

NOTA DE SERVIÇO - RODOVIA JOSÉ FRANCISCO PEREIRA

Obs.: Cotas e Afastamentos em metros, inclinações em %.

Lado Esquerdo									Eixo				Lado Direito								
Offset Passeio			Offset Reaterro			Offset Regulariz.			Estaca	Cota Projeto	Cota Terreno	Cota Vermelha	Offset Regulariz.			Offset Reaterro			Offset Passeio		
Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.					Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.
-7,465	11,773	-50,0	-5,500	12,755	-2,50	-4,800	12,480	-2,00	0+0,000	-3,300	12,510	-2,500	4,800	12,480	-2,00	5,500	12,755	-2,50	7,436	11,787	-50,0
-6,294	12,308	-50,0	-5,500	12,705	-2,50	-4,800	12,430	-2,00	1+0,000	-3,300	12,460	-2,500	4,800	12,430	-2,00	5,500	12,705	-2,50	7,149	11,880	-50,0
-6,168	12,320	-50,0	-5,500	12,654	-2,50	-4,800	12,379	-2,00	2+0,000	-3,300	12,409	-2,500	4,800	12,379	-2,00	5,500	12,654	-2,50	6,934	11,937	-50,0
-6,042	12,333	-50,0	-5,500	12,604	-2,50	-4,800	12,329	-2,00	3+0,000	-3,300	12,359	-2,500	4,800	12,329	-2,00	5,500	12,604	-2,50	6,720	11,993	-50,0
-5,915	12,345	-50,0	-5,500	12,553	-2,50	-4,800	12,278	-2,00	4+0,000	-3,300	12,308	-2,500	4,800	12,278	-2,00	5,500	12,553	-2,50	6,507	12,050	-50,0
-5,789	12,358	-50,0	-5,500	12,502	-2,50	-4,800	12,227	-2,00	5+0,000	-3,300	12,257	-2,500	4,800	12,227	-2,00	5,500	12,502	-2,50	6,293	12,106	-50,0
-5,770	12,317	-50,0	-5,500	12,452	-2,50	-4,800	12,177	-2,00	6+0,000	-3,300	12,207	-2,500	4,800	12,177	-2,00	5,500	12,452	-2,50	6,145	12,129	-50,0
-5,797	12,253	-50,0	-5,500	12,401	-2,50	-4,800	12,126	-2,00	7+0,000	-3,300	12,156	-2,500	4,800	12,126	-2,00	5,500	12,401	-2,50	6,024	12,139	-50,0
-5,822	12,190	-50,0	-5,500	12,351	-2,50	-4,800	12,076	-2,00	8+0,000	-3,300	12,106	-2,500	4,800	12,076	-2,00	5,500	12,351	-2,50	5,893	12,154	-50,0
-5,848	12,126	-50,0	-5,500	12,300	-2,50	-4,800	12,025	-2,00	9+0,000	-3,300	12,055	-2,500	4,800	12,025	-2,00	5,500	12,300	-2,50	5,759	12,171	-50,0
-5,874	12,062	-50,0	-5,500	12,249	-2,50	-4,800	11,974	-2,00	10+0,000	-3,300	12,004	-2,500	4,800	11,974	-2,00	5,500	12,249	-2,50	5,631	12,183	-50,0
-6,133	11,835	-50,0	-5,500	12,152	-2,50	-4,800	11,877	-2,00	11+0,000	-3,300	11,907	-2,500	4,800	11,877	-2,00	5,500	12,152	-2,50	5,907	11,948	-50,0
-6,458	11,561	-50,0	-5,500	12,040	-2,50	-4,800	11,765	-2,00	12+0,000	-3,300	11,795	-2,500	4,800	11,765	-2,00	5,500	12,040	-2,50	6,299	11,640	-50,0
-6,782	11,287	-50,0	-5,500	11,928	-2,50	-4,800	11,653	-2,00	13+0,000	-3,300	11,683	-2,500	4,800	11,653	-2,00	5,500	11,928	-2,50	6,680	11,338	-50,0
-7,106	11,013	-50,0	-5,500	11,816	-2,50	-4,800	11,541	-2,00	14+0,000	-3,300	11,571	-2,500	4,800	11,541	-2,00	5,500	11,816	-2,50	7,058	11,037	-50,0
-7,430	10,739	-50,0	-5,500	11,704	-2,50	-4,800	11,429	-2,00	15+0,000	-3,300	11,459	-2,500	4,800	11,429	-2,00	5,500	11,704	-2,50	7,436	10,736	-50,0
-7,754	10,465	-50,0	-5,500	11,592	-2,50	-4,800	11,317	-2,00	16+0,000	-3,300	11,347	-2,500	4,800	11,317	-2,00	5,500	11,592	-2,50	7,815	10,434	-50,0
-7,518	10,470	-50,0	-5,500	11,480	-2,50	-4,800	11,205	-2,00	17+0,000	-3,300	11,235	-2,500	4,800	11,205	-2,00	5,500	11,480	-2,50	7,598	10,430	-50,0
-7,193	10,521	-50,0	-5,500	11,368	-2,50	-4,800	11,093	-2,00	18+0,000	-3,300	11,123	-2,500	4,800	11,093	-2,00	5,500	11,368	-2,50	7,315	10,460	-50,0
-6,868	10,572	-50,0	-5,500	11,256	-2,50	-4,800	10,981	-2,00	19+0,000	-3,300	11,011	-2,500	4,800	10,981	-2,00	5,500	11,256	-2,50	7,032	10,489	-50,0
-6,543	10,622	-50,0	-5,500	11,143	-2,50	-4,800	10,868	-2,00	20+0,000	-3,300	10,898	-2,500	4,800	10,868	-2,00	5,500	11,143	-2,50	6,749	10,519	-50,0
-6,218	10,673	-50,0	-5,500	11,031	-2,50	-4,800	10,756	-2,00	21+0,000	-3,300	10,786	-2,500	4,800	10,756	-2,00	5,500	11,031	-2,50	6,447	10,558	-50,0
-6,248	10,545	-50,0	-5,500	10,919	-2,50	-4,800	10,644	-2,00	22+0,000	-3,300	10,674	-2,500	4,800	10,644	-2,00	5,500	10,919	-2,50	6,467	10,436	-50,0
-6,393	10,361	-50,0	-5,500	10,807	-2,50	-4,800	10,532	-2,00	23+0,000	-3,300	10,562	-2,500	4,800	10,532	-2,00	5,500	10,807	-2,50	6,642	10,236	-50,0
-6,538	10,176	-50,0	-5,500	10,695	-2,50	-4,800	10,420	-2,00	24+0,000	-3,300	10,450	-2,500	4,800	10,420	-2,00	5,500	10,695	-2,50	6,786	10,052	-50,0
-6,684	9,991	-50,0	-5,500	10,583	-2,50	-4,800	10,308	-2,00	25+0,000	-3,300	10,338	-2,500	4,800	10,308	-2,00	5,500	10,583	-2,50	6,930	9,868	-50,0
-6,829	9,807	-50,0	-5,500	10,471	-2,50	-4,800	10,196	-2,00	26+0,000	-3,300	10,226	-2,500	4,800	10,196	-2,00	5,500	10,471	-2,50	7,074	9,684	-50,0
-6,974	9,622	-50,0	-5,500	10,359	-2,50	-4,800	10,084	-2,00	27+0,000	-3,300	10,114	-2,500	4,800	10,084	-2,00	5,500	10,359	-2,50	7,218	9,500	-50,0
-7,119	9,438	-50,0	-5,500	10,247	-2,50	-4,800	9,972	-2,00	28+0,000	-3,300	10,002	-2,500	4,800	9,972	-2,00	5,500	10,247	-2,50	7,362	9,316	-50,0
-7,153	9,309	-50,0	-5,500	10,135	-2,50	-4,800	9,860	-2,00	29+0,000	-3,300	9,890	-2,500	4,800	9,860	-2,00	5,500	10,135	-2,50	7,298	9,236	-50,0
-7,171	9,188	-50,0	-5,500	10,023	-2,50	-4,800	9,748	-2,00	30+0,000	-3,300	9,778	-2,500	4,800	9,748	-2,00	5,500	10,023	-2,50	7,250	9,148	-50,0
-7,188	9,067	-50,0	-5,500	9,911	-2,50	-4,800	9,636	-2,00	31+0,000	-3,300	9,666	-2,500	4,800	9,636	-2,00	5,500	9,911	-2,50	7,205	9,059	-50,0
-7,164	8,967	-50,0	-5,500	9,799	-2,50	-4,800	9,524	-2,00	32+0,000	-3,300	9,554	-2,500	4,800	9,524	-2,00	5,500	9,799	-2,50	7,179	8,959	-50,0
-7,129	8,872	-50,0	-5,500	9,687	-2,50	-4,800	9,412	-2,00	33+0,000	-3,300	9,442	-2,500	4,800	9,412	-2,00	5,500	9,687	-2,50	7,153	8,861	-50,0
-7,093	8,778	-50,0	-5,500	9,575	-2,50	-4,800	9,300	-2,00	34+0,000	-3,300	9,330	-2,500	4,800	9,300	-2,00	5,500	9,575	-2,50	7,109	8,770	-50,0
-7,058	8,684	-50,0	-5,500	9,463	-2,50	-4,800	9,188	-2,00	35+0,000	-3,300	9,218	-2,500	4,800	9,188	-2,00	5,500	9,463	-2,50	7,065	8,680	-50,0
-7,026	8,590	-50,0	-5,500	9,353	-2,50	-4,800	9,078	-2,00	36+0,000	-3,300	9,108	-2,500	4,800	9,078	-2,00	5,500	9,353	-2,50	7,025	8,590	-50,0
-7,089	8,496	-50,0	-5,500	9,290	-2,50	-4,800	9,015	-2,00	37+0,000	-3,300	9,045	-2,500	4,800	9,015	-2,00	5,500	9,290	-2,50	7,080	8,500	-50,0

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Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.					Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.
-7,097	8,442	-50,0	-5,500	9,241	-2,50	-4,800	8,966	-2,00	38+0,000	-3,300	8,996	-2,500	4,800	8,966	-2,00	5,500	9,241	-2,50	7,104	8,439	-50,0
-7,061	8,411	-50,0	-5,500	9,192	-2,50	-4,800	8,917	-2,00	39+0,000	-3,300	8,947	-2,500	4,800	8,917	-2,00	5,500	9,192	-2,50	7,058	8,413	-50,0
-6,627	8,579	-50,0	-5,500	9,142	-2,50	-4,800	8,867	-2,00	40+0,000	-3,300	8,897	-2,500	4,800	8,867	-2,00	5,500	9,142	-2,50	6,478	8,653	-50,0
-6,225	8,731	-50,0	-5,500	9,093	-2,50	-4,800	8,818	-2,00	41+0,000	-3,300	8,848	-2,500	4,800	8,818	-2,00	5,500	9,093	-2,50	5,929	8,879	-50,0
-5,979	8,804	-50,0	-5,500	9,044	-2,50	-4,800	8,769	-2,00	42+0,000	-3,300	8,799	-2,500	4,800	8,769	-2,00	5,500	9,044	-2,50	5,847	8,871	-50,0
-5,801	8,844	-50,0	-5,500	8,995	-2,50	-4,800	8,720	-2,00	43+0,000	-3,300	8,750	-2,500	4,800	8,720	-2,00	5,500	8,995	-2,50	6,328	8,581	-50,0
-5,698	8,847	-50,0	-5,500	8,946	-2,50	-4,800	8,671	-2,00	44+0,000	-3,300	8,701	-2,500	4,800	8,671	-2,00	5,500	8,946	-2,50	5,540	8,926	-50,0
-5,671	8,811	-50,0	-5,500	8,896	-2,50	-4,800	8,621	-2,00	45+0,000	-3,300	8,651	-2,500	4,800	8,621	-2,00	5,500	8,896	-2,50	5,751	8,771	-50,0
-5,849	8,673	-50,0	-5,500	8,847	-2,50	-4,800	8,572	-2,00	46+0,000	-3,300	8,602	-2,500	4,800	8,572	-2,00	5,500	8,847	-2,50	5,813	8,691	-50,0
-5,969	8,563	-50,0	-5,500	8,798	-2,50	-4,800	8,523	-2,00	47+0,000	-3,300	8,553	-2,500	4,800	8,523	-2,00	5,500	8,798	-2,50	5,877	8,609	-50,0
-5,982	8,508	-50,0	-5,500	8,749	-2,50	-4,800	8,474	-2,00	48+0,000	-3,300	8,504	-2,500	4,800	8,474	-2,00	5,500	8,749	-2,50	5,737	8,630	-50,0
-5,995	8,452	-50,0	-5,500	8,699	-2,50	-4,800	8,424	-2,00	49+0,000	-3,300	8,454	-2,500	4,800	8,424	-2,00	5,500	8,699	-2,50	5,727	8,586	-50,0
-6,020	8,390	-50,0	-5,500	8,650	-2,50	-4,800	8,375	-2,00	50+0,000	-3,300	8,405	-2,500	4,800	8,375	-2,00	5,500	8,650	-2,50	6,057	8,372	-50,0
-6,149	8,277	-50,0	-5,500	8,601	-2,50	-4,800	8,326	-2,00	51+0,000	-3,300	8,356	-2,500	4,800	8,326	-2,00	5,500	8,601	-2,50	5,876	8,413	-50,0
-5,784	8,410	-50,0	-5,500	8,552	-2,50	-4,800	8,277	-2,00	52+0,000	-3,300	8,307	-2,500	4,800	8,277	-2,00	5,500	8,552	-2,50	5,680	8,462	-50,0
-5,512	8,497	-50,0	-5,500	8,503	-2,50	-4,800	8,228	-2,00	53+0,000	-3,300	8,258	-2,500	4,800	8,228	-2,00	5,500	8,503	-2,50	5,533	8,486	-50,0
-5,543	8,432	-50,0	-5,500	8,453	-2,50	-4,800	8,178	-2,00	54+0,000	-3,300	8,208	-2,500	4,800	8,178	-2,00	5,500	8,453	-2,50	5,628	8,518	50,0
-5,574	8,367	-50,0	-5,500	8,404	-2,50	-4,800	8,129	-2,00	55+0,000	-3,300	8,159	-2,500	4,800	8,129	-2,00	5,500	8,404	-2,50	5,776	8,542	50,0
-5,769	8,490	50,0	-5,500	8,355	-2,50	-4,800	8,080	-2,00	56+0,000	-3,300	8,110	-2,500	4,800	8,080	-2,00	5,500	8,355	-2,50	5,723	8,466	50,0
-6,147	8,627	50,0	-5,505	8,306	-2,50	-4,805	8,031	-2,00	57+0,000	-3,305	8,061	-2,500	4,805	8,031	-2,00	5,505	8,306	-2,50	5,621	8,364	50,0
-6,915	8,292	50,0	-6,781	8,225	-2,50	-6,081	7,950	-2,00	58+0,000	-4,581	7,980	-2,500	6,079	7,950	-2,00	6,779	8,225	-2,50	6,893	8,168	-50,0
-7,579	8,377	50,0	-7,150	8,162	-2,50	-6,450	7,887	-2,00	59+0,000	-4,950	7,917	-2,500	6,450	7,887	-2,00	7,150	8,162	-2,50	7,754	8,464	50,0
-8,648	8,722	50,0	-7,150	7,973	-2,50	-6,450	7,698	-2,00	60+0,000	-4,950	7,728	-2,500	6,450	7,698	-2,00	7,150	7,973	-2,50	9,108	8,952	50,0
-7,159	7,591	50,0	-7,150	7,587	-2,50	-6,450	7,312	-2,00	61+0,000	-4,950	7,342	-2,500	6,450	7,312	-2,00	7,150	7,587	-2,50	10,098	9,060	50,0
-7,862	6,772	-50,0	-7,150	7,128	-2,50	-6,450	6,853	-2,00	62+0,000	-4,950	6,883	-2,500	6,450	6,853	-2,00	7,150	7,128	-2,50	11,199	9,153	50,0
-8,037	6,226	-50,0	-7,150	6,670	-2,50	-6,450	6,395	-2,00	63+0,000	-4,950	6,425	-2,500	6,450	6,395	-2,00	7,150	6,670	-2,50	11,323	8,756	50,0
-7,159	6,216	50,0	-7,150	6,211	-2,50	-6,450	5,936	-2,00	64+0,000	-4,950	5,966	-2,500	6,450	5,936	-2,00	7,150	6,211	-2,50	10,022	7,647	50,0
-6,004	5,547	-50,0	-5,500	5,799	-2,50	-4,800	5,524	-2,00	65+0,000	-3,300	5,554	-2,500	4,800	5,524	-2,00	5,500	5,799	-2,50	6,557	5,270	-50,0
-6,135	5,166	-50,0	-5,500	5,484	-2,50	-4,800	5,209	-2,00	66+0,000	-3,300	5,239	-2,500	4,800	5,209	-2,00	5,500	5,484	-2,50	6,924	4,772	-50,0
-7,062	4,587	-50,0	-5,500	5,369	-2,50	-4,800	5,094	-2,00	67+0,000	-3,300	5,124	-2,500	4,800	5,094	-2,00	5,500	5,369	-2,50	7,630	4,304	-50,0
-8,354	3,919	-50,0	-5,500	5,346	-2,50	-4,800	5,071	-2,00	68+0,000	-3,300	5,101	-2,500	4,800	5,071	-2,00	5,500	5,346	-2,50	8,494	3,849	-50,0
-7,159	4,493	-50,0	-5,500	5,323	-2,50	-4,800	5,048	-2,00	69+0,000	-3,300	5,078	-2,500	4,800	5,048	-2,00	5,500	5,323	-2,50	7,849	4,149	-50,0
-9,122	3,489	-50,0	-5,500	5,300	-2,50	-4,800	5,025	-2,00	70+0,000	-3,300	5,055	-2,500	4,800	5,025	-2,00	5,500	5,300	-2,50	7,606	4,248	-50,0
-9,269	3,393	-50,0	-5,500	5,278	-2,50	-4,800	5,003	-2,00	71+0,000	-3,300	5,033	-2,500	4,800	5,003	-2,00	5,500	5,278	-2,50	7,792	4,132	-50,0
-9,406	3,302	-50,0	-5,500	5,255	-2,50	-4,800	4,980	-2,00	72+0,000	-3,300	5,010	-2,500	4,800	4,980	-2,00	5,500	5,255	-2,50	7,972	4,019	-50,0
-9,465	3,250	-50,0	-5,500	5,232	-2,50	-4,800	4,957	-2,00	73+0,000	-3,300	4,987	-2,500	4,800	4,957	-2,00	5,500	5,232	-2,50	8,151	3,906	-50,0
-9,368	3,275	-50,0	-5,500	5,209	-2,50	-4,800	4,934	-2,00	74+0,000	-3,300	4,964	-2,500	4,800	4,934	-2,00	5,500	5,209	-2,50	8,261	3,829	-50,0
-9,190	3,342	-50,0	-5,500	5,187	-2,50	-4,800	4,912	-2,00	75+0,000	-3,300	4,942	-2,500	4,800	4,912	-2,00	5,500	5,187	-2,50	8,327	3,773	-50,0

NOTA DE SERVIÇO - RODOVIA JOSÉ FRANCISCO PEREIRA

Obs.: Cotas e Afastamentos em metros, inclinações em %.

Lado Esquerdo									Eixo				Lado Direito								
Offset Passeio			Offset Reaterro			Offset Regulariz.			Estaca	Cota Projeto	Cota Terreno	Cota Vermelha	Offset Regulariz.			Offset Reaterro			Offset Passeio		
Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.					Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.
-9,019	3,404	-50,0	-5,500	5,164	-2,50	-4,800	4,889	-2,00	76+0,000	-3,300	4,919	-2,500	4,800	4,889	-2,00	5,500	5,164	-2,50	8,391	3,718	-50,0
-8,882	3,450	-50,0	-5,500	5,141	-2,50	-4,800	4,866	-2,00	77+0,000	-3,300	4,896	-2,500	4,800	4,866	-2,00	5,500	5,141	-2,50	8,447	3,668	-50,0
-8,837	3,450	-50,0	-5,500	5,119	-2,50	-4,800	4,844	-2,00	78+0,000	-3,300	4,874	-2,500	4,800	4,844	-2,00	5,500	5,119	-2,50	8,494	3,622	-50,0
-8,830	3,431	-50,0	-5,500	5,096	-2,50	-4,800	4,821	-2,00	79+0,000	-3,300	4,851	-2,500	4,800	4,821	-2,00	5,500	5,096	-2,50	8,537	3,577	-50,0
-8,824	3,411	-50,0	-5,500	5,073	-2,50	-4,800	4,798	-2,00	80+0,000	-3,300	4,828	-2,500	4,800	4,798	-2,00	5,500	5,073	-2,50	8,570	3,538	-50,0
-8,818	3,392	-50,0	-5,500	5,050	-2,50	-4,800	4,775	-2,00	81+0,000	-3,300	4,805	-2,500	4,800	4,775	-2,00	5,500	5,050	-2,50	8,589	3,506	-50,0
-8,810	3,373	-50,0	-5,500	5,028	-2,50	-4,800	4,753	-2,00	82+0,000	-3,300	4,783	-2,500	4,800	4,753	-2,00	5,500	5,028	-2,50	8,609	3,473	-50,0
-8,803	3,353	-50,0	-5,500	5,005	-2,50	-4,800	4,730	-2,00	83+0,000	-3,300	4,760	-2,500	4,800	4,730	-2,00	5,500	5,005	-2,50	8,606	3,452	-50,0
-8,768	3,348	-50,0	-5,500	4,982	-2,50	-4,800	4,707	-2,00	84+0,000	-3,300	4,737	-2,500	4,800	4,707	-2,00	5,500	4,982	-2,50	8,586	3,439	-50,0
-8,720	3,349	-50,0	-5,500	4,959	-2,50	-4,800	4,684	-2,00	85+0,000	-3,300	4,714	-2,500	4,800	4,684	-2,00	5,500	4,959	-2,50	8,566	3,426	-50,0
-8,671	3,351	-50,0	-5,500	4,937	-2,50	-4,800	4,662	-2,00	86+0,000	-3,300	4,692	-2,500	4,800	4,662	-2,00	5,500	4,937	-2,50	8,546	3,414	-50,0
-8,623	3,352	-50,0	-5,500	4,914	-2,50	-4,800	4,639	-2,00	87+0,000	-3,300	4,669	-2,500	4,800	4,639	-2,00	5,500	4,914	-2,50	8,526	3,401	-50,0
-8,574	3,354	-50,0	-5,500	4,891	-2,50	-4,800	4,616	-2,00	88+0,000	-3,300	4,646	-2,500	4,800	4,616	-2,00	5,500	4,891	-2,50	8,506	3,388	-50,0
-8,526	3,355	-50,0	-5,500	4,868	-2,50	-4,800	4,593	-2,00	89+0,000	-3,300	4,623	-2,500	4,800	4,593	-2,00	5,500	4,868	-2,50	8,486	3,376	-50,0
-8,556	3,318	-50,0	-5,500	4,846	-2,50	-4,800	4,571	-2,00	90+0,000	-3,300	4,601	-2,500	4,800	4,571	-2,00	5,500	4,846	-2,50	8,496	3,348	-50,0
-8,969	3,089	-50,0	-5,500	4,823	-2,50	-4,800	4,548	-2,00	91+0,000	-3,300	4,578	-2,500	4,800	4,548	-2,00	5,500	4,823	-2,50	8,528	3,309	-50,0
-9,410	2,845	-50,0	-5,500	4,800	-2,50	-4,800	4,525	-2,00	92+0,000	-3,300	4,555	-2,500	4,800	4,525	-2,00	5,500	4,800	-2,50	8,637	3,232	-50,0
-9,726	2,665	-50,0	-5,500	4,778	-2,50	-4,800	4,503	-2,00	93+0,000	-3,300	4,533	-2,500	4,800	4,503	-2,00	5,500	4,778	-2,50	8,751	3,152	-50,0
-9,393	2,808	-50,0	-5,500	4,755	-2,50	-4,800	4,480	-2,00	94+0,000	-3,300	4,510	-2,500	4,800	4,480	-2,00	5,500	4,755	-2,50	8,865	3,072	-50,0
-9,060	2,952	-50,0	-5,500	4,732	-2,50	-4,800	4,457	-2,00	95+0,000	-3,300	4,487	-2,500	4,800	4,457	-2,00	5,500	4,732	-2,50	8,978	2,993	-50,0
-8,727	3,096	-50,0	-5,500	4,709	-2,50	-4,800	4,434	-2,00	96+0,000	-3,300	4,464	-2,500	4,800	4,434	-2,00	5,500	4,709	-2,50	9,092	2,913	-50,0
-8,558	3,158	-50,0	-5,500	4,687	-2,50	-4,800	4,412	-2,00	97+0,000	-3,300	4,442	-2,500	4,800	4,412	-2,00	5,500	4,687	-2,50	8,917	2,978	-50,0
-8,491	3,168	-50,0	-5,500	4,664	-2,50	-4,800	4,389	-2,00	98+0,000	-3,300	4,419	-2,500	4,800	4,389	-2,00	5,500	4,664	-2,50	8,598	3,115	-50,0
-8,429	3,177	-50,0	-5,500	4,641	-2,50	-4,800	4,366	-2,00	99+0,000	-3,300	4,396	-2,500	4,800	4,366	-2,00	5,500	4,641	-2,50	8,527	3,128	-50,0
-8,367	3,185	-50,0	-5,500	4,618	-2,50	-4,800	4,343	-2,00	100+0,000	-3,300	4,373	-2,500	4,800	4,343	-2,00	5,500	4,618	-2,50	8,464	3,136	-50,0
-8,305	3,193	-50,0	-5,500	4,596	-2,50	-4,800	4,321	-2,00	101+0,000	-3,300	4,351	-2,500	4,800	4,321	-2,00	5,500	4,596	-2,50	8,401	3,145	-50,0
-8,243	3,201	-50,0	-5,500	4,573	-2,50	-4,800	4,298	-2,00	102+0,000	-3,300	4,328	-2,500	4,800	4,298	-2,00	5,500	4,573	-2,50	8,338	3,154	-50,0
-8,277	3,162	-50,0	-5,500	4,550	-2,50	-4,800	4,275	-2,00	103+0,000	-3,300	4,305	-2,500	4,800	4,275	-2,00	5,500	4,550	-2,50	8,275	3,163	-50,0
-8,154	3,201	-50,0	-5,500	4,528	-2,50	-4,800	4,253	-2,00	104+0,000	-3,300	4,283	-2,500	4,800	4,253	-2,00	5,500	4,528	-2,50	8,258	3,148	-50,0
-8,210	3,150	-50,0	-5,500	4,505	-2,50	-4,800	4,230	-2,00	105+0,000	-3,300	4,260	-2,500	4,800	4,230	-2,00	5,500	4,505	-2,50	8,249	3,131	-50,0
-8,292	3,086	-50,0	-5,500	4,482	-2,50	-4,800	4,207	-2,00	106+0,000	-3,300	4,237	-2,500	4,800	4,207	-2,00	5,500	4,482	-2,50	8,239	3,113	-50,0
-8,374	3,022	-50,0	-5,500	4,459	-2,50	-4,800	4,184	-2,00	107+0,000	-3,300	4,214	-2,500	4,800	4,184	-2,00	5,500	4,459	-2,50	8,230	3,095	-50,0
-8,456	2,959	-50,0	-5,500	4,437	-2,50	-4,800	4,162	-2,00	108+0,000	-3,300	4,192	-2,500	4,800	4,162	-2,00	5,500	4,437	-2,50	8,220	3,077	-50,0
-8,538	2,895	-50,0	-5,500	4,414	-2,50	-4,800	4,139	-2,00	109+0,000	-3,300	4,169	-2,500	4,800	4,139	-2,00	5,500	4,414	-2,50	8,211	3,059	-50,0
-8,620	2,831	-50,0	-5,500	4,391	-2,50	-4,800	4,116	-2,00	110+0,000	-3,300	4,146	-2,500	4,800	4,116	-2,00	5,500	4,391	-2,50	8,201	3,040	-50,0
-8,720	2,759	-50,0	-5,500	4,368	-2,50	-4,800	4,093	-2,00	111+0,000	-3,300	4,123	-2,500	4,800	4,093	-2,00	5,500	4,368	-2,50	8,174	3,031	-50,0
-8,842	2,675	-50,0	-5,500	4,346	-2,50	-4,800	4,071	-2,00	112+0,000	-3,300	4,101	-2,500	4,800	4,071	-2,00	5,500	4,346	-2,50	8,123	3,034	-50,0
-8,964	2,591	-50,0	-5,500	4,323	-2,50	-4,800	4,048	-2,00	113+0,000	-3,300	4,078	-2,500	4,800	4,048	-2,00	5,500	4,323	-2,50	8,071	3,037	-50,0

NOTA DE SERVIÇO - RODOVIA JOSÉ FRANCISCO PEREIRA

Obs.: Cotas e Afastamentos em metros, inclinações em %.

Lado Esquerdo									Eixo				Lado Direito								
Offset Passeio			Offset Reaterro			Offset Regulariz.			Estaca	Cota Projeto	Cota Terreno	Cota Vermelha	Offset Regulariz.			Offset Reaterro			Offset Passeio		
Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.					Afast.	Cota	Incl.	Afast.	Cota	Incl.	Afast.	Cota	Incl.
-9,075	2,513	-50,0	-5,500	4,300	-2,50	-4,800	4,025	-2,00	114+0,000	-3,300	4,055	-2,500	4,800	4,025	-2,00	5,500	4,300	-2,50	8,020	3,040	-50,0
-9,179	2,438	-50,0	-5,500	4,277	-2,50	-4,800	4,002	-2,00	115+0,000	-3,300	4,032	-2,500	4,800	4,002	-2,00	5,500	4,277	-2,50	7,969	3,043	-50,0
-9,283	2,363	-50,0	-5,500	4,255	-2,50	-4,800	3,980	-2,00	116+0,000	-3,300	4,010	-2,500	4,800	3,980	-2,00	5,500	4,255	-2,50	7,917	3,046	-50,0
-9,101	2,431	-50,0	-5,500	4,232	-2,50	-4,800	3,957	-2,00	117+0,000	-3,300	3,987	-2,500	4,800	3,957	-2,00	5,500	4,232	-2,50	7,866	3,049	-50,0
-8,550	2,684	-50,0	-5,500	4,209	-2,50	-4,800	3,934	-2,00	118+0,000	-3,300	3,964	-2,500	4,800	3,934	-2,00	5,500	4,209	-2,50	7,831	3,044	-50,0
-7,797	3,038	-50,0	-5,500	4,187	-2,50	-4,800	3,912	-2,00	119+0,000	-3,300	3,942	-2,500	4,800	3,912	-2,00	5,500	4,187	-2,50	7,818	3,027	-50,0
-7,714	3,057	-50,0	-5,500	4,164	-2,50	-4,800	3,889	-2,00	120+0,000	-3,300	3,919	-2,500	4,800	3,889	-2,00	5,500	4,164	-2,50	7,843	2,992	-50,0
-7,788	2,997	-50,0	-5,500	4,141	-2,50	-4,800	3,866	-2,00	121+0,000	-3,300	3,896	-2,500	4,800	3,866	-2,00	5,500	4,141	-2,50	8,368	2,707	-50,0
-7,857	2,940	-50,0	-5,500	4,118	-2,50	-4,800	3,843	-2,00	122+0,000	-3,300	3,873	-2,500	4,800	3,843	-2,00	5,500	4,118	-2,50	8,648	2,544	-50,0
-7,843	2,924	-50,0	-5,500	4,096	-2,50	-4,800	3,821	-2,00	123+0,000	-3,300	3,851	-2,500	4,800	3,821	-2,00	5,500	4,096	-2,50	9,073	2,309	-50,0
-7,829	2,908	-50,0	-5,500	4,073	-2,50	-4,800	3,798	-2,00	124+0,000	-3,300	3,828	-2,500	4,800	3,798	-2,00	5,500	4,073	-2,50	9,028	2,309	-50,0
-7,815	2,893	-50,0	-5,500	4,050	-2,50	-4,800	3,775	-2,00	125+0,000	-3,300	3,805	-2,500	4,800	3,775	-2,00	5,500	4,050	-2,50	8,924	2,338	-50,0
-7,801	2,877	-50,0	-5,500	4,027	-2,50	-4,800	3,752	-2,00	126+0,000	-3,300	3,782	-2,500	4,800	3,752	-2,00	5,500	4,027	-2,50	8,821	2,367	-50,0
-7,786	2,862	-50,0	-5,500	4,005	-2,50	-4,800	3,730	-2,00	127+0,000	-3,300	3,760	-2,500	4,800	3,730	-2,00	5,500	4,005	-2,50	8,717	2,396	-50,0
-7,772	2,846	-50,0	-5,500	3,982	-2,50	-4,800	3,707	-2,00	128+0,000	-3,300	3,737	-2,500	4,800	3,707	-2,00	5,500	3,982	-2,50	8,613	2,426	-50,0
-7,758	2,830	-50,0	-5,500	3,959	-2,50	-4,800	3,684	-2,00	129+0,000	-3,300	3,714	-2,500	4,800	3,684	-2,00	5,500	3,959	-2,50	8,493	2,463	-50,0
-7,744	2,815	-50,0	-5,500	3,937	-2,50	-4,800	3,662	-2,00	130+0,000	-3,300	3,692	-2,500	4,800	3,662	-2,00	5,500	3,937	-2,50	8,354	2,510	-50,0
-7,729	2,799	-50,0	-5,500	3,914	-2,50	-4,800	3,639	-2,00	131+0,000	-3,300	3,669	-2,500	4,800	3,639	-2,00	5,500	3,914	-2,50	8,376	2,476	-50,0
-7,629	2,827	-50,0	-5,500	3,891	-2,50	-4,800	3,616	-2,00	132+0,000	-3,300	3,646	-2,500	4,800	3,616	-2,00	5,500	3,891	-2,50	8,926	2,178	-50,0
-7,720	2,758	-50,0	-5,500	3,868	-2,50	-4,800	3,593	-2,00	133+0,000	-3,300	3,623	-2,500	4,800	3,593	-2,00	5,500	3,868	-2,50	7,091	3,073	-50,0
-8,403	2,394	-50,0	-5,500	3,846	-2,50	-4,800	3,571	-2,00	134+0,000	-3,300	3,601	-2,500	4,800	3,571	-2,00	5,500	3,846	-2,50	6,727	3,232	-50,0

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA**TANGENTE**

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	0,000+0,000	6791158,538	643522,835
FIM:	0,000+15,263	6791145,559	643530,867

ESTACAS INTERMEDIARIAS:**CARACTERÍSTICAS DA TANGENTE**

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	15,263	ÂNGULO:	148° 14' 45,8945"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	0,000+15,263	6791145,559	643530,867
PI:		6791139,177	643534,818
CC:		6791408,695	643956,026
PT:	1,000+10,273	6791132,916	643538,957

ESTACAS INTERMEDIARIAS:

	1,000+0,000	6791141,543	643533,379
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CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	01° 43' 12,2702"	TIPO:	ESQUERDO
RAIO:		500	
DESENVOLVIMENTO:	15,01	TANGENTE:	7,506
FLECHA:	0,056	AFASTAMENTO:	0,056
COMPRIM. CORDA:	15,01	AZIMUTE CORDA:	147° 23' 09,7594"
δ20:	01° 08' 45,2961"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	1,000+10,273	6791132,916	643538,957
FIM:	5,000+16,980	6791060,591	643586,781

ESTACAS INTERMEDIARIAS:

	2,000+0,000	6791124,802	643544,322
	3,000+0,000	6791108,12	643555,353
	4,000+0,000	6791091,437	643566,384
	5,000+0,000	6791074,754	643577,416

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	86,707	ÂNGULO:	146° 31' 33,6243"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	5,000+16,980	6791060,591	643586,781
PI:		6791043,713	643597,941
CC:		6792715,266	646089,19
PT:	7,000+17,447	6791026,987	643609,328

ESTACAS INTERMEDIARIAS:

	6,000+0,000	6791058,073	643588,448
	7,000+0,000	6791041,438	643599,552

CARACTERÍSTICAS DA CURVA CIRCULAR

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	00° 46' 22,3371"	TIPO:	ESQUERDO
RAIO:		3000	
DESENVOLVIMENTO:	40,467	TANGENTE:	20,234
FLECHA:	0,068	AFASTAMENTO:	0,068
COMPRIM, CORDA:	40,467	AZIMUTE CORDA:	146° 08' 22,4558"
δ20:	00° 11' 27,5494"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	7,000+17,447	6791026,987	643609,328
FIM:	8,000+15,439	6791012,115	643619,453
ESTACAS INTERMEDIARIAS:			
	8,000+0,000	6791024,877	643610,765

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	17,991	ÂNGULO:	145° 45' 11,2872"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	8,000+15,439	6791012,115	643619,453
PI:		6790990,79	643633,971
CC:		6789886,596	641966,212
PT:	11,000+7,033	6790969,097	643647,935
ESTACAS INTERMEDIARIAS:			
	9,000+0,000	6791008,342	643622,016
	10,000+0,000	6790991,728	643633,15
	11,000+0,000	6790975,004	643644,118

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	01° 28' 40,9920"	TIPO:	DIREITO
RAIO:		2000	
DESENVOLVIMENTO:	51,594	TANGENTE:	25,798
FLECHA:	0,166	AFASTAMENTO:	0,166
COMPRIM, CORDA:	51,592	AZIMUTE CORDA:	146° 29' 31,7832"
δ20:	00° 17' 11,3240"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	11,000+7,033	6790969,097	643647,935
FIM:	15,000+1,353	6790906,603	643688,161
ESTACAS INTERMEDIARIAS:			
	12,000+0,000	6790958,194	643654,953
	13,000+0,000	6790941,376	643665,778
	14,000+0,000	6790924,559	643676,603
	15,000+0,000	6790907,742	643687,428

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	74,321	ÂNGULO:	147° 13' 52,2792"

CURVA CIRCULAR

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	15,000+1,353	6790906,603	643688,161
PI:		6790886,411	643701,158
CC:		6793612,856	647892,468
PT:	17,000+9,380	6790866,345	643714,349

ESTACAS INTERMEDIARIAS:

16,000+0,000	6790890,943	643698,283
17,000+0,000	6790874,188	643709,204

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	00° 33' 01,2526"	TIPO:	ESQUERDO
RAIO:	5000		
DESENVOLVIMENTO:	48,027	TANGENTE:	24,014
FLECHA:	0,058	AFASTAMENTO:	0,058
COMPRIM, CORDA:	48,027	AZIMUTE CORDA:	146° 57' 21,6529"
δ20:	00° 06' 52,5296"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	17,000+9,380	6790866,345	643714,349
FIM:	29,000+17,048	6790659,388	643850,393

ESTACAS INTERMEDIARIAS:

18,000+0,000	6790857,471	643720,183
19,000+0,000	6790840,758	643731,169
20,000+0,000	6790824,046	643742,155
21,000+0,000	6790807,333	643753,141
22,000+0,000	6790790,621	643764,127
23,000+0,000	6790773,908	643775,113
24,000+0,000	6790757,196	643786,099
25,000+0,000	6790740,483	643797,085
26,000+0,000	6790723,771	643808,071
27,000+0,000	6790707,058	643819,057
28,000+0,000	6790690,346	643830,043
29,000+0,000	6790673,633	643841,029

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	247,667	ÂNGULO:	146° 40' 51,0266"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	29,000+17,048	6790659,388	643850,393
PI:		6790636,869	643865,196
CC:		6792307,295	646357,264
PT:	32,000+10,944	6790614,62	643880,401

ESTACAS INTERMEDIARIAS:

30,000+0,000	6790656,922	643852,016
31,000+0,000	6790640,257	643863,074
32,000+0,000	6790623,666	643874,243

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	01° 01' 45,6153"	TIPO:	ESQUERDO
RAIO:	3000		
DESENVOLVIMENTO:	53,896	TANGENTE:	26,949

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

FLECHA: 0,121 AFASTAMENTO: 0,121
COMPRIM, CORDA: 53,895 AZIMUTE CORDA: 146° 09' 58,2189"
δ20: 00° 11' 27,5494"

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	32,000+10,944	6790614,62	643880,401
FIM:	37,000+15,362	6790528,41	643939,317
ESTACAS INTERMEDIARIAS:			
	33,000+0,000	6790607,143	643885,511
	34,000+0,000	6790590,631	643896,795
	35,000+0,000	6790574,118	643908,08
	36,000+0,000	6790557,606	643919,364
	37,000+0,000	6790541,093	643930,649

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	104,419	ÂNGULO:	145° 39' 05,4113"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	37,000+15,362	6790528,41	643939,317
PI:		6790520,774	643944,535
CC:		6790573,548	644005,367
PT:	38,000+13,778	6790514,53	643951,358
ESTACAS INTERMEDIARIAS:			
	38,000+0,000	6790524,658	643942,043

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	13° 11' 20,4105"	TIPO:	ESQUERDO
RAIO:	80		
DESENVOLVIMENTO:	18,415	TANGENTE:	9,249
FLECHA:	0,529	AFASTAMENTO:	0,533
COMPRIM, CORDA:	18,375	AZIMUTE CORDA:	139° 03' 25,2061"
δ20:	07° 09' 43,1008"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	38,000+13,778	6790514,53	643951,358
FIM:	40,000+0,906	6790496,216	643971,371
ESTACAS INTERMEDIARIAS:			
	39,000+0,000	6790510,329	643955,948
	40,000+0,000	6790496,827	643970,702

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	27,128	ÂNGULO:	132° 27' 45,0008"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	40,000+0,906	6790496,216	643971,371
PI:		6790475,729	643993,758
CC:		6790555,233	644025,38

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

PT:	42,000+18,914	6790475,243	644024,099
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ESTACAS INTERMEDIARIAS:

41,000+0,000	6790485,12	643986,855
42,000+0,000	6790477,768	644005,399

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	41° 32' 43,4435"	TIPO:	ESQUERDO
RAIO:	80		
DESENVOLVIMENTO:	58,008	TANGENTE:	30,346
FLECHA:	5,2	AFASTAMENTO:	5,562
COMPRIM, CORDA:	56,746	AZIMUTE CORDA:	111° 41' 23,2791"
δ20:	07° 09' 43,1008"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	42,000+18,914	6790475,243	644024,099
FIM:	49,000+3,436	6790473,25	644148,605

ESTACAS INTERMEDIARIAS:

43,000+0,000	6790475,226	644025,185
44,000+0,000	6790474,906	644045,182
45,000+0,000	6790474,585	644065,18
46,000+0,000	6790474,265	644085,177
47,000+0,000	6790473,945	644105,175
48,000+0,000	6790473,625	644125,172
49,000+0,000	6790473,305	644145,169

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	124,522	ÂNGULO:	90° 55' 01,5573"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	49,000+3,436	6790473,25	644148,605
PI:		6790473,006	644163,854
CC:		6793472,866	644196,622
PT:	50,000+13,937	6790472,917	644179,104

ESTACAS INTERMEDIARIAS:

50,000+0,000	6790473,031	644165,168
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CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	00° 34' 57,1053"	TIPO:	ESQUERDO
RAIO:	3000		
DESENVOLVIMENTO:	30,501	TANGENTE:	15,251
FLECHA:	0,039	AFASTAMENTO:	0,039
COMPRIM, CORDA:	30,501	AZIMUTE CORDA:	90° 37' 33,0047"
δ20:	00° 11' 27,5494"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	50,000+13,937	6790472,917	644179,104
FIM:	59,000+10,843	6790471,884	644356,008

ESTACAS INTERMEDIARIAS:

51,000+0,000	6790472,882	644185,167
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CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

52,000+0,000	6790472,765	644205,167
53,000+0,000	6790472,648	644225,166
54,000+0,000	6790472,531	644245,166
55,000+0,000	6790472,414	644265,166
56,000+0,000	6790472,298	644285,165
57,000+0,000	6790472,181	644305,165
58,000+0,000	6790472,064	644325,165
59,000+0,000	6790471,947	644345,164

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	176,907	ÂNGULO:	90° 20' 04,4520"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	59,000+10,843	6790471,884	644356,008
PI:		6790471,61	644403,021
CC:		6790391,885	644355,541
PT:	63,000+15,852	6790430,404	644425,657

ESTACAS INTERMEDIARIAS:

60,000+0,000	6790471,307	644365,141
61,000+0,000	6790466,463	644384,492
62,000+0,000	6790456,982	644402,043
63,000+0,000	6790443,453	644416,702

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	60° 52' 59,3429"	TIPO:	DIREITO
RAIO:	80		
DESENVOLVIMENTO:	85,009	TANGENTE:	47,014
FLECHA:	11,028	AFASTAMENTO:	12,792
COMPRIM, CORDA:	81,066	AZIMUTE CORDA:	120° 46' 34,1234"
δ20:	07° 09' 43,1008"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	63,000+15,852	6790430,404	644425,657
FIM:	68,000+0,145	6790356,525	644466,243

ESTACAS INTERMEDIARIAS:

64,000+0,000	6790426,768	644427,654
65,000+0,000	6790409,239	644437,284
66,000+0,000	6790391,71	644446,913
67,000+0,000	6790374,181	644456,543
68,000+0,000	6790356,652	644466,173

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	84,293	ÂNGULO:	151° 13' 03,7949"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	68,000+0,145	6790356,525	644466,243
PI:		6790346,867	644471,548
CC:		6790452,822	644641,534
PT:	69,000+2,163	6790337,85	644477,883

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA**ESTACAS INTERMEDIARIAS:**

69,000+0,000	6790339,626	644476,65
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CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	06° 18' 26,9529"	TIPO:	ESQUERDO
RAIO:		200	
DESENVOLVIMENTO:		22,017 TANGENTE:	11,02
FLECHA:		0,303 AFASTAMENTO:	0,303
COMPRIM, CORDA:		22,006 AZIMUTE CORDA:	148° 03' 50,3184"
δ20:	02° 51' 53,2403"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	69,000+2,163	6790337,85	644477,883
FIM:	75,000+10,011	6790233,237	644551,378

ESTACAS INTERMEDIARIAS:

70,000+0,000	6790323,255	644488,137
71,000+0,000	6790306,89	644499,634
72,000+0,000	6790290,525	644511,131
73,000+0,000	6790274,16	644522,628
74,000+0,000	6790257,795	644534,125
75,000+0,000	6790241,43	644545,623

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	127,849	ÂNGULO:	144° 54' 36,8420"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	75,000+10,011	6790233,237	644551,378
PI:		6790213,523	644565,228
CC:		6788508,66	642096,621
PT:	77,000+18,196	6790193,589	644578,76

ESTACAS INTERMEDIARIAS:

76,000+0,000	6790225,054	644557,107
77,000+0,000	6790208,613	644568,495

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	00° 55' 12,9273"	TIPO:	DIREITO
RAIO:		3000	
DESENVOLVIMENTO:		48,185 TANGENTE:	24,093
FLECHA:		0,097 AFASTAMENTO:	0,097
COMPRIM, CORDA:		48,184 AZIMUTE CORDA:	145° 22' 13,3056"
δ20:	00° 11' 27,5494"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	77,000+18,196	6790193,589	644578,76
FIM:	81,000+17,137	6790128,275	644623,097

ESTACAS INTERMEDIARIAS:

78,000+0,000	6790192,096	644579,773
79,000+0,000	6790175,549	644591,006
80,000+0,000	6790159,001	644602,239

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

81,000+0,000

6790142,454

644613,472

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	78,941	ÂNGULO:	145° 49' 49,7693"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	81,000+17,137	6790128,275	644623,097
PI:		6790119,364	644629,145
CC:		6791813,204	647105,235
PT:	82,000+18,676	6790110,497	644635,258

ESTACAS INTERMEDIARIAS:

82,000+0,000

6790125,907

644624,706

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	00° 24' 40,9242"	TIPO:	ESQUERDO
RAIO:	3000		
DESENVOLVIMENTO:	21,539	TANGENTE:	10,77
FLECHA:	0,019	AFASTAMENTO:	0,019
COMPRIM, CORDA:	21,539	AZIMUTE CORDA:	145° 37' 29,3072"
δ20:	00° 11' 27,5494"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	82,000+18,676	6790110,497	644635,258
FIM:	89,000+4,966	6790006,52	644706,936

ESTACAS INTERMEDIARIAS:

83,000+0,000

6790109,407

644636,009

84,000+0,000

6790092,94

644647,361

85,000+0,000

6790076,474

644658,712

86,000+0,000

6790060,007

644670,064

87,000+0,000

6790043,541

644681,415

88,000+0,000

6790027,074

644692,766

89,000+0,000

6790010,608

644704,118

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	126,29	ÂNGULO:	145° 25' 08,8451"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	89,000+4,966	6790006,52	644706,936
PI:		6790002,7	644709,569
CC:		6790120,034	644871,601
PT:	89,000+14,244	6789999,006	644712,377

ESTACAS INTERMEDIARIAS:CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	02° 39' 29,2983"	TIPO:	ESQUERDO
RAIO:	200		
DESENVOLVIMENTO:	9,279	TANGENTE:	4,64
FLECHA:	0,054	AFASTAMENTO:	0,054
COMPRIM, CORDA:	9,278	AZIMUTE CORDA:	144° 05' 24,1960"

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

δ20: 02° 51' 53,2403"

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	89,000+14,244	6789999,006	644712,377
FIM:	1+02,000+3,368	6789800,673	644863,133
ESTACAS INTERMEDIARIAS:			
	90,000+0,000	6789994,424	644715,86
	91,000+0,000	6789978,501	644727,963
	92,000+0,000	6789962,579	644740,066
	93,000+0,000	6789946,656	644752,169
	94,000+0,000	6789930,734	644764,272
	95,000+0,000	6789914,812	644776,374
	96,000+0,000	6789898,889	644788,477
	97,000+0,000	6789882,967	644800,58
	98,000+0,000	6789867,045	644812,683
	99,000+0,000	6789851,122	644824,786
	1+00,000+0,000	6789835,2	644836,888
	1+01,000+0,000	6789819,278	644848,991
	1+02,000+0,000	6789803,355	644861,094

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	249,124	ÂNGULO:	142° 45' 39,5468"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	1+02,000+3,368	6789800,673	644863,133
PI:		6789782,68	644876,809
CC:		6789195,532	644067,014
PT:	1+04,000+8,563	6789764,088	644889,659
ESTACAS INTERMEDIARIAS:			
	1+03,000+0,000	6789787,35	644873,086
	1+04,000+0,000	6789771,111	644884,761

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	02° 35' 21,9701"	TIPO:	DIREITO
RAIO:	1000		
DESENVOLVIMENTO:	45,194	TANGENTE:	22,601
FLECHA:	0,255	AFASTAMENTO:	0,255
COMPRIM, CORDA:	45,19	AZIMUTE CORDA:	144° 03' 20,5319"
δ20:	00° 34' 22,6481"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	1+04,000+8,563	6789764,088	644889,659
FIM:	1+16,000+0,508	6789573,28	645021,533
ESTACAS INTERMEDIARIAS:			
	1+05,000+0,000	6789754,679	644896,162
	1+06,000+0,000	6789738,227	644907,533
	1+07,000+0,000	6789721,774	644918,904
	1+08,000+0,000	6789705,321	644930,275
	1+09,000+0,000	6789688,868	644941,646

CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

1+10,000+0,000	6789672,415	644953,017
1+11,000+0,000	6789655,962	644964,388
1+12,000+0,000	6789639,509	644975,759
1+13,000+0,000	6789623,056	644987,131
1+14,000+0,000	6789606,603	644998,502
1+15,000+0,000	6789590,15	645009,873
1+16,000+0,000	6789573,698	645021,244

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	231,945	ÂNGULO:	145° 21' 01,5170"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	1+16,000+0,508	6789573,28	645021,533
PI:		6789552,037	645036,214
CC:		6789857,557	645432,855
PT:	1+18,000+12,107	6789532,419	645053,006

ESTACAS INTERMEDIARIAS:

1+17,000+0,000	6789557,464	645032,925
1+18,000+0,000	6789541,711	645045,246

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	05° 54' 46,2291"	TIPO:	ESQUERDO
RAIO:	500		
DESENVOLVIMENTO:	51,599	TANGENTE:	25,823
FLECHA:	0,665	AFASTAMENTO:	0,666
COMPRIM, CORDA:	51,576	AZIMUTE CORDA:	142° 23' 38,4024"
δ20:	01° 08' 45,2961"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	1+18,000+12,107	6789532,419	645053,006
FIM:	1+20,000+2,151	6789509,595	645072,543

ESTACAS INTERMEDIARIAS:

1+19,000+0,000	6789526,423	645058,139
1+20,000+0,000	6789511,229	645071,144

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	30,044	ÂNGULO:	139° 26' 15,2879"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	1+20,000+2,151	6789509,595	645072,543
PI:		6789484,088	645094,376
CC:		6789184,457	644692,694
PT:	1+23,000+9,201	6789455,89	645112,604

ESTACAS INTERMEDIARIAS:

1+21,000+0,000	6789495,831	645083,906
1+22,000+0,000	6789479,938	645096,044
1+23,000+0,000	6789463,571	645107,538

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
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CURVAS HORIZONTAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

AC:	07° 41' 00,4155"	TIPO:	DIREITO
RAIO:	500		
DESENVOLVIMENTO:	67,051	TANGENTE:	33,576
FLECHA:	1,124	AFASTAMENTO:	1,126
COMPRIM, CORDA:	67,001	AZIMUTE CORDA:	143° 16' 45,4957"
δ20:	01° 08' 45,2961"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	1+23,000+9,201	6789455,89	645112,604
FIM:	1+30,000+3,866	6789342,796	645185,709
ESTACAS INTERMEDIARIAS:			
	1+24,000+0,000	6789446,821	645118,466
	1+25,000+0,000	6789430,024	645129,324
	1+26,000+0,000	6789413,228	645140,181
	1+27,000+0,000	6789396,432	645151,038
	1+28,000+0,000	6789379,635	645161,896
	1+29,000+0,000	6789362,839	645172,753
	1+30,000+0,000	6789346,042	645183,61

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	134,665	ÂNGULO:	147° 07' 15,7035"

CURVA CIRCULAR

DESCRIÇÃO	ESTACA	NORTE	ESTE
PC:	1+30,000+3,866	6789342,796	645185,709
PI:		6789316,066	645202,987
CC:		6789614,229	645605,618
PT:	1+33,000+7,438	6789291,742	645223,516
ESTACAS INTERMEDIARIAS:			
	1+31,000+0,000	6789329,39	645194,684
	1+32,000+0,000	6789313,185	645206,403
	1+33,000+0,000	6789297,462	645218,761

CARACTERÍSTICAS DA CURVA CIRCULAR

PARÂMETRO	VALOR	PARÂMETRO	VALOR
AC:	07° 17' 05,2360"	TIPO:	ESQUERDO
RAIO:	500		
DESENVOLVIMENTO:	63,572	TANGENTE:	31,829
FLECHA:	1,01	AFASTAMENTO:	1,012
COMPRIM, CORDA:	63,529	AZIMUTE CORDA:	143° 28' 43,0855"
δ20:	01° 08' 45,2961"		

TANGENTE

Descrição	ESTACAS	NORTE	ESTE
INÍCIO:	1+33,000+7,438	6789291,742	645223,516
FIM:	1+35,000+0,000	6789266,858	645244,518
ESTACAS INTERMEDIARIAS:			
	1+34,000+0,000	6789282,142	645231,618
	1+35,000+0,000	6789266,858	645244,518

CARACTERÍSTICAS DA TANGENTE

TIPO	VALOR	PARÂMETRO	VALOR
COMPRIMENTO:	32,562	ÂNGULO:	139° 50' 10,4675"

CURVAS VERTICAIS - RODOVIA JOSÉ FRANCISCO PEREIRA**RAMPA**

Descrição	ESTACAS	COTA
INÍCIO:	0,000+0,000	12,943
FIM:	9,000+16,929	12,445
ESTACAS INTERMEDIARIAS:		
	1,000+0,000	12,892
	2,000+0,000	12,842
	3,000+0,000	12,791
	4,000+0,000	12,741
	5,000+0,000	12,69
	6,000+0,000	12,639
	7,000+0,000	12,589
	8,000+0,000	12,538
	9,000+0,000	12,488

CARACTERÍSTICAS DA RAMPA

TIPO	VALOR
COMPRIMENTO:	196,929
GRADE:	-0,25%

CURVA VERTICAL CONVEXA

Descrição	ESTACAS	COTA
INÍCIO:	9,000+16,929	12,445
PIV:	10,000+4,613	12,425
FIM:	10,000+12,296	12,382
ESTACAS INTERMEDIARIAS:		
	10,000+0,000	12,436

CARACTERÍSTICAS DA CURVA VERTICAL SIMÉTRICA

TIPO	VALOR
RAMPA ANTERIOR:	-0,25%
RAMPA POSTERIOR:	-0,56%
COMPRIMENTO:	15,367
K:	50
e:	-0,006

RAMPA

Descrição	ESTACAS	COTA
INÍCIO:	10,000+12,296	12,382
FIM:	35,000+15,851	9,562
ESTACAS INTERMEDIARIAS:		
	11,000+0,000	12,339
	12,000+0,000	12,227
	13,000+0,000	12,115
	14,000+0,000	12,003
	15,000+0,000	11,891
	16,000+0,000	11,779
	17,000+0,000	11,667
	18,000+0,000	11,555
	19,000+0,000	11,443
	20,000+0,000	11,331
	21,000+0,000	11,219
	22,000+0,000	11,107
	23,000+0,000	10,995
	24,000+0,000	10,883

CURVAS VERTICAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

25,000+0,000	10,771
26,000+0,000	10,659
27,000+0,000	10,547
28,000+0,000	10,435
29,000+0,000	10,323
30,000+0,000	10,211
31,000+0,000	10,099
32,000+0,000	9,987
33,000+0,000	9,875
34,000+0,000	9,763
35,000+0,000	9,65

CARACTERÍSTICAS DA RAMPA

TIPO	VALOR
COMPRIMENTO:	503,555
GRADE:	-0,56%

CURVA VERTICAL CÔNCAVA

Descrição	ESTACAS	COTA
INÍCIO:	35,000+15,851	9,562
PIV:	36,000+3,703	9,518
FIM:	36,000+11,555	9,498
ESTACAS INTERMEDIARIAS:		
	36,000+0,000	9,54

CARACTERÍSTICAS DA CURVA VERTICAL SIMÉTRICA

TIPO	VALOR
RAMPA ANTERIOR:	-0,56%
RAMPA POSTERIOR:	-0,25%
COMPRIMENTO:	15,704
K:	50
e:	0,006

RAMPA

Descrição	ESTACAS	COTA
INÍCIO:	36,000+11,555	9,498
FIM:	58,000+16,026	8,405
ESTACAS INTERMEDIARIAS:		
	37,000+0,000	9,478
	38,000+0,000	9,428
	39,000+0,000	9,379
	40,000+0,000	9,33
	41,000+0,000	9,281
	42,000+0,000	9,232
	43,000+0,000	9,182
	44,000+0,000	9,133
	45,000+0,000	9,084
	46,000+0,000	9,035
	47,000+0,000	8,985
	48,000+0,000	8,936
	49,000+0,000	8,887
	50,000+0,000	8,838
	51,000+0,000	8,789
	52,000+0,000	8,739
	53,000+0,000	8,69
	54,000+0,000	8,641
	55,000+0,000	8,592

CURVAS VERTICAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

56,000+0,000	8,542
57,000+0,000	8,493
58,000+0,000	8,444

CARACTERÍSTICAS DA RAMPA

TIPO	VALOR
COMPRIMENTO:	444,471
GRADE:	-0,25%

CURVA VERTICAL CONVEXA

Descrição	ESTACAS	COTA
INÍCIO:	58,000+16,026	8,405
PIV:	59,000+16,489	8,354
FIM:	60,000+16,951	7,885
ESTACAS INTERMEDIARIAS:		
	59,000+0,000	8,391

CARACTERÍSTICAS DA CURVA VERTICAL SIMÉTRICA

TIPO	VALOR
RAMPA ANTERIOR:	-0,25%
RAMPA POSTERIOR:	-2,29%
COMPRIMENTO:	40,926
K:	20
e:	-0,105

RAMPA

Descrição	ESTACAS	COTA
INÍCIO:	60,000+16,951	7,885
FIM:	64,000+15,649	6,081
ESTACAS INTERMEDIARIAS:		
	60,000+0,000	8,202
	61,000+0,000	7,815
	62,000+0,000	7,357
	63,000+0,000	6,898

CARACTERÍSTICAS DA RAMPA

TIPO	VALOR
COMPRIMENTO:	78,697
GRADE:	-2,29%

CURVA VERTICAL CÔNCAVA

Descrição	ESTACAS	COTA
INÍCIO:	64,000+15,649	6,081
PIV:	65,000+17,436	5,582
FIM:	66,000+19,223	5,557
ESTACAS INTERMEDIARIAS:		
	65,000+0,000	5,986

CARACTERÍSTICAS DA CURVA VERTICAL SIMÉTRICA

TIPO	VALOR
RAMPA ANTERIOR:	-2,29%
RAMPA POSTERIOR:	-0,11%
COMPRIMENTO:	43,574
K:	20
e:	0,119

RAMPA

CURVAS VERTICAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

Descrição	ESTACAS	COTA
INÍCIO:	66,000+19,223	5,557
FIM:	1+34,000+20,000	4,01
ESTACAS INTERMEDIARIAS:		
	66,000+0,000	5,671
	67,000+0,000	5,556
	68,000+0,000	5,533
	69,000+0,000	5,511
	70,000+0,000	5,488
	71,000+0,000	5,465
	72,000+0,000	5,442
	73,000+0,000	5,42
	74,000+0,000	5,397
	75,000+0,000	5,374
	76,000+0,000	5,351
	77,000+0,000	5,329
	78,000+0,000	5,306
	79,000+0,000	5,283
	80,000+0,000	5,261
	81,000+0,000	5,238
	82,000+0,000	5,215
	83,000+0,000	5,192
	84,000+0,000	5,17
	85,000+0,000	5,147
	86,000+0,000	5,124
	87,000+0,000	5,101
	88,000+0,000	5,079
	89,000+0,000	5,056
	90,000+0,000	5,033
	91,000+0,000	5,011
	92,000+0,000	4,988
	93,000+0,000	4,965
	94,000+0,000	4,942
	95,000+0,000	4,92
	96,000+0,000	4,897
	97,000+0,000	4,874
	98,000+0,000	4,851
	99,000+0,000	4,829
	100,000+0,000	4,806
	101,000+0,000	4,783
	102,000+0,000	4,76
	103,000+0,000	4,738
	104,000+0,000	4,715
	105,000+0,000	4,692
	106,000+0,000	4,67
	107,000+0,000	4,647
	108,000+0,000	4,624
	109,000+0,000	4,601
	110,000+0,000	4,579
	111,000+0,000	4,556
	112,000+0,000	4,533
	113,000+0,000	4,51
	114,000+0,000	4,488
	115,000+0,000	4,465
	116,000+0,000	4,442
	117,000+0,000	4,42
	118,000+0,000	4,397

CURVAS VERTICAIS - RODOVIA JOSÉ FRANCISCO PEREIRA

119,000+0,000	4,374
120,000+0,000	4,351
121,000+0,000	4,329
122,000+0,000	4,306
123,000+0,000	4,283
124,000+0,000	4,26
125,000+0,000	4,238
126,000+0,000	4,215
127,000+0,000	4,192
128,000+0,000	4,169
129,000+0,000	4,147
130,000+0,000	4,124
131,000+0,000	4,101
132,000+0,000	4,079
133,000+0,000	4,056
134,000+0,000	4,033

CARACTERÍSTICAS DA RAMPA

TIPO	VALOR
COMPRIMENTO:	1360,777
GRADE:	-0,11%