

**BEFORE THE HON'BLE NATIONAL GREEN  
TRIBUNAL SOUTH ZONE BENCH AT CHENNAI**

**Original Application No.191 of 2024**

(Memorandum of Original Application under Section 18 read with Sections  
14 and 15(1) of the National Green Tribunal Act, 2010)

**IN THE MATTER OF:**

Yelahanka Puttenahalli Lake And  
Bird Conservation Trust (Regd.)

...APPLICANT

:Vs:

State of Karnataka & 7 others

...RESPONDENTS

**INDEX TO THE TYPED SET OF DOCUMENTS FILED BY THE 2<sup>ND</sup>  
RESPONDENT**

S.I	Date	Description	Pg.No.
1.	28.06.2024	Request letter issued by the 2 <sup>nd</sup> Respondent to the 4 <sup>th</sup> Respondent	1
2.	26.07.2024	Order passed by the 4 <sup>th</sup> Respondent giving consent with conditions.	4

Dated at Chennai on this the 25<sup>th</sup> August 2024



Counsel for the 2<sup>nd</sup> Respondent

**T.V. SEKAR, MS. No. 143/1980  
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BRUHAT BENGALURU MAHANAGARA PALIKE  
Office of the Engineer-In-Chief, N.R.Square, Bengaluru-560002

No.BBMP/EIC/PR/560/2024-25

Date:28.06.2024

To,  
Principal Chief Conservator of Forests  
Wild Life & Chief Wildlife Warden,  
2nd Floor, AranyaBhavan,  
18th cross, Mallechwaram,  
Bengaluru-560003

Sir,

**Sub :** Permission for laying 1.6m hume pipeline for diversion of storm water mixed with sewage as a precautionary measure to prevent contamination of Puttenahalli Lake –Reg.

- Ref:**
1. This Office letter No.EE/BBMP/SWD/YZ/59/2022-23,Date:08.07.2022.
  2. This Office letter No.EE/BBMP/SWD/YZ/60/2022-23, Date:19.07.2022.
  3. Deputy Conservator of Forests office letter No. A2/BUD/CR-74/2023-24, Date: 07.10.2023
  4. This office letter to Executive Engineer (Planning-2) No. EE/BBMP/SWD/YZ/126/2023-24, Date: 05.12.2023.
  5. Executive Engineer (Planning-2) Bangalore Water Supply and Sewerage Board office letter No: B.J.M/EE(Planning-2)/S/1566/2023-24, Date: 07.12.2023
  6. This Office letter No.EE/BBMP/SWD/YZ/144/2022-23, Date:19.12.2023
  7. Hon'ble Zonal Commissioner office letter No. Z.C/B.B.M.P/PR/YZ/20/24-25, Date: 09.05.2024
  8. Hon'ble Zonal Commissioner office letter No. Z.C/B.B.M.P/PR/YZ /151/24-25, Date: 09.05.2024
  9. This Office letter No.EE/BBMP/SWD/YZ/32/2024-25, Date:03.06.2024.

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With reference to the above subject, it has come to the knowledge of BBMP that, the storm water drain with ID No.BP-135 running from Attur Lake at the upstream and to Puttenahalli Lake at the downstream is contaminated by the entry of sewage. It also came to the notice of the undersigned that, the storm water drain which has to lead storm water to Puttenahalli Lake was obstructed by a compound wall to avoid contaminated storm water entering the Puttenahalli Lake.

On detailed inspection it was found that, the areas on the Northern side of Puttenahalli Lake is not connected by an outgoing sewer line and all the sewage is entering the storm water drain. Since, the storm water drain had sufficient area the sewage was accumulating inside storm water drain and was getting evaporated living behind sludge.

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07/09/2024

On 20.05.2024 there was a heavy rain and these rains entered the storm water drain but could not go out due to the blockage created to the natural flow by compound wall. The Public Representatives and Senior Officers of BBMP, BWSSB and Forest Department visited the place and instructed that, a diversion channel should be constructed by BBMP for emergency purpose and also BWSSB should put up a connecting sewer line from the adjoining area to the main trunk line on Doddaballapura main road or to the nearest Intermediate Sewage Pumping Station (ISPS).

The whole Topography of the area was inspected and found that, there is no place to take the diversion channel on gravity basis, except the pathway space available inside the lake premises. The alignment on the pathway would also ensure that, only 02 coconut trees removal is required.

Therefore, a joint plan was drawn between BBMP and BWSSB to construct diversion channel using Hume Pipe so as to ensure pathway can be rebuilt over the pipeline without causing any damage to the physical nature of the pathway.

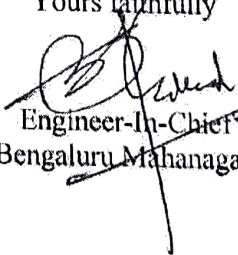
The stream (SWD) in question, i.e., BP-135 is discharging 22.0 Cumecs to Puttenahalli Lake. However, to prevent contaminated storm water entering the Puttenahalli Lake, a diversion channel is proposed to let out storm water at the waste weir point. The contaminated storm water with sewage is estimated to be 1/6 of the quantity during flooding and 5/6 of the water would be fresh storm water which could enter the Puttenahalli Lake.

It is estimated that, the discharge requirements through the diversion channel would be 1/6 of 22.0 Cumecs which works out to 3.67 Cumecs. The diversion is proposed through 1.6m diameter pipe which has a cross sectional area of 2.01 Sq.m which has the capacity to allow 4.00 Cumecs of water.

Under the above circumstances, it is kindly requested to grant permission for laying 1.6m dia hume pipe inside the premises of Puttenahalli Lake in the pathway. BBMP assures and gives guarantee that, pathway will be restored to its original condition for the use of general public.

Thanking you,

Yours faithfully

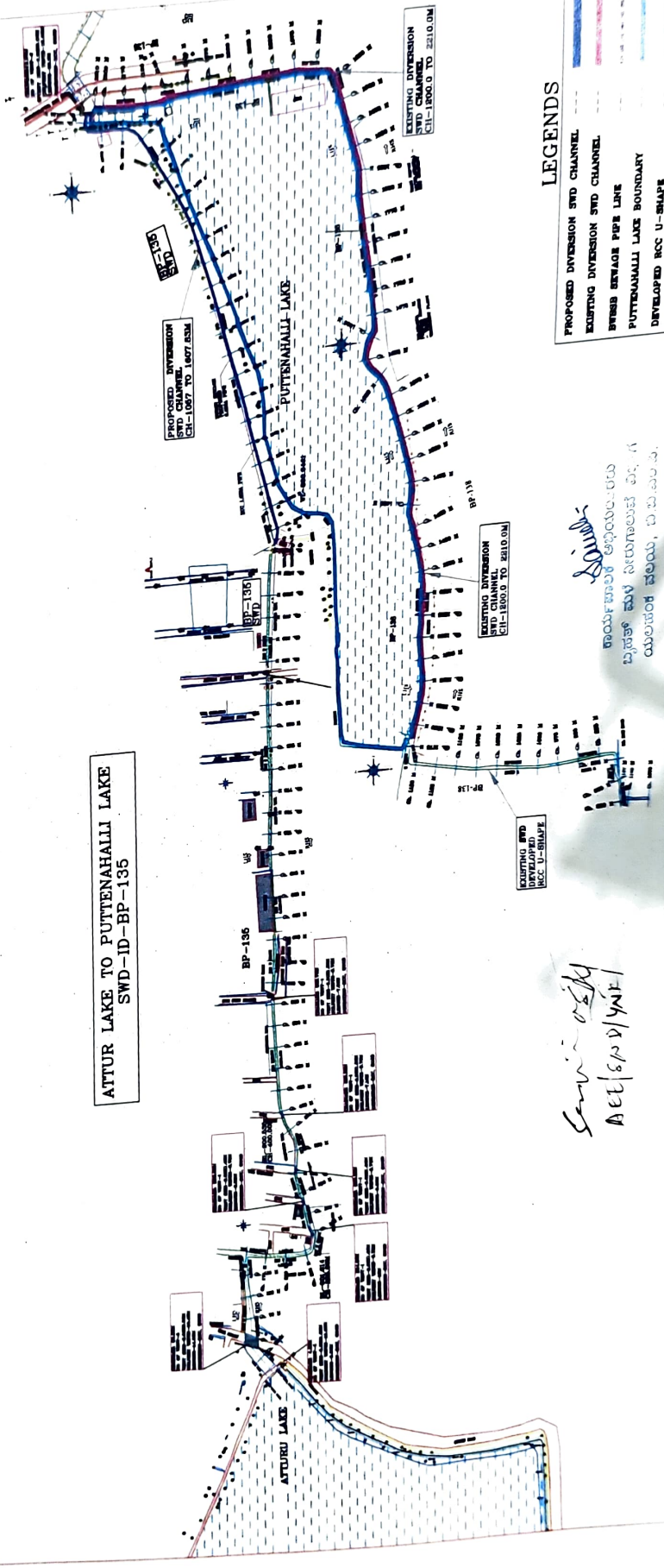
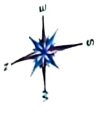
  
Engineer-in-Chief  
Bruhat Bengaluru Mahanagara Palike

28/06/2024

BBMP SWD YELAHANKA ZONE

KEY MAP

ATTUR LAKE TO PUTTENAHALLI LAKE  
SWD-ID-BP-135



LEGENDS

- PROPOSED DIVERSION STD CHANNEL
- EXISTING DIVERSION STD CHANNEL
- SEWERAGE PIPE LINE
- PUTTENAHALLI LAKE BOUNDARY
- DEVELOPED RCC U-SHAPE

*Srinivas*  
 ರಾಜಕೀಯ ಸಂಪನ್ಮೂಲ  
 ವಿಭಾಗದ ಮುಖ್ಯಸ್ಥರು, ಬೆಂಗಳೂರು.

*Srinivas*  
 AEE/S/D/YNF

No: PCCF(WL)/D/CR- 01/2014-15

E-Office No. 1415312

Principal Chief Conservator of Forests  
(Wildlife) & Chief Wildlife Warden.  
Karnataka Office : 080-23341993, 080-  
23346389  
E-mail: pccfvl@gmail.com  
Malleswaram, Bangalore  
Date: 26-07-2024

**: Official Memorandum:**

**Sub:** Request for permission to carry out laying pipe line in Puttenahalli Bird Conservation Reserve.

**Ref:** This office even number letter dated: 29.05.2024.

- 1
- 2 Hon'ble NGT Order on 18.06.2023 in OA No. 191 of 2024 (SZ) & IA No.71 of 2024(SZ)
- 3 Letter No. BWSSB/CE(Project)ACE(P)-/1A/578/2024-25 of the Chief Engineer (Project), BWSSB, Bengaluru.
- 4 Letter No. BBMP/EIC/PR/560/2024-25 of the Engineer in Chief, BBMP, Bengaluru.
- 5 Letter No KFD-BNGCOA6(WL)/8/2024 Dated: 24.07.2024 of the Conservator of Forests, Bengaluru Circle, Bengaluru

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**Preamble: -**

Adverting to the above subject, the State Government declared Puttenahalli lake as "Puttenahalli Bird Conservation Reserve" under the Wildlife (Conservation) Act, 1972 on 29.04.2015 for the conservation of local and Migratory bird Species in Puttenahalli lake.

In recent times, the layouts constructed around the Puttenahalli Bird Conservation Reserve do not have a proper drainage system, so sewage contaminated water is being discharged into the Puttenahalli lake. Hence, vide this office letter cited under ref. (1) addressed to the Chief Commissioner, BBMP informing him that the provisions of Sections 27, 30, 32 and 33 of the Wildlife (Conservation) Act, 1972 are applicable to Conservation Reserves. Further, Section 32 of the Wildlife (Protection) Act, 1972 states "*Ban on use of injurious substances -No person shall use, in a sanctuary, chemicals, explosives or any other substances which may cause injury to or endanger, any wild life in*

*[Signature]*

such sanctuary" and as such discharge of sewage/contaminated water inside the Puttenahalli Bird Sanctuary is a violation of Section 32 of the Wildlife (Protection) Act, 1972, the Chief Commissioner, BBMP has been requested to take appropriate action to prevent sewage/contaminated water from entering the Puttenahalli Bird Conservation Reserve and also to submit a report to this office on the action taken.

The Hon'ble NGT Order on 18.06.2024 in OA No. 191 of 2024 (SZ) & IA No.71 of 2024(SZ) directed as "*as in view of the sustainable development and precautionary principles embodied in Section 20 of the National Green Tribunal Act, 2010, respondents no.2 and/or 6 are restrained from carrying out any further activity of digging up of earth and laying of pipeline including hume pipes within the reserved area without obtaining permissions from the concerned authorities and they are also directed to take requisite remedial measures to prevent discharge of sewage into the lake. Activity of digging up of earth and laying of pipeline including hume pipes within the reserved area already carried out by respondents no.2- BBMP and/or respondent no.6-BWSSB will also be subject to further orders to be passed by this Tribunal after hearing the concerned/aggrieved parties*".

The Chief Engineer (Project), BWSSB, Bengaluru, in the letter referenced under (3), has detailed that BBMP is planning to lay a 1600 mm diameter RCC pipeline along the walkway of Puttenahalli Lake bund to continue the Storm Water Drainage (SWD) system. It is essential that this BBMP pipeline is installed first, as only then will BWSSB be able to lay a 700 mm diameter RCC trunk sewer, approximately 600 meters in length, running parallel along the same alignment to the proposed under-construction Yelahanka Kere Wastewater Treatment Plant (WwTP). This trunk sewer is needed to manage sewage from future developments in the upstream areas under the various Village Panchayath limits, else the pipe laid in the on-going work with the provision of lifting machine hole will suffice the present requirement. Explaining the above facts, the Chief Engineer (Project), BWSSB, Bengaluru has requested to accord permission to lay the same in the said alignment coming under the Bird conservation Reserve along with the work of BBMP.

The Engineer in Chief, BBMP, Bengaluru, in the letter referenced under (4), has reported that the storm water drain identified as BP 135, which runs from



Attur Lake upstream to Puttenahalli Lake downstream, is being contaminated by sewage. To prevent this contaminated storm water from entering Puttenahalli Lake, a compound wall was constructed to obstruct the flow. However, upon detailed inspection, it was found that the northern areas of Puttenahalli Lake are not connected to an outgoing sewer line, causing all sewage to enter the storm water drain. As a result, the storm water drain, which was originally designed to handle storm water, has become a repository for sewage. This sewage accumulates in the drain, leading to evaporation and leaving behind sludge.

On 20.05.2024 there was a heavy rain and these rains entered the storm water drain but could not go out due to the blockage created to the natural flow by compound wall. The Public Representatives and Senior Officers of BBMP, BWSSB and Forest Department visited the place and instructed that, a diversion channel should be constructed by BBMP for emergency purpose and also BWSSB should put up a connecting sewer line from the adjoining area to the main trunk line on Doddaballapura main road or to the nearest Intermediate Sewage Pumping Station (ISPS).

Also, the engineers of BWSSB and BBMP has reported that the whole topography of the area was inspected and found that, there is no place to take the diversion channel on gravity basis, except the pathway space available inside the lake premises. The alignment on the pathway would also ensure that, only 02 coconut trees removal is required.

Therefore, a joint plan was drawn between BBMP and BWSSB to construct diversion channel using Hume Pipe so as to ensure pathway can be rebuilt over the pipeline without causing any damage to the physical nature of the pathway.

The stream (SWD) in question, BP-135, discharges 22.0 Cumecs into Puttenahalli Lake. To prevent contaminated storm water from entering Puttenahalli Lake, a diversion channel is proposed to direct storm water to the waste weir point. It is estimated that during flooding, the contaminated storm water with sewage constitutes  $\frac{1}{6}$  of the total flow, while the remaining  $\frac{5}{6}$  is fresh storm water. Therefore, the diversion channel needs to handle  $\frac{1}{6}$  of 22.0 Cumecs, which amounts to 3.67 Cumecs. The proposed diversion will utilize a 1.6-meter diameter pipe with a cross-sectional area of 2.01 square meters, capable



of accommodating up to 4.00 Cumecs of water and accordingly proposals were submitted by BBMP and BWSSB to this office to accord permission for carrying out the above said works.

Accordingly, a meeting was conducted with the stakeholders and Forest Officers on 10.07.2024 and after detailed deliberations, the Conservator of Forests, Bengaluru Circle, Bengaluru was directed to inspect the spot along with BBMP and BWSSB engineers and submit the technical feasibility report on the proposal submitted by the BBMP and BWSSB.

The Conservator of Forests, Bengaluru Circle, Bengaluru, submitted a report via letter referenced under (5), indicating that a joint meeting and inspection were conducted on 22.07.2024 at the Puttenahalli Lake premises. The meeting involved representatives from Respondent No. 2 (BBMP), Respondent No. 6 (BWSSB), and the petitioner. During this meeting, a comprehensive discussion was held on the technical aspects of the project.

The report notes that the primary source of sewage entering Puttenahalli Lake is the discharge from upstream areas into the Storm Water Drain (SWD), attributable to incomplete sewer lines in the lake's catchment areas. Following detailed discussions and a joint inspection on 22.07.2024, it was concluded that the issue of sewage entering Puttenahalli Lake can only be resolved through the implementation of a comprehensive sewage network and SWD across the entire catchment area of the lake (14 sq. km, as depicted in the map). This infrastructure would ensure that sewage is directed to the wastewater treatment plant (WwTP) while allowing rainwater runoff to flow into Puttenahalli Lake.

According to the report submitted by the Conservator of Forests, Bengaluru Circle, the catchment area map provided by BBMP and BWSSB indicates that a significant portion of the area falls under the jurisdiction of the Panchayats and Bangalore Development Authority (BDA). Therefore, the establishment of a comprehensive sewage network and wastewater treatment plant (WwTP) in these areas will need to be managed by these authorities, as BBMP and BWSSB do not have jurisdiction over these regions. Consequently, it is required that the BDA and Panchayat authorities submit their action plans concerning the development of their sewage network and WwTP.



During the joint inspection, the petitioner proposed considering alternative alignments for managing the sewage network, specifically suggesting routing it along the south side of Puttenahalli Lake to connect with the existing network of the Puttenahalli WwTP, which has a treatment capacity of 7 MLD. However, according to the information provided by the User Agency, the average inflow for June 2024 was 5.48 MLD (78.28% of capacity), and 5.75 MLD (82.14%) up to 23.07.2024 in July, with a peak inflow of 7.008 MLD recorded on 30.06.2024. Given these figures, BWSSB and BBMP engineers have determined that the Puttenahalli WwTP is already operating at or near its capacity and cannot accommodate additional sewage treatment loads.

According to the authorities of BWSSB, there is currently no need to lay a 700 mm diameter RCC pipeline, as the existing pipeline network, which was designed according to the original scope, is sufficient to handle the generated sewage. Should the installation of a 700 mm diameter RCC sewage pipeline be authorized, it would be used to accommodate sewage from the Ramanashree California gated community and the North Wood Villas, provided that these areas are formally handed over to BWSSB in compliance with future regulations. The Ramanashree California layout and North Wood Villas, situated adjacent to Puttenahalli Lake, are private gated communities. The responsibility for establishing a water supply and underground drainage (UGD) network falls on the layout association, as these areas have not yet been transferred to BWSSB. Furthermore, as reported by the officials of BWSSB and BBMP, in accordance with Government Order FEE 43 EPC 2022 dated 12.03.2024, the layout must also establish its own wastewater treatment plant (WWTP) to manage the sewage generated within the community.

According to the report submitted by BBMP and as per the field inspection report of the Conservator of Forests, Bengaluru Circle, Bengaluru, it has been determined that the 1600 mm diameter RCC pipeline proposed by BBMP, as a replacement for the open SWD, is necessary to address the gap in the SWD system. This proposed pipeline acts as a diversion channel which is crucial for carrying surface runoff mixed with sewage downstream from Puttenahalli Lake without contaminating the lake. Given the limited available width and the fact that the proposed land falls within the Puttenahalli Bird Conservation Reserve, the proposal has been designed to divert only 4.20 cumecs (approximately 1/4<sup>th</sup>



of the total flow) through a 1.60 m (1600 mm) diameter Hume pipe as per the details below.

Sl. No	Particulars	Existing section	Proposed section
1	Flood carrying capacity in Cumes	15.15 Cumes	4.20 Cumes
2	Required width in m	3.00 m	1.60m dia
3	Required Depth in m	2.40 m	pipe
4	Velocity generated in m/seconds	2.81 M/seconds	2.10 M/seconds
5	Bed fall	1 in 300	1 in 550

The report also indicates that during peak rainfall events, the proposed 1600 mm diameter pipeline may be insufficient to manage the excess floodwater conveyed through the SWD. Consequently, there is a risk of overflow, with water potentially still entering Puttenahalli Lake. Additionally, this proposed intervention may reduce necessary inflows to the lake. Had the sewer line been properly installed upstream, the issue of sewage entering the lake could have been avoided. Therefore, the BBMP engineers have to ensure that necessary engineering structures shall be put in place to prevent the sewage entry and also to facilitate the excess flood water ingress to the lake.

Further, the report submitted by the BWSSB along with the report of CF, Bengaluru Circle gives the details of the flow and diameter calculation for the RCC pipeline as below;

SL NO	Year	Projected population	Flow in MLD
1.	2011 (as per census)	7049	0.85
2.	2021	21000	2.52
3.	2031	41580	4.99
4.	2041	63202	7.58
5.	2051	78312	9.40

Mannings formula :

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

$$Q = A * V$$

$$Q = \text{m}^3/\text{sec}$$

$$V = \text{m}/\text{sec}$$

Dia in mm	Dia in m	n	S	V	MLD
300	0.3	0.012	200	0.967	5.9
400	0.4	0.012	250	1.018	11.4
500	0.5	0.012	350	1.028	17.4
600	0.6	0.012	400	1.086	26.5
700	0.7	0.012	550	0.983	34.1

So, from the above calculation it clearly shows that 700 mm diameter of sewer pipeline will suffice the sewage generated by the year of 2051 for the population of 78312 nos. Additionally, significant developmental activities are occurring upstream, beyond the jurisdiction of BWSSB and BBMP. As a result, the sewage load projected above by BWSSB does not account for these developing areas. Therefore, as these areas are developed, it is essential to establish a proper underground drainage (UGD) network and treatment facilities. Without these provisions, the proposed network may not be adequate to handle future sewage loads. Therefore, it is crucial for BWSSB to immediately implement the proposed sewage network plan in the upstream catchment areas of Puttenahalli Lake to ensure the lake's long-term survival. Also, the BDA and panchayat authorities are required to submit their future action plans regarding their sewage network and WwTP.

Whereas the Central Government Guidelines dated 21.07.2022 states that "as per the revised Guidelines dated 21st July, 2022 (copy enclosed), projects/activities proposed to be located within Conservation Reserves notified under the Wild Life (Protection) Act, 1972 do not require consideration by the Standing Committee of National Board for Wild Life" and vide the above mentioned facts, as there is no alternative route for laying the proposed 1600 mm dia pipeline for diversion of Storm water and laying of 700 mm dia trunk sewer pipeline other than the walkway of Puttenahalli lake bund to have continuous SWD and as the discharge of sewage/contaminated water inside the Puttenahalli Bird Conservation Reserve is a violation of Section 32 of the Wildlife (Protection) Act, 1972 and as such it is necessary to prevent sewage/contaminated water from entering the Puttenahalli Bird Conservation Reserve so as to support the local avifauna, it is necessary to permit the said work with certain conditions. Hence, the following order,



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**: Order:**

As per the circumstances explained in the preamble and in exercise of powers under Section 33 (e) read with Section 36A (2) of the Wildlife (Protection) Act 1972, permission is hereby accorded to lay the proposed 1600 mm storm water hume pipeline and 700 mm dia trunk sewer pipeline along with necessary structures so as to prevent the entry of sewage/contaminated water in Puttenahalli Bird Conservation Reserve in the interest of the long term conservation of the said reserve and the dependent bird population with the following conditions.

**Conditions: -**

1. Care should be taken not to disturb the wildlife species and their habitat during construction activities.
2. The user agency and project personnel will comply with the provisions of the Karnataka Forest Act & Rules, Wildlife (Protection) Act, 1972 and Environment (Protection) Act, 1986.
3. The muck generated during the project implementation shall be taken out of the Conservation Reserve area without endangering the flora and fauna.
4. The work shall be taken up only under the close supervision of the jurisdictional officers & staff, to avoid any damage to the flora and fauna.
5. The implementing agency shall abide by the conditions laid down by the forest officials in charge of the project area in the interest of protecting and minimizing disturbance to wildlife during construction phase and after completion of the project.
6. After the completion of the work by BBMP and BWSSB the area shall be restored its original nature at their own cost.
7. Agencies like BWSSB, BBMP, BDA, Karnataka State Pollution Control Board and Village Panchayats should draw a long-term plan for the catchment to ensure that sewage does not enter the lake through any source and does not harm the habitat of birds in the Conservation Reserve.
8. Necessary financial allocation shall be made by the BBMP and BWSSB for any additional habitat improvement works as proposed in consultation with local Forest Department officials.

  
26/7/24

**Principal Chief Conservator of Forests  
(Wildlife) and Chief Wildlife Warden  
Karnataka**