

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovia: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
PI 00	430.054,281	9.103.756,817	-	-	-	-	-	-	-	-	-	47 + 00,00			
EE 001	430.010,590	9.103.797,940	60,000	60,00	313° 15' 55"							50 + 00,00			
EE 002	429.862,270	9.103.937,540	203,684	203,68	313° 15' 55"							60 + 03,68			
EE 003	429.827,660	9.103.970,110	47,525	47,53	313° 15' 39"							62 + 11,21			
EE 004	429.631,280	9.104.154,930	269,673	269,67	313° 15' 47"							76 + 00,88			
EE 005	429.544,000	9.104.237,070	119,853	119,85	313° 15' 45"							82 + 00,74			
EE 006	429.493,540	9.104.284,570	69,300	69,30	313° 16' 10"							85 + 10,03			
EE 007	429.435,550	9.104.339,150	79,636	79,64	313° 15' 54"							89 + 09,67			
EE 008	429.270,860	9.104.494,160	226,166	226,17	313° 15' 57"							100 + 15,84			
EE 009	429.194,820	9.104.565,730	104,424	104,42	313° 15' 56"							106 + 00,26			
EE 010	429.116,940	9.104.639,030	106,949	106,95	313° 15' 54"							111 + 07,21			
EE 011	429.030,870	9.104.720,050	118,204	118,20	313° 16' 08"							117 + 05,41			
EE 012	428.950,840	9.104.795,320	109,865	109,87	313° 14' 40"							122 + 15,28			
EE 0121	428.789,570	9.104.946,850	221,290	221,29	313° 12' 60"							133 + 16,57			
EE 013	428.645,160	9.105.082,400	198,061	198,06	313° 11' 15"							143 + 14,63			
EE 014	428.542,600	9.105.178,520	140,562	140,56	313° 08' 37"							150 + 15,19			
EE 015	428.350,880	9.105.358,460	262,935	262,94	313° 11' 05"							163 + 18,13			
EE 016	428.213,610	9.105.487,300	188,263	188,26	313° 11' 08"							173 + 06,39			
EE 017	428.122,360	9.105.572,950	125,150	125,15	313° 11' 13"							179 + 11,54			
EE 018	428.031,390	9.105.658,440	124,836	124,84	313° 13' 17"							185 + 16,38			
EE 019	427.878,570	9.105.801,870	209,586	209,59	313° 11' 05"							196 + 05,96			
EE 020	427.850,440	9.105.828,240	38,557	38,56	313° 09' 02"							198 + 04,52			
EE 021	427.748,450	9.105.923,880	139,818	139,82	313° 09' 35"							205 + 04,34			
EE 022	427.668,420	9.105.998,930	109,715	109,71	313° 09' 39"							210 + 14,05			
EE 023	427.504,480	9.106.152,650	224,736	224,74	313° 09' 27"							221 + 18,79			
EE 024	427.369,250	9.106.279,460	185,386	185,39	313° 09' 35"							231 + 04,17			
EE 025	427.198,930	9.106.439,170	233,487	233,49	313° 09' 32"							242 + 17,66			
EE 026	426.965,030	9.106.658,500	320,648	320,65	313° 09' 32"							258 + 18,31			
EE 027	426.678,480	9.106.926,940	392,646	392,65	313° 07' 52"							278 + 10,95			

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Ferrovias: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 028	426.498,640	9.107.095,430	246,437	246,44	313° 08' 02"							290 + 17,39			
EE 029	426.371,990	9.107.214,070	173,539	173,54	313° 07' 47"							299 + 10,93			
EE 030	426.199,800	9.107.375,570	236,076	236,08	313° 09' 55"							311 + 07,00			
EE 031	425.899,670	9.107.657,350	411,677	411,68	313° 11' 38"							331 + 18,68			
EE 032	425.769,300	9.107.779,830	178,879	178,88	313° 12' 46"							340 + 17,56			
EE 033	425.690,520	9.107.853,840	108,091	108,09	313° 12' 43"							346 + 05,65			
EE 034	425.652,390	9.107.889,670	52,323	52,32	313° 13' 08"							348 + 17,97			
EE 035	425.517,130	9.108.016,740	185,586	185,59	313° 12' 43"							358 + 03,56			
EE 036	425.421,100	9.108.106,750	131,619	131,62	313° 08' 48"							364 + 15,18			
EE 037	425.274,090	9.108.244,550	201,496	201,50	313° 08' 53"							374 + 16,68			
EE 038	425.100,120	9.108.407,610	238,441	238,44	313° 08' 46"							386 + 15,12			
EE 039	424.984,210	9.108.516,260	158,871	158,87	313° 08' 54"							394 + 13,99			
EE 040	424.642,370	9.108.836,670	468,527	468,53	313° 08' 48"							418 + 02,51			
EE 041	424.534,630	9.108.937,660	147,672	147,67	313° 08' 53"							425 + 10,19			
EE 42	424.438,260	9.109.027,980	132,079	132,08	313° 08' 38"							432 + 02,27			
PI 01	423.657,700	9.109.758,410	1.069,019	149,89	313° 05' 60"	20° 49' 57"	E	5.000,00		1.817,96	919,13	439 + 12,16			530 + 10,12
EE 196	422.623,210	9.110.182,000	1.117,854	198,73	292° 16' 04"							540 + 08,84			
EE 197	422.278,940	9.110.323,300	372,139	372,14	292° 18' 54"							559 + 00,98			
EE 198	422.058,280	9.110.413,990	238,570	238,57	292° 20' 33"							570 + 19,55			
EE 199	421.941,570	9.110.462,020	126,207	126,21	292° 22' 08"							577 + 05,76			
EE 200	421.787,000	9.110.525,720	167,181	167,18	292° 23' 50"							585 + 12,94			
EE 201	421.739,230	9.110.545,430	51,676	51,68	292° 25' 17"							588 + 04,62			
EE 202	421.610,270	9.110.598,640	139,506	139,51	292° 25' 18"							595 + 04,12			
EE 203	421.401,160	9.110.684,940	226,218	226,22	292° 25' 34"							606 + 10,34			
EE 204	421.339,720	9.110.710,300	66,468	66,47	292° 25' 45"							609 + 16,81			
EE 205	421.228,340	9.110.756,280	120,498	120,50	292° 25' 55"							615 + 17,31			
EE 206	420.997,190	9.110.851,690	250,067	250,07	292° 25' 45"							628 + 07,37			
EE 207	420.917,420	9.110.884,620	86,300	86,30	292° 25' 54"							632 + 13,67			
EE 208	420.850,020	9.110.912,450	72,920	72,92	292° 26' 11"							636 + 06,59			

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Lote: 3

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PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 209	420.779,270	9.110.941,670	76,547	76,55	292° 26' 27"							640 + 03,14			
EE 210	420.739,100	9.110.958,280	43,469	43,47	292° 27' 54"							642 + 06,61			
EE 211	420.671,930	9.110.986,080	72,696	72,70	292° 29' 01"							645 + 19,30			
EE 212	420.554,850	9.111.034,620	126,743	126,74	292° 31' 06"							652 + 06,05			
EE 213	420.462,480	9.111.072,910	99,992	99,99	292° 30' 56"							657 + 06,04			
EE 214	420.374,450	9.111.109,400	95,293	95,29	292° 30' 54"							662 + 01,33			
EE 215	420.325,290	9.111.129,810	53,229	53,23	292° 32' 50"							664 + 14,56			
EE 216	420.225,100	9.111.171,450	108,499	108,50	292° 34' 06"							670 + 03,06			
EE 217	420.183,820	9.111.188,610	44,705	44,70	292° 34' 22"							672 + 07,76			
EE 218	420.082,740	9.111.230,600	109,455	109,45	292° 33' 32"							677 + 17,22			
EE 219	419.918,570	9.111.298,800	177,772	177,77	292° 33' 33"							686 + 14,99			
EE 220	419.866,970	9.111.320,230	55,873	55,87	292° 33' 13"							689 + 10,86			
EE 2201	419.707,120	9.111.386,650	173,100	173,10	292° 33' 49"							698 + 03,96			
EE 221	419.629,120	9.111.419,010	84,446	84,45	292° 31' 56"							702 + 08,41			
EE 222	419.468,460	9.111.485,720	173,959	173,96	292° 32' 58"							711 + 02,37			
EE 223	419.398,600	9.111.514,150	75,423	75,42	292° 08' 40"							714 + 17,79			
EE 224	419.055,710	9.111.657,000	371,456	371,46	292° 37' 01"							733 + 09,25			
EE 225	418.822,050	9.111.754,350	253,128	253,13	292° 37' 06"							746 + 02,38			
EE 226	418.782,990	9.111.770,620	42,313	42,31	292° 36' 50"							748 + 04,69			
EE 227	418.676,460	9.111.815,010	115,408	115,41	292° 37' 16"							754 + 00,10			
EE 228	418.614,770	9.111.840,720	66,833	66,83	292° 37' 29"							757 + 06,93			
EE 229	418.478,600	9.111.896,780	147,258	147,26	292° 22' 36"							764 + 14,19			
EE 2291	418.300,180	9.111.972,970	194,007	194,01	293° 07' 26"							774 + 08,20			
EE 230	418.262,520	9.111.988,540	40,752	40,75	292° 27' 44"							776 + 08,95			
EE 231	418.164,820	9.112.028,940	105,723	105,72	292° 27' 57"							781 + 14,67			
EE 234	417.742,100	9.112.203,590	457,378	457,38	292° 26' 55"							804 + 12,05			
EE 235	417.688,450	9.112.226,030	58,154	58,15	292° 41' 53"							807 + 10,20			
EE 236	417.522,220	9.112.295,650	180,220	180,22	292° 43' 30"							816 + 10,42			
EE 237	417.316,340	9.112.381,980	223,247	223,25	292° 44' 58"							827 + 13,67			

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PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 238	417.129,610	9.112.460,290	202,486	202,49	292° 45' 08"							837 + 16,16			
EE 239	416.967,980	9.112.528,080	175,270	175,27	292° 45' 15"							846 + 11,43			
EE 2391	416.778,220	9.112.607,680	205,779	205,78	292° 45' 25"							856 + 17,21			
EE 240	416.772,750	9.112.609,970	5,930	5,93	292° 42' 60"							857 + 03,14			
EE 241	416.729,120	9.112.628,220	47,293	47,29	292° 41' 57"							859 + 10,43			
EE 242	416.520,980	9.112.715,230	225,595	225,59	292° 41' 13"							870 + 16,02			
EE 243	416.448,420	9.112.745,520	78,628	78,63	292° 39' 29"							874 + 14,65			
EE 244	416.342,140	9.112.789,900	115,174	115,17	292° 39' 52"							880 + 09,83			
EE 245	416.298,210	9.112.808,240	47,605	47,60	292° 39' 35"							882 + 17,43			
EE 246	415.996,640	9.112.934,180	326,811	326,81	292° 39' 59"							899 + 04,24			
EE 047	415.817,300	9.113.009,170	194,387	194,39	292° 41' 32"							908 + 18,63			
EE 048	415.754,680	9.113.035,390	67,888	67,89	292° 43' 12"							912 + 06,52			
EE 049	415.673,920	9.113.069,240	87,567	87,57	292° 44' 27"							916 + 14,08			
EE 050	415.416,640	9.113.177,240	279,029	279,03	292° 46' 18"							930 + 13,11			
EE 051	415.293,230	9.113.229,110	133,868	133,87	292° 47' 51"							937 + 06,98			
EE 052	415.154,080	9.113.287,670	150,970	150,97	292° 49' 25"							944 + 17,95			
EE 053	415.070,130	9.113.323,040	91,097	91,10	292° 50' 49"							949 + 09,05			
EE 054	414.727,630	9.113.467,560	371,742	371,74	292° 52' 40"							968 + 00,79			
EE 055	414.630,640	9.113.508,540	105,292	105,29	292° 54' 18"							973 + 06,08			
EE 056	414.549,830	9.113.542,680	87,726	87,73	292° 54' 10"							977 + 13,81			
EE 057	414.265,220	9.113.662,910	308,963	308,96	292° 54' 04"							993 + 02,77			
EE 058	413.864,170	9.113.832,320	435,363	435,36	292° 53' 60"							1014 + 18,13			
EE 059	413.740,740	9.113.884,450	133,987	133,99	292° 53' 48"							1021 + 12,12			
EE 060	413.623,210	9.113.934,090	127,583	127,58	292° 53' 51"							1027 + 19,70			
EE 061	413.410,460	9.114.023,840	230,906	230,91	292° 52' 22"							1039 + 10,61			
EE 062	413.207,860	9.114.109,400	219,926	219,93	292° 53' 42"							1050 + 10,53			
EE 063	412.935,000	9.114.224,770	296,248	296,25	292° 55' 11"							1065 + 06,78			
EE 064	412.762,210	9.114.297,910	187,632	187,63	292° 56' 33"							1074 + 14,41			
EE 065	412.467,050	9.114.423,000	320,573	320,57	292° 58' 03"							1090 + 14,99			

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Lote: 3

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PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 066	412.199,190	9.114.536,650	290,973	290,97	292° 59' 28"							1105 + 05,96			
EE 067	412.045,630	9.114.601,880	166,840	166,84	293° 00' 55"							1113 + 12,80			
EE 068	411.773,890	9.114.717,440	295,291	295,29	293° 02' 18"							1128 + 08,09			
EE 069	411.656,490	9.114.767,370	127,577	127,58	293° 02' 24"							1134 + 15,67			
EE 070	411.141,210	9.114.986,490	559,935	559,93	293° 02' 15"							1162 + 15,60			
EE 071	410.947,090	9.115.069,040	210,943	210,94	293° 02' 16"							1173 + 06,55			
EE 072	410.749,730	9.115.152,950	214,457	214,46	293° 02' 01"							1184 + 01,00			
EE 073	410.446,770	9.115.281,930	329,273	329,27	293° 03' 40"							1200 + 10,28			
EE 074	410.299,960	9.115.344,490	159,584	159,58	293° 04' 49"							1208 + 09,86			
EE 075	410.078,050	9.115.439,190	241,272	241,27	293° 06' 38"							1220 + 11,13			
EE 076	409.580,100	9.115.651,910	541,483	541,48	293° 07' 55"							1247 + 12,62			
EE 077	409.361,190	9.115.745,430	238,050	238,05	293° 07' 58"							1259 + 10,66			
EE 078	409.146,700	9.115.837,050	233,238	233,24	293° 07' 48"							1271 + 03,90			
EE 079	409.065,180	9.115.871,870	88,645	88,65	293° 07' 45"							1275 + 12,55			
EE 080	408.890,170	9.115.946,620	190,305	190,31	293° 07' 42"							1285 + 02,85			
EE 081	408.728,900	9.116.015,510	175,368	175,37	293° 07' 51"							1293 + 18,22			
EE 082	408.581,030	9.116.078,670	160,794	160,79	293° 07' 44"							1301 + 19,02			
EE 083	408.468,100	9.116.126,910	122,802	122,80	293° 07' 51"							1308 + 01,82			
EE 084	408.384,140	9.116.162,770	91,297	91,30	293° 07' 40"							1312 + 13,11			
EE 085	408.255,080	9.116.217,950	140,361	140,36	293° 08' 58"							1319 + 13,48			
EE 086	408.171,710	9.116.253,650	90,692	90,69	293° 10' 53"							1324 + 04,17			
EE 087	408.070,260	9.116.297,130	110,375	110,37	293° 11' 58"							1329 + 14,54			
EE 088	407.999,030	9.116.327,700	77,513	77,51	293° 13' 40"							1333 + 12,06			
EE 089	407.851,890	9.116.390,950	160,158	160,16	293° 15' 40"							1341 + 12,21			
EE 090	407.754,280	9.116.432,950	106,262	106,26	293° 16' 54"							1346 + 18,48			
EE 091	407.592,490	9.116.502,580	176,137	176,14	293° 17' 09"							1355 + 14,61			
EE 092	407.527,330	9.116.530,620	70,937	70,94	293° 17' 01"							1359 + 05,55			
EE 093	407.465,650	9.116.557,160	67,148	67,15	293° 16' 54"							1362 + 12,70			
EE 094	407.349,490	9.116.607,080	126,432	126,43	293° 15' 21"							1368 + 19,13			

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	E	N										TE/PC	EC	CE	ET/EC
EE 095	407.267,100	9.116.642,450	89,661	89,66	293° 14' 02"							1373 + 08,79			
EE 096	407.055,200	9.116.733,520	230,641	230,64	293° 15' 26"							1384 + 19,43			
EE 097	406.802,770	9.116.842,140	274,808	274,81	293° 16' 56"							1398 + 14,24			
EE 098	406.578,270	9.116.938,740	244,401	244,40	293° 16' 55"							1410 + 18,64			
EE 099	406.380,170	9.117.023,980	215,661	215,66	293° 16' 54"							1421 + 14,30			
EE 100	406.337,910	9.117.042,190	46,016	46,02	293° 18' 42"							1424 + 00,32			
EE 101	406.257,630	9.117.076,830	87,435	87,43	293° 20' 23"							1428 + 07,75			
EE 102	406.027,030	9.117.176,350	251,158	251,16	293° 20' 37"							1440 + 18,91			
EE 103	405.910,870	9.117.226,470	126,512	126,51	293° 20' 21"							1447 + 05,42			
EE 104	405.771,330	9.117.286,690	151,980	151,98	293° 20' 36"							1454 + 17,40			
EE 105	405.606,560	9.117.357,780	179,452	179,45	293° 20' 16"							1463 + 16,85			
EE 106	405.364,040	9.117.462,410	264,128	264,13	293° 20' 13"							1477 + 00,98			
EE 107	405.182,480	9.117.540,730	197,732	197,73	293° 20' 03"							1486 + 18,71			
EE 108	405.047,260	9.117.599,080	147,272	147,27	293° 20' 29"							1494 + 05,99			
EE 109	404.928,820	9.117.650,180	128,993	128,99	293° 20' 15"							1500 + 14,98			
EE 110	404.592,580	9.117.795,290	366,216	366,22	293° 20' 37"							1519 + 01,20			
EE 111	404.522,950	9.117.825,340	75,838	75,84	293° 20' 37"							1522 + 17,03			
EE 112	404.326,230	9.117.910,240	214,259	214,26	293° 20' 39"							1533 + 11,29			
EE 113	404.255,890	9.117.940,600	76,612	76,61	293° 20' 46"							1537 + 07,91			
EE 114	404.107,520	9.118.004,650	161,605	161,60	293° 20' 58"							1545 + 09,51			
EE 115	403.895,510	9.118.096,210	230,936	230,94	293° 21' 29"							1557 + 00,45			
EE 116	403.778,290	9.118.146,820	127,679	127,68	293° 21' 09"							1563 + 08,12			
EE 117	403.649,600	9.118.202,360	140,164	140,16	293° 20' 39"							1570 + 08,29			
EE 118	403.575,210	9.118.234,450	81,016	81,02	293° 20' 04"							1574 + 09,30			
EE 119	403.398,500	9.118.310,650	192,439	192,44	293° 19' 36"							1584 + 01,74			
EE 120	403.261,060	9.118.369,890	149,663	149,66	293° 19' 03"							1591 + 11,41			
EE 121	402.838,410	9.118.551,950	460,194	460,19	293° 18' 16"							1614 + 11,60			
EE 122	402.691,420	9.118.615,220	160,029	160,03	293° 17' 20"							1622 + 11,63			
EE 123	402.579,000	9.118.663,580	122,380	122,38	293° 16' 34"							1628 + 14,01			

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovias: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 124	402.213,690	9.118.820,470	397,575	397,57	293° 14' 32"							1648 + 11,59			
EE 125	402.158,360	9.118.844,200	60,204	60,20	293° 12' 49"							1651 + 11,79			
EE 126	401.737,670	9.119.024,270	457,608	457,61	293° 10' 22"							1674 + 09,40			
EE 127	401.615,000	9.119.076,710	133,409	133,41	293° 08' 47"							1681 + 02,81			
EE 128	401.402,500	9.119.167,390	231,039	231,04	293° 06' 34"							1692 + 13,85			
EE 129	401.238,570	9.119.237,210	178,179	178,18	293° 04' 12"							1701 + 12,02			
EE 130	401.126,320	9.119.284,940	121,976	121,98	293° 02' 09"							1707 + 14,00			
EE 131	400.566,620	9.119.523,200	608,302	608,30	293° 03' 33"							1738 + 02,30			
EE 132	400.262,510	9.119.652,820	330,582	330,58	293° 05' 07"							1754 + 12,89			
EE 133	399.925,360	9.119.796,590	366,524	366,52	293° 05' 42"							1772 + 19,41			
EE 134	399.650,920	9.119.913,830	298,433	298,43	293° 07' 56"							1787 + 17,84			
EE 135	399.493,090	9.119.981,390	171,682	171,68	293° 10' 26"							1796 + 09,52			
EE 136	399.171,110	9.120.119,510	350,354	350,35	293° 13' 05"							1813 + 19,88			
EE 137	398.813,050	9.120.273,200	389,651	389,65	293° 13' 50"							1833 + 09,53			
EE 138	398.562,090	9.120.380,930	273,106	273,11	293° 13' 57"							1847 + 02,64			
EE 139	397.975,250	9.120.632,830	638,619	638,62	293° 13' 53"							1879 + 01,25			
EE 140	397.423,990	9.120.869,470	599,905	599,91	293° 13' 57"							1909 + 01,16			
EE 141	396.831,320	9.121.123,850	644,955	644,95	293° 13' 47"							1941 + 06,11			
EE 142	396.298,050	9.121.352,750	580,321	580,32	293° 13' 52"							1970 + 06,44			
EE 143	395.939,990	9.121.506,450	389,655	389,65	293° 13' 55"							1989 + 16,09			
EE 144	395.742,360	9.121.591,300	215,075	215,07	293° 14' 09"							2000 + 11,16			
EE 145	395.244,100	9.121.805,220	542,241	542,24	293° 14' 08"							2027 + 13,41			
EE 146	394.783,750	9.122.002,880	500,991	500,99	293° 14' 14"							2052 + 14,40			
EE 147	394.265,780	9.122.225,280	563,697	563,70	293° 14' 14"							2080 + 18,09			
EE 148	393.962,770	9.122.355,390	329,763	329,76	293° 14' 18"							2097 + 07,86			
EE 149	393.437,850	9.122.580,800	571,271	571,27	293° 14' 23"							2125 + 19,13			
EE 150	392.874,220	9.122.822,810	613,390	613,39	293° 14' 16"							2156 + 12,52			
EE 151	392.465,990	9.122.998,100	444,273	444,27	293° 14' 18"							2178 + 16,79			
PI 02	390.931,540	9.123.656,960	1.669,920	595,04	293° 14' 16"	24° 15' 55"	E	5.000,00		2.117,53	1.074,88	2208 + 11,83			2314 + 09,36

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovia: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 475	389.436,020	9.123.630,140	1.495,760	420,88	268° 58' 22"							2335 + 10,24			
EE 476	388.766,390	9.123.618,100	669,738	669,74	268° 58' 12"							2368 + 19,98			
EE 477	388.250,330	9.123.608,810	516,144	516,14	268° 58' 08"							2394 + 16,13			
EE 478	387.729,980	9.123.599,460	520,434	520,43	268° 58' 15"							2420 + 16,56			
EE 479	387.192,710	9.123.589,800	537,357	537,36	268° 58' 12"							2447 + 13,92			
EE 480	386.778,930	9.123.582,340	413,847	413,85	268° 58' 02"							2468 + 07,76			
EE 481	386.491,780	9.123.577,130	287,197	287,20	268° 57' 38"							2482 + 14,96			
EE 482	386.009,112	9.123.568,411	482,747	482,75	268° 57' 55"							2506 + 17,71			
EE 483	385.732,468	9.123.563,406	276,689	276,69	268° 57' 49"							2520 + 14,40			
EE 484	385.501,311	9.123.559,221	231,195	231,19	268° 57' 47"							2532 + 05,59			
EE 485	385.172,038	9.123.553,255	329,327	329,33	268° 57' 44"							2548 + 14,92			
EE 486	384.570,176	9.123.542,338	601,961	601,96	268° 57' 40"							2578 + 16,88			
EE 487	384.023,162	9.123.532,395	547,104	547,10	268° 57' 32"							2606 + 03,98			
EE 488	383.515,356	9.123.523,143	507,890	507,89	268° 57' 23"							2631 + 11,87			
EE 489	382.934,014	9.123.512,547	581,439	581,44	268° 57' 21"							2660 + 13,31			
EE 490	382.499,707	9.123.504,623	434,379	434,38	268° 57' 18"							2682 + 07,69			
EE 491	381.992,889	9.123.495,383	506,902	506,90	268° 57' 20"							2707 + 14,59			
EE 492	381.756,976	9.123.491,081	235,952	235,95	268° 57' 20"							2719 + 10,55			
EE 493	381.568,340	9.123.487,640	188,667	188,67	268° 57' 18"							2728 + 19,21			
EE 494	381.235,505	9.123.481,568	332,890	332,89	268° 57' 18"							2745 + 12,10			
EE 495	380.681,839	9.123.471,441	553,759	553,76	268° 57' 08"							2773 + 05,86			
EE 496	380.094,426	9.123.460,664	587,512	587,51	268° 56' 57"							2802 + 13,37			
EE 497	379.611,491	9.123.451,804	483,016	483,02	268° 56' 57"							2826 + 16,39			
EE 498	378.924,503	9.123.439,191	687,104	687,10	268° 56' 54"							2861 + 03,49			
EE 499	378.407,728	9.123.429,706	516,862	516,86	268° 56' 55"							2887 + 00,36			
EE 500	377.875,817	9.123.419,947	532,001	532,00	268° 56' 57"							2913 + 12,36			
EE 501	377.173,095	9.123.407,110	702,839	702,84	268° 57' 13"							2948 + 15,20			
EE 502	376.996,952	9.123.403,894	176,172	176,17	268° 57' 15"							2957 + 11,37			
EE 503	376.597,440	9.123.396,316	399,584	399,58	268° 54' 49"							2977 + 10,95			

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovia: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
PI 03	375.656,853	9.123.378,800	940,750	186,24	268° 55' 60"	17° 09' 46"	D	5.000,00		1.497,71	754,51	2986 + 17,20			3061 + 14,91
EE 508	374.680,674	9.123.660,479	1.016,006	261,50	286° 05' 45"							3074 + 16,41			
EE 509	374.207,420	9.123.797,078	492,573	492,57	286° 06' 01"							3099 + 08,98			
EE 510	373.921,765	9.123.879,389	297,277	297,28	286° 04' 28"							3114 + 06,26			
EE 511	373.799,432	9.123.914,544	127,284	127,28	286° 01' 60"							3120 + 13,54			
EE 512	373.619,096	9.123.966,261	187,606	187,61	286° 00' 08"							3130 + 01,15			
EE 513	373.254,002	9.124.070,773	379,758	379,76	285° 58' 28"							3149 + 00,91			
EE 514	372.721,992	9.124.223,039	553,371	553,37	285° 58' 18"							3176 + 14,28			
EE 515	372.575,172	9.124.265,086	152,723	152,72	285° 58' 51"							3184 + 07,00			
EE 516	372.217,098	9.124.367,390	372,401	372,40	285° 56' 42"							3202 + 19,40			
EE 517	371.961,903	9.124.440,340	265,417	265,42	285° 57' 12"							3216 + 04,82			
EE 518	371.477,806	9.124.578,962	503,553	503,55	285° 58' 46"							3241 + 08,37			
EE 519	370.983,157	9.124.720,626	514,536	514,54	285° 58' 53"							3267 + 02,91			
EE 520	370.456,917	9.124.871,102	547,331	547,33	285° 57' 28"							3294 + 10,24			
EE 521	369.942,028	9.125.018,296	535,515	535,52	285° 57' 14"							3321 + 05,75			
EE 522	369.170,384	9.125.238,752	802,519	802,52	285° 56' 41"							3361 + 08,27			
EE 523	368.991,734	9.125.289,699	185,772	185,77	285° 55' 01"							3370 + 14,05			
EE 524	368.782,073	9.125.349,490	218,020	218,02	285° 55' 03"							3381 + 12,07			
EE 525	367.998,678	9.125.572,507	814,521	814,52	285° 53' 26"							3422 + 06,59			
EE 526	367.769,924	9.125.637,366	237,771	237,77	285° 49' 48"							3434 + 04,36			
EE 527	367.344,934	9.125.757,769	441,717	441,72	285° 49' 05"							3456 + 06,07			
EE 528	366.832,555	9.125.902,781	532,505	532,50	285° 48' 09"							3482 + 18,58			
EE 529	366.669,693	9.125.948,847	169,251	169,25	285° 47' 37"							3491 + 07,83			
EE 530	366.148,911	9.126.095,900	541,145	541,15	285° 46' 06"							3518 + 08,97			
EE 531	365.648,197	9.126.237,087	520,239	520,24	285° 44' 50"							3544 + 09,21			
EE 532	365.234,497	9.126.353,226	429,693	429,69	285° 40' 53"							3565 + 18,91			
EE 533	364.510,389	9.126.556,988	752,230	752,23	285° 42' 60"							3603 + 11,14			
EE 534	364.127,937	9.126.664,755	397,346	397,35	285° 44' 13"							3623 + 08,48			
EE 535	363.655,309	9.126.798,186	491,102	491,10	285° 45' 56"							3647 + 19,59			

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovias: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 536	363.256,655	9.126.910,832	414,263	414,26	285° 46' 43"							3668 + 13,85			
EE 537	363.135,862	9.126.944,964	125,523	125,52	285° 46' 43"							3674 + 19,37			
EE 538	362.806,265	9.127.038,107	342,505	342,51	285° 46' 49"							3692 + 01,88			
EE 539	362.554,812	9.127.109,191	261,307	261,31	285° 47' 08"							3705 + 03,18			
EE 540	362.262,955	9.127.191,709	303,299	303,30	285° 47' 15"							3720 + 06,48			
EE 541	361.996,840	9.127.266,948	276,547	276,55	285° 47' 14"							3734 + 03,03			
EE 542	361.515,940	9.127.402,462	499,628	499,63	285° 44' 15"							3759 + 02,66			
EE 543	361.192,881	9.127.493,300	335,587	335,59	285° 42' 18"							3775 + 18,24			
EE 544	360.642,160	9.127.648,144	572,076	572,08	285° 42' 16"							3804 + 10,32			
EE 545	360.363,938	9.127.726,371	289,010	289,01	285° 42' 16"							3818 + 19,33			
EE 546	360.179,398	9.127.778,258	191,696	191,70	285° 42' 16"							3828 + 11,03			
EE 547	359.767,298	9.127.894,135	428,081	428,08	285° 42' 19"							3849 + 19,11			
EE 548	359.459,011	9.127.980,831	320,245	320,24	285° 42' 26"							3865 + 19,35			
PI 04	358.353,943	9.128.291,626	1.147,942	362,14	285° 42' 31"	55° 17' 50"	D	1.500,00		1.447,67	785,80	3884 + 01,50			3956 + 09,17
EE 675	358.012,504	9.129.283,538	1.049,032	263,23	341° 00' 20"							3969 + 12,40			
EE 676	357.837,364	9.129.792,433	538,189	538,19	341° 00' 32"							3996 + 10,59			
EE 677	357.724,263	9.130.121,052	347,538	347,54	341° 00' 29"							4013 + 18,13			
EE 678	357.553,090	9.130.618,461	526,038	526,04	341° 00' 37"							4040 + 04,17			
EE 679	357.360,779	9.131.177,327	591,029	591,03	341° 00' 41"							4069 + 15,20			
EE 680	357.198,092	9.131.650,151	500,029	500,03	341° 00' 47"							4094 + 15,22			
EE 681	357.012,646	9.132.189,143	570,002	570,00	341° 00' 50"							4123 + 05,23			
EE 682	356.880,034	9.132.574,545	407,579	407,58	341° 00' 45"							4143 + 12,81			
EE 683	356.737,450	9.132.988,590	437,908	437,91	340° 59' 53"							4165 + 10,71			
EE 684	356.564,630	9.133.490,400	530,735	530,74	340° 59' 48"							4192 + 01,45			
EE 685	356.385,630	9.134.010,100	549,663	549,66	340° 59' 42"							4219 + 11,11			
EE 686	356.251,330	9.134.399,970	412,353	412,35	340° 59' 34"							4240 + 03,47			
EE 687	356.101,730	9.134.834,210	459,287	459,29	340° 59' 27"							4263 + 02,75			
EE 688	356.015,310	9.135.085,070	265,328	265,33	340° 59' 30"							4276 + 08,08			
EE 689	355.893,770	9.135.437,880	373,158	373,16	340° 59' 30"							4295 + 01,24			

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovias: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
EE 690	355.762,750	9.135.818,120	402,180	402,18	340° 59' 15"							4315 + 03,42			
EE 691	355.686,900	9.136.038,230	232,812	232,81	340° 59' 10"							4326 + 16,23			
EE 692	355.600,850	9.136.287,940	264,121	264,12	340° 59' 10"							4340 + 00,35			
EE 693	355.459,410	9.136.698,250	434,004	434,00	340° 58' 49"							4361 + 14,36			
EE 694	355.385,180	9.136.913,600	227,784	227,78	340° 58' 53"							4373 + 02,14			
EE 695	355.201,170	9.137.447,480	564,701	564,70	340° 58' 58"							4401 + 06,84			
EE 696	355.110,570	9.137.710,270	277,969	277,97	340° 58' 40"							4415 + 04,81			
EE 697	354.928,570	9.138.238,240	558,459	558,46	340° 58' 49"							4443 + 03,27			
EE 698	354.850,250	9.138.465,490	240,368	240,37	340° 59' 02"							4455 + 03,64			
EE 699	354.673,900	9.138.977,200	541,245	541,25	340° 59' 05"							4482 + 04,88			
EE 700	354.551,310	9.139.332,980	376,308	376,31	340° 59' 16"							4501 + 01,19			
EE 701	354.461,890	9.139.592,500	274,493	274,49	340° 59' 18"							4514 + 15,68			
EE 702	354.361,420	9.139.884,100	308,423	308,42	340° 59' 20"							4530 + 04,11			
EE 703	354.195,060	9.140.367,040	510,790	510,79	340° 59' 34"							4555 + 14,90			
EE 704	354.133,590	9.140.545,490	188,740	188,74	340° 59' 35"							4565 + 03,64			
EE 705	354.011,500	9.140.899,970	374,916	374,92	340° 59' 43"							4583 + 18,55			
EE 706	353.829,410	9.141.428,720	559,226	559,23	340° 59' 51"							4611 + 17,78			
EE 707	353.655,880	9.141.932,660	532,980	532,98	340° 59' 57"							4638 + 10,76			
EE 708	353.473,720	9.142.461,700	559,523	559,52	341° 00' 02"							4666 + 10,28			
EE 709	353.382,400	9.142.726,960	280,539	280,54	341° 00' 12"							4680 + 10,82			
EE 710	353.213,350	9.143.218,000	519,325	519,32	341° 00' 11"							4706 + 10,15			
EE 711	353.090,310	9.143.575,440	378,024	378,02	341° 00' 19"							4725 + 08,17			
EE 712	353.006,910	9.143.817,710	256,223	256,22	341° 00' 16"							4738 + 04,39			
EE 713	352.904,510	9.144.115,220	314,639	314,64	341° 00' 26"							4753 + 19,03			
EE 714	352.740,020	9.144.593,140	505,435	505,43	341° 00' 28"							4779 + 04,47			
PI 05	352.522,582	9.145.224,958	668,187	461,54	341° 00' 34"	97° 50' 28"	E	180,14		307,62	206,65	4802 + 06,01			4817 + 13,62
PI 06	352.099,051	9.145.010,723	474,632	0,00	243° 10' 06"	112° 10' 54"	E	180,14		352,70	267,98	4817 + 13,62			4835 + 06,33
PI 07	352.775,110	9.144.423,306	895,608	542,99	130° 59' 13"	30° 07' 26"	D	314,50		165,35	84,63	4862 + 09,32			4870 + 14,67
PI 08	353.126,556	9.143.396,193	1.085,576	963,72	161° 06' 39"	14° 08' 42"	E	300,00		74,06	37,22	4918 + 18,39			4922 + 12,45

CÁLCULO DO ESTAQUEAMENTO DA FERROVIA - LINHA GERAL e PÊRA FERROVIÁRIA

Ferrovia: TRANSNORDESTINA
Trecho: Parnamirim - Araripina (PE)
Lote: 3

LINHA GERAL e PÊRA FERROVIÁRIA

PI	COORDENADAS		PI a PI (m)	IT (m)	AZ (° ' ")	AC (° ' ")	LADO (E/D)	RAIO (m)	Lc (m)	Dc (m)	Tg (m)	ELEMENTOS DAS CURVAS			
	E	N										TE/PC	EC	CE	ET/EC
PI 09	353.172,028	9.143.326,264	83,413	20,19	146° 57' 57"	9° 54' 22"	D	300,00		51,87	26,00	4923 + 12,65			4926 + 04,51
Final	353.192,919	9.143.277,353	53,186	27,19	156° 52' 18"							4927 + 11,70			