

INSPECTION REPORT

The area proposed for clearance under section-2 of Forest (Conservation) Act, 1980 for Four / Six Lanning of NH-17 within jurisdiction of South Goa Division from km 571.500 to 610.500 (Bendurdem village to Loliem village) forming part of NH-17 starting from km 475.040 to km 611.000 in the State of Goa on BOT basis (Patradevi to Pollem Section). The area falling within the proposed diversion in South Goa jurisdiction has been inspected by the undersigned on various dates alongwith Range Forest Officer, Pissonem, Range Forest Officer, Canacona, Range Forest Officer, Quepem, Forest Surveyor of this division and representative of the Executive Engineer, Division VII(NH), PWD, Patto, Panaji – Goa. The various suggestions were made in order to facilitate the movement of wildlife within the forest areas as well as for protection of natural springs available at various sites within Forest areas.

The site inspection is carried out in the forest area as proposed in the forest proposal as per the guidelines on 26.10.2017 and 10.12.2018.

The total area of the Project falling in South Goa Forest Division is **108.636** out of which 29.836 ha. is forest land and remaining area is non forest land. The forest area of **29.836** ha. proposed for diversion has been demarcated on ground with RCC pillars and each pillar numbered serially and GPS readings of each boundary pillars are given in the list as **Annexure-I**.

Survey number wise areas of forest land proposed for diversion are as under:

(Width of road is 45 mts.)

Village	Taluka	Survey Nos.	Legal Status	Chainage		Length in (Km)
				Start	End	
Bendurdem	Quepem	46	Proposed Reserve Forest notified under Section 4 of IFA 1927	571.500	571.700	0.200
Cordem	Quepem	42				
Cordem	Quepem	23, 24	Reserve Forest notified under Section 20 of IFA 1927	573.200	575.100	1.90
Padi	Quepem	10, 12	Proposed Reserve Forest notified under Section 4 of IFA 1927			
Padi	Quepem	12, 1, 7	Proposed Reserve Forest notified under Section 4 of IFA 1927	575.200	576.655	1.4555
Barcem	Quepem	37		578.100	578.168	0.068
Barcem	Quepem	23, 37, 114				
Canacona	Canacona	103, 110, 105/6, 106/1	Reserve Forest notified under Section 20 of IFA 1927	578.248	582.000	3.752
Canacona	Canacona	110	Reserve Forest notified under Section 20 of IFA 1927	582.070	582.200	0.130
Nagorcem – Pallolem	Canacona	199		584.350	584.575	0.225
Loliem	Canacona	229	Reserve Forest notified under Section 4 of IFA 1927	610.365	610.500	0.135

The area is having plantations of teak and eucalyptus with thick growth of local forestry species. Enumeration of trees falling in the proposed area has been done by the Range Forest Officer, Pissonem, Canacona and Quepem and there are 13471 nos. of trees in proposed area. The enumeration of trees is done by considering the area on the right hand side and on left hand side of the existing road as the proposed road passes over the existing road by taking extension (widening) on either side of the existing road. The detail are as under :

1. Enumeration list with abstract of Quepem Range bearing survey No. 46/1 of Bendurdem village, survey No.42 of Cordem village, Page No.292/C to 296/C (File Part-II).
2. Enumeration list with abstract of Pissonem Range bearing survey No.23, 24 of Cordem village, survey No.12, 1, 10, 7 of Padi village, survey No.37, 23, 114 of Barcem village, survey No.110, 103, 105/6, 106/1 of Canacona village, survey No.199 of Nagorcem-Palolelem village, Page No.1/C to 287/C (File Part-II).
3. Enumeration list with abstract of Canacona Range bearing survey No.229 of Loliem village Page No.289/C to 290/C (File Part-II).

The detailed enumeration list showing species, girth, height is enclosed. The list showing the girth classes species wise is also enclosed. The abstract of estimated forest produce is enclosed.

Abstract of trees survey No. Wise:

Village	Taluka	Survey Nos.	Area in ha.	No. of Trees standing while proceeding from Margao to Loliem		Total No. of trees
				Left side	Right side	
QUEPEM RANGE						
Bendurdem	Quepem	46	0.136	75	26	101
Cordem	Quepem	42	0.065	27	17	44
Total			0.201	102	43	145
PISSONEM RANGE						
Cordem	Quepem	23	1.406	711	--	711
Cordem	Quepem	24	1.116	--	251	251
Padi	Quepem	10	2.142	--	674	674
Padi	Quepem	12	3.663	1873	--	1873
Padi	Quepem	1	3.645	1710	--	1710
Padi	Quepem	7	1.516	--	472	472
Barcem	Quepem	37	0.067	14	--	14
Barcem	Quepem	23	5.163	--	2137	2137
Barcem	Quepem	114	3.450	1923	--	1923
Canacona	Canacona	103	1.555	--	500	500
Canacona	Canacona	105/6	0.124	--	54	54
Canacona	Canacona	106/1	0.106	--	15	15
Canacona	Canacona	110	4.910	2881	--	2881
Nagorcem - Pallolem	Canacona	199	0.431	71	--	71
Total			29.295	9183	4103	13286
CANACONA RANGE						
Loliem	Canacona	229	0.341	40	--	40
Total			0.341	40	-	40
Grand Total			29.836	9325	4146	13471

Canopy density of the area is 0.60 to 1.00. No violation of Forest (Conservation) Act, 1980 has taken place in the proposed area. It was observed that the major work of widening of road is existing in thick Government Forest and there is presence of Wild Animals like Panther, Bison, Wild Boar, Chital, Barking deer, Mouse deer and other small mammals and reptiles, etc. As this widen road and the continuous movement of vehicles with high speed may cause fatal accident to wild animals, it was suggested to keep animal under passages at minimum 3 places.

Accordingly the User Agency has proposed to maintain animal under passes as under:

Location	Village	Survey No.	Design Chainage	Latitude	Longitude	Proposal	Span Arrangement
1.	Cordem	23, 24	574.028	N 15°6'16.5"	E 74°1'54.01"	Animal under pass	Width of the road x 12m x 5m
2.	Padi	10, 12	574.636	N 15°5'56.98"	E 74°1'49.85"	Animal under pass	Width of the road x 12m x 5m
3.	Barcem	23, 114	580.025	N 15°3'18.51"	E 74°1'29.18"	Animal under pass	Width of the road x 12m x 5m
4.	Canacona	103	581.300	N 15°2'49.80"	E 74°1'33.85"	Animal under pass	Width of the road x 12m x 5m

Also it was observed that there are Natural springs flowing at 3 sites along the existing road. The User Agency was informed to prepare artificial canal and to collect water by saving the natural flow of water. It was also informed to them that no any excavation should be carried at the site of existing flow of concerned spring so as not to cause any damage to the natural flow of water. Accordingly they have submitted that due care will be taken to safeguard natural flow of spring.

The details of existence of springs and the work proposed by User Agency is as under:

Location	Village	Survey No.	Design Chainage	Latitude	Longitude	Proposal	Span Arrangement
1.	Bendurdem	46	571.625	N 15°7'27.32"	E 74°2'4.44"	Right of way restriction to 30 m instead of 45 m at this location and provision of Metal Beam Crash Barrier for the spring.	
2.	Cordem	42	571.710	N 15°7'24.51"	E 74°2'4.68"	Minor Bridge	1 x 6 x 3.5m
3.	Barcem	23, 114	579.060	N 15°3'46.72"	E 74°1'37.00"	Minor Bridge	1 x 6 x 3.5m

In the forest area proposed for diversion, the existing forest quarters and forest buildings are also affected and required to be demolished. The list of such quarters and offices as provided as under:

Sr. No.	Survey No.	Village	Status	Chain age	Type of building	Plinth Area
1.	12	Padi	Proposed Reserve Forest notified under Section 4 of IFA 1927	575.410	Office of RFO Pissonem	32.666
2.	1	Padi		575.475	Forest 'B' Type Quarters	70.875
	1	Padi		575.510	Forest 'A' Type Quarters	126.061
	1	Padi		575.535	Forest 'A' Type Quarters	195.043
3.	229	Loliem		610.480	Forest 'A' Quarters, 3 units	190.743

All these Office building/quarters are required to be re-constructed by the User Agency at their cost.

The following buildings were existing in forest land in survey No.1 of Padi village before 1980 which are falling within the line of road widening and required to be demolish.

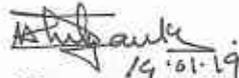
Sr. No.	Survey No.	Village	Status	Chain age	Type of building	Plinth Area
1.	1	Padi	Proposed Reserve Forest notified under Section 4 of IFA 1927	575.650 to 575.700	Government High School Building	411.000
2.	1	Padi		575.450	Village Panchayat Office Building	163.000
3.	1	Padi		575.460	Commercial Shop	103.000

It was suggested to the User Agency to propose a tunnel passing under the Karmalghat forest area (Barcem village and Canacona village) avoiding diversion of Government forest land admeasuring 15.375 ha. This tunnel could have been designed parallel to the existing Konkarn Railway line. But the user Agency has submitted a letter No.GOA/PWD/CE(NH,R&B)/F,MORTH/2015-16/986 dated 30.03.2017 informing the reason for not opting to the tunnel option.

The User Agency has not provided non-forest land for Compensatory Afforestation (CA). The cost of CA per ha. which was approved are enclosed alongwith the rates calculated as per present rate of Daily wages. The Government has proposed widening of the existing NH-17, as it has a great potential of growth in the future as well as freight more in future and to develop the State of Goa and part of Karnataka State.

As it has significant relevance for development being Government project for public purpose, the proposal is recommended.

Date : 14/01/2019.
Place : Margao


14.01.19
Dy. Conservator of Forests,
South Goa Division,
Margao - Goa.

ANNEXTURE - I

Design Chainage(Km)	Latitude	Longitude
571.500L	15°07'31.12941"N	74°02'03.83537"E
571.550	15°07'29.30206"N	74°02'02.73476"E
571.550L	15°07'29.57015"N	74°02'04.21691"E
571.575	15°07'28.36655"N	74°02'02.98309"E
571.575L	15°07'28.78034"N	74°02'04.61215"E
571.600L	15°07'28.07127"N	74°02'04.76105"E
571.600R	15°07'27.67095"N	74°02'03.18058"E
571.625L	15°07'27.28699"N	74°02'04.98031"E
571.650L	15°07'26.51663"N	74°02'05.27776"E
571.650R	15°07'26.06666"N	74°02'03.79740"E
571.680L	15°07'25.58417"N	74°02'05.59304"E
571.700R	15°07'24.62861"N	74°02'04.34593"E
573.400L	15°06'33.96024"N	74°01'57.15720"E
573.450L	15°06'32.81110"N	74°01'55.92906"E
573.500L	15°06'31.70119"N	74°01'54.73600"E
573.525	15°06'30.99116"N	74°01'54.22139"E
573.550L	15°06'30.56577"N	74°01'53.70299"E
573.575 L	15°06'29.79301"N	74°01'53.33223"E
573.600 L	15°06'29.29296"N	74°01'52.86813"E
573.625L	15°06'28.55018"N	74°01'52.63834"E
573.650L	15°06'27.83934"N	74°01'52.38766"E
573.675L	15°06'27.07149"N	74°01'52.31596"E
573.700L	15°06'26.33485"N	74°01'52.37502"E
573.725L	15°06'25.68277"N	74°01'52.27763"E
573.750L	15°06'24.97452"N	74°01'52.24611"E
573.775L	15°06'24.18013"N	74°01'52.47059"E
573.800L	15°06'23.50367"N	74°01'52.61052"E
573.825L	15°06'22.85342"N	74°01'52.90386"E
573.850L	15°06'22.01329"N	74°01'53.17076"E
573.875L	15°06'21.27723"N	74°01'53.52479"E
573.900L	15°06'20.46153"N	74°01'53.75161"E
573.950L	15°06'18.81749"N	74°01'54.24492"E
573.350R	15°06'36.10793"N	74°01'57.34830"E
573.400R	15°06'34.98811"N	74°01'56.11294"E
573.450R	15°06'33.88660"N	74°01'54.89667"E
573.500R	15°06'32.64660"N	74°01'53.68860"E
573.525R	15°06'31.94238"N	74°01'52.93621"E
573.550R	15°06'31.45328"N	74°01'52.51894"E
573.575R	15°06'30.56268"N	74°01'51.93875"E
573.600R	15°06'29.93102"N	74°01'51.54662"E
573.650R	15°06'28.26093"N	74°01'50.92522"E

Design Chainage(Km)	Latitude	Longitude
573.675R	15°06'27.27432"N	74°01'50.71243"E
573.700R	15°06'26.53330"N	74°01'50.71307"E
573.750R	15°06'24.76168"N	74°01'50.77691"E
573.775R	15°06'23.81027"N	74°01'50.91451"E
573.800R	15°06'23.06318"N	74°01'51.20272"E
573.825R	15°06'22.29112"N	74°01'51.49165"E
573.850R	15°06'21.47633"N	74°01'51.71413"E
573.875R	15°06'20.72741"N	74°01'52.04699"E
573.900R	15°06'19.99230"N	74°01'52.32282"E
573.950R	15°06'18.49877"N	74°01'52.76114"E
574.250R	15°06'08.95698"N	74°01'53.85012"E
574.325L	15°06'06.31834"N	74°01'55.18212"E
574.400R	15°06'04.27829"N	74°01'53.04833"E
574.425L	15°06'03.13590"N	74°01'54.12424"E
574.000L	15°06'17.13999"N	74°01'54.52619"E
574.050L	15°06'15.51572"N	74°01'54.70007"E
574.050R	15°06'15.35986"N	74°01'53.20387"E
574.100L	15°06'13.90464"N	74°01'54.90107"E
574.100R	15°06'13.75153"N	74°01'53.40727"E
574.150L1	15°06'12.28647"N	74°01'55.08697"E
574.150R	15°06'12.12745"N	74°01'53.59341"E
574.200L	15°06'10.60085"N	74°01'55.24449"E
574.200R1	15°06'10.80602"N	74°01'53.78385"E
574.250L	15°06'08.97120"N	74°01'55.37940"E
574.275L	15°06'08.04224"N	74°01'55.33508"E
574.275R2	15°06'08.21803"N	74°01'53.80405"E
574.300L	15°06'07.25733"N	74°01'55.27173"E
574.300R3	15°06'07.42696"N	74°01'53.76250"E
574.325R4	15°06'06.66709"N	74°01'53.65508"E
574.350R	15°06'05.85995"N	74°01'53.57364"E
574.375L	15°06'04.72075"N	74°01'54.73372"E
574.375R	15°06'05.21890"N	74°01'53.25641"E
574.400L	15°06'03.93385"N	74°01'54.43295"E
574.425R	15°06'03.73927"N	74°01'52.80962"E
574.450L	15°06'02.46183"N	74°01'53.77497"E
574.450R	15°06'03.09397"N	74°01'52.23687"E
574.475R	15°06'01.63421"N	74°01'53.36819"E
574.600L	15°05'58.07277"N	74°01'51.31620"E
574.600R	15°05'58.76346"N	74°01'49.98825"E
574-475R	15°06'02.35156"N	74°01'51.99952"E
574-500L	15°06'00.90907"N	74°01'52.92233"E
574-500R	15°06'01.61925"N	74°01'51.61073"E

Design Chainage(Km)	Latitude	Longitude
574--550L	15°05'59.48708"N	74°01'52.11583"E
574--550R	15°06'00.19372"N	74°01'50.80661"E
574--600R	15°05'58.76196"N	74°01'49.98771"E
574--650R1	15°05'57.28621"N	74°01'49.19287"E
574.000R	15°06'16.97074"N	74°01'53.02545"E
574.700L	15°05'55.18971"N	74°01'49.89222"E
574.700R	15°05'55.77683"N	74°01'48.50751"E
574.750L	15°05'53.70610"N	74°01'49.23235"E
574.750R	15°05'54.25932"N	74°01'47.82005"E
574.775L	15°05'52.92720"N	74°01'48.98496"E
574.775R	15°05'53.57338"N	74°01'47.45987"E
574.800L	15°05'52.23660"N	74°01'48.64126"E
574.800R	15°05'52.72511"N	74°01'47.19275"E
574.825L	15°05'51.42005"N	74°01'48.42595"E
574.825R	15°05'51.87814"N	74°01'46.91466"E
574.850L	15°05'50.56788"N	74°01'48.19478"E
574.850R	15°05'51.09412"N	74°01'46.67305"E
574.875L	15°05'50.04388"N	74°01'47.99563"E
574.875R	15°05'50.23318"N	74°01'46.43843"E
574.900L	15°05'49.13317"N	74°01'47.94501"E
574.900R	15°05'49.35242"N	74°01'46.43541"E
574.925L	15°05'48.38327"N	74°01'47.73634"E
574.925R	15°05'48.54892"N	74°01'46.21077"E
574.950L	15°05'47.54531"N	74°01'47.78497"E
574.950R	15°05'47.65809"N	74°01'46.20701"E
574.975L	15°05'46.82965"N	74°01'47.75266"E
574.975R	15°05'46.75783"N	74°01'46.16259"E
575 000L	15°05'45.41046"N	74°01'47.96036"E
575 150L	15°05'41.76193"N	74°01'49.17738"E
575 200L	15°05'40.31088"N	74°01'49.89991"E
575.050	15°05'44.11593"N	74°01'46.59174"E
575.050L	15°05'44.66239"N	74°01'48.21602"E
575.075L1	15°05'43.84934"N	74°01'48.33337"E
575.075R	15°05'43.50771"N	74°01'46.81657"E
575.100L	15°05'43.17796"N	74°01'48.66385"E
575.100R1	15°05'42.52877"N	74°01'47.23434"E
575.150R2	15°05'40.93706"N	74°01'47.81756"E
575.200R3	15°05'39.66370"N	74°01'48.55449"E
575.250L	15°05'38.85398"N	74°01'50.64903"E
575.250R4	15°05'38.19888"N	74°01'49.30005"E
575.300L	15°05'37.30333"N	74°01'51.37947"E
575.300R5	15°05'36.73613"N	74°01'50.03431"E

Design Chainage(Km)	Latitude	Longitude
575.350R6	15°05'35.29582"N	74°01'50.76129"E
575.400L	15°05'34.34569"N	74°01'52.79663"E
575.400R7	15°05'33.87145"N	74°01'51.35904"E
575.425L	15°05'33.64096"N	74°01'53.14088"E
575.475L	15°05'31.87460"N	74°01'53.55959"E
575.500L	15°05'30.98643"N	74°01'53.61905"E
575.500R8	15°05'30.96733"N	74°01'52.12763"E
575.550R9	15°05'29.45340"N	74°01'52.01619"E
575.600L	15°05'27.63705"N	74°01'53.30166"E
575.700L	15°05'24.42475"N	74°01'52.72407"E
575.700R	15°05'24.65779"N	74°01'51.23851"E
575.750L	15°05'22.82755"N	74°01'52.45735"E
575.750R1	15°05'23.05231"N	74°01'50.96700"E
575.775L	15°05'22.02406"N	74°01'52.41758"E
575.800L	15°05'21.32323"N	74°01'52.41612"E
575.800R2	15°05'21.39810"N	74°01'50.73661"E
575.825L	15°05'20.46381"N	74°01'52.16030"E
575.850L	15°05'19.66987"N	74°01'52.14206"E
575.850L1	15°05'18.11252"N	74°01'52.03700"E
575.850R3	15°05'19.70977"N	74°01'50.62760"E
575.900R4	15°05'17.88384"N	74°01'50.54774"E
575.950R1	15°05'16.23498"N	74°01'50.90261"E
575.8950L	15°05'16.59085"N	74°01'52.36250"E
575.000L	15°05'46.11189"N	74°01'47.84321"E
575.000R	15°05'45.80912"N	74°01'46.42565"E
575.025	15°05'45.08108"N	74°01'46.41211"E
575.550L	15°05'29.35058"N	74°01'53.53022"E
575.600R10	15°05'27.86673"N	74°01'51.77093"E
575.650L	15°05'26.03292"N	74°01'52.98469"E
575.650R	15°05'26.25903"N	74°01'51.50244"E
576.000L	15°05'15.04889"N	74°01'52.79095"E
576.000R	15°05'14.63552"N	74°01'51.33980"E
576.050L	15°05'13.47496"N	74°01'53.26840"E
576.050R	15°05'13.07195"N	74°01'51.81671"E
576.100L	15°05'11.91199"N	74°01'53.72753"E
576.100R	15°05'11.49958"N	74°01'52.27957"E
576.150L	15°05'10.34940"N	74°01'54.18783"E
576.200L	15°05'08.74306"N	74°01'54.79691"E
576.250L	15°05'06.86381"N	74°01'55.10117"E
576.275L	15°05'06.09328"N	74°01'54.84769"E
576.350L	15°05'03.57099"N	74°01'54.60261"E
576.400L	15°05'01.97123"N	74°01'54.22447"E

Design Chainage(Km)	Latitude	Longitude
576.450L	15°05'00.49620"N	74°01'53.75216"E
576.450R	15°05'00.75806"N	74°01'52.32945"E
576.500L	15°04'58.77596"N	74°01'53.35771"E
576.500R1	15°04'59.17647"N	74°01'51.92610"E
576.525L	15°04'57.96006"N	74°01'53.27439"E
576.550	15°04'57.18890"N	74°01'53.11347"E
576.600L	15°04'55.66127"N	74°01'52.69584"E
576.600R	15°04'55.05491"N	74°01'51.03830"E
576.300L	15°05'05.26199"N	74°01'54.88994"E
576.150R	15°05'09.94334"N	74°01'52.73803"E
576.200R1	15°05'08.41416"N	74°01'53.15729"E
576.250R1	15°05'06.91575"N	74°01'53.39651"E
576.275R2	15°05'06.07232"N	74°01'53.38017"E
576.550R2	15°04'57.61083"N	74°01'51.51858"E
578.100R	15° 04' 11.59827" N	74° 01' 43.19807" E
578.100L	15° 04' 12.17666" N	74° 01' 44.61546" E
578.150R	15° 04' 10.19688" N	74° 01' 43.88952" E
578.150L	15° 04' 10.78638" N	74° 01' 45.29444" E
578.200R	15° 04' 08.78019" N	74° 01' 44.76579" E
578.200L	15° 04' 09.39155" N	74° 01' 46.19603" E
578.250L	15° 04' 08.11518" N	74° 01' 47.02649" E
578.250R	15° 04' 07.44015" N	74° 01' 45.48487" E
578.300L	15° 04' 06.55384" N	74° 01' 47.63822" E
578.300R	15° 04' 05.92704" N	74° 01' 46.28467" E
578.350L	15° 04' 05.09922" N	74° 01' 48.42298" E
578.350R	15° 04' 04.53211" N	74° 01' 47.07173" E
578.400L	15° 04' 03.51438" N	74° 01' 49.15868" E
578.400R	15° 04' 03.08815" N	74° 01' 47.80281" E
578.450L	15° 04' 02.78492" N	74° 01' 49.45352" E
578.450R	15° 04' 01.71246" N	74° 01' 48.22683" E
578.500L	15° 04' 01.86348" N	74° 01' 49.73601" E
578.500R	15° 04' 00.26408" N	74° 01' 48.28299" E
578.425R	15° 04' 02.33515" N	74° 01' 48.09063" E
578.475L	15° 04' 00.94425" N	74° 01' 49.82201" E
578.525R	15° 03' 59.48220" N	74° 01' 48.21982" E
578.500L.	15° 04' 00.05033" N	74° 01' 49.89219" E
578.550R	15° 03' 58.69746" N	74° 01' 47.96721" E
578.525L	15° 03' 59.16844" N	74° 01' 49.70553" E
578.575R.	15° 03' 57.67356" N	74° 01' 47.92397" E
578.550L.	15° 03' 58.37018" N	74° 01' 49.40363" E
578.600R.	15° 03' 56.89911" N	74° 01' 46.88053" E
578.575L.	15° 03' 57.46943" N	74° 01' 49.09836" E

Design Chainage(Km)	Latitude	Longitude
578.625R	15° 03' 56.40211" N	74° 01' 46.39996" E
578.625L	15° 03' 55.98408" N	74° 01' 47.99140" E
578.675	15° 03' 56.03003" N	74° 01' 45.76929" E
578.650L	15° 03' 55.39712" N	74° 01' 47.35608" E
578.700R	15° 03' 55.65512" N	74° 01' 45.13326" E
578.675L	15° 03' 54.82670" N	74° 01' 46.64069" E
578.725R	15° 03' 55.34546" N	74° 01' 44.44743" E
578.700L	15° 03' 54.35881" N	74° 01' 45.84932" E
578.750R	15° 03' 55.05069" N	74° 01' 43.66724" E
578.725L	15° 03' 53.67218" N	74° 01' 44.22012" E
578.800R	15° 03' 54.43514" N	74° 01' 42.10166" E
578.800	15° 03' 53.05158" N	74° 01' 42.68590" E
578.825L	15° 03' 52.75721" N	74° 01' 41.96605" E
578.600R	15° 03' 57.54434" N	74° 01' 47.35318" E
578.575R	15° 03' 58.10581" N	74° 01' 47.73089" E
578.875L	15° 03' 51.96946" N	74° 01' 40.68948" E
578.825R	15° 03' 54.06761" N	74° 01' 41.30560" E
578.925L	15° 03' 50.95582" N	74° 01' 39.54558" E
578.850R	15° 03' 53.63757" N	74° 01' 40.51071" E
578.550L	15° 03' 50.32845" N	74° 01' 39.11655" E
578.875R	15° 03' 53.12388" N	74° 01' 39.67827" E
578.575L	15° 03' 49.70329" N	74° 01' 38.78137" E
578.900R	15° 03' 52.54286" N	74° 01' 38.96027" E
578.600L	15° 03' 49.06690" N	74° 01' 38.39954" E
578.925R	15° 03' 51.83084" N	74° 01' 38.44624" E
579.025L	15° 03' 48.34507" N	74° 01' 38.23472" E
578.950R	15° 03' 51.18698" N	74° 01' 37.90286" E
579.050L	15° 03' 47.62791" N	74° 01' 37.94031" E
578.975R	15° 03' 50.43078" N	74° 01' 37.41209" E
579.075L	15° 03' 46.92920" N	74° 01' 37.87935" E
579.000R.	15° 03' 49.63900" N	74° 01' 36.96806" E
579.100L	15° 03' 46.17668" N	74° 01' 37.78168" E
579.025R	15° 03' 48.73780" N	74° 01' 36.67426" E
579.125	15° 03' 45.44203" N	74° 01' 37.81286" E
579.050R	15° 03' 47.94744" N	74° 01' 36.46913" E
579.150L	15° 03' 44.71237" N	74° 01' 37.92583" E
579.200L	15° 03' 43.26490" N	74° 01' 38.36571" E
579.250L	15° 03' 41.74252" N	74° 01' 38.96508" E
579.075	15° 03' 47.05080" N	74° 01' 36.31776" E
579.300L	15° 03' 40.12046" N	74° 01' 39.52354" E
579.100R	15° 03' 46.18702" N	74° 01' 36.27710" E
579.125R	15° 03' 45.30909" N	74° 01' 36.32395" E

Design Chainage(Km)	Latitude	Longitude
579.325L	15° 03' 39.20294" N	74° 01' 39.66318" E
579.150R	15° 03' 44.35694" N	74° 01' 36.34292" E
579.350L	15° 03' 38.27647" N	74° 01' 39.66311" E
579.175R	15° 03' 43.57533" N	74° 01' 36.68401" E
579.375L	15° 03' 37.34570" N	74° 01' 39.50371" E
579.200R	15° 03' 42.76448" N	74° 01' 36.95377" E
579.400L	15° 03' 36.46923" N	74° 01' 39.19061" E
579.250R	15° 03' 41.23134" N	74° 01' 37.53030" E
579.300R	15° 03' 39.77558" N	74° 01' 38.05023" E
579.425L	15° 03' 35.48027" N	74° 01' 38.63002" E
579.325R	15° 03' 39.09600" N	74° 01' 38.15743" E
579.450L	15° 03' 34.83774" N	74° 01' 38.20856" E
579.350R	15° 03' 38.40704" N	74° 01' 38.19575" E
579.475L	15° 03' 34.16941" N	74° 01' 37.72751" E
579.375R	15° 03' 37.72253" N	74° 01' 38.04413" E
579.500L	15° 03' 33.57952" N	74° 01' 37.21666" E
579.400R	15° 03' 37.05270" N	74° 01' 37.79982" E
579.550L	15° 03' 32.30811" N	74° 01' 36.36535" E
579.425R	15° 03' 36.44823" N	74° 01' 37.41134" E
579.600L	15° 03' 30.95598" N	74° 01' 35.34790" E
579.450R	15° 03' 35.80040" N	74° 01' 37.00166" E
579.650L	15° 03' 29.63065" N	74° 01' 34.38931" E
579.500R	15° 03' 34.45521" N	74° 01' 36.02666" E
579.700L	15° 03' 28.34861" N	74° 01' 33.59795" E
579.550R	15° 03' 33.14374" N	74° 01' 35.07888" E
579.725L	15° 03' 27.71098" N	74° 01' 33.25452" E
579.600R	15° 03' 31.81147" N	74° 01' 34.14088" E
579.750L	15° 03' 27.04365" N	74° 01' 33.13272" E
579.650R	15° 03' 30.47210" N	74° 01' 33.18820" E
579.700R	15° 03' 29.01813" N	74° 01' 32.16893" E
579.775L	15° 03' 26.32012" N	74° 01' 33.09279" E
579.800L	15° 03' 25.46551" N	74° 01' 33.18931" E
579.725	15° 03' 28.14679" N	74° 01' 31.84958" E
579.750R	15° 03' 27.23284" N	74° 01' 31.63835" E
579.825L	15° 03' 24.62186" N	74° 01' 33.18507" E
579.775R	15° 03' 26.32119" N	74° 01' 31.58358" E
579.850L	15° 03' 23.86428" N	74° 01' 33.24022" E
579.800R	15° 03' 25.46527" N	74° 01' 31.60263" E
579.875L	15° 03' 22.96678" N	74° 01' 33.12623" E
579.825R	15° 03' 24.65199" N	74° 01' 31.66962" E
579.900L	15° 03' 22.02808" N	74° 01' 32.87021" E
579.850R	15° 03' 23.88595" N	74° 01' 31.68511" E

Design Chainage(Km)	Latitude	Longitude
579.925L	15° 03' 21.16538" N	74° 01' 32.43184" E
579.875R	15° 03' 23.15769" N	74° 01' 31.62656" E
579.950L	15° 03' 20.43765" N	74° 01' 31.81929" E
579.975L	15° 03' 19.20572" N	74° 01' 30.75003" E
579.900R	15° 03' 22.54165" N	74° 01' 31.45234" E
579.925R	15° 03' 21.86602" N	74° 01' 31.05767" E
578.050L	15° 03' 18.01007" N	74° 01' 29.57110" E
579.950R	15° 03' 21.27921" N	74° 01' 30.60578" E
580.100L	15° 03' 16.82792" N	74° 01' 28.45912" E
579.975R	15° 03' 20.72776" N	74° 01' 30.11617" E
580.150L	15° 03' 15.63550" N	74° 01' 27.40484" E
580.000R	15° 03' 20.09667" N	74° 01' 29.54975" E
580.200L	15° 03' 14.37940" N	74° 01' 26.28786" E
580.025R	15° 03' 19.45407" N	74° 01' 28.92841" E
580.225L	15° 03' 13.74205" N	74° 01' 25.72133" E
580.050R	15° 03' 19.01986" N	74° 01' 28.45947" E
580.250L	15° 03' 13.13616" N	74° 01' 25.03348" E
579.100	15° 03' 17.83613" N	74° 01' 27.33930" E
580150R	15° 03' 16.58212" N	74° 01' 26.21355" E
580.225R	15° 03' 14.68731" N	74° 01' 24.65346" E
580.200R	15° 03' 15.34743" N	74° 01' 25.07965" E
580.275L	15° 03' 12.57773" N	74° 01' 24.28511" E
580.250R	15° 03' 14.20553" N	74° 01' 24.13536" E
580.275R	15° 03' 13.68031" N	74° 01' 23.50010" E
580.300L	15° 03' 12.15940" N	74° 01' 23.43200" E
580.350L	15° 03' 11.61365" N	74° 01' 21.78093" E
580.300R	15° 03' 13.49946" N	74° 01' 22.78892" E
580.400L	15° 03' 11.15843" N	74° 01' 20.27779" E
580.350R	15° 03' 13.09581" N	74° 01' 21.44578" E
580.425L	15° 03' 10.84296" N	74° 01' 19.68191" E
580.400R	15° 03' 12.53884" N	74° 01' 19.71987" E
580.425R	15° 03' 11.92872" N	74° 01' 18.78053" E
580.450L	15° 03' 10.32071" N	74° 01' 19.37492" E
580.450R	15° 03' 11.30533" N	74° 01' 18.06862" E
580.475L	15° 03' 09.76524" N	74° 01' 19.00890" E
580.475R	15° 03' 10.43391" N	74° 01' 17.52650" E
580.500L	15° 03' 09.27809" N	74° 01' 18.75345" E
580.500R	15° 03' 09.50462" N	74° 01' 17.23926" E
580.525L	15° 03' 08.60917" N	74° 01' 18.73363" E
580.525R	15° 03' 08.53067" N	74° 01' 17.17541" E
580.550L	15° 03' 07.92485" N	74° 01' 18.86402" E
580.550R	15° 03' 07.55179" N	74° 01' 17.40100" E

Design Chainage(Km)	Latitude	Longitude
580.600L	15° 03' 07.42198" N	74° 01' 19.08992" E
580.575R	15° 03' 06.66545" N	74° 01' 17.82429" E
580.600R	15° 03' 05.99717" N	74° 01' 18.30042" E
580.650L	15° 03' 05.44159" N	74° 01' 20.50728" E
580.650R	15° 03' 04.62021" N	74° 01' 19.27831" E
580.675L	15° 03' 04.81813" N	74° 01' 21.05408" E
580.700R	15° 03' 03.29066" N	74° 01' 20.19435" E
580.700L	15° 03' 04.12082" N	74° 01' 21.40243" E
580.775R	15° 03' 01.35642" N	74° 01' 21.78077" E
580.750L	15° 03' 02.90672" N	74° 01' 22.41775" E
580.800R	15° 03' 00.75111" N	74° 01' 22.26439" E
580.775L	15° 03' 02.24864" N	74° 01' 22.95080" E
580.825R	15° 03' 00.09538" N	74° 01' 22.79119" E
580.800L	15° 03' 01.61885" N	74° 01' 23.39113" E
580.850R	15° 02' 59.45300" N	74° 01' 23.29905" E
580.825L	15° 03' 00.99289" N	74° 01' 23.95927" E
580.875R	15° 02' 58.80370" N	74° 01' 23.81285" E
580.850L	15° 03' 00.35419" N	74° 01' 24.48357" E
580.900R	15° 02' 58.16556" N	74° 01' 24.33287" E
580.875L	15° 02' 59.71606" N	74° 01' 25.00149" E
580.925R	15° 02' 57.53977" N	74° 01' 24.79920" E
580.900L	15° 02' 59.05656" N	74° 01' 25.51378" E
580.950R	15° 02' 56.88709" N	74° 01' 25.36604" E
580.925L	15° 02' 58.55257" N	74° 01' 26.12123" E
580.975R	15° 02' 56.23429" N	74° 01' 25.91264" E
580.950L	15° 02' 57.72208" N	74° 01' 26.53595" E
581.000R	15° 02' 55.58381" N	74° 01' 26.52891" E
580.975L	15° 02' 57.07419" N	74° 01' 27.08782" E
581.025R	15° 02' 55.00954" N	74° 01' 27.21220" E
581.050R	15° 02' 54.42024" N	74° 01' 27.86989" E
581.000L	15° 02' 56.53645" N	74° 01' 27.62020" E
581.075R	15° 02' 54.05276" N	74° 01' 28.69936" E
581.025L	15° 02' 56.10993" N	74° 01' 28.20084" E
581.100R	15° 02' 53.65948" N	74° 01' 29.50702" E
581.050L	15° 02' 55.59007" N	74° 01' 28.82965" E
581.150R	15° 02' 53.08880" N	74° 01' 31.05732" E
581.100L	15° 02' 55.36174" N	74° 01' 29.43996" E
581.175R	15° 02' 52.78011" N	74° 01' 31.71384" E
581.200R	15° 02' 52.41571" N	74° 01' 32.26676" E
581.125L	15° 02' 55.08896" N	74° 01' 30.12726" E
581.225R	15° 02' 51.94510" N	74° 01' 32.69157" E
581.150L	15° 02' 54.78577" N	74° 01' 30.61026" E

Design Chainage(Km)	Latitude	Longitude
581.250R	15° 02' 51.29750" N	74° 01' 32.91180" E
581.175L	15° 02' 54.41601" N	74° 01' 31.57334" E
581.275R	15° 02' 50.76371" N	74° 01' 33.06223" E
581.200L	15° 02' 54.06646" N	74° 01' 32.42482" E
581.300R	15° 02' 50.14856" N	74° 01' 33.12784" E
581.225L	15° 02' 53.49040" N	74° 01' 33.27719" E
581.325R	15° 02' 49.44543" N	74° 01' 32.99583" E
581.250L	15° 02' 52.78586" N	74° 01' 33.94012" E
581.275L	15° 02' 50.93002" N	74° 01' 34.64024" E
581.350R	15° 02' 48.82236" N	74° 01' 32.65163" E
581.300L	15° 02' 49.93186" N	74° 01' 34.62583" E
581.375R	15° 02' 48.03465" N	74° 01' 32.33002" E
581.325L	15° 02' 48.98063" N	74° 01' 34.37127" E
581.400R	15° 02' 47.28547" N	74° 01' 31.96318" E
581.350L	15° 02' 47.97655" N	74° 01' 34.26271" E
581.425R	15° 02' 46.46401" N	74° 01' 31.68013" E
581.450R	15° 02' 45.52910" N	74° 01' 31.48857" E
581.375L	15° 02' 47.13553" N	74° 01' 33.82622" E
581.475R	15° 02' 44.59675" N	74° 01' 31.45905" E
581.400L	15° 02' 46.59790" N	74° 01' 33.39855" E
581.500R	15° 02' 43.69970" N	74° 01' 31.57512" E
581600R	15° 02' 40.49051" N	74° 01' 32.40412" E
581.425L	15° 02' 46.06043" N	74° 01' 33.12871" E
581650R	15° 02' 38.91834" N	74° 01' 32.83774" E
581.450L	15° 02' 45.38116" N	74° 01' 32.97950" E
581800R	15° 02' 34.21066" N	74° 01' 34.13071" E
581.475L	15° 02' 44.68581" N	74° 01' 32.98572" E
581825R	15° 02' 33.40837" N	74° 01' 34.32698" E
581.500L	15° 02' 43.91170" N	74° 01' 33.18763" E
581850R	15° 02' 32.61340" N	74° 01' 34.55064" E
581.525L	15° 02' 42.44388" N	74° 01' 33.39639" E
581.875R	15° 02' 31.79847" N	74° 01' 34.82586" E
581.550L	15° 02' 40.86573" N	74° 01' 33.85303" E
581.650L	15° 02' 39.27448" N	74° 01' 34.32259" E
582.200L	15° 02' 23.66429" N	74° 01' 42.09520" E
581.700L	15° 02' 37.71789" N	74° 01' 34.71945" E
582.150L	15° 02' 24.98059" N	74° 01' 41.09860" E
581.750L	15° 02' 36.16726" N	74° 01' 35.16036" E
582.100L	15° 02' 26.25889" N	74° 01' 40.16352" E
581.800L	15° 02' 34.51982" N	74° 01' 35.57223" E
582.050L	15° 02' 27.60464" N	74° 01' 39.11883" E
581.850L	15° 02' 32.86654" N	74° 01' 35.99731" E

Design Chainage(Km)	Latitude	Longitude
581.950R	15° 02' 30.20808" N	74° 01' 37.24622" E
581.900L	15° 02' 31.59677" N	74° 01' 36.50151" E
584.350R	15° 01' 18.50261" N	74° 02' 00.52339" E
584.400R	15° 01' 16.81413" N	74° 01' 59.05239" E
584.375R	15° 01' 17.66625" N	74° 02' 00.68464" E
584.425R	15° 01' 15.99016" N	74° 01' 59.06984" E
584.400L	15° 01' 16.81283" N	74° 02' 00.59032" E
584.450R	15° 01' 15.15384" N	74° 01' 59.11183" E
584.425L	15° 01' 15.97437" N	74° 02' 00.69565" E
584.450L	15° 01' 15.23894" N	74° 02' 00.68321" E
584.475	15° 01' 14.39213" N	74° 02' 00.71598" E
584.500R	15° 01' 13.32187" N	74° 01' 59.38355" E
584.525R	15° 01' 12.49811" N	74° 01' 59.60259" E
584.500	15° 01' 13.53746" N	74° 02' 00.82916" E
584.525L	15° 01' 12.85738" N	74° 02' 01.00776" E
584.550R	15° 01' 11.61634" N	74° 01' 59.77507" E
584.550L	15° 01' 12.15552" N	74° 02' 01.23600" E
584.575R	15° 01' 10.86572" N	74° 02' 00.10254" E
584.600R	15° 01' 10.07591" N	74° 02' 00.36296" E
584.575L	15° 01' 11.39245" N	74° 02' 01.38028" E
584.600L	15° 01' 10.63583" N	74° 02' 01.70916" E
584.750L	15° 01' 06.28814" N	74° 02' 03.85677" E
584.775L	15° 01' 05.57792" N	74° 02' 04.05840" E
584.900L	15° 01' 01.83128" N	74° 02' 05.75432" E
584.850L	15° 01' 03.33921" N	74° 02' 05.06127" E
584.800L	15° 01' 04.83679" N	74° 02' 04.42171" E
584.825L	15° 01' 04.10226" N	74° 02' 04.75929" E
610.500L	14° 54' 33.0732" N	74° 05' 37.687" E
610.450L	14° 54' 33.912" N	74° 05' 36.02" E
610.400L	14° 54' 34.992" N	74° 05' 33.475" E
581.750R	15°02'35.47925"N	74°01'33.55963"E
581.925R	15°02'29.92302"N	74°01'35.38062"E
581.950R1	15°02'29.16578"N	74°01'35.81046"E
582.000	15°02'28.29481"N	74°01'36.38693"E
581730R	15°02'36.25605"N	74°01'33.34799"E
L1	15°01'17.56649"N	74°01'59.91059"E
L2	15°01'16.75203"N	74°01'59.92182"E
L3	15°01'15.93879"N	74°01'59.91966"E
L4	15°01'15.12781"N	74°01'59.92295"E
L6	15°01'14.32029"N	74°02'00.01665"E
L6.	15°01'13.51347"N	74°02'00.10233"E
L7	15°01'12.71059"N	74°02'00.24287"E

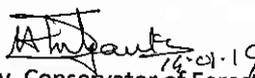
Design Chainage(Km)	Latitude	Longitude
L8	15°01'11.93236"N	74°02'00.51286"E
L9	15°01'11.23113"N	74°02'00.93705"E
L10	15°01'10.49438"N	74°02'01.33556"E

Compensatory Afforestation Plantation rates as per present rate of Daily Wages Labourer for 1.00 ha. in degraded Government Forest areas.

Sr. No.	Description of Items	Existing Rates since October 1997 (Rs.98.08)	Proposed Rates due to hike in wages component	Remarks
A. Raising of Plantation 1st Year				
1.	Survey & Demarcation of the area		657.00	This is a new item. It is a must for plantation activity and was inadvertently left in earlier estimate.
2.	Cutting of unwanted bushes climbers, stacking of debris, burning & re-burning...	1,000.00	3,285.00	125% increase in daily wages + 46% increase in daily wages from Rs.221/- to Rs.323/-)
3.	Aligning, stacking for 2,500 seedling per Ha. Including cost of extraction of stocks.	585.00	1,921.75	-do-
4.	Pitting of size 30 cms x 30 cms x 30 cms refilling & planting for 2500 seedlings per Ha. including local transportation of polythene bagged seedlings by head loads	8,000.00	26,280.00	-do-
5.	Transportation of polythene bagged plants from roadside (diseal point) to the actual planting site (pit)	337.50	1,108.69	-do-
6.	Cost of raising seedlings in poly bags at nursery site including cost of poy bags at Rs.1/- per seedlings	2,750.00	26,280.00	Details have been given below
7.	1st weeding soil work around planted seedlings and tending of existing natural vegetation and also cost of seedlings towards 20% casualty replacement	4,000.00	13,140.00	125% increase in daily wages + 46% increase in daily wages from Rs.221/- to Rs.323/-)
8.	2nd weeding and removal of debris outside	1,000.00	3,285.00	-do-
9.	Fire tracing to width of 5 meters around the periphery including removal of debris and cutting internal fire line to a width of 3.00 meter at an interval of 50.00 meters	787.50	2,586.95	-do-
10.	Watch and ward for every 20 ha.	1,012.50	3,326.06	-do-

11.	Fencing			
	a) Cost of casurina/zamba (2nd class) poles of 1.5 meters length, girth of 30 cms, and painted at one end with tar coat/wood preservative, at 150 poles per Ha. Including the number of poles for providing of strut at every 10 meters.	3,750.00	12,318.75	228.5% price increase from 1999 to 2018
	b) Cost of strand barbed wire fencing at 210 kg. barbed wire per Ha. At Rs.24/- per kg. at 250 running meters per Ha. On an average	5,000.00	16,425.00	228.5% price increase from 1999 to 2018
	c) Cost of fixing poles at 2.3 meters interval, providing struts at 10 meters, stretching & fixing of 5 strand barbed wire including cost of 'U' nails	2,000.00	6,570.00	125% increase in daily wages + 46% increase in daily wages from Rs.221/- to Rs.323/-)
	Total	30,222.50	117,184.20	
B. 2nd Year Operations:				
	1) Weeding soil work & casualty replacement including tending of casualty replacement	4,000.00	13,140.00	125% increase in daily wages + 46% increase in daily wages from Rs.221/- to Rs.323/-)
	2) Fire tracing	675.00	2,217.38	-do-
	3) Watch & Ward	1,012.50	3,326.06	-do-
	Total	5,687.50	18,683.44	
C. 3rd Year Operation				
	1) Weeding soil work & casualty replacement including tending of casualty replacement	4,000.00	13,140.00	
	2) Fire tracing	675.00	2,217.38	
	3) Watch & Ward	1,012.50	3,326.06	
	Total	5,687.50	18,683.44	
	D. Contingency expenditure to make provision for 1 pickup van for transportation of seedlings, store & labour for every 600 ha. Of compensatory afforestation & one light vehicle for supervisory staff to be provided for each 300 ha. Including the running cost & maintenance of the vehicle for 3 years (project period) & wages/salaries of the drivers engaged on contract basis.	2832.5	15455.1	10% Overhead charged on Rs.117184.20, Rs.18683.44, Rs.18683.44 (see abstract)
	Grand Total	44,430.00	170,006.18	

E. Cost of nursery for 1 ha. Plantation			
Rate per seedling	Rs. 2/-existing rates	Rs.6.57/- Revised rate due to about 125% increase in wages + 46% increase in daily wages from Rs.221/- to Rs.323/-	
Requirement of seedlings			
1. Current year plantation 2500 nos. seedlings & 20% casualty replacement i.e. 500 nos.			3000
2. 20% casualty replacement for 1st year i.e. 500 nos.			500
3. 20% casualty replacement for 2nd year i.e. 500 nos.			500
Total No. of seedlings for 1 ha.			4000
Total cost of seedlings for 1 ha. Of plantation			26,280.00
ABSTRACT			
New Plantation including Advance work (Nursery for new plantation & casualty replacement for 1 & 2 year old plantations)	64,064.38	117,184.20	
Maintenance of one year old plantation (2nd year)	9,953.13	18,683.44	
Maintenance of two year old plantation (3rd year)	9,953.13	18,683.44	
Cost of raising 1 ha. CA	83,970.64	154,551.08	
10% Overhead charges	8,397.00	15,455.10	
Total cost to be recovered from User Agency for raising 1 ha. CA plantation	92,367.64	170,006.18	


 Dy. Conservator of Forests,
 South Goa Division,
 Margao -Goa.