OFFICE OF THE CHIEF CONSERVATOR OF FORESTS & DIRECTOR,
SANJAY GANDHI NATIONAL PARK, BORIVALI
☎ 022 28850364, Email : ccfsgnp@mahaforest.gov.in

No. Desk-2/Land/ 1059 /2023-24, Dt. 16 February, 2024

To

Additional Principal Chief Conservator of Forests
(Wildlife) West, Mumbai.

Sub : Diversion of 0.018 ha. forest land in favour of Municipal Corporation of Greater Mumbai for widening of existing Kulupwadi Road connecting Western Express Highway, Borivali (East) in Village Kanheri, District Mumbai Suburban in the State of Maharashtra – regarding.

Ref : 1) Ministry of Environment, Forest & Climate Control, Regional Office, Nagpur's letter No. FC-I/MH-340/2023-NGP/12078, dt. 21.08.2023
2) Executive Engineer (DP), P & R Ward, Municipal Corporation of Greater Mumbai's letter No. Ch.E./DPWS/14833/19001/P&R, dt. 12.02.2024

Executive Engineer (DP), P & R Ward, Municipal Corporation of Greater Mumbai vide his letter mentioned at Ref. 2 has submitted compliance report on the querries raised vide letter under Ref. 1. The point wise compliance is as below

Sr.No.	*Query*	*Compliance*
i.	The instant proposal has not been forwarded to Regional Office, Nagpur, the proposal is showing pending at State Government level. The proposal has to be forwarded to Regional Office, Nagpur for further consideration under Forest (Conservation) Act, 1980.	The proposal may please be forwarded State Government to Regional Office, Nagpur
ii.	Part-V is also not uploaded on Parivesh portal. The same needs to be uploaded and intimated to this office.	Part-V of may please be uploaded on Parivesh portal at State Government level.
iii.	No information on non forest land involved in the proposal is mentioned in area calculation statement submitted along with the proposal nor in online Part-I uploaded on Parivesh portal. However, examination of KML file upladed on Parivesh portal revealed that non-forest land is also involved in the proposal. Details of non-forest land involved in the proposal shall be submitted .	Area statement containing details of forest and non forest land involved in the project is enclosed in the proposal. The user agency again vide letter under reference 2 has submitted information of non forest land and the same is enclosed herewith as **Annexure-I.**
iv.	State Government has mentioned in its covering letter that the proposed area is part of SGNP, but the said area is outside the protected area of SGNP.	The forest area proposed for diversion is from unclassed forest area incharge of SGNP and the same is outside the protected area of

	Therefore, there is no need for wildlife mitigation plan. Clarification on the statement made by the State Government needs to be submitted.	SGNP. However, Wildlife Conservation Plan within mitigation measures is prepared and the same enclosed herewith as **Annexure-II.**
v.	It is mentioned in Part-II that Scheduled-I species like Leopard, Striped Hyaena, Jungle Cat, Rusty spotted cat, Grey Mongoose, Small Indian Civet, Sambar, Indian Porcupine, Peafowl, Marsh Crocodile, Indian Chameleon, Bengal Monitor, Indian Cobra, Dhaman, Rock Python are present in the area. The State Government shall obtain comments from PCCF (Wildlife), Maharashtra on the importance of area from wildlife point of view and conservation measures, if any shall be submitted.	Wildlife Conservation Plan is enclosed herewith as Annexure-II.
vi.	In area calculation statement details of only one Compartment i.e. 537(pt) has been mentioned, whereas, examination of KML file submitted along with the proposal revealed that the line is passing in three Compartments i.e. 193, 192A and 617. Correct KML file of area proposed for diversion needs to be submitted.	Correct KML file of area proposed for diversion is enclosed herewith as **Annexure-III.**
vii.	Index Map/SoI toposheet on 1:50000 scale submitted along with the proposal is not certified by CF & Director, SGNP. Certified map highlighting the alignment needs to be submitted.	Index map on 1:50000 scale, duly certified by the undersigned is enclosed herewith as **Annexure-IV.**
viii.	Details of employment potential in terms of man days of skilled, semiskilled and unskilled persons on permanent (direct and indirect) and temporary (direct and indirect) basis have not been provided. The same needs to be provided.	The user agency vide letter under reference 2 has submitted revised Part-I with information regarding employment potential. The revised Part-I is enclosed herewith as **Annexure-V.**

Four sets of attachments are submitted herewith. It is therefore requested to move the instant proposal for decision under Forest (Conservation) Act, 1980

(G. Mallikarjuna)
Conservator of Forests & Director
Sanjay Gandhi National Park, Borivali

Encl : Four sets of attachments.

Copy forwarded with compliments to Executive Engineer (DP), P & R Ward, Municipal Corporation of Greater Mumbai for information and necessary action.

PROPOSAL UNDER FOREST CONSERVATION ACT,1980

AREA LETTER

1) **Purpose of Forest Area-** Handing over of forest land 0.018 Ha. S.No.15 (Pt), CTS No. 537(pt) of village Kanheri, S.G.N.P. Borivali for widening of existing Kulupwadi Road to the width of 18.30 mts, wide as per sanction Road Line, connecting Western Express Highway, Borivali (E), in R/C ward.
2) **Extent of Forest Area-**
3) **Village of Area-** As below
4) **Status of area in Propose Area-** Reserved Forest/Protected Forest/Private Forest

Sr. No	Item wise work purpose	Name of village	Forest Land						Legal Status of Land	Existing Road (Non Forest Land)				Total Area in Ha
			Com. No.	Sy. No	Gut No.	Length in Mtr.	Width in Mtr.	Area in Ha.		CTS No.	Length in Mtr.	Width in Mtr.	Area in Sqm.	
1	Proposed Road	Kanheri		15 (Pt)		9.00	20.00	0.018	Reserved Forest	541	335.20	18.30	6134.16	**0.6134**
										542A	440.00	18.30	8052.00	**0.8052**
										542B	450.50	18.30	8244.15	**0.8244**
										542Pt	204.00	18.30	3733.20	**0.3733**
										543	973.00	18.30	17805.90	**1.7805**
										559	1694.00	18.30	31000.20	**3.1000**
										519A/2	393.00	18.30	7191.90	**0.7191**
										518B/1520	84.00	18.30	1537.20	**0.1537**
										518/B/2	1871.00	18.30	34239.30	**3.4239**
										518A/3	20.00	18.30	366.00	**0.0366**
										560	37.00	18.30	677.10	**0.0677**
										76	5.50	18.30	100.65	**0.0100**
										547	4.70	18.30	86.01	**0.0086**
										544A	58.00	18.30	1061.40	**0.0106**
										544B	20.00	18.30	366.00	**0.0366**
										547	4.90	18.30	89.67	**0.0089**
										546	2.50	18.30	45.75	**0.0045**
										545	13.50	18.30	247.05	**0.0247**
										555	146.00	18.30	2671.8	**0.2671**
										519	4.00	18.30	73.20	**0.0073**
					Total	**9.00**	**20.00**	**0.018**		**TOTAL**	6760.80			**12.276**

TALUKA-Kanheri	FOREST LAND	Existing Road	TOTAL
Total Area	0.018	12.276	12.294

Project Authority

12/02/24

(Rajendra Jadhav)
Executive Engineer
(P & R Ward)

महाराष्ट्र वन विभाग

WILDLIFE CONSERVATION PLAN

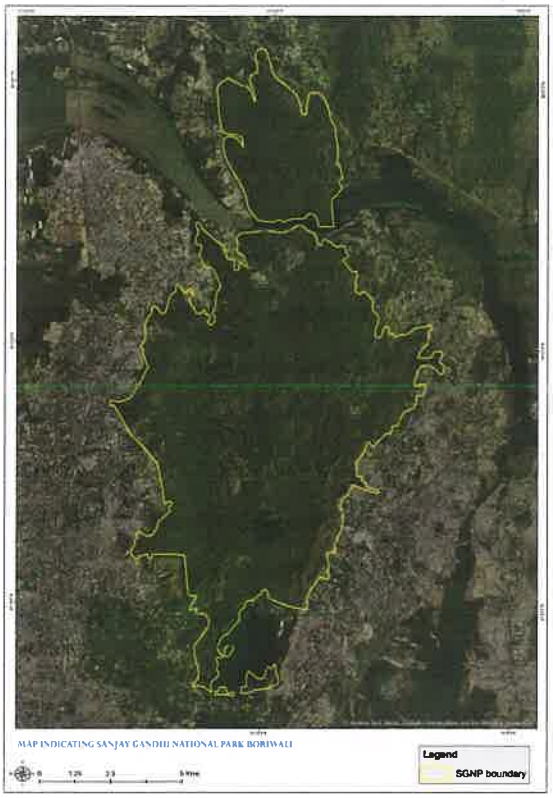
Name of the Project

WILDLIFE CONSERVATION PLAN

Name of the Project:

1. INTRODUCTION

A wildlife conservation plan serves as a strategic framework outlining measures to conserve, protect, and manage wildlife and their habitats. Such plans are indispensable for addressing the challenges faced by various species and combating declining populations. This necessity is particularly evident in the context of Sanjay Gandhi National Park (SGNP), a pivotal natural reserve in Maharashtra, known as the "Green Lungs" of Mumbai and Thane.



Situated amidst a densely populated urban environment, SGNP stands as a unique global phenomenon. Its breathtaking landscapes, lush forests, and diverse wildlife contribute to its distinction as a treasure trove of floral and faunal biodiversity, influenced by the elements of the Sahyadri mountain range. A network of rivers and

brooks that come to life during the monsoons further enhances the park's ecological significance, contributing to the hydrological cycle of the surrounding cities.

This National Park exemplifies a remarkable coexistence between humans and wildlife. Despite its urban proximity, SGNP serves as a vital haven, fostering a healthy environment and enhancing climate resilience for the region. Beyond its role as a green oasis, the park invites adventure enthusiasts to immerse themselves in the wonders of nature, offering encounters with untamed animals in their natural habitat and creating indelible memories.

SGNP holds a dual significance as a biodiversity hotspot and a historical site within Mumbai. Its role extends beyond being a recreational space, serving as a center for conservation and education. The park plays a crucial role in preserving the natural and cultural heritage of the Mumbai region, contributing significantly to ecosystem services.

Geographically, the Sanjay Gandhi National Park division spans longitudes 72° 51' 49" to 72° 58' 32" E and latitudes 19° 8' 20" to 19° 20' 44" N. Encompassing an expansive area of 106.95 sq km, the officially designated National Park area covers 86.96 sq km. This vast expanse underscores the importance of concerted efforts outlined in a comprehensive wildlife conservation plan to ensure the continued health and sustainability of this ecological gem amid the urban sprawl.

The formation of this Division involves the amalgamation of forests with diverse legal statuses, encompassing Reserved Forests (RF), Protected Forests (PF), and Unclassed Forests (UCF), as outlined in Table 1.

Table 1: Details of forest areas of SGNP

Sl. No.	Range	Reserved Forest	Protected Forest	Acquired Private	Unclassed Forest	Total
1	KUB	7.249	5.598	0.00	575.700	588.547
2	Tulsi	1707.579	0.00	647.416	1827.595	4182.590
3	Yeur	4000.269	8.519	884.798	1030.317	5923.903
	Total	5715.097	14.117	1532.214	3433.612	10695.040

2. COMPONENTS OF WILDLIFE CONSERVATION PLAN

2.1 Species Inventory and Assessment

Species inventory and assessment refer to the systematic process of identifying, documenting, and evaluating the variety of plant and animal species within a specific geographical area. This process is crucial for understanding the biodiversity of an ecosystem or a protected area like Sanjay Gandhi National Park (SGNP). The details of flora and fauna of Sanjay Gandhi National Park are discussed below:

2.1.1 Vegetation: As per the updated classification of forest types in India by Champion & Seth, the forests within the SGNP Division correspond to the following forest types:

1) 3 B/C1 Moist teak bearing forests: The moist teak-bearing forests cover 3 to 5% of the total area of Sanjay Gandhi National Park, thriving in areas with relatively favorable soil conditions. The forest density typically ranges from 0.4 to 0.7, with a concentration primarily in Yeur and Ghodbander rounds. While the Nagla block once had extensive teak forests, illicit cutting has nearly eradicated teak from this region. Key tree species in this forest type include *Tectona grandis* (Teak), *Garuga pinnata* (Kakad), *Lannea coromandelica* (Shemat), *Schleichera oleosa* (Koshimb), *Manilkara hexandra* (Ranjan), *Mangifera indica* (Amba), *Adina cordifolia* (Hed), *Pterocarpus marsupium* (Bija), *Bombax malabaricum* (Sawar), *Syzygium cumini* (Jambul), etc. Important shrubs include *Carissa carandas* (Karvand), *Helicteres isora* (Murudsheng), *Adhatoda vasica* (Adulsa), and *Azanza lampas* (Ranbhendi). The climbers are *Abrus precatorius* (Gunj), *Clematis triloba* (Ranjai), *Zizyphus rugosa* (Toria), etc., and bamboo species like *Dendrocalamus strictus* (Manvel), *Bambusa arundinacea* (Katang). Notable grass species present are *Cynodon dactylon* (Harali), *Dicanthium annulatum* (Ranbangdi), *Coix gigantea* (Ranjondhala), *Desmotachya bipinnata* (Darbha), *Panicum glabrum* (Varai), etc.
2) 3 B/C2 Southern moist mixed deciduous forest: Abundant Southern moist mixed deciduous forests characterize the region, occasionally featuring *Tectona grandis* (Teak) in modest proportions. The forest density ranges from 0.4 to 0.7.

Clusters of Manvel bamboo (*Dendrocalamus strictus*) and Katang Bamboo (*Bambusa arundinacea*) are prevalent in this extensive forest type that covers a significant portion of the SGNP. The soil is deep, loamy, and generally enriched with humus content. Semi-evergreen species present in this forest type include *Mangifera indica* (Mango), *Ixora brachiata* (Lokhandi), *Schleichera oleosa* (Koshimb), *Borassus flabellifer* (Palmyra palm) and *Saraca asoca* (Ashok). Ashok (*Saraca asoca*) is primarily localized along the stream courses in Kanheri, Chene, and Krishnagiri Upvan forests.

3) 4B/TS1 Mangrove scrubs: Bassein Creek was among the 37 stations surveyed by the National Institute of Oceanography to assess floral and faunal diversity. It holds the distinction of being the longest creek, spanning 41 km in length. However, only approximately 23% of its area, around 2000 hectares, is covered by mangroves (NIO 1998). This creek traverses through the Sanjay Gandhi National Park (SGNP). *Avicenna marina* dominates the mangrove vegetation in the area, while *Bruguiera gymnorhiza* and *Lumnitzera racemosa* have nearly disappeared from the estuaries of Bassein Creek. Presently, the Sanjay Gandhi National Park (SGNP) encompasses about 40 hectares of mangrove forests.
4) 8 A/C2 Western sub-tropical hill forests: These represent the last remaining patches of natural forests at higher elevations, situated on low-lying hills, as documented in the Biodiversity of the Western Ghats (1997). Western sub-tropical hill forests exist in small, high-altitude patches with a density of around 0.6. This forest type is semi-evergreen, featuring many evergreen species within the vegetation. Bamboo is typically absent in this environment. The flora includes climbers, orchids, and ferns, with notable species such as *Mangifera indica* (Mango), *Gardcinia indica* (Kokam), *Syzygium cuminii* (Jambul), *Calophyllum inophyllum* (Undi), *Sideroxylon tomentosum* (Kate-Kumbal), *Ixora brachiata* (Lokhandi), *Murraya paniculata* (Pandari), among others.

2.1.2 Fauna

Despite its close proximity to the bustling metropolis of over 20 million inhabitants, the Sanjay Gandhi National Park (SGNP) is blessed with an impressive

array of faunal diversity. The park is renowned for its population of leopards, garnering significant attention. Additionally, the park is home to notable species such as atlas and moon moths, both visually striking and large insects. The leaf litter teems with giant tarantulas, and various species of trapdoor spiders craft burrows with cork-like trapdoors composed of soil, vegetation, and silk. Pagoda ants and weaver ants seek invertebrate prey on trees, while harvester ants forage for seeds on the forest floor. Termites, too, contribute to the rich fauna of SGNP.

Table 2: Vertebrate faunal diversity in SGNP

	Mammal	**Reptile**	**Amphibian**	**Bird**
Order	7	3	1	18
Family	17	14	4	46
Species	43	38	9	250

2.2 Threats to wildlife conservation in Sanjay Gandhi National Park

Sanjay Gandhi National Park, situated in Mumbai, India, stands as a vital protected area renowned for its diverse biodiversity. Nevertheless, akin to numerous natural reserves globally, the park grapples with several challenges jeopardizing wildlife conservation. To address these threats, a comprehensive strategy is essential. Collaboration between government agencies, NGOs, local communities, and researchers is crucial for the enduring conservation of the park's diverse biodiversity. Some prominent threats to the preservation of wildlife in Sanjay Gandhi National Park include:

1) Encroachment and habitat loss: The encroachment of urbanization and human settlements around the park results in habitat fragmentation and the loss of critical wildlife habitats. Infrastructure expansion, agriculture, and residential development reduce the available space for wildlife.
2) Human-wildlife conflict: The expanding urban areas escalate interactions between wildlife and human populations, leading to conflicts. This is particularly evident with animals like leopards, present in the park, venturing

into human settlements in search of food, posing risks to both humans and animals.

3) Poaching and illegal wildlife trade: Poaching poses a significant threat to various species, including those vulnerable or endangered, driven by the demand for skins, bones, and other body parts. The illegal wildlife trade disrupts ecosystems and jeopardizes the survival of certain species.
4) Invasive species: The introduction of invasive plant and animal species disrupts the natural balance of the ecosystem, outcompeting native species for resources. This can lead to habitat degradation and negatively impact the survival of indigenous flora and fauna.
5) Pollution: Air and water pollution from adjacent urban and industrial areas detrimentally affect wildlife. Contaminated water sources, compromised soil quality, and harm to plant and animal health are consequences of pollution.
6) Tourism pressure: The rise in tourism, if not managed sustainably, results in disturbances, habitat degradation, and stress on wildlife. Unregulated tourism activities, including noise and waste pollution, can adversely impact the park's biodiversity.
7) Climate change: Climate change influences the park's ecosystems by altering temperature, precipitation patterns, and habitat suitability. Changes in climatic conditions may affect the distribution and behavior of various plant and animal species.
8) Lack of awareness and conservation education: Insufficient public awareness about the significance of wildlife conservation and sustainable practices contributes to threats. Educating local communities and visitors about the park's importance and promoting responsible behavior is crucial.

2.3 Ecosystem services of Sanjay Gandhi National Park

Sanjay Gandhi National Park (SGNP), an urban protected area, aims to safeguard and enhance diverse ecosystem services crucial for human well-being. However, urban development poses challenges to these parks. Assessing the park's value is essential to communicate its significance effectively, fostering understanding and support.

Assigning economic values through studies like Professor Haripriya's "Economic Value of the Ecosystem Services Provided by Sanjay Gandhi National Park" helps raise awareness, inform policymakers, and emphasize the park's ecological importance, contributing to enhanced conservation efforts. The key features of the aforementioned study are outlined below:

a) Key Message 1. Situated within the metropolitan city, Sanjay Gandhi National Park stands as a distinctive natural reserve, offering a range of vital ecosystem services such as provisioning, regulating, cultural, and supporting services crucial for human well-being. Despite the park's significance, there exists a lack of systematic valuation for the services it provides, leading to an undervaluation of its overall importance. This undervaluation, in turn, results in a lower policy priority compared to other more economically productive sectors.

b) Key Message 2. Sanjay Gandhi National Park (SGNP) boasts a wealth of biodiversity, representing a complex ecosystem that contributes to numerous benefits for humans. The diverse array of flora and fauna within the park should be perceived as a complement to the various economic, ecological, aesthetic, and recreational values that SGNP offers.

c) Key Message 3. As a result of its stringent protection status, the park plays a vital role in regulating hydrological flows and ensuring a high-quality water supply to the residents of Greater Mumbai through its two lakes, Tulsi and Vihar, situated within its boundaries. The park's protected status leads to substantial annual savings of ₹11.87 crores by circumventing water treatment costs, while providing an impressive volume of 128 million litres per day. Without the park's protective measures, the creation of new drinking water sources would necessitate a substantial state expenditure of ₹252 crores. The equivalent present value of the water treatment services facilitated by the park is estimated at ₹2967 crores.

d) Key Message 4. Sanjay Gandhi National Park (SGNP) offers valuable recreational opportunities for individuals in and around Mumbai, resulting in significant welfare benefits. The cumulative economic surplus attributed to

SGNP is estimated at ₹15,721 crores annually, with the equivalent net present value of this flow approximated at ₹3,14,420 crores.

e) Key Message 5. A multitude of individuals utilize the park to gain health benefits, with the park contributing a value of ₹5.10 crores annually for this segment of the population engaged in exercising. The equivalent net present value of this service is estimated at ₹126.50 crores.

f) Key Message 6. The park bestows benefits upon non-users by acting as an effective scavenger of air pollutants. The avoided costs associated with mortality and morbidity due to respiratory and respiratory-induced cardiac ailments are estimated at ₹514 crores per annum. In comparison to other areas, PM2.5 emissions were 28.3 percent lower, PM10 was 34 percent lower, and NO_2 emissions were 339 percent lower in the park, even after accounting for various meteorological factors, levels of economic activity, and other influencing pollutants. The park presents a more cost-effective technological alternative, as the proposed air cleanup technology for Mumbai would demand an expenditure of ₹660 crores over the next 6 years to deliver equivalent air purification services. The equivalent investment required to provide the same service value as the park has been estimated at ₹2750 crores.

g) Key Message 7. Sanjay Gandhi National Park (SGNP) holds a crucial role in the global carbon cycle, actively sequestering carbon at an annual value of ₹3.10 crores and maintaining a substantial carbon stock worth ₹416.20 crores. By serving as a carbon sink, SGNP enables Mumbai to store carbon in vegetation, mitigating contributions to global warming. The park has also had a noticeable impact on local climate, reducing the minimum temperature by 2.56°C, the maximum temperature by 1.58°C, and increasing relative humidity by 1.9%.

h) Key Message 8. Residents in close proximity to the park willingly pay a higher premium for the privilege of enjoying an aesthetic view of Sanjay Gandhi National Park. Those residing next to the park pay a 24% higher premium in rental values, while individuals with a clear view of the park pay a more substantial 38% premium compared to those without such views or residing outside the park's vicinity. This aesthetic premium has been calculated at ₹1598

per month for a 600 sq. ft flat, resulting in an annual value of ₹447 crores. The equivalent investment required to generate a comparable annual income is estimated at ₹11,175 crores.

i) Key message 9. Citizens place significant value on the mere existence of the park, regardless of whether they personally benefit from it. The willingness to pay for conservation easements, ensuring the park's perpetual protection, serves as a measure of how much citizens value its mere existence. The net present value of the existence value of the park is estimated at ₹11,77,044 crores (₹117 crores/ha), excluding the value of the land on which the park is situated. Existence values stand out as the most substantial among the various services provided by the park.

j) Key Message 10. Despite the prohibition on extractive activities within the park, such as the restriction on timber and non-timber forest products, the park continues to provide societal services valued at ₹63,417.50 crores per annum. It's important to note that these estimates represent a conservative lower bound, as several other services, including oxygen provision, flood hazard protection, and groundwater recharge, have not been quantified due to a lack of data in this study. The net present value of the ecosystem services furnished by the park is calculated at ₹15,09,804 crores (₹146 crores/ha, excluding land values).

k) Key Message 11. The yearly value of services derived from Sanjay Gandhi National Park (SGNP) amounts to 7% of the combined district domestic products of Mumbai and Thane and constitutes a significant 38% of the manufacturing output when both districts are considered together. In contrast to the services sector, SGNP contributes substantially, accounting for 12.4% of the service sector value added in the Mumbai and Thane districts for the fiscal year 2019-20. It's essential to note that the study provided a conservative estimate on the lower side, as not all ecological services provided by the park to society were considered due to data limitations.

2.4 Conservation goals and objectives:

1) Biodiversity conservation: Conserve diverse flora and fauna in SGNP, emphasizing endemic and endangered species. Designate and manage conservation zones, addressing threats like habitat loss and poaching. Monitor key species' populations, especially those at risk. Promote overall ecosystem health, focusing on threatened species and implementing measures for population enhancement.
2) Habitat management: Preserve and restore natural habitats in SGNP to maintain ecological processes vital for native species' survival. Implement strategic measures for habitat preservation, ensuring the long-term well-being of diverse flora and fauna. Through a holistic approach, safeguard ecosystems, support biodiversity, and enhance the park's overall health and resilience. Ongoing monitoring and adaptive management are crucial for sustained habitat sustainability.
3) Habitat connectivity: Enhance habitat connectivity in SGNP to minimize negative effects of fragmentation, supporting wildlife movement and ecological processes. Crucial for biodiversity health and sustainability, connectivity in SGNP maintains genetic diversity and ecosystem resilience. A well-connected landscape boosts overall park ecosystem health and adaptability to environmental changes.
4) Invasive species management: Manage invasive plant and animal species in SGNP to protect native biodiversity and ecological balance. Invasive species can disrupt ecosystems and pose threats, necessitating ongoing preventive measures, early detection, and effective control strategies. Addressing invasives ensures the protection of native ecosystems and preserves the ecological integrity of SGNP landscapes.
5) Community engagement: Engage local communities in conservation efforts, promoting responsibility and sustainable resource use. Collaborate on community-based conservation initiatives and practices for effective resource management.

6) Research and monitoring: Conduct scientific research and monitoring in SGNP to understand ecosystems, wildlife behavior, and ecological dynamics. These initiatives provide valuable insights for evidence-based conservation decisions, adapting strategies to emerging challenges. Regular data collection ensures dynamic responsiveness to the park's environment.
7) Education and awareness: Conduct education and awareness programs in SGNP to highlight biodiversity conservation importance. These initiatives engage diverse stakeholders, including local communities and visitors, informing them about conservation challenges and their role in preserving the park's natural heritage. Ongoing and adaptive programs foster a sense of responsibility among stakeholders, contributing to biodiversity conservation success in the park.
8) Conservation partnerships: Establish partnerships in SGNP with government agencies, NGOs, and research institutions to pool resources and expertise for conservation initiatives. These collaborations involve diverse stakeholders working toward shared goals for the sustainable management of the park. Building on trust and commitment, regular communication and adaptive management are essential to address evolving conservation challenges.
9) Ecotourism management: Manage ecotourism in SGNP responsibly, ensuring sustainable tourism practices that benefit local conservation efforts. The aim is to maximize positive impacts on the park's ecosystems and wildlife while minimizing any negative effects. Effective ecotourism management enables economic benefits while safeguarding ecological integrity and supporting local communities. Continuous monitoring and adaptive management are essential for the long-term success of ecotourism initiatives.
10) Human-wildlife conflict management: Manage human-wildlife conflicts in SGNP through a holistic, community-centric approach. Addressing factors like habitat encroachment, the park can reduce conflicts, foster coexistence, and contribute to wildlife conservation. Regular communication and collaboration with local communities are essential for successful conflict management strategies.

2.5 Adaptive Management

Adaptive wildlife management in Sanjay Gandhi National Park (SGNP) involves a flexible and responsive approach to address the dynamic and changing conditions affecting wildlife and their habitats. SGNP's adaptive approach acknowledges ecological complexity, ensuring responsiveness to emerging challenges for long-term wildlife conservation. Adaptive wildlife management in Sanjay Gandhi National Park (SGNP) involves:

a) Regularly monitoring wildlife populations, behavior, and habitat conditions.
b) Analyzing data to identify trends, emerging threats, or changes in ecological dynamics.
c) Modifying management strategies based on analyzed data and changing circumstances.
d) Engaging with local communities and stakeholders for collaborative decision-making.
e) Implementing habitat restoration initiatives based on ongoing assessments.
f) Adapting conflict resolution methods to changing human-wildlife conflict patterns.
g) Adjusting invasive species control measures to address new invasions or changing dynamics.
h) Continuously assessing and adapting ecotourism management practices.
i) Undertaking research projects to fill knowledge gaps and inform decisions.
j) Developing climate change adaptation strategies for wildlife habitats and behaviors.
k) Investing in capacity-building for park staff, communities, and stakeholders.
l) Collaborating with wildlife experts and organizations to incorporate scientific knowledge.
m) Adapting educational programs for continuous awareness and responsibility.
n) Developing and practicing emergency response plans for unforeseen events.

2.6 Impact of the project

The current project aims to construct a road on a small section of Sanjay Gandhi National Park (SGNP) land to alleviate congestion in the Kulupwadi area. The primary goal is to enhance traffic flow, consequently reducing air pollution and related issues for commuters. It is imperative to strike a balance between infrastructure development and conservation efforts to minimize adverse impacts on the diverse ecosystems of SGNP. Despite the project affecting a small portion of land, the implementation of the Wildlife Conservation Plan is essential to mitigate potential impacts on the park's flora and fauna. The proposed mitigation measures for this project includes the following strategies.

1) Speed limit enforcement and signage: Strict enforcement of a speed limit not exceeding 30 km/hr in areas near Sanjay Gandhi National Park. Erecting two prominent hoardings along the western expressway, designated for wildlife conservation messages under the authority of SGNP.
2) Creation of vegetative buffers: Establishing a vegetative buffer near the project area to mitigate noise, disturbances, and promote essential habitat connectivity.
3) Community awareness programs: Implementation of awareness programs involving stakeholders and road users to emphasize the importance of wildlife conservation, encourage responsible driving, and ensure compliance with speed limits.
4) Habitat restoration initiatives: Undertaking habitat restoration initiatives, including the installation of artificial bird nests, creation of waterholes, and development of fodder plots within Sanjay Gandhi National Park to enhance wildlife conservation.
5) Continual wildlife surveillance: Consistent and methodical monitoring of wildlife populations and habitats within the project's influence zone using geo-coordinated camera traps. This approach aims to evaluate the effectiveness of mitigation measures, with necessary adjustments implemented as required.

6) Rescue and rehabilitation protocols: Establishment of clear protocols for the swift rescue and rehabilitation of wildlife affected by road development, ensuring a prompt response to minimize potential harm to fauna.

2.7 Budget forecast for Wildlife conservation plan

The budget projection for the implementation of the wildlife conservation plan encompasses the estimation of financial resources essential for executing the diverse conservation initiatives outlined earlier. The breakdown of the budget required to ensure the successful implementation of this wildlife conservation plan is provided below:

Table-1: Budget forecast for Wildlife conservation plan

Sl. No.	Activities	Amount (Rs in lakhs)
1	Establishment of two big hoardings (10ft X 8 ft) along western Expressway inside the SGNP boundary	10.00
2	Avenue plantation of indigenous tree species along roads inside SGNP	5.00
3	Creation of fodder plot inside the SGNP area	5.00
4	Community Awareness programmes	2.00
5	Habitat restoration activities	4.00
6	Continual wildlife surveillance	6.00
7	Wildlife rescue equipment	5.00
8	Miscellaneous activities	3.00
	Total	**40.00**

APPENDIX

(See Rule 6)

FORM'A' Form for seeking prior approval under section 2 of the proposals by the State Governments and other authorities

PART-I

(To be filled up by user agency)

Name of Proposal: Handing over of forest land 0.018 Ha. S.No.15 (Pt), CTS No. 537(pt) of village Kanheri, S.G.N.P. Borivali for widening of existing Kulupwadi Road to the width of 18.30 mts, wide as per sanction Road Line, connecting Western Express Highway, Borivali (E), in R/C ward.

1	**Project details**	
	i) Short narrative of the proposal and project/scheme or where the forest land is required	The land bearing CTS No.537 (pt) of village Kanheri falling in the alignment of the 18.30 mts (60'0") wide road line connecting Kulupwadi road near Western Express Highway, Borivali (E) in R/C ward.
2	ii) Map showing the required forest land, boundary of adjoining forest on a 1:50,000 scale map.	Since the strip of the land admeasuring about 180 Sq.Mts only and hence map showing the details of the land with boundary of the forest land on map of scale 1:500 and 1:4000 scale is attached.
	iii)Cost of the project.	Project of construction of road for CTS No. 537 (pt) will be undertaken after taking over the land from Forest Dept. Block estimates as per prevailing rates=Rs.13 Lakh(For 180Sqm)
	iv) Justification for locating the project in forest area.	The land under reference is a part of sanction Regular Line of 18.30 mts wide existing Kulupwadi road and D.P. road as per the Development plan of 2034, which is sanctioned by the State of Maharashtra. This land is situated at the junction of the Western Express High way and the existing road which is known as Kulupwadi road, MCGM has sanctioned Road Line of 18.30 mts wide for this road. Land u/r is falls in this R.L. At this junction bottleneck is created, creating a blind turn while negotiating and causing the great hardship and hurdle to the vehicular traffic.
	v) Cost- benefit analysis (to be enclosed)	The area of diversion is less than 10 Ha hence as per the FCA Guidelines area required less than 10 Ha diversion does not require to submit cost benefit analysis.

	vi) Employment likely to be generated,	As per note dtd. 01.02.2024 from user department, around 314 skilled labours and 425 unskilled labours will get employment.
3	Purpose-wise break-up of the total land required.	Improvement of Kulupwadi Road as per sanction road line of 18.30 mts wide road. Land required:- 180 Sq.Mts. Aprox.
4	Details of displacement of people due to the project, if any	There is no displacement of people due to the project.
	i) Number of families	Nil
	ii) Number of Scheduled Castes/Scheduled Tribe families	Nil
	iii) Rehabilitation plan (to be	Nil
5	Whether clearance under Environment (Protection) Act 1986 required (Yes/No)	Clearance from environment is not required. Not applicable
6	Undertaking to bear the cost of raising and maintenance of compensatory afforestation and/or penal compensator afforestation as well as cost for protection and regeneration of safety Zone, etc, as per the scheme prepared by the State Government (undertaking to be enclosed)	Necessary undertakings are already submitted on 20.12.2021.
7	Details of Certificates/documents enclosed as required under the instructions.	Required certificates and documents are already submitted on 20.12.2021.

12/02/24

(Rajendra A. Jadhav)
Executive Engineer (Development Plan)
P&R Ward

Date: 12/02/24
Place: Mumbai