अण्डमान तथा निकोबार द्वीपसमूह समन्वित विकास निगम लिमिटेड
(सरकारी उपक्रम)
**ANDAMAN AND NICOBAR ISLANDS**
**INTEGRATED DEVELOPMENT CORPORATION LTD**
**(A Government undertaking)**

अ.नि.द्वी.स.वि.नि.
ANIIDCO

F. No. 1-1552/ANIIDCO/Projects/2021-22/Vol-II/121 Dated: 5th April, 2021

To

The Member Secretary
Expert Appraisal Committee (Infra-1)
MOEF&CC
Government of India,
New Delhi – 110001

Sub: TOR Application for EIA study for Holistic Development of Great Nicobar Island -reg

Sir,

This has reference to the comments of the Expert Appraisal Committee (EAC) in its meeting held on 17-18th March-2021 for TOR application for EIA study for Holistic Development of Great Nicobar Island.

The point-wise response of A&N Administration on the comments of EAC, MOEF&CC, prepared by Technical Consultant M/s AECOM India Pvt. Ltd., appointed by NITI Aayog is enclosed. We are also circulating the response of A&N Administration to all the EAC members.

You are requested that the response of A&N Administration may please be placed before the EAC meeting to be held on 6th April 2021.

Yours faithfully

Encl:A/a

(Anjali Sehrawat, IAS)
Managing Director,ANIIDCO

Copy to:
1. The Advisor, NITI Aayog, New Delhi
2. Shri. Abhishek Malhotra , Technical Director, M/s AECOM India Pvt. Ltd,.

Managing Director, ANIIDCO

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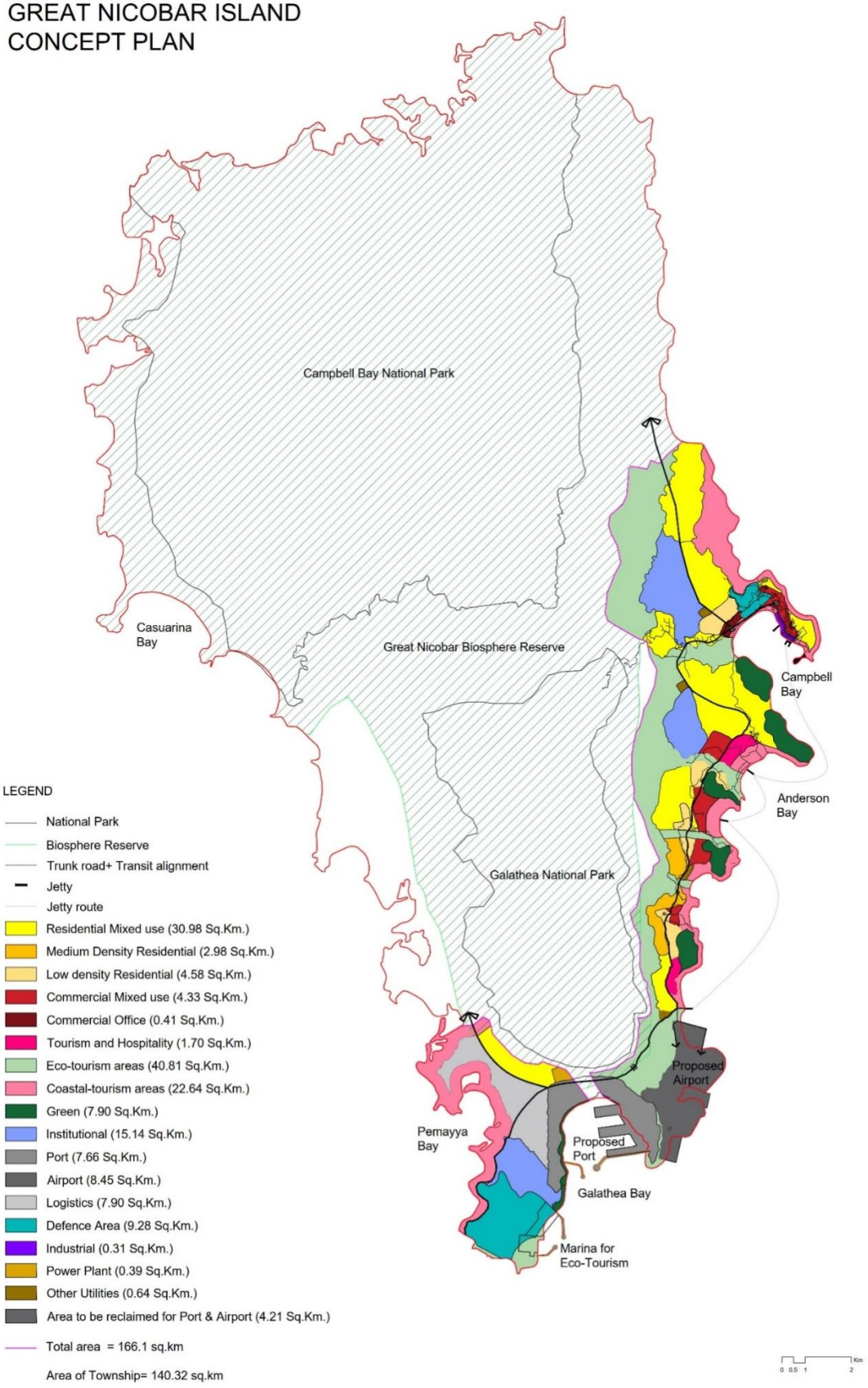
**Comment i: Details of Township & Area Development project for which 14960 ha of land will be require out of 16610 ha, however, no details have been provided. Details regarding component of Township & Area development project along with proposed land use, site grading shall be submitted. A note on feasibility of habitation in light of hazards such as seismic, Tsunami etc to be included.**

**Response i:**All details related to township are provided in section 4.6 of PEFR.

Extract from the submitted report is as below:

| **LANDUSE AREA CHART- GNI** | | |
|---|---|---|
| **Land Use Category** | **Area (sq.km.)** | **Percentage (%)** |
| **RESIDENTIAL** | **36.66** | **22.07** |
| Residential Mixed-Use (Medium density) | 29.1 | |
| Residential (Medium Density) | 2.98 | |
| Residential Low Density | 4.58 | |
| **COMMERCIAL** | **6.44** | **3.88** |
| Commercial Mixed-Use | 4.33 | |
| Commercial Office | 0.41 | |
| Tourism and Hospitality | 1.70 | |
| **INSTITUTIONAL** | **15.14** | **9.11** |
| Institutional Campus | 15.14 | |
| **INDUSTRIAL** | **0.31** | **0.19** |
| Industrial | 0.31 | |
| **TRANSPORT** | **24.01** | **14.46** |
| Ports and Marine | 7.66 | |
| Aviation | 8.45 | |
| Logistics | 7.90 | |
| **UTILITIES** | **1.2025** | **0.72** |
| Power Plant | 0.39 | |
| Other Utilities (includes Solid Waste disposal) | 0.81 | |
| **OPEN SPACE** | **73.0575** | **43.98** |
| Greens | 9.61 | |
| Eco-Tourism | 40.81 | |
| Coastal tourism | 22.64 | |
| **DEFENCE AREA** | **9.28** | **5.59** |
| **TOTAL PROJECT AREA** | **166.10** | **100.00** |
| **TOWNSHIP AREA** | **149.60** | **90.01** |

# GREAT NICOBAR ISLAND
# CONCEPT PLAN



Legal status of proposed township area:

| **Total township area** | **149.60 Sq.km** |
|---|---|
| Revenue land | 28.27 Sq.km. |
| Revenue land (deemed forest) | 8.37 Sq.km, |
| Forest land | 112.96 Sq.km |

Regarding Site grading, all details related to port and airport are included in the PEFR. For township related site grading, same shall be conducted during the detailed engineering studies. The key guidelines for site grading will include:

- Minimal site grading in revenue lands that are currently cultivated or inhabited.
- Minimal or essential site grading on steep, forest-covered hills in revenue land..
- Little or no site grading within open space and low-impact development buffers along the coastline.
- 1-2 m fill in medium-density development areas between the low-impact development buffer and the forest-covered hills. This is the majority of our development area.
- Very minimal site grading in forest-covered hills.

Disaster mitigation strategies shall be presented during detail EIA analysis. The guidelines will include

- Creation of Tsunami shelters at high slopes away from coastline with early warning systems
- Design Guidelines for tall buildings (Above 3-4 floors), to withstand Tsunamis and High winds. The construction codes for township can be stringent to comply with these requirements. These buildings will have emergency survival supply of medicines and other basic necessities like drinking water, dry foods etc.
- Earthquake- and hurricane-resistant building codes shall be part of the development plan,
- Periodic inspection of these buildings to ensure the survival supplies.
- Open space and conserved plantation along the coastline as described in the PEFR.

**Comment ii:Detailed requirement of the freshwater along with the source of water for various component of the project detailing water budget shall be calculated and submitted.**

The total Water Demand for the project area is estimated at 160 MLD (Fresh Water Demand 90 MLD and Recycled Water Demand 70 MLD).

In order to have minimal dependency on surface water from Galathea river, it is being proposed to create rainwater harvesting reservoirs within the project area. Approximate 2.5 Sq.km of area is being identified for creation of water reservoirs which will store rainwater from surface runoff. Detail watershed studies and mathematical modeling will be carried out at the detail design stage and will be included in the EIA report. A LIDAR survey for the island was conducted for detailed terrain mapping. The data is classified as restricted by Ministry of Defense. Necessary approvals are being obtained for doing detail analysis on the LIDAR data collected. Final water sourcing will be included in the EIA report to be submitted. In case of inadequacy of water from these sources, alternate sources will be explored and presented at the time of EIA submission.

Water demand assessment for the proposed development is summarized as below:

| S. No. | Description | Water Demand in MLD |
|---|---|---|
| 1 | For Resident Population @ 150 LPCD + 15% unaccounted water as per CPHEEO for Mega Cities | 113 |
| 2 | For Floating Population @ 60 LPCD + 15% unaccounted water | 15 |
| 3 | Proposed Industries | 5 |
| 4 | Green area/Open area/Road Gutter Washing etc. | 10 |
| 5 | Port, Airport etc. | 3 |
| 6 | Hospitals/Medical Care etc. | 5 |
| 7 | Defence Area, Euro Tourism, Utilities etc. | 7 |
| 8 | Fire Demand 1% of Total (Round Off to nearest whole number) | 2 |
| | **Total** | **160** |

| S. No. | Purposes | Quantity (MLD) |
|---|---|---|
| 1 | Domestic water and other potable water requirement: | 90 |
| 2 | Flushing and other non-potable requirement: | 70 |
| | **Total water requirement** | **160** |

**Comment iii: The site proposed for Port be re-analysed in terms of impact on Leatherback Turtle and other geo-seismological view. Alternate site should also be explored as a precautionary principal.**

Detail analysis of all the probable port locations has been summarized as below.The most technically and financially feasible location is Galathea Bay. All emphasis will be to avoid any impact on the turtle nesting sites and detail mitigation strategies shall be covered in the EIA report including but not limiting to offshore break water provision to have unhindered turtle movement to nesting grounds.

Comparative analysis of all location is as below:

| Sr No. | Factor Description | Galathea Bay | Casuarina Bay | Anderson Bay | Pemayya Bay | Campbell Bay |
|---|---|---|---|---|---|---|
| 1 | **Proximity to shipping routes** | Closest to the International Shipping line (only 40 km away) | Additional distance of 35 km from Site 1 | Additional distance of 25 km from Site 1 | Additional distance of 15 km from Site 1 | Additional distance of 30 km from Site 1 |
| 2 | **Cost Risks** | Minimal | Risk of rock dredging higher as compared to site 1 | Significant as hills have to be cut for creating the Harbour basin. Presence of rock would make dredging very expensive | Significant as hills have to be cut for creating the Harbour basin. Presence of rock would make dredging very expensive | Risk of rock dredging higher as compared to site 1 |
| 3 | **Land Development** | Requires Reclamation of Land to develop Onshore Storage Facilities. | Reclamation Required is slightly more as compared to Galathea Bay. | Reclamation required is less than in Galathea bay. | Reclamation required is slightly more than in Galathea Bay. | Reclamation required is less than in Galathea Bay. |
| 4 | **Breakwaters** | Small length of breakwaters required. | Length of breakwater is more than Galathea bay but less than Anderson bay and Pemayya bay | Length of breakwaters is significantly more than the length required for Galathea bay | Length of breakwaters required is maximum of all locations | Small length of breakwaters required as compared to all other locations |
| 5 | **Environmental** | **ICRZ-Zone** | | | | |

| Sr No. | Factor Description | Galathea Bay | Casuarina Bay | Anderson Bay | Pemayya Bay | Campbell Bay |
|---|---|---|---|---|---|---|
| | **sensitivity** | Area falls partly under ICRZ Zone 1B and partially 1A. | Area falls partly under ICRZ Zone 1A. Area within biosphere reserve and partly within Campbell National Park | Area falls partly under ICRZ Zone 1A | Area falls partly under ICRZ Zone 1A | Area falls partly under ICRZ Zone 1A |
| | | **Turtle Nests** | | | | |
| | | Turtle nesting sites are present at the mouth of Galathea river. These sites will be avoided while planning the development. | Turtle nests present at site | Turtle nests present at site | Turtle nests present at site | NO Turtle nests at site |
| | | **Megapode Nest** | | | | |
| | | No Megapode Nests at site | No Megapode Nests at site | No Megapode Nests at site | No Megapode Nests at site | No Megapode Nests at site |
| | | **Crocodile Nests** | | | | |
| | | NO crocodile nests at site | NO crocodile nests at site | NO crocodile nests at site | NO crocodile nests at site | NO crocodile nests at site |
| | | **Hill Cutting** | | | | |
| | | No hill cutting envisaged | No hill cutting envisaged | Significant Hill cutting required | Hill cutting required is maximum | Significant Hill cutting required |
| | | **Habitation** | | | | |
| | | Site away from any habitation | Site close to Shompen habitation | Site close to habitation at Campbell bay | Site close to proposed Naval facilities at Indira point and to Nicobarese habitation | Site close to habitation and INS BAZZ facilities. |
| | | **Dredging** | | | | |

| Sr No. | Factor Description | Galathea Bay | Casuarina Bay | Anderson Bay | Pemayya Bay | Campbell Bay |
|---|---|---|---|---|---|---|
| | | Sufficient water depth is available close to shore. Minimal dredging is required | Shallower water depths near to shore. Dredging volume required is slightly more than Galathea bay but less than Anderson and Pemayya bay | Shallower water depths near to shore. Significant volume of dredging required. Dredging required is max among all locations | Shallower water depths near to shore. Significant Dredging required. It is more than Galathea bay and Casuarina bay | Shallower water depths near to shore. Dredging volume Required is significantly more than Galathea bay. |
| | | **Disturbance to Shompen Tribes** | | | | |
| | | No disturbance | No disturbance | No disturbance | No disturbance | No disturbance |

| Sr No. | Factor Description | Galathea Bay | Casuarina Bay | Anderson Bay | Pemayya Bay | Campbell Bay |
|---|---|---|---|---|---|---|
| 6 | **Compatibility with Overall development plan** | The location gels well with the overall development plan. However its proximity with the proposed air strip needs to be confirmed as the 125m high cranes falls within the runway funnel zone | Location falls outside Project boundary boundary and is very far from proposed township at Campbell bay. | Rehabilitation issues. Site more suitable for township development | Development is restricted. It may overlap with the defence land | Does not gel well with the overall development plan as residential, commercial office and mixed-use development have been planned at the location. Backup area fouls with the INS BAZZ Airstrip and its facilities which will have to be relocated. Area falls under highly restricted zone and CTT will have to be co-located with naval facilities. |

**Comment iv: Geographical Meteorological study report be obtained from Indian Meteorological Department and National Centre for Seismology and submit assessment with regard to the proposed activities.**

There is no IMD station in Great Nicobar Island. The data from INS Baaz station in Great Nicobar Island (Navy facility) has been procured and shall be used for all modelling studies. All relevant reports available with National Centre for Seismology will also be procured and analyzed during the EIA study.

**Comment v: Conformity of proposed integrated development in relation to latest CZMP at 1: 4000 scale and Island Development plan for Great Nicobar should be provided.**

Approvals as per ICRZ notification 2019 shall be obtained for undertaking proposed development. The CRZ maps at 1:4000 scale as mandated in the notification shall be submitted along with application for CRZ clearance.

**Comment vi. Area statement indicating total area of great Nicobar, components of proposed activities, ecologically sensitives areas and non-development areas, forest area etc., to be provided.**

Required details are as below:

| S. No. | Description | Area in Sqkm |
|---|---|---|
| 1 | Total Area of Great Nicobar Island | 910.04 |
| 2 | Forest Area | 865.84 |
| 3 | Campbell National Park* | 391.75 |
| 4 | Campbell National Park Eco sensitive Zone | 65.81 |
| 5 | Galatea National Park* | 107.10 |
| 6 | Galatea National Park Eco sensitive Zone | 14.93 |
| 7 | Tribal Reserve Area | 751.41 |
| 8 | Revenue Area | 44.20 |
| 9 | Developable area (Project area) | 166.10 |

* (The notified areas of Galathea National Park, Campbell Bay National Park and Biosphere Reserve are 110 sq. km, 426.23 sq. km and 885 sq. km respectively. However, on account of reconciliation of area of Great Nicobar Island by Survey of India vide letter dated 01.09.2020, there is revision in the area of Galathea National Park, Campbell Bay National Park and Biosphere Reserve).

Of the total 166.1 sq.km project area,

- Revenue land 44.2 sq.km,
  - Revenue land (allotted) = 23.53 sq.km.
  - Revenue land (vacant)= 6.62 sq.km
  - Revenue land (encroached) = 2.0 sq.km.
  - Others (roads and water bodies) = 3.16 sq.km.
  - Revenue land (Deemed Forest) = 8.88 sq.km.
- Forest area - 121.87 sq.km