

CITY AND INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED

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Ref. No.

No:CIDCO/EE(AP-Pushpak-II)/2014/560

Date :

1st October , 2014.

To,
The Director,
Coastal Regulation Zone,
Ministry of Environment & Forest,
Room No.143, 1st floor,
Paryavaran Bhavan,
CGO Complex, Lodhi Load,
New Delhi-110003.
Tele Fax : 011-24368526

Attn : Shri Lalit Kapur(IA-III)

Subject: **Navi Mumbai International Airport.**
- Environmental Clearance for Area Development of
Pushpak Nagar , Dapoli, Navi Mumbai.

Dear Sir,

1. As aware, Navi Mumbai International Airport has been granted Environmental and CRZ Clearance by Ministry of Environment & Forest (MoEF), Government of India vide letter No. F.No.10-53/2009-IA.III dtd. 22nd November, 2010. A copy of this letter is enclosed.
2. Although, the Corporation had sought the Environmental and CRZ Clearance for airport and airport related activities in an area 1775 Ha for which the Environment Impact Assessment (EIA) Study Report prepared and submitted to Ministry of Environment & Forest. However, MoEF has granted Environmental and CRZ Clearance for only airport area of 1160 Ha. MoEF vide the condition No. (xxxii) of above letter Quote "The Environmental / CRZ Clearance is recommended below is only for the Navi Mumbai Airport project. CIDCO shall obtain Environmental / CRZ Clearance separately for off airport facilities and other off infrastructure projects after finalising the locations and details as may be required under the EIA Notification 2006 and CRZ Notification." Unquote. Accordingly, the Corporation obtained the environment and CRZ Clearance for offsite physical infrastructure in the 112th Meeting of Expert Appraisal Committee of Infrastructure and Miscellaneous & CRZ held on 10th May, 2012.

Contd.....2/-

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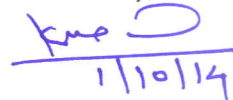
Date :

3. In pursuant G.R issued vide no. CID/1812/P.K.275/UD-10 DTD 1ST March, 2014 by Urban Department of Government of Maharashtra for rehabilitation of family in airport Zone, the Corporation has now proposed to develop a township at Dapoli in Navi Mumbai called Pushpak Nagar in an area of 230 Ha located south of Navi Mumbai airport for the project affected family whose land is being acquired for Navi Mumbai International Airport. The proposal is development of land and provision of physical and social infrastructure so as to allot the plot to airport project affected family for building construction activities.. It may be pointed out the said area (R&R and Non Aeronautical Activities) has been examined by Expert Appraisal Committee during the appraisal process for granting environment and CRZ clearance for Navi Mumbai International Airport.
4. As the proposal of area development of Pushpak Nagar requires the environmental clearance from the state and therefore we have submitted the Form-I prescribed by SEAC along with necessary documents in Annexure for seeking environment clearance. A copy of same is enclosed with this letter for your kind perusal.
5. We have given to understand that the process of reconstitution for SEAC-2 (MMR) is on and same would take considerable time. In absence SEAC-2 (MMR), it is prudent to seek Environment Clearance from the Ministry of Environment & Forest, under the provision of EIA Notification.
6. In view of above, you are requested to kindly process the proposal of Area Development of Puspkak Nagar for Environment clearance.

Thanking you.

Encl: As above.

Yours faithfully,



(K.T. Magare)

Executive Engineer (AP-Pushpak-II)

Terms of Reference (TOR)

The Area development for Pushapak Nagar is interlinked project of Navi Mumbai International Airport and Terms of Reference (TOR) were earlier given by MoEF vide letter even no F.NO.-10-53/2009-IA.-III dated 4/8/2009 and 8/2/2010.

Accordingly, the Environmental Impact Assessment (EIA) study of Navi Mumbai International Airport was prepared and submitted for appraisal to MoEF for granting Environmental & CRZ Clearance for Navi Mumbai International Airport and its airport related activities. This EIA study has other interlinked projects such as shifting of EHVT Lines, development of offsite physical Infrastructure, development of non-aeronautical area and laying of utilities related to airport.

We are of the opinion that EIA has already appraised by the EAC, the present proposal may be put to EAC for project appraisal as suggested in the condition no condition No. (xxxii) of MoEF's letter granting Environment and CRZ clearance.



Area Development of Pushpak Nagar, Dapoli, Navi Mumbai.

Project Detail

September, 2014

**City & Industrial Development Corporation of Maharashtra Ltd.
Navi Mumbai International Airport (NMIA) Office,
Tower No.10, 3rd floor, Belapur Railway Station Bldg.,
C.B.D., Belapur, Navi Mumbai-400 614.**

Navi Mumbai International Airport

Area Development of Pushpak Nagar

1.0 Background.:

The Environmental Impact Assessment (EIA) study of Navi Mumbai International Airport was prepared in accordance with the Terms of Reference (TOR) prescribed by the Ministry of Environment and Forest (MoEF) and submitted for appraisal to MoEF for granting Environmental & CRZ Clearance for Navi Mumbai International Airport and its airport related activities. This EIA study has interlinked projects such as shifting of EHVT Lines, development of offsite physical Infrastructure, Re-settlement and Re-habilitation work, development of non-aeronautical area and laying of utilities related to airport.

The Corporation had sought the Environmental and CRZ Clearance for Navi Mumbai International airport and its airport related activities in an area of 1775 Ha. However Ministry of Environment & Forest has granted Environmental and CRZ Clearance for only airport area of 1160 Ha. Vide No.10-53/2009-IA-III dtd. 22.11.2009. This letter in the Condition No. (xxxii) specified to obtain the environment & CRZ Clearance separately for airport related activities and other offsite infrastructure project.

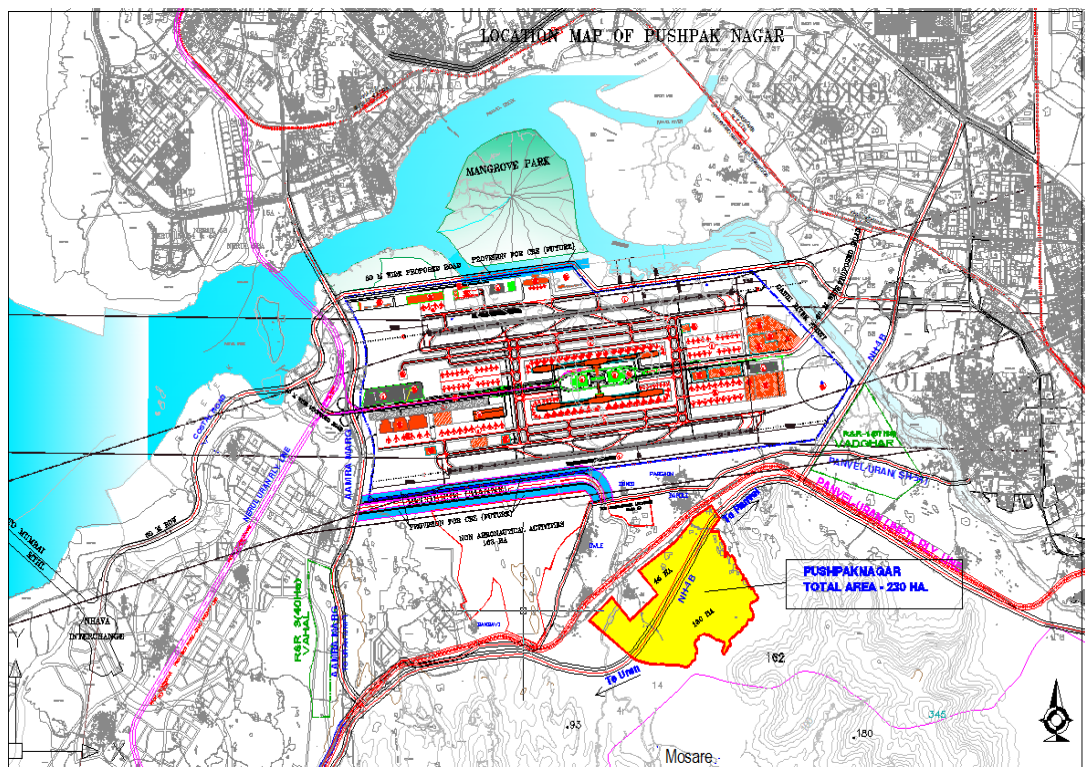
Accordingly, the Corporation obtained the environment and CRZ Clearance for offsite physical infrastructure in the 112th Meeting of Expert Appraisal Committee of Infrastructure and Miscellaneous pulse CRZ held on 10th May, 2012.

In pursuant G.R issued vide no. CID/1812/P.K.275/UD-10 DTD 1ST March, 2014 by Urban Department of Government of Maharashtra for rehabilitation of family in airport Zone, the Corporation has now propose to develop a township at Dapoli called Pushpak Nagar. The Pushpak Nagar area earmarked for R&R and Non Aeronautical Activities has been examined by Expert Appraisal Committee during the appraisal process for granting environment and CRZ clearance for Navi Mumbai International Airport. In accordance with the Condition No. (xxxii) of letter granting Environmental and CRZ Clearance of .Navi Mumbai International

Airport, Pushpak Nagar having area more than 50 Ha. i.e. 230 Ha requires state level Environmental Clearance as per EIA Notification.

2.0 Introduction:

Pushpak Nagar is located south of Navi Mumbai International Airport at Dapoli on existing National Highway at distance of 0.5 km from boundary of Airport. The total area of township is about 230 Ha and propose to be developed as self contain township with high standard of physical and social Infrastructures. The township is mainly being developed for the airport project affected family whose land in being acquired for Navi Mumbai International Airport. The proposal is of area development of land and provision of physical and social infrastructures so as to allot the plot to airport project affected family further development by them as per the applicable Development Control Regulation.



Airport and Pushpak Nagar

The Pushpak Nagar will be developed as per the approved development plan of Navi Mumbai as per nodal development plan. The land of Pushpak Nagar is in possession of City & Industrial Development Corporation Ltd.

3.0 Project Proponent

City & Industrial Development Corporation Ltd. (CIDCO), is New Town Development authority for Navi Mumbai as per the MRTP Act 1986 incorporated under the Companies Act, 1956. It is wholly owned by Govt. of Maharashtra with the mandated for development of Navi Mumbai covering an area of 343 sq km. Government of Maharashtra has notify the entire Navi Mumbai and acquired the land and handed over to CIDCO for development and disposal. Pushpak Nagar is one of the townships like Airoli, Koparkhairne, Ghansoli Vashi, Sanpada, Belapur, Kharghar, Kalamboli, Panvel and Dronagiri of the approved Navi Mumbai development plan earmarked of development for activities supporting Proposed Airport.

4.0. Project Environs

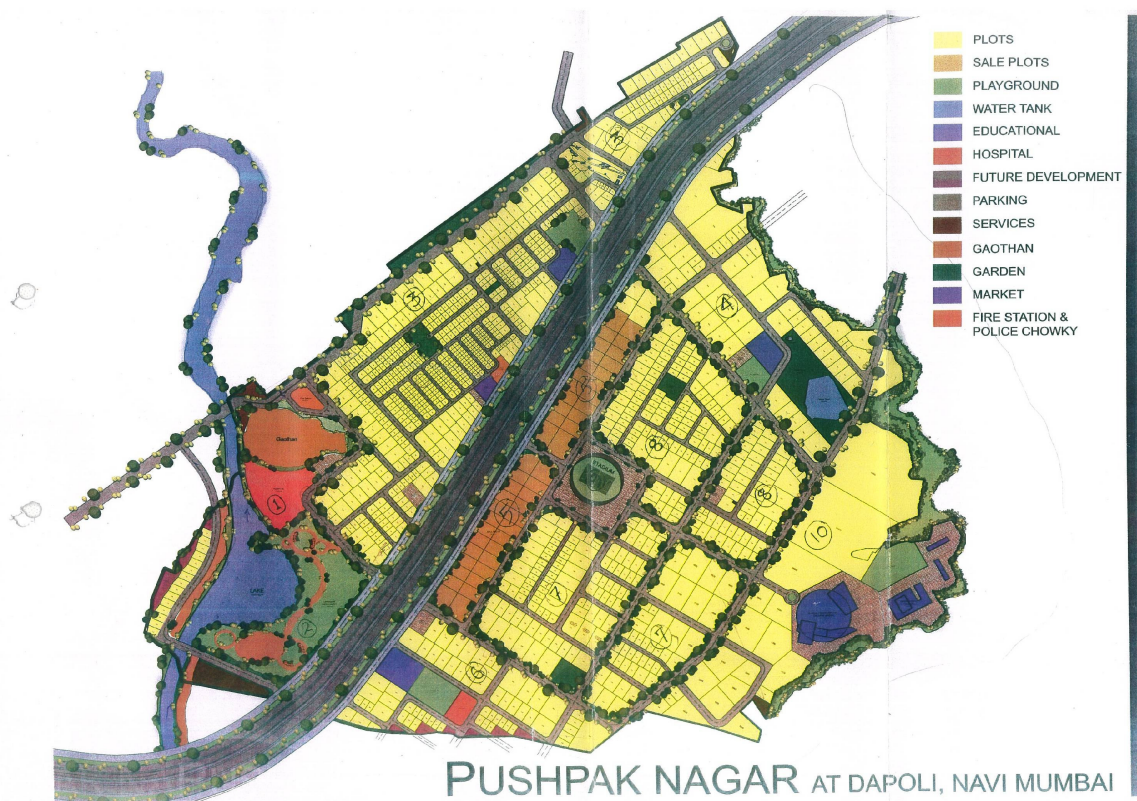
The site is presently is barren land and touch Karnala hill range. The National Highway is passing through and will provide control access to this township. The ground is more or less flat with contour varying from 10 m RL to 12 m RL. The higher contour of 30m RL more is on periphery abutting the foot Hill. In term of topography , the site has ground falling from north east towards west toward the river Ulwe. The Ulwe river running south – north direction located in the west .The land cover of 230 ha area is mostly firm barren land (90%) with gentle slope and rest has small mound (10%) with no settlement.

Geotechnical investigation carried out by taking boreholes in the entire area. 19 Boreholes were taken spread over the project site. Subsurface profile generally consists of residual soil overlaying weathered basalt bedrock. Residual soils consisting of brown soil mixed with murum up to depth of about 1m with consistency of the cohesive soils varied between very stiff to hard followed by weather basalt rock of up to depth of about 3m with R.Q.D ranges between 7% to

10% and finally hard rock's R.Q.D 100% at depth of 5m and below. Ground water table was observe at a depth 1m in the lower reach and 3m maximum towards the hill with a expectation of seasonal and annual fluctuation.

5.0. Pushpak Development Plan

Pushpak Nagar is one of 14 Townships of approved Navi Mumbai Development plan, earmarked accommodating activities supporting the development and operation of airport. An area of about 230 Ha. is proposed for area development, consisting of plots residential, residential + commercial, Physical & Social facilities such as education, playground, Health, Garden, Transport & Communication and water body. Plots of residential so develop will be allotted to project affected family as compensation against acquisition land for airport project as per approved policy of rehabilitation of Government of Maharashtra.



The project affected family will further develop and give the built-up form using floor space ratio of 2.0 couple with General Development control Rule. The residential area is about 130 Ha. The balance area of about 100 Ha is required for development infrastructure works such as multi modal highway, construction of roads, development of play grounds & gardens and beautification of existing water body. The land use statement proposed for the township as under

| Sl.No. | Land Use | Area (Ha.) | % age |
|---------------|--------------------------|-------------------|--------------|
| 1. | Residential | 110.86 | 48.03 |
| 2. | Residential + Commercial | 10.22 | 4.46 |
| 3. | Social Facilities | 20.40 | 8.90 |
| 4. | Transport | 64.51 | 28.15 |
| 5. | Green & Open | 17.25 | 7.50 |
| 6. | Water body | 6.76 | 2.95 |
| Total | | 230 | 100 |

6.0 Project Accessibility

The Pushpak Nagar is presently accessible by existing four lane road called National Highway-4B having right of way 139 m leading to JNPT. The proposal is provide service roads on either side of National Highway of 20 M with underpass connecting both the side of Puspak Nagar. The national highway is proposed to be widen to 6 lane from existing 4 lane. In future, this road is proposed to merge to Planned Multi Modal Corridor with commuter line. Panvel Rly. Station on Central/Konkan Rly. is located at a distance of 5 km. from the Pushpak Nagar site which will provide the rail accessibility at the Regional, State and National level.

7.0 Project Description

The project of area development for Pushpak Nagar is in the two parts i.e. initially Physical Infrastructure followed by social Infrastructure. The basic objective to make the entire area ready for demarcation of plots as per the nodal

development plan to enable to CIDCO make the allotment of plots to Airport Project Affected Family who in turn commence of building construction activities. The social infrastructure activities will commence along building activities and completed in advance before the population start moving in Pushpak Nagar.

Accordingly the Physical Infrastructure works to be taken initially will be land development, storm water drain, laying of primary and secondary water supply line, sub-station and cable distribution line, road construction, sewerage and waste disposal system. The proposal of Physical Infrastructures proposed for Pushpak Nagar is described as under:

7.1 Land Development

Land development works will be cutting of higher ground and filling the excavated material in the lower area in such to achieve design grade to facilitate the area drainage. Initially site inspection is made of entire area understand area well and identify area which are to preserved for adopting in nodal development plan such as pond, Temple, mound, large tree and natural drainage area.

The development level has been worked out keeping in view of high flood level of ulwe river for design storm and return period Higher ground is cut using earth moving machinery and pushing it to lower area. Using grader, area is graded to design level in layers, watered and compacted to 90% proctor density. In terms the quantity to be cut & fill put together 21 lakhs cubic meters with borrowed material 1, 50,000 cubic meters.

7.2. Storm water Drain

With the designed land development scheme, the drainage pattern will go under change and the flow will be through drains leading Ulwe river. Broadly, the proposed S.W. system will have peripheral drains at the edge abutting the foot hills which will directly take the run-off from the hill and run on the periphery of township and drain into detention pond (Lake) connected to Ulwe river. Similarly, drains are also provided on the northern peripheral to drain the storm water into the Ulwe River. The Internal S.W. drain running on the either side of the major and minor roads will carry flow from the plots and roads and discharge in to peripheral drains leading to lake and finally discharging into Ulwe river.

The S.W. Drain so connected through the peripheral drains on east and west side will cross the National Highway through the existing Culverts which are sufficient to carry the flow. An additional Culvert on the western side in the National Highway has been proposed. S.W. Drain has been designed with an intensity of 15.87 cm./hr. with a run-off coefficient 0.92 with a return period 10 Years. Concrete cast-in-situ rectangular drain with a minimum size of 0.5 mt.(W) X 0.5 mt. (D) in case of Internal Drain and 1.2 mt. (W) X 0.5 (D) for peripheral drain have been adopted and the size of the same keeps increasing commensurate to discharge. The maximum velocity of 3 mt./sec. with the manning coefficient of 0.018 has been used to design concrete drain. The desirable cleansing velocity is 1.0 mt./sec. minimum cleansing velocity is 0.75 mt/sec. The total discharge from the township is 151.00 cubic meter/sec, consisting of 101.00 cubic meter/sec from south and 50.00 cubic meter/sec from north.

7.3. Water Supply

The township is designed to have well plan water supply distribution and management system. The system will consist of Ground Storage Reservoir (GSR), Elevated Storage Reservoir (ESR), primary water distribution line and secondary water distribution line. Water distribution line will be ductile iron pipe type running underground either under the pavement or pathway. Based on projected population of 1, 80,000 & land use mix of social infrastructure and using standard norm applicable for estimation water supply demand, the total water supply demand works out 60 MLD.

Initially water supply will made available of Maharashtra Jeevan Pradhikaran (MJP) existing 1.5M Dia pipe running along state highway on north of township and finally from CIDCO own source at Hetawane which is presently supplying 100 MLD water with the sanctioned capacity of 185 MLD. Similarly, CIDCO is in the process of developing a water source from the Balganga Dam with a installed capacity of 350 MLD with the sanctioned capacity of 250 MLD for Navi Mumbai.

7.4 Power supply

The township is designed have well planed Power supply distribution and management system. Power requirement will be met from the Energy Distribution Company of Govt. of Maharashtra from the nearest sub-station located at Panvel/Ulwe .A new sub-station for stepping down of power to 132 KV and 33 KV shall be set-up in north and south by the Distribution Co. from where the power will be supplied to both the side of township. Power distribution consumer will by way of establishment of Transformer station and laying of underground primary and secondary cable. The estimated demand for power supply is 20 MVA and same will be made by power Distribution Company.

7.5 Road Network

The transport network has been well designed in per the IRC geometric standard starting from arterial road (24 M) connecting the National highway in controlled manner to distributor road (15 M to 20 M) and finally local road (11M to 12 M) commiserating with plot size and activities. Lengthwise the arterial roads are of 6km length, about 12km of distributor road and 5.5 km of local road. The minimum footpath width is 1.5m and increase to 2 m /2.5 m for distributor road and 3m for arterial.

The design of pavement based on carriageway width is considered with the sub grade CBR of 6% resulting in provision of granular sub base varying from 200mm to 250 mm, then 100mm to 175 mm of wet mix macadam followed by 75 mm of bitumen bound macadam in first stage and finally laying again 75 mm of bitumen bound macadam ,50 to 60mm dense bitumen macadam with 25 to 40mm of bitumen carpet in 2nd stage i.e. after completion of building construction. In terms of quantity for various layer of pavement works out for granular sub base 82000 cu meter , wet mix macadam 48000 cubic meter, bitumen bound macadam 48000 cubic meter, dense bitumen macadam13600 cubic meter and bitumen carpet 12000 cubic meter.

7.6. Sewerage system

A well laid sewerage network along the road network of RCC NP3 pipes of minimum diameter of 250 mm, 1.5 m deep with manhole spacing varying from 30m to 75 m shall be laid. Adequate number of scrapper and drop manhole will be provided at the required places. All sewerage lines shall be designed to flow maximum 0.8 m full at ultimate peak flow of peaking factor 3.

The waste water discharged from the various activities from township shall be treated by installation of a sewerage treatment plant in an area of 3 Ha located near the detention pond north in using SBR technology for installed capacity of 45 MLD. Treated waste water (BOD<5) so discharged from the sewerage plant would be utilized to the extent possible for gardening, flushing and washing purpose. It is estimated that 10% treated water would be made use for the above.

7.6 Solid Waste & Disposal

Solid Waste in the form of bio-degradable waste and non bio-degradable waste generated from the various activities within the township. The estimated solid waste generation is in tune 45 tones. The bio-degradable waste will be treated at the treatment plant by the landfills method, whereas the non-biodegradable waste disposal facility in the form of incinerators will be either installed or made use of existing municipal facility.

A solid waste treatment plant at Chal, Talaja has been installed by the Corporation, which is located more than 14 kms away from the township. The total area of about 15 Ha has been earmarked consisting of 7 Ha area of landfills having 7 landfills cells with an ultimate capacity of treating a solid waste of 3,65,000 MT., with a compost capacity of 65 M.T. daily. The method of treatment adopted for solid waste is of Aerobic composting by windrow method.

During the area development phase, approximately 75 kg per day of solid waste will be generated. Out of which 45kg /day will be biodegradable and 30 kg per day will be non biodegradable.

8.0 Project Cost

Based upon the facilities shown on the Pushpak Nagar layout plan, the block cost estimates of the infrastructure development which includes land development, road construction, storm water drain, sewerage system & street lighting services, social facilities(such as Community centre, Bus shelter, Garden & Park, Health / Medical, Educational etc.) & city scale development (MBR/ ESR, STP/ SPH) including power structure work activities have been worked out based on the current rates. The cost estimate is based upon Pushpak Nagar layout plan. The basic cost estimate of Pushpak Nagar is worked out and same is shown under various head in following Table

| Sr. No. | Elements | Amount (Rs. In Crores) |
|----------------|--|-----------------------------------|
| I | Physical Infrastructure Works | |
| a | Land Development | 160.00 |
| b | Peripheral & Internal roads including pathways | 120.00 |
| c | Storm Water Drain | 76.00 |
| d | Sewerage System | 33.00 |
| e | Water Supply | 45.00 |
| f | Street lighting | 10.00 |
| II | Social Infrastructure Works | |
| | (Educational , Health / Medical, Community Centre, Bus Shelter, Gardens & Parks etc.) | 40.00 |
| III | City Scale | |
| a | Water Supply (MBR/ESR / Fidder main | 18.00 |
| b | Sewerage (STP /SPH) | 35.00 |
| c | Power Infrastructure | 13.00 |
| d | Miscellaneous | 10.00 |
| | TOTAL : | 560.00 |

9.0 IMPLEMENTATION PROGRAMME:

The various works are planned to be executed as per the following programme after obtaining environmental clearance from the state .

| Sr No | Activities | Year | | | |
|-------|---|------|------|------|------|
| | | 2014 | 2015 | 2016 | 2017 |
| 1 | Land Development work | ■ | | | |
| 2 | Roads: Peripheral & internal | ■ | | | |
| 3 | Strom water Drains | ■ | | | |
| 4 | Water supply network | ■ | | | |
| 5 | Sewerage network | ■ | | | |
| 6 | ESR/GSR/MBR | | ■ | | |
| 7 | STP/SPH | | ■ | | |
| 8 | Social Amenities (School PHC & community center | ■ | | | |

The various works planned to start from October, 2014 and will continue upto 1st Quarter of 2017.

10.0 Construction Material

As far as the construction material is concerned indigenous construction material found in and around the region will be used for the construction purposes. Murum & rock obtained by cutting of elevated area within the Pushpak Nagar. The other raw materials like cement & steel, pipes etc will be brought from the nearby local sources.

11.0 Construction Environment

During the construction stage of the proposed facilities number of local and migrating, (comprising of both skilled and unskilled) workers approx. average 300/day initially and peaking to the level of 1500/day will be involved. For the migrating workers temporary hutments with adequate drinking water, proper sanitation facilities along with provision of fuel (kerosene or fuel) will be provided. As far as the safety and health of the construction workers is concerned, workers will be provided with helmets, ear muffers and other safety gadgets. First aid arrangement with ambulance facility will be provided along

with a Medical Examination (ME) room to attend the accidental cases and cases with minor injuries. Proper hygiene and sanitation will be maintained in and around the worker's colony to avoid spread of any epidemic. Provision will be made to have regular health check-up of the workers with proper treatment facilities to prevent spread of common endemic air and water borne diseases.

12.0 Project Benefits

The Pushpak nagar project is going to benefit the project affected family by way of enhancement land value owing to presence of airport project. This benefit which was earlier going real estate entrepreneur would come to project affected family and induced entrepreneurship in them. Beside above, many activities which will be attracted due to construction and operation of airport would get residential and commercial space in the townships. Thus Pushpak nagar project would not only benefit the local & support airport but contribute balance development of Navi Mumbai. .