

INFORME 3.1

ANEXO 4 CUADROS DE DISEÑO GEOMÉTRICO

1. PREDISEÑO DEFINITIVO 1

1.1. PREDISEÑO DEFINITIVO 1 – EJE 1

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E1								0	Inicio
		454,182					428,196		
					25,986			428,196	PC
V2-E1	199,0547		3500			51,972			
					25,986			480,167	FC
		160,19					93,858		
					40,347			574,025	PC
V3-E1	202,8535		1800			80,68			
					40,347			654,705	FC
		79,31					0,000		
					38,964			654,705	PC
V4-E1	198,0921		2600			77,922			
					38,964			732,626	FC
		597,846					517,905		
					40,977			1250,532	PC
V5-E1	202,3713		2200			81,945			
					40,977			1332,476	FC
		69,769					0,000		
					28,792			1332,476	PC
V6-E1	197,5564		1500			57,576			
					28,792			1390,053	FC
		1029,149					953,011		
					47,347			2343,064	PC
V7-E1	173,0101		220			93,271			
					47,347			2436,335	FC
		77,744					0,000		
					30,397			2436,335	PC
V8-E1	228,1987		135			59,797			
					30,397			2496,132	FC
		216,952					154,506		
					32,049			2650,638	PC
V9-E1	196,2914		1100			64,079			
					32,049			2714,718	FC
		987,2					915,124		
					40,027			3629,841	PC
V10-E1	205,9914		850			79,995			
					40,027			3709,837	FC
		351,157					210,029		
					101,101			3919,866	PC
V11-E1	197,1399		4500			202,167			
					101,101			4122,033	FC
		612,989					465,682		
					46,206			4587,716	PC
V12-E1	197,647		2500			92,401			
					46,206			4680,116	FC
		437,885					341,162		
					50,517			5021,278	PC
V13-E1	197,8562		3000			101,025			
					50,517			5122,303	FC
		177,136					101,588		
					25,03			5223,891	PC
V14-E1	202,1244		1500			50,056			
					25,03			5273,947	FC
		223,739					163,030		
					35,679			5436,977	PC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V15-E1	197,7288		2000			71,351			
					35,679			5508,327	FC
		122,279					49,506		
					37,094			5557,833	PC
V16-E1	209,4287		500			74,053			
					37,094			5631,886	FC
		62,432					0,000		
					25,338			5631,886	PC
V17-E1	195,9687		800			50,659			
					25,338			5682,545	FC
		203,958					75,047		
					103,572			5757,592	PC
V18-E1	190,9208		1450			206,793			
					103,572			5964,386	FC
		169,874					0,000		
					66,302			5964,386	PC
V19-E1	183,2143		500			131,834			
					66,302			6096,22	FC
		99,176					0,000		
					32,875			6096,22	PC
V20-E1	202,0927		2000			65,743			
					32,875			6161,964	FC
		62,971					0,000		
					30,096			6161,964	PC
V21-E1	196,1692		1000			60,174			
					30,096			6222,137	FC
		56,8					0,000		
					26,704			6222,137	PC
V22-E1	201,3599		2500			53,405			
					26,704			6275,543	FC
		71,664					0,000		
					44,96			6275,543	PC
V23-E1	196,1848		1500			89,893			
					44,96			6365,436	FC
		71,017					0,000		
					26,057			6365,436	PC
V24-E1	202,2116		1500			52,109			
					26,057			6417,545	FC
		109,437					57,523		
					25,856			6475,068	PC
V25-E1	197,8055		1500			51,708			
					25,856			6526,776	FC
		95,125					44,049		
					25,219			6570,825	PC
V26-E1	203,7765		850			50,423			
					25,219			6621,248	FC
		51,049					0,000		
					25,83			6621,248	PC
V27-E1	196,8685		1050			51,649			
					25,83			6672,897	FC
		56,623					4,099		
					26,694			6676,997	PC
V28-E1	208,4843		400			53,308			
					26,694			6730,305	FC
		110,262					40,132		
					43,436			6770,438	PC
V29-E1	216,6632		330			86,376			
					43,436			6856,814	FC
		165,987					79,268		
					43,282			6936,082	PC
V30-E1	224,4088		223			85,501			

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					43,282			7021,583	FC
		90,303					0,000		
					47,02			7021,583	PC
V31-E1	170,1682		197			92,314			
					47,02			7113,897	FC
		255,54					183,412		
					25,107			7297,309	PC
V32-E1	195,903		780			50,197			
					25,107			7347,506	FC
		96,253					45,303		
					25,842			7392,809	PC
V33-E1	199,2688		4500			51,684			
					25,842			7444,493	FC
		51,103					0,000		
					25,261			7444,493	PC
V34-E1	200,1191		27000			50,52	2,000		
					25,261			7495,016	FC
		147,188					96,118		
					25,809			7591,133	PC
V35-E1	197,653		1400			51,613			
					25,809			7642,746	FC
		109,144					41,539		
					41,796			7684,285	PC
V36-E1	183,4637		320			83,121			
					41,796			7767,406	FC
		126,731					37,917		
					47,019			7805,323	PC
V37-E1	192,5253		800			93,93			
					47,019			7899,252	FC
		112,204					40,106		
					25,079			7939,358	PC
V38-E1	206,2561		510			50,118			
					25,079			7989,476	FC
		183,883					144,902		
					13,902			8134,378	PC
V39-E1	191,9649		220			27,767			
					13,902			8162,145	FC
		27,804					0,000		
					13,902			8162,145	PC
V40-E1	208,0351		220			27,767			
					13,902			8189,912	FC
		104,911					77,106		
					13,902			8267,019	PC
V41-E1	208,0351		220			27,767			
					13,902			8294,786	FC
		27,804					0,000		
					13,902			8294,786	PC
V42-E1	191,9649		220			27,767			
					13,902			8322,553	FC
		62,587					23,370		
					25,315			8345,924	PC
V43-E1	207,3173		440			50,574			
					25,315			8396,497	FC
		123,855					29,791		
					68,749			8426,289	PC
V44-E1	244,2042		190			131,928			
					68,749			8558,217	FC
		139,385					34,359		
					36,278			8592,576	PC
V45-E1	171,6109		160			71,35			
					36,278			8663,925	FC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
		91,501					27,591		
					27,632			8691,516	PC
V46-E1	189,9688		350			55,149			
					27,632			8746,666	FC
		138,879					53,199		
V47-E1	179,0736		350			115,049			
					58,048			8914,913	FC
		179,938					96,538		
					25,352			9011,452	PC
V48-E1	220,6424		155			50,259			
					25,352			9061,71	FC
		97,575					26,089		
V49-E1	185,3794		400			91,864			
					46,135			9087,799	PC
		161,772					67,321		
V50-E1	224,3072		250			95,454			
					48,315			9246,984	PC
		257,892					148,649		
					60,928			9342,438	FC
V51-E1	178,0554		350			120,647			
					60,928			9491,087	PC
		233,224					145,978		
					26,318			9611,734	FC
V52-E1	206,088		550			52,596			
					26,318			9757,711	PC
		429					363,361		
V53-E1	178,4409		230			77,889			
					39,321			10173,669	PC
		109,479					20,855		
					39,321			10251,558	FC
V54-E1	238,0588		160			95,652			
					49,303			10272,413	PC
		475,493					411,944		
					14,246			10368,065	FC
V55-E1	193,9582		300			28,471			
					14,246			10780,009	PC
		28,493					0,000		
					14,246			10808,48	FC
V56-E1	206,0418		300			28,471			
					14,246			10808,48	PC
		39,504					11,060		
					14,198			10836,952	FC
V57-E1	206,0213		300			28,375			
					14,198			10848,011	PC
		15,854					1,656		
V58-E1								10876,386	FC
								1,656	
								10878,04	Final

1.2. PREDISEÑO DEFINITIVO 1 – EJE 2

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E2								0	Inicio
		2307,487					2268,835		
					38,652			2268,835	PC
V2-E2	201,406		3500			77,301			
					38,652			2346,136	FC
		77,947					0,000		
					39,295			2346,136	PC
V3-E2	175,2988		200			77,601			
					39,295			2423,737	FC
		95,09					0,000		
					55,795			2423,737	PC
V4-E2	225,0435		280			110,147			
					55,795			2533,884	FC
		119,767					0,000		
					63,972			2533,884	PC
V5-E2	195,7147		1900			127,895			
					63,972			2661,779	FC
		1111,814					1017,343		
					30,499			3679,122	PC
V6-E2	193,5334		600			60,946			
					30,499			3740,068	FC
		64,068					0,000		
					33,569			3740,068	PC
V7-E2	207,7615		550			67,055			
					33,569			3807,123	FC
		211,383					147,452		
					30,361			3954,575	PC
V8-E2	201,2885		3000			60,721			
					30,361			4015,296	FC
		746,107					667,265		
					48,48			4682,562	PC
V9-E2	200,6173		10000	0		96,96	0,000		
					48,48			4779,521	FC
		357,112					263,133		
					45,499			5042,654	PC
V10-E2	202,896		2000			90,982			
					45,499			5133,636	FC
		166,006					65,574		
					54,933			5199,209	PC
V11-E2	196,5037		2000			109,839			
					54,933			5309,048	FC
		178,796					83,859		
					40,003			5392,908	PC
V12-E2	197,4536		2000			79,996			
					40,003			5472,904	FC
		78,391					0,000		
					38,388			5472,904	PC
V13-E2	204,8853		1000			76,738			
					38,388			5549,642	FC
		99,688					35,494		
					25,807			5585,135	PC
V14-E2	197,4728		1300			51,607			
					25,807			5636,743	FC
		51,588					0,000		
					25,781			5636,743	PC
V15-E2	201,4271		2300			51,559			
					25,781			5688,302	FC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
		211,95					81,801		
					104,368			5770,103	PC
V16-E2	190,8323		1447		208,376			5978,479	FC
		165,384			104,368		0,000	5978,479	PC
V17-E2	182,8407		450		121,292			6099,771	FC
		141,566			61,016		48,266	6148,036	PC
V18-E2	197,9449		2000		64,563			6212,6	FC
		81,945			32,285		0,000	6212,6	PC
V19-E2	202,5289		2500		99,309			6311,908	FC
		106,02			49,661		31,306	6343,214	PC
V20-E2	198,0065		1600		50,102			6393,316	FC
		130,199			25,053		79,290	6472,606	PC
V21-E2	197,8055		1500		51,708			6524,314	FC
		202,289			25,856		147,199	6671,513	PC
V22-E2	209,1293		407		58,365			6729,878	FC
		111,777			29,233		38,582	6768,46	PC
V23-E2	216,6632		334		87,423			6855,883	FC
		167,277			43,963		79,255	6935,138	PC
V24-E2	224,4092		227		87,036			7022,174	FC
		90,125			44,059		0,000	7022,174	PC
V25-E2	170,1678		193		90,44			7112,615	FC
		299,857			46,066		228,384	7340,999	PC
V26-E2	196,0564		820		50,796			7391,795	FC
		50,838			25,406		0,000	7391,795	PC
V27-E2	195,275		685		50,841			7442,635	FC
		50,474			25,432		0,000	7442,635	PC
V28-E2	203,9595		805		50,068			7492,703	FC
		118,248			25,042		80,293	7572,996	PC
V29-E2	207,4648		220		25,796			7598,793	FC
		29,9			12,913		0,000	7598,793	PC
V30-E2	190,1882		220		33,907			7632,7	FC
		82,891			16,987		41,426		

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					24,478			7674,126	PC
V31-E2	185,8914		220			48,756			
					24,478			7722,881	FC
		30,774					0,000		
					6,296			7722,881	PC
V32-E2	203,6428		220			12,589			
					6,296			7735,47	FC
		21,369					0,000		
					15,073			7735,47	PC
V33-E2	193,9314		316			30,123			
					15,073			7765,593	FC
		46,153					18,833		
					12,247			7784,426	PC
V34-E2	207,0809		220			24,47			
					12,247			7808,895	FC
		30,173					0,000		
					17,926			7808,895	PC
V35-E2	189,6483		220			35,773			
					17,926			7844,668	FC
		44,345					0,000		
					26,419			7844,668	PC
V36-E2	195,7941		799,5			52,819			
					26,419			7897,488	FC
		86,698					40,458		
					19,82			7937,946	PC
V37-E2	205,0396		500,5			39,62			
					19,82			7977,566	FC
		31,873					0,000		
					12,053			7977,566	PC
V38-E2	193,0316		220			24,081			
					12,053			8001,647	FC
		26,215					0,000		
					14,162			8001,647	PC
V39-E2	208,1849		220			28,285			
					14,162			8029,932	FC
		320,182					280,745		
					25,275			8310,677	PC
V40-E2	206,4309		500			50,508			
					25,275			8361,185	FC
		91,267					30,840		
					35,152			8392,025	PC
V41-E2	203,442		1300			70,286			
					35,152			8462,312	FC
		198,919					116,240		
					47,527			8578,552	PC
V42-E2	212,0664		500			94,769			
					47,527			8673,321	FC
		105,946					33,357		
					25,062			8706,678	PC
V43-E2	196,0618		810			50,108			
					25,062			8756,786	FC
		50,205					0,000		
					25,143			8756,786	PC
V44-E2	205,1606		620			50,258			
					25,143			8807,045	FC
		59,928					0,000		
					34,785			8807,045	PC
V45-E2	197,3951		1700			69,56			
					34,785			8876,604	FC
		59,864					0,000		
					25,079			8876,604	PC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V46-E2	200,4562		7000			50,158			
						25,079		8926,762	FC
		50,772					0,000		
						25,693		8926,762	PC
V47-E2	190,9284		360			51,299			
						25,693		8978,061	FC
		80,178					29,027		
						25,458		9007,088	PC
V48-E2	200,876		3700			50,915			
						25,458		9058,003	FC
		74,927					3,450		
						46,02		9061,452	PC
V49-E2	185,3794		399			91,634			
						46,02		9153,087	FC
		253,902					180,407		
						27,476		9333,493	PC
V50-E2	198,6007		2500			54,95			
						27,476		9388,443	FC
		183,437					114,341		
						41,62		9502,784	PC
V51-E2	206,6181		800			83,165			
						41,62		9585,949	FC
		194,049					126,634		
						25,795		9712,583	PC
V52-E2	205,4704		600			51,558			
						25,795		9764,141	FC
		175,529					119,220		
						30,514		9883,36	PC
V53-E2	202,5898		1500			61,02			
						30,514		9944,381	FC
		239,282					165,394		
						43,374		10109,775	PC
V54-E2	211,7168		470			86,502			
						43,374		10196,277	FC
		178,632					75,902		
						59,356		10272,179	PC
V55-E2	147,2582		135			111,843			
						59,356		10384,022	FC
		219,726					160,370		
V56-E2								10544,39	Final

2. PREDISEÑO DEFINITIVO 2

2.1. PREDISEÑO DEFINITIVO 2 – EJE 1

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E1								0	Inicio
		454,182					428,196		
					25,986			428,196	PC
V2-E1	199,0547		3500			51,972			
					25,986			480,167	FC
		160,190					93,858		
					40,347			574,025	PC
V3-E1	202,8535		1800			80,680			
					40,347			654,705	FC
		79,310					0,000		
					38,964			654,705	PC
V4-E1	198,0921		2600			77,922			
					38,964			732,626	FC
		597,846					517,905		
					40,977			1250,532	PC
V5-E1	202,3713		2200			81,945			
					40,977			1332,476	FC
		69,769					0,000		
					28,792			1332,476	PC
V6-E1	197,5564		1500			57,576			
					28,792			1390,053	FC
		1029,149					953,011		
					47,347			2343,064	PC
V7-E1	173,0101		220			93,271			
					47,347			2436,335	FC
		77,744					0,000		
					30,397			2436,335	PC
V8-E1	228,1987		135			59,797			
					30,397			2496,132	FC
		216,952					154,506		
					32,049			2650,638	PC
V9-E1	196,2914		1100			64,079			
					32,049			2714,718	FC
		949,001					891,618		
					25,334			3606,336	PC
V10-E1	193,9185		530			50,630			
					25,334			3656,966	FC
		50,524					0,000		
					25,19			3656,966	PC
V11-E1	206,4091		500			50,337			
		67,341					17,123		
					25,028			3724,426	PC
V12-E1	203,251		980			50,045			
					25,028			3774,47	FC
		452,757					397,958		
					29,771			4172,428	PC
V13-E1	198,917		3500			59,541			
					29,771			4231,969	FC
		435,289					357,097		
					48,421			4589,066	PC
V14-E1	198,8791		5500			96,840			
					48,421			4685,906	FC
		322,812					230,852		
					43,539			4916,758	PC
V15-E1	201,8477		3000			87,071			

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					43,539			5003,829	FC
		113,979					45,101		
					25,339			5048,93	PC
V16-E1	212,3698		260			50,519			
					25,339			5099,449	FC
		51,242					0,000		
					25,902			5099,449	PC
V17-E1	185,0779		220			51,567			
					25,902			5151,016	FC
		362,863					302,680		
					34,281			5453,695	PC
V18-E1	197,8178		2000			68,555			
					34,281			5522,25	FC
		107,240					35,865		
					37,094			5558,115	PC
V19-E1	209,4287		500			74,053			
					37,094			5632,168	FC
		62,432					0,000		
					25,338			5632,168	PC
V20-E1	195,9687		800			50,659			
					25,338			5682,827	FC
		203,958					75,047		
					103,572			5757,874	PC
V21-E1	190,9208		1450			206,793			
					103,572			5964,668	FC
		169,874					0,000		
					66,302			5964,668	PC
V22-E1	183,2143		500			131,834			
					66,302			6096,502	FC
		99,176					0,000		
					32,875			6096,502	PC
V23-E1	202,0927		2000			65,743			
					32,875			6162,246	FC
		62,971					0,000		
					30,096			6162,246	PC
V24-E1	196,1692		1000			60,174			
					30,096			6222,419	FC
		56,800					0,000		
					26,704			6222,419	PC
V25-E1	201,3599		2500			53,405			
					26,704			6275,825	FC
		71,664					0,000		
					44,96			6275,825	PC
V26-E1	196,1848		1500			89,893			
					44,96			6365,718	FC
		71,017					0,000		
					26,057			6365,718	PC
V27-E1	202,2116		1500			52,109			
					26,057			6417,827	FC
		109,437					57,523		
					25,856			6475,35	PC
V28-E1	197,8055		1500			51,708			
					25,856			6527,058	FC
		95,125					44,049		
					25,219			6571,107	PC
V29-E1	203,7765		850			50,423			
					25,219			6621,53	FC
		51,049					0,000		
					25,83			6621,53	PC
V30-E1	196,8685		1050			51,649			
					25,83			6673,179	FC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
		56,623					4,099		
					26,694			6677,279	PC
V31-E1	208,4843		400			53,308			
					26,694			6730,587	FC
		110,262					40,132		
					43,436			6770,72	PC
V32-E1	216,6632		330			86,376			
					43,436			6857,096	FC
		165,987					79,268		
					43,282			6936,364	PC
V33-E1	224,4088		223			85,501			
					43,282			7021,865	FC
		90,303					0,000		
					47,02			7021,865	PC
V34-E1	170,1682		197			92,314			
					47,02			7114,179	FC
		255,540					183,412		
					25,107			7297,591	PC
V35-E1	195,903		780			50,197			
					25,107			7347,788	FC
		96,253					45,303		
					25,842			7393,091	PC
V36-E1	199,2688		4500			51,684			
					25,842			7444,775	FC
		51,103					0,000		
					25,261			7444,775	PC
V37-E1	200,1191		27000	0		50,520	2,000		
					25,261			7495,298	FC
		147,188					96,118		
					25,809			7591,415	PC
V38-E1	197,653		1400			51,613			
					25,809			7643,028	FC
		109,144					41,539		
					41,796			7684,567	PC
V39-E1	183,4637		320			83,121			
					41,796			7767,688	FC
		126,731					37,917		
					47,019			7805,605	PC
V40-E1	192,5253		800			93,930			
					47,019			7899,534	FC
		112,204					40,106		
					25,079			7939,64	PC
V41-E1	206,2561		510			50,118			
					25,079			7989,758	FC
		406,547					356,153		
					25,315			8345,911	PC
V42-E1	207,3173		440			50,574			
					25,315			8396,485	FC
		123,855					29,791		
					68,749			8426,276	PC
V43-E1	244,2042		190			131,928			
					68,749			8558,204	FC
		139,385					34,359		
					36,278			8592,563	PC
V44-E1	171,6109		160			71,350			
					36,278			8663,913	FC
		91,501					27,591		
					27,632			8691,504	PC
V45-E1	189,9688		350			55,149			
					27,632			8746,653	FC
		138,879					53,199		

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					58,048			8799,852	PC
V46-E1	179,0736		350			115,049			
					58,048			8914,901	FC
		179,938					96,538		
					25,352			9011,439	PC
V47-E1	220,6424		155			50,259			
					25,352			9061,698	FC
		97,575					26,089		
					46,135			9087,786	PC
V48-E1	185,3794		400			91,864			
					46,135			9179,65	FC
		161,772					67,321		
					48,315			9246,972	PC
V49-E1	224,3072		250			95,454			
					48,315			9342,426	FC
		257,892					148,649		
					60,928			9491,075	PC
V50-E1	178,0554		350			120,647			
					60,928			9611,721	FC
		233,224					145,978		
					26,318			9757,699	PC
V51-E1	206,088		550			52,596			
					26,318			9810,295	FC
		429,000					363,361		
					39,321			10173,656	PC
V52-E1	178,4409		230			77,889			
					39,321			10251,546	FC
		109,479					20,855		
					49,303			10272,4	PC
V53-E1	238,0588		160			95,652			
					49,303			10368,053	FC
		475,493					411,944		
					14,246			10779,997	PC
V54-E1	193,9582		300			28,471			
					14,246			10808,468	FC
		28,493					0,000		
					14,246			10808,468	PC
V55-E1	206,0418		300			28,471			
					14,246			10836,939	FC
		39,504					11,060		
					14,198			10847,999	PC
V56-E1	206,0213		300			28,375			
					14,198			10876,373	FC
		15,854					1,656		
V57-E1								10878,03	Final

2.2. PREDISEÑO DEFINITIVO 2 – EJE 2

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E2								0	Inicio
		2307,487					2268,835		
					38,652			2268,835	PC
V2-E2	201,406		3500			77,301			
					38,652			2346,136	FC
		77,947					0,000		
					39,295			2346,136	PC
V3-E2	175,2988		200			77,601			
					39,295			2423,737	FC
		95,090					0,000		
					55,795			2423,737	PC
V4-E2	225,0435		280			110,147			
					55,795			2533,884	FC
		119,767					0,000		
					63,972			2533,884	PC
V5-E2	195,7147		1900			127,895			
					63,972			2661,779	FC
		1040,398					949,144		
					27,282			3610,924	PC
V6-E2	209,1255		380			54,47			
					27,282			3665,394	FC
		52,328					0,000		
					25,046			3665,394	PC
V7-E2	191,1562		360			50,011			
					25,046			3715,405	FC
		57,790					7,704		
					25,04			3723,109	PC
V8-E2	203,251		980,5			50,07			
					25,04			3773,179	FC
		452,765					397,958		
					29,767			4171,137	PC
V9-E2	198,917		3499,5			59,532			
					29,767			4230,669	FC
		435,281					357,097		
					48,417			4587,766	PC
V10-E2	198,8791		5499,5			96,831			
					48,417			4684,597	FC
		322,815					230,852		
					43,546			4915,449	PC
V11-E2	201,8477		3000,5			87,085			
					43,546			5002,535	FC
		116,441					47,185		
					25,711			5049,72	PC
V12-E2	184,4888		210			51,166			
					25,711			5100,886	FC
		51,982					0,000		
					26,271			5100,886	PC
V13-E2	216,6295		200			52,243			
					26,271			5153,129	FC
		244,628					120,396		
					97,961			5273,525	PC
V14-E2	195,8439		3000			195,852			
					97,961			5469,377	FC
		135,684					0,000		
					37,723			5469,377	PC
V15-E2	204,8008		1000			75,411			
					37,723			5544,788	FC
		104,219					40,689		

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					25,807			5585,477	PC
V16-E2	197,4728		1300			51,607			
					25,807			5637,084	FC
		51,588					0,000		
					25,781			5637,084	PC
V17-E2	201,4271		2300			51,559			
					25,781			5688,643	FC
		211,950					81,801		
					104,368			5770,444	PC
V18-E2	190,8323		1447			208,376			
					104,368			5978,82	FC
		165,384					0,000		
					61,016			5978,82	PC
V19-E2	182,8407		450			121,292			
					61,016			6100,112	FC
		141,566					48,266		
					32,285			6148,378	PC
V20-E2	197,9449		2000			64,563			
					32,285			6212,941	FC
		81,945					0,000		
					49,661			6212,941	PC
V21-E2	202,5289		2500			99,309			
					49,661			6312,25	FC
		106,020					31,306		
					25,053			6343,556	PC
V22-E2	198,0065		1600			50,102			
					25,053			6393,657	FC
		130,199					79,290		
					25,856			6472,947	PC
V23-E2	197,8055		1500			51,708			
					25,856			6524,655	FC
		202,289					147,199		
					29,233			6671,855	PC
V24-E2	209,1293		407			58,365			
					29,233			6730,22	FC
		111,777					38,582		
					43,963			6768,801	PC
V25-E2	216,6632		334			87,423			
					43,963			6856,224	FC
		167,277					79,255		
					44,059			6935,479	PC
V26-E2	224,4092		227			87,036			
					44,059			7022,516	FC
		90,125					0,000		
					46,066			7022,516	PC
V27-E2	170,1678		193			90,44			
					46,066			7112,956	FC
		299,857					228,384		
					25,406			7341,34	PC
V28-E2	196,0564		820			50,796			
					25,406			7392,136	FC
		50,838					0,000		
					25,432			7392,136	PC
V29-E2	195,275		685			50,841			
					25,432			7442,977	FC
		50,474					0,000		
					25,042			7442,977	PC
V30-E2	203,9595		805			50,068			
					25,042			7493,045	FC
		147,823					97,046		
					25,736			7590,09	PC

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V31-E2	197,653		1396			51,466			
					25,736			7641,556	FC
		108,802					41,609		
					41,457			7683,165	PC
V32-E2	183,3908		316			82,444			
					41,457			7765,608	FC
		126,403					38,619		
					46,326			7804,228	PC
V33-E2	192,5982		796			92,548			
					46,326			7896,776	FC
		111,487					39,885		
					25,276			7936,66	PC
V34-E2	206,2561		514			50,511			
					25,276			7987,171	FC
		373,451					322,900		
					25,275			8310,071	PC
V35-E2	206,4309		500			50,508			
					25,275			8360,579	FC
		91,267					30,840		
					35,152			8391,42	PC
V36-E2	203,442		1300			70,286			
					35,152			8461,706	FC
		198,919					116,240		
					47,527			8577,946	PC
V37-E2	212,0664		500			94,769			
					47,527			8672,715	FC
		105,946					33,357		
					25,062			8706,072	PC
V38-E2	196,0618		810			50,108			
					25,062			8756,18	FC
		50,205					0,000		
					25,143			8756,18	PC
V39-E2	205,1606		620			50,258			
					25,143			8806,439	FC
		59,928					0,000		
					34,785			8806,439	PC
V40-E2	197,3951		1700			69,56			
					34,785			8875,998	FC
		59,864					0,000		
					25,079			8875,998	PC
V41-E2	200,4562		7000			50,158			
					25,079			8926,156	FC
		50,772					0,000		
					25,693			8926,156	PC
V42-E2	190,9284		360			51,299			
					25,693			8977,455	FC
		80,178					29,027		
					25,458			9006,482	PC
V43-E2	200,876		3700			50,915			
					25,458			9057,397	FC
		74,927					3,450		
					46,02			9060,847	PC
V44-E2	185,3794		399			91,634			
					46,02			9152,481	FC
		253,902					180,407		
					27,476			9332,888	PC
V45-E2	198,6007		2500			54,95			
					27,476			9387,837	FC
		183,437					114,341		
					41,62			9502,178	PC
V46-E2	206,6181		800			83,165			

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
					41,62			9585,343	FC
		194,049					126,634		
					25,795			9711,977	PC
V47-E2	205,4704		600			51,558			
					25,795			9763,535	FC
		175,529					119,220		
					30,514			9882,755	PC
V48-E2	202,5898		1500			61,02			
					30,514			9943,775	FC
		239,282					165,394		
					43,374			10109,169	PC
V49-E2	211,7168		470			86,502			
					43,374			10195,671	FC
		178,632					75,902		
					59,356			10271,573	PC
V50-E2	147,2582		135			111,843			
					59,356			10383,416	FC
		219,726					160,370		
V51-E2								10543,78	Final

2.3. PREDISEÑO DEFINITIVO 2 – EJE 3

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E3								0,000	Inicio
		135,131					90,284		
					44,847			90,284	PC
V2-E3	205,7063		1000			89,635			
					44,847			179,918	FC
		267,661					162,445		
					60,368			342,364	PC
V3-E3	197,4382		3000			120,721			
					60,368			463,084	FC
		607,694					468,592		
					78,734			931,676	PC
V4-E3	197,9952		5000			157,454			
					78,734			1089,131	FC
		214,035					101,104		
					34,197			1190,235	PC
V5-E3	194,1985		750			68,348			
					34,197			1258,583	FC
		140,299					71,703		
					34,399			1330,285	PC
V6-E3	207,9529		550			68,708			
					34,399			1398,994	FC
		56,132					21,733		
V7-E3								1420,720	Final

2.4. PREDISEÑO DEFINITIVO 2 – EJE 4

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E4								0,000	Inicio
		238,927					201,873		
					37,053			201,873	PC
V2-E4	203,1445		1500		74,091				
					37,053			275,965	FC
		155,647					55,817		
					62,777			331,782	PC
V3-E4	199,2007		10000		125,552				
					62,777			457,334	FC
		520,067					425,342		
					31,947			882,676	PC
V4-E4	200,4068		10000		63,895				
					31,947			946,571	FC
		330,848					273,298		
					25,603			1219,869	PC
V5-E4	204,6548		700		51,183				
					25,603			1271,052	FC
		139,772					87,579		
					26,59			1358,630	PC
V6-E4	195,7696		800		53,161				
					26,59			1411,791	FC
		56,605					30,015		
V7-E4								1441,800	Final

2.5. PREDISEÑO DEFINITIVO 2 – EJE 5

CUADRO DE RECTAS Y CURVAS									
Vértice	Ángulo en el vértice	Distancia entre vértices	CURVAS				RECTAS (m)	Distancias acumuladas	OBS.
			Radios	Clotoides	Tangentes	Desarrollo circular			
V1-E5								0	Inicio
		0					0,000		
V2-E5	200		293,8			0			
		47,051					0,000		
					47,051			0	PC
V3-E5	231,7099		185			92,148			
					47,051			92,148	FC
		116,941					44,854		
					25,036			137,003	PC
V4-E5	195,5744		720			50,052			
					25,036			187,054	FC
		83,084					27,213		
					30,835			214,268	PC
V5-E5	201,3086		3000			61,667			
					30,835			275,935	FC
		533,724					476,305		
					26,585			752,239	PC
V6-E5	183,1739		200			52,861			
					26,585			805,1	FC
		251,55					199,402		
					25,562			1004,502	PC
V7-E5	197,8304		1500			51,12			
					25,562			1055,621	FC
		50,713					0,000		
					25,151			1055,621	PC
V8-E5	203,37		950			50,289			
					25,151			1105,911	FC
		106,15					14,040		
					66,959			1119,951	PC
V9-E5	194,3201		1500			133,829			
					66,959			1253,78	FC
		521,788					429,359		
					25,47			1683,139	PC
V10-E5	193,7686		520			50,899			
					25,47			1734,038	FC
		387,219					335,808		
					25,942			2069,846	PC
V11-E5	196,1153		850			51,868			
					25,942			2121,714	FC
		309,629					258,100		
					25,587			2379,813	PC
V12-E5	198,4109		2050			51,172			
					25,587			2430,985	FC
		98,604					47,900		
					25,116			2478,885	PC
V13-E5	192,901		450			50,18			
					25,116			2529,065	FC
		50,401					0,000		
					25,285			2529,065	PC
V14-E5	206,4333		500			50,527			
					25,285			2579,592	FC
		150,212					124,927		
V15-E5								2704,51	Final