



## ANIMAL PASSAGE PLAN

3.76ha.Area for Widening & Strengthening of Bilimora-Chikhli-Vansda-Waghai Road passing through Vansda National Park

**Proposed By:**



**Office of :  
The Executive Engineer,  
Roads & Buildings Division,  
Navsari, GUJARAT**

## **ANIMAL PASSAGE PLAN**

### **1.1 BACKGROUND :**

Roads & Buildings Department under Government of Gujarat looks after all the activities pertaining to planning, construction and maintenance of all categories of Roads and all Government owned Buildings in the State of Gujarat. These activities constitute a vital component of developmental work in the State.

Office of the Executive Engineer, R&B Division, Navsari has decided to undertake widening and strengthening of existing Bilimora-Chikhli-Vansda-Vaghai Road in Navsari District of Gujarat. The proposed road will play a vital role in socio-economic upliftment of surrounding tribal villages. As per the strategic long-term vision of Roads & Buildings, Government of Gujarat with respect to the improvement, operation and maintenance of road infrastructure in South Gujarat, the need is identified to upgrade the existing road.

### **1.2 About Vansda National Park**

The National Park supports mammals, species of aves, species of reptiles, species of amphibian and species of fishes as per the Wildlife Census Report of Year : 2016-17.

- Mammals: Leopard, Jackal, Hyena, Wild bore, Jungle cat, Flying squirrels etc.
- Birds: Jungle fowl, Parakeet, Horn bills etc.
- Reptiles: Tortoise, Viper, Krait, Cobra, Python, Monitor Lizard, Green Snake, Red Snake etc.

### **1.3 OBJECTIVES OF ANIMAL PASSAGE PLAN :**

The objectives of animal passage plan are:

- To incorporate the needs of wildlife into transportation projects.
- To maintain the habitat connectivity.
- To reduce human wildlife conflict, improving awareness, safety and reducing collisions.

Achieving these goals will include restoring connections where they have been removed and ensuring that existing connections remain as the project road expands.

#### **1.4 PASSAGE PLAN :**

Animals move between habitats in order to survive by finding food, mates and areas of refuge. As urban area continue to expand and highway network and traffic volumes increase there is threat to animals while crossing the roads. All proposals for highways, railway tracks, canals and power lines passing through wildlife sanctuaries or national parks and protected areas will now have to include a plan to provide for safe movement of wildlife and allocate budget for animal passage as per NBWL proceedings Dt. 25<sup>th</sup> Jan. 2018.

Mitigation measures are as per site environment, interaction with the local villagers and recommendations of Forest Officials. So the proper mitigation measures are taken for the fauna which are expected to be affected to the best of our knowledge. During the planning stage of proposed project it has been identified the surroundings and/or conflicting regional and local land uses. The animal passage plan is developed based on the “*Eco friendly measures to mitigate impacts of linear infrastructure on Wildlife*” published by Wildlife Institute of India.

The Animal Passage Plan for 3.76ha. for widening and strengthening of existing Bilimora-Chikhli-Vansda-Waghai Road passing through Vansda National Park Dist. Dangs. passing through Vansda National Park, has been drafted. Certain structures have been proposed which will act as passes for wild animals for crossing the Highway without any hurdles/incidents.

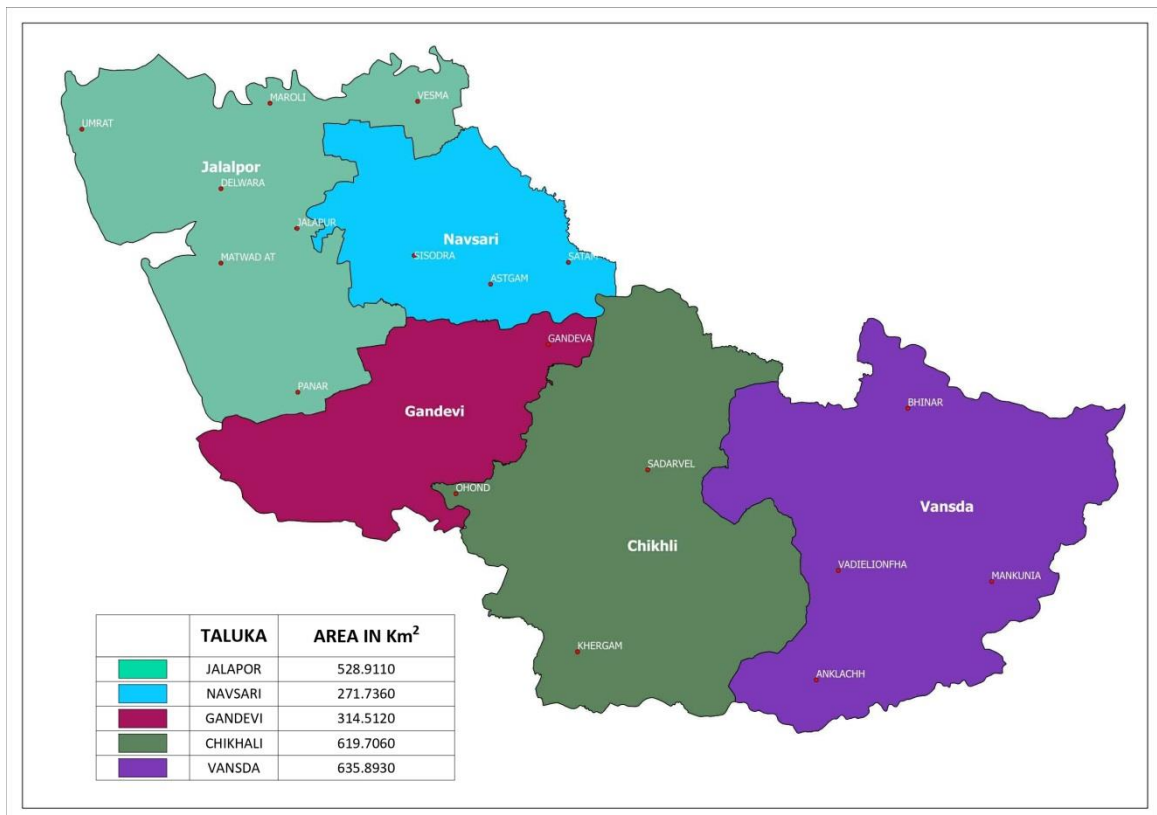
For the safe movement of the animals, the Office of Executive Engineer has planned to provide culverts at suitable locations.

#### ***Project Corridor :***

The proposed diversion for widening and strengthening of existing road has very negligible or null effect to the project. On critical analysis/observation of this project, it is observed that:

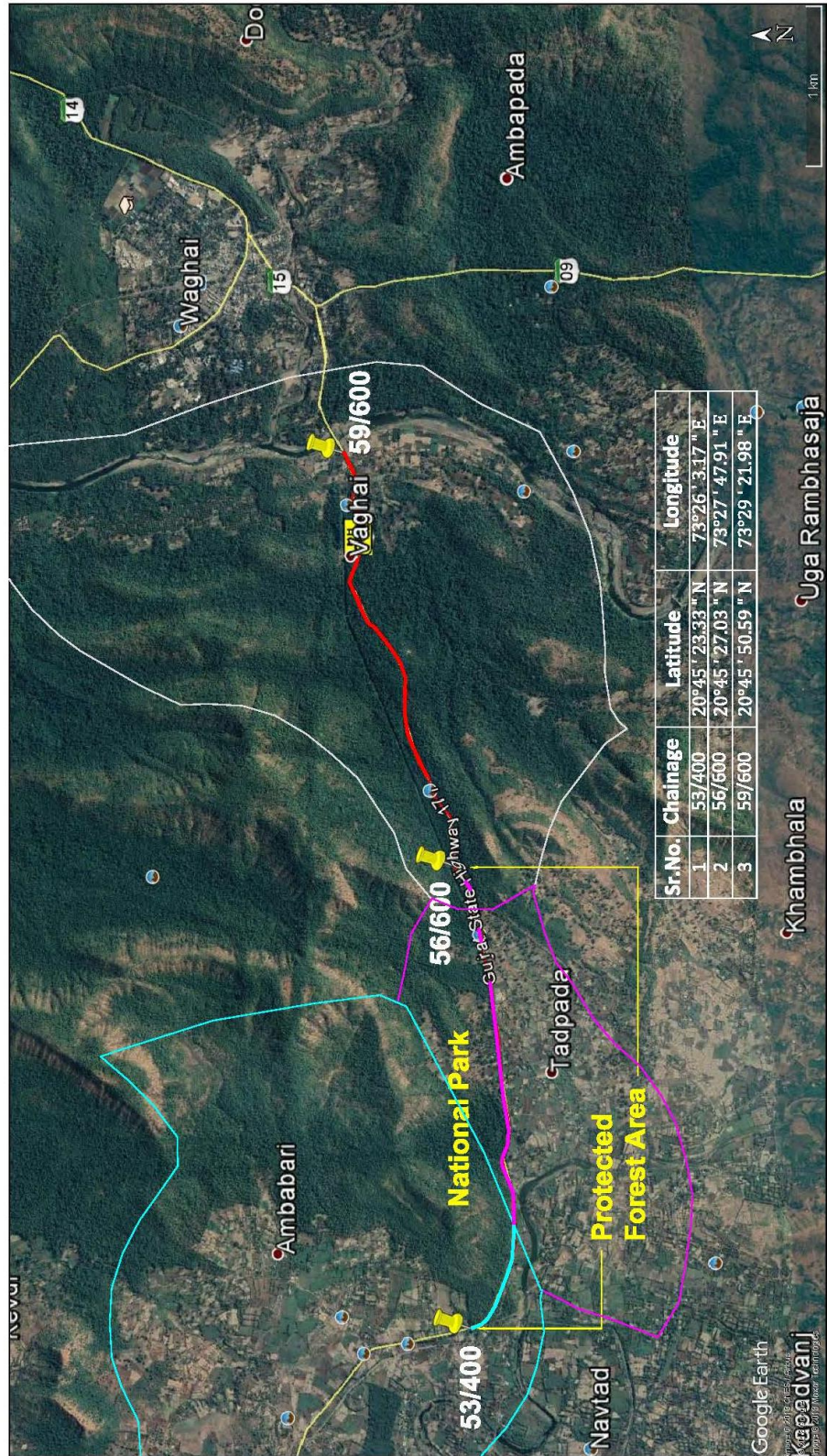
- The length of the project is merely 6.2 Kms out of which initial 2.2 Kms is passing through protected area on LHS only while remaining 4.0 Kms is passing through protected area on both the sides of existing road.
- The land required for the proposed project is 3.76 ha. from Vansda National Park.
- There is no fear of in breeding resulting genetic drift.
- The speed limit of the vehicles will be strictly restricted to 20KM/H.
- Speed Regulating barriers will be installed at regular intervals.
- Noise and light effect will be substantially checked by the plantation.
- The loss of vegetation due to construction is compensated by planting of local species along the site of the roads.

### 1.5 NAVSARI DISTRICT :





1.6 PROJECT LOCATION :

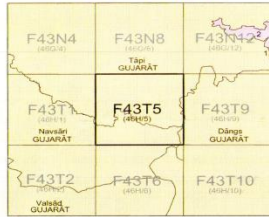




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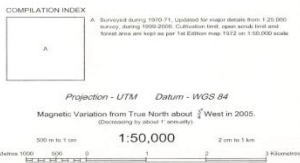


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Heights and contours have not been shown.  
Contours are approximate.  
A relative height, e.g.,  $dh$  represents the approximate height, in metres, between the top and bottom of a steep slope.  
Tanks, shown dry, in this area usually contain water from July to December.  
Cultivation is periodic and dependent on rainfall.

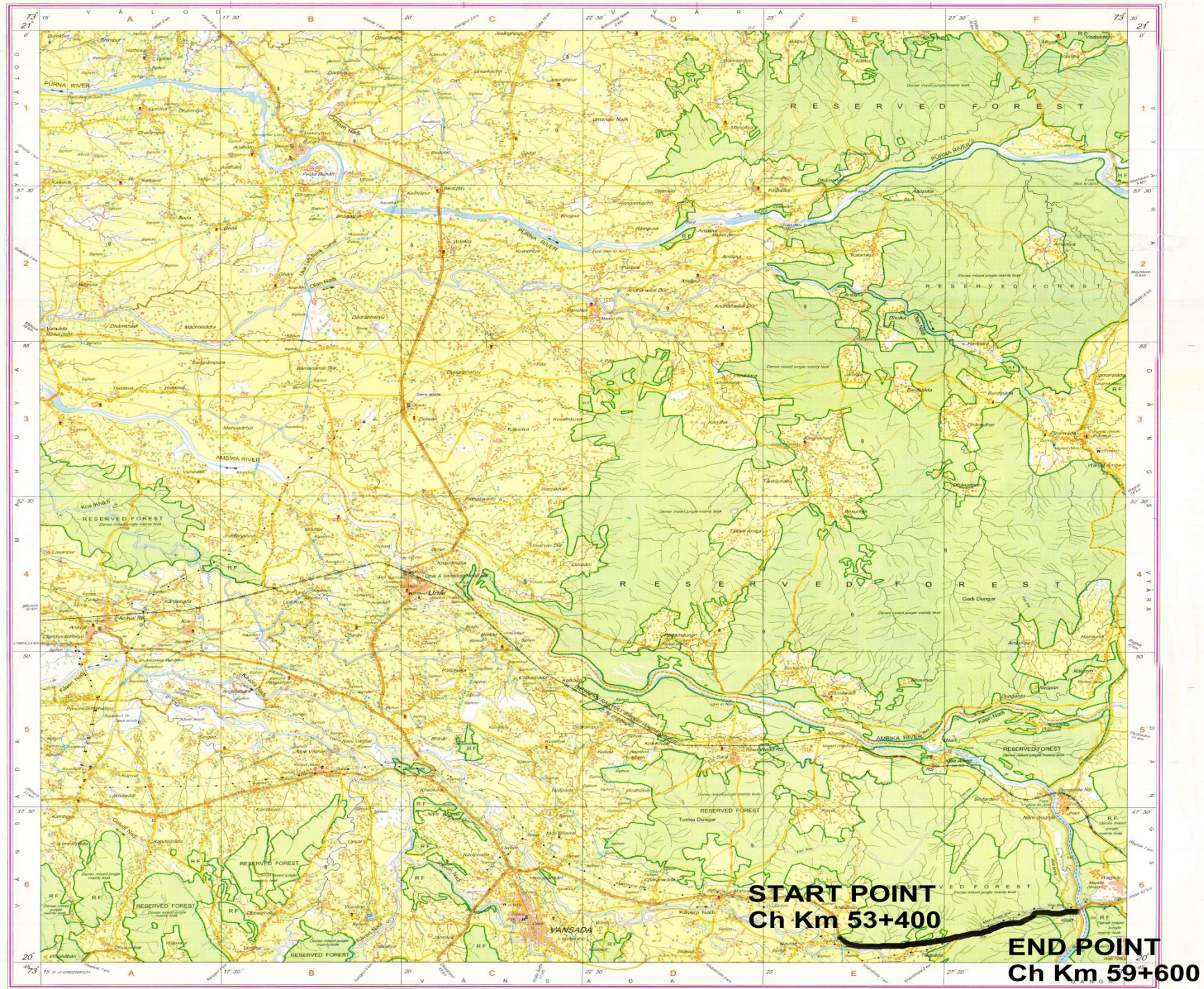


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# START POINT

Ch Km 53+400

# END POINT

## Ch Km 59+600

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**Annexure-10**  
**Wildlife Census Report of Year:-2016-17**

**Division:- South Dang Forest Division Ahwa-Dang**

Division of Rang	Leopard				Sloth Bear			Other		Adult	Cubs	Total
	Males	Females	Cubs	Inaccurate	Total	Adult	Cubs	Total	Cast			
	2	3	4	5	6	7	8	9	10	11	12	13
ational Park	0	0	0	9	9	0	0	0	hyaena	9	3	12
stad									Wild boar	80	4	84
									<b>Total:-</b>	<b>89</b>	<b>7</b>	<b>96</b>
									Flying squirrel	0	0	0
									porcupine	9	0	9
									Toddy Cat	4	0	4
									Mongoose	23	0	23
									Barking deer	24	0	24
									Rabbit	49	0	49
									Spotted deer	70	1	71
									Bonnet Macaque	425	57	482
									Common langur	108	0	108
									Four horned antelope	21	0	21
									Small Indian Civet	7	0	7
									Common Palm civet	18	0	18
<b>Total:-</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Total:-</b>	<b>758</b>	<b>58</b>	<b>816</b>

  
Deputy Conservator of Forest  
South Dang Division Ahwa

(3)


# Proposed Financial Allocation for Animal Passage Plan


Name of Work :	Widening and Strengthening Four Lane of Bilimora Chikhli Vandsa Waghai Road Ch. Km.44/400 To 59/600
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## RECAPITULATION SHEET

Sr. No.	Sub Estimate No.	Particulars	Amount in Rs.
A			
1	Sub Estimate No. 1	Site Clearance	₹ 5,85,000.00
2	Sub Estimate No. 2	Earthwork, Erosion Control & Side Drainage	₹ 4,28,50,000.00
3	Sub Estimate No. 3	Sub Base, Base,(Non Bituminous)and Shoulders	₹ 8,14,32,000.00
4	Sub Estimate No.4	Base & Surface Course (Bituminous)	₹ 20,61,54,000.00
5	Sub Estimate No. 5	Road Furniture & Divider	₹ 5,70,25,700.00
6	Sub Estimate No. 6	Cross Drainage Work	₹ 5,83,65,900.00
7	Sub Estimate No. 7	Retaining Wall	₹ 8,72,13,900.00
8	Sub Estimate No. 8	Diversion of Road	₹ 1,22,83,100.00
9	Sub Estimate No. 9	Approach Pipe for Road	₹ 53,20,000.00
Total Cost			₹ 55,12,29,600.00
10	Diversion Credit (70 % material-Reused)		₹ -85,98,170.00
Total Cost A			₹ 54,26,31,430.00
B			
11	Add Lump for Minor Bridge (R.C.C Jaketing)		₹ 15,00,000.00
12	Add 1 % For Contingency		₹ 54,26,314.30
13	Add 1 % Q.C		₹ 54,26,314.30
14	Add Lump Provision for Level Survey Work And Road Estimation		₹ 10,00,000.00
15	Add Lump Provision for Inaguration/ Khatmuhurt		₹ 4,00,000.00
16	Add Lump Provision for street lighting		₹ 1,00,000.00
17	Animal Safe Passage & Mitigation Plan		₹ 4,00,00,000.00
18	Add Lump Provision for Road Safety work		₹ 35,00,000.00
Total Cost B			₹ 5,73,52,628.60
Total Cost A+B			₹ 59,99,84,058.60
Say Grand Total			₹ 59,99,84,100.00

  
 Deputy Executive Engineer  
 R & B Sub Division  
 Chikhli

  
 Executive Engineer  
 (R & B) Division  
 Navsari

  
 Superintending Engineer  
 Surat (R. & B.) Circle,  
 SURAT.

(P.T.O.)



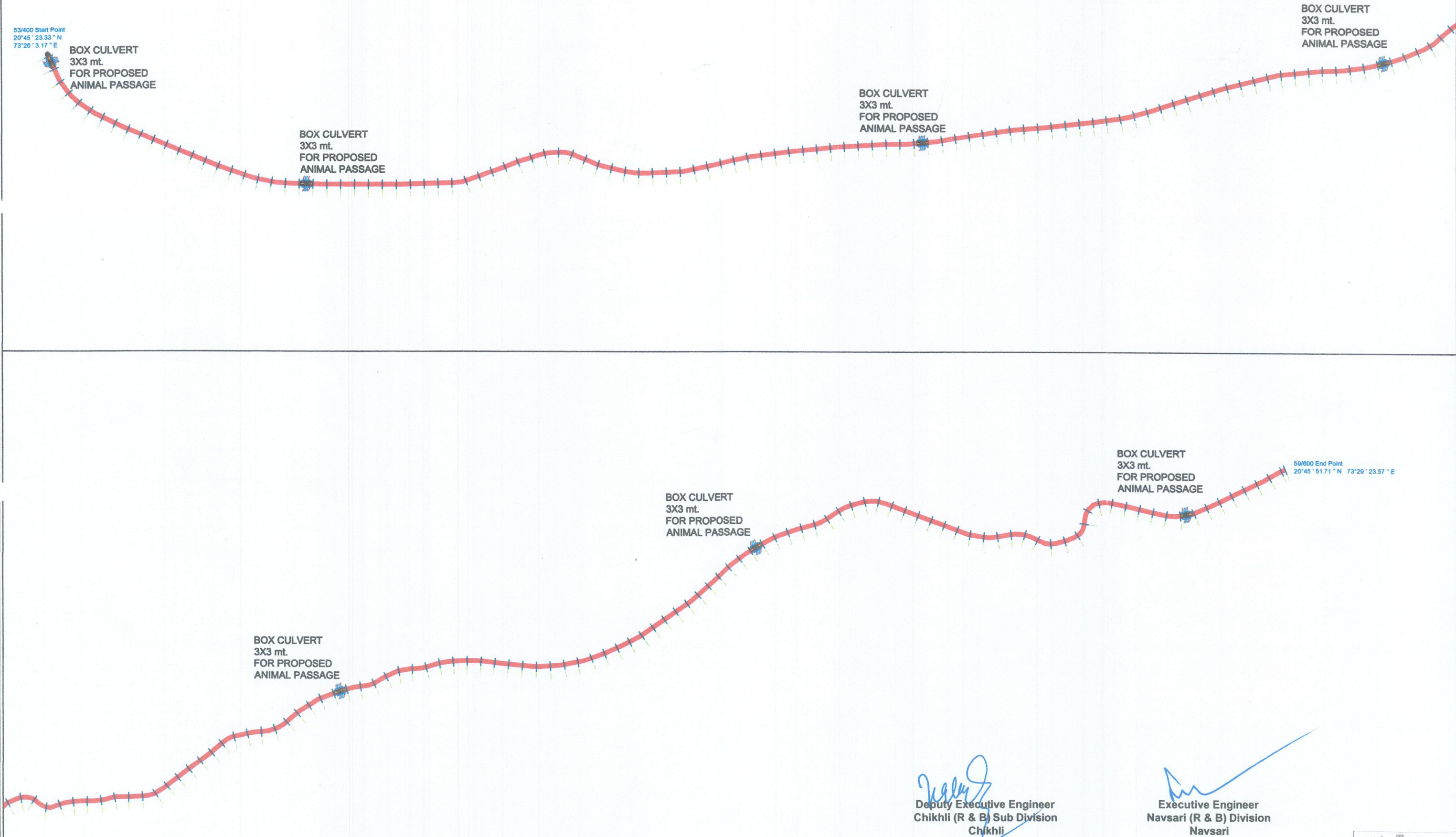
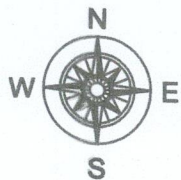
**Details of Culverts provided for Animal Passage:**

<b>Sr. No.</b>	<b>Type</b>	<b>Chainage</b>	<b>Geo-Coordinate</b>	
			<b>Latitude</b>	<b>Longitude</b>
1	Single Pipe Culvert	53+550	20°45'19"N	73°26'07"E
2	Slab Culvert	53+910	20°45'15"N	73°26'18"E
3	Box Culvert	54+390	20°45'16"N	73°26'34"E
4	Box Culvert	54+460	20°45'17"N	73°26'37"E
5	Box Culvert	54+570	20°45'17"N	73°26'40"E
6	Box Culvert	55+210	20°45'18"N	73°27'02"E
7	Single Row Pipe Culvert	55+430	20°45'19"N	73°27'10"E
8	Loose Pipe Single Culvert	55+660	20°45'19"N	73°27'18"E
9	Single Row Pipe Culvert	55+775	20°45'19"N	73°27'21"E
10	Box Culvert (Single Cell)	55+910	20°45'20"N	73°27'25"E
11	Single Pipe Culvert	56+220	20°45'23"N	73°27'35"E
12	Box Culvert	56+300	20°45'23"N	73°27'38"E
13	Single Row Pipe Culvert	56+630	20°45'27"N	73°27'51"E
14	Single Row Pipe Culvert	57+000	20°45'29"N	73°28'01"E
15	Single Row Pipe Culvert	57+230	20°45'32"N	73°28'08"E
16	Single Row Pipe Culvert	57+470	20°45'35"N	73°28'15"E
17	Single Row Pipe Culvert	57+600	20°45'36"N	73°28'18"E



NAME OF WORK :- Proposal For Widening And Strengthening Four Laning of  
Bilimora Chikhli Vansda Waghai Road  
CH. 53/400 to 59/600 K.M.

Proposed Culverts for Animal Passage Plan



*[Signature]*  
Deputy Executive Engineer  
Chikhli (R & B) Sub Division  
Chikhli

*[Signature]*  
Executive Engineer  
Navsari (R & B) Division  
Navsari



Name of Project: Widening to four lane and Strengthening of Bilimora Chikhli  
Vansda Waghai Road from Ch, Km.54+400 to 59+600.

Proposal No.: FP/GJ/ROAD/4303/2019.

**UNDERTAKING FOR ANIMAL PASSAGE PLAN**

The Executive Engineer, R&B Division-Navsari gives Undertaking that,

As per minutes of meeting of 16<sup>th</sup> State Board for Wildlife held on 08/07/2019, the board has recommended to National Board for Wildlife for consideration and necessary clearance subject to condition that Office of Executive Engineer, R&B Division, Navsari (User Agency) will prepare Wildlife Mitigation Plan/Animal Passage Plan in consultation with Chief Wildlife Warden, Gujarat State and get it approved, before starting the work.

The budget for the same shall be made available separately.

We shall ensure best possible practices to mitigate impacts on wildlife.