000	1,845						
2+470,000	1,784						
TE 2+475,000	1,753	-0,6133					
2+480,000	1,724						
2+490,000	1,674						
V 2+500,000	1,635	-0,3368	1,600	50,000	9.040,064	0,035	0,5531
2+500,000	1,635						
2+510,000	1,606						
2+520,000	1,589						
TS 2+525,000	1,585	-0,0602					
2+530,000	1,582						
2+540,000	1,576						
2+550,000	1,570						
2+560,000	1,564						
2+570,000	1,558						
2+580,000	1,552						
2+590,000	1,546						
2+600,000	1,540						
2+610,000	1,534						
2+620,000	1,528						
2+630,000	1,522						
2+640,000	1,516						
2+650,000	1,510						
2+660,000	1,504						
2+670,000	1,498						
2+680,000	1,492						
2+690,000	1,486						

PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
2+700,000	1,480						
2+710,000	1,473						
2+720,000	1,467						
2+730,000	1,461						
2+740,000	1,455						
2+750,000	1,449						
2+760,000	1,443						
2+770,000	1,437						
2+780,000	1,431						
2+790,000	1,425						
2+800,000	1,419						
2+810,000	1,413						
2+820,000	1,407						
2+830,000	1,401						
2+840,000	1,395						
2+850,000	1,389						
2+860,000	1,383						
2+870,000	1,377						
2+880,000	1,371						
2+890,000	1,365						
2+900,000	1,359						
2+910,000	1,353						
2+920,000	1,347						
2+930,000	1,341						
2+940,000	1,335						
2+950,000	1,329						
2+960,000	1,323						
2+970,000	1,317						
2+980,000	1,311						
2+990,000	1,305						
3+000,000	1,299						
3+010,000	1,293						



PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
3+020,000	1,287						
3+030,000	1,281						
3+040,000	1,275						
3+050,000	1,269						
3+060,000	1,263						
3+070,000	1,257						
3+080,000	1,251						
3+090,000	1,245						
3+100,000	1,239						
3+110,000	1,233						
3+120,000	1,227						
3+130,000	1,220						
3+140,000	1,214						
3+150,000	1,208						
3+160,000	1,202						
3+170,000	1,196						
3+180,000	1,190						
3+190,000	1,184						
3+200,000	1,178						
3+210,000	1,172						
3+220,000	1,166						
3+230,000	1,160						
3+240,000	1,154						
3+250,000	1,148						
3+260,000	1,142						
3+270,000	1,136						
3+280,000	1,130						
3+290,000	1,124						
3+300,000	1,118						
3+310,000	1,112						
3+320,000	1,106						
3+330,000	1,100						

PUNTOS DE LA RASANTE CADA 10 METROS

<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
3+340,000	1,094						
3+350,000	1,088						
3+360,000	1,082						
3+370,000	1,076						
3+380,000	1,070						
3+390,000	1,064						
3+400,000	1,058						
3+410,000	1,052						
3+420,000	1,046						
3+430,000	1,040						
3+440,000	1,034						
3+450,000	1,028						
3+460,000	1,022						
3+470,000	1,016						
3+480,000	1,010						
3+490,000	1,004						
TE 3+491,018	1,003	-0,0602					
V 3+496,018	1,059	2,2899	1,000	10,000	212,755	0,059	4,7002
3+500,000	1,187						
TS 3+501,018	1,232	4,6400					
3+510,000	1,649						
3+520,000	2,113						
3+530,000	2,577						
3+540,000	3,041						
3+550,000	3,505						
3+560,000	3,969						
3+570,000	4,433						
3+580,000	4,897						
3+590,000	5,361						
3+600,000	5,825						
3+610,000	6,289						
3+620,000	6,753						



PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
TE	3+620,018	6,754	4,6400					
V	3+621,018	6,788	2,3200	6,800	2,000	-43,103	-0,012	-4,6400
TS	3+622,018	6,800	0,0000					
	3+630,000	6,800						
	3+640,000	6,800						
	3+650,000	6,800						
	3+660,000	6,800						
	3+670,000	6,800						
	3+680,000	6,800						
	3+690,000	6,800						
TE	3+692,523	6,800	0,0000					
V	3+693,523	6,790	-2,0600	6,800	2,000	-48,544	-0,010	-4,1200
TS	3+694,523	6,759	-4,1200					
	3+700,000	6,533						
	3+710,000	6,121						
	3+720,000	5,709						
	3+730,000	5,297						
	3+740,000	4,885						
	3+750,000	4,473						
	3+760,000	4,061						
	3+770,000	3,649						
	3+780,000	3,237						
	3+790,000	2,825						
	3+800,000	2,413						
	3+810,000	2,001						
TE	3+813,523	1,856	-4,1200					
V	3+818,523	1,703	-1,9802	1,650	10,000	233,669	0,053	4,2796
	3+820,000	1,679						
TS	3+823,523	1,658	0,1596					
	3+830,000	1,668						
	3+840,000	1,684						
	3+850,000	1,700						

PUNTOS DE LA RASANTE CADA 10 METROS

	<u>Estación</u>	<u>Cota</u>	<u>Pente.(%)</u>	<u>Cota Ver.</u>	<u>Long.(L)</u>	<u>Radio(kv)</u>	<u>Flecha</u>	<u>Theta(%)</u>
	3+860,000	1,716						
	3+870,000	1,732						
	3+880,000	1,748						
TE	3+885,000	1,756	0,1596					
	3+890,000	1,763						
V	3+900,000	1,774	0,0780	1,780	30,000	-18.394,626	-0,006	-0,1631
	3+900,000	1,774						
	3+910,000	1,779						
TS	3+915,000	1,779	-0,0035					
	3+920,000	1,779						
	3+930,000	1,779						
	3+940,000	1,779						
	3+950,000	1,778						
	3+960,000	1,778						
	3+970,000	1,778						
	3+980,000	1,777						
	3+990,000	1,777						
	4+000,000	1,776						
	4+010,000	1,776						
	4+020,000	1,776						
	4+030,000	1,775						
	4+040,000	1,775						

4. DESCRIPCIÓN DE LA ALTERNATIVA SOLUCIÓN.

La solución finalmente adoptada, siendo aquella de las alternativas propuestas que ha resultado ser la de mayor puntuación tras el estudio de alternativas, ha sido la alternativa 1. Para facilitar la comprensión del trazado se han caracterizado tres tramos:

- o El primero discurre entre el inicio de la plataforma no motorizada, en las proximidades del casco urbano de Massalfassar, y la estación de ferrocarril. En él se acondiciona el paseo existente ampliándolo e integrando en el lavadero existente.
- o El segundo tramo, en el cual se materializa el paso de la plataforma bajo la línea de ferrocarril, engloba la remodelación de accesos propuesta y el tramo de plataforma entre la estación de ferrocarril y la segunda glorieta diseñada para la remodelación.
- o El tercer, y último, tramo se ubica entre una vez sobrepasada la segunda glorieta diseñada para la remodelación de accesos y la playa, incluyéndose en el tramo un ramal de acceso con el centro comercial "El Manar".

4.1. DESCRIPCIÓN EN PLANTA.

El primer tramo de la plataforma no motorizada, con una longitud en planta de 315 metros, es de carácter urbano. La plataforma, en este tramo, se disgrega por una parte en un carril bici que discurre paralelo al viario que da acceso a la estación de Massalfassar y, por la otra, en un paseo peatonal que se integra en la zona ajardinada.

El segundo tramo, con una longitud aproximada de 662 metros, se compone de una concatenación de alineaciones rectas y curvas que permiten a la plataforma no motorizada efectuar el paso bajo las vías férreas y los ramales de acceso a la segunda glorieta de remodelación de accesos lo más perpendicularmente posible. Destaca, por su vistosidad, el lazo introducido para conseguir la conexión de la plataforma no motorizada con el paso inferior. La introducción de tal elemento geométrico nos permite modificar la orientación de la plataforma hasta conseguir su conexión con el paso inferior (la plataforma pasa de orientación Norte a orientación Este).

En este segundo tramo, el aprovechamiento del paso inferior existente para su reconversión en un paso inferior exclusivo para uso peatonal y ciclista, pasa por la necesidad de construir un nuevo paso inferior para el tráfico motorizado y una remodelación de los accesos al mismo desde el viario existente (consistente en vías de servicio y caminos agrícolas). La remodelación consiste en la implantación de dos nuevas glorietas, de radio interior 13 metros, que conectan el viario y el paso inferior de nueva construcción de tal modo que suprimen la intersección en T existente.

El tercer tramo, con una longitud de 1803 metros y una vez sobrepasada la segunda glorieta de la remodelación de accesos, discurre paralelo a la vía de servicio de la CV-32 hasta alcanzar las proximidades del Polígono Industrial del Mediterráneo. En esta zona, la plataforma se reorienta de tal modo que intersecta el ramal de la glorieta de la CV-32 que regula los accesos al polígono y centro comercial mediante un paso inferior. Continúa aprovechando los terrenos de zona verde del polígono para volver a intersectar otro ramal de acceso pero, esta vez, al de la glorieta que regula las entradas-salidas a la CV-32 desde la autovía V-21 (al igual que el anterior efectuado mediante un paso inferior).

En este mismo tramo se localiza el ramal de acceso al centro comercial "El Manar" y el acceso hasta la playa del término efectuados, ambos, mediante sendas pasarelas metálicas de luces 65 (sobre la CV-32) y 75 metros (sobre la V-21) respectivamente.

4.2. DESCRIPCIÓN EN ALZADO.

El alzado de la alternativa solución viene determinado por los elementos que a continuación se citan:

- o Aprovechamiento del paso inferior existente para uso peatonal y ciclista.
- o Paso inferior bajo la calle Mitgera en el Polígono Industrial del Mediterráneo.
- o Paso inferior bajo el acceso Este del Polígono Industrial del Mediterráneo.
- o Paso superior sobre la autovía V-21.

Para el diseño del trazado en alzado, en lo que a los pasos inferiores de nueva construcción se refiere, se ha tenido en cuenta: las características geométricas (anchura, altura y espesores) y se ha respetado una altura que oscila en torno a los 0'50 metros respecto a la cota del terreno actual. Las longitudes de las rampas de acceso a los mismos se han diseñado para respetar el criterio de no sobrepasar las pendientes del 6 %, a excepción del paso bajo la calle Mitgera, que presente una rampa con un 7 % de pendiente debido a que su longitud queda condicionada por la presencia de la Real Acequia de Moncada.

En cuanto a lo que se refiere a los pasos superiores, debido a que la cota viene determinada por la necesidad de conseguir un gálibo sobre las vías de 5'50 metros, se ha buscado la colocación de sendas rampas de acceso que cumplieran la premisa de pendiente no superiores al 6 %.

La longitud mínima establecida para los acuerdos verticales ha sido de 10 metros (hablamos de parámetros superiores en todo momento a 150), a excepción de los acuerdos para las alineaciones de rampa y paso superior, en cuyo caso se han establecido longitudes para los acuerdos de 2 metros.

4.3. SECCIONES TIPO.

Las secciones transversales que en el trazado de la plataforma no motorizada se han considerado pueden agruparse en tres tipologías que a continuación se citan:

- o **Sección en superficie.** La plataforma consta de una acera de 3 metros de ancho a la que se adhiere un carril bici, también de ancho 3 metros, y bermas de ancho a ambos lados de 0'25 metros.
- o **Sección en paso inferior:** Sección con un ancho de 6 metros, 3 m de acera y 3 m de carril bici, con gálibo que va desde los 2'70 m en el paso inferior existente hasta los 3'00 m en los pasos inferiores a construir.
- o **Sección en pasarela:** Sección de 6 m de ancho, 3 m de acera y 3 m de carril bici.