ANEXO 2

COMPUTOS METRICOS

Ing. Emilio Díaz de Vivar
Representante Legal
Empresa de Construcciones ediviso

Ing. Arturo Bracho
Supervisor de Obras

edivisa
Empresa de Construcciones

COMPUTO MÉTRICO

MACADAM HIDRAULICO

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

TIPO	DE	A	LADO	LONG.	SUPERFICIE	ESPESOR	VOLUMEN
SUB BASE	23+500	40+200	LI	16700	1,5	0,15	3.757,50
SUB BASE	23+500	40+200	LD	16700	1,5	0,15	3.757,50
SUB BASE	23+500	40+200	CALZADA	16700	7	0,15	17.535,00
BASE	23+500	40+200	LI	16700	1,5	0,15	3.757,50
BASE	23+500	40+200	LD	16700	1,5	0,15	3.757,50
BASE	23+500	40+200	CALZADA	16700	7	0,15	17.535,00
							50.100,00 m3

BANQUINA	***SUB BASE***	***7.515,00***	***m3***
	BASE	***7.515,00***	***m3***
CALZADA	***SUB BASE***	***17.535,00***	***m3***
	BASE	***17.535,00***	***m3***

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CÓMPUTO MÉTRICO
CUENTA REVESTIDA

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PROYECTO: **Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)**

DE	A	Long	Lado	Sub Total (ml)	Sub Total (m^3)
28+140	28+180	40 ml	LI	40	6.348
28+180	28+440	260 ml	AL	520	82.524
29+300	29+440	140 ml	LI	140	22.218
29+440	29+680	240 ml	AL	480	76.176
30+620	30+760	140 ml	AL	280	44.436
30+760	30+800	40 ml	LI	40	6.348
31+040	31+460	420 ml	AL	840	133.308
31+480	31+760	280 ml	AL	560	88.872
31+900	31+920	20 ml	LI	20	3.174
31+920	31+980	60 ml	AL	120	19.044
33+220	33+240	20 ml	LD	20	3.174
33+240	33+620	380 ml	AL	760	120.612
34+980	35+240	260 ml	AL	520	82.524
35+240	35+360	120 ml	LD	120	19.044
35+520	35+560	40 ml	LD	40	6.348
35+560	35+780	220 ml	AL	440	69.828
35+780	35+800	20 ml	LD	20	3.174
35+880	35+960	80 ml	LD	80	12.696
35+960	36+080	120 ml	AL	240	38.088
36+130	36+260	130 ml	AL	260	41.262
36+540	36+560	20 ml	LI	20	3.174
36+560	36+700	140 ml	AL	280	44.436
36+700	36+820	120 ml	LI	120	19.044
36+900	37+100	200 ml	AL	400	63.48
37+100	37+180	80 ml	LI	80	12.696
37+220	37+240	20 ml	LI	20	3.174
37+240	37+420	180 ml	AL	360	57.132
37+420	37+440	20 ml	LI	20	3.174
37+440	37+580	140 ml	AL	280	44.436
37+780	37+840	60 ml	LI	60	9.522
37+840	37+990	150 ml	AL	300	47.61
38+680	38+700	20 ml	LI	20	3.174
38+700	38+960	260 ml	AL	520	82.524
38+960	38+980	20 ml	LI	20	3.174
39+720	39+800	80 ml	AL	160	25.392
39+800	40+000	200 ml	LI	200	31.74
		0 ml		0	0
		0 ml		0	0
		0 ml		0	0
		0 ml		0	0
		0 ml		0	0
			TOTAL	8400	1333.08

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CÓMPUTO MÉTRICO

ALCANTARILLAS

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Empresa de Construcciones

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

Prog	Tipo	Long	Excavación Estructural	Observación	CF ENTRADA
25+140	ACH°A° 3 x 1.00 x 1.00	11.00	123.97	Nueva	380.00
27+680	ACH°A° 2 x 1.00 x 1.00	11.00	96.20	Nueva	417.70
28+900	ACH°A° 2 x 1.50 x 1.50	11.00	145.69	Nueva	384.00
30+480	ACH°A° 2 x 1.50 x 1.50	13.00	213.13	Nueva	349.70
32+580	ACH°A° 1 x 1.50 x 1.50	11.00	98.11	Nueva	392.40
34+070	ATH°A° 1 Ø 1.00	14.00	85.54	Nueva	350.20
34+240	ATH°A° 1 Ø 1.00	13.00	78.54	Nueva	350.25
35+530	ATH°A° 1 Ø 1.00	12.00	66.74	Nueva	336.00
35+910	ATH°A° 1 Ø 1.00	11.00	55.16	Nueva	319.00
36+260	ATH°A° 1 Ø 1.00	20.00	179.31	Nueva	299.20
36+840	ACH°A° 2 x 3.00 x 3.00	28.00	1681.94	Nueva	281.50
37+400.0	ACH°A° 1 x 1.50 x 1.50	11.00	97.47	Nueva	319.20
37+680	ACH°A° 1 x 1.50 x 1.50	19.00	252.60	Nueva	326.70
38+260	ACH°A° 1 x 1.50 x 1.50	11.00	84.15	Nueva	335.50
38+640	ACH°A° 1 x 1.50 x 1.50	20.00	276.57	Nueva	331.25
39+540	ACH°A° 1 x 1.00 x 1.00	11.00	64.09	Nueva	345.80
			3599.21		

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
23+500	1.635	0.401					
			28.825	10.665	28.825	10.665	18.161
23+520	1.248	0.665					
			17.600	17.794	46.426	28.458	17.967
23+540	0.512	1.114					
			5.125	39.360	51.551	67.818	-16.267
23+560	0.000	2.822					
			0.000	81.194	51.551	149.012	-97.461
23+580	0.000	5.297					
			0.000	108.454	51.551	257.466	-205.915
23+600	0.000	5.548					
			0.000	102.325	51.551	359.791	-308.240
23+620	0.000	4.684					
			2.899	76.578	54.450	436.369	-381.919
23+640	0.290	2.973					
			13.559	49.200	68.009	485.569	-417.561
23+660	1.066	1.947					
			28.114	33.754	96.123	519.323	-423.200
23+680	1.745	1.429					
			30.751	19.637	126.874	538.960	-412.086
23+700	1.330	0.535					
			17.209	6.002	144.083	544.962	-400.880
23+720	0.391	0.065					
			12.417	5.492	156.500	550.455	-393.955
23+740	0.851	0.484					
			19.759	13.362	176.259	563.817	-387.557
23+760	1.125	0.852					
			23.252	15.820	199.511	579.637	-380.126
23+780	1.200	0.730					
			24.322	13.794	223.833	593.430	-369.597
23+800	1.233	0.649					
			25.692	12.858	249.526	606.288	-356.762
23+820	1.337	0.636					
			27.225	13.349	276.751	619.637	-342.886
23+840	1.386	0.699					
			27.881	14.503	304.632	634.140	-329.508
23+860	1.402	0.752					
			26.464	15.230	331.095	649.370	-318.274
23+880	1.244	0.771					
			25.576	13.609	356.672	662.978	-306.307
23+900	1.313	0.589					
			27.596	11.114	384.268	674.092	-289.824
23+920	1.446	0.522					
			29.270	9.808	413.538	683.900	-270.363
23+940	1.481	0.459					
			27.349	8.912	440.887	692.812	-251.925
23+960	1.254	0.432					
			27.436	8.764	468.323	701.576	-233.253

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
23+980	1.490	0.444					
			34.959	8.530	503.282	710.106	-206.824
24+000	2.006	0.409					
			38.933	4.241	542.215	714.347	-172.133
24+020	1.887	0.015					
			47.842	0.153	590.057	714.500	-124.443
24+040	2.897	0.000					
			67.080	0.000	657.137	714.500	-57.363
24+060	3.811	0.000					
			85.464	0.000	742.602	714.500	28.101
24+080	4.737	0.000					
			97.829	0.000	840.430	714.500	125.930
24+100	5.044	0.000					
			102.723	0.000	943.154	714.500	228.653
24+120	5.223	0.000					
			93.513	0.000	1036.667	714.500	322.167
24+140	4.121	0.000					
			61.785	2.285	1098.452	716.785	381.667
24+160	2.051	0.229					
			35.554	10.663	1134.006	727.448	406.558
24+180	1.504	0.838					
			27.940	21.310	1161.946	748.758	413.188
24+200	1.290	1.293					
			19.851	36.648	1181.797	785.406	396.391
24+220	0.695	2.372					
			6.953	60.300	1188.750	845.706	343.043
24+240	0.000	3.658					
			0.000	76.756	1188.750	922.462	266.287
24+260	0.000	4.017					
			0.000	84.479	1188.750	1006.941	181.808
24+280	0.000	4.431					
			0.000	100.837	1188.750	1107.778	80.971
24+300	0.000	5.653					
			0.000	120.543	1188.750	1228.321	-39.572
24+320	0.000	6.392					
			0.000	136.689	1188.750	1365.010	-176.261
24+340	0.000	7.275					
			0.000	150.730	1188.750	1515.741	-326.991
24+360	0.000	7.800					
			0.000	159.964	1188.750	1675.705	-486.955
24+380	0.000	8.199					
			0.000	161.192	1188.750	1836.897	-648.147
24+400	0.000	7.922					
			0.000	153.821	1188.750	1990.718	-801.968
24+420	0.000	7.458					
			0.000	154.006	1188.750	2144.724	-955.974
24+440	0.000	7.936					
			0.000	163.499	1188.750	2308.223	-1119.474

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
24+460	0.000	8.406					
			0.000	165.506	1188.750	2473.729	-1284.979
24+480	0.000	8.140					
			0.000	160.012	1188.750	2633.740	-1444.991
24+500	0.000	7.861					
			0.000	155.344	1188.750	2789.085	-1600.335
24+520	0.000	7.674					
			0.000	152.710	1188.750	2941.795	-1753.046
24+540	0.000	7.597					
			0.000	152.012	1188.750	3093.807	-1905.058
24+560	0.000	7.604					
			0.000	130.290	1188.750	3224.098	-2035.348
24+580	0.000	5.425					
			0.000	79.758	1188.750	3303.856	-2115.106
24+600	0.000	2.551					
			0.000	61.814	1188.750	3365.670	-2176.920
24+620	0.000	3.631					
			0.000	72.123	1188.750	3437.793	-2249.043
24+640	0.000	3.580					
			0.000	58.392	1188.750	3496.185	-2307.435
24+660	0.000	2.259					
			5.386	36.030	1194.135	3532.215	-2338.080
24+680	0.540	1.343					
			16.731	21.639	1210.866	3553.854	-2342.988
24+700	1.133	0.821					
			26.962	12.498	1237.829	3566.352	-2328.524
24+720	1.563	0.429					
			37.005	7.468	1274.834	3573.820	-2298.986
24+740	2.137	0.318					
			58.628	3.182	1333.461	3577.002	-2243.541
24+760	3.726	0.000					
			98.442	0.000	1431.903	3577.002	-2145.098
24+780	6.118	0.000					
			126.334	0.000	1558.237	3577.002	-2018.765
24+800	6.503	0.000					
			119.116	0.466	1677.353	3577.468	-1900.115
24+820	5.397	0.047					
			101.512	7.637	1778.865	3585.104	-1806.239
24+840	4.745	0.719					
			83.782	25.621	1862.646	3610.725	-1748.079
24+860	3.624	1.847					
			70.766	45.185	1933.413	3655.910	-1722.498
24+880	3.437	2.676					
			77.401	57.593	2010.813	3713.503	-1702.690
24+900	4.288	3.087					
			93.811	61.700	2104.624	3775.203	-1670.579
24+920	5.075	3.087					
			101.220	61.625	2205.844	3836.828	-1630.984

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
24+940	5.047	3.076					
			105.339	58.540	2311.183	3895.368	-1584.185
24+960	5.486	2.778					
			122.860	52.146	2434.043	3947.514	-1513.471
24+980	6.799	2.436					
			125.060	46.619	2559.102	3994.133	-1435.031
25+000	5.706	2.226					
			69.602	43.088	2628.704	4037.221	-1408.517
25+020	1.254	2.083					
			33.227	20.932	2661.931	4058.153	-1396.222
25+040	2.069	0.010					
			44.077	0.101	2706.007	4058.254	-1352.247
25+060	2.339	0.000					
			26.735	44.062	2732.742	4102.316	-1369.574
25+080	0.335	4.406					
			3.348	166.451	2736.091	4268.767	-1532.677
25+100	0.000	12.239					
			0.000	280.540	2736.091	4549.307	-1813.216
25+120	0.000	15.815					
			0.000	305.225	2736.091	4854.532	-2118.441
25+140	0.000	14.688					
			0.000	268.769	2736.091	5123.301	-2387.210
25+160	0.000	12.188					
			0.000	192.411	2736.091	5315.711	-2579.621
25+180	0.000	7.017					
			0.000	108.519	2736.091	5424.230	-2688.139
25+200	0.000	3.813					
			0.000	78.407	2736.091	5502.637	-2766.547
25+220	0.000	4.023					
			0.000	97.715	2736.091	5600.353	-2864.262
25+240	0.000	5.742					
			0.000	131.853	2736.091	5732.205	-2996.115
25+260	0.000	7.423					
			0.000	140.279	2736.091	5872.485	-3136.394
25+280	0.000	6.605					
			0.000	115.202	2736.091	5987.686	-3251.596
25+300	0.000	4.916					
			0.000	95.716	2736.091	6083.402	-3347.312
25+320	0.000	4.656					
			0.000	94.337	2736.091	6177.739	-3441.648
25+340	0.000	4.778					
			0.000	89.986	2736.091	6267.725	-3531.635
25+360	0.000	4.221					
			0.000	83.039	2736.091	6350.765	-3614.674
25+380	0.000	4.083					
			0.000	82.797	2736.091	6433.561	-3697.471
25+400	0.000	4.197					
			0.000	85.169	2736.091	6518.730	-3782.640

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
25+420	0.000	4.320					
			0.000	84.098	2736.091	6602.829	-3866.738
25+440	0.000	4.102					
			7.452	78.499	2743.543	6681.328	-3937.785
25+460	0.740	3.768					
			13.751	70.181	2757.294	6751.508	-3994.214
25+480	0.615	3.276					
			10.146	60.336	2767.440	6811.844	-4044.404
25+500	0.385	2.781					
			8.307	60.716	2775.747	6872.560	-4096.813
25+520	0.434	3.311					
			4.371	72.478	2780.118	6945.038	-4164.921
25+540	0.000	3.956					
			0.000	82.806	2780.118	7027.844	-4247.726
25+560	0.000	4.325					
			0.000	92.486	2780.118	7120.330	-4340.212
25+580	0.000	4.924					
			0.000	115.705	2780.118	7236.035	-4455.917
25+600	0.000	6.647					
			0.000	143.187	2780.118	7379.222	-4599.105
25+620	0.000	7.672					
			0.000	155.716	2780.118	7534.938	-4754.820
25+640	0.000	7.899					
			0.000	168.678	2780.118	7703.616	-4923.498
25+660	0.000	8.968					
			0.000	182.062	2780.118	7885.678	-5105.561
25+680	0.000	9.210					
			0.000	178.508	2780.118	8064.186	-5284.068
25+700	0.000	8.613					
			0.000	161.683	2780.118	8225.869	-5445.751
25+720	0.000	7.526					
			0.000	131.585	2780.118	8357.454	-5577.336
25+740	0.000	5.594					
			0.000	95.398	2780.118	8452.852	-5672.734
25+760	0.000	3.900					
			0.000	72.589	2780.118	8525.441	-5745.324
25+780	0.000	3.320					
			0.000	66.396	2780.118	8591.837	-5811.719
25+800	0.000	3.290					
			0.000	71.489	2780.118	8663.326	-5883.208
25+820	0.000	3.859					
			2.620	74.618	2782.737	8737.944	-5955.206
25+840	0.262	3.603					
			13.137	77.278	2795.874	8815.222	-6019.348
25+860	1.052	4.125					
			10.517	64.615	2806.392	8879.837	-6073.445
25+880	0.000	2.337					
			0.000	75.485	2806.392	8955.322	-6148.930

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
25+900	0.000	5.212	0.000	106.262	2806.392	9061.584	-6255.193
25+920	0.000	5.319	0.000	108.196	2806.392	9169.780	-6363.389
25+940	0.000	5.434	0.000	111.705	2806.392	9281.485	-6475.094
25+960	0.000	5.718	0.000	131.461	2806.392	9412.946	-6606.555
25+980	0.000	7.405	0.000	154.661	2806.392	9567.608	-6761.216
26+000	0.000	7.963	0.000	152.709	2806.392	9720.316	-6913.925
26+020	0.000	7.185	0.000	134.173	2806.392	9854.490	-7048.098
26+040	0.000	6.233	0.000	110.541	2806.392	9965.031	-7158.640
26+060	0.000	4.822	0.000	90.449	2806.392	10055.480	-7249.089
26+080	0.000	4.223	0.000	75.364	2806.392	10130.844	-7324.453
26+100	0.000	3.313	2.125	60.016	2808.517	10190.860	-7382.343
26+120	0.213	2.688	2.125	60.310	2810.642	10251.169	-7440.527
26+140	0.000	3.342	0.000	66.870	2810.642	10318.039	-7507.397
26+160	0.000	3.344	0.000	57.091	2810.642	10375.131	-7564.488
26+180	0.000	2.365	0.000	52.899	2810.642	10428.030	-7617.388
26+200	0.000	2.925	0.000	71.582	2810.642	10499.612	-7688.970
26+220	0.000	4.233	5.467	70.153	2816.109	10569.765	-7753.656
26+240	0.547	2.782	16.319	38.648	2832.428	10608.413	-7775.986
26+260	1.109	1.000	18.475	24.473	2850.902	10632.886	-7781.984
26+280	0.757	1.392	10.578	27.044	2861.480	10659.930	-7798.451
26+300	0.309	1.259	11.613	30.743	2873.093	10690.673	-7817.580
26+320	0.863	1.757	10.872	31.265	2883.965	10721.938	-7837.973
26+340	0.224	1.370	2.239	32.526	2886.204	10754.464	-7868.260
26+360	0.000	1.883	0.000	49.322	2886.204	10803.786	-7917.582

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
26+380	0.000	3.049	0.000	77.662	2886.204	10881.448	-7995.244
26+400	0.000	4.717	0.000	112.757	2886.204	10994.204	-8108.001
26+420	0.000	6.559	0.000	144.762	2886.204	11138.966	-8252.763
26+440	0.000	7.918	0.000	161.595	2886.204	11300.561	-8414.358
26+460	0.000	8.242	0.000	166.886	2886.204	11467.447	-8581.243
26+480	0.000	8.447	0.000	175.048	2886.204	11642.495	-8756.291
26+500	0.000	9.058	0.000	164.340	2886.204	11806.835	-8920.631
26+520	0.000	7.376	0.000	119.576	2886.204	11926.410	-9040.207
26+540	0.000	4.553	0.000	69.240	2886.204	11995.650	-9109.446
26+560	0.000	2.399	17.025	50.561	2903.228	12046.211	-9142.983
26+580	1.678	2.679	17.025	45.083	2920.253	12091.294	-9171.041
26+600	0.000	1.812	4.234	27.995	2924.487	12119.288	-9194.802
26+620	0.428	0.961	22.239	13.471	2946.726	12132.760	-9186.034
26+640	1.812	0.370	41.267	5.177	2987.992	12137.937	-9149.945
26+660	2.290	0.141	46.767	2.626	3034.760	12140.563	-9105.803
26+680	2.361	0.118	43.502	3.681	3078.262	12144.244	-9065.982
26+700	1.961	0.245	23.637	9.554	3101.899	12153.798	-9051.899
26+720	0.418	0.699	4.141	20.693	3106.040	12174.491	-9068.450
26+740	0.000	1.350	0.000	31.604	3106.040	12206.094	-9100.054
26+760	0.000	1.787	0.000	33.791	3106.040	12239.885	-9133.845
26+780	0.000	1.575	0.000	26.276	3106.040	12266.161	-9160.121
26+800	0.000	1.038	2.457	21.972	3108.497	12288.133	-9179.636
26+820	0.248	1.138	4.658	31.240	3113.156	12319.373	-9206.217
26+840	0.228	1.947	3.686	47.920	3116.842	12367.293	-9250.451

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
26+860	0.150	2.787					
			1.496	63.559	3118.338	12430.852	-9312.514
26+880	0.000	3.569					
			0.000	64.393	3118.338	12495.245	-9376.907
26+900	0.000	2.870					
			0.718	46.334	3119.056	12541.579	-9422.523
26+920	0.072	1.763					
			31.964	33.398	3151.020	12574.977	-9423.957
26+940	3.125	1.577					
			57.505	31.214	3208.525	12606.191	-9397.666
26+960	2.626	1.545					
			29.203	33.033	3237.728	12639.224	-9401.496
26+980	0.294	1.759					
			2.944	37.262	3240.672	12676.486	-9435.815
27+000	0.000	1.968					
			0.000	40.026	3240.672	12716.512	-9475.841
27+020	0.000	2.035					
			0.000	39.782	3240.672	12756.294	-9515.623
27+040	0.000	1.943					
			0.000	36.044	3240.672	12792.339	-9551.667
27+060	0.000	1.661					
			0.000	35.621	3240.672	12827.960	-9587.288
27+080	0.000	1.901					
			0.000	40.189	3240.672	12868.148	-9627.477
27+100	0.000	2.118					
			0.000	46.404	3240.672	12914.552	-9673.881
27+120	0.000	2.522					
			0.000	55.455	3240.672	12970.007	-9729.336
27+140	0.000	3.023					
			0.000	69.480	3240.672	13039.487	-9798.816
27+160	0.000	3.925					
			0.000	106.670	3240.672	13146.157	-9905.486
27+180	0.000	6.742					
			0.000	117.180	3240.672	13263.337	-10022.665
27+200	0.000	4.976					
			0.000	98.226	3240.672	13361.563	-10120.891
27+220	0.000	4.847					
			0.000	105.078	3240.672	13466.641	-10225.969
27+240	0.000	5.661					
			0.000	118.835	3240.672	13585.476	-10344.804
27+260	0.000	6.165					
			0.000	132.151	3240.672	13717.627	-10476.955
27+280	0.000	6.992					
			0.000	151.491	3240.672	13869.118	-10628.447
27+300	0.000	8.093					
			0.000	173.076	3240.672	14042.194	-10801.522
27+320	0.000	9.129					
			1.346	156.778	3242.018	14198.972	-10956.954

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
27+340	0.136	6.419					
			1.346	123.140	3243.364	14322.113	-11078.748
27+360	0.000	5.770					
			0.000	117.749	3243.364	14439.861	-11196.497
27+380	0.000	5.906					
			0.000	121.797	3243.364	14561.659	-11318.295
27+400	0.000	6.274					
			0.000	101.070	3243.364	14662.728	-11419.364
27+420	0.000	3.833					
			0.000	64.044	3243.364	14726.772	-11483.408
27+440	0.000	2.571					
			0.000	51.837	3243.364	14778.609	-11535.244
27+460	0.000	2.613					
			3.479	52.231	3246.843	14830.839	-11583.996
27+480	0.348	2.610					
			3.479	54.261	3250.322	14885.101	-11634.779
27+500	0.000	2.816					
			0.000	59.429	3250.322	14944.530	-11694.208
27+520	0.000	3.127					
			0.000	66.298	3250.322	15010.828	-11760.506
27+540	0.000	3.503					
			0.000	73.006	3250.322	15083.834	-11833.512
27+560	0.000	3.797					
			0.000	70.104	3250.322	15153.939	-11903.617
27+580	0.000	3.213					
			0.000	59.896	3250.322	15213.834	-11963.512
27+600	0.000	2.776					
			0.000	54.826	3250.322	15268.660	-12018.339
27+620	0.000	2.706					
			0.000	53.972	3250.322	15322.633	-12072.311
27+640	0.000	2.691					
			0.000	53.857	3250.322	15376.490	-12126.168
27+660	0.000	2.695					
			0.000	56.028	3250.322	15432.518	-12182.196
27+680	0.000	2.908					
			0.000	62.963	3250.322	15495.480	-12245.159
27+700	0.000	3.388					
			0.000	73.399	3250.322	15568.879	-12318.558
27+720	0.000	3.952					
			0.000	82.800	3250.322	15651.679	-12401.357
27+740	0.000	4.328					
			0.000	91.467	3250.322	15743.146	-12492.824
27+760	0.000	4.818					
			0.000	95.493	3250.322	15838.639	-12588.317
27+780	0.000	4.731					
			0.000	93.670	3250.322	15932.309	-12681.987
27+800	0.000	4.636					
			0.000	89.017	3250.322	16021.326	-12771.004

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
27+820	0.000	4.266					
			0.000	81.825	3250.322	16103.151	-12852.829
27+840	0.000	3.917					
			0.000	74.859	3250.322	16178.010	-12927.688
27+860	0.000	3.569					
			0.000	67.954	3250.322	16245.964	-12995.642
27+880	0.000	3.226					
			0.000	65.433	3250.322	16311.397	-13061.075
27+900	0.000	3.317					
			0.000	68.716	3250.322	16380.113	-13129.791
27+920	0.000	3.555					
			0.000	52.994	3250.322	16433.106	-13182.785
27+940	0.000	1.745					
			15.316	19.902	3265.638	16453.009	-13187.371
27+960	1.527	0.251					
			18.486	28.835	3284.124	16481.844	-13197.720
27+980	0.309	2.641					
			3.103	73.505	3287.227	16555.349	-13268.123
28+000	0.000	4.717					
			0.000	88.564	3287.227	16643.913	-13356.687
28+020	0.000	4.143					
			5.660	73.982	3292.886	16717.895	-13425.009
28+040	0.568	3.257					
			14.621	62.410	3307.507	16780.305	-13472.799
28+060	0.900	2.986					
			18.179	50.590	3325.686	16830.896	-13505.209
28+080	0.919	2.075					
			14.781	25.044	3340.467	16855.939	-13515.472
28+100	0.564	0.425					
			5.625	16.644	3346.093	16872.584	-13526.491
28+120	0.000	1.234					
			4.480	51.395	3350.573	16923.979	-13573.406
28+140	0.450	3.897					
			4.480	94.308	3355.053	17018.287	-13663.234
28+160	0.000	5.528					
			0.000	132.028	3355.053	17150.315	-13795.262
28+180	0.000	7.674					
			56.564	80.437	3411.617	17230.752	-13819.135
28+200	5.656	0.369					
			265.142	3.694	3676.759	17234.446	-13557.687
28+220	20.858	0.000					
			431.934	0.000	4108.693	17234.446	-13125.753
28+240	22.336	0.000					
			478.625	0.000	4587.318	17234.446	-12647.128
28+260	25.527	0.000					
			597.333	0.000	5184.650	17234.446	-12049.796
28+280	34.206	0.000					
			736.194	0.000	5920.844	17234.446	-11313.602

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
28+300	39.387	0.000					
			810.878	0.000	6731.722	17234.446	-10502.724
28+320	41.674	0.000					
			828.725	0.000	7560.447	17234.446	-9673.998
28+340	41.174	0.000					
			814.910	0.000	8375.358	17234.446	-8859.088
28+360	40.284	0.000					
			785.469	0.000	9160.827	17234.446	-8073.619
28+380	38.221	0.000					
			701.017	0.000	9861.844	17234.446	-7372.602
28+400	31.881	0.000					
			604.474	0.000	10466.318	17234.446	-6768.128
28+420	28.567	0.000					
			464.327	0.000	10930.645	17234.446	-6303.801
28+440	17.866	0.000					
			183.527	5.631	11114.171	17240.077	-6125.905
28+460	0.487	0.563					
			4.866	135.578	11119.038	17375.655	-6256.617
28+480	0.000	12.995					
			0.000	379.438	11119.038	17755.093	-6636.055
28+500	0.000	24.949					
			0.000	533.485	11119.038	18288.579	-7169.541
28+520	0.000	28.399					
			0.000	559.128	11119.038	18847.707	-7728.669
28+540	0.000	27.513					
			0.000	537.740	11119.038	19385.447	-8266.409
28+560	0.000	26.261					
			0.000	519.467	11119.038	19904.914	-8785.876
28+580	0.000	25.686					
			0.000	527.634	11119.038	20432.548	-9313.510
28+600	0.000	27.077					
			0.000	529.592	11119.038	20962.141	-9843.103
28+620	0.000	25.782					
			0.000	434.955	11119.038	21397.095	-10278.058
28+640	0.000	17.648					
			0.000	287.800	11119.038	21684.895	-10565.857
28+660	0.000	11.112					
			0.000	171.916	11119.038	21856.812	-10737.774
28+680	0.000	6.066					
			5.039	70.711	11124.077	21927.523	-10803.446
28+700	0.504	1.005					
			35.265	10.048	11159.342	21937.571	-10778.228
28+720	3.023	0.000					
			64.071	0.000	11223.413	21937.571	-10714.158
28+740	3.369	0.000					
			41.566	9.865	11264.979	21947.436	-10682.456
28+760	0.765	0.989					
			7.678	67.978	11272.658	22015.414	-10742.756

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
28+780	0.000	5.828					
			0.000	173.372	11272.658	22188.785	-10916.128
28+800	0.000	11.510					
			0.000	270.763	11272.658	22459.548	-11186.891
28+820	0.000	15.567					
			0.000	354.930	11272.658	22814.478	-11541.820
28+840	0.000	19.926					
			0.000	432.893	11272.658	23247.370	-11974.713
28+860	0.000	23.363					
			0.000	502.155	11272.658	23749.526	-12476.868
28+880	0.000	26.853					
			0.000	546.963	11272.658	24296.489	-13023.831
28+900	0.000	27.748					
			0.000	562.473	11272.658	24858.962	-13586.305
28+920	0.000	28.447					
			0.000	518.906	11272.658	25377.868	-14105.211
28+940	0.000	23.457					
			0.000	399.487	11272.658	25777.355	-14504.697
28+960	0.000	16.480					
			0.000	264.534	11272.658	26041.889	-14769.232
28+980	0.000	9.947					
			0.000	164.483	11272.658	26206.372	-14933.715
29+000	0.000	6.501					
			15.536	116.345	11288.194	26322.718	-15034.524
29+020	1.554	5.134					
			42.085	91.087	11330.279	26413.805	-15083.526
29+040	2.655	3.975					
			56.142	59.793	11386.421	26473.599	-15087.178
29+060	3.075	1.912					
			48.037	47.766	11434.458	26521.364	-15086.906
29+080	1.827	2.795					
			27.601	70.131	11462.059	26591.496	-15129.437
29+100	0.996	4.134					
			20.264	99.131	11482.323	26690.627	-15208.304
29+120	1.077	5.654					
			21.617	120.905	11503.940	26811.532	-15307.592
29+140	1.132	6.253					
			26.782	131.195	11530.722	26942.727	-15412.005
29+160	1.605	6.649					
			22.965	148.315	11553.687	27091.042	-15537.355
29+180	0.745	7.959					
			10.672	155.615	11564.359	27246.656	-15682.298
29+200	0.349	7.423					
			5.921	131.291	11570.279	27377.948	-15807.669
29+220	0.259	5.588					
			7.419	70.435	11577.698	27448.383	-15870.685
29+240	0.483	1.455					
			8.005	34.229	11585.703	27482.612	-15896.910

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
29+260	0.318	1.968					
			6.792	34.146	11592.494	27516.759	-15924.265
29+280	0.380	1.441					
			3.749	55.847	11596.244	27572.606	-15976.362
29+300	0.000	4.124					
			0.000	93.645	11596.244	27666.251	-16070.007
29+320	0.000	5.202					
			4.583	96.457	11600.826	27762.708	-16161.882
29+340	0.464	4.401					
			14.339	82.473	11615.165	27845.181	-16230.016
29+360	1.007	3.803					
			10.065	108.806	11625.231	27953.987	-16328.757
29+380	0.000	7.078					
			0.000	154.279	11625.231	28108.267	-16483.036
29+400	0.000	8.350					
			0.000	153.486	11625.231	28261.752	-16636.522
29+420	0.000	6.999					
			7.740	120.763	11632.970	28382.515	-16749.545
29+440	0.774	5.078					
			28.507	72.624	11661.477	28455.140	-16793.663
29+460	2.077	2.185					
			65.945	29.718	11727.422	28484.858	-16757.436
29+480	4.518	0.787					
			121.629	7.869	11849.051	28492.726	-16643.676
29+500	7.645	0.000					
			201.196	0.000	12050.247	28492.726	-16442.480
29+520	12.475	0.000					
			258.881	0.000	12309.127	28492.726	-16183.599
29+540	13.375	0.000					
			264.676	0.000	12573.803	28492.726	-15918.923
29+560	13.056	0.000					
			269.144	0.000	12842.947	28492.726	-15649.780
29+580	13.827	0.000					
			286.583	0.000	13129.530	28492.726	-15363.196
29+600	14.808	0.000					
			308.750	0.000	13438.280	28492.726	-15054.447
29+620	16.064	0.000					
			324.293	0.000	13762.573	28492.726	-14730.153
29+640	16.365	0.000					
			322.065	0.000	14084.638	28492.726	-14408.088
29+660	15.841	0.000					
			284.981	0.000	14369.619	28492.726	-14123.107
29+680	12.657	0.000					
			199.718	0.000	14569.337	28492.726	-13923.390
29+700	7.317	0.000					
			82.479	15.621	14651.816	28508.347	-13856.531
29+720	0.941	1.562					
			9.402	98.205	14661.218	28606.553	-13945.334

Ing. Emilio Díaz de Vivar
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Empresa de Construcciones edivisa

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Supervisor de Obras

CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
29+740	0.000	8.255					
			0.000	208.683	14661.218	28815.236	-14154.017
29+760	0.000	12.613					
			0.000	229.109	14661.218	29044.344	-14383.126
29+780	0.000	10.298					
			0.000	159.099	14661.218	29203.443	-14542.225
29+800	0.000	5.612					
			0.000	109.693	14661.218	29313.136	-14651.918
29+820	0.000	5.357					
			0.000	146.399	14661.218	29459.535	-14798.317
29+840	0.000	9.283					
			0.000	206.136	14661.218	29665.672	-15004.453
29+860	0.000	11.331					
			2.911	203.078	14664.130	29868.749	-15204.620
29+880	0.291	8.977					
			14.575	155.200	14678.705	30023.950	-15345.245
29+900	1.202	6.424					
			30.760	107.377	14709.465	30131.327	-15421.862
29+920	1.941	4.201					
			43.298	72.318	14752.763	30203.645	-15450.883
29+940	2.477	2.926					
			52.367	53.614	14805.130	30257.259	-15452.129
29+960	2.859	2.344					
			53.901	46.185	14859.031	30303.444	-15444.413
29+980	2.629	2.191					
			31.235	76.618	14890.266	30380.063	-15489.797
30+000	0.561	5.357					
			5.547	152.647	14895.813	30532.710	-15636.897
30+020	0.000	9.771					
			0.000	209.652	14895.813	30742.362	-15846.549
30+040	0.000	11.049					
			0.000	223.338	14895.813	30965.700	-16069.887
30+060	0.000	11.285					
			0.000	202.820	14895.813	31168.519	-16272.706
30+080	0.000	8.997					
			0.000	166.880	14895.813	31335.399	-16439.586
30+100	0.000	7.691					
			0.000	153.830	14895.813	31489.230	-16593.417
30+120	0.000	7.692					
			0.000	159.744	14895.813	31648.973	-16753.160
30+140	0.000	8.282					
			0.000	176.577	14895.813	31825.550	-16929.737
30+160	0.000	9.376					
			0.000	190.159	14895.813	32015.709	-17119.896
30+180	0.000	9.640					
			0.000	186.657	14895.813	32202.366	-17306.553
30+200	0.000	9.031					
			0.000	177.676	14895.813	32380.042	-17484.229

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
30+220	0.000	8.752					
			0.000	169.987	14895.813	32550.029	-17654.216
30+240	0.000	8.266					
			0.000	158.068	14895.813	32708.097	-17812.284
30+260	0.000	7.550					
			0.000	132.439	14895.813	32840.537	-17944.724
30+280	0.000	5.688					
			0.000	106.354	14895.813	32946.890	-18051.077
30+300	0.000	4.938					
			0.000	99.449	14895.813	33046.339	-18150.526
30+320	0.000	5.027					
			13.727	110.661	14909.540	33157.000	-18247.461
30+340	1.357	6.105					
			28.440	154.833	14937.979	33311.833	-18373.854
30+360	1.420	9.478					
			14.378	237.118	14952.357	33548.951	-18596.593
30+380	0.000	14.359					
			0.000	300.593	14952.357	33849.544	-18897.187
30+400	0.000	15.838					
			0.000	334.038	14952.357	34183.582	-19231.225
30+420	0.000	17.697					
			0.000	344.645	14952.357	34528.227	-19575.870
30+440	0.000	16.768					
			0.000	327.785	14952.357	34856.012	-19903.655
30+460	0.000	16.011					
			0.000	292.366	14952.357	35148.378	-20196.021
30+480	0.000	13.226					
			0.000	256.896	14952.357	35405.275	-20452.917
30+500	0.000	12.464					
			0.000	245.671	14952.357	35650.946	-20698.589
30+520	0.000	12.103					
			0.000	230.256	14952.357	35881.202	-20928.845
30+540	0.000	10.922					
			10.613	201.744	14962.970	36082.946	-21119.975
30+560	1.086	8.985					
			41.489	134.949	15004.460	36217.895	-21213.435
30+580	3.244	4.237					
			94.231	53.263	15098.690	36271.157	-21172.467
30+600	6.482	0.908					
			159.656	10.299	15258.347	36281.456	-21023.109
30+620	9.841	0.077					
			264.821	0.784	15523.167	36282.240	-20759.073
30+640	16.957	0.000					
			353.247	0.000	15876.414	36282.240	-20405.826
30+660	18.368	0.000					
			347.565	0.000	16223.979	36282.240	-20058.261
30+680	16.389	0.000					
			295.693	0.000	16519.672	36282.240	-19762.568

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
30+700	13.181	0.000					
			199.614	0.000	16719.286	36282.240	-19562.955
30+720	6.781	0.000					
			117.484	8.597	16836.770	36290.838	-19454.068
30+740	4.968	0.860					
			91.536	32.850	16928.305	36323.688	-19395.383
30+760	4.186	2.425					
			65.782	25.564	16994.088	36349.252	-19355.164
30+780	2.513	0.055					
			25.034	30.744	17019.122	36379.996	-19360.874
30+800	0.000	2.967					
			0.000	106.918	17019.122	36486.913	-19467.792
30+820	0.000	7.655					
			0.000	181.421	17019.122	36668.335	-19649.213
30+840	0.000	10.436					
			0.000	227.538	17019.122	36895.873	-19876.751
30+860	0.000	12.262					
			0.000	317.458	17019.122	37213.331	-20194.210
30+880	0.000	19.316					
			0.000	456.448	17019.122	37669.779	-20650.657
30+900	0.000	26.092					
			0.000	556.637	17019.122	38226.416	-21207.294
30+920	0.000	29.370					
			0.000	627.687	17019.122	38854.103	-21834.981
30+940	0.000	33.399					
			0.000	699.094	17019.122	39553.197	-22534.075
30+960	0.000	36.511					
			0.000	745.001	17019.122	40298.198	-23279.076
30+980	0.000	37.990					
			0.000	680.707	17019.122	40978.905	-23959.784
31+000	0.000	30.081					
			0.000	499.611	17019.122	41478.516	-24459.394
31+020	0.000	19.880					
			5.454	257.716	17024.575	41736.232	-24711.657
31+040	0.545	5.892					
			120.851	58.917	17145.426	41795.149	-24649.723
31+060	11.540	0.000					
			388.092	0.000	17533.518	41795.149	-24261.631
31+080	27.269	0.000					
			659.872	0.000	18193.390	41795.149	-23601.760
31+100	38.718	0.000					
			856.531	0.000	19049.920	41795.149	-22745.229
31+120	46.935	0.000					
			988.942	0.000	20038.862	41795.149	-21756.287
31+140	51.959	0.000					
			1117.005	0.000	21155.868	41795.149	-20639.282
31+160	59.742	0.000					
			1244.562	0.000	22400.430	41795.149	-19394.720

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
31+180	64.715	0.000					
			1329.321	0.000	23729.751	41795.149	-18065.398
31+200	68.218	0.000					
			1411.067	0.000	25140.818	41795.149	-16654.331
31+220	72.889	0.000					
			1463.089	0.000	26603.907	41795.149	-15191.242
31+240	73.420	0.000					
			1531.046	0.000	28134.953	41795.149	-13660.196
31+260	79.685	0.000					
			1604.090	0.000	29739.044	41795.149	-12056.106
31+280	80.724	0.000					
			1571.316	0.000	31310.360	41795.149	-10484.789
31+300	76.407	0.000					
			1437.519	0.000	32747.879	41795.149	-9047.270
31+320	67.344	0.000					
			1254.175	0.000	34002.054	41795.149	-7793.095
31+340	58.073	0.000					
			1069.381	0.000	35071.435	41795.149	-6723.714
31+360	48.865	0.000					
			877.469	0.000	35948.904	41795.149	-5846.245
31+380	38.882	0.000					
			654.945	0.000	36603.850	41795.149	-5191.300
31+400	26.613	0.000					
			435.822	0.000	37039.671	41795.149	-4755.478
31+420	16.970	0.000					
			285.918	0.000	37325.590	41795.149	-4469.560
31+440	11.622	0.000					
			240.556	0.000	37566.145	41795.149	-4229.004
31+460	12.433	0.000					
			297.915	0.000	37864.060	41795.149	-3931.089
31+480	17.358	0.000					
			387.405	0.000	38251.465	41795.149	-3543.684
31+500	21.382	0.000					
			443.229	0.000	38694.694	41795.149	-3100.455
31+520	22.941	0.000					
			417.014	0.000	39111.708	41795.149	-2683.441
31+540	18.761	0.000					
			304.549	0.000	39416.257	41795.149	-2378.893
31+560	11.694	0.000					
			209.691	0.000	39625.948	41795.149	-2169.201
31+580	9.275	0.000					
			184.310	0.000	39810.258	41795.149	-1984.891
31+600	9.156	0.000					
			162.347	0.000	39972.606	41795.149	-1822.544
31+620	7.079	0.000					
			123.823	4.970	40096.429	41800.119	-1703.690
31+640	5.304	0.497					
			115.283	16.494	40211.711	41816.613	-1604.902

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
31+660	6.225	1.152					
			128.171	33.131	40339.883	41849.744	-1509.861
31+680	6.592	2.161					
			122.330	42.106	40462.213	41891.850	-1429.638
31+700	5.641	2.050					
			105.418	42.505	40567.631	41934.355	-1366.724
31+720	4.901	2.200					
			100.146	48.739	40667.777	41983.094	-1315.317
31+740	5.113	2.673					
			127.452	30.867	40795.229	42013.961	-1218.732
31+760	7.632	0.413					
			225.675	4.133	41020.903	42018.094	-997.190
31+780	14.936	0.000					
			375.294	0.000	41396.197	42018.094	-621.896
31+800	22.594	0.000					
			486.338	0.000	41882.535	42018.094	-135.559
31+820	26.040	0.000					
			488.141	0.000	42370.676	42018.094	352.582
31+840	22.774	0.000					
			388.643	0.000	42759.318	42018.094	741.225
31+860	16.090	0.000					
			254.334	0.000	43013.653	42018.094	995.559
31+880	9.343	0.000					
			131.339	0.534	43144.992	42018.628	1126.364
31+900	3.791	0.053					
			54.003	14.578	43198.995	42033.206	1165.789
31+920	1.610	1.404					
			29.540	29.198	43228.535	42062.404	1166.131
31+940	1.344	1.515					
			22.149	35.273	43250.684	42097.676	1153.008
31+960	0.871	2.012					
			8.705	62.202	43259.389	42159.878	1099.511
31+980	0.000	4.208					
			0.000	88.930	43259.389	42248.808	1010.581
32+000	0.000	4.685					
			0.000	88.813	43259.389	42337.622	921.767
32+020	0.000	4.197					
			0.000	87.085	43259.389	42424.707	834.682
32+040	0.000	4.512					
			0.000	98.520	43259.389	42523.227	736.162
32+060	0.000	5.340					
			0.000	119.566	43259.389	42642.793	616.596
32+080	0.000	6.616					
			0.000	138.451	43259.389	42781.244	478.146
32+100	0.000	7.229					
			0.000	147.247	43259.389	42928.491	330.899
32+120	0.000	7.496					
			0.000	151.008	43259.389	43079.498	179.891

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)						
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
32+140	0.000	7.605					
			0.000	158.802	43259.389	43238.300	21.089
32+160	0.000	8.276					
			0.000	171.470	43259.389	43409.770	-150.381
32+180	0.000	8.871					
			0.000	163.791	43259.389	43573.561	-314.172
32+200	0.000	7.508					
			0.000	140.012	43259.389	43713.573	-454.184
32+220	0.000	6.493					
			0.000	129.575	43259.389	43843.148	-583.759
32+240	0.000	6.464					
			0.000	133.248	43259.389	43976.396	-717.007
32+260	0.000	6.861					
			0.000	141.754	43259.389	44118.150	-858.761
32+280	0.000	7.315					
			0.000	148.138	43259.389	44266.289	-1006.899
32+300	0.000	7.499					
			0.000	147.163	43259.389	44413.452	-1154.062
32+320	0.000	7.217					
			0.000	145.721	43259.389	44559.172	-1299.783
32+340	0.000	7.355					
			0.000	142.260	43259.389	44701.432	-1442.043
32+360	0.000	6.871					
			0.000	128.605	43259.389	44830.037	-1570.648
32+380	0.000	5.989					
			0.000	104.035	43259.389	44934.072	-1674.683
32+400	0.000	4.414					
			0.000	73.183	43259.389	45007.256	-1747.866
32+420	0.000	2.904					
			3.251	45.907	43262.640	45053.163	-1790.523
32+440	0.325	1.686					
			7.850	28.308	43270.490	45081.471	-1810.981
32+460	0.460	1.144					
			9.067	19.749	43279.556	45101.219	-1821.663
32+480	0.447	0.830					
			8.095	28.033	43287.652	45129.253	-1841.601
32+500	0.363	1.973					
			6.906	44.212	43294.558	45173.465	-1878.907
32+520	0.328	2.448					
			3.278	63.948	43297.836	45237.413	-1939.577
32+540	0.000	3.946					
			0.000	102.835	43297.836	45340.248	-2042.412
32+560	0.000	6.337					
			0.000	168.755	43297.836	45509.003	-2211.167
32+580	0.000	10.538					
			0.000	208.764	43297.836	45717.767	-2419.931
32+600	0.000	10.338					
			0.000	206.120	43297.836	45923.886	-2626.050

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
32+620	0.000	10.274					
			0.000	202.788	43297.836	46126.675	-2828.839
32+640	0.000	10.005					
			0.000	201.731	43297.836	46328.405	-3030.569
32+660	0.000	10.168					
			0.000	208.691	43297.836	46537.096	-3239.260
32+680	0.000	10.701					
			0.000	211.738	43297.836	46748.834	-3450.998
32+700	0.000	10.473					
			0.000	200.900	43297.836	46949.734	-3651.899
32+720	0.000	9.617					
			0.000	183.125	43297.836	47132.859	-3835.023
32+740	0.000	8.695					
			0.000	166.909	43297.836	47299.768	-4001.932
32+760	0.000	7.996					
			0.000	158.289	43297.836	47458.057	-4160.221
32+780	0.000	7.833					
			0.000	143.212	43297.836	47601.269	-4303.434
32+800	0.000	6.488					
			4.961	117.034	43302.797	47718.303	-4415.506
32+820	0.496	5.215					
			13.083	97.248	43315.880	47815.551	-4499.671
32+840	0.812	4.509					
			20.405	83.119	43336.285	47898.669	-4562.384
32+860	1.228	3.803					
			24.171	73.045	43360.456	47971.714	-4611.259
32+880	1.189	3.502					
			22.654	66.517	43383.110	48038.231	-4655.121
32+900	1.077	3.150					
			27.359	59.248	43410.469	48097.479	-4687.011
32+920	1.659	2.775					
			40.597	54.958	43451.065	48152.437	-4701.372
32+940	2.401	2.721					
			45.425	51.804	43496.491	48204.241	-4707.751
32+960	2.142	2.460					
			39.001	46.657	43535.491	48250.898	-4715.407
32+980	1.758	2.206					
			28.520	53.670	43564.011	48304.568	-4740.557
33+000	1.094	3.161					
			16.138	71.701	43580.149	48376.269	-4796.120
33+020	0.520	4.009					
			5.199	99.559	43585.348	48475.828	-4890.480
33+040	0.000	5.947					
			0.000	135.040	43585.348	48610.868	-5025.520
33+060	0.000	7.557					
			0.000	138.789	43585.348	48749.657	-5164.309
33+080	0.000	6.322					
			4.868	104.175	43590.216	48853.832	-5263.616

Ing. Emilio Díaz de Vivar
Representante Legal
Empresa de Construcciones edivisa

Ing. Arturo Bracho
Supervisor de Obras

CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
33+100	0.487	4.096					
			13.666	77.129	43603.882	48930.961	-5327.078
33+120	0.880	3.617					
			26.186	60.749	43630.069	48991.709	-5361.640
33+140	1.739	2.458					
			41.277	47.535	43671.346	49039.244	-5367.899
33+160	2.389	2.296					
			50.127	46.842	43721.473	49086.087	-5364.614
33+180	2.624	2.388					
			45.755	44.305	43767.228	49130.392	-5363.164
33+200	1.952	2.042					
			30.308	46.454	43797.536	49176.846	-5379.310
33+220	1.079	2.603					
			17.201	67.108	43814.736	49243.954	-5429.217
33+240	0.641	4.108					
			20.025	75.116	43834.761	49319.070	-5484.308
33+260	1.362	3.404					
			35.508	69.564	43870.270	49388.634	-5518.364
33+280	2.189	3.552					
			40.774	59.753	43911.044	49448.388	-5537.344
33+300	1.888	2.423					
			38.845	32.393	43949.889	49480.780	-5530.892
33+320	1.996	0.816					
			43.025	10.677	43992.914	49491.457	-5498.543
33+340	2.306	0.251					
			53.583	2.513	44046.497	49493.970	-5447.472
33+360	3.052	0.000					
			68.567	0.000	44115.065	49493.970	-5378.905
33+380	3.804	0.000					
			78.039	0.000	44193.104	49493.970	-5300.866
33+400	3.999	0.000					
			78.265	0.566	44271.368	49494.535	-5223.167
33+420	3.827	0.057					
			68.835	4.840	44340.203	49499.375	-5159.172
33+440	3.056	0.427					
			64.308	18.155	44404.512	49517.530	-5113.018
33+460	3.374	1.388					
			68.357	39.401	44472.868	49556.931	-5084.062
33+480	3.461	2.552					
			77.947	61.243	44550.815	49618.174	-5067.359
33+500	4.333	3.572					
			86.490	70.479	44637.305	49688.654	-5051.348
33+520	4.316	3.476					
			108.943	68.281	44746.248	49756.935	-5010.687
33+540	6.579	3.352					
			131.081	73.373	44877.329	49830.308	-4952.979
33+560	6.530	3.985					
			113.283	93.422	44990.613	49923.730	-4933.118

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
33+580	4.799	5.357					
			94.710	108.431	45085.322	50032.161	-4946.839
33+600	4.672	5.486					
			84.846	113.175	45170.168	50145.336	-4975.168
33+620	3.812	5.832					
			62.841	124.267	45233.009	50269.604	-5036.594
33+640	2.472	6.595					
			24.718	145.575	45257.727	50415.178	-5157.451
33+660	0.000	7.963					
			0.000	150.320	45257.727	50565.498	-5307.771
33+680	0.000	7.069					
			0.000	131.874	45257.727	50697.373	-5439.645
33+700	0.000	6.118					
			7.010	108.049	45264.737	50805.421	-5540.684
33+720	0.701	4.687					
			17.540	83.077	45282.278	50888.498	-5606.221
33+740	1.053	3.621					
			49.419	61.042	45331.697	50949.540	-5617.843
33+760	3.889	2.483					
			90.119	44.707	45421.817	50994.247	-5572.431
33+780	5.123	1.987					
			106.560	44.389	45528.376	51038.636	-5510.260
33+800	5.533	2.452					
			98.238	55.181	45626.614	51093.817	-5467.203
33+820	4.291	3.067					
			86.476	65.584	45713.090	51159.401	-5446.311
33+840	4.357	3.492					
			89.991	78.457	45803.081	51237.858	-5434.778
33+860	4.642	4.354					
			59.938	104.178	45863.019	51342.036	-5479.017
33+880	1.351	6.064					
			20.272	139.796	45883.291	51481.833	-5598.541
33+900	0.676	7.916					
			9.241	153.217	45892.532	51635.049	-5742.517
33+920	0.248	7.406					
			2.483	151.969	45895.016	51787.018	-5892.003
33+940	0.000	7.791					
			0.000	155.352	45895.016	51942.371	-6047.355
33+960	0.000	7.744					
			0.000	175.946	45895.016	52118.317	-6223.301
33+980	0.000	9.850					
			0.000	205.223	45895.016	52323.540	-6428.524
34+000	0.000	10.672					
			0.000	236.080	45895.016	52559.620	-6664.604
34+020	0.000	12.936					
			0.000	305.007	45895.016	52864.627	-6969.611
34+040	0.000	17.565					
			0.000	378.947	45895.016	53243.574	-7348.558

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
34+060	0.000	20.330					
			0.000	366.283	45895.016	53609.857	-7714.841
34+080	0.000	16.298					
			0.000	311.994	45895.016	53921.852	-8026.836
34+100	0.000	14.901					
			0.000	316.869	45895.016	54238.720	-8343.705
34+120	0.000	16.786					
			0.000	360.051	45895.016	54598.771	-8703.755
34+140	0.000	19.219					
			0.000	407.739	45895.016	55006.509	-9111.494
34+160	0.000	21.555					
			0.000	440.194	45895.016	55446.703	-9551.687
34+180	0.000	22.465					
			0.000	452.035	45895.016	55898.738	-10003.722
34+200	0.000	22.739					
			0.000	484.176	45895.016	56382.914	-10487.898
34+220	0.000	25.679					
			0.000	500.640	45895.016	56883.554	-10988.538
34+240	0.000	24.385					
			0.000	448.827	45895.016	57332.381	-11437.365
34+260	0.000	20.498					
			0.000	411.159	45895.016	57743.541	-11848.525
34+280	0.000	20.618					
			0.000	366.285	45895.016	58109.826	-12214.810
34+300	0.000	16.010					
			0.000	283.648	45895.016	58393.474	-12498.458
34+320	0.000	12.355					
			0.000	236.695	45895.016	58630.169	-12735.153
34+340	0.000	11.315					
			0.000	221.356	45895.016	58851.525	-12956.509
34+360	0.000	10.821					
			0.000	209.946	45895.016	59061.471	-13166.455
34+380	0.000	10.174					
			0.000	199.539	45895.016	59261.010	-13365.994
34+400	0.000	9.780					
			0.000	192.369	45895.016	59453.378	-13558.362
34+420	0.000	9.457					
			0.000	174.955	45895.016	59628.334	-13733.318
34+440	0.000	8.039					
			0.000	155.682	45895.016	59784.016	-13889.000
34+460	0.000	7.530					
			0.000	148.644	45895.016	59932.660	-14037.644
34+480	0.000	7.335					
			0.000	157.619	45895.016	60090.278	-14195.262
34+500	0.000	8.427					
			0.000	171.022	45895.016	60261.300	-14366.284
34+520	0.000	8.675					
			0.000	180.985	45895.016	60442.285	-14547.269

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
34+540	0.000	9.423					
			0.000	186.118	45895.016	60628.403	-14733.388
34+560	0.000	9.188					
			3.596	183.568	45898.611	60811.971	-14913.360
34+580	0.360	9.168					
			9.717	179.069	45908.328	60991.040	-15082.712
34+600	0.612	8.739					
			15.856	161.588	45924.184	61152.628	-15228.444
34+620	0.973	7.420					
			9.734	148.811	45933.918	61301.439	-15367.521
34+640	0.000	7.461					
			5.719	215.523	45939.637	61516.962	-15577.325
34+660	0.572	14.091					
			10.846	242.815	45950.483	61759.777	-15809.294
34+680	0.513	10.190					
			9.235	147.366	45959.718	61907.143	-15947.425
34+700	0.411	4.547					
			15.300	78.969	45975.018	61986.112	-16011.094
34+720	1.119	3.350					
			20.182	62.599	45995.200	62048.711	-16053.511
34+740	0.899	2.910					
			23.106	50.144	46018.306	62098.855	-16080.548
34+760	1.412	2.105					
			31.722	35.540	46050.028	62134.395	-16084.366
34+780	1.761	1.449					
			35.421	27.744	46085.450	62162.139	-16076.689
34+800	1.781	1.325					
			35.856	28.132	46121.306	62190.271	-16068.965
34+820	1.804	1.488					
			44.591	18.937	46165.898	62209.208	-16043.310
34+840	2.655	0.406					
			68.150	4.056	46234.048	62213.264	-15979.216
34+860	4.160	0.000					
			83.885	0.000	46317.933	62213.264	-15895.331
34+880	4.228	0.000					
			83.356	0.000	46401.290	62213.264	-15811.974
34+900	4.107	0.000					
			78.800	0.697	46480.089	62213.961	-15733.871
34+920	3.773	0.070					
			114.396	0.697	46594.485	62214.657	-15620.173
34+940	7.667	0.000					
			200.089	0.000	46794.574	62214.657	-15420.084
34+960	12.342	0.000					
			329.557	0.000	47124.130	62214.657	-15090.527
34+980	20.614	0.000					
			502.095	0.000	47626.226	62214.657	-14588.432
35+000	29.596	0.000					
			711.466	0.000	48337.692	62214.657	-13876.966

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)						
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
35+020	41.551	0.000					
			867.564	0.000	49205.256	62214.657	-13009.401
35+040	45.206	0.000					
			975.183	0.000	50180.439	62214.657	-12034.218
35+060	52.313	0.000					
			944.970	0.000	51125.409	62214.657	-11089.248
35+080	42.184	0.000					
			748.190	0.000	51873.599	62214.657	-10341.058
35+100	32.635	0.000					
			642.277	0.000	52515.876	62214.657	-9698.781
35+120	31.593	0.000					
			620.611	0.000	53136.488	62214.657	-9078.170
35+140	30.468	0.000					
			461.687	3.859	53598.175	62218.517	-8620.342
35+160	15.701	0.386					
			203.380	73.897	53801.555	62292.414	-8490.859
35+180	4.637	7.004					
			46.372	197.429	53847.927	62489.842	-8641.915
35+200	0.000	12.739					
			0.000	307.564	53847.927	62797.406	-8949.479
35+220	0.000	18.017					
			0.000	406.879	53847.927	63204.285	-9356.358
35+240	0.000	22.671					
			0.000	480.531	53847.927	63684.816	-9836.889
35+260	0.000	25.382					
			0.000	502.089	53847.927	64186.905	-10338.978
35+280	0.000	24.826					
			0.000	450.909	53847.927	64637.813	-10789.886
35+300	0.000	20.264					
			0.000	345.729	53847.927	64983.542	-11135.615
35+320	0.000	14.308					
			0.000	214.868	53847.927	65198.410	-11350.484
35+340	0.000	7.178					
			0.000	104.990	53847.927	65303.400	-11455.473
35+360	0.000	3.321					
			4.472	47.364	53852.399	65350.765	-11498.366
35+380	0.447	1.416					
			4.472	44.956	53856.871	65395.721	-11538.850
35+400	0.000	3.080					
			0.000	118.841	53856.871	65514.562	-11657.691
35+420	0.000	8.804					
			0.000	233.758	53856.871	65748.320	-11891.450
35+440	0.000	14.572					
			0.000	327.036	53856.871	66075.356	-12218.485
35+460	0.000	18.132					
			0.000	378.223	53856.871	66453.578	-12596.708
35+480	0.000	19.690					
			0.000	413.269	53856.871	66866.847	-13009.977

Ing. Eraldo Díaz de Vivar
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Empresa de Construcciones edivisa

Ing. Arturo Bracho
Supervisor de Obras

CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
35+500	0.000	21.637					
			0.000	422.293	53856.871	67289.140	-13432.269
35+520	0.000	20.593					
			0.000	396.913	53856.871	67686.053	-13829.182
35+540	0.000	19.099					
			27.157	203.153	53884.028	67889.206	-14005.178
35+560	2.716	1.217					
			213.223	12.166	54097.251	67901.372	-13804.122
35+580	18.607	0.000					
			560.303	0.000	54657.554	67901.372	-13243.819
35+600	37.424	0.000					
			820.854	0.000	55478.408	67901.372	-12422.964
35+620	44.662	0.000					
			928.956	0.000	56407.364	67901.372	-11494.008
35+640	48.234	0.000					
			927.900	0.000	57335.264	67901.372	-10566.108
35+660	44.556	0.000					
			826.766	0.000	58162.030	67901.372	-9739.342
35+680	38.121	0.000					
			692.791	0.000	58854.821	67901.372	-9046.551
35+700	31.158	0.000					
			548.422	0.000	59403.243	67901.372	-8498.129
35+720	23.684	0.000					
			381.077	0.000	59784.320	67901.372	-8117.052
35+740	14.424	0.000					
			213.125	0.000	59997.445	67901.372	-7903.927
35+760	6.889	0.000					
			83.814	7.261	60081.259	67908.633	-7827.373
35+780	1.493	0.726					
			14.927	56.696	60096.187	67965.328	-7869.142
35+800	0.000	4.944					
			0.000	161.642	60096.187	68126.970	-8030.784
35+820	0.000	11.221					
			0.000	268.234	60096.187	68395.204	-8299.018
35+840	0.000	15.603					
			0.000	354.916	60096.187	68750.121	-8653.934
35+860	0.000	19.889					
			0.000	424.815	60096.187	69174.936	-9078.749
35+880	0.000	22.593					
			0.000	377.018	60096.187	69551.954	-9455.767
35+900	0.000	14.978					
			0.000	263.772	60096.187	69815.726	-9719.539
35+920	0.000	11.484					
			0.000	171.590	60096.187	69987.316	-9891.129
35+940	0.000	5.866					
			10.871	67.942	60107.058	70055.258	-9948.200
35+960	1.057	0.931					
			151.355	9.338	60258.413	70064.596	-9806.183

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
35+980	13.596	0.000					
			407.837	0.000	60666.251	70064.596	-9398.346
36+000	26.876	0.000					
			623.992	0.000	61290.243	70064.596	-8774.354
36+020	35.105	0.000					
			676.534	0.000	61966.777	70064.596	-8097.820
36+040	32.548	0.000					
			523.326	0.000	62490.102	70064.596	-7574.494
36+060	19.784	0.000					
			197.841	173.608	62687.944	70238.204	-7550.261
36+080	0.000	17.361					
			0.000	835.454	62687.944	71073.658	-8385.715
36+100	0.000	66.185					
			0.000	1064.436	62687.944	72138.094	-9450.151
36+120	0.000	40.259					
			83.492	394.556	62771.435	72532.650	-9761.215
36+140	8.194	0.055					
			525.403	0.541	63296.838	72533.191	-9236.353
36+160	43.064	0.000					
			644.869	0.797	63941.707	72533.988	-8592.280
36+180	20.211	0.081					
			204.752	405.622	64146.459	72939.610	-8793.151
36+200	0.000	41.190					
			0.000	1027.777	64146.459	73967.387	-9820.928
36+220	0.000	61.920					
			0.000	984.609	64146.459	74951.997	-10805.538
36+240	0.000	36.541					
			0.000	794.028	64146.459	75746.025	-11599.566
36+260	0.000	42.862					
			31.093	706.784	64177.552	76452.809	-12275.257
36+280	3.109	27.817					
			186.639	382.816	64364.191	76835.625	-12471.434
36+300	15.555	10.465					
			342.067	134.202	64706.258	76969.827	-12263.569
36+320	18.652	2.955					
			348.677	29.553	65054.935	76999.381	-11944.445
36+340	16.216	0.000					
			189.496	10.249	65244.431	77009.630	-11765.199
36+360	2.895	1.018					
			40.850	135.462	65285.281	77145.092	-11859.811
36+380	1.270	12.315					
			51.933	208.033	65337.214	77353.125	-12015.911
36+400	4.032	8.080					
			85.857	200.891	65423.071	77554.016	-12130.945
36+420	4.738	11.592					
			57.086	242.819	65480.157	77796.834	-12316.677
36+440	0.971	12.690					
			123.574	258.300	65603.731	78055.134	-12451.403

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Supervisor de Obras

CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
36+460	11.386	13.140					
			316.682	145.864	65920.413	78200.999	-12280.586
36+480	20.282	1.447					
			451.029	36.847	66371.443	78237.845	-11866.403
36+500	24.821	2.238					
			464.287	86.113	66835.729	78323.958	-11488.229
36+520	21.607	6.373					
			408.992	109.803	67244.721	78433.762	-11189.041
36+540	20.787	4.167					
			450.678	43.695	67695.399	78477.456	-10782.057
36+560	25.741	0.027					
			687.506	0.276	68382.905	78477.732	-10094.827
36+580	44.675	0.000					
			1106.056	0.000	69488.961	78477.732	-8988.771
36+600	67.873	0.000					
			1299.875	0.000	70788.836	78477.732	-7688.896
36+620	64.626	0.000					
			1112.865	0.000	71901.701	78477.732	-6576.031
36+640	49.430	0.000					
			904.818	0.000	72806.519	78477.732	-5671.213
36+660	41.051	0.000					
			727.766	6.781	73534.285	78484.513	-4950.228
36+680	31.725	0.678					
			629.145	20.060	74163.430	78504.573	-4341.143
36+700	31.189	1.328					
			655.549	24.375	74818.979	78528.948	-3709.969
36+720	34.366	1.110					
			722.492	21.841	75541.471	78550.789	-3009.318
36+740	37.883	1.075					
			767.617	11.663	76309.089	78562.452	-2253.363
36+760	38.878	0.092					
			646.721	2.160	76955.810	78564.612	-1608.803
36+780	20.405	0.146					
			212.654	121.919	77168.464	78686.531	-1518.067
36+800	0.000	12.663					
			0.000	786.834	77168.464	79473.365	-2304.901
36+820	0.000	66.912					
			0.000	1848.232	77168.464	81321.598	-4153.134
36+840	0.000	118.121					
			0.000	2054.467	77168.464	83376.065	-6207.601
36+860	0.000	83.565					
			0.000	1467.652	77168.464	84843.717	-7675.253
36+880	0.000	60.278					
			0.000	888.622	77168.464	85732.338	-8563.874
36+900	0.000	27.616					
			80.753	276.937	77249.217	86009.275	-8760.058
36+920	7.826	0.000					
			333.794	0.000	77583.011	86009.275	-8426.264

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)				edivisa Empresa de Construcciones		
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
36+940	23.731	0.000					
			568.041	0.000	78151.052	86009.275	-7858.223
36+960	33.073	0.000					
			722.168	0.000	78873.220	86009.275	-7136.055
36+980	39.144	0.000					
			918.993	0.000	79792.213	86009.275	-6217.062
37+000	52.755	0.000					
			1240.662	0.000	81032.876	86009.275	-4976.399
37+020	71.311	0.000					
			1515.853	0.000	82548.729	86009.275	-3460.546
37+040	80.274	0.000					
			1470.725	0.000	84019.454	86009.275	-1989.821
37+060	66.798	0.000					
			1045.393	0.002	85064.847	86009.277	-944.430
37+080	37.982	0.000					
			553.086	68.252	85617.932	86077.528	-459.596
37+100	17.484	6.805					
			246.607	308.513	85864.540	86386.042	-521.502
37+120	7.256	23.960					
			91.696	665.054	85956.235	87051.096	-1094.861
37+140	1.945	42.346					
			19.448	962.810	85975.683	88013.906	-2038.223
37+160	0.000	53.935					
			0.000	1102.380	85975.683	89116.286	-3140.603
37+180	0.000	56.303					
			0.000	1088.150	85975.683	90204.436	-4228.753
37+200	0.000	52.512					
			0.000	845.106	85975.683	91049.541	-5073.858
37+220	0.000	32.707					
			0.054	364.298	85975.737	91413.840	-5438.103
37+240	0.005	3.932					
			129.808	39.208	86105.544	91453.048	-5347.504
37+260	13.009	0.000					
			403.738	0.000	86509.282	91453.048	-4943.766
37+280	27.378	0.000					
			680.661	0.000	87189.943	91453.048	-4263.105
37+300	40.688	0.000					
			974.411	0.000	88164.355	91453.048	-3288.693
37+320	56.753	0.000					
			1293.128	0.000	89457.482	91453.048	-1995.565
37+340	72.560	0.000					
			1294.936	0.000	90752.418	91453.048	-700.629
37+360	56.600	0.000					
			762.671	0.000	91515.089	91453.048	62.042
37+380	19.473	0.000					
			223.139	0.780	91738.228	91453.828	284.400
37+400	2.853	0.077					
			28.506	99.685	91766.735	91553.513	213.221

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)						
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
37+420	0.000	9.694					
			0.000	226.762	91766.735	91780.275	-13.540
37+440	0.000	12.437					
			30.474	173.138	91797.209	91953.413	-156.204
37+460	3.106	4.356					
			133.133	43.558	91930.342	91996.972	-66.629
37+480	10.207	0.000					
			372.949	0.000	92303.291	91996.972	306.319
37+500	27.088	0.000					
			654.866	0.000	92958.157	91996.972	961.186
37+520	38.399	0.000					
			821.324	0.000	93779.481	91996.972	1782.510
37+540	43.734	0.000					
			960.330	0.000	94739.812	91996.972	2742.840
37+560	52.299	0.000					
			1041.786	0.000	95781.598	91996.972	3784.626
37+580	51.879	0.000					
			917.154	0.000	96698.751	91996.972	4701.780
37+600	39.836	0.000					
			663.794	0.000	97362.546	91996.972	5365.574
37+620	26.543	0.000					
			423.029	0.000	97785.575	91996.972	5788.603
37+640	15.760	0.000					
			158.882	119.376	97944.457	92116.347	5828.109
37+660	0.000	11.996					
			0.000	630.328	97944.457	92746.675	5197.782
37+680	0.000	51.188					
			0.000	867.088	97944.457	93613.763	4330.693
37+700	0.000	35.280					
			0.000	671.773	97944.457	94285.536	3658.921
37+720	0.000	31.717					
			0.000	621.559	97944.457	94907.095	3037.362
37+740	0.000	30.102					
			0.000	551.671	97944.457	95458.766	2485.690
37+760	0.000	24.562					
			0.000	472.491	97944.457	95931.258	2013.199
37+780	0.000	22.519					
			0.000	371.462	97944.457	96302.720	1641.737
37+800	0.000	14.907					
			0.000	277.695	97944.457	96580.415	1364.042
37+820	0.000	12.862					
			5.269	213.528	97949.726	96793.943	1155.783
37+840	0.527	8.491					
			36.052	99.067	97985.778	96893.010	1092.769
37+860	3.078	1.416					
			173.944	14.158	98159.722	96907.168	1252.554
37+880	14.316	0.000					
			382.668	0.000	98542.389	96907.168	1635.221

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Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)						
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
37+900	23.951	0.000					
			514.438	0.000	99056.827	96907.168	2149.659
37+920	27.680	0.000					
			565.308	0.000	99622.135	96907.168	2714.967
37+940	28.812	0.000					
			585.704	0.000 1	207.839	96907.168	3300.671
37+960	29.699	0.000					
			572.912	0.000 1	780.751	96907.168	3873.583
37+980	27.504	0.000					
			503.246	0.000 1	1283.997	96907.168	4376.829
38+000	22.656	0.000					
			473.698	0.000 1	1757.695	96907.168	4850.527
38+020	24.713	0.000					
			506.349	0.000 1	2264.044	96907.168	5356.875
38+040	26.113	0.000					
			353.248	0.000 1	2617.292	96907.168	5710.124
38+060	9.562	0.000					
			151.710	0.000 1	2769.002	96907.168	5861.834
38+080	5.716	0.000					
			80.954	1.520 1	2849.955	96908.688	5941.267
38+100	2.512	0.150					
			39.551	18.884 1	2889.506	96927.572	5961.934
38+120	1.591	1.683					
			17.816	62.190 1	2907.322	96989.761	5917.561
38+140	0.271	4.382					
			2.710	118.219 1	2910.033	97107.981	5802.052
38+160	0.000	7.440					
			0.000	159.168 1	2910.033	97267.149	5642.884
38+180	0.000	8.477					
			0.000	149.135 1	2910.033	97416.284	5493.749
38+200	0.000	6.436					
			0.000	132.518 1	2910.033	97548.802	5361.231
38+220	0.000	6.815					
			0.000	157.978 1	2910.033	97706.780	5203.253
38+240	0.000	8.982					
			0.000	205.063 1	2910.033	97911.843	4998.190
38+260	0.000	11.524					
			0.000	166.201 1	2910.033	98078.044	4831.989
38+280	0.000	5.096					
			12.798	51.413 1	2922.831	98129.457	4793.374
38+300	1.280	0.045					
			85.267	0.450 1	3008.098	98129.907	4878.191
38+320	7.247	0.000					
			198.239	0.000 1	3206.337	98129.907	5076.430
38+340	12.577	0.000					
			273.322	0.000 1	3479.659	98129.907	5349.752
38+360	14.755	0.000					
			245.480	0.000 1	3725.140	98129.907	5595.233

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CÁLCULO DE VOLÚMENES								
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)							
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3		Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
38+380	9.384	0.000						
			95.114	27.642	1	3820.254	98157.549	5662.705
38+400	0.291	2.732						
			2.846	106.788	1	3823.100	98264.337	5558.762
38+420	0.000	7.767						
			0.000	123.074	1	3823.100	98387.411	5435.689
38+440	0.000	4.440						
			1.910	61.613	1	3825.009	98449.024	5375.985
38+460	0.195	1.634						
			10.697	38.251	1	3835.706	98487.275	5348.431
38+480	0.920	2.105						
			22.729	44.060	1	3858.435	98531.335	5327.100
38+500	1.443	2.193						
			14.433	66.608	1	3872.868	98597.943	5274.925
38+520	0.000	4.467						
			0.000	130.548	1	3872.868	98728.491	5144.378
38+540	0.000	8.587						
			0.000	189.590	1	3872.868	98918.081	4954.788
38+560	0.000	10.372						
			0.000	200.356	1	3872.868	99118.437	4754.431
38+580	0.000	9.664						
			0.000	271.507	1	3872.868	99389.944	4482.924
38+600	0.000	17.487						
			0.000	480.710	1	3872.868	99870.655	4002.214
38+620	0.000	30.584						
			0.000	828.164	1	3872.868	100698.819	3174.049
38+640	0.000	52.232						
			0.000	1128.096	1	3872.868	101826.916	2045.953
38+660	0.000	60.494						
			0.000	971.665	1	3872.868	102798.581	1074.287
38+680	0.000	36.718						
			0.000	494.184	1	3872.868	103292.765	580.103
38+700	0.000	12.774						
			31.411	127.569	1	3904.279	103420.334	483.945
38+720	3.110	0.000						
			194.176	0.000	1	4098.455	103420.334	678.121
38+740	16.029	0.000						
			459.204	0.000	1	4557.659	103420.334	1137.325
38+760	29.507	0.000						
			749.604	0.000	1	5307.263	103420.334	1886.929
38+780	44.844	0.000						
			1003.231	0.000	1	6310.494	103420.334	2890.160
38+800	55.480	0.000						
			1113.498	0.000	1	7423.992	103420.334	4003.657
38+820	55.870	0.000						
			1088.635	0.000	1	8512.627	103420.334	5092.293
38+840	52.993	0.000						
			1002.555	0.000	1	9515.182	103420.334	6094.848

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CÁLCULO DE VOLÚMENES							
Tramo:	Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)						
Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3	Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
38+860	47.262	0.000					
			849.807	0.000 1	10364.989	103420.334	6944.655
38+880	37.718	0.000					
			635.718	0.000 1	11000.707	103420.334	7580.372
38+900	25.853	0.000					
			421.536	0.000 1	11422.243	103420.334	8001.909
38+920	16.300	0.000					
			247.890	0.000 1	11670.134	103420.334	8249.799
38+940	8.489	0.000					
			124.761	19.274 1	11794.895	103439.608	8355.287
38+960	3.987	1.927					
			67.973	64.978 1	11862.868	103504.586	8358.281
38+980	2.810	4.570					
			62.423	103.163 1	11925.291	103607.749	8317.542
39+000	3.432	5.746					
			74.969	90.226 1	12000.260	103697.976	8302.285
39+020	4.214	3.094					
			107.717	36.773 1	12107.978	103734.749	8373.229
39+040	6.744	0.510					
			155.982	5.438 1	12263.960	103740.187	8523.773
39+060	9.095	0.022					
			216.067	0.223 1	12480.027	103740.410	8739.617
39+080	12.753	0.000					
			277.578	0.000 1	12757.605	103740.410	9017.195
39+100	15.185	0.000					
			363.554	0.000 1	13121.160	103740.410	9380.750
39+120	21.346	0.000					
			397.022	6.242 1	13518.181	103746.652	9771.529
39+140	18.657	0.616					
			283.812	42.451 1	13801.993	103789.103	10012.890
39+160	10.151	3.550					
			135.758	84.793 1	13937.751	103873.896	10063.855
39+180	3.723	4.835					
			43.477	108.084 1	13981.228	103981.980	9999.248
39+200	0.739	5.884					
			7.294	128.292 1	13988.522	104110.272	9878.250
39+220	0.000	6.856					
			4.030	122.876 1	13992.552	104233.148	9759.404
39+240	0.403	5.431					
			11.581	99.179 1	14004.132	104332.327	9671.805
39+260	0.755	4.487					
			16.486	79.735 1	14020.619	104412.062	9608.556
39+280	0.894	3.487					
			22.113	59.993 1	14042.731	104472.056	9570.675
39+300	1.318	2.513					
			40.014	38.823 1	14082.746	104510.878	9571.867
39+320	2.684	1.370					
			66.904	19.269 1	14149.650	104530.148	9619.502

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CÁLCULO DE VOLÚMENES

Tramo: Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)

edivisa
Empresa de Construcciones

Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3		Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
39+340	4.007	0.557	105.906	10.084	1	14255.556	104540.232	9715.324
39+360	6.584	0.451	182.228	10.256	1	14437.784	104550.488	9887.296
39+380	11.639	0.574	211.448	10.611	1	14649.232	104561.100	10088.132
39+400	9.506	0.487	141.615	14.820	1	14790.846	104575.920	10214.927
39+420	4.656	0.995	59.106	47.129	1	14849.952	104623.049	10226.904
39+440	1.255	3.718	12.551	120.660	1	14862.503	104743.709	10118.794
39+460	0.000	8.348	0.000	202.233	1	14862.503	104945.942	9916.561
39+480	0.000	11.875	0.000	277.817	1	14862.503	105223.759	9638.744
39+500	0.000	15.751	0.000	332.836	1	14862.503	105556.595	9305.908
39+520	0.000	17.294	0.000	378.540	1	14862.503	105935.135	8927.368
39+540	0.000	20.213	0.000	426.037	1	14862.503	106361.172	8501.331
39+560	0.000	21.967	0.000	417.348	1	14862.503	106778.520	8083.983
39+580	0.000	19.344	0.000	347.749	1	14862.503	107126.269	7736.234
39+600	0.000	15.075	0.000	245.968	1	14862.503	107372.238	7490.265
39+620	0.000	9.265	9.886	127.244	1	14872.389	107499.482	7372.907
39+640	0.999	3.298	60.217	34.078	1	14932.605	107533.560	7399.045
39+660	5.133	0.051	201.553	0.518	1	15134.158	107534.078	7600.080
39+680	15.191	0.000	412.310	0.000	1	15546.468	107534.078	8012.390
39+700	26.092	0.000	669.631	0.000	1	16216.099	107534.078	8682.022
39+720	40.849	0.000	877.160	0.000	1	17093.260	107534.078	9559.182
39+740	46.867	0.000	954.667	0.000	1	18047.927	107534.078	10513.849
39+760	48.600	0.000	809.734	113.550	1	18857.661	107647.627	11210.034
39+780	32.374	11.355	479.403	302.874	1	19337.064	107950.501	11386.563
39+800	15.566	18.932	155.664	459.742	1	19492.728	108410.244	11082.484

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Ing. Arturo Bracho
Supervisor de Obras

CÁLCULO DE VOLÚMENES

Tramo: Nueva Esperanza - Laurel - Ruta 10 (de 23+500 a 42+000)

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Prog.	Área Corte m2	Área Relleno m2	Volúmen Corte m3	Volúmen Relleno m3		Vol. Acum. Corte m3	Vol. Acum. Relleno m3	Diagrama de Masas
39+820	0.000	27.042						
			0.000	613.639	1	19492.728	109023.883	10468.845
39+840	0.000	34.322						
			0.000	662.040	1	19492.728	109685.922	9806.806
39+860	0.000	31.934						
			0.000	604.169	1	19492.728	110290.092	9202.636
39+880	0.000	28.483						
			0.000	509.550	1	19492.728	110799.642	8693.086
39+900	0.000	22.463						
			0.000	389.755	1	19492.728	111189.397	8303.331
39+920	0.000	16.526						
			0.000	274.611	1	19492.728	111464.008	8028.719
39+940	0.000	10.956						
			0.000	191.121	1	19492.728	111655.130	7837.598
39+960	0.000	8.156						
			0.000	133.951	1	19492.728	111789.081	7703.647
39+980	0.000	5.239						
			0.000	98.591	1	19492.728	111887.672	7605.056
40+000	0.000	4.620						
			0.000	102.648	1	19492.728	111990.320	7502.408
40+020	0.000	5.645						
			0.000	106.527	1	19492.728	112096.847	7395.881
40+040	0.000	5.008						
			0.000	88.514	1	19492.728	112185.361	7307.367
40+060	0.000	3.843						
			0.000	69.360	1	19492.728	112254.721	7238.007
40+080	0.000	3.093						
			4.204	66.417	1	19496.931	112321.138	7175.793
40+100	0.420	3.549						
			11.606	72.805	1	19508.538	112393.943	7114.594
40+120	0.740	3.731						
			10.804	80.469	1	19519.342	112474.412	7044.930
40+140	0.340	4.316						
			37.243	82.946	1	19556.585	112557.358	6999.227
40+160	3.384	3.979						
			55.278	129.177	1	19611.863	112686.535	6925.329
40+180	2.144	8.939						
			24.154	304.334	1	19636.018	112990.869	6645.149
40+200	0.000	22.959						
			0.000	164.061	1	19636.018	113154.930	6481.088
40+214.492	0.000	0.000						

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COMPUTO MÉTRICO

IMPRIMACION ASFALTICA

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

TIPO	DE	A	LONG.	SUPERFICIE	VOLUMEN
Imprimacion Asfaltica	23+500	40+200	16700	10	167.000,00
					167.000,00 m2

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COMPUTO MÉTRICO

RIEGO DE LIGA

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

TIPO	DE	A	LONG.	SUPERFICIE	VOLUMEN
Riego de Liga	23+500	40+200	16700	7	116.900,00
					116.900,00 m2

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COMPUTO MÉTRICO

CARPETA DE CONCRETO ASFALTICO EN CALIENTE

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

TIPO	DE	A	LONG.	SUPERFICIE	ESPESOR	VOLUMEN	
Carpeta de Concreto Asfaltico en Caliente	23+500	40+200	16700	7	0,05	5.845,00	
						5.845,00	**m2**

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COMPUTO MÉTRICO

TRATAMIENTO SUPERFICIAL SIMPLE EN BANQUINAS

PROYECTO: Nueva Esperanza - Laurel - Ruta 10 (Tramo 2)

TIPO	DE	A	LADO	LONG.	SUPERFICIE	VOLUMEN
Tratamiento Superficial Simple	23+500	40+200	LI	16700	1,5	25.050,00
Tratamiento Superficial Simple	23+500	40+200	LD	16700	1,5	25.050,00
						50.100,00 m2

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