

ELEMENTOS HORIZONTAIS DE LOCAÇÃO
PROJETO DE IMPLANTAÇÃO E PAVIMENTAÇÃO DA RODOVIA SE-469 E ACESSO 131 (BOQUIM / POV. MEIA LÉGUA)

ESTACA	PONTO	COORDENADAS		DADOS DAS TANGENTES		CARACTERÍSTICAS DA CURVA DE TRANSIÇÃO							CURVA CIRCULAR									Superelevação (%)						
						Lc (m)	TL (m)	Tc (m)	Xc (m)	Yc (m)	Ângulo da Espiral	K	P	CENTRO DA CUVA		CARACTERÍSTICAS GERAIS					CORDA							
		LESTE	NORTE	R (m)	AC									Sentido	DESENV.	TANGENTE	AFAST.	COMP.	AZIMUTE	ESQ.	DIR.							
EIXO DA SE-469																												
0+0,000	PP	649.774,854	8.767.729,984	96,666	298°11'44.69"																				-5,00%	-5,00%		
4+16,666	PI	649.689,658	8.767.775,657	214,767	298°56'25.37"																					-5,00%	-5,00%	
15+11,432	TC	649.501,711	8.767.879,583																									
17+11,441	PT	649.466,320	8.767.898,238																									
23+7,952	TC	649.362,185	8.767.950,494																									
24+7,089	PT	649.343,712	8.767.954,739	58,214	269°14'15.00"																							
27+5,302	PI	649.285,504	8.767.953,964	50,976	267°42'13.89"																							
29+16,278	PI	649.234,569	8.767.951,922	95,991	269°7'53.80"																							
34+12,269	TC	649.138,589	8.767.950,467																									
36+9,920	PT	649.100,970	8.767.949,011	34,903	266°26'6.22"																							
38+4,823	TC	649.066,135	8.767.946,841																									
39+8,383	PT	649.042,627	8.767.947,686	18,590	277°41'4.15"																							
40+6,974	TC	649.024,204	8.767.950,172																									
41+7,194	PT	649.004,225	8.767.953,280	26,537	280°0'5.75"																							
42+13,732	TS	648.978,091	8.767.957,889			17,5	11,675	5,8409	17,476	0,6799	6°41'4"	8,746	0,1701															
43+11,232	SC	648.960,998	8.767.961,594																									
44+16,543	CS	648.938,425	8.767.972,777			17,5	11,675	5,8409	17,476	0,6799	6°41'4"	8,746	0,1701															
45+14,043	ST	648.925,122	8.767.984,130	194,908	312°42'24.79"																							
55+8,950	TS	648.781,897	8.768.116,326			15	10,012	5,0107	14,966	0,7488	8°35'40"	7,4944	0,1873															
56+3,950	SC	648.771,407	8.768.127,027																									
57+15,079	CS	648.760,499	8.768.155,647			2,4543	1,6363	0,8182	2,4542	0,0201	1°24'22"	1,2271	0,005															
57+17,533	SS	648.760,410	8.768.158,100			0,3272	0,2182	0,1091	0,3272	0,0002	0°5'37"	0,1636	4E-05															
57+17,861	SC	648.760,400	8.768.158,427																									
59+7,708	CS	648.755,101	8.768.187,688			15	10,003	5,0027	14,992	0,3748	4°17'50"	7,4986	0,0937															
60+2,708	ST	648.749,560	8.768.201,623	130,778	336°53'9.35"																							
66+13,486	PI	648.698,222	8.768.321,903	140,647	338°15'18.83"																							
73+14,132	TS	648.646,116	8.768.452,541			30	20,009	10,008	29,974	0,9369	5°22'17"	14,996	0,2343															
75+4,132	SC	648.634,142	8.768.480,035																									
79+17,325	CS	648.570,544	8.768.546,349			30	20,009	10,008	29,974	0,9369	5°22'17"	14,996	0,2343															
81+7,325	ST	648.543,574	8.768.559,462	81,804	294°8'23.83"																							
85+9,130	TC	648.468,924	8.768.592,917																									
89+10,539	PT	648.393,070	8.768.622,377	100,447	288°18'33.96"																							
94+10,986	TC	648.297,708	8.768.653,932																									
96+8,598	PT	648.262,478	8.768.667,079	12,929	292°37'10.28"																							
97+1,528	TS	648.250,543	8.768.672,052			30	20,037	10,034	29,895	1,8703	10°44'35"	14,982	0,4682															
98+11,528	SC	648.223,667	8.768.685,276																									
100+18,454	CS	648.194,037	8.768.720,797			30	20,037	10,034	29,895	1,8703	10°44'35"	14,982	0,4682															
102+8,454	ST	648.185,848	8.768.749,609	38,906	347°42'49.10"																							
104+7,360	TC	648.177,569	8.768.787,623																									
106+17,167	PT	648.169,410	8.768.836,737	201,238	353°25'16.01"																							
116+18,404	TC	648.146,354	8.769.036,649																									
120+17,136	PT	648.143,516	8.769.115,249	140,978	2°26'35.20"																							
127+18,114	PI	648.149,525	8.769.256,099	128,845	2°23'30.00"																							
134+6,960	PI	648.154,902	8.769.384,832	49,990	1°19'55.64"																							
136+16,949	TC	648.156,064	8.769.434,808																									

ELEMENTOS HORIZONTAIS DE LOCAÇÃO
PROJETO DE IMPLANTAÇÃO E PAVIMENTAÇÃO DA RODOVIA SE-469 E ACESSO 131 (BOQUIM / POV. MEIA LÉGUA)

ESTACA	PONTO	COORDENADAS		DADOS DAS TANGENTES		CARACTERÍSTICAS DA CURVA DE TRANSIÇÃO							CURVA CIRCULAR								Superelevação (%)				
						Lc (m)	TL (m)	Tc (m)	Xc (m)	Yc (m)	Ângulo da Espiral	K	P	CENTRO DA CUVA		CARACTERÍSTICAS GERAIS							CORDA		
		LESTE	NORTE	R (m)	AC									Sentido	DESENV.	TANGENTE	AFAST.	COMP.	AZIMUTE	ESQ.	DIR.				
138+0,939	PT	648.156,047	8.769.458,795	8,931	358°34'59.33"																	-5,00%	-3,57%		
138+9,870	TS	648.155,826	8.769.467,724			15	10,012	5,0107	14,966	0,7488	8°35'40"	7,4944	0,1873										-5,00%	0,00%	
139+4,870	SC	648.154,707	8.769.482,667											648.105,468	8.769.473,975	50,000	30°46'23.27"	Esquerda	26,855	13,760	1,859	26,533	334°36'7.98"	-5,00%	5,00%
140+11,725	CS	648.143,327	8.769.506,636			15	10,012	5,0107	14,966	0,7488	8°35'40"	7,4944	0,1873										-5,00%	5,00%	
141+6,725	ST	648.132,455	8.769.516,948	56,834	310°37'16.62"																		-5,00%	0,00%	
144+3,559	TC	648.089,316	8.769.553,950											647.763,788	8.769.174,435	500,000	3°42'46.28"	Esquerda	32,401	16,206	0,263	32,395	308°45'53.48"	-5,00%	-5,00%
145+15,959	PT	648.064,057	8.769.574,233	1,334	306°54'30.34"																		-5,00%	-0,32%	
145+17,293	TS	648.062,991	8.769.575,034			25,000	16,684	8,349	24,952	1,156	7°57'28"	12,492	0,289										-5,00%	0,00%	
147+2,293	SC	648.042,345	8.769.589,094											647.998,780	8.769.510,341	90,000	19°37'20.54"	Esquerda	30,823	15,564	1,336	30,672	289°8'22.17"	-5,00%	5,00%
148+13,116	CS	648.013,368	8.769.599,151			25,000	16,684	8,349	24,952	1,156	7°57'28"	12,492	0,289										-5,00%	5,00%	
149+18,116	ST	647.988,451	8.769.600,903	84,409	271°22'14.01"																		-5,00%	0,00%	
154+2,524	TS	647.904,067	8.769.602,922			15	10,048	5,0433	14,866	1,4904	17°11'19"	7,4776	0,3738										0,00%	-5,00%	
154+17,524	SC	647.889,241	8.769.604,768											647.897,198	8.769.628,467	25,000	60°40'26.62"	Direita	26,474	14,631	3,966	25,254	318°53'46.77"	5,00%	-5,00%
156+3,998	CS	647.872,638	8.769.623,797			15	10,048	5,0433	14,866	1,4904	17°11'19"	7,4776	0,3738										5,00%	-5,00%	
156+18,998	ST	647.872,820	8.769.638,736	38,290	6°25'19.52"																		0,00%	-5,00%	
158+17,288	TS	647.877,103	8.769.676,786			15,000	10,048	5,043	14,866	1,490	17°11'19"	7,478	0,374										-5,00%	0,00%	
159+12,288	SC	647.877,285	8.769.691,725											647.852,725	8.769.687,055	25,000	51°6'14.42"	Esquerda	22,298	11,952	2,710	21,567	323°40'52.87"	-5,00%	5,00%
160+14,587	CS	647.864,511	8.769.709,102			15,000	10,048	5,043	14,866	1,490	17°11'19"	7,478	0,374										-5,00%	5,00%	
161+9,587	ST	647.850,199	8.769.713,386	34,827	280°56'26.22"																		-5,00%	0,00%	
163+4,414	TC	647.816,005	8.769.719,996											647.827,392	8.769.778,906	60,000	12°49'18.62"	Direita	13,427	6,742	0,378	13,399	287°21'5.52"	-5,00%	-5,00%
163+17,841	PT	647.803,215	8.769.723,992	1,275	293°45'44.83"																		-5,00%	-5,00%	
163+19,116	TC	647.802,049	8.769.724,506											647.773,842	8.769.660,440	70,000	9°31'3.77"	Esquerda	11,628	5,827	0,242	11,615	289°0'12.95"	-5,00%	-5,00%
164+10,744	PT	647.791,067	8.769.728,288	37,747	284°14'41.06"																		-5,00%	-5,00%	
166+8,491	PF	647.754,480	8.769.737,576																				-5,00%	-5,00%	
ACESSO 131 - EIXO 01																									
0+0,000	PP	647.793,869	8.769.727,577	43,111	5°0'48.37"																		-5,00%	-5,00%	
2+3,111	TC	647.797,636	8.769.770,523											647.299,549	8.769.814,218	500,000	6°32'53.35"	Esquerda	57,143	28,603	0,817	57,112	1°44'21.69"	-5,00%	-5,00%
5+0,254	PT	647.799,370	8.769.827,609	508,330	358°27'55.02"																		-5,00%	-5,00%	
30+8,584	TS	647.785,755	8.770.335,756			20,000	13,336	6,669	19,991	0,444	3°49'11"	9,999	0,111										0,00%	-5,00%	
31+8,584	SC	647.785,664	8.770.355,752											647.935,545	8.770.349,772	150,000	10°7'46.12"	Direita	26,519	13,294	0,588	26,484	7°20'59.06"	5,00%	-5,00%
32+15,103	CS	647.789,052	8.770.382,019			20,000	13,336	6,669	19,991	0,444	3°49'11"	9,999	0,111										5,00%	-5,00%	
33+15,103	ST	647.794,214	8.770.401,337	134,013	16°14'3.11"																		0,00%	-5,00%	
40+9,116	TS	647.831,680	8.770.530,007			25,000	16,676	8,342	24,973	0,867	5°58'6"	12,495	0,217										-5,00%	0,00%	
41+14,116	SC	647.837,828	8.770.554,227											647.719,749	8.770.575,613	120,000	12°45'52.77"	Esquerda	26,734	13,423	0,748	26,679	3°53'0.81"	-5,00%	5,00%
43+0,851	CS	647.839,635	8.770.580,844			25,000	16,676	8,342	24,973	0,867	5°58'6"	12,495	0,217										-5,00%	5,00%	
44+5,851	ST	647.836,816	8.770.605,673	108,762	351°31'58.51"																		-5,00%	0,00%	
49+14,613	TS	647.820,802	8.770.713,249			15,000	10,008	5,007	14,977	0,624	7°9'43"	7,496	0,156										0,00%	-5,00%	
50+9,613	SC	647.819,214	8.770.728,155											647.879,199	8.770.729,521	60,000	40°42'24.33"	Direita	42,628	22,258	3,996	41,737	19°2'53.78"	5,00%	-5,00%
52+12,241	CS	647.832,836	8.770.767,606			15,000	10,008	5,007	14,977	0,624	7°9'43"	7,496	0,156										5,00%	-5,00%	
53+7,241	ST	647.843,281	8.770.778,357	4,979	46°33'49.04"																		0,71%	-0,71%	
53+12,220	TS	647.846,897	8.770.781,780			15,000	10,024	5,022	14,931	1,068	12°16'40"	7,489	0,267										-0,71%	0,71%	
54+7,220	SC	647.857,005	8.770.792,822											647.828,087	8.770.812,538	35,000	42°55'44.00"	Esquerda	26,224	13,762	2,608	25,615	12°49'17.44"	-5,00%	5,00%
55+13,444	CS	647.862,689	8.770.817,798			15,000	10,024	5,022	14,931	1,068	12°16'40"	7,489	0,267										-5,00%	5,00%	
56+8,444	ST	647.858,355	8.770.832,126	73,246	339°4'45.84"																		-5,00%	0,00%	
60+1,689	PF	647.832,201	8.770.900,543																				-5,00%	-5,00%	

PROJETO DE IMPLANTAÇÃO E PAVIMENTAÇÃO DA RODOVIA SE-469 E ACESSO 131 (BOQUIM / POV. MEIA LÉGUA)

ESTACA	PONTO	COORDENADAS		DADOS DAS TANGENTES		CARACTERÍSTICAS DA CURVA DE TRANSIÇÃO							CURVA CIRCULAR							Superelevação (%)											
						Lc (m)	TL (m)	Tc (m)	Xc (m)	Yc (m)	Ângulo da Espiral	K	P	CENTRO DA CUVA		CARACTERÍSTICAS GERAIS						CORDA									
		LESTE	NORTE	R (m)	AC									Sentido	DESENV.	TANGENTE	AFAST.	COMP.	AZIMUTE	ESQ.	DIR.										
ACESSO 131 - EIXO 02																															
0+0,000	PP	647.786,670	8.771.007,950	85,539	336°32'21.48"																			-5,00%	-5,00%						
4+5,539	TC	647.752,615	8.771.086,418										647.615,015	8.771.026,700	150,000	4°13'19.84"	Esquerda	11,054	5,529	0,102	11,051	334°25'41.56"			-5,00%	-5,00%					
4+16,593	PT	647.747,845	8.771.096,386	197,015	332°19'1.64"																				-5,00%	-5,00%					
14+13,608	TC	647.656,316	8.771.270,850										647.921,976	8.771.410,223	300,000	16°33'20.28"	Direita	86,685	43,647	3,158	86,384	340°35'41.78"			-5,00%	-5,00%					
19+0,293	PT	647.627,616	8.771.352,326	60,568	348°52'21.92"																					-5,00%	-5,00%				
22+0,861	TC	647.615,927	8.771.411,756										648.106,527	8.771.508,250	500,000	2°57'37.59"	Direita	25,835	12,920	0,167	25,832	350°21'10.72"			-5,00%	-5,00%					
23+6,696	PT	647.611,598	8.771.437,222	38,825	351°49'59.52"																						-5,00%	-5,00%			
25+5,520	TC	647.606,083	8.771.475,653										647.457,604	8.771.454,345	150,000	9°12'18.52"	Esquerda	24,099	12,075	0,485	24,073	347°13'50.25"			-5,00%	-5,00%					
26+9,619	PT	647.600,762	8.771.499,131	61,511	342°37'40.99"																						-5,00%	-5,00%			
29+11,130	TC	647.582,396	8.771.557,836										647.725,554	8.771.602,622	150,000	7°16'42.15"	Direita	19,055	9,540	0,303	19,042	346°16'2.07"			-5,00%	-5,00%					
30+10,185	PT	647.577,876	8.771.576,334	148,377	349°54'23.14"																						-5,00%	-5,00%			
37+18,563	TC	647.551,872	8.771.722,415										647.404,193	8.771.696,126	150,000	7°56'54.65"	Esquerda	20,809	10,421	0,362	20,792	345°55'55.82"			-5,00%	-5,00%					
38+19,372	PT	647.546,818	8.771.742,584	36,048	341°57'28.49"																							-5,00%	-5,00%		
40+15,419	TC	647.535,653	8.771.776,859										647.678,278	8.771.823,316	150,000	4°44'30.40"	Direita	12,414	6,211	0,129	12,410	344°19'43.69"			-5,00%	-5,00%					
41+7,833	PT	647.532,301	8.771.788,808	60,648	346°41'58.89"																							-5,00%	-5,00%		
44+8,481	TC	647.518,349	8.771.847,829										647.421,031	8.771.824,823	100,000	11°7'21.63"	Esquerda	19,413	9,737	0,473	19,382	341°8'18.08"			-5,00%	-5,00%					
45+7,894	PT	647.512,083	8.771.866,170	7,158	335°34'37.26"																							-5,00%	-5,00%		
45+15,051	PF	647.509,123	8.771.872,688																									-5,00%	-5,00%		
ACESSO 131 - EIXO 03																															
0+0,000	PP	647.874,329	8.771.026,785	49,160	19°14'34.77"																							-5,00%	-5,00%		
2+9,160	PI	647.890,530	8.771.073,199	81,936	18°27'51.30"																								-5,00%	-5,00%	
6+11,096	TC	647.916,481	8.771.150,917										647.963,907	8.771.135,081	50,000	33°51'24.50"	Direita	29,546	15,218	2,265	29,118	35°23'33.55"			-5,00%	-5,00%					
8+0,642	PT	647.933,345	8.771.174,653	24,478	52°19'15.80"																								-5,00%	-5,00%	
9+5,120	TC	647.952,718	8.771.189,616										648.013,842	8.771.110,471	100,000	9°57'31.39"	Direita	17,381	8,713	0,379	17,359	57°18'1.50"			-5,00%	-5,00%					
10+2,501	PT	647.967,326	8.771.198,994	51,625	62°16'47.19"																								-5,00%	-5,00%	
12+14,126	TC	648.013,026	8.771.223,007										647.966,511	8.771.311,530	100,000	11°30'53.17"	Esquerda	20,097	10,082	0,507	20,063	56°31'20.60"			-5,00%	-5,00%					
13+14,223	PT	648.029,761	8.771.234,074	55,781	50°45'54.02"																								-5,00%	-5,00%	
16+10,005	TC	648.072,967	8.771.269,356										647.756,716	8.771.656,635	500,000	4°22'7.27"	Esquerda	38,124	19,071	0,364	38,115	48°34'50.39"			-5,00%	-5,00%					
18+8,129	PT	648.101,549	8.771.294,572	55,937	46°23'46.76"																								-5,00%	-5,00%	
21+4,066	TC	648.142,054	8.771.333,149										648.314,471	8.771.152,118	250,000	11°23'28.06"	Direita	49,703	24,934	1,240	49,621	52°5'30.78"			-5,00%	-5,00%					
23+13,769	PT	648.181,206	8.771.363,637	42,906	57°47'14.81"																								-5,00%	-5,00%	
25+16,675	TC	648.217,508	8.771.386,508										648.164,202	8.771.471,116	100,000	8°33'42.91"	Esquerda	14,943	7,486	0,280	14,929	53°30'23.36"			-5,00%	-5,00%					
26+11,619	PT	648.229,510	8.771.395,387	104,247	49°13'31.90"																								-5,00%	-5,00%	
31+15,865	TC	648.308,454	8.771.463,469										648.634,996	8.771.084,826	500,000	5°55'13.04"	Direita	51,664	25,855	0,668	51,641	52°11'8.42"			-5,00%	-5,00%					
34+7,529	PT	648.349,251	8.771.495,131	45,789	55°8'44.95"																								-5,00%	-5,00%	
36+13,318	TC	648.386,826	8.771.521,298										648.358,251	8.771.562,329	50,000	17°25'6.57"	Esquerda	15,201	7,659	0,583	15,142	46°26'11.66"			-5,00%	-5,00%					
37+8,519	PT	648.397,798	8.771.531,734	14,445	37°43'38.38"																								-5,00%	-5,00%	
38+2,964	PF	648.406,637	8.771.543,159																										-5,00%	-5,00%	
EIXO DE DRENAGEM																															
0+0,000	PP	650.208,821	8.767.614,557	84,255	279°30'24.74"																								-	-	
4+4,255	PI	650.125,723	8.767.628,473	67,469	281°3'14.71"																									-	-
7+11,724	PI	650.059,506	8.767.641,409	289,639	286°57'40.10"																									-	-
22+1,363	PI	649.782,466	8.767.725,903	8,637	298°11'44.69"																									-	-
22+10,000	PF	649.774,854	8.767.729,984																											-	-