Next Date: 20/02/2023

BEFORE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO. 94 / 2016 (WZ)

BETWEEN

Mr. Dinbandhu Singh & Ors ..... Applicant

Versus

M/s Serene Developers & Ors ..... Respondent

ADDITIONAL SUBMISSIONS BY RESPONDENT NO. 01 M/S. SERENE DEVELOPERS

INDEX ON NEXT PAGE





Filed by: **Pune, 15/Feb/2023**

Advocate Sachin S. Gore सचिन गोरे
M.Sc. (Environmental Science), L.L.M Crime.
Office: 601, 6th floor, Rohit Park II, S.No. 71/3A, Morya Col., Near Tapkir Vidyalaya, Tapkir Chowk, Kalewadi, Pimpri, Pune-411017.
Email: ssgore2005@gmail.com Cell: 7350212877

INDEX

Sr.	Ax.	Date	Particulars	Page
1.		-	Contact Details of Parties	2540
2.			Abbreviations used	2542
3.		-	Diary of Events	2544
4.			Additional Submissions by Respondent No. 01	2545
5.	R1	2017-03-14	MoEFCC Gazette Notification for handling violation cases	2574
6.	R2	2018-03-16	MoEFCC OM for compliance with the order dated 14/03/2018 of the Hon'ble High Court of Judicature at Madras	2578
7.	R3	2018-04-13	PP's EC Proposal under violation notification 14/03/2017 on the ECMPCB portal	2580
8.	R4	2019-09-09	MoEFCC OM for Clarification of Category B violation proposals at the State Level (SEIAA)	2582
9.	R5	2019-12-26	SEAC III 100th Minutes of Meeting (ToR granted)	2584
10.	R6	2021-02-23	MoEFCC OM for Processing of files for grant of ToR and EC through PARIVESH	2598
11.	R7	2021-11-29	SEIAA Circular for processing of an application pending on the ECMPCB portal	2599
12.	R8	2022-01-05	PP's Re-submitted on the PARIVESH portal	2600

Sr.	Ax.	Date	Particulars	Page
13.	R9	2022-03-23	NGT Order of OA 64/2019 Tanaji Balasaheb Gambhire v/s UoI [Ekta Housing]	2601
14.	R10	2022-03-25	SEAC III 136th Minutes of Meeting	2609
15.	R11	2022-04-21	SEIAA 242nd Minutes of Meeting	2611
16.	R12	2022-05-10	Letter by Principal Secretary to Serene Developers	2612
17.	R13	2022-07-12	MPCB circular for penal fee	2613
18.	R14	2022-07-14	Hon'ble Supreme Court order in Civil Appeal no. 4494/2022 in 'Ekta Housing Pvt Ltd Vs. Tanaji Balasaheb Gambhire'	2615
19.	R15	2022-12-26	Acknowledgment of EIA report submission on PARIVESH portal	2617
20.	R16	2022-12-DD	CPCB 'General Framework for Imposing Environmental Damage Compensation'	2627
21.	R17	2023-02-06	CA Certificate of Rs.99.59 Crores for the Actual; expenses of the site.	2665
22.	R18	-	Supporting Citations	2666
23.	R19	-	Compliance Report of EMP	2792
24.	R20	2023-02-09	Complaint raised to PARIVESH portal technical department	2814
25.	R21	2021-01-12	CPCB Harmonization of classification of Industrial Sectors into categories	2815
26.	R22	-	Details of Area Statement	2821
27.	R23	2019-08-28	SEIAA 174th Minutes of Meeting	2822

Sr.	Ax.	Date	Particulars	Page
28.	R24	2022-05-17	Present STP Monitoring reports	2835
29.	R25	2022-01-21	Hon’ble Supreme Court Judgement in Civil Appeal no. 1046/2019 in of Kantha Vibhag Yuva Koli Samaj Parivartan Trust Vs. State of Gujarat	2842
30.	R26	2015-02-20	Memorandum of Understanding between PP and Society	2859
31.	R27	2016-10-24	MPCB Site Inspection Report	2868
32.	R28	2022-12-26	Submitted EIA report, CS, Form 1, and 1A under the violation window	**2873-3085**

CONTACT DETAILS OF PARTIES

BETWEEN

…… APPLICANTS

1. **Dinbandhu Singh**
   R/at Flat No. E-304, Air Castles Co-Operative Housing Society Limited, Next to Alard College Marunji,
   Hinjewadi, Pune - 411057
   E-mail :
   Phone :

2. **Gaurav Mehrotra**
   A/at: Flat No. K-202, Air Castles Co-Operative Housing Society Limited, Next to Alard College Marunji,
   Hinjewadi, Pune - 411057
   E-mail :
   Phone :

3. **Jitin Vyas**
   A/at: Flat No. A-804, Air Castles Co-Operative Housing Society Limited, Next to Alard College Marunji,
   Hinjewadi, Pune - 411057
   E-mail :
   Phone :

4. **Shambhu Kumar**
   A/at: Flat No. M-604, Air Castles Co-Operative Housing Society Limited, Next to Alard College Marunji,
   Hinjewadi, Pune - 411057
   E-mail :
   Phone :

5. **Sujit Shivajirao Channagire**
   A/at: Flat No. K-303, Air Castles Co-Operative Housing Society Limited, Next to Alard College Marunji,
   Hinjewadi, Pune - 411057
   E-mail :
   Phone :

VERSUS

…… RESPONDENTS

1. **Serene Developers**
   ICC Trade Towers, Senapati Bapat Road, Pune-411016
   through its Partner, 1A. Mr. Jeetu Alias Jitendra Sunder Panjabi,
   Add/at: ICC Trade Towers, Senapati Bapat Road, Pune - 411016
   1B. Mr. Vineet Krishnakumar Goyal
   ICC Trade Towers, Senapati Bapat Road, Pune - 411016
   E-mail : jeetuspanjabi@gmail.com
   Phone : 9822880800

2. **Union of India**
   Represented by its Secretary,
   Ministry of Environment and Forest, Delhi
   Paryavaran Bhawan, CGO Complex, Lodhi Road,
   New Delhi -110001
   E-mail : secy-moef@nic.in
   Phone : 1124695262

3. **State of Maharashtra**
   through its Chief Secretary,
   Annex Building, Mantralaya, Fort Madham Kama Road, Mumbai - 400032
   E-mail : chiefsecretary@maharashtra.gov.in
   Phone : 02222886141

4. **District Collector, Pune**
   Add/at: Pune Collectorate, Pune - 411001
   E-mail : rdc.pune-mh@gov.in
   Phone : 02026122114

5. **Pune Metropolitan Region Development Authority, Pune**
   through its Chief Executive Officer
   Add/at: Sr. No. 152, 153, Maharaja Sayaji Rao Gaikwad Udyog Bhavan, Aundh, Pune - 411067
   E-mail : comm@pmrda.gov.in
   Phone : 02025933344

6. **Maharashtra Pollution Control Board**
   Add/at: Kalptaru Point, 3rd Floor, Near Sion Circle, Opp. Cine Planet Cinema, Sion (E), Mumbai - 400022
   E-mail : ms@mpcb.gov.in
   Phone : 02224020781

7. **State Level Environment Impact Assessment Authority (SEIAA-Maharashtra)**
   Add/at: 15th Floor, New Administrative Building,
   Mantralaya, Fort, Madham Kama Road,
   Mumbai - -400032
   E-mail : psec.env@maharashtra.gov.in
   Phone : 02222819517

ABBREVIATIONS USED

Short	Full-form
Ax.	Annexure
BUA	'total covered built-up construction area including FSI and non-FSI'
CA	Chartered Accountant
CRAP	Community & Resource Augmentation Plan
CTE	Consent to Establish
DC	Development Control Rule
DG	Diesel Generator
EC	Environment Clearance
ECMPCB	Environment Clearance Maharashtra Pollution Control Board
EDA	Environmental Damage Assessment Plan
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FSI	Floor Space Index
GOVT	Government
JMFC	Judicial Magistrate First Class
LED	Light Emitting Diode
LPA	Local Planning Authority
MA	Miscellaneous Application
MH	Maharashtra
MoEFCC	Ministry of Environment, Forests, and Climate Change

Short	Full-form
MOFA Act	Maharashtra Ownership of Flats Act
MoM	Minutes of Meeting
MoU	Memorandum of Understanding
MPCB	Maharashtra Pollution Control Board
NA	Not Applicable
NGTA	National Green Tribunal Act 2010
OM	Office Memorandum
OWC	Organic Waste Convertor
PG	Potential area
PP	Serene Developers – Respondent No.1
RCC	Reinforced Cement Concrete
RG	Recreational ground
RP	Remediation Plan
SEAC	State Expert Appraisal Committee
SEIAA	State Environment Impact Assessment Authority
Sq. ft	Square Feet
Sq. mtrs	Square Meter; area measurement unit
STP	Sewage Treatment Plant
TDR	Transferable Development Rights
ToR	Terms of Reference
WTP	Water Treatment Plant

DIARY OF EVENTS

Sr.	Date (y-m-d)	Activity / Particulars
1.	2014/01/10	MoM of 3rd SEAC-III Meeting
2.	2014/09/10	MPCB CTE
3.	2015/04/DD	MoM of 29th SEAC-III Meeting
4.	2016/03/12	MoM of 97th SEIAA Meeting
5.	2018/04/13	Application for Violation
6.	2019/03/29	MoM of 84th SEAC-III Meeting
7.	2019/08/28	MoM of 174th SEIAA Meeting
8.	2019/12/26	MoM of 100th SEAC-III Meeting
9.	2022/12/26	EIA report submission of Parivesh portal

MOST RESPECTFULLY SUBMITTED:

1. I, Jeetu Alias Jitendra Sundardas Panjabi, (hereafter referred to as a PP), age 43 years, occupation business, being Respondent No.1A, for self and as a partner of M/s. Serene Developers being Respondent No.1, having site office at S.no 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 At post-Marunji, Tal. Mulashi. Dist Pune 411057 of Respondent No.1, do hereby state on solemn affirmation as under:

2. This is in continuation with the earlier submission filed by the PP. We are re-iterating all earlier submissions of the past. This submission is related to compliance, factual developments, and the current status of the project.

3. **IT IS ADMITTED POSITION THAT;**

a. PP has applied for the EC under the violation window but has not received the same yet.

b. The earlier 'Consent to Establish' granted by MPCB on 10/09/2014 has expired, after five years (09/09/2019).

c. Part occupation is granted in the year 2014 to 416 tenements in 13 buildings/wings.

4. **IT IS ALSO SUBMITTED THAT:**

a. The first application for EC was made on 08/11/2010

for 615 tenements. The total covered built-up construction area' was 73221 m^2. PP again application for EC was made in 2012 for a total of 698 tenements. PP again application for EC was made in 2015 for a revised number of tenements i.e.,738 tenements.

b. **The application for EC was made on 13/04/2018 under the violation Notification 14/03/2017** window. As per changes in application point/procedure, the application was first made to MoEFCC EAC New Delhi, then to SEIAA-Maharashtra ECMPCB, and then again to SEIAA-Maharashtra through the PARIVESH portal.

c. All Notifications, be it EIA Notification 14/09/2006 OR Violation Notification 14/03/2017, stand on the equal legal pedestal and footings. The procedure in Violation Notification 14/03/2017 is compelling and binding as the EIA Notification 14/09/2006; as they stand on the same pedestal of legal hierarchy.

d. Window period can expire, but that doesn't dispense and expire the statutorily expressed sensibility in the Violation Notification of 14/03/2017. In this particular matter OA 94/2016 (WZ) Dinbandhu Singh, the PP (Serene Developers) has applied within the window period. <u>The Violation Notification 14/03/2017 gives the substantive right to the PP to apply and obtain the</u>

EC for the past violation. This substantive legal right is *at penal cost and strict rigour of procedure* but is no inferior to the initial EIA Notification 14/09/2006 which stipulates the need for EC.

e. PP has provided measures for '**pollution control**' i.e., STP (450 m^3/day) and OWC (500 kg/day).

f. Then the possession was given to buyers/occupants in the year 2014.

g. PP has also provided features as per EMP for the **betterment of the environment and sustainability**, i.e., solar water heater 52,000 liters, LED lighting, WTP, storm water drains, rainwater harvesting, groundwater re-charge pits (11 no.), green belt, tree plantation (535 trees), garden area, RG / PG and open spaces, power supply from MSEDCL (3155 kW) and stand-by power by DG sets (1 x 125 kW & 1 x 160), etc. complete.

h. PP has spent more than Rs.1 Crore as capital cost for EMP and also recurring costs during the period from 2014 to 2023.

ALL THIS NEEDS TO BE VERIFIED BY STATUTORY AUTHORITIES LIKE SEIAA AND MPCB.

5. THE JUSTICE TO ENVIRONMENT WILL BE DONE IF;

a. PP obtains the 'Environmental Clearance' as per Violation Notification 14/03/2017 and OM

07/07/2021 and OM 28/01/2022.

b. PP does EIA Study including 'Environment Damage Assessment' (EDA), 'Community & Resource Augmentation Plan' (CRAP), and cost towards the 'Remedial Plan' (RP) AND pays for that.

c. As per the statutory scheme of MoEFCC as per violation **Notification 14/03/2017** and even the **OM 07/07/2021** and OM 28/01/2022, this is to be done by NABET Accredited Consultant;

d. The specialization required for field data/samples collection and analysis (by MoEFCC Recognized fully equipped Laboratory approved under EPA 1986 as per Rules 15 & 16), EIA Report along with other Reports like EDA, CRAP & Remedial Plan preparation by NABET Accredited Consultants with individually specialized Field Area Experts, then appraisal (SEAC), approval (SEIAA) is the sensible technically specialized arrangement that MoEFCC made, statutorily in Violation Notification 14/03/2017. This arrangement can't be altered by NGT by a mathematical oversimplified non-technical assessment, based on a site visit but without a scientific assessment.

e. This same scientific procedure mentioned in violation Notification, after wisdom evolved from

various Judgements of the Hon'ble Supreme Court, is further re-iterated by MoEFCC, in OM 07/07/2021 and OM 28/01/2022. If Hon'ble Tribunal is not convinced with this technical division of specialized efforts between MoEFCC Labs, NABET Accredited Consultants, SEAC, and SEIAA, then they can ask MoEFCC to suggest a scientific alternative. But Hon'ble Tribunal can't substitute it with just a fact-finding 'Expert Committee' report and determine randomly on an ad-hoc basis by an oversimplified mathematical formula like 5 to 10% of the cost of the construction project. This amounts to usurping and assigning the powers of the MoEFCC and giving them to the 'Expert Committee'. There is no scientific sanctity OR validation of it backed by past data.

f. Each Member of the Committee, just because he is drawn from relevant organizations, doesn't become an 'expert' OR substitute for the job of 'field sampling and analysis' without sample collection & analysis in the laboratory, 'EIA Study along with 'Environmental Damage Assessment', Community & Resource Augmentation Plan', 'Remediation Plan' and 'Environmental Damage Compensation' without FAEs under the guidance of EIA Coordinator. Unless these studies are done, mere ad-hoc random simplified mathematical computation, totally dispensing the scientific study

and basis, is untenable, incorrect, and unacceptable.

g. Moreover, the degree of pollution caused, the potency of the polluting parameters, and its impact on the environment beyond sustainability, ought to be measured and assessed and the cost of restoring the environment must be computed. The '***polluter pays principle***' fastens the strict and absolute liability of the '***polluter***'. During the construction phase, PP is liable for the pollution. But when all pollution control measures are provided, and handed over to the buyers/occupants/user/society, then it is the responsibility of the 'occupant' to comply with all the environmental regulations under 'The Environment (Protection) Act 1986', 'Water (Prevention and Control of Pollution) Act 1974', 'Air (Prevention and Control of Pollution) Act 1981' and any Notifications issued under it from time to time. The operational, repair, upkeep and maintenance responsibility will be that of the 'occupant' under these Acts as well and also as per the 'polluter pays principle'.

h. SEAC and SEIAA-Maharashtra are the statutory authorities for doing the appraisal and approval of this EDA, CRAP, and RP

i. Occupants are staying in the flats they bought.

There is no deficiency in the premises purchased and taken over by them. Under the MOFA, PP was obliged to give possession of the flats in the stipulated time. As such, so as not to cause further delay, the premises were handed over as soon as they were ready. They are using toilets and kitchens. Sewage is generated from it. Garbage also is generated by the Occupants. STP and OWC are already provided by the PP in the fully operational condition right at the time of possession. PP made an MOU dated 20/02/2015 **(■ ANNEXURE – R26)** to hand over the services to the society committee through a letter dated 21/09/2016 (Page no. 885 of R1 submission). The water is being supplied by the PP even now, at PP's cost, as the water supply is not provided. The tanker water is supplied for free, but the PP is paying for it. Water softener plant also has been provided for softening of water. Free Bottled water is provided for drinking and human consumption purposes.

j. PP, can pay and bear the capital cost towards providing the system in place as per the 'Environment Management Plan'. Equipment like STP and OWC are for 'pollution control'. Other systems, equipment, and features are for the sustainability of the project, conservation, and betterment of the environment. But the entire

responsibility of operation and operational cost of treatment (manpower, electrical power, consumables) will have to be always borne by the user and generator of pollution as per 'strict and absolute responsibility'. If there is a basic deficiency in the EMP or the pollution control devices OR it's not provided at all, then it will be at the cost of PP. But if those are not operated properly OR 'Consent to Operate' is not obtained by the 'occupant' or society, then that shall be the lapse on the part of the occupants.

k. PP obtains 'Consent to Establish' for the 'total covered built-up construction area including FSI and non-FSI';

l. PP should apply to MPCB for 'Consent to Establish' and 'Consent to Operate', AND

m. PP should pay the penal fees to MPCB for the lapsed period.

6. <u>ENVIRONMENT DAMAGE COMPENSATION</u>:

a. Carbon Footprint and cost associated due to that as EDA is a totally non-scientific concept. Whether the construction is done with EC or without EC, it requires same amount of steel, cement, sand, and all construction material. As such Carbon Foot print doesn't change by obtaining EC. Cost of Carbon Foot print has no absolute value attached to it.

Market value is by fiction of traded value on unauthorised exchanges. There is no standard under EPA or Notification in respect of Carbon Footprint.

b. The CPCB in December 2022 has Web-Published a formal document for the public at large and not limited to any one single case, for the much wider us ***'General Framework for Imposing Environmental Damage Compensation'*.**

https://cpcb.nic.in/openpdffile.php?id=UmVwb3J0RmlsZXMvMTQ5NV8xNjcxNzkyNjg5X21lZGlhcGhvdG8yOTM4LnBkZg==

c. CPCB had issued previous guidelines in Paryavaran Surksha Samiti matter OA 593/2017 before NGT in the year February 2021. It was case-specific and it was for industries, as evident from the Chapter-I Title. However, recently CPCB issued a **'General Framework for Imposing Environmental Damage Compensation' in December 2022**. **(■ ANNEXURE – R16). The methodology in it is consistent and in line with the Notification of 14/03/2017 and OM 07/07/2021.** The Notification was not containing a specific methodology, though it had specified who should do it. Hon'ble Tribunal should direct SEIAA to consider this for the computation of EDA compensation.

d. PP has submitted EIA with all Reports as required

by Violation Notification 14/03/2017 along with Form 1, 1A, CS to SEAC and then SEIAA. Whatever EDA and EDC are assessed, appraised, and approved by SEIAA shall be deposited by PP. It will be as per the modality prescribed in the legal Notification. **(■ ANNEXURE – R28)**

e. The Supreme Court on Tuesday took strong exception to the manner in which many Tribunals were passing orders based on reports of committees and experts, without actually hearing the parties to the case [M/S Jindal Saw Limited vs State of Rajasthan and anr].

f. A bench of Justices BR Gavai and CT Ravikumar pulled up the National Green Tribunal (NGT) for passing one such order without hearing the party to the case.

g. Senior Advocate Ranjit Kumar, appearing for the appellant in a case challenging the NGT order, submitted that the ruling by NGT imposing a heavy fine was passed without hearing his client.

h. Further, it was contended the Tribunal had ignored findings that the damaging blasts in question were not attributable to the appellant company.

i. "How are these Tribunals functioning, passing orders based only on committee reports, without giving notice to parties? Total violation of principles

of natural justice," Justice Gavai remarked.

j. Justice Ravikumar weighed in saying that there were several such instances with the matters ending up before the top court.

k. The Supreme Court had in April 2022 bemoaned the fact that every case before a lower court or Tribunal was ending up before the top court.

l. "We do not want to use the word, but the legislature has been dumb in this regard. We don't want to use the word but that is the word ... every case ultimately ends up in this Court," Justice KM Joseph had remarked.

7. **WITHOUT PREJUDICE**, PP is ready and willing to undergo the rigour of violation Notification, OM as per CPCB's General Framework for imposing Damage Compensation. Their pending application should be considered on merit. PP is willing to bear the cost of any pending EMP, EDA, CRAP, and RP as determined, appraised by SEAC and approved by SEIAA. PP is willing to pay penal fees towards lapsed period to MPCB as per Circular 12/07/2022.

8. **JUDGEMENT ON LIMITATION,** MA 56/2017 was filed by the PP on the grounds of the limitation u/s 14 and 15 of NGTA 2010. The same was not pressed by the PP. But PP requested to Hon'ble Tribunal to provide the last opportunity for PP to make his final submission on the

limitation by considering Hon'ble NGT Principal Bench Judgement: In matter no. OA No.31/2020 (Shashikant Kamble vs M/s Embassy Property Development Pvt Ltd), the Hon. Principal Bench of the NGT has upheld the objection of limitation and dismissed the application as no part of the cause of action had arisen within five years prior to the filing of OA. **[Ax. ■: NGT Judgment dated 10/02/2022].** I say and submit that the Hon'ble Tribunal has no power to condone the delay beyond the limitation period. **Page: 2 Para: 5,6 & 7**

"5. The PP has filed a reply inter alia raising the plea of limitation. It is submitted that no part of cause of action has arisen within five years prior to filing of the OA. No continued violation pointed out. Thus, the Tribunal cannot entertain the application beyond statutory limitation.

6. We have heard learned counsel for the parties.

7. We find that the petition was filed on 04.02.2020 and no cause of action in five years preceding the filing of OA has been pleaded. In view of the above, we uphold the objection of limitation and dismiss the application. I.A. No. 136/2020 also stands disposed of."

Hon'ble NGT Western Zone Bench Judgment: MA 74/2015 in OA 10/2014(WZ) Lakhan Musafir V/s Sardar Sarovar Narmada Nigam Ltd.: (s.14 is to be read with s.15 and 18, jointly)

Page: 38, Para: 27 of the Judgement

"Coming to Sub-clause (3) of Section 15, it is manifest that any Application for grant of compensation or relief or restitution of property, or environment under Section, can be entertained by the Tribunal only if it is made within period of five (5) years from the date on which cause of action for such compensation or relief first arose. Here is the distinguishing line between Sub-Section (1) of Section 14 and Sub-section (3) of Section 15 of the NGT Act, 2010. While Section 14 (3) governs domain of "adjudication of dispute arising out of implementation of enactments specified in Schedule-I, or any substantial question relating to environment and then the limitation period would trigger from date on which cause of action for 'such dispute' arose first". Sub-section (3) of Section 15, relates to limitation period of five (5) years in respect of cause for such "compensation or relief" whatever it may be, first arose. There is much difference between process of adjudication of dispute and process of making provision for grant of relief or restitution of property/environment. In our opinion, Section 15 of the NGT Act, 2010, gives discretion to the Tribunal to provide for relief and compensation to victims of pollution, restitution of property damaged due to degradation of environment for such area etc. Needless to say, reliefs sought under Section 15, are not required to be mandatorily granted unless and until adjudication of dispute under Section 14, is completed. For example, compensation to victims of pollution cannot be contemplated unless and until the dispute regarding environmental question arising out of implementation of

enactments specified in Schedule-I, or legal right pertaining to violation of mandate of environment is settled, which could show that such Applicant is victim of any violation of enactments specified in Schedule-I, of the NGT Act, 2010, or that it is clear case of an accident, admittedly being result of environmentally adverse impact. In other words, Section 15, cannot be isolated from Section 14 and Section 18 of the NGT Act. All these provisions will have to be considered together."

Page: 50, Para: 33 of the Judgment

"We are aware that this Tribunal is not bound by procedure laid down by the code of Civil Procedure, 1908, but shall be guided by the under principles of natural justice, as provided under Section 19(1) of the NGT Act, 2010. At the same time, Sub-Section (4) of section 19, gives power to the Tribunal which indicate that the NGT has all trappings of "Civil Court". The power to restitute a property under the code of Civil Procedure, 1908, is provided under Section 144, which reads:

"Section 144

144. Application for Restoration.-(1) Where and in so far as a decree [or an order] is [varied or reversed in any appeal, revision or other proceeding or is set aside or modified in any suit instituted for the purpose, the Court which passed the decree or order] shall, on the application of any party entitled in any benefit by way of restitution or otherwise, cause such restitution to be made as will, so far as may be,

place the parties in the position which they would have occupied but for such decree [or order] or [such part thereof as has been varied, reversed, set aside or modified]; and, for this purpose, the Court may make any orders, including orders for the refund, which are properly [consequential on such variation, reversal, setting aside or modification of the decree or order].

***[Explanation**- For the purposes of sub-section (1) the expression "Court which passed the decree or order' shall be deemed to include-*

***(a)** Where the decree or order has been varied or reversed in exercise of appellate or revisional jurisdictions, the Court of first instance;*

***(b)** Where the decree or order has been set aside by a separate suit, the Court of first instance which passed such decree or order;*

***(c)** Where the Court of first instance has ceased to exist or has ceased to have jurisdiction to execute it, the Court which, if the suit wherein the decree or order was passed were instituted at the time of making the application for restitution under this section, would have jurisdiction to try such suit.]*

2. No suit shall be instituted for the purpose of obtaining any restitution or other relief which could be obtained by application under sub-section(1)"

Perusal of Section 144 of Civil Procedure Code, 1908, reveals that restitution depends upon final outcome of adjudicatory process. It would also depend upon any variance or subsequent orders passed in the Appeal. The adjudicatory process is, therefore, pre-condition, may be either interim adjudicatory process or final one, but prior to adjudicatory of dispute, the order for restitution in Application under section 15 read with Section 18, in our opinion, per-se, may not be within legal domain, having regard to scheme of Chapter-III of the NGT Act, 2010.

Hon'ble NGT Western Zone Bench Judgment: IA 100/2019 & IA 86/2021 in OA 63/2019(WZ) Ajay Bhosale V/s UoI: (s.19 is to be read)

19. We are not inclined to accept this argument because according to his pleading, he had full knowledge in the year 2011 itself when the construction had started. The pretext of having come to know about this project being constructed through RTI on a later date as stated above appears to be only in order to bring the present Original Application within limitation period. We agree with the learned Counsel for the Project Proponent (PP) that it is very easy for any person to use RTI to seek information for any project on any date chosen by him. We are of the considered opinion that such kind of practice cannot be allowed. We are not inclined to accept the argument made by the learned Counsel for the Applicant in Original Application and are convinced with the argument raised by the learned Counsel for the Respondent No. 11/Project Proponent. We find that this

Original Application is time barred, hence this Original Application stands dismissed as time barred.

9. **RESPONSIBILITY WITH OCCUPANT**: PP also respectfully submits that the 13 buildings are completed and handed over to the buyer-occupants with all environmental amenities in the year 2014. As such, the responsibility to comply with environmental management has to be with society and its members.

10. I say and submit that this project was completed in 2014. Therefore, PP handed over the project to the end users by forming a society on 27/05/2014. At that time 13 buildings were completed along with **416** numbers of tenements. The total estimated cost for this construction while applying to MPCB was about Rs.95 Crore. However, as per actual expenses incurred, as certified by Chartered Accountant (CA), it went up to Rs.99.59 Crores. **(■ ANNEXURE – R17)**.

11. **STP was operated by the PP through the STP supplier till 21/09/2016** i.e., 2 years since the commissioning (10/10/2014) of the STP (Affidavit dated 18/01/2017 page no. 884 and 886). Then STP was handed over to society. After that, these systems are operated by society through third-party. PP has already submitted the log sheet of the STP operation along with the Affidavit dated 18/01/2017 page no. 951 to 955. The provided STP is operative since the date of the installation. PP has already submitted the monitoring

reports of the STP previously through Affidavit dated 18/01/2017 (page no. 885). Respondent no. 6 (MPCB) in its site visit report also admitted that PP provided OWC and STP. At the time of the site inspection, mentioned STP was in operation. PP has provided primary, secondary, and tertiary treatment along with a disinfection and dewatering system **(■ ANNEXURE – R27)**.The current monitoring reports are also annexed. **(■ ANNEXURE – R24).** 60% of the total treated wastewater from STP goes for recirculation for flushing purposes through the auto system and the image of the same is annexed in Annexure R-19.

12. For information of this Hon'ble Tribunal, the detailed sheet of the construction is enclosed. i.e., Approved plan, 'total covered built-up construction area including FSI and non-FSI' (BUA), Building Configuration details, RG area Statement. **(■ ANNEXURE – R22).** At present construction of the project is stopped.

13. **ENVIRONMENTAL MANAGEMENT PLAN WAS IN PLACE**: PP has not received the 'Environmental Clearance', but PP has complied with all the standard requirements of the environmental clearance. PP has provided 450 m^3/day capacity STP for the treatment of the generated sewage, PP has provided the Organic Waste Converter of capacity 50 kg/hr (1200 kg/day), PP provided the RG area and planted 535 trees and RG area 4384 m^2 all around the project. The detailed sheet of

compliance is annexed. This was all planned and provided as per well-documented EMP prepared by the NABET Accredited EIA Consultant. **(■ ANNEXURE – R19)**

14. Whether these environmental features are adequate or not and whether anything is required to be additionally provided could have been appraised only by the SEAC and SEIAA. If there are any lapses, the PP is duty-bound to provide them AND also upgrade any facility as would be required.

15. **ENVIRONMENTAL SPENDING ALREADY MADE**: I state and submit that the PP has already spent more than Rs. 1 Crore towards the capital cost of the sewerage system, recirculation double piping arrangement, STP, and OWC. These are the measures for pollution control. I state and submit that PP maintained and operated the systems towards pollution control, till the project was finally handed over to the owners and occupants in the year 2014. Due to this, there is no pollution caused OR EDA on that ground. This too will be verified by the SEAC and SEIAA during the appraisal.

16. **BONAFIDE INTENTIONS OF PP**: I state and submit that when it was found yesterday that the OWC is non-functional, that was handed over to buyers. PP again spent Rs. 11.20 lakhs from his own pocket, and installed a new OWC (500 kg/day), irrespective of the

responsibility of the buyers/occupants. The photograph of the newly installed OWC is enclosed. **(■ ANNEXURE – R19)**

17. **I state and submit that PP has already spent more than Rs 1.5 Crore towards other environmental management features and efforts towards sustainability, betterment, and conservation of the environment**. These are conservation of topsoil, tree plantation, storm water drains, rainwater harvesting, fire water storage tank, recirculation system of treated sewage, RG/PG area, gardening, solar water heaters, LED in common places, etc. which are also detailed and submitted in the Environment Management Plan.

18. **<u>JOURNEY OF EC APPLICATION FROM 2010</u>**: I say and submit that PP applied for EC well before starting the construction at the site. As per the EIA Notification 14.09.2006, the formal EC procedure is expected to be completed in about 105 days. Initially, the Application for 'Environmental Clearance' was submitted to State SEAC/SEIAA. But when construction was started without EC, the case was held as a violation case. Hence the PP had to submit the application under violation Notification 14/03/2017, to MoEFCC New Delhi. [Also, a Criminal Case was filed against the PP in JMFC. It has been decided and disposed of.] Then the power for EC was given to State SEAC/SEIAA. PP applied on ECMPCB portal. Then it was required that the application be filed

on the PARIVESH portal. PP did that too. **The journey of the EC application thereafter is as follows:-**

Sr.	Details	Ax.
1.	The project was submitted on the ECMPCB portal dated 13/04/2018 under violation as per MoEFCC Notification dated 14/03/2017 and 08/03/2018.	R3
2.	Terms of Reference (ToR) were granted in the 100th SEAC III meeting on 26/12/2019 for EIA and damage assessment preparation.	R5
3.	As per SEIAA, Maharashtra Circular No. SEIAA-2021/C.R. 104/SEIAA dated 29/11/2021 (Regarding processing applications pending on the ECMPCB portal), we have submitted the proposal on PARIVESH Portal dated 05/01/2022 vide proposal no. SIA/MH/MIS/249635/2022 under the fresh category as there was no provision for the "Violation category".	R7
4.	Project was aligned in the 136th SEAC III meeting. As per MOM received, it stated that "As there is no EIA submitted for appraisal & the project already received the ToR for the same, the application cannot be considered for the appraisal. PP stated that they will withdraw this application & submit the new application whenever their EIA is ready. PP	R10

Sr.	Details	Ax.
	requested to withdraw the proposal under consideration."	
5.	As per directives of SEAC III in the 136th Meeting, we have withdrawn the proposal from PARIVESH Portal.	-
6.	EIA report was prepared and submitted on PARIVESH Portal on 26/12/2022. The Application No. SIA/MH/INFRA2/411561/2022.	R15
7.	After submission, we couldn't track the proposal number on PARIVESH Portal. Accordingly, we have raised the complaint ticket to the PARIVESH portal. PP is waiting for their reply and remedy on the same.	R20

19. It is a Category 8(a) Building and Construction Project. Generally, in non-violation cases, it doesn't need EIA Study. Hence the PARIVESH portal is not having this option. But 'violation cases in this Category 8(a) need EIA Study with other sub-study Chapters. This probably is not provided in the website software. Hence Part-C of the Form is NOT open on the Portal, even when we are selecting the 'violation' category. The NIC has seized this technical glitch and they are continuously dealing with it to resolve this for the last 4 days. SEIAA has already acknowledged that our Form-1, 1A has been filed on 13/04/2018 within the period of the violation Notification window and thereafter ToR have been granted in December 2019.

20. For the submission of the EIA study field sampling needs the data for one non-monsoon season (3 months) and analysis of samples collected. Due to the lockdown during COVID-19 from March 2020 to February 2022 (considering both waves), society and Police both were not allowing laboratory & consultant staff to enter the field and move around. Laboratories were non-functional. Now the EIA and all sub-reports are prepared and filed. SEIAA can always accept hard copies and we can give that even now. If Hon'ble Tribunal fixes the time frame of 60 days or so, we are ready and willing to face all scrutiny as stipulated in the violation Notification before SEAC and SEIAA. They can consider, deliberate, question, and appraise the studies done by us and EDA, CRAP, RP, and EDC submitted by us as per CPCB's General Framework for EDC, as published on the website in December 2022, for the entire nation.

21. I say and submit that as per the MOEFCC Notification dated 14/03/2017 PP has to submit the ToR and EIA report to SEAC for the appraisal of the project under the violation category. <u>The project is compliant with the DC Rules and its building construction plans are sanctioned by the LPA</u>. **The EIA report, for violation cases, consists of three additional chapters**:

a. Environmental Damage Assessment (EDA) including for the past period
b. Community & Resource Augmentation Plan (CRAP)

c. Remediation Plan (RP) (action plan & its cost)

22. I say and submit that PP's proposal for EC is already submitted on the PARIVESH portal under the violation window and soon SEAC / SEIAA will schedule the hearing once the SEIAA receives the submitted EIA Report along with other submitted documents. On the earlier occasion, the EIA report was not submitted due to above mentioned cause i.e., COVID and permissions of society. SEIAA took cognizance of the application submitted by the PP under the validity period of the violation notification dated 14/03/2017. Enclosed is the 174th SEIAA MoM 28/08/2019. **(■ ANNEXURE – R23)**

23. The proposal of the PP has been considered by SEAC and SEIAA in the 136th and 242nd meetings dated 25/03/2022 and 21/04/2022 respectively. **(■ ANNEXURE – R10 & R11)**. The application is pending before SEAC/SEIAA.

24. I state and submit that PP is not shying away from his duty and legal obligations. PP is ready to pay the environmental compensation towards environmental damage, as per the identification and calculation of the SEIAA against the submitted EIA report. CPCB framework published in December 2022 should be applied for this. **However, since a specific procedure has been laid down under the formal statutory violation Notification 14/03/2017, let the same procedure be followed as per the Notification**. **(■**

ANNEXURE – R1). This notification was published to consider the projects which violated the EIA Notification dated 14/09/2006. The period of the said notification window was extended 30 days **by OM of MoEFCC dated 16/03/2018**, as per the order of the Hon'ble High Court of Judicature at Madras. **(■ ANNEXURE – R2)**

25. Recently Hon'ble Supreme Court passed a related order in the Civil Appeal No. 4494/2022 'Ekta Housing Private Limited v/s Tanaji Balasaheb Gambhire'. In this case, Hon'ble Supreme Court directed that *'the Appellant for ex-post facto Environmental Clearance may be considered expeditiously subject to payment of penalty of 1% and an additional penalty of 0.25%, as aforesaid'.* As per this direction, PP is ready to pay the environmental compensation of 1% of the project cost and 0.25% of the total turnover during the violation period. This would be approximately **Rs. 99 Lakhs and Rs. 31.25** Lakhs. This will be subject to the final computation based on EMP + EDA + CRAP + RP to be prepared by NABET Accredited Consultant based on field sampling and analysis by MoEFCC Recognized Environmental Laboratory AND determination and appraisal by SEAC and approval by SEIAA.

26. PP submitted the application for EC in the year 2010. It is still under consideration and on a long journey due to a violation on the part of PP. Keeping environmental interests at the front and foremost, PP intends to

undergo scrutiny and appraisal strictly as per violation Notification 14/03/2017. PP has applied during the window period.

27. **'ENVIRONMENTAL CLEARANCE'**: Without prejudice, PP is willing to deposit the ad-hoc cost by a bank guarantee of Rs.1.3 **Crore**. This is based on the order passed by the Hon'ble Supreme Court in the Ekta Housing Pvt Ltd matter while staying the order of the Hon'ble NGT in the matter OA 64/2019(WZ).

> *"The application dated 08.02.2022 of the Appellant for ex-post facto Environmental Clearance may be* considered *expeditiously subject to payment of penalty of 1% and an additional penalty of 0.25%, as aforesaid."*

28. In the interest of the environment, I state and submit at the cost of repetition that this shall be subject to the **formal assessment by SEAC/SEIAA as per formal statutory violation Notification dated 14/03/2017**, OM 07/07/2021 and CPCB **'General Framework for Imposing Environmental Damage Compensation'** in December 2022. MPCB and SEIAA shall decide and direct and spend on EDA and EDC within 6 months OR as directed by the Hon'ble Tribunal. **(■ ANNEXURE – R16)**

29. I say and submit that PP has submitted the EIA report to the PARIVESH portal under the violation category along

with the EMP, EDA, CRAP, and RP. The estimated environmental damage cost of the NABET accredited consultant is **2.20 Crores** as per the capital investment of Rs. 99 Crores. This calculated environmental damage cost is an estimate which is yet to finalize and approve by the SEAC and SEIAA. PP will pay the same after the approval and direction of the SEIAA after all factual considerations, calculations, and scientific study of the case. Till then PP can submit the BG of the amount assessed as per the Hon'ble Supreme Court direction in the Ekta Housing case i.e., 1.3 Crores.

30. I state and submit that PP had obtained the 'Consent to Establish' which has now expired. PP was told that they can't obtain the 'Consent to Establish' and even part 'Consent to Operate' for the portion completed and handed over to the buyers/occupants in the year 2014. **The consent regime gives the emission standards to be complied with**. In absence of the formal Consent, there are no standards of discharge as the reference.

31. I state and submit that on 12/07/2022 **(■ ANNEXURE – R13)** MPCB issued a circular for the *provision of penal fees for occupiers violating the combined consent regime prescribed under Air/Water Act.* As per this circular, we are ready to pay the penal charges applicable for laps of the consent period. The approximate total amount of penal fees will be **Rs. 33,75,000/- (3 times the normal consent fee × no. of the year of violation**

i.e., 3 x 1,25,000 x 9)

32. **I state and submit that from the year 2014 to till date i.e., February 2023, <u>the society has been the occupier and user of the project</u>**. Therefore, the statutory obligation to apply and obtain the 'Consent to Operate' is on the society. The penal charges should be actually borne by society. Be that so as it may be, and **without prejudice to rights**, the PP is ready to ad-hoc deposit the complete penal fees against the lapsed period of the 'Consent to Operate' to MPCB, as per Circular dated 12/07/2022. Hon'ble Tribunal may direct the MPCB to consider the application on merit and stipulate the standards to be followed for treated sewage.

33. The details of the project and related expenses from the environmental point of view were already submitted to this Tribunal in previously submitted submissions. [Submission dated 18/01/2017].

Date:	15/02/2023	Jitendra Sundardas Panjabi
Place:	Pune	DEPONENT

NOTARY
MAHENDRA BHIMRAO KAKAD
HAVELI.DIST. PUNE
MAHARASTRA
REG NO. 15892
EXP DT. 22/12/2024
GOVERNMENT OF INDIA

AFFIDAVIT AND VERIFICATION

I, Jeetu Alias Jitendra Sundardas Panjabi, (hereafter referred to as a PP), age 43 years, occupation business, being Respondent No.1A, for self and as a partner of M/s. Serene Developers being Respondent No.1, have verified the contents of this submission. They are true and correct. No relevant material facts are supressed. I hereby submit this on solemn affirmation and oath.

×

Date:	15/02/2023	Jitendra Sundardas Panjabi
Place:	Pune	DEPONENT

NOTARY ★ GOVERNMENT OF INDIA ★
MAHENDRA BHIMRAO KAKAD HAVELI DIST. PUNE MAHARASTRA REG NO. 15992 EXP DT. 22/12/2024

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

NOTED & REGISTERED
AT SR. NO. 225/2023
DATE: 16/02/2023

BEFORE ME
16/02/2023
MAHENDRA B. KAKAD
ADVOCATE & NOTARY
GOVERNMENT OF INDIA

16 FEB 2023

से पूर्व जमा किया जाएगा और उसे मंत्रालय के प्रादेशिक कार्यालय, विशेषज्ञ मूल्यांकन समिति तथा विनियामक प्राधिकरण के अनुमोदन के पश्चात् सुधारकारी योजना और प्राकृतिक तथा सामुदायिक संसाधन आवर्धन योजना के सफलतापूर्वक कार्यान्वयन के पश्चात् निर्मुक्त किया जाएगा।

14. ऐसी परियोजनाएं और क्रियाकलाप, जो इस अधिसूचना की तारीख को उल्लंघनकारी हैं, इस अधिसूचना के अधीन पर्यावरणीय अनापत्ति के लिए आवेदन करने के पात्र होंगे और परियोजना प्रस्तावक इस अधिसूचना के अधीन पर्यावरणीय अनापत्ति के लिए केवल इस अधिसूचना की तारीख से छह मास के भीतर ही आवेदन कर सकते हैं।

[फा. सं. 22-116/2015-आईए-III]

मनोज कुमार सिंह, संयुक्त सचिव

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
NOTIFICATION

New Delhi, the 14th March, 2017

S.O. 804(E).—Whereas, a draft notification under sub-section (1), and clause (v) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986) was published in the Gazette of India, Extraordinary, Part II, Section 3, sub-section (ii), *vide* number S.O. 1705(E), dated the 10th May, 2016, as required by sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, for finalising the process for appraisal of projects for grant of Terms of Reference and Environmental Clearance, which have started the work on site, expanded the production beyond the limit of environmental clearance or changed the product mix without obtaining prior environmental clearance under the Environment Impact Assessment Notification, 2006 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

2. And whereas, copies of the said notification were made available to the public on the 10th May, 2016;

3. And whereas, all objections and suggestions received in response to the above mentioned draft notification have been duly considered by the Central Government.

4. Whereas, subject to the provisions of the Environment (Protection) Act, 1986, under sub-section (1) of section 3 of the Act, the Central Government has the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling, and abating environment pollution;

5. Whereas, section 5 of the Environment (Protection) Act, 1986 empowers the Central Government to give directions which reads as "Notwithstanding anything contained in any other law but subject to the provisions of this Act, the Central Government may, in the exercise of its powers and performance of its functions under this Act, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions;

6. Whereas the Ministry of Environment, Forest and Climate Change issued Office Memoranda dated 12.12.2012 and 27.06.2013 to establish a process for grant of environmental clearance to cases of violation.

7. Whereas, the Hon'ble High Court of Jharkhand had passed an order dated the 28th November, 2014 in W.P. (C) No. 2364 of 2014 in the matter of Hindustan Copper Limited *Versus* Union of India in which the High Court held that the conditions laid down under Office Memorandum dated 12th December, 2012 in paragraph No. 5 (i) and 5 (ii) were illegal and unconstitutional and had further held that action for alleged violation would be an independent and separate proceeding and therefore, consideration of proposal for environment clearance could not await initiation of action against the project proponent. The Hon'ble Court further ruled that the proposal for environment clearance must be examined on its merits, independent of any proposed action for alleged violation of the environmental laws;

T.C.

8. And whereas, Hon'ble National Green Tribunal, Principal Bench *vide* its order dated 7th July, 2015 in Original Application No. 37 of 2015 and Original Application No. 213 of 2015 had also held that the Office Memoranda dated 12th December, 2012 and 24th June, 2013 on the subject of consideration of proposals for Terms of Reference or Environment Clearance or Coastal Regulation Zone Clearance involving violations of the Environment (Protection) Act, 1986 or Environment Impact Assessment Notification, 2006 Coastal Regulation Zone Notification, 2011 could not alter or amend the provisions of the Environment Impact Assessment notification, 2006 and had quashed the same;

9. And whereas, the Ministry of Environment, Forest and Climate Change and State Environment Impact Assessment Authorities have been receiving certain proposals under the Environment Impact Assessment Notification, 2006 for grant of Terms of References and Environmental Clearance for projects which have started the work on site, expanded the production beyond the limit of environmental clearance or changed the product mix without obtaining prior environmental clearance;

10. Whereas, the Ministry of Environment, Forest and Climate Change deems it necessary for the purpose of protecting and improving the quality of the environment and abating environmental pollution that all entities not complying with environmental regulation under Environment Impact Assessment Notification, 2006 be brought under compliance with in the environmental laws in expedient manner;

11. And whereas, the Ministry of Environment, Forest and Climate Change deems it necessary to bring such projects and activities in compliance with the environmental laws at the earliest point of time, rather than leaving them unregulated and unchecked, which will be more damaging to the environment and in furtherance of this objective, the Government of India deems it essential to establish a process for appraisal of such cases of violation for prescribing adequate environmental safeguards to entities and the process should be such that it deters violation of provisions of Environment Impact Assessment Notification, 2006 and the pecuniary benefit of violation and damage to environment is adequately compensated for;

12. And whereas, Hon'ble Supreme Court in *Indian Council for Enviro-Legal Action Vs. Union of India* (the Bichhri village industrial pollution case), while delivering its judgment on 13th. February, 1996, analyzed all the relevant provisions of law and concluded that damages may be recovered under the provisions of the Environment (Protection) Act, 1986 (1996 [3] SCC 212). The Hon'ble Court observed that …… section 3 of the Environment (Protection) Act, 1986 expressly empowers the Central Government [or its delegate, as the case may be] to "take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of environment.....". Section 5 clothes the Central Government [or its delegate] with the power to issue directions for achieving the objects of the Act. Read with the wide definition of "environment" in Section 2 (a), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for the above purpose. In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilize the amount so recovered for carrying out remedial measures…….. Hon'ble Court has further observed that levy of costs required for carrying out remedial measures is implicit in Sections 3 and 5 which are couched in very wide and expansive language. Sections 3 and 5 of the Environment (Protection) Act, 1986, apart from other provisions of Water and Air Acts, empower the Government to make all such directions and take all such measures as are necessary or expedient for protecting and promoting the `environment', which expression has been defined in very wide and expansive terms in Section 2 (a) of the Environment (Protection) Act. This power includes the power to prohibit an activity, close an industry, direct to carry out remedial measures, and wherever necessary impose the cost of remedial measures upon the offending industry. The question of liability of the respondents to defray the costs of remedial measures can also be

looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" Principle. "The polluter pays principle demands that the financial costs of preventing or remedying damage caused by pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution".

13 (1). Now, therefore, in exercise of the powers conferred by sub-section (1) and sub clause (a) of clause (i) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986, read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986; the Central Government hereby directs that the projects or activities or the expansion or modernisation of existing projects or activities requiring prior environmental clearance under the Environment Impact Assessment Notification, 2006 entailing capacity addition with change in process or technology or both undertaken in any part of India without obtaining prior environmental clearance from the Central Government or by the State Level Environment Impact Assessment Authority, as the case may be, duly constituted by the Central Government under sub-section (3) of Section 3 of the said Act, shall be considered a case of violation of the Environment Impact Assessment Notification, 2006 and will be dealt strictly as per the procedure specified in the following manner:-

(2) In case the projects or activities requiring prior environmental clearance under Environment Impact Assessment Notification, 2006 from the concerned Regulatory Authority are brought for environmental clearance after starting the construction work, or have undertaken expansion, modernization, and change in product- mix without prior environmental clearance, these projects shall be treated as cases of violations and in such cases, even Category B projects which are granted environmental clearance by the State Environment Impact Assessment Authority constituted under sub-section (3) Section 3 of the Environment (Protection) Act, 1986 shall be appraised for grant of environmental clearance only by the Expert Appraisal Committee and environmental clearance will be granted at the Central level.

(3) In cases of violation, action will be taken against the project proponent by the respective State or State Pollution Control Board under the provisions of section 19 of the Environment (Protection) Act, 1986 and further, no consent to operate or occupancy certificate will be issued till the project is granted the environmental clearance.

(4) The cases of violation will be appraised by respective sector Expert Appraisal Committees constituted under sub-section (3) of Section 3 of the Environment (Protection) Act, 1986 with a view to assess that the project has been constructed at a site which under prevailing laws is permissible and expansion has been done which can be run sustainably under compliance of environmental norms with adequate environmental safeguards; and in case, where the finding of the Expert Appraisal Committee is negative, closure of the project will be recommended along with other actions under the law.

(5) In case, where the findings of the Expert Appraisal Committee on point at sub-para (4) above are affirmative, the projects under this category will be prescribed the appropriate Terms of Reference for undertaking Environment Impact Assessment and preparation of Environment Management Plan. Further, the Expert Appraisal Committee will prescribe a specific Terms of Reference for the project on assessment of ecological damage, remediation plan and natural and community resource augmentation plan and it shall be prepared as an independent chapter in the environment impact assessment report by the accredited consultants. The collection and analysis of data for assessment of ecological damage, preparation of remediation plan and natural and community resource augmentation plan shall be done by an environmental laboratory duly notified under Environment (Protection) Act, 1986, or a environmental laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories, or a laboratory of a Council of Scientific and Industrial Research institution working in the field of environment.

(6) The Expert Appraisal Committee shall stipulate the implementation of Environmental Management Plan, comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefit derived due to violation as a condition of environmental clearance.

(7) The project proponent will be required to submit a bank guarantee equivalent to the amount of remediation plan and Natural and Community Resource Augmentation Plan with the State Pollution Control Board and the quantification will be recommended by Expert Appraisal Committee and finalized by Regulatory Authority and the bank guarantee shall be deposited prior to the grant of environmental clearance and will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.

14. The projects or activities which are in violation as on date of this notification only will be eligible to apply for environmental clearance under this notification and the project proponents can apply for environmental clearance under this notification only within six months from the date of this notification.

[F. No. 22-116/2015-IA-III]

MANOJ KUMAR SINGH, Jt. Secy.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

T.C.

F. No.Z-11013/22/2017-IA.II (M)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi-3

Dated:16th March, 2018

OFFICE MEMORANDUM

Sub: Compliance of the order dated 14th March, 2018 of Hon'ble High Court of Judicature at Madras in WMP Nos.3361 and 3362 of 2018, and WMP No.3721 of 2018 in WP No.11189 of 2017 - reg.

The Ministry has issued a Notification number S.O.804(E) dated 14th March, 2017 under the Environment (Protection) Act, 1986 to appraise and regularize the projects, already taken up or under implementation without obtaining the prior environmental clearance in terms of the provisions of the EIA Notification, 2006 and thus identified to be in violation of the same. The Notification enables consideration of such proposals at Central level by providing one-time opportunity to submit the request in this regard within 6 months.

2. Pursuant to the Ministry's Notification number S.O.1030(E) dated 8th March, 2018 regarding consideration of proposals by the Expert Appraisal Committee or the SEAC/SEIAA depending upon the categorization of projects/activities (A or B) listed in the schedule to the Environment Impact Assessment Notification, 2006, the Ministry has issued Office Memorandum on 15th March, 2018 (copy enclosed) to operationalize the same.

3. Hon'ble High Court of Judicature at Madras vide Order dated 14th March, 2018 in WMP Nos.3361 and 3362 of 2018, and WMP No.3721 of 2018 in WP No.11189 of 2017, has directed as under:

"24. In this view of the matter, considering that sub-clause (i)(d) of Stage III of paragraph 7(i) of parent notification as contained in item No. 8(a) of the Schedule being housing projects, we deem it necessary to clarify that projects and project proponents falling under category alone shall be governed by the 'public consultation' clause in the parent notification.

25. With regard to the prayer of MOEF for extension of time for submission of proposals by project proponents, we are of the view that it will serve the ends of justice if time is extended by 30 (thirty) days from the date of delivery of this order in open court."

4. In view of the above orders of Hon'ble High Court, following directions are being issued for compliance with immediate effect: -

i. The project proponent, who have not submitted the proposals within six months window i.e. up to 13th September, 2017 in pursuance of this Ministry's Notification S.O.804 (E) dated 14th March, 2017, are required to submit the proposals within 30 days, to the EAC for category A projects or the SEAC/SEIAA in the respective States/UTs for category B projects.

T.C.

45

ii. (The project proponent, who have submitted the proposals on the Ministry's portal after 13th September, 2017, are also required to submit the proposals afresh within 30 days, to the EAC for category A projects or the SEAC/SEIAA in the respective States/UTs for category B projects.

iii. The projects/activities pertaining to all sectors, shall be considered as per the directions of Hon'ble High of Judicature at Madras vide Order dated 14th March, 2018 in WMP Nos.3361 and 3362 of 2018, and WMP No.3721 of 2018 in WP No.11189 of 2017.

iv. The directions issued vide this Ministry's OM dated 15th March, 2018 shall continue to apply.

5. This issues with approval of the competent authority.

16/3/18

(Sharath Kumar Pallerla)
Scientist F/Director

To,

1. The Chairman of all the SEAC/SEIAA of States/UTs
2. The Member Secretary of all the SEAC/SEIAA of States/UTs

Copy for information to:

1. PS to Minister for Environment, Forest and Climate Change
2. PS to MoS for Environment, Forest and Climate Change
3. PPS to Secretary (EF&CC)
4. PPS to AS (AKJ)/AS (AKM)
5. PS to JS (GB)/JS (JT)
6. All officers in IA Division
7. Website, MoEF&CC
8. Guard File

T.C.

महाराष्ट्र

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

WELCOME M/S SERENE DEVELO...

Applications | Dashboard | Change Password | Industry Documents | Logout

By clicking on the industry name, industry can now edit their general information. Kindly find the guidelines here **Click here**

Ticketing system has been rolled out for your convinience.Kindly find the guidelines here **Click here**

Bank Guarantee module has been rolled out for your convinience.Kindly find the guidelines here **Click here**

Select Unit: All Units | Select Plant: All Plants | Filter Applications | View Unit Information

My Applications

No applications found.

Environment Statement

No Statements found.

Assessment Order List

No Statements found.

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, MAHARASHTRA

Consolidated Statements

Sr No.	Unique Number	Submitted Date	Amount (In Rs)	Status	Actions
1	SEIAA-STATEMENT-0000001279	April 13, 2018	300000	SEIAA Minutes Generated	Documents Payments Download Consolidated Statement Submit Changes for TOR SEAC Minutes (Date : 20-04-2019) SEAC Minutes (Date : 19-01-2020) SEIAA Minutes (Date : 09-09-2019)

Mass Tree Plantation

To participate MTP drive,Please click on below links:

To add details tree plantation details commited by **M/s Serene developers** click on the links below

Proposed Plantation | Actual Plantation

Mass Tree Plantation Dashboard:

0 Total Area in Acres

0 Actual area of plantation

T.C.

0	0
Proposed No. of Trees to be planted	Actual No. of Trees Planted

Download Guidelines for Mass Tree Plantation

Copyright © 2023 All rights Reserved. | FAQ | Guidelines | Terms & Conditions | Tickets

Web enabled by NeoSoft.
Portal support Helpline number - 7045113344 / 7045113322

T.C.

Anx. R4

F. No. 22-10/2019-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
*****

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj
New Delhi – 110003
sharath.kr@gov.in

Date: 9th September, 2019

OFFICE MEMORANDUM

Subject: Consideration of Category B violation proposals at the State level as per the provisions of Notification S.O 804 (E) dated 14.03.2017 through lateral entry - regarding.

The Ministry of Environment Forest and Climate Change issued a Notification vide S.O 804 (E) dated 14th March 2017 under the Environmental (Protection) Act, 1986 to appraise the projects, which have started the work onsite without taking prior environmental clearance in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006. Time period of six months (14.03.2017 to 13.09.2017) was given vide aforesaid Notification to the proponents to submit proposals.

2. Soon after the publication of aforesaid notification, a PIL challenging the validity of the Notification dated 14.03.2017 was filed in Hon'ble High Court of Madras. Hon'ble High Court of Madras vide Order dated 7th June, 2017 prohibited from taking any further action pursuant to the Notification dated 14.03.2017 and therefore appraisal process for violation cases could not be taken up further. Hon'ble High Court of Madras vide order dated 13.10.2017 vacated the order while upholding validity of the Notification dated 14.03.2017.

3. Pursuant to the notification dated 14th March 2017, Ministry received a number of proposals relating to all sectors covered under category A and category B. As per the said notification all the proposals of violation, irrespective of its categories were required to be appraised at Central level by the Expert Appraisal Committee (EAC).

4. Further, Ministry vide Notification S.O 1030 (E) dated 08.03.2018 amended the Notification S.O 804 (E) dated 14.03.2017 and delegated the power to the States for appraisal of category B proposals which are under violation of EIA Notification.

5. Subsequently, the Ministry issued an OM dated 15.03.2018 for the implementation of Notification S. O 1030 (E) dated 08.03.2018. All the category B proposals were transferred to the concerned State Level Environment Impact Assessment Authority (SEIAA).

T.C.

6. The Hon'ble High Court of Madras vide order dated 14.03.2018 was of the view that it will serve the ends of justice if time is extended by 30 (thirty) days from the date of delivery of the order, thereby extending the time till 13th April 2018, providing time for violators to apply as per the provisions of Notification S.O 804 (E). Therefore, again a one-month window was given from the date of order of Hon'ble High court (14.03.2018-13.04.2018) to submit proposals under violation of EIA Notification. The Ministry has issued OM dated 16.03.2018 for the compliance of the order dated 14.03.2018 of Hon'ble High court of Madras.

7. Proposals involving violation of EIA Notification, which had applied during the window (14.03.2017 to 13.09.2017 & 14.03.2018 to 13.04.2018) under violation category are being considered by the violation committee. However, in addition to such proposals, there were many category A proposals submitted in the respective sectoral committees for regular appraisal during or prior to violation window period. Sectoral committee while deliberating on the proposals, identified these as violation of EIA Notification. These proposals were subsequently forwarded to the violation committee after approval by the Competent Authority and such proposals are termed as "lateral entry proposals".

8. It is possible that there may be certain category B proposals which were submitted at SEIAA during or prior to the violation window period but not under violation category and later during the appraisal by State Level Expert Appraisal committee (SEAC) identified as violation proposals.

9. Now, a decision has been taken in the Ministry that such proposals as mentioned in para (8) above, may be considered in terms of provisions of Ministry's Notification dated 14.03.2017 & 08.03.2018 by the SEIAA. It is clarified that only those proposals may be taken up for consideration under this provision which had been submitted to SEAC during the window or prior to it as detailed above.

10. This issues with the approval of the competent authority.

(Sharath Kumar Pallerla)
Director, IA (Policy) Division

To

1. All the officers of IA Division
2. Chairperson/Member Secretaries of all the SEIAAs/SEACs
3. Chairman of all the Expert Appraisal Committees
4. Chairman, CPCB
5. Chairpersons/Member Secretaries of all SPCBs/UTPCCs

Copy for information:

1. PS to Minister for Environment, Forest and Climate Change
2. PS to MoS (EF&CC)
3. PPS to Secretary(EF&CC)
4. PPS to AS(AKJ) / AS (AKM)
5. PPS to JS (GB)/ JS(JT)
6. Website, MoEF&CC
7. Guard file

T.C.

100 SEAC-3 Meeting Day-01

SEAC Meeting number: 100 **Meeting Date** December 26, 2019

Subject: Environment Clearance for Air Castle Proposed Residential Project at Su. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune by Serene developers.

Is a Violation Case: Yes

1.Name of Project	Air Castle Proposed Residential Project at Su. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune by Serene developers.
2.Type of institution	Private
3.Name of Project Proponent	Jeetu Punjabi/ Vineet Goyal
4.Name of Consultant	VK:e environmental
5.Type of project	Housing project
6.New project/expansion in existing project/modernization/diversification in existing project	New project
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Not applicable
8.Location of the project	Proposed Residential Project at 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulashi. Dist. Pune.
9.Taluka	Mulashi.
10.Village	Marunji
Correspondence Name:	S no. 37 oppo. Dilip Vengaskar Cricket Academy Thergaon Pune.
Room Number:	S no. 37
Floor:	S no. 37
Building Name:	S no. 37
Road/Street Name:	oppo. Dilip Vengaskar Cricket Academy
Locality:	oppo. Dilip Vengaskar Cricket Academy Thergaon
City:	Pune
11.Whether in Corporation / Municipal / other area	PMRDA
12.IOD/IOA/Concession/Plan Approval Number	In Process
	IOD/IOA/Concession/Plan Approval Number: PRA/NASR/409/2009
	Approved Built-up Area: 43670.67
13.Note on the initiated work (If applicable)	13 residential buildings exist on site.
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	Not Applicable
15.Total Plot Area (sq. m.)	49,750.00 m2
16.Deductions	681.49 m2
17.Net Plot area	49,068.51 m2
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**a) FSI area (sq. m.):** 49,946.29 m2
	b) Non FSI area (sq. m.): 31,549.99 m2
	c) Total BUA area (sq. m.): 81496
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 27386.96
	Approved Non FSI area (sq. m.): 16283.71
	Date of Approval: 24-08-2010
19.Total ground coverage (m2)	13,248.49
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	27.50 %
21.Estimated cost of the project	950000000

SEAC-AGENDA-0000000371

22.Number of buildings & its configuration

Serial number	Building Name & number	Number of floors	Height of the building (Mtrs)
1	Building A	Parking + 8	26.6
2	Building B	Parking + 8	26.6
3	Building C	Parking + 8	26.6
4	Building D	Parking + 8	26.6
5	Building E	Parking + 8	26.6
6	Building F	Parking + 8	26.6
7	Building G	Parking + 8	26.6
8	Building H	Parking + 8	26.6
9	Building I	Parking + 8	26.6
10	Building J	Parking + 8	26.6
11	Building K	Parking + 8	26.6
12	Building L	Parking + 8	26.6
13	Building M	Parking + 8	26.6

23.Number of tenants and shops	3690 Persons
24.Number of expected residents / users	3690 Persons
25.Tenant density per hectare	745 Tenants/hectare
26.Height of the building(s)	
27.Right of way (Width of the road from the nearest fire station to the proposed building(s)	18 m Road
28.Turning radius for easy access of fire tender movement from all around the building excluding the width for the plantation	9 m
29.Existing structure (s) if any	13 buildings with approx built up area 37,699.06 m2
30.Details of the demolition with disposal (If applicable)	Not Applicable

31.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

32.Total Water Requirement

SEAC-AGENDA-0000000371

Dry season:	**Source of water**	Mula river Prior permission obtained from Irrigation Department
	Fresh water (CMD):	335.60
	Recycled water - Flushing (CMD):	166.05
	Recycled water - Gardening (CMD):	73.14
	Swimming pool make up (Cum):	3.50
	Total Water Requirement (CMD) :	574.79
	Fire fighting - Underground water tank(CMD):	300
	Fire fighting - Overhead water tank(CMD):	20
	Excess treated water	186.77
Wet season:	**Source of water**	Mula river Prior permission obtained from Irrigation Department
	Fresh water (CMD):	333.10
	Recycled water - Flushing (CMD):	166.05
	Recycled water - Gardening (CMD):	0
	Swimming pool make up (Cum):	1
	Total Water Requirement (CMD) :	499.15
	Fire fighting - Underground water tank(CMD):	300
	Fire fighting - Overhead water tank(CMD):	20
	Excess treated water	259.86
Details of Swimming pool (If any)	Dimension of Swimming Pool: Area of pool:175 Sq.m Depth: 1.2 m Volume of swimming pool: 259 m3 Total make up Water Requirement in KLD: 3.5 m3 Water requirement for make up in KLD : 105 m3/month (In summer) 30 m3/month (in monsoon & winter) Details of Plant & Machinery used for treatment of Swimming Pool water: Ozone system with chlorination unit along with the entire setup for water filtration and control panel. Details of quality to be achieved for swimming pool water: pH = 7 to 7.6 Chlorine content = 0.8 to1 ppm Capital cost: 72,00,000/- O & M cost: 4,20,000/-	

33.Details of Total water consumed

SEAC-AGENDA-0000000371

Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

34.Rain Water Harvesting (RWH)	**Level of the Ground water table:**	8 m
	Size and no of RWH tank(s) and Quantity:	Not applicable
	Location of the RWH tank(s):	On ground
	Quantity of recharge pits:	28
	Size of recharge pits :	1 m X 1 m X 1 m
	Budgetary allocation (Capital cost) :	28,00 000
	Budgetary allocation (O & M cost) :	3,00,000
	Details of UGT tanks if any :	UG Tank Capacity for Residential and Commercial UG Tank Capacity for Residential and Commercial Raw water compartment: 100 m3 Domestic water compartment: 400 m3 Fire water compartment: 300 m3 Flushing water compartment: 170 m3
35.Storm water drainage	**Natural water drainage pattern:**	The storm water collected through the storm water drains of adequate capacity will be led to recharge pits and surplus shall be discharged into the existing water course.
	Quantity of storm water:	577.99 cum/hr
	Size of SWD:	600 mm
Sewage and Waste water	**Sewage generation in KLD:**	448.335
	STP technology:	MBBR
	Capacity of STP (CMD):	1, 450
	Location & area of the STP:	On ground
	Budgetary allocation (Capital cost):	1,15,00,000
	Budgetary allocation (O & M cost):	16,50,000

36.Solid waste Management

SEAC-AGENDA-10000000371

Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	30 Kg/day
	Disposal of the construction waste debris:	The Construction waste generated during construction shall be segregated, reused on site and surplus shall be led to scrap dealers for recycling.
Waste generation in the operation Phase:	**Dry waste:**	738 kg
	Wet waste:	1107 kg
	Hazardous waste:	Not applicable.
	Biomedical waste (If applicable):	Not applicable.
	STP Sludge (Dry sludge):	55 kg
	Others if any:	Not applicable.
Mode of Disposal of waste:	**Dry waste:**	Dry waste will be segregated into recyclable and non-recyclable waste will be managed by SWACH
	Wet waste:	Biodegradable waste will be treated through on-site Organic Waste Converter
	Hazardous waste:	Not applicable.
	Biomedical waste (If applicable):	Not applicable.
	STP Sludge (Dry sludge):	will be used as manure
	Others if any:	Not applicable.
Area requirement:	**Location(s):**	On ground
	Area for the storage of waste & other material:	total 135 sq.m
	Area for machinery:	total 135 sq.m
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	30,50,000
	O & M cost:	8,50,000

37.Effluent Charecterestics

Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Amount of effluent generation (CMD):	Not applicable
Capacity of the ETP:	Not applicable
Amount of treated effluent recycled :	Not applicable
Amount of water send to the CETP:	Not applicable
Membership of CETP (if require):	Not applicable
Note on ETP technology to be used	Not applicable
Disposal of the ETP sludge	Not applicable

38.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

SEAC-AGENDA-000000371

39.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

40.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	Not applicable	Not applicable	Not applicable	Not applicable
41.Source of Fuel		Not applicable		
42.Mode of Transportation of fuel to site		Not applicable		

43.Green Belt Development	**Total RG area :**	14778.27 sq m
	No of trees to be cut :	0
	Number of trees to be planted :	644
	List of proposed native trees :	Refer below list
	Timeline for completion of plantation :	Till operation Phase

44.Number and list of trees species to be planted in the ground

Serial Number	Name of the plant	Common Name	Quantity	Characteristics & ecological importance
1	Terminalia Katappa	Badam	50	Small, deciduous, fruit bearing tree
2	Alianthus excelsa	Maharukh	74	Large tree, fruit bearing, good for roadside plantation.
3	Erythrina indica	Panghara	76	Medium sized deciduous tree, bright scarlet colored flowers
4	Anthocephallus kadamba	Kadamba	67	Shady, large tree, ball shaped flowers,
5	Michelia champaca	Son chafa	58	Medium sized evergreen tree, fragrant yellow flowers, butterfly host plant
6	Bahunia blackiana	Kanchan	16	Large evergreen tree, large flowers
7	Oreodoxa regia	Royal Palm	29	Nitrogen fixer, ornamental plant
8	Mahogony justicia	Mahogany	4	Large evergreen tree
9	Plumeria rubra	Dev chafa	40	White /pinkish coloured flowering, ornamental
10	Dwarf coconut	Naral	20	Fruiting, tall handsome tree
11	Acacia mangium	Acacia mangium	39	A medium sized tree, widely grown along roads, grows in warm climate, under both dry and wet condition.
12	Cordia sebastina	Orange Geiger Tree	13	Shady, large tree, ball shaped flowers,

SEAC-AGENDA-0000000371

13	Dellinia indica	Elephant foot	8	Ornamental,
14	Lagerstromia indica	Taman	12	State flower tree of Maharashtra. Medium sized tree, beautiful purple flowers, grows well in both dry and humid climate.
15	Fiscus elastica	Rubber tree	28	Medicinal plant, big leafs plant
16	Cassia fistula	Amaltas	5	Medium sized deciduous tree. Beautiful yellow flowers, butterfly host plant.
17	Spathodea campanulata	Pichkari	5	A handsome large deciduous tree. Good for road side plantation.
18	Magnolia grandiflora	Kavthi chafa	8	Medium sized, evergreen tree, fragrant yellow flowers, butterfly host plant.
19	Tabebuia argentea	Yellow trumpet	13	Medium height, deciduous, fruit bearing tree, spreading branches.
20	Tabebuia rosea	Pink trumpet	11	Medium deciduous, flowering, fruit bearing tree.
21	Crayota urenus	Fishtail palm	2	Large deciduous tree
22	Foxtail palm	Foxtail palm	18	Large deciduous tree
23	Callistemon lancealatus	Bottle brush	7	Low evergreen tree, produces bright red flowers.
24	Millingtonia hortensis	Akash neem	13	Medium, deciduous, fruit bearing, corky bark.
25	Delonix regia	Gulmohar	3	Large deciduous tree, flowers attract many birds
26	Ficus benjamina	Ficus tree	8	Ornamental, green leafs tree
27	Filicium decephens	Filicium decephens	17	Evergreen, tall tree bird hosting tree
45.Total quantity of plants on ground				

46.Number and list of shrubs and bushes species to be planted in the podium RG:

Serial Number	Name	C/C Distance	Area m2
1	NA	NA	NA

47.Energy

SEAC-AGENDA-0000000571

Power requirement:	**Source of power supply :**	MSCDCI
	During Construction Phase: (Demand Load)	30 kw
	DG set as Power back-up during construction phase	40 KVA
	During Operation phase (Connected load):	4092
	During Operation phase (Demand load):	3637.33
	Transformer:	22KV/630 KVA – 6 No's 22KV/315KVA – 1 No
	DG set as Power back-up during operation phase:	200 KVA
	Fuel used:	HSD
	Details of high tension line passing through the plot if any:	NA

48.Energy saving by non-conventional method:

• Solar water heating systems will be done for bathrooms.

• Solar lights will be provided for common amenities like Street lighting & Garden lighting.

• CFL & LED based lighting will be done in the common areas, landscape areas, signage's, entry gates and boundary compound walls etc.

• Auto Timer switches will be provided for Street lights, Garden lights, Parking & staircase Lights & other common area Lights, for saving electrical energy.

• Water level controllers with timers will be used for Water pumps.

• To create awareness to end consumer or flat owner, for using energy efficient light fittings like CFL, T5 Lamps & LED lights.

49.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	• Solar water heating systems will be done for bathrooms. • Solar lights will be provided for common amenities like Street lighting & Garden lighting. • CFL & LED based lighting will be done in the common areas, landscape areas, signage's, entry gates and boundary compound walls etc. • Auto Timer switches will be provided for Street lights, Garden lights, Parking & staircase Lights & other common area Lights, for saving electrical energy. • Water level controllers with timers will be used fo	2.87%

50.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
Not applicable	Not applicable	Not applicable

SEAC-AGENDA-0000000371

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	Rs 85.44 000
	O & M cost:	Rs 1.95,000

51.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	Air environment	Erosion control – dust suppression measures, barricading and top soil preservation	44,77,500
2	Land	Labour Camp toilets & sanitation	1,50,000
3	Health and safety	Labour Safety	12,00,000
4	Environment	Environmental Monitoring (Air, noise, soil, water)	1,85,600
5	Health and safet	Disinfection and Health Check-ups	96,000
6	Environmental Management	Environmental Management cell	1,42,000
7	Health and safety	Safety Training	2,00,000
8	Waste Water Management	Modular STP	15,00,000

b) Operation Phase (with Break-up):

Serial Number	Component	Description	Capital cost Rs. In Lacs	Operational and Maintenance cost (Rs. in Lacs/yr)
1	Sewage treatment plant	1 stp	1,15,00,000	16,50,000
2	Solid waste management	1 owc	30,50,000	8,50,000
3	Landscaping	development and maintenance of green area	2,00,00,000	3,00,000
4	Rain water harvesting	recharge pits	28,00,000	3,00,000
5	Environmental Monitoring	air, water, noise, soil, waste water, owc manure	NA	2,52,500
6	WTP cost	WTP cost	Rs 20,00,000	4,85,000
7	DG set (excluding Fuel Cost)	DG set	85,44,000	1,95,000
8	Drainage water management	Drainage water management	20,00,000	NA
9	Solar PV	Solar PV	17,5000	3,5000

51.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

SEAC-AGENDA-0000000371

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

52.Any Other Information

No Information Available

53.Traffic Management

	Nos. of the junction to the main road & design of confluence:	The site is located in a residential zone in Marunji. The development will be accessible from 18 m wide road while the internal access ways are 12 m & 6 m wide.
Parking details:	**Number and area of basement:**	NA
	Number and area of podia:	NA
	Total Parking area:	9,648.00 sq m
	Area per car:	30 sq m
	Area per car:	30 sq m
	Number of 2-Wheelers as approved by competent authority:	976
	Number of 4-Wheelers as approved by competent authority:	268
	Public Transport:	NA
	Width of all Internal roads (m):	6 m, 12m
	CRZ/ RRZ clearance obtain, if any:	NA
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	NA
	Category as per schedule of EIA Notification sheet	Building and construction project
	Court cases pending if any	Yes
	Other Relevant Informations	13 residential buildings exist on site as per sanction received. All environmental services has been provided on site.

SEACAGENDA-00000037A

	Have you previously submitted Application online on MOEF Website.	No
	Date of online submission	-

SEAC DISCUSSION ON ENVIRONMENTAL ASPECTS

Environmental Impacts of the project	-
Water Budget	-
Waste Water Treatment	-
Drainage pattern of the project	-
Ground water parameters	-
Solid Waste Management	-
Air Quality & Noise Level issues	-
Energy Management	-
Traffic circulation system and risk assessment	-
Landscape Plan	-
Disaster management system and risk assessment	-
Socioeconomic impact assessment	-
Environmental Management Plan	-
Any other issues related to environmental sustainability	-

Brief information of the project by SEAC

PP submitted their application for prior Environmental clearance for total plot area of 49,750.00 m2, FSI area of 49,946.29 m2, Non FSI area of 31,549.99 m2 and total BUA of 81496 m2.

Now, the PP has applied as per the MoEF&CC Notification dated 14/03/2017 and 8/03/2018. The PP informed that the total constructed area on site is: 37,699.06 m2.

SEAC-AGENDA-0000000371

DECISION OF SEAC

SEAC-AGENDA-0000000371

The proposal is appraised as category 8(a) B2. After deliberation, Committee hereby accords approval to the following Terms of Reference for undertaking Environment Impact Assessment (EIA) and preparation of Environment Management Plan (EMP) for further discussion and consideration of SEAC:

Terms of Reference for EIA and preparation of Environment Management Plan (EMP) for Violation Cases

1. **Project Description**

1. Project description, its importance and the benefits.

2. Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage). Hydro-geological survey report with graphs & data.

3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land owning agencies, Development Authorities, Local Body, Water supply & Sewerage Board, etc.

4. Land acquisition status, R & R details.

5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.

6. (G) High Tension wires if any on the plot.

7. (G) Plan showing HFL.

8. (G) Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed as per earlier EC (if applicable) and proposed development.

9. (G) PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from architect for completed work

2. **Base Line Data**

10. (B) Baseline environmental study for ambient air (PM_{10}, $PM_{2.5}$, SO_2, NO_x & CO),water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

11. (C) Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees.

12. (C) Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)

13. (B) Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.

14. (G) Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.

15. (G) PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.

16. (C) PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report

3. **Traffic Impact Study in detail including:**

17. (V) Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.

18. (V) Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.

19. (V) Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions..

20. (V) Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.

21. (V) Parking statement mentioning parking as per DCR & parking provided actually.

22. (V) Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.

4. **Environmental Impact and Management Plan:**

23. (B) Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.

24. (G) Debris management plan including (a) debris required for refilling, (b) contour plan, (c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.

25. (B) Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.

26. (B) Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions

27. (J) PP to show internal storm water drain and sewer line arrangements up to final disposal point.

28. (C) Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.

29. (G) A detailed phase wise development plan with safety planning where occupancy has been given.

30. (T) If any site specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc, is involved, detailed environmental protection approach for the same shall be provided.

31. (D) Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.

32. (D) Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels

33. (B) Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.

34. (K) PP to submit Disaster management plan.

35. (B) Preparation of site specific, executable and auditable environment management plan (EMP)

5. **Environmental Modelling and additional Studies:**

36. (B) Fugitive dust modelling by using local meteorological data.

37. (B) Ecological footprint calculation using LCA approach.

38. (B) Estimation of Carbon footprint of the project.

39. (B) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

40. (B) Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.

41. (K) Preparation of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

6. **NOCs, Undertakings and CER:**

42. (T) NOC's required: a) CFO NOC, b)Water supply NOC with quantity, c) Drainage NOC, d) Non-biodegradable waste disposal.

43. (T) Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.

44. (K) PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.

45. PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal : "ecmpcb.in".

******

Specific Conditions by SEAC:

SEAC-AGENDA-000000371

FINAL RECOMMENDATION

The Committee decided to Grant ToR subject to the above observations,PP requested to prepare and submit EIA report as per EIA Notification, 2006 and amendments thereof.

SEAC-AGENDA-0000000371

T.C.

Anx. R6

F. No. 22-37/2018-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(IA-III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi – 3

Dated: 23rd February, 2021

OFFICE MEMORANDUM

Sub: Processing of files for grant of Terms of Reference and Environmental Clearance through PARIVESH - reg.

The PARIVESH, a workflow based application, is being implemented in two phases with the first phase for facilitating online submission of proposals and tracking the status of such proposals at each stage of processing. The second phase involves online processing of these proposals subsequent to finalization of minutes by the EAC/SEAC and approval by the competent authorities through the PARIVESH portal. The Ministry vide D.O. letter dated 16th July, 2019 has directed to each SEIAAs for implementation of the PARIVESH.

2. It is has been observed that the compliance of the above direction and implementation of second phase of PARIVESH by the SEIAAs has not been satisfactory.

3. In view of the above, SEIAAs are directed to ensure that the files for approval of Terms of Reference (ToR) as well as Environmental Clearance (EC) are processed strictly through PARIVESH only from 1st March, 2021 onwards.

This issues with the approval of the competent authority.

23/2/2021

(Sharath Kumar Pallena)
Director (CPC)

To

1. The Chairman, all the SEIAAs
2. The Member Secretary, all the SEIAAs

Copy to:

1. PS to Hon'ble Minister (EF&CC) / PS to Hon'ble MoS(EF&CC)
2. PPS to Secretary (EF&CC)
3. PPS to AS(RA)/AS(RSP)
4. PS to JS(GM)/ JS(SKB)

T.C.

Anx. R7

State Environment Impact Assessment Authority

No.SEIAA-2021/C.R.104 /SEIAA
Environment and Climate Change Department
Room No. 217, 2nd Floor,
Mantralaya, Mumbai- 32.
Date- 29.11.2021

Circular

Subject- Regarding Processing of applications pending on ecmpcb portal

Whereas, State Environment Impact Assessment Authority (SEIAA), Maharsahtra has introduced ecmpb portal for processing of application for granting Environment Clearance in May, 2017,

And, whereas, Ministry of Environment, Forest and Climate Change (MoEF&CC) has made it mandatory to use PARIVESH portal for processing of application for granting Environment Clearance,

And, whereas, State Environment Impact Assessment Authority (SEIAA) has started to use PARIVESH portal for processing of application for granting Environment Clearance from 10th August, 2019 and 100 % new proposals are processed only through PARIVESH portal.

And, whereas, now MoEF&CC vide OM dated 06.10.2021 introduced EC identification number from 20.10.2021 for Category B projects and any new EC issued on or after 20.10.2021 without EC Identification number and e-sign shall be treated as invalid.

And, whereas, some legacy applications (application in pipeline) from ecmpcb portal are still pending at various stages,

Therefore, all the project proponents and their accredited consultants whose projects are pending at any stage on ecmpcb portal are instructed to migrate and apply on parivesh portal immediately. Such proposals will be processed on the basis of the date of original legacy (ecmpcb) application.

(Manisha Patankar-Mhaiskar)
Principal Secretary (E&CC) &
Member Secretary, SEIAA
29/11/2021

T.C.

Acknowledgement Slip for EC application

Anx. R8

2600

This is to acknowledge that the proposal has been successfully uploaded on the portal of the Ministry. The proposal shall be examined in the Ministry to ensure that required information has been submitted. An email will be sent seeking additional information , if any, within 20 working days. Once verified, an acceptance letter shall be issued to the propject proponent .

Following should be mentioned in further correspondence

1. Proposal No.	:	SIA/MH/MIS/249635/2022
2. Category of the Proposal	:	INFRA-2
3. Name of the proposal	:	Proposed Residential project “Air Castle” at S.no 12/6, 27/7,47/2,47/3,47/4,47/5/1,47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulashi. Dist Pune by Serene developers.
4. Date of Receipt of Proposal	:	05 Jan 2022

5. Name of the Project proponent along with contact details

a) Name of the proponent	: SERENE DEVELOPERS
b) State	: Maharashtra
c) District	: Pune
d) Pincode	: 411017

T.C.

Item No. 01 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Org. Application No. 64/2019(WZ)
(I.A. No. 101/2019, I.A. No. 66/2021 & I.A. No. 18/2022)

Mr. Tanaji Balasaheb Gambhire Applicant

Versus

Union of India Through Secretary & 12 Ors. Respondent(s)

Date of hearing: 23.03.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: Mr. Nitin Lonkar, Advocate

Respondent(s): Ms. Manasi Joshi Advocate for MPCB
Mr. Rahul Garg, Advocate for PMC
Mr. Aniruddha S Kulkarni, Advocate for SEIAA
Mr. Saket Mone, Advocate for R-13

ORDER

1. Grievance in this application is against violation of environmental norms in the construction of the housing project "Ekta California & Florida" at Pune. The allegation is summed up in the application as follows:-

> *"project proponent have completed the construction of total BUA 38339.6 Sq. Mtrs till today comprising of 5 residential buildings, 120 flats and further proposed expansion to increase the capacity of project from 38339.6 Sq. Mtrs to 47429.2 Sq. Mtrs. by 9089.6 Sq. Mtrs by 1 new residential building, 70 flats vide sanction no. CC/3774/16 dated 31.03.2017.*
>
> *The project proponent has not complied with environmental norms by non-obtaining of mandatory prior Environment Clearance,*

T.C.

Consent to Establish, Consent to Operate, CGWA permission for ground water extraction, Non-installation of pollution control devices, Non-plantation of tree, Non-installation of STP, Non-installation of Solid waste treatment & OWCS unit, illegal ground water extraction, illegal operation of DG Sets at site, 10% recreational space of is not developed as per norms, no soil preservation, no soil and ground water test, illegal construction of basements, no use of eco-friendly building material for construction etc."

2. Vide order dated 22.10.2019, the Tribunal required a joint Committee of SEIAA and State PCB to verify facts and furnish a report. Accordingly, the said joint Committee filed its report on 07.01.2020 after site visit on 15.12.2019 in tabular forms as follows:-

Sr. No.	***Point examined***	***Remarks***
1.	*The Project proponent has not complied with environmental norms by non-obtaining of mandatory prior Environmental Clearance, Consent to Establish, Consent to Operate.*	*As per Architect certificate dated 19.11.2019 PP has carried out construction from 2007 for BUA-37930.6 sqm. (FSI-18991.92 sqm. & Non FSI- 18938.68 sqm) without obtaining prior Environmental Clearance as per EIA Notification 2006, non-obtaining consent to Establish, Consent to operate under Water (P &CP) Act 1974 & Air (P & CP) Act, 1981*
2.	*PP has not obtained CGWA permission for ground water extraction*	*There is one bore well in the premises and PP has not obtained CGWA permissions for the extraction ot ground water.*
3.	*PP has not provided pollution control devices, Non installation of STP*	*PP has provided underground STP of capacity 212 KLD Of MBBR however same is unscientific and ill ventilated.*
4.	*PP has not provided Solid Waste treatment & OWC units.*	*PP provided vermicomposting pit for the treatment of organic waste. But same is not in operation.*
5.	*Illegal operations of DG Set at site*	*PP has installed one DG Set of 240 KVA capacity without obtaining consent from MPC Board.*
6.	*10% recreation space is not developed as per norms*	*PP has provided 10 % open area. However it is observed that entire reserved open space is on podium. PP has constructed club house and swimming pool in this podium area*
7.	*No soil preservation, no soil &ground water test, non-provision of solar energy*	*PP unable to give details of soil preservation for the A, B, C, D & E building.*

		For proposed Bldg. No. F Excavation is carried out one year ago. The excavated material is stored on the adjacent amenity plot which is handed over to PMC. For storing excavated material on this plot. Project Proponent has not obtained any permission from local body. *PP representative unable to produce soil & ground water test report.* *PP has not provided solar energy system for energy conservation.*
8.	*Illegal construction of basements*	*PP has not constructed any basement.*

3. Reply has been filed by the Project Proponent, SEIAA and State PCB. The PP has also filed I.A. No. 66/2021 seeking dismissal of the OA and compilation of judgments. Reply of SEIAA and State PCB is on the pattern of the joint Committee report already quoted above.

4. **According to SEIAA**, prior EC was required but was not sought before commencement of the project. However, the PP applied for EC on 08.08.2018 which was found to be a case of violation. EC was sought for total plot area of 26,000 m^2, FSI area of 24940.54 m^2, Non FSI area of 21628.67 m^2 and total BUA of 46,569.21 m^2. Project proponent informed that the total constructed area on site is 44841.72 m^2.

5. **Stand of the MPCB** is that in view of non-compliances noticed by the joint Committee, the State PBC issued directions to stop construction activities on 04.01.2020 till requisite consent and EC are obtained. Compensation has been assessed based on period of violation as per formula adopted by CPCB which works out to Rs. 15,99,09,375/-.

6. **The stand of Pune Municipal Corporation (PMC)** is that commencement certificate was granted on 31.03.2017 subject to requisite

consents/EC. Since EC was not produced, PMC issued stop work order on 11.12.2019.

7. **Stand of Secretary, Urban Development** is also that the project is in violation of the statutory requirements.

8. **Stand of Project Proponent** in I.A. No. 66/2021 is that the application is not maintainable and barred by limitation. Cause of action for the application arose on 17.03.2007 when the plan for construction was sanctioned. The applicant has no *locus standi* to file the application. There is no damage to the environment. Compilation of judgments has been filed on the point of limitation. Affidavit of the PP filed on 21.10.2020 is that the project "Ekta California" has been completed. Wing "F" known as "Florida" ("Ekta Florida") is proposed. Fremont, Palmdale, Oakland, Santa Monica and Santa Clara are also proposed for which occupation certificates have been granted in 2015 and 2016. Club house has been completed in 2016 and commencement certificate has been obtained in 2017. The threshold of 20,000 sq. mtrs. has not been crossed so as to attract the requirement of EC. Built up area was not defined in EIA Notification of 2006 but the same was defined as per DCR. There was vagueness in the concept of built up area which was clarified by notification dated 04.04.2011 to include basement. Consents under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 are not required in view of judgement of the Delhi High Court dated 23.01.2012 in *LPA No. 895 of 2010, DPCC vs. Splendor Landbase*. Additional affidavit has been filed by the PP in response to the joint Committee report on 21.02.2022 denying the allegations found by the joint Committee. It is stated that built up area should be taken as equal to the FSI area only. No consent under the Water

and Air Acts are required. The PP has complied all environmental norms. The PP has relied upon judgment of the Hon'ble Supreme Court dated 09.12.2021 in *Special Leave to Appeal (C) Nos. 11226-11227/2020, Electrosteel Steels Ltd. Vs. Union of India & Ors.* wherein earlier judgment in *Alembic Pharmaceuticals Ltd. v Rohit Prajapati & Ors.*[1] holding that prior EC is mandatory was held to be distinguishable, having regard to the policy of MoEF&CC for ex-post facto EC instead of closure of the project, to give effect to the principle of "Proportionality" laid down in *Lafarge Umiam Mining Private Limited v. Union of India, (2011) 7 SCC 338*. The policy in question is SOP dated 07.07.2021 issued by the MoEF&CC, permitting ex-post facto EC in violation cases, subject to payment of penalty at the rate of 1% of the total project cost, where project has not commenced and an additional of 0.25% of total turnover, where project had already commenced.

9. We have heard learned Counsel for the parties, perused the record and considered rival submissions. From the resume of pleadings and submissions made, questions for consideration are whether the present petition is maintainable and within limitation, whether there is a violation of environmental norms by the PP in question and if there is such violation, the remedial action required.

Maintainability and Limitation

10. It is patent from the report of the joint Committee that the built up area of the project is more than 20,000 sq. mtrs. which calls for EC. The PP has itself applied for EC on 08.02.2018 with the SEIAA, Maharashtra. If there are violations, the petition has to be held to be maintainable.

[1] 2020 SCC OnLine SC 347

Starting point of limitation is not the approval of the plan, as contended by the PP but the violation in going ahead with construction beyond 20,000 sq. mtrs. without requisite EC and consents and violating environmental norms. The judgments on limitation relied upon by the PP are also not applicable in view of the undisputed factual situation of the present case. Thus, the petition is maintainable and is within limitation which is five years from the date of cause of action, under section 15(3) of the NGT Act.

Violations and Remedial action

11. The violations are patent. The project involves construction with built up area more than 20,000 sq. mtrs. As held in Goel Ganga Developers India (P) Ltd. v. Union of India, (2018) 18 SCC 257, FSI and non FSI both are part of built up area. Observations in the said judgment in para 17 are:

> "**Therefore, the authority granting EC may lay down conditions which the project proponent must comply with. While doing so, such authority is not concerned whether the area to be constructed is FSI area or non-FSI area. Both will have an equally deleterious effect on the environment. Construction implies usage of a lot of materials like sand, gravel, steel, glass, marble, etc., all of which will impact the environment. Merely because under the municipal laws some of this construction is excluded while calculating the FSI is no ground to exclude it while granting the EC. Therefore, when EC is granted for a particular construction it includes both FSI and non-FSI areas. As far as environmental laws are concerned, all covered construction, which is not open to the sky is to be treated as built-up area in terms of the EIA Notification dated 14-9-2006."**

12. The judgment of Delhi High Court is not applicable to the present fact situation which is governed by statutory notification dated 14.9.2006, which was not the situation in the case before Delhi High Court.

13. Judgment in Electrosteel Steels Ltd. Vs. Union of India, supra, that ex-post facto EC can be granted does not help the PP. Even if ex post facto EC is granted, PP has to be held accountable for past violations.

14. Penalty of 1% or additional penalty of 0.25% laid down by the MoEF&CC as a condition for granting ex post facto EC is different from compensation for past violations. Such compensation has to be on the principle of restoration considering nature and extent of violations and paying capacity of the PP. Several variables have to be considered as held inter alia in *M.C Mehta & Anr v. Union of India*[2], *Sterlite Industries (India) Ltd. v. Union of India* [3], *Goel Ganga Developers India Pvt. Ltd. v. UoI*[4], *Alembic Pharmaceuticals Ltd. v Rohit Prajapati & Ors.*[5] *and Mantri Techzone Pvt. Ltd. V. Forward Foundation and Ors.*[6]. The standard formula adopted by the CPCB based on standard amount of compensation multiplied by period of violation can apply in absence of relevant data of project cost and cost of restoration. In the present case, the amount of compensation assessed appears to be roughly 10% of the project cost, though worked out by a different formula. The same can be accepted, subject to the compliance being ensured within next three months in respect of payment of compensation, obtaining requisite ex post facto EC and necessary Consents, apart from all other compliances in the light of the joint Committee report. We accept the report of the joint Committee with regard to the violations and require the Project Proponent to remedy the same within three months.

15. Till compliances and payment of compensation assessed, stop work order will remain in force. The PP will not extract any further ground water without requisite consent. The DG set will also not be operated without requisite consents.

---

[2] (1987) 1 SCC 395
[3] (2013) 4 SCC 575
[4] (2018) 18 SCC 257
[5] 2020 SCC OnLine SC 347
[6] 2019 SCC online SC 322, Para 43-47

16. If there is further delay, the PP will be liable to pay further compensation, as may be assessed by the PCB.

17. The amount of compensation has to be utilised for restoration of environment as per action plan to be prepared by the State PCB, PMC, DM Pune, in the light of District Environment Plan.

The application is disposed of.

If any grievance survives, it will be open to the aggrieved party to take remedy in accordance with law.

All pending IAs will also stand disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

Dr. Afroz Ahmad, EM

March 23, 2022
Org. Application No. 64/2019(WZ)
(I.A. No. 101/2019, I.A. No. 66/2021 & I.A. No. 18/2022)
SN

	Management			Provided	parking (m2)
		4-Wheeler	201	201	12.5
		2-Wheeler	785	785	2.00
		Bicycles	-	-	-
36	Details of Court cases / litigations w.r.t. the project and project location if any	PP states that there is no court case against project or project location as on date			

Deliberations :-

PP stated that proposed project is of residential and commercial project. PP also informed that IOD is awaited. The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B2.

During discussion following points emerged:

1. PP to ensure to provide indigenous trees in landscape areas.
2. PP to submit the refuge area calculations.
3. PP to provide minimum 30% of total parking arrangement with electric charging facility by providing charging points at suitable places.
4. PP to ensure that, the water proposed to use for construction phase should not be drinking water. They can use recycled water or tanker water for proposed construction.

Decision: -

After deliberation, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of above points.

****

44.	P-44	SIA/MH/MIS/2 49635/2022	Proposed Residential project “Air Castle” at S.no 12/6, 27/7,47/2,47/3,47/4,47/5/1,47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulashi. Dist Pune by Serene developers

Representative of PP was present during the meeting along with environmental consultant M/s. VKe: environmental LLP.

PP stated that, they have applied there application on MPCB portal vide application no 0000001279 for violation category. PP further stated that the ToR for the same granted by committee in 100th meeting held on 26/12/2019. PP informed that the EIA & Ecological damage assessment studies are under process but due to circular issued by SEIAA vide dated 29th November, 2021 they have re submitted the application on Parivesh portal.

As there is no EIA submitted for appraisal & the project already received the ToR for the same, the application cannot be considered for the appraisal. PP stated that they will withdraw this application & submit the new application whenever there EIA ready. PP requested to withdraw the proposal under consideration. **Committee noted & accepted the same. Hence, application is forwarded to SEIAA with the recommendation for rejection of the application under consideration.**

****

45.	P-45	SIA/MH/MIS/7 1433/2022	Proposed Affordable Housing under Pradhan Mantri Awas Yojana at Plot Bearing Gat No 420/A/8 at Solapur by Maharashtra Housing Development Corporation LTD

PP vide email dated 24/03/2022 requested to withdraw the application. Committee noted & accepted the same, hence application is forwarded to SEIAA with the recommendation that PP may be allowed to withdraw the project.

****

46.	P-46	SIA/MH/MIS/7 1322/2022	Residential plus commercial project by M/S. NYATI BUILDERS PVT. LTD

Representative of PP Mr. Piyush Nitin Nyati was present during the meeting along with environmental consultant M/s. Sneha Hi Tech Products.

Item no. 8

Proposal No.:- SIA/MH/MIS/249635/2022 **Type of Project: EC**

Subject- Proposed Residential project "Air Castle" at S.no 12/6, 27/7,47/2,47/3,47/4,47/5/1,47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulashi, Dist Pune by Serene developers

Project Details-

-

SEAC Deliberation –

Representative of PP was present during the meeting along with environmental consultant M/s. VKe: environmental LLP.

PP stated that, they have applied there application on MPCB portal vide application no 0000001279 for violation category. PP further stated that the ToR for the same granted by committee in 100th meeting held on 26/12/2019. PP informed that the EIA & Ecological damage assessment studies are under process but due to circular issued by SEIAA vide dated 29th November, 2021 they have re submitted the application on Parivesh portal.

As there is no EIA submitted for appraisal & the project already received the ToR for the same, the application cannot be considered for the appraisal. PP stated that they will withdraw this application & submit the new application whenever there EIA ready. PP requested to withdraw the proposal under consideration. Committee noted & accepted the same. Hence, application is forwarded to SEIAA with the recommendation for rejection of the application under consideration.

Recommendations of SEAC-

Application is forwarded to SEIAA with the recommendation for rejection of the application under consideration.

Deliberation in SEIAA-

SEAC-3 in its 136th meeting pointed out that, PP has applied on MPCB portal under violation category in the amnesty period. PP further stated that the ToR for the same granted SEAC in its 100th meeting held on 26/12/2019. SEAC further pointed out that the EIA & Ecological damage assessment studies are under process from PP's end but due to circular issued by SEIAA vide dated 29th November, 2021 PP has submitted the application on Parivesh portal.

SEAC opined that, as there is no EIA submitted for appraisal & the project already received the ToR for the same, the application cannot be considered for the appraisal. PP requested SEAC to allow them to withdraw the proposal under consideration. SEAC noted & accepted the same. Hence, application is forwarded to SEIAA with the recommendation for rejection of the application under consideration.

SEIAA after deliberation decided to reject the proposal as per the request of PP.

SEIAA Decision-

SEIAA after deliberation decided to reject the proposal.

Member Secretary

Chairman

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

No SIA/MH/MIS/249635/2022
Environment & Climate
Change Department
Room No. 217, 2nd Floor,
Mantralaya, Mumbai- 400032.
Date- 10/05/2022

To
M/s.Serene developers,
S.no 12/6, 27/7,47/2,47/3,47/4,47/5/1,47/18,
47/19, 50/1/1A/1, 55/15, 82 A/P Marunji,
Tal Mulashi, Dist Pune.

Subject : Environment Clearance for Proposed Residential project "Air Castle" at S.no 12/6, 27/7,47/2,47/3,47/4,47/5/1,47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulashi, Dist Pune by M/s.Serene developers.

Reference : Application no. SIA/MH/MIS/249635/2022.

This has reference to your communication on the above-mentioned subject. Your proposal was considered in 242nd (Day-2) meeting of SEIAA and following decision is taken-

"SEAC-3 in its 136th meeting pointed out that, PP has applied on MPCB portal under violation category in the amnesty period. PP further stated that the ToR for the same granted SEAC in its 100th meeting held on 26/12/2019. SEAC further pointed out that the EIA & Ecological damage assessment studies are under process from PP's end but due to circular issued by SEIAA vide dated 29th November, 2021 PP has submitted the application on Parivesh portal. SEAC opined that, as there is no EIA submitted for appraisal & the project already received the ToR for the same, the application cannot be considered for the appraisal. PP requested SEAC to allow them to withdraw the proposal under consideration. SEAC noted & accepted the same. Hence, application is forwarded to SEIAA with the recommendation for rejection of the application under consideration. SEIAA after deliberation decided to reject the proposal as per the request of PP."

Manisha Patankar Mhaiskar
(Member Secretary, SEIAA) 10/5/2022

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701		Kalpataru Point, 2nd - 4th Floor
Fax: 24024068 / 24023515		Opp. Cine Planet Cinema,
Website: http://mpcb.gov.in		Near Sion Circle, Sion (E)
E-mail: ast@ mpcb.gov.in		Mumbai-400 022.

No. BO/MPCB/AS(T)/Circular/B- 2207122FTS0047 Date: 12/07/2022

CIRCULAR

Sub: Provision of penal fess for occupiers violating combine consent regime prescribed under Air/Water Act – reg.

Ref: Minutes of 178th Board Meeting held on 24/02/2022.

...

It is mandatory on the part of industries/entrepreneurs to obtain Consent to Establish and Operate under section 25/26 of the Water (Prevention & Control of Pollution Act) 1974, under section 21 of Air (Prevention & Control of Pollution) Act 1981 and Authorization under Hazardous & Other Waste (Management & Transboundary Movement) Rule 2016. However, it has been noticed that, often industries were found to be violating the aforesaid provisions and the violations noticed are as below:

1. To take effective steps towards establishment of project/unit without obtaining Consent to Establish from the Board
2. To take effective steps without revalidating Consent to Establish from the Board.
3. To start Commercial production/to hand over occupancy without obtaining Consent to Operate from the Board
4. To carry out expansion activity and applying directly for Consent to Operate without obtaining Consent to Establish of the Board.
5. To operate the activity without valid consent to operate of the Board and applying after lapse of validity period.
6. To store and disposal of Hazardous Waste not consistent with provisions of rules

The MPC Board has published Enforcement Policy for issuance of directions on account of degree of violation by imposing/forfeiting proportionate Bank Guarantee. The matter of such violations was discussed during Consent Appraisal Committee/Consent Committee and was decided to formulate the deterrent policy towards above mentioned violations and such other violations. Hence, it is important to discourage the defaulting industries by adopting "Polluter Pays" principal by imposing appropriate cost for violation of provisions of Environment enactments.

The MPC Board in its 178th Board meeting held on 24/02/2022 vide item No. 12 has considered to impose appropriate penal fees towards violation of Environmental enactments, the penal fees shall be imposed as below:

..2

Sr. No.	Violation	Cost of Violation
01	Taking effective steps towards establishment of project/unit prior to obtain Consent to Establish from the Board	**Red Category:** 5 times of one term consent fee X no. of years of violation* **Orange Category:** 3 times of one term consent fee X no. of years of violation* **Green Category:** 1 time of one term consent fee X no. of years of violation*
02	Taking effective steps without revalidating Consent to Establish of the Board.	
03	**Industry:** Starting Commercial production prior to obtain Consent to Operate of the Board.	
	Infrastructure Project: Handing over possession prior to obtaining Consent to Operate of the Board and Occupancy certificate from Local Body.	
04	Operating the industry/activity without valid consent to operate of the Board and applying after lapse of validity period.	

*** Calculations of number of years shall be calculated on the basis of number of days of non-compliance.**

The penal fees amount to be paid by PP through online e-payment gateway.

All the Officers of the Board should implement this circular scrupulously without fail.

(Ashok Shingare, *IAS*)
Member Secretary

Copy submitted to: The Hon'ble Chairman, MPC Board Mumbai- for favour of information

Copy to:
1. The Assistant Secretary (Tech)/Joint Director (APC)/Joint Director (WPC)/Principal Scientific Officer/Regional Officer (HQ) MPC Board Mumbai
2. Law Officer/Statical Officer, MPC Board Mumbai

Copy to:
1. All Regional Officer, MPC Board
2. All Sub-Regional Officer, MPC Board
3. EIC- He is directed to place the circular on Board's website.

Anx. R14

ITEM NO.8 COURT NO.7 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No. 4494/2022

M/S EKTA HOUSING PRIVATE LIMITED Appellant(s)

VERSUS

TANAJI BALASAHEB GAMBHIRE & ORS. Respondent(s)

(IA No.81739/2022-EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT and IA No.81737/2022-EX-PARTE STAY and IA No.81738/2022-EXEMPTION FROM FILING O.T.)

Date : 14-07-2022 This appeal was called on for hearing today.

CORAM : HON'BLE MS. JUSTICE INDIRA BANERJEE
HON'BLE MR. JUSTICE V. RAMASUBRAMANIAN

For Appellant(s) Mr. Mukul Rohatgi, Sr. Adv.
Mr. Neeraj Kishan Kaul, Sr. Adv.
Mr. Nikhil Rohatgi, Adv.
Mr. Dhruv Sharma, Adv.
Mr. Saket Mone, Adv.
Mr. Subit Chakrabarti, Adv.
Ms. Apurva Pawar, Adv.
Mr. Shashank Khurana, Adv.
Mr. Abhinash Pradhan, Adv.
Ms. Garima Aggarwal, Adv.
Ms. Apoorva Kaushik, Adv.
Mr. Pranaya Goyal, AOR

For Respondent(s) Mr. Mukesh Verma, Adv.
Mr. Yash Pal Dhingra, AOR

Mr. Shankey Agrawal, AOR

UPON hearing the counsel the Court made the following
O R D E R

The appeal is admitted.

Mr. Mukul Rohatgi, learned senior counsel submits that his clients will pay penalty of 1% and additional penalty of 0.25% imposed by the Ministry of Environment Forests and Climate Change

(MOEF&CC) as a condition for grant of ex-post facto Environmental Clearance (EC).

The application dated 08.02.2022 of the Appellant for ex-post facto Environmental Clearance may be considered expeditiously subject to payment of penalty of 1% and an additional penalty of 0.25%, as aforesaid.

There will, however, be stay of the impugned order insofar as compensation of 10% (Rs. 15.99 Crores) has been imposed on the Appellant.

(GULSHAN KUMAR ARORA)
AR-CUM-PS

(MATHEW ABRAHAM)
COURT MASTER (NSH)

Anx. R15 2617

Form-1 (Part-A): Information for Scoping (for Category – A/B1) / Appraisal for Category – B2 (including Building & Construction projects under B1/B2)

Project Name:	Proposed Residential project "Air Castle" at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji , Mulshi Taluk ,Pune by Serene Developers	**Single Window Number:**	SW/111293/2022
		Proposal Number:	SIA/MH/INFRA2/411561/2022
State:	MAHARASHTRA	**Current Status:**	SUBMITTED
Project Category:	B2	**Sector:**	INFRA2

Common Application Form

Project Details

1. Details of Project

1.1. Name of the Project	Proposed Residential project "Air Castle" at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji , Mulshi Taluk ,Pune by Serene Developers
1.2. Project Proposal For	New
1.3. Project ID (Single Window Number)	SW/111293/2022
1.4. Description of Project	Residential Project with 17 Building Blocks of total built up area of 81,496.28 Sq.m on plot extent of 49,750.00 Sq.m

2. Details of the Company/Organization/User Agency making application

2.1. Legal Status of the Company/Organization/User Agency	Private Limited
2.2. Name of the Company/ Organization/User agency	SERENE DEVELOPERS

Registered address

2.3. Address	Sno 37 Oppo Dilip Vengaskar Cricket Acedemy Thergaon
2.4. Village /Town / City	Pune
2.5. State	MAHARASHTRA
2.6. District	PUNE
2.7. Pin Code	411017
2.8. Landmarks	
2.9. E-mail address	ecaircastle@gmail.com
2.10. Landline Number	
2.11. Mobile number	9822880800

3. Details of the person making application

3.1. Name	Jeetu Panjabi
3.2. Designation	Director

Correspondence address

3.3. Address	Sno 37 oppo Dilip Vengaskar Cricket Acedemy Thergaon
3.4. Village /Town / City	Pune
3.5. State	MAHARASHTRA
3.6. District	PUNE
3.7. Pin Code	411017
3.8. Landmarks	N/A
3.9. E-mail address	ecaircastle@gmail.com
3.10. Landline Number	
3.11. Mobile number	9822880800

Project Location

4. Location of the Project or Activity

4.1. Upload KML	Air Castle_Site Boundary.kml
4.2. Whether the project/activity falling in the state/UT sharing international borders	NO
5. Shape of the Project	Hybrid

Location Details

Toposheet No	State/UT	District	Sub District	Village	Plot/Survey/Khasra No.
F43H10	MAHARASHTRA	Pune	Mulshi	Marunji	12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P

Remarks
N/A

6. Land Requirement (in Ha) of the project or activity

6.1. Nature of Land involved	
6.2. Non-Forest Land [A]	4.975
6.3. Forest Land [B]	0
6.4. Total Land [A+B]	4.975

6. Project/Activity Cost

6.1. Total Cost of the Project at current price level (in Lakhs)	9500 Amount in Words : **Nine Thousand Five Hundred Lakh(s) Only**

7. Employment likely to be generated

During construction phase

Permanent employment

7.1. No. of permanent employment (No.s) [A]	10
7.2. Period of employment (No. of days) [B]	313
7.3. No. of man-days [X]=[A]*[B]	3130

Temporary employment

7.4. Temporary / Contractual employment (No. of Man days) [Y]	90
7.5. Total [X] +[Y]	3220

7.6. During operational phase

Permanent employment

7.6.1. No. of permanent employment (No.s) [A]	10
7.6.2. Period of employment (No. of days) [B]	313
7.6.3. No. of man-days [X]=[A]*[B]	3130

Temporary employment

7.6.4. Temporary / Contractual employment (No. of Man days) [Y]	15
7.6.5. Total [X] +[Y]	3145

Others

8. Whether Rehabilitation and Resettlement (R&R) involved?	NO
9. Whether project area involves shifting of watercourse/road/rail/Transmission line/water pipeline, etc. required?	NO
10. Whether any alternative site(s) examined or part thereof for the non-site-specific component?	Not applicable as the project or activity is site specific
11. Whether there is any Government Order or Policy/ Court order relevant or restricting to the site?	NO
12. Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?	NO
13. Whether the proposal involves violation of Act/Rule/Regulation/Notification of Central/State Government?	YES

Act	Type of violation	Year	Direction Issued By	Direction Details	Direction Copy	Summary	Report
EIA Notification 1994 / 2006	NA	2010	SEAC,Maharashtra	As per SEAC 100th Meeting dated December 26, 2019, Committee accorded approval to the following Terms of Reference for undertaking Environment Impact Assessment (EIA) and preparation of Environment Management Plan (EMP) for further discussion and consideration .Copy of the same is attached hereby.	100th SEAC 3 Meeting.pdf	9. The project is in Pune city under PMRDA area on the plot of 49,750.00 sqm. Total deductions are 681.49 sqm. Thus, the net plot area is 49,068.51 sqm. The proposed FSI is 49,946.29 sqm and proposed non-FSI is 31,549.99 sqm. The Total proposed Built-up area is equal to 81,496.29 sqm. 10. The total construction on site is 37,699.06 sqm. Thus, an excess of 17,699.06 sqm has been considered for violation.	Violation_Note_Air Castle.pdf

Form-1 (Part-A): Information for Scoping (for Category – A/B1) / Appraisal for Category – B2 (including Building & Construction projects under 8 (a))

Basic Information

1. Category of the Project/Activity

1.1. Whether multiple items (Components) as per the notification involved in the proposal?	No	
1.1.1. Item No. as per schedule to EIA Notification, 2006	8(a) Building / Construction	Residential building(s)
Capacity	81496.28	sqmtr
2. Whether project/activity attracts the General Condition specified in the Schedule of EIA Notification?	No	
3. Category of the Project as per EIA Notification, 2006	B2	

3. Category of the Project as per EIA Notification, 2006	B2
3.1. Whether proposal is required to be appraised at Central level?	No
4. Whether Proposal has interlinked / interdependent projects or activities?	No
4.1. Reason thereof	Project falls under Schedule 8(a) ,Category B2 , as it is a violation case, Committe approved Terms of Reference for EIA & EMP preparation as per SEAC Meeting No: 100 dated December 26, 2019
5. Whether any Forest Land involved in the project or part thereof	No
5.0.1. Status of application	N/A
6. Whether NBWL recommendation is required?	No

Project Details

6. Details of CTE

6.1. Whether consent under Air & Water Act has been obtained from SPCB / UTPCC?	No
6.1.1. Reason thereof	EC Not Obtained. As per EIA Notification 2006 ,Project falls under Schedule 8(a) ,Category B2 . But it is a violation case, hence Committee approved Terms of Reference for EIA & EMP preparation as per SEAC Meeting No: 100 dated December 26, 2019.
7. Whether the project/activity located in Notified Industrial Area?	No
8. Whether the project/activity located in CRZ or ICRZ area?	No
9. Whether the project proposed to be located in Territorial waters (Off-shore)	No
10. Whether project/activity attracts the Specified Condition specified in the Schedule of EIA Notification?	No
11. Whether project/activity located in the Eco-sensitive Zone notified/proposed to be notified under Environment (Protection) Act, 1986	No

Product Details

12. Details of Products & By-products

Name of Product	Product / By Product	Quantity / Capacity	Unit	Mode of Transport / Transmission	Remarks
Residential project "Air Castle" of 17 building on total plot extent of 49,750 Sq.m	Product	81496.28	Sq.m	Building Construction Project	Total Built-up Area - 81496.28 Sq.m

13. Whether any other Environmental Sensitive area exists within 10 Km from the project/activity boundary?	No

Note : Others, interalia, includes areas protected under international conventions/ Area important or sensitive ecological reasons/ Sensitive species of flora or fauna/ Inland or coastal/Tourist places/ Defence installations / Densely populated areas/ Areas containing important, high quality, or scarce resources/ Areas susceptible to natural Hazards

14. Status of collection of baseline data	Already collected

Period of baseline data collection

14.1. From	01-03-2021
14.2. To	31-03-2021
15. Seasons of collection	Summer

16. Number of Monitoring locations for

16.1. Meteorology (Nos.)	1
16.2. Ambient Air Quality (Nos.)	5
16.3. Surface Water Quality (Nos.)	3
16.4. Ground Water Quality (Nos.)	3
16.5. Ground water level (Nos.)	1
16.6. Noise Level (Nos.)	5
16.7. Soil Quality (Nos.)	5
16.8. Summary on the baseline situation	Baseline_Situation.pdf
16.9. Map showing the monitoring locations	Baseline_Situation.pdf

Consultant Details

17. Whether QCI/NABET Accredited EIA Consultant engaged?	Yes
17.1. Accreditation No. / Organization Id	ORG000275

17.2. Name of the EIA Consultant	VK:e Environmental
17.3. Address	73/2, Bhakti Marg, Off Law college Road, Erand wane Pune-411004
17.4. Mobile No.	9822013405
17.5. E-mail Id	aparanjape@vke-environmental.com
17.6. Category of Accreditation (Eligible for Category A / Eligible for Category B)	A
17.7. Sector(s) of Accreditation	38,39
17.8. Validity of Accreditation	01/12/2022

2620

Project Details

1. Introduction of Project or Activity

1.1. Need for the project or activity and its importance to the country/region	Infrastructure Development
1.2. Demand - Supply Gap and Domestic and export markets, if any	Surrounding area is already well developed.

2. Social Infrastructure

2.1. Readily available	Yes
2.2. Proposed to be developed	Nil

3. Connectivity to the project or activity

3.1. Nearest railway station and its distance (in Km)	Pimpri	12.6
3.2. Nearest Airport and its distance (in Km)	Pune	12.6
3.3. Nearest Town/City/District head quarter and its distance (in Km)	Pimpri	12.0
4. Soil classification	Very deep, well drained, loamy soils on gently sloping narrow valleys with moderate erosion	
5. Distance from the HFL of the river in m, if any	0	

6. Benefits of the project

6.1. Social benefits of project or activity	Employment Opportunity
6.2. Financial benefits of project or activity	Infrastructure Development

7. Project Schedule

7.1. Likely date of start of construction activity	01-03-2023
7.2. Likely date of completion of construction activity	01-03-2025

Construction Details

2. Use of resources for construction or operation of the project

2.1. Whether requirement of water involved in the project?	Yes

Details of Water requirement during Construction stage

Source	Quantity in KLD	Method of water withdrawal	Distance from Source in mtr	Mode of Transport	Details of Permission
Private Water Tanker	24	Private Water Tanker - For Construction Activity	5000	Tankers	

Details of Water requirement during Operational stage

Source	Quantity in KLD	Method of water withdrawal	Distance from Source in mtr	Mode of Transport	Details of Permission
Other	575	Others	100	Pipeline	Water Supply NOC for the project is obtained from Irrigation Department

2.2. Other information, if any	N/A
2.3. Whether requirement of Minerals and/or fuels involved in the project?	No
2.4. Construction material	Yes

Construction material	Quantity in MT	Source	Mode of transport	Distance from source in Km
Concrete	1630	Local Vendor - Concrete - 1630 cu.m	Road	5

2.5. Timber	No
2.6. Electric Power:	Yes
2.6.1. Total Electricity requirement (MW):	3.637
2.6.2. Main Source:	MSEDCL
2.6.3. Renewable energy proposed to install (KW):	91
2.6.4. Percentage contribution of renewable energy:	2.5

2621

2.6.5. Standby arrangements (details of DG Sets):	200 KVA-1 Nos & 160 KVA – 1 No
2.6.6. Stack height in m (DG set):	30
2.6.7. Energy conservation measures:	1.Energy efficient building envelope material and fenestration. 2.Energy efficient lighting [illegible]on & outdoor areas. 3.Energy efficient lifts, pumps and motors HVAC systems with high COP [illegible] of renewable energy systems.
2.7. Whether any other natural resources / other raw materials required?:	No
2.8. Whether any use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies) required?	No
2.9. Whether any resource efficiency / optimization / recycling and reuse envisaged in the project?	Yes
2.9.1. Details	During operation phase ,Treated water from STP will be recycled for Flushing & Gardening purpose within the permises. Wet Waste from Residents will be processed in Organic Waste Converter and the end product will be used as manure for landscaping.

Physical Changes

3. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality:

3.1. Whether any permanent or temporary change in land use, land cover or topography due to project activity?	No
3.2. Whether any clearance of existing vegetation due to project activity?	No
3.3. Whether any loss of native species or genetic diversity?	No
3.4. Whether any demolition works involved in project activity?	No
3.5. Whether any linear structures proposed for diversion or demolition due to project activity? (e.g. roads, transmission lines, rail line, pipeline, conveyor, etc.)	No
3.6. Whether any closure or diversion of existing transport routes or infrastructure due to project leading to changes in traffic movements?	No
3.7. Whether any closure or diversion of water bodies present in project area or realignment of water courses passing through project area?	No
3.8. Whether any dismantling or decommissioning or restoration works or reclamation works (Long-term/ short-term)?	No
3.9. Whether any construction works for temporary use for project activity?	Yes

Details	No.s	Built up area	Remarks
Labour Colony, Temporaray shed for Construction material Storage	4	500	

	Total No.s	Total Built up area in Sq.m
Total	4	500

3.10. Whether any cut and fill excavations proposed for the project activity?	Yes	
3.10.1. Quantity of cutting material in Cu.m	8261.86	
3.10.2. Proposed utilization / dispose of cutting material	8261.86	
3.10.3. Quantity of filling material in Cu.m	8261.86	
3.10.4. Source of filling material	Excavated Debris	
3.10.5. Other information, if any	2324.14 cu.m of excess debris procured from outside	
3.11. Whether any underground works including tunnelling?	No	
3.12. Whether any dredging involved in project?	No	
3.13. Whether any offshore structures involved in project?	No	
3.14. Whether any new road, rail, sea, airports, helipad, etc. during construction or operation?	No	
3.15. Whether any construction of new linear structures? (e.g. transmission lines, pipelines, etc.)	No	
3.16. Whether any Facilities for storage of goods or raw materials?	Yes	
3.16.1. Covered area proposed for storage	200	sqm
3.16.2. Open area proposed for storage (sqm/Km)	100	sqm
3.16.3. Other information, if any	N/A	
3.17. Whether any Facilities for long term/ permanent housing of operational workers/ staff?	No	

3.18. Whether any Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No
3.19. Whether any Stream crossings, temporary and permanent?	No
3.20. Whether any influx of people to an area in either temporarily or permanently?	Yes
3.20.1. No. of people likely to influx to an area temporarily	150
3.20.2. No. of people likely to influx to an area Permanently	3690
3.20.3. Other information, if any	N/A
3.21. Whether any other information would like to submit?	No

2622

Pollution Details

4. Release of pollutants to Air and Mitigation measures

4.1. Whether any probable air pollutants generated?	Yes

Air Pollution Source	Probable Pollutants	Mitigation Measures
Transport of raw material/products	Dust	Sprinkling of water and fine spray from nozzles to suppress the dust.
DG sets	NOx, CO and PM10 & PM2. 5	All DG sets should comply emission norms notified by MoEF

4.2. Other information, if any	N/A

4.3. Generation of Noise & Vibration and mitigation measures

4.3.1. Whether any probable generation of Noise and vibration from the proposed project?	Yes
4.3.1.1. Sources of Noise	Construction equipment, Diesel generator operations & Increase in transport noise from within the site from near by roads.
4.3.1.2. Sources of Vibration	Not Applicable
4.3.1.3. Details of blasting, if any	Not Applicable
4.3.1.4. Other information, if any	Not Applicable
4.3.1.5. Whether any mitigation measures proposed for Noise & Vibration?	Yes
4.3.1.5.1. Mitigation measures proposed for control of Noise	Green belts and landscaping
4.3.1.5.2. Mitigation measures proposed for control of vibration	Not Applicable
4.3.1.5.3. Other information, if any	Not Applicable
4.3.2. Whether any probable generation of Light and Heat?	No

4.4. Discharge of pollutants to water and mitigation measures

4.4.1. Whether any probable water pollutants generated?	No
4.5. Probable sources of water pollutant	No

Details of reuse / recycle of wastewater

Details	Qty / Capacity	
4.6. Quantity of waste water generation per day (KLD)	448.33	
4.7. Quantity of treated water proposed to use per day (KLD)	239.91	
4.8. Quantity of treated water proposed to discharge outside the premises (KLD)	186.72	
4.9. Purpose for which treated water is proposed to use	Flushing & Gardening	
4.10. Whether it is proposed to opt/avail common off-site Sewage Treatment Plant (CSTP)/Effluent Treatment Plant (CETP) facility?	No	
4.11. Whether it is proposed to setup on-site Sewage Treatment Plant (STP)/Effluent Treatment Plant (ETP) facility?	Yes	
4.11.1. Whether 100% of the waste water generated will be treated?	Yes	
4.12. Type of treatment plant	STP	
4.13. ETP/STP Capacity	ETP	
	450	KLD
	STP	
	N/A	N/A
4.14. ETP/STP Technology	ETP	STP
	MBBR	N/A
4.15. Whether the adequacy of the Sewage Treatment Plant (STP) or Effluent Treatment Plant certified by an independent expert?	No	
4.15.1. Reasons thereof	Detailed technical specification from STP Vendor is attached	

4.15.1. Reasons thereof	Detailed technical specification from STP Vendor is attached
4.16. Whether any other mitigation measures proposed?	No
4.17. Whether Dual Plumbing System proposed to be implemented?	Yes
4.17.1. Details thereof	MEP Drawing is enclosed with EIA report
4.18. Whether any discharge of treated effluent involved?	No

Water Requirements

7. Ground water intersection and water conservation measures:

7.1. Whether ground water table intersection involved in the project activities?	No
7.2. Area category from Groundwater availability perspective?	Safe
7.3. Whether Rainwater harvesting proposed	Yes
7.3.1. Capacity of facilities provided	28
7.3.2. Description of facilities provided	28
7.3.3. Description	28 No. of Recharge pits
7.3.4. Total Quantity of water requirements met from water harvestingIn KLD	0
7.3.5. Storage capacity of rain water harvested in cubic meters	0
7.4. Whether any other water conservation measures proposed?	No
7.5. Whether the ZLD is proposed?	No

8. Greenbelt

8.1. Area proposed for green belt (in Ha)	1.4778
8.2. Width of green belt (in m) along the boundaryof the project or activity	1.5
8.3. Percentage of the total area covered under green belt	10
8.4. Details of the species proposed for plantation	List of proposed species is enclosed as Annexure of EIA report
8.5. No. of tree saplings to be planted	644
8.6. Funds allocated for plantation in Lakhs.	200

Waste Generation

9. Production of wastes during construction or operation or decommissioning

9.1. Whether any generation of Solid waste (domestic wastes)? Yes

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of Transport
Dry Waste	Residents/User/Occupier	269	Collected in Dustbins & Handed over to authorize recycler for further handling & disposal purpose.	Road
Wet Waste	Domestic Waste from Residents	404	Processed in Organic Waste Converter	Onsite Processed & end product is used as Manure

9.2. Whether any generation of plastic waste? No

9.3. Whether any generation of e-waste? Yes

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of Transport
Electronic Items	Residents	1.825	Handed over to authorized recyclers for further handling & disposal purpose	Road

9.4. Whether any generation of batteries waste?	No
9.5. Whether any generation of Bio-medical waste?	No
9.6. Whether any generation of hazardous wastes (as per Hazardous Waste Management Rules)?	No
9.7. Whether any generation of construction or demolition wastes?	No
9.8. Whether any generation of other wastes?	No
9.9. Whether any generation of surplus products?	No
9.10. Whether measures for waste minimization proposed?	Yes
9.10.1. Details thereof	Proposed Organic Waste Converter for processing Wet Waste

Risk Assessment

Risk Assessment

10. Whether any risks associated with project activities which could affect human health or the environment, -

2624

10.1. From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances?	No
10.2. From any other causes?	No
10.3. Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No
10.4. Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No
10.5. Could project adversely affect the wellbeing of people in project area e.g. by changing living conditions?	No
10.6. Vulnerable groups of people who could be adversely affected by the project e.g. hospital patients, children, the elderly etc.	No
10.7. Risk Management Plan	Yes
10.7.1. Details thereof	Risk Management Plan, Damage Assessment Report has been enclosed as Annexure with EIA report
10.8. Whether any likely impacts of the proposed activity on the existing facilities adjacent to the proposed site due to generation of dust, smoke, odorous fumes or other hazardous gases?	No

11. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

11.1. Whether lead to development of supportive facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supportive infrastructure (roads, power supply, waste or waste water treatment, etc.); housing development; industries in supply chain and downstream; any other?	No
11.2. Whether lead to after-use of the site, which could have an impact on the environment? (e.g. mine void, dump sites, etc.)	No
11.3. Whether set a precedent for later developments?	No
11.4. Have cumulative effects due to proximity to other existing or planned projects with similar effects?	No
11.5. Whether lead to growth of alien species, if any?	No
11.6. Is there any threat of the project to the biodiversity (including displacement of fauna-both terrestrial and aquatic and avi-fauna or creation of barriers for their movement)?	No
11.7. Will the proposed project in any way result in the obstruction of a view, scenic amenity or landscapes?	No
11.8. Is there any impact on anthropological or archaeological sites or any important site feature in the vicinity of the proposed site have been considered?	No
11.9. Will the proposed project result in any changes to the demographic structure of local population?	No
11.10. Will the project cause adverse effect on local communities, disturbance to sacred sites or other cultural values?	No

12. Building or Construction projects or Area Development projects and Townships Proposals

12.1. Major Project Requirement in terms of the land area, built up area, green belt, parking needs etc.

12.1.1. Total Land/plot area (sq. m)	49750	N/A
12.1.2. Build up area (sq. m)	81496.28	N/A
12.1.3. Maximum number of floors	15	N/A
12.1.4. Total number of dwelling units	738	N/A
12.1.5. Proposed FAR	49946.29	N/A
12.1.6. Surface Parking Area (sq. m)	6668.4	N/A
12.1.7. Number of parking Required	1244	N/A
12.1.8. Open Area (sq. m)	4906.8	N/A
12.1.9. Paved Area (sq. m)	551.85	N/A
12.1.10. Unpaved Area (sq. m)	4457.67	N/A
12.1.11. Green belt Area (sq. m)	4906.8	N/A
12.1.12. STP & Solid Waste Area (sq. m)	135	N/A

Project requirement details	Details
Proposed OWC for wet waste processing	1
Proposed DG Sets - 1 No. 200 KVA ,1 No. 160 KVA	2
Proposed STP - 1 No. 450 KL - MBBR	1

12.2. Whether management of drainage in and around site is proposed as per the Central Public Health & Environment Engineering Organization (CPHEEO) Manual on Storm Water Drainage System, 2019 to avoid flooding or water logging?	Yes
12.2.1. Details thereof	a. Desilting, b. Clearing of weeds c. Cleaning of obstruction, debris and blockage d. Repairing of lining immediately at the commencement of damage or deterioration.
	Monitor and improve your management and disposal of site waste. Make sure all waste is correctly dealt with to

12.3. Details regarding measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)	Monitor and improve your management and disposal of site waste. Make sure all waste is correctly dealt with to stop it from spreading. Keep materials such as sand or cement secure. Materials must be located where there isn't a risk of them being washed into waterways or drains. Cover up all drains to prevent waste from ending up in the water. Keep the road and footpath to the site clean at all times. This will prevent silt and other pollutants from running off into any bodies of water.
12.4. Impact of the land use changes occurring due to the proposed project on the runoff characteristics of the area in post construction phase on a long term	Post development , storm runoff is managed through proposed RWH system.
12.5. Will there be any significant land disturbance resulting in erosion, subsidence and instability?	No
12.5.1. Reasons thereof	Not Applicable
12.6. Whether soil erosion control measures proposed to conform to best management practices highlighted in the National Building Code (NBC) of India, 2016?	Yes
12.6.1. Details thereof	Construction phasing,To schedule excavations when there is minimal rainfall and excavate efficiently so as not to leave soil exposed for a prolonged period. Keep any disturbed soil covered with vegetation or mulch to reduce displacement. Limit your use of heavy equipment to reduce soil compaction.

12.7. Breakup of water requirement for various daily uses

Daily Use	Daily quantity (KLD)	
	During Construction	During Operation
Drinking Water	6.75	332.1
Green Belt	0	73.14
Flushing	3.75	166.05
Dust Suppression	2	0

Daily Use	During Construction	During Operation
NA	0	0

12.8. Details of traffic management at the entry & exit to the project site in construction and operation phase with comparison to the present level of traffic	Details given in Traffic Survey report
12.9. Whether buildings or building complexes have a connected load of 100 kW or greater or a contract demand of 120 kVA or greater and are intended to be used for commercial purposes.	No
12.10. What is the Energy Performance Index (EPI) of a building in kilowatt-hours per square meter per year of the building and measures to minimize energy consumption?	52.10 kwh/sqm/year
12.11. Whether Compliance to the ECBC norms is applicable?	Yes
12.11.1. Whether compliance to	ECBC

12.12. Details for Energy efficiency level

Building envelop

12.12.1. Fenestration

Parameter	Details	Remarks
U-Factor (W/m2 .K)	5.7	Details given in ECBC report
Solar Heat Gain Coefficient	0.84	Details given in ECBC report
Visual Light Transmittance	0.84	89%

12.12.2. Day lighting

Parameter	Details	Remarks
% Useful daylight illuminance (UDI)	40	Details given in ECBC report
Area per floor (sq. m) UDI requirement during 90% of the year	40	Details given in ECBC report
Total daylight area (sq. m) in building meeting UDI requirement during 90% of the year	99	Details given in ECBC report

Building Envelope Sealing

12.12.3. Roof

Parameter	Details	Remarks
Roof assembly U-factor (W/m2 .K)	2.5	Details given in ECBC report
Climate Zone	Warm & Humid	Details given in ECBC report

12.12.4. External Wall

Opaque Assembly Maximum U-factor (W/m2 .K)	0.83	Details given in ECBC report
Climate Zone	3	Details given in ECBC report
Material	1	AAC Block - Details given in ECBC report
R Value	1.204	Details given in ECBC report

12.12.5. Energy efficiency in Thermal comfort systems and controls	Min 3-star BEE rated AC units/HVAC with better efficiency as per ECBC benchmark
12.12.6. Energy efficiency in Lighting and Electrical systems and controls	Lighting Power density, lower than ECBC benchmark and energy efficient electrical system, for areas under developer scope Astronomical on-off control for lighting.
12.13. Does the layout of streets & buildings maximize the potential for solar energy devices? Substantiate with details.	Yes
12.14. What extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used	Solar PV & Solar Hot Water Panels
12.15. What are the likely effects of the building activity in altering the microclimates? Provide a self-assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?	Grass pavers/ tree plantation/ using high SRI finish for roof and non-roof
12.16. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency	

12.16. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans	Details given in Risk Management Plan
12.17. Details of NOCs available for the project (if any)	N/A

Enclosures

13. Layout Plan showing the components of the project and green belt proposed; general location and specific location of the project along with coordinates	Master_Plan_Layout.pdf
14. Upload Copy of EMP Report	EIA_Report.pdf
15. Conceptual Plan for Building and Construction project	Master_Plan_Layout.pdf
16. Upload copy of District Survey Report	N/A N/A
17. Schematic representation of the feasibility drawings which give information for EIA purpose	Master_Plan_Layout_EIA.pdf

1. Additional Information

Sr. No.	Document Name	Remark	Document
1	Covering Letter	EC application	Covering letter.pdf

Undertaking

☑ I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost. In addition to the above, I hearby give undertaking that no activity/construction/expansion has been taken up

Name	Jeetu Panjabi
Designation	Director
Company	SERENE DEVELOPERS
Address	Sno 37 oppo Dilip Vengaskar Cricket Acedemy Thergaon
Date	26-12-2022

Anx. R16

WEB PUBLISHED ONLY

General Framework

For Imposing

Environmental Damage Compensation



CPCB

CENTRAL POLLUTION CONTROL BOARD

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

Parivesh Bhawan, East Arjun Nagar, Delhi 110032, India

December 2022

T.C.

PREFACE

Environmental Damage Compensation (EDC) is a tool guided by 'Polluter Pays' principle, wherein a cost is paid by the polluter responsible for polluting environment and causing damage to its components. It is applicable in both cases where the release of pollutants is sudden or gradual over a longer period, recoverable for the site where injuries to natural resources have occurred.

While, the EDC is calculated on case to case basis and various CPCB guidelines exists for specific cases & sectors for calculating damage cost, need was felt for a general framework for guiding the damage assessment and cost estimation process.

This document helps in identifying direct and indirect damages caused to environment due to anthropogenic activities and retroactive application of Environment Compensation (EC) charges. It also details a standard procedure for damage assessment including preliminary investigation, analysis of data, identification of EDC liabilities, assessment of direct & indirect liabilities, assessment of eco-system damages, detailed investigation of damaged site, analysis of detailed data, determination of EDC scenario and cost, identify best achievable remediation and restoration methods, action plan imposing over-all EDC and monitoring of implementation of plan by regulatory bodies.

A standard format for preliminary investigation of damaged area is provided along with instructions. Two checklists of direct and indirect liabilities for 19 types of anthropogenic hazards are also provided. Indicative methods of damage quantification and EDC estimation have been compiled and placed at Appendix IV for easy reference.

This document was prepared in pursuant to the directions of Hon'ble National Green Tribunal via order dated April 24, 2019 in O.A. 606/2018. It is authored by Shri B. Vinod Babu, Divisional Head WM II, CPCB and co-authored by Smt. Garima Sharma, AS, CPCB with editing support from Shri Sameer Arora, Consultant (Engineering), CPCB.

Member Secretary
Central Pollution Control Board

****

CONTENTS

1.1 Introduction……..4

1.2 Environmental Damage Compensation.....5

1.2.1 Direct Damages 5

1.2.2 Indirect Damages.....5

1.2.3 Applicability 5

1.3 Scope of EDC & Standard Flow Model for estimating EDC.....6

1.3.1 Preliminary investigation.....8

1.3.2 Analysis of preliminary data.....9

1.3.3 Identification of direct and indirect EDC liabilities 9

1.3.4 Assessment of direct and indirect liabilities 11

1.3.5 Assessment of Eco-system liabilities 12

1.3.6 Detailed investigation of damaged site, if required.....12

1.3.7 Analysis of detailed data.....13

1.3.8 Determination of EDC scenario and cost 13

1.3.9 Identify best achievable remediation and restoration methods & its cost 14

1.3.10 Directions/ action plan imposing over-all EDC 15

1.3.11 Monitoring of implementation of plan by regulatory bodies 15

APPENDIX I – Format for preliminary investigation of damaged area ……16

APPENDIX II – Checklist of directly impacted environmental components……..……20

APPENDIX III – Checklist of indirect impacts from anthropogenic pollution ……..22

APPENDIX IV – Indicative methods of damage quantification & EDC estimation……..26

PRELIMINARY FRAMEWORK FOR IMPOSING ENVIRONMENTAL DAMAGE COMPENSATION

1.1 Introduction

Environmental damage means the adverse effects induced on environmental properties (or goods) due to anthropic activity, in this context, environmental goods may be natural resources such as air, soil, surface water, groundwater, flora and fauna, ecosystem, biodiversity and the services they provide to ecosystem or to humans. Some of the ecosystem services are purification, productivity, landscape, climate regulation, nutrient cycling, disturbance prevention and natural mitigation, etc.

Environmental Damage Compensation (EDC) is a cost to be paid by the polluter responsible for causing environmental damage by release of harmful substances or pollutants in excess of stipulated standards due to inadequate control equipment or negligence. Release of pollutants may be sudden or slow and gradual manner in excess of standards over a longer period.

Realising the need for the same, Hon'ble NGT vide its order dated April 24, 2019 in O.A. 606/2018, noted that it necessary to recover cost of environmental damages from identified polluters based on polluter pay principle by undertaking assessment of environmental damage. This concept is needful for effective enforcement of environmental laws.

EDC is also based on the precautionary principle that ensures operators to take appropriate action to prevent environmental damage from occurring. Under the "polluter pays" principle the responsible party will be required to restore environmental damage and also responsible for compensating consequent damages caused on receptors.

It is necessary to ensure that EDC maximize the welfare of receptor population, restoration of environment as well as maintain sustainable environment and eco-systems, however at the same time, scientifically estimated EDC is necessary to justify costs imposed on polluter-pay-principle.

Monetary valuation of environmental damages is a complex process involving multidisciplinary juridical, technical and economic analysis is necessary. Following challenges may arise in assessing environmental damages;

- Establish existence of the damage
- Establish cause-effect link between the damage and the unauthorised or negligent activities;
- Quantify or determine extent of damage;
- Identification of suitable methodologies to valuate damages.

1.2 Environmental Damage Compensation

Environmental Damage Compensation (EDC) is a quantifiable and reasonably estimable future expenditure as on date for restoration of environmental damages caused due to anthropogenic release of pollutants in excess of permissible limits or unauthorised activity. Environmental damage compensation is apportioned to one or more factors relating to degradation of air quality, water resources, soil, groundwater, adverse effect on human health, loss of eco-system services, including damages caused to property, natural assets and productive assets. Thus, EDC includes cost of assessments, cost of restoration and compensation for direct and indirect damages caused to human, property, flora, fauna including ecosystem functions.

1.2.1 Direct Damages

Direct damages or general damages occur through direct interaction of polluting activity with an environmental, social, or economic component. For example, discharge of untreated sewage into a river may lead to a decline in water quality in terms of BOD, DO or rise in bacterial contamination.

1.2.2 Indirect Damages

Indirect or consequential impacts on environment often seen away from source and often occur in pathway of impact. Indirect impacts can also be secondary or even third level impacts. For, example, rainwater run-off over a dumpsite may contaminate a receiving water body with heavy metals or other toxins, which in turn lead to a secondary indirect impact on aquatic flora (phytoplankton) in that water body. This may effect fish population in impacted water body, thereafter, reduction in fish yield may affect income of farming is third level socio-economic impacts.

As discussed, Environmental damage compensation would require monetizing cumulative activities preliminary site investigation, detailed site assessment, restoration and also compensation for environmental and ecological losses arising from direct and indirect damages.

1.2.3 Applicability

Environmental compensation need to be imposed retroactively. Principle of strict liability shall be exercised on the polluter while implementing environment damage compensation. Strict liability is imposition of liability on the polluter without finding a fault such as exceedance of standards, negligence or ill intention.

In cases where two or more persons are liable in respect of damage, principle of joint and several liabilities may be imposed. Under joint and several liability, a State may pursue obligation of EDC

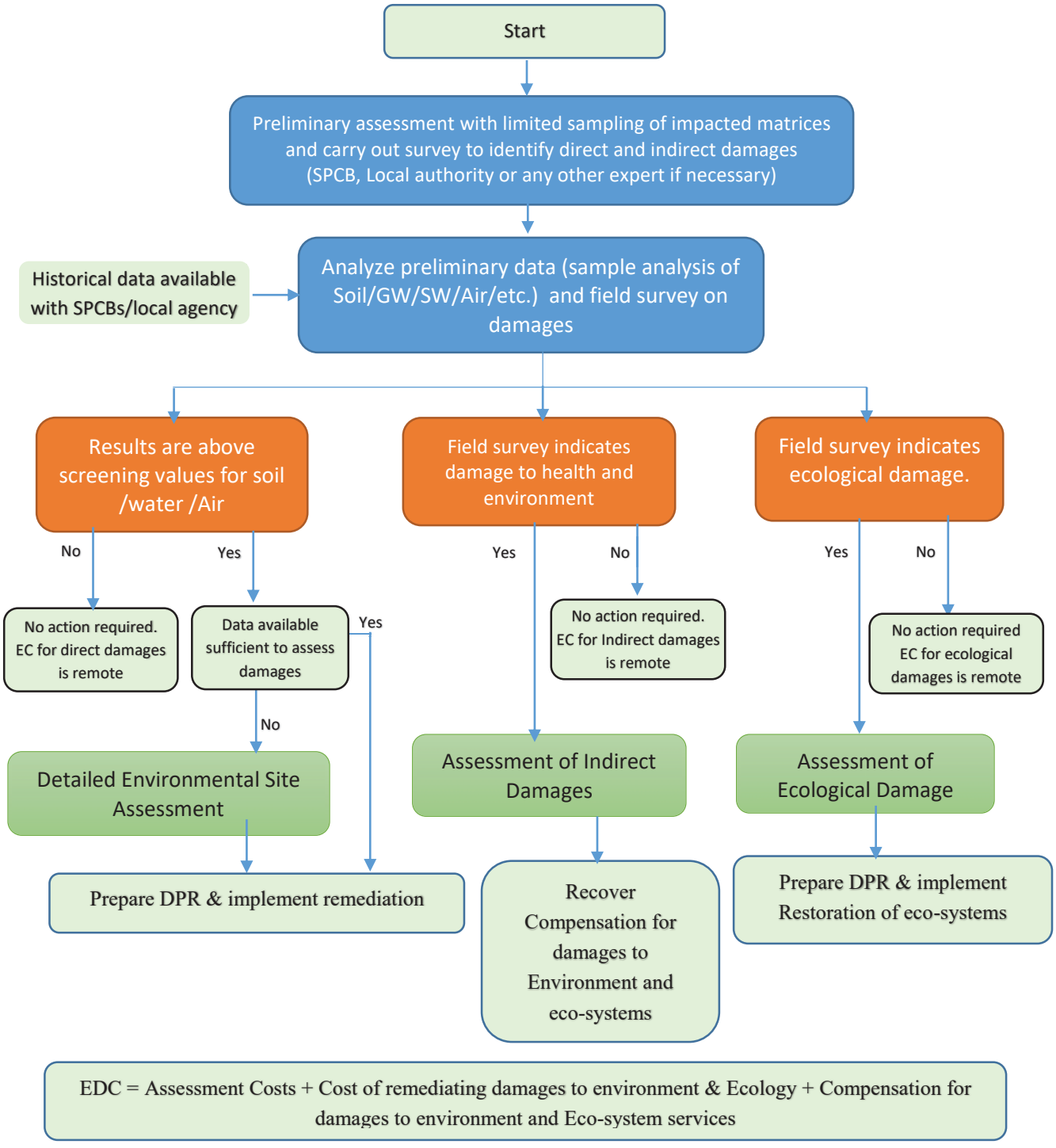
against any one party as if parties were jointly accountable and it becomes responsibility of the defendants to sort out their respective proportions of obligation and payment.

1.3 Scope of EDC & Standard Flow Model for estimating EDC

A standard procedure shall be followed for estimation of damages due to anthropogenic polluting activities. It includes following steps,

i. Preliminary investigation
ii. Analysis of preliminary data
iii. Identification of EDC liabilities
iv. Assessment of direct, indirect liabilities
v. Assessment of eco-system damages
vi. Detailed investigation of damaged site, if required
vii. Analysis of detailed data
viii. Determination of EDC scenario and cost
ix. Identify best achievable remediation and restoration methods
x. Directions/ action plan imposing over-all EDC
xi. Monitoring of implementation of plan by regulatory bodies

The Standard Flow Model for estimating EDC is as presented below,


Start
Preliminary assessment with limited sampling of impacted matrices and carry out survey to identify direct and indirect damages (SPCB, Local authority or any other expert if necessary)
Historical data available with SPCBs/local agency
Analyze preliminary data (sample analysis of Soil/GW/SW/Air/etc.) and field survey on damages
Results are above screening values for soil /water /Air
Field survey indicates damage to health and environment
Field survey indicates ecological damage.
No
Yes
Yes
No
Yes
No
No action required. EC for direct damages is remote
Data available sufficient to assess damages
Yes
No action required. EC for Indirect damages is remote
No action required EC for ecological damages is remote
No
Detailed Environmental Site Assessment
Assessment of Indirect Damages
Assessment of Ecological Damage
Prepare DPR & implement remediation
Recover Compensation for damages to Environment and eco-systems
Prepare DPR & implement Restoration of eco-systems
EDC = Assessment Costs + Cost of remediating damages to environment & Ecology + Compensation for damages to environment and Eco-system services

1.3.1 Preliminary investigation

Following scope of work identified for reconnaissance and preliminary investigation of damaged site;

- To conduct field visits, visual site inspections, review of existing documents, maps and literature and carry out the following activities.
- Current sources of contamination at site and process of release in the influence area.
- Collection of history/background information of the contaminated site
- Basic features of the site i.e. collection of available information on the site like site maps (topographical, geological), hydro-geological information, information from local authorities, information on the type of polluting-sources at site.
- Identification of previous and current land use pattern of the site
- Identification of parameters causing immediate threat to the ecology and environment.
- Discussion with local people and other informed people, district administration, municipal and regulatory authorities, NGOS, etc.
- Selection of the available observation wells (Bore Well) in the watershed covering the site, for monitoring water level and quality monitoring at appropriate locations, & inventory details like total depth of the well, water column; frequency of sampling (pre monsoon/ post monsoon)
- Description of area with respect to existing land use, potential areas of environmental/ecological risk, demographic profile, social economic and environmental conditions of the people in receptor areas, flora and fauna etc.
- Information of prevailing or commonly reported health issues in the area
- Collection of preliminary samples and analysis of soil, sub-soil, surface water, ground water for comprehensive analysis of major ions and heavy metals, organic constituents, pesticides and other relevant parameters related to the contaminated site as per national / international accredited testing procedures.

1.3.2 Analysis of preliminary data

- Based on preliminary survey and sampling, a detailed sampling protocol aimed at assessing the contamination level of the site and to establish the baseline environmental status of the project area shall be prepared. The protocol shall include identification of criteria pollutant (parameters) for analysis, sampling frequency (number of seasons), number of samples, etc. and shall be submitted for approval of concerned authorities.
- Identification of Benchmark /Background samples.
- Outlining the extent of contaminant plume or contaminated area based on field survey and preliminary findings.
- Establishing conceptual site plan/model showing link between source and receptor. It comprises three elements (i) Potential sources of contamination, (ii) Potential receptors that may be harmed and (iii) Potential pathways linking the two

1.3.3 Identification of direct and indirect EDC liabilities

This guidance document provides a broad framework for identifying damages, assessing damages and imposing compensation for environmental damage. Step-wise approach shall be adopted for activities such as preliminary assessment, identification of direct and indirect liabilities, detailed environmental and ecological studies, assessment of damages, calculation of compensation for direct and indirect liabilities.

- Following direct liabilities will be applicable for assessment and restoration;
    - Soil and sediment contamination
    - Groundwater contamination
    - Contamination surface bodies
    - Damages to eco-systems

These ecological impacts may constitute clearing/fragmentation/alteration/destruction of native vegetation, animal habitats, pollution of watercourses and wetlands, sediment, nutrient and pollutant run-off into adjacent vegetation and animal habitats, loss of hollows, nesting and feeding habitats for birds, etc. Some of the activities that may cause ecological damages are as given below;

- Sand mining

- Mining activity
- Industrial discharge of wastewater
- Dumping of hazardous wastes and chemicals
- Deforestation
- Release of air pollutants

- The direct liabilities with respect to Air pollution are,
    - Compensation for release of air pollutants in excess of permitted quantities
    - Compensation for release of toxic gases from process

- Indirect damages are those damages which are not directly accountable to an action and may either be fixed or variable. A few important indirect damages are,
    - Cost of compensating indirect damages
    - Social responsibility for supply of safe drinking water
    - Resettlement/Relocation
    - Loss of life
    - Permanent, temporary, total or partial disability or other injury or sickness
    - Loss of wages due to total or partial disability or permanent or temporary disability
    - Medical expenses incurred for treatment of injuries or sickness
    - Damages to private property
    - Expenses incurred by the Government or any local authority in providing relief, aid and rehabilitation to the affected persons
    - Loss to the Government or local authority arising out of, or connected with, the activity causing any damage
    - Local claims including cost of restoration on account of any harm or damage to environment including pollution of soil, air, water, land and eco-systems
    - Loss of business or employment or both

- Any other claim arising out of, or connected with environmental and ecological damages due to release of pollutants
- Long term monitoring costs (for options such as monitored natural attenuation)
- Claims on account of harm to milch and draught animals
- Claims on account of harm to aquatic fauna
- Claims for loss due reduced fishing yield in ponds, rivers or sea

Impacts to the environment can be caused through a variety of mechanisms. It is not the intent of this report to capture all possible contamination scenarios that may occur in a multitude of permutations and combinations that may impact the natural resources. However, this report addresses environmental impacts arising from prominent anthropogenic polluting activities which contaminate natural resources and impact receptors. A check-list of environmental damage scenarios and applicable compensation liabilities is placed at Appendix II & III.

1.3.4 Assessment of direct and indirect liabilities

Development of national framework on environmental damage assessment is a complex exercise requiring consultations with multi sectoral experts of environmental economics, remediation, cost estimates, etc. CPCB utilized expertise of Expert Group comprising experts on damage assessment, environmental economics, valuation, etc. A meeting of Expert Group was held on May 16, 2019 at Central Pollution Control Board to guide efforts for exploring development of national framework. It was suggested that a standard procedure for calculating best estimation of damages due to different scenarios of anthropogenic polluting activities need to be developed over time for quantification and estimation of environmental damages.

In case of environmental damages arising due to improper handling of hazardous wastes, guidelines on imposition of environmental liability published by CPCB may be referred. Indicative methods for assessment of environmental damage compensation for air pollution, river pollution, soil and groundwater is placed at Appendix IV. Specific studies would be necessary for assessing EDC depending on nature of damage. Cost for penal or deterrent charges and criminal damages have not addressed in this reference document while estimating EDC.

1.3.5 Assessment of Eco-system liabilities

Quantification of ecological damages is analytical measure of the extent, severity and duration of the damage in terms of alteration, which is an adverse variation with respect to the baseline condition of the natural resources and services; deterioration, which is a partial loss of the ability of the natural resource to provide an ecological or public service; partial destruction, which is the loss of one or more services; and total destruction, which is the loss of all the services. Thus, assessment of eco-system damage is complex and location specific. It is required to be done on case to case basis by collection, compilation and assessment of data on biological environment, ecosystem functions, communities, etc. in the damaged area. In view of time constraint, the same may be done using archive data available with local agencies & concerned institutions.

1.3.6 Detailed investigation of damaged site, if required

Detailed investigation is build up on findings of preliminary investigation, including extent & significance of direct and indirect damages. Detailed assessment should be carried out as per pre-determined sampling protocol approved by concerned authority. Scope of detailed assessment in case of contaminated areas is given below;

- Clearly delineate the boundaries, longitudinal and cross section of the contaminated site through topographic and other engineering surveys and prepare a base map of the site.
- Water, soil, sediment, and air quality assessment - analysis of criteria pollutants
- Collect data on geological, hydrogeological and hydrological features of the contaminated site - if required necessary studies shall be carried out.
- Development of groundwater flow, surface water flow and mass transport models.
- Estimate the quantity of contaminants and their concentrations including secondary pollutants.
- Socio - economic and environmental assessment of the contaminated area.
- Assess the potential environmental/ecological/health impacts on soil, ground water, surface water bodies, population, flora and fauna
- Pathways of contaminant transport, fate of the contaminant and exposure.
- Assessment of toxicity, bioavailability, biodegradability and mobility of contaminants.

- Identification of significant receptors and establishing trigger values.
- Use suitable quantitative or qualitative risk assessment model.

This report does not prescribe detailed methodology for assessing environmental damages. However, an indicative checklist of possible types of damages and parameters indicating indirect impacts on environment is given at Appendix II & III.

1.3.7 Analysis of detailed data

Analysis of data from detailed investigation data will determine the applicable damages for environmental compensation, which should be estimated as per specified methodology, that may be evolved on case to case basis. Some of the indicative methods for assessment of environmental damage compensation for air pollution, river pollution, soil and groundwater are given at Appendix IV.

1.3.8 Determination of EDC scenario and cost

As discussed earlier, environmental damage compensation is cumulative of one or more factors relating to environmental degradation of air quality, water resources, soil, groundwater, adverse effect on human health, loss of eco-system services, including damages caused to property, natural assets and productive assets. Thus, EDC includes cost of assessments, cost of restoration and compensation for direct and indirect damages caused to human, property, flora, fauna including ecosystem functions etc., identified during detailed assessment study.

Environmental Damage Compensation comprises of (i) assessment obligation, (ii) remediation obligation (iii) restoration obligation (iv) compensation to affected third party (v) obligation to compensate damage to natural resources. Thus environmental damage compensation can be calculated as below;

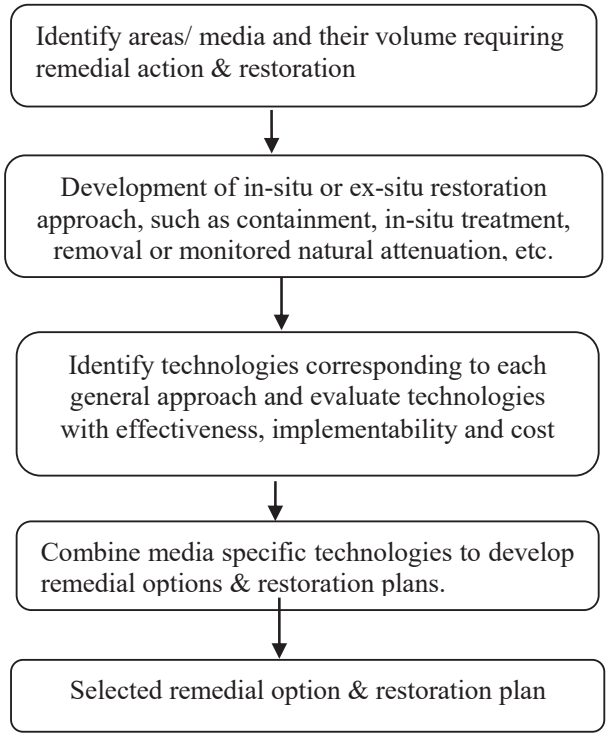
EDC = Assessment Costs + Cost of remediating damages to environment & ecology + Compensation for damages to environment and eco-system services

The concerned regulatory agency (or SPCBs/PCCs) may approve applicable EDC scenario.The key parameters that will ultimately dictate the level and costs of remediation activities are degree of ecological damage, number of impacted receptors, impacted media volumes, volume of indirect damage liabilities,

pollutants (constituents) of concern, number of contaminants, impact matrix, current and intended future land use, migration of contamination, etc.

1.3.9 Identify best achievable remediation and restoration methods & its cost

Having completed the preliminary and detailed site assessment as above, the polluter may be liable to undertake remediation and restoration activity, as applicable. A remediation plan is to be prepared specifying most applicable remedial technology to bring the site-specific contamination levels down to no risk or an accepted risk level (based on environment/ human health scenario) and estimated costs for remediation. Upon review of the same, the concerned agency (or SPCB/PCC) may specify remediation objective and site specific target levels for restoration for specific constituents of concerns along with intermediate target levels vis-à-vis time schedule so as to monitor the progress of remediation. Evaluation and fixation of site specific target levels for restoration of environmental and ecological damages may be specified by concerned SPCB/PCC on their own or by constituting an Expert Committee thereof. A restoration plan of the site may be evaluated by concerned SPCB/PCC or Expert Committee and target levels fixed for intermediate monitoring. An indicative approach for arriving at an appropriate remediation option and restoration plan is presented in the flow sheet below,



Expert Committee may also finalize applicable compensation liabilities due to indirect damages based on detailed investigation studies.

Once the plan with site specific target levels is approved by the agency (or SPCBs/PCCs), responsible party shall undertake site restoration accordingly under supervision of agency or any third party appointed for the same. During such period, few sampling and analysis shall also be carried out by the SPCB/PCC for validation.

1.3.10 Directions/ action plan imposing over-all EDC

Upon receipt of the assessment reports, which shall comprise of damage assessment, remediation objective and restoration plans along with the cost estimation and time schedule, the concerned agency (SPCB/PCC) may firm up the remediation objective and duly approve the plan for implementation by specifying site specific target levels. Directions may be issued to responsible party(ies), as necessary.

1.3.11 Monitoring of implementation of plan by regulatory bodies

The approved restoration plan and recovery of environmental compensation for damages caused to environmental properties shall be executed by the responsible party(ies), which may be monitored by SPCB/PCC as per the time schedules and phase wise remedial targets thereof as declared in the assessment report so as to meet the said remediation objective/standard. During such monitoring, few sampling and analysis thereof shall also be carried out by the SPCB/PCC for validation.

***

APPENDIX I

FORM - I

FORMAT FOR PRELIMINARY INVESTIGATION OF DAMAGED AREA

1.	Date and time of inspection	
2.	Location of damaged area	
3.	Coordinates of damaged area	
4.	Nature of damage	
5.	Possible cause of damage	
6.	Single source contamination or multi source contamination	
7.	Estimated date or duration of activity resulting in damage	
8.	Impacted receptors (tick whichever applicable)	□ Air □ Surface water …… □ Drinking water □ Ground water □ Soil □ Sediment □ Flora □ Fauna

		□ Cattle □ Crops/ Agriculture land/ Orchid □ Infrastructure/property □ Others…….
9.	Pollutants suspected to be discharged	
10.	Pollutants of most concern	
11.	Estimated quantification of damage media (in terms of area, volume, numbers, percentage, as applicable and possible)	
12.	Land use (industrial, commercial, agricultural, residential, combinations thereof, etc.) Specify if needed.	Historic Current Future
13.	Site situation (climatic conditions, hydrology, groundwater flow, surface waters, underground structures, etc. in damaged area)	
14.	Type of geology (sand, clay silt, weathered rocks, fracture rocks, competent rocks)	
15.	Depth to ground water (m) (if applicable)	
16.	Offsite migration of pollutant possible, specify	Yes / No
17.	Location of damaged area with respect to nearby wetland or eco-sensitive areas (if any)	

18.	Location of damaged area with respect to sensitive receptors that could possibly require remedial actions such as, potable water supply, surface water bodies, residential area, sensitive ecosystem, etc.	
19.	Any immediate measure taken to control damage, specify	Yes / No
20.	Any other observation requiring mention,	
21.	Documents to be attached (if available) ▪ Relevant permits, consent, license, etc. (if applicable) ▪ Site layout map ▪ Photographs ▪ Videos	

Signature

Name & designation of team members

Date & Place

INSTRUCTIONS FOR FILLING FORM - I

- This form serves as a preliminary factsheet to gather general information on damaged site
- The inspecting team shall perform dry inspection including observation of damaged site, neighborhood & operations/ activities in the area, interviewing stakeholders/site/receptors representatives, collecting records & reports available, taking photographs or making videos, etc.
- Preliminary inspection can be a rapid walk-through inspection or slightly more elaborated, if required.
- While informing 'nature of damage' and 'possible cause of damage', an estimate may be made on most possible scenarios that may have occurred resulting in environmental damage to the site. In case, team fails to make an estimate, a list of probable scenarios may be prepared.

- ‘Pollutants suspected to be discharged’, it is required to mention all the pollutants suspected to have been discharged during the incident. However, with respect to information under ‘Pollutants of most concern’, it is to remember that it is the function of nature of pollutant, its impact of human & environment, toxicity and concentration at damaged site. For example, it may include but not limited to a pollutant which is carcinogenic or hazardous or radioactive. It may include toxic pollutants which are pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.
- ‘Estimated quantification of damage media’, in case air quality is affected, it may be reported in terms of area and population under direct impact and physical observations on air quality.

****

APPENDIX II

CHECKLISTS OF DIRECTLY IMPACTED ENVIRONMENTAL COMPONENTS

The most possible scenarios that may occur due to anthropogenic activities resulting in damage to environment and applicable compensation scenarios are as given in Tables below,

Type of damage	Directly impacted environmental properties (tick the appropriate box)					
	Ambient air	Ground Water	Surface Water	Soil	Sediment	Ecology
Effluent discharge from an industry exceeding limits/ untreated or inadequate pollution control device	√ (VOCs & Acidic fumes)	√	√	√	√	√
Emission from an industry or incinerator; absent or inadequate pollution control device	√			√	√	√
Un-scientific dumping of municipal solid waste	√	√	√	√		√
Untreated sewage in water bodies		√	√		√	√
Improper disposal of C&D Waste	√					
Leakage or failure of sanitary and secured Landfills		√		√		
Unscientific recycling of E-Waste	√	√	√	√	√	

2646

Type of damage	Directly impacted environmental properties (tick the appropriate box)					
	Ambient air	Ground Water	Surface Water	Soil	Sediment	Ecology
Improper disposal of bio-medical waste						√
Biomass burning	√			√		
Vehicular emissions exceeding limit	√					
Diesel generator sets exceeding limit	√					
Road dust & soil dust	√					
Illegal Hazardous waste dumping by industry		√	√	√	√	√
Chemical spills or leakages	√ (Gases, VOCs & fumes)	√	√	√	√	√
CETP – Failing to meet standards (case to case basis)			√		√	√
Fire, explosions, Reactions of hazardous substances/wastes (case to case basis)	√		√	√		√
Marine spills			√	√ Beach	√	√
Mining Activity	√	√	√	√	√	√

2647

APPENDIX III

CHECKLIST – APPLICABLE COMPENSATIONS FOR INDIRECT IMPACTS

Type of Environmental damage	Parameters indicating indirect liabilities for compensation												
	Supply Drinking water	Harm to Flora & fauna, animals	Property damage	Loss of ecological services	Resettlement/ relocation/ Relief	Health	Injury /sickness	Loss of life	Loss of recreation	Reduced yield fishing / agriculture	Loss of earnings	Medical expenses	Other claims indirect losses
Un-acceptable Effluent discharge from an industry	√		√	√		√	√	√	√	√	√	√	√
Un-acceptable Emission from industry or incinerator	√	√	√	√	√	√	√	√	√	√		√	√
Un-scientific dumping of municipal solid waste	√	√	√		√	√	√	√	√	√			Monitoring etc.
Untreated sewage in water bodies	√	√		√		√			√	√			

2648

Type of Environmental damage	Parameters indicating indirect liabilities for compensation												
	Supply Drinking water	Harm to Flora & fauna, animals	Property damage	Loss of ecological services	Resettlement/ relocation/ Relief	Health	Injury /sickness	Loss of life	Loss of recreation	Reduced yield fishing / agriculture	Loss of earnings	Medical expenses	Other claims indirect losses
Improper disposal of C&D Waste		√	√	√		√							Noise
Leakage or failure of sanitary and secured Landfills	√	√		√	√	√	√	√	√	√			Visual nuisance, Odour
Unscientific recycling of E-Waste	√	√		√		√	√	√		√			
Improper disposal of bio-medical waste	√	√		√		√	√	√		√			
Biomass burning		√				√	√						√
Diesel generator sets exceeding limit		√		√		√	√						√
Road dust & soil dust		√	√			√				√			

2649

Type of Environmental damage	Parameters indicating indirect liabilities for compensation												
	Supply Drinking water	Harm to Flora & fauna, animals	Property damage	Loss of ecological services	Resettlement/ relocation/ Relief	Health	Injury /sickness	Loss of life	Loss of recreation	Reduced yield fishing / agriculture	Loss of earnings	Medical expenses	Other claims indirect losses
Illegal Hazardous waste dumping by industry	√	√	√	√	√	√	√	√	√	√	√	√	
Chemical spills or leakages	√	√	√	√	√	√	√	√	√	√	√	√	√
CETP – Failing to meet standards (case to case basis)		√				√	√		√	√	√	√	√
Fire, explosions, Reactions of hazardous substances/wastes (case to case basis)		√	√	√	√	√	√	√	√		√	√	√
Marine spills		√	√	√		√	√		√	√	√		√
Mining Activity	√	√	√		√	√	√	√	√	√	√	√	√
Deforestation	√	√		√	√	√			√	√	√		√

2650

APPENDIX IV

INDICATIVE METHODS OF DAMAGE QUANTIFICATION & EDC ESTIMATION METHODS

1. AMBIENT AIR

1.1 Applicability

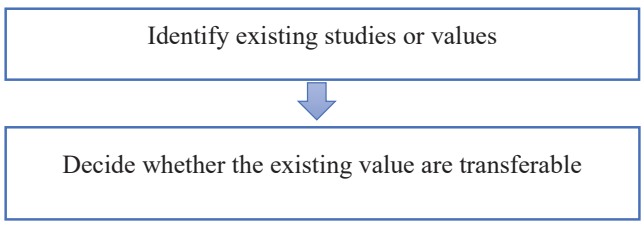
- Discharge of air pollutants from ducted and/or non-ducted emissions above prescribed limits or general standards
- Deposition of toxic particulates on land from localized air polluting source (lead, mercury, cadmium, etc.)
- Formation of complex secondary pollutants due to nucleation, condensation and other chemical reactions of primary pollutants discharged from a polluting activity

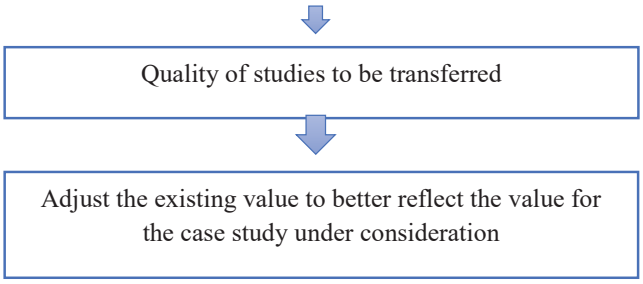
1.2 Quantification

The monitoring & analysis of applicable parameters (as per prescribed norms) upwind, mid site and downwind may be conducted as per established methods of measurement. Dispersion model such as AERMOD, CALPUFF, CALINE, etc. can be used to determine the change in concentration over the specific area. For estimating affected population, ArcGIS can be used or else can be done manually using population details available in public domain for damaged site and downwind area.

1.3 Estimating cost due to mortality & morbidity using direct cost transfer method

This method is based on the method of transferring available information from already completed studies in another location or context. It is economical and less time consuming than other available method for economic assessment. It can be used as a screening process to decide whether original valuation study would be required or not. Steps for valuation through this method are as presented below,





For ease of understanding, a case study by Muller & Mendelssohn, 2007 is used for estimating damage cost due to mortality and morbidity (Chronic bronchitis, Cardiac issues etc) due to air pollution in an area using direct cost transfer method. Assuming that the conditions at the referred site are similar in total or portion to damaged site under study, we utilize cost estimates of referred study to deduce cost per tonne of pollutant emitted reworked to Indian context by considering exchange rates and inflation.

Damage cost on Health (Rs/tonnes) = Damage cost per tonne (USD, 2011) × Exchange rates × inflation

It is elucidated as below,

Damage cost due to mortality and morbidity per tonne of emitted pollutants				
Sl. No	**Pollutant**	**Damage cost per tonne (USD,2011)***	**Damage cost per tonne (INR)****	**Damage cost per tonne (2019)*****
Mortality				
1	NOx	319.82	22,084	36,062.15
2	VOC	143.79	9,929	16,213.6
Morbidity				
1	NOx	5.07	350	571.53
2	VOC	2.24	155	253.11

**Findings of referred study*

***Exchange rate applied*

****Inflation rate applied*

1.4 Estimating cost of life & health through value of statistical life and disability adjusted life year

Value of statistical life (VSL) is the amount people are willing to pay to reduce risk so that on average one less person is expected to die from the risk. Alternatively, it can be thought of as how much people are willing to pay for safety. VSL estimates are based on studies of the wage compensation for occupational hazards or studies that elicit people's willingness to pay for mortality risk reduction directly. On the other hand disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death. Both of these values are powerful indicators for understanding impacts of air pollution on affected population. There are numerous studies done for calculating VSL. With regard to DALY, values are published in WHO publication "Global Burden of Disease'.

The mortality cost is calculated using following equation,

$Tc\ (Mortality) = Pa \times VSL \times (1+i)^n$

Where,

Tc = Total mortality cost

Pa = Affected Population (calculated as below)

VSL = Value of statistical life (Using data from existing literature)

i = inflation rate

n = number of years

The morbidity cost is calculated using following equation,

$Tc\ (Morbidity) = Pa \times DALY \times Ai \times (1+i)^n$

Where,

Tc = Total morbidity cost

Pa = Affected population (calculated as below)

DALY= Disability Adjusted Life Years (Using data from WHO database)

Ai = Annual Income (Using data from latest National / State economic survey reports)

i = inflation rate;

n = number of years

The value for Pa is calculated using equation below,

Pa = AF × Bi × Pe

Where,

Pa= Affected Population

Pe, Exposed Population = (Total population * ambient concentration of pollutant / relative risk)

Bi = Baseline Incidence*

AF, Attribution Factor** = ((Relative Risk- 1) / Relative risk)

*It is expected level of disease that is usually present in a community. Baseline Incidence per 100,000 population is based on threshold limit given in WHO guidelines.

**Attributable risk is the rate (proportion) of a disease or other outcome in exposed individuals that can be attributed to the exposure. Further, relative risk is the ratio of the risk of occurrence of a disease among exposed people to that among the unexposed. WHO guidelines provide value of relative risks for various air pollutants and relevant diseases.

1.5 Estimating cost of impacts on biodiversity, crops & property

Direct cost transfer method is most suitable and less time consuming method for estimating damage cost with respect to crops, flora fauna, orchids, cattle, property, etc. The results from referred study are transferred to the site under assessment and values are adjusted considering exchange rates and inflation. It is presented below for a study on effects on flora due to NOx & VOC conducted by Muller & Mendelssohn, 2007,

Damage cost due to effect on flora due to pollutants				
Sl. No	**Pollutant**	**Damage cost per tonne (USD,2011)**	**Damage cost per tonne (INR)**	**Damage cost per tonne(2019)**
1	NOx	28.67	1980	3,233.25
2	VOC	14.96	1033	1,686.84

2. SURFACE WATER

2.1 Applicability

- Discharge of untreated or partially treated effluent into nearby streams or nalla ultimately discharging into larger surface water bodies
- Runoff from waste dumps entering into surface water bodies
- Variety of exposure pathways to receptor including but not limited to dermal contact with polluted water, ingestion by human, ingestion by livestock & its potential bioaccumulation in foodchain, ingestion by aquatic species
- Pollutants include organic, inorganic constituents, pathogens, nutrients, suspended solids, radioactive pollutants, oil & grease, thermal pollution, etc.
- Damage to human health, water supply suspension, fishery, recreational function, biological diversity, environmental property and indirect damages

2.2 Quantification of discharge of conservative substances into rivers

This method can be applied to calculate concentration of conservative substance such as, total dissolved solids, chlorides and certain metals which remain conserved i.e. there is no losses due to chemical and biological degradation and its concentration remains unchanged until the encroachment of next tributary. If the source of discharge is a point source (that enter from a fixed discharge point such as effluent pipe or tributary stream), downstream concentration of pollutant can be estimated by using mass balance principle at the point of discharge. Assuming that the river is homogeneous with respect to water quality parameter across its depth and height. Also there is no mixing of one parcel with another due to dispersion and velocity gradient. The order of magnitude of the distance from a single point source to the zone of complete mixing is obtained from following equation (Muller & Thomann)

$$Lm = 2.6\, U \frac{B^2}{H} \qquad \text{(For side bank discharge)}$$

$$Lm = 1.3\, U \frac{B^2}{H} \qquad \text{(For midstream discharge)}$$

Where,

L_m = distance from the source to the zone where discharge has been well mixed in ft

U = average stream velocity in fps

B= average stream width in ft

H= average stream depth in ft

By assuming complete mix condition, the principal statement for mass balance at outfall will be

mass rate of substance upstream + mass rate added by outfall = mass rate of substance immediately downstream from outfall,

$$Q_uS_u + Q_eS_e = QS$$

$$S = \frac{QuSu+QeSe}{Q}$$

Where,

Q_u, S_u = Upstream flow and upstream concentration respectively

Q_e, S_e = Outfall flow and concentration respectively

Q, S = Downstream flow and downstream concentration respectively

Assuming upstream concentration of substance as zero (S_u= 0), then downstream concentration can be calculated using equation given below,

$$S = (\frac{Qe}{Q}) \times Se$$

2.3 Quantification of discharge of non-conservative substances in river

Non conservative substances decay with time due to chemical reaction, bacterial degradation, radioactive decay, or settling of particles. Thus, assuming that the decay of substance is according to a first order reaction, i.e. rate of loss of substance is proportional to concentration at any time.

At boundary condition i.e. S= S_0 at x= 0 where So is calculated from equation above and by assuming uniform cross-sectional area, the concentration of non-conservative pollutant can be determined using equation below,

$$S = s_0\, e^{(\frac{-Kx}{U})}$$

Where K is the decay rate, since x/u = t (time to travel a distance x at velocity u)

2.4 Quantification using modelling approach

USEtox model can be used for calculation of characterization factor of toxic pollutant. This model offers more than 1250 substances and reflect more updated knowledge and data on effect factors. This model was specifically designed to determine the fate, exposure and effect of toxic substances with the ability to consider spatial differences with the country specific parameters. The characterization factor in the USEtox model includes a Fate Factor (FF), Exposure Factor (XF) and an Effect Factor (EF).

2.5 Cost estimation to human health damage

Evaluation of economic losses related to human life and health includes sum of two components (i) evaluation of cost of fatality (ii) evaluation of cost of affected persons.

$$L_{HH} = V_d N_d + \sum_{k=1}^{3} V_{k,p} N_{k,p}$$

Where,

L_{HH} = Total cost to human health damage

V_d = Economic loss of one fatality

N_d = Number of fatalities

$V_{k,p}$ = Economic valuation of affected person in the category k

k= 1 slightly affected, k= 2 severely affected, k= 3 very severely affected

$N_{k,p}$ = Number of person affected

Evaluation of cost of one fatality

According to " the year of potential life lost" proposed by U.S. Centres for diseases control and prevention in 1982 , life is valued in proportion to person's potential economic production. Cost of one fatality also includes living cost of dependents. Thus cost of one fatality depend on age of victim, his income, number of dependent on him. The life expectancy of healthy human is assumed to be 80. Cost of one fatal victim is presented in table below,

Cost of one fatal victim ('a'= age of victim, 'ae'= age of dependant elder, 'ay'= age of dependent child)				
		a <60	60 < a < 75	a >= 75
Victim's own loss in age 'a'		Income×20	Income×(80-a)	Income×5
Cost of dependent's living needs	Living expenses of one elder of age 'ae'	60 <ae <75	ae >= 75	
		Income×(80-ae)	Income×5	
	Living expenses of one child of age 'ay'	Income ×(18 - ay)		

Evaluation of cost of affected person

Evaluation of affected people is the function of their age and severity of affect. It is classified into three categories slightly affected, severely affected and very severely affected using coefficient of 0.4, 0.7 and 1 respectively. Duration of sick leaves and medical fees associated with the cure of affected people is also taken into consideration while evaluating economic valuation of affected people.

Evaluating cost of one affected victim			
Detail of loss estimation	Slight	Severe	Very severe
Affected people own loss and living cost of the dependant	Cost in homologous death ×0.4	Cost in homologous death ×0.7	Cost in homologous death ×1
Loss of sick leaves	Average daily wages × dh × 3		
Medical Fees	Average hospitalization expenses		

2.6 Estimating cost of damage to fisheries

Surface water pollution directly affects the fish yield, to recover the same certain time period is required. Assuming that fishing is forbidden before recovery of fish yield, the economic loss of damage to fishery can be evaluated using the following equation,

$$\mathbf{L_f = AI_f \times rt}$$

Where,

L_f= economic loss due to damage to fishery

AI_f= annual gross income from fisheries in polluted water

rt = the recovery time of aquatic product (for estimating same AQUATOX model, by USEPA can be used)

Estimating cost of damage to recreational function

Surface water pollution affects the economic function of recreation activities such as swimming, angling, boating etc. To evaluate the cost of damage to recreation functional, following equations can be used. The data required on number of people swimming, boating, angling in the concerned water body per day can be obtained from local agencies or socio-economic studies conducted in the area.

$L_R = L_{SM} + L_{BT} + L_{AG} + L_{LM}$	L_R : the loss of damage to recreation L_{SM} : the loss of swimming L_{BT} : the loss of boating L_{AG} : the loss of angling L_{LM} : loss of leisure means
$L_{SM} = P_{SM} \times N_{SM} \times d$	P_{SM} : the price of replacement of swimming per person (rs/cap/ day) N_{SM} : the number of people swimming in the water per day (cap/ day) d : duration of the pollution episode (day)
$L_{BT} = P_{BT} \times N_{BT} \times d$	P_{BT} : the price for replacement for boating (rs/cap/ day) N_{BT} : the number of people boating in water per day d : duration of pollution episode (d)
$L_{AG} = P_{AG} \times N_{AG} \times d$	P_{AG} : the price for angling for boating (rs/cap/ day) N_{AG} : the number of people angling in water per day d : duration of pollution episode (d)

2.7 Estimating cost of damage to environmental property loses

Pollution released in water bodies deteriorate the water quality and decrease the value of surface water. Pollutant may also deposit in sediments and percolate in nearby sources of groundwater. Pollution clearance cost analysis is applied to evaluate the cost associated with damage to environmental property due to water pollution using following equations,

$L_{EP} = C_{SW} + C_{GW} + C_{SO}$	L_{EP} = loss of environmental property (rs) C_{SW} = cost of pollutant removal from surface water C_{SO} = cost of pollutant removal from sediment C_{GW}= cost of pollutant removal form ground water
$C_{SW} = P_{SW} \times V_{SM}$	P_{SW} = price of removing pollutant from surface water (rs/m^3) V_{SM} = the volume of polluted surface water (m^3)
$C_{GW} = P_{GW} \times V_{GM}$	P_{GW} = price of removing pollutant from ground water (rs/m^3) V_{GM} = the volume of polluted ground water (m^3)
$C_{SO} = P_{SO} \times A_{SO}$	P_{SO} = price of sediment remediation (rs/m^2) A_{SO} = the area of polluted sediment (m^2)

3. GROUND WATER

3.1 Applicability

- Leaching of contaminants from wastes dumped onto open parcels of land
- Leaching of chemicals from storage tanks or leaking underground storage tanks/ fuel tanks/ septic tanks
- Leaching of contaminants from landfills that are leaking below ground
- Reverse injection of effluent into deep injection wells
- Leaching of contaminants from underground leaking pipelines carrying liquid chemicals

- Contaminated aquifers provide a variety of exposure pathways to various receptors, including but not limited to, most importantly Humans, Livestock, including cattle, poultry, flora, fauna etc. These pathways include, but are not limited to dermal contact with contaminated groundwater, ingestion of contaminated groundwater and ingestion of crops that are irrigated with contaminated groundwater.

3.2 Quantification of damage to groundwater

The pollutant which enter subsurface zone creates a contamination plume within the aquifer. Thus, small amount of certain pollutant can contaminate large areas. Flow through groundwater is govern by two physical process that are advection and hydrodynamic dispersion. Advection is the component of solute movement attributed to transport by flowing groundwater. The rate of transport is equals to average linear groundwater velocity, v* where v*=v/n, v being the specific discharge and n the porosity.

Further, solute transport equation is used to represent the movement of flux of solute mass through a control volume. The equation states that the sum of all mass, which creates solute with the control volume, must be equal to a change in the concentration of solute with the control volume.

$$\frac{\partial C}{\partial x} = \left[\frac{\partial}{\partial x}\left(D_x \frac{\partial C}{\partial x}\right) + \frac{\partial}{\partial y}\left(D_y \frac{\partial C}{\partial y}\right) + \frac{\partial}{\partial z}\left(D_z \frac{\partial C}{\partial z}\right)\right] - \left[\frac{\partial}{\partial x}(V_x C) + \frac{\partial}{\partial y}\left(V_y C\right) + \frac{\partial}{\partial z}(V_z C)\right]$$

Where,

V_x, V_y,V_z = Seepage velocities in x,y,z directions, m/s

D_x, D_y,D_z = Dispersion coefficient, m^2/sec

C = Solute concentration, mg/m^3

T = Time, (s)

Visual MODFLOW can also be used to predict the ground water flow with the contaminate transport. With the use of geological and hydraulic data the potential area of pollutant transport and its concentration can be simulated with the help of MODFLOW and MT3D. Using this model the concentration of pollutant at the user end can be determined.

3.3 Cost estimation to damages

Methods for estimating cost to human health and cost of damage to environmental property described under surface water may be transferred for ground water damage cost estimation. However, while calculating EDC for groundwater pollution ecological economic assessment of groundwater is essential. This is elucidated with an example on removal of groundwater (GW) deposit due to mining activity in an area,

Relevant parameters are,

- Monetary value co-efficient of the damage caused by destruction & removal of ground water (K *deposit*)
- Static reserve's assessment co-efficient of the ground water (K *static reserve*)
- Monetary value co-efficient of damage caused by the water removed (K *water infiltration*)
- Basic price of ground water (Rs./ m^3)
- Volume of groundwater that is being removed (m^3)
- Water return coefficient of groundwater

Total cost of GW removed = Basic price of GW X Water return coefficient of GW X Volume of GW being removed (K *deposit* + K *static reserve* + K *water infiltration*)

4. SOIL

4.1 Applicability

- Illegal dumping of waste (hazardous or nonhazardous) on open parcels of land
- Discharge of untreated or inadequately treated effluent onto open parcels of land
- Boundary breaches wherein wastes might either get spilled onto open parcels of adjoining land, and/ or sub grade breaches where wastes and/ or leachate seeps into the subsoil and potentially ultimately into the aquifer
- Spills of chemicals/ wastes during transportation, leakages from trucks, tanks, pipelines etc.
- Impacted soils can lead to indirect impacts including rendering the land as not usable for agricultural purposes, serving as a continuous source of contamination to groundwater, serve as a direct exposure pathway to humans who may come into contact with the contaminated soil media.

- Soils that are contaminated provide a variety of exposure pathways to various receptors including but not limited to, most importantly humans, livestock, including cattle, poultry, etc. These pathways include, but are not limited to dermal contact with contaminated soils, incidental ingestion of contaminated soils, ingestion of crops that are grown on contaminated soils, inhalation of vapors from wastes that are dumped on soils

In India, there are no comprehensive soil quality regulations and standards to ascertain the seriousness and quantification of contamination, however, internationally adopted standards can be applied selectively for setting screening and response levels for contaminated soils.

****

T.C.

Anx. R17

TO WHOMESOEVER IT MAY CONCERN

To,
The Member Secretary,
15th floor, Environment Department,
New Administrative Building,
Mantralay Mumbai.

Dear Sir

Based on the information & explanation provided to us we here by certify that, Total Project cost and fixed assets of **M/s. Serene Developers** having its registered office at Office No A-102, ICC Trade Tower, SB Road, Pune-411016 upto 31/03/2015 towards construction of Residential project "**Air castles - Phase 1**" located at Bhoirwadi, Maharashtra is as under:

Sr. No.	Particulates	Amount (Rs. Lakhs)
1	Cost of Land	1007.81
2	Construction cost (including Direct Expenses)	8951.65
	Total	**9959.46**

The above details are taken on the basis of details and information provided to us by the management of the organization and as per books of accounts.

For Bhandari SAAJ & Associates
Chartered Accountant

BHANDARI S A A J & ASSOCIATES * F.R.N. 108155W * CHARTERED ACCOUNTANTS

CA Pravin Bhandari
Partner
Place: 06/02/2023
Date: Pune
UDIN: 23032548BGTTGN9313

BEFORE THE NATIONAL GREEN TRIBUNAL

(WESTERN ZONE) BENCH, PUNE

MISC. APPLICATION NO. 74 OF 2015

(ARISING OUT OF APPLICATION NO.10 OF 2014)

CORAM:

HON'BLE SHRI JUSTICE V.R. KINGAONKAR
(Judicial Member)
HON'BLE DR. AJAY A.DESHPANDE
(Expert Member)

In the matter of:

1. LAKHAN MUSAFIR.
Village Umarva (Joshi),
Tal. Nandod, P.O. Gora Colony,
Dist. Narmada, Gujarat.

2. ROHIT PRAJAPATI.
37, Patrakar Colony, Tandalji Road,
Vadodara 390 020, Gujarat.

3. SAVITABEN GANPATBHAI TADVI.
Village Indravarna, Tal.Nandod,
Dist. Narmada, Gujarat.

4. MAVAJIBHAI JESANGBHAI TADVI.
Village Nana Piparia, Tal. Nandod,
Dist Narmada, Gujarat.
……**APPLICANTS**

VERSUS

1. **SARDAR SAROVAR NARMADA NIGAM LIMITED,**
   Through Chairman, Block No.12,
   New Sachivalaya,
   Gandhinagar,
   Gujarat-382 010.

2. **THE STATE OF GUJARAT,**
   Through Chief Secretary,
   Having his office at 1st Block,
   3rd Floor, Sachivalaya,
   Gandhinagar, Gujarat.

3. **UNION OF INDIA,**
   Through the Secretary,
   Ministry of Environment & Forest,
   Paryavaran Bhavan, CGO Complex,
   Lodhi Road, New Delhi-110 003.

4. **THE CHAIRMAN,**
   Environment Sub Group of
   Narmada Control Authority,
   Paryavaran Bhavan, CGO Complex,
   Lodhi Road, New Delhi-110 003.

5. **UNION OF INDIA,**
   Through the Secretary,
   Ministry of Social Justice and
   Empowerment, Shastri Bhavan,
   New Delhi-110 001.

6. **THE CHAIRMAN,**
   R & R Sub-Group of
   Narmada Control Authority,

Ministry of Social Justice and
Empowerment, Shastri Bhavan,
New Delhi-110 001.

7. UNION OF INDIA,
Through the Secretary,
Ministry of Water Resources,
Shram Shakti Bhavan, Rafi Marg,
Parliament Street, New Delhi-110 001.

8. THE CHAIRMAN,
Narmada Control Authority (NCA),
Shram Shakti Bhavan, Rafi Marg,
Parliament Street, New Delhi-110 001.

.....**RESPONDENTS**

Counsel for Applicant (s):

Mr. Mihir Desai Advocate a/w Lara Jesani, Avubha Rastogi, Neha Pathak, Mr. Asim Sarode, Alka Babaladi Advocates.

Counsel for Respondent (s):

Mr. P.S. Narsimha, Additional Solicitor General,
Mr. Maninder Singh Additional Solicitor General,
Mr. Tushar Mehta Additional Solicitor General a/w Mr Nirzar S. Desai, a/w Mr. Parth H. Bhatt, Mr. Nalin Kohli, Mr. Virrrar S. Desai Advocates for Respondent No.1.
Mr. Parth H. Bhatt, Adv a/w Mr. Nirzar Desai Advocates for Respondent No.2
Shweta Busar Adv holding for Mr. Ranjan Nehru Advocates for Respondent No.3.

Mr. Krishna D. Ratnaparkhi Advocates for Respondent Nos. 5 to 8.

DATE : 1ST SEPTEMBER, 2015

JUDGMENT

1. Brief submissions put forth by way of objections regarding maintainability of the Application are certain material preliminary issues raised by the contesting Respondent Nos.1 and 2.

2. We may reproduce the preliminary objections raised on behalf of them, which are indicted in the Order dated March 3rd, 2015.

> "*Heard learned Counsel Mr. Mihir Desai for the Applicant, Mr. Maninder Singh and Mr. Tushar Mehta Additional Solicitor Generals for the Respondent No.1.*
>
> *There are preliminary objections raised on behalf of Respondents. Preliminary objections are three (3)*:
>
> **i)** That the Application is barred by limitation, if it is considered under Section 15 of the National Green Tribunal Act, 2010, along with Ss.14 (1) as well as 14(3), because extension of period under the Limitation Act, 1963, is impermissible since NGT Act, 2010 does not allow extension of limitation as per the Land Acquisition Act, 1963, being a special enactment and Section 33 of the NGT Act, gives overriding effect to the general Law.

ii) The Application is barred as the Applicants have no *locus standi* to file such Application for the reason that the Applicant Nos.1 and 2 either are busy bodies, who have no concern with the project in question or have no connection with result of the project, nor they are affected by the project, in any way and do not befit within Section 15 of the NGT Act and other Applicants are beneficiaries, who are estopped from claiming any further relief due to their conduct.

iii) The Application is barred by the principle of "*Res-judicata*", in view of Judgment of the Apex Court in '**Narmada Bachao Andolan'**, and other Judgments cited by them because the issue is covered by abovementioned Judgment and, therefore, now, there is no reason to separately deal with such issue to reconsider or allow the same to be re-agitated and legally decided.

Out of the preliminary objections, above preliminary objections have been argued by Mr. Tushar Mehata and Mr. Maninder Singh, Additional Solicitor Generals.

Mr. Mihir Desai, learned Advocate makes a statement that so far as question of limitation is concerned, the Application is filed under Ss. 14(1) and 14(3) of the NGT Act, and only if he can surmount difficulties regarding limitation for filing of such Application under Ss. 14(1) and 14(3) of the NGT Act, by showing this Tribunal that such Application is maintainable, then and then alone his Application may be considered for the relief which he is seeking i.e.

for restoration, or, else his Application under Section 15 for restoration will go away. In other words, if the Applicants would be able to show that the Application is filed within period of six (6) months and thereafter grace period of sixty (60) days, is available if satisfactory reason shown for extension of time, then this Tribunal may entertain the Application and may allow the Applicants to cross the hurdle, else, penultimate result would be that the Application would fail.

So far as question of locus standi is concerned, Mr. Mihir Desai, is yet to argue and make his stand clear as to whether his Application will be maintainable. He has yet to make submissions on third objection regarding Res-judicata. Learned ASG has submitted copies of the Judgments on question of Res-Judicata, in order to clarify third preliminary objection raised and would submit that the matter was directly and substantially in issue in previous proceedings, therefore, now the present Application is liable to be dismissed.

In this view of the matter, we would proceed further with the arguments of Mr. Mihir Desai. "

3. However, considering cumulative tenor of submissions put forth by Additional Solicitor Generals Sh. Narsimha Rao, Sh. Tushar Mehta and Sh. Maninder Singh, following points are set out as being the preliminary objections:

i) **Whether the Application cannot be entertained because of constitution of Narmada Control Authority (NCA) as controlling mechanism by Judgment of the *Narmada Bachao Andolan vs Union of India and Ors.*?**

ii) **Whether the Application is barred by Limitation, because it does not fall within ambit of Section 15 read with Section 18 of the NGT Act, 2010?**

iii) **Whether the Original Application is maintainable at the instance of the Applicant or liable to be dismissed, due to absence of 'locus *standi*'?**

iv) **Whether the Application is barred by principle of Res-judicata and, as such, is not maintainable in view of the principle underlying Explanation-IV of Section 11 of the Code of Civil Procedure, 1908?**

POINT NO. (i):

Whether the Application cannot be entertained because of constitution of Narmada Control Authority (NCA) as controlling mechanism by

Judgment of the *Narmada Bachao Andolan vs Union of India and Ors.*?

4. The Applicants have filed the present Application seeking reliefs against the Respondents inter alia for staying/stopping ongoing construction at or in respect of Garudeshwar Weir, initiating legal action against the erring officers, individuals and companies that have started construction or given permission for construction of Garudeshwar Weir in contravention of the provisions of the Environment (Protection) Act, 1986 and Environmental Sub Group (ESG) and Relief and Rehabilitation Sub Group (RSG) of the Narmda Control Authority (NCA) and for restitution of the project area to *status quo ante*. It is the case of the Applicants that the Respondents have encroached construction in respect of the Garudeshwar Weir project, without having obtained environmental clearance, without having carried out any environmental impact assessment and/or without having undertaken any environmental safeguards and measures.

5. The Applicants submit that Garudeshwar Weir project is a project spread out over vast land tracts, which is irreversible in nature and is bound to lead to

the submergence, fully or partially, of 11 villages and affect directly or indirectly, about 11,000 villagers in Gujarat. The Garudeshwar Weir project is admittedly a Category 'A' Project under the Environment Impact Assessment Notification, 2006. The Garudeshwar Weir project will have significant social and environmental impacts, and would have the potential of affecting the fisheries in the upstream and downstream areas; and also, affect the river downstream and its biodiversity and other related aspects right up to sea. It is the case of the Applicants that no concrete plan or social impact assessment for the Garudeshwar Weir has been submitted by the Respondents prior to commencement of construction of Garudeshwar Weir. No environmental clearance has been obtained in respect of the Garudeshwar Weir project to date, and in any event, no environmental impact assessment or any other environmental safeguards and measures have been undertaken prior to commencing construction in respect of the Garudeshwar Weir Project.

6. We may, however, also state that prior to raising above three (3) specific preliminary objections, one of the preliminary objection was raised by

learned Additional Solicitor General Sh. P.S.Narsimha, during course of hearing dated December 23rd, 2014, on the ground that due to constitution of Narmda Controlling Authority (NCA) under directions of the Apex Court in case of "***Narmada Bachao Andolan vs Union of India and Ors*" (2000) 10 SCC 664**, all the relevant issues will have to be decided by the said Authority, which has exclusive jurisdiction to deal with relevant issues, stated in the present Application and hence, the National Green Tribunal (NGT), cannot entertain instant Application under Ss. 14,15 and 18 of the NGT Act, 2010. In other words, it was argued that jurisdiction of this Tribunal to entertain Application stands ousted due to establishment of NCA and as such, the main Application cannot be entertained at all.

7. So far as question of ouster of jurisdiction is concerned, learned Advocate Mihir Desai, appearing for the Applicants would submit that NCA has been established by the Govt. with a view to device grievances redressal system for States of Gujarat, Maharashtra and Madhya Pradesh. He would submit that Judgment of the Apex Court in "***Narmada Bachao Andolan***" (supra), does not bestow any

powers to the Tribunal viz. Narmada Sarovar Control Authority (NCA) to deal with 'settlement of environmental disputes', as provided under Section 14(1) of the NGT Act, 2010, but objective thereof is to ensure implementation of Resettlement and Rehabilitation (R & R) Policy, in three (3) States, namely, Gujarat, Maharashtra and Madhya Praesh. The above three (3) States were to get benefits of project as well as some of the families were likely to be affected by the project called "Sardar Sarovar Project" (SSP). He referred to paragraph (22) of Judgment of the Apex Court.

8. Countering arguments of Mr. Mihir Desai, learned Additional Solicitor General Sh. P.S. Narasimha, invited our attention to paragraph (174) of the Judgment (as referred in 'Manupatra'). It is stated in sub-para (7) of paragraph (174), that the authority was "to undertake any of the authority in the matter of resettlement and rehabilitation (R&R) pertaining to SSP and IPS". Taking cue from such statement in sub-para (7), it is argued that the statutory authority will have jurisdiction to decide which of the activities related to resettlement and rehabilitation are permissible and legal. In other words, restitution or compensation, as can be

considered, under Section 15 of the NGT Act, 2010, cannot be matter of decision making process that may be undertaken by this Tribunal. It is amply clear from the record that the Applicant No. 4 had filed proceedings claiming enhancement of compensation under provisions of the Land Acquisition Act, 1894, alleging that his lands were acquired for the purpose of "Garudeshwar Weir" in 1987. He was paid compensation by the District Court. Dissatisfied with the amount of compensation awarded, he approached the Hon'ble High Court of Gujarat, claiming more amount of compensation. He is beneficiary of acquisition of the lands. He is not legally entitled to claim relief of compensation, inasmuch as issue is already settled under the Land Acquisition Act, 1894 which is a special enactment. Nor he is entitled to restitution of the property, because once the land acquired by the Govt. under provisions of the Land Acquisition Act, 1894, the property stands transferred in favour of Govt. As regards the Applicant Nos.1 and 2, they are not person affected due to project in question. The question pertaining to "settlement of dispute" is different from the scope of Section 15 of the NGT Act, 2010. In this view of the matter, the jurisdictional issue raised by the learned

Additional Solicitor Sh. Narsimha Rao bears no ring of merit. We deem it fit to reject the objection in this context, and hold that the original Application is maintainable. Constitution of NCA, in our opinion, will not oust jurisdiction of the NGT in case of the Application falls within ambit of Section 14(1) of the NGT Act, 2010.

POINT No.(ii):

Whether the Application is barred by Limitation, because it does not fall within ambit of Section 15 read with Section 18 of the NGT Act, 2010?

9. We shall now proceed to deal with the objection as regards Limitation. According to contesting Respondent No.1, Garudeshwar Weir is an integral part and parcel of comprehensive project of SSP, which was envisaged a way back. The cause of action to file such Application could have arisen when project of SSP, inclusive of Garudeshwar Weir, was contemplated, planned and approved in or about 1985-86. The planning department of Gujarat Govt. was directed to execute the project vide letter dated October 5th, 1988, issued by Planning Commission, Yojana Bhawan, Sansad Marg, New Delhi. It is contended that agricultural lands were acquired

thereafter and compensation was paid to the said Project Affected Persons (PAP), including the Applicant Nos.3 and 4, as per the Award rendered under the Land Acquisition Act, 1894. The main project was inaugurated on April 5th, 1961. The land acquisition proceedings were commenced in 1987 by issuance of Notification under Section 4 of the Land Acquisition Act, 1894. So, the Applicants had full and clear knowledge regarding proposed project of Garudeshwar Weir, for which the lands were being acquired at the relevant time.

10. In order to describe nature of activities of Garudeshwar Weir, it is stated that the same is of much public significance, because it would enable reversible power generation at the underground power house units (6 Turbine) of 200MW each, (already constructed and commenced several years ago), which will enable production of maximum electricity under all conditions of water availability by use of reversible turbines. The water from Weir would be pumped back during night time for reversible use to run turbines through canal head power used at a higher elevation thereby generating additional power at peaking hours for the same quantity of water through river bed power house.

11. Chief bone of contention raised by the Respondent No.1, is that limitation period prescribed under Section 14(1) of the NGT Act, is only of six (6) months, in view of sub-clause (3) of Section 14. The period of limitation cannot be extended by the Tribunal, because the NGT Act, 2010, is a special enactment to which provisions of Limitation Act, 1963, are not applicable. The Application having not been filed within period of six (6) months from first day of alleged 'cause of action', which had arisen a way back, when Sardar Sarovar Project (SSP), was envisaged, or at all even, as alleged in the Application the work was allotted to M/s Ritwick Construction Pvt. Limited in 2012 then the limitation triggered because the original Applicants have come out with a case that they had knowledge of absence of environment impact assessment. It is contended that period of limitation is not of five (5) years, but is only of six (6) months, in view of Section 14(3), because, Section 15, does not apply to the fact situation.

12. Per contra, the Applicants allege that letter of Shri. Shekhar Singh, an individual Member of the Respondent No.4, i.e. Environmental Sub Group (ESG), brought on surface of the record illegalities regarding construction activities of Garudeshwar

Weir project. Therefore, the Applicants urged Respondents to stop construction activity at the site. Inaction of the Respondents to do so would give rise to the cause of action. The Applicants allege that construction in respect of Garudeshwar Weir project commenced only in the year September/October, 2013. So, until commencement of actual construction, they had no occasion to be alarmed about illegality of the project. The acquisition of lands for the project in the past could not give rise to cause of action, because such acquisition of lands had no bearing upon issue of knowledge regarding absence of required EC to the project in question. The Original Applicants would submit, therefore, that cause of action first arose when construction activity was illegally started by the Respondents. Reliance is placed on observations in "***Amit Maru vs The Secretary, MoEF and Ors***" (**M.A. No.65/2014 in Application No. 13 of 2014**), dated October 1st, 2014, delivered by this Bench and in the matter of "***Kehar Singh S/o Sh. Singhram vs. State of Haryana***" **(Application No.124/2013)** dated September 12th, 2013, delivered by Hon'ble Principal Bench of the NGT.

13. Nobody will deny that question of limitation is ordinarily, a mixed question of law and facts. The facts which are undisputed may be considered to deal with the issue before examining as to whether the Application would be maintainable within purview of Section 14 of the NGT Act, 2010. The Applicants have placed on record letter dated March 24th, 2013, issued by Sh. Shekhar Singh, who was the Member of ESG of Narmada Control Authority (NCA) -an Inter-State Administrative Authority. It appears that he gave his opinion that Garudeshwar Weir will have potential of stock of fisheries in the immediately surrounding areas and also in the area downstream river and its biodiversity and other relevant aspects. He made it clear that he had no knowledge as to how without assessment of cumulative environmental impact of the project and activities in the area, evaluation of bids for construction of Garudeshwar Weir were called for and the bidder M/s Rithwik Project Pvt. Ltd, Hyderabad was awarded the contractual work. He also made categorically clear that "I understand that subsequent to this decision, the work of construction of Garudeshwar Weir (GW) has been started on the ground".

14. The above letter is the main plank of the Applicants based upon which the Applicant Nos.1 and 2, issued a letter dated 26th October, 2013, to the MoEF & CC. This letter dated 26th October, 2013, reiterates what Sh. Shekhar Singh opined and stated in his letter.

15. Now, it does appear that the Respondents have not produced any record to show as to what kind of response was given to above communication. The question herein is as to whether absence of response, if it is not given within reasonable time, can indefinitely extend period of limitation. Secondly, whether letter of Sh. Shekhar Sing, which was not in public domain, could trigger limitation for filing such an Application under Section 14(1) read with Section 18 of the NGT Act, 2010, is yet another question. So far as case of the Applicants is concerned, their averments in the Application may be reproduced as follows:

> **Limitation**:
>
> The Applicants herein are seeking stoppage of construction of Garudeshwar Weir which commenced only in October 2013 and are approaching this Hon'ble Tribunal within the limitation of 5 years as specified.

16. The averments made in the abovementioned paragraph clearly indicate that the Applicants laboured under impression that limitation of five (5) years, as specified under Section 15 of the NGT Act, 2010, could be availed by them, inasmuch as construction of Garudeshwar Weir had commenced only in October, 2013. They never came out with a case that they had no knowledge about absence of EC to the project of Garudeshwar Weir. Nor it is their case that because of absence of inaction on the part of Respondents/Authorities the period of limitation stands extended. As stated before, by order dated March 3rd, 2015, it is recorded that learned Advocate Sh. Mihir Desai, made a statement that so far as question of limitation is concerned, the Application is filed under Ss. 14(1), (3) of the NGT Act, 2010 and only if he can surmount difficulties, by showing this Tribunal that such Application is maintainable, then and then alone the Application may be considered for reliefs which he is seeking, namely, for restoration etc. or else, his Application under Section 15 for will go away. Obviously, it is essential to examine whether the Application is within limitation, as provided under Section 14(1) read with Section 14(3) of the NGT Act, 2010. We have already clarified that there is

no question of granting relief of compensation, because the affected owners of the lands have been paid such compensation under the Land Acquisition Act, 1894. Once such compensation is paid, there cannot be duality of granting the same relief in any other proceedings. There cannot be two opinion about legal position that the NGT Act, 2010, being a special enactment, the Tribunal has no power to extend period of limitation. There is plethora of case law on this legal aspect. We may only mention few of such cases viz (1) ***Save Mon Region Federation vs Union of India & Ors*** (M.A No. 104 of 2012 arising out of Appeal No.39 of 2012) as well as (2) ***Medha Patkar vs MoEF & Ors Ors*** (Appeal No.1 of 2013) and those others as discussed hereafter in paragraph 32 in the Judgment. We need not deal with each of the case law for want of avoiding reiteration of settled legal position in this behalf.

17. The scope of Section 14 (1) of the NGT Act, 2010, is to deal with "substantial question relating to environment". These questions may include infringement / infraction of any legal right of a person relating to environment. The questions relating to environment, however, ought to be demonstrated, being in the category of

implementation of the enactments specified in Schedule-I of the NGT Act. The Applicants would submit that grounds to be put forth in the Application, fall within domain of the Environment (Protection) Act, 1986, which is shown in Schedule-I. The legal rights of the Applicants were allegedly trampled in or about September, 2013, when the actual work of Garudeshwar Weir started and they were alarmed after commencement of the work. It is not for the first time that they came to know about nature of Garudeshwar Weir project. They had already been well informed that Garudeshwar Weir project required acquisition of lands. In fact, agricultural lands of Applicant No. 4- Mavjibhai were acquired. He had contested the acquisition proceedings, had claimed more compensation and had fought for such claim up to the Hon'ble High Court. Thus, the Applicants had knowledge of potential implementation of Garudeshwar Weir project, which was in the offing. The knowledge could be traced back to 1978 or at least, till acquisition proceedings, which had commenced somewhere in 1997. There was no whisper at that time about legal rights relating to environmental issues arising out of the Environment (Protection) Act, 1986. The said Act

had already came into force when acquisition proceedings were initiated. The second occasion was when the construction of Garudeshwar Weir work was allotted to M/s Ritwick Construction Pvt. Ltd in 2012.. The Applicants have not mentioned date when actual construction at the site was noticed by them. It appears that instant Application was presented to this Tribunal on January 16th, 2014.

18. At this juncture, it is pertinent to note that the Environment (Protection) Act, 1986, came into force w.e.f. May 26th, 1986. Before the said enactment, the field was governed by a Notification issued by the MoEF & CC on January 27th, 1994. By virtue of the said Notification, certain restrictions were placed on expansion and modernization of activities of the new project, without obtaining EC, in accordance with S.O. No.80-© dated January 28th, 1993. Earlier, there were only internal guidelines of the MoEF. Needless to say, till commencement of the Environment (Protection) Act, 1986, and more particularly EIA Notification of January, 1994 no EC was required for any such project.

19. Perusal of record shows that Garudeshwar Weir was the project activity envisaged much before

the Environment (Protection) Act, 1986, came into force. Whether actual construction started was in 2013, is not of much significance. The very fact that since year 1997, the acquisition proceedings had started and that was well known to the Applicant Nos. 3 and 4 as well as other beneficiaries, go to show that the said project was an ongoing activity. The Apex Court in "***Goan Real Estate and Construction Ltd & Anr Vs Union of India***, Through the Secretary, Ministry of Finance & Forest and Ors, (W.P. (c) No.329 of 2008)" held that "subsequent change in legal position in that case viz **"*Indian Council for Enviro Legal Action Vs. Union of India & Ors*"**, **(1996) 5 SCC 281)**, could not be applicable to "ongoing project and would not impact such ongoing activity which was already underway."

20. So far as the project of Garudeshwar Weir is concerned, there is no dispute about the fact that it is being set up around 12kms downstream of Sardar Sarovar Dam situated in Narmda district (East Gujarat). The Applicants, named above, categorically state in the pleadings of instant Application as follows;

"In 1987 a conditional EC and in 1988 conditional planning commission EC was given to this Project. A copy of conditional EC is at Annexure-2 and a copy of conditional planning commission EC is at Annexure-3……"

"The present Application is only concern with a small segment of this entire project. The main segment of Sardar Sarovar Dam has already been substantially constructed."

"The original Sardar Sarovar Project (SSP), which got permission in 1987, did not concretely envisage this Weir, did not include assessment of social or environmental impact of this Garudeshwar Weir……"

"While there may have been ideas at some stage a Weir may be constructed at Garudeshwar, the Environmental Authorities did not have power with them in the 1980's, with any concrete plan or social impact assessment for this Weir, nor would be environmental impact and how much submergence would take place. This Weir is practically a separate project and not something which is covered by 1987 conditional EC."

21. According to Applicants, in September, 2013, work in respect of this Dam (Garudeshwar Weir) started, and alarmed by this, the Applicants took various steps. They came to know that way back on

24th March, 2013, Sh. Shekhar Singh, an independent Member of Respondent No.4, of Sub-Committee had addressed a letter to the Chairman of the Respondent No.4, in which it was stated that issue pertaining to social impact of construction and operation of Garudeshwar Weir had not been brought before the Environmental Sub-Group (ESG) of NCA. The Applicants further aver that Garudeshwar Weir is a part of the power component of SSP in which Madhya Pradesh and Maharashtra have 57% and 27% share respectively, in both costs and benefits. Therefore, implementation of Garudeshwar Weir cannot be taken up without express consent from these States, which these States have not agreed with the way Gujarat has decided to go ahead. It is the case of Applicants that cause of action arose for filling of the Application only in October, 2013, and hence, they have approached the Tribunal within period of five (5) Years. Thus, it is their case that the Application is squarely covered by Section 15 of the NGT Act, 2010, and hence, limitation of five (5) years can be availed. The construction of Garudeshwar Weir, assuming for a moment, that it is a separate project, its work was allegedly undertaken in October, 2013. The Applicants have not mentioned any

particular date of knowledge as to when they noticed work of construction. However, in para (F) of the Application, it is stated that around March, 2012, it was decided to award contract to one bidder M/s Ritwik Project Pvt. Ltd, for construction of Garudeshwar Weir.

22. On behalf of Respondents, learned Additional Solicitor Generals contended that the Application is barred by limitation, in view of embargo specifically put on raising of dispute after period of six (6) months, under Section 14 (1) of the NGT Act, 2010. They argued that mere perception of Sh. Shekhar Singh, one of the independent Member of ESG in his letter dated 28th October, 2013, will not give rise to cause of action. They argued that Garudeshwar Weir is the part and parcel of SSP and hence, no separate permission/EC was required for the same. They further argued that when lands of affected persons, including the Applicant No. 4, were acquired in 1991, there was knowledge available to them about project activity of Garudeshwar Weir. Therefore, even after counting period of five (5) years from 1991, the Application would not come within ambit of Section 15 of the NGT Act, 2010. They would submit that only Section 14 of the NGT Act, 2010, is applicable

for settlement of dispute when it is raised and Section 15 of the NGT Act, 2010, is restricted to grant of certain reliefs, which would follow if dispute is favourably decided in which victim(s) of pollution and other environmental damage arising under the enactments specified in Schedule-I, of the NGT Act, 2010, would apply for such a relief. The reliefs under Section 15 of the NGT Act, 2010, are discretionary and would depend upon settlement of environmental dispute. According to submissions of learned Additional Solicitor General Sh. Tushar Mehta and Sh.Maninder Singh, when there is bar of Section 14(1) of the NGT Act, 2010, and hence, the Application under Section 15 also cannot entertained, because, Section 14 of the NGT Act, 2010, ought to be conjointly read for making purposive interpretation thereof.

23. Per contra, learned Advocate Sh. Mihir Desai, placed reliance on the observations in "***Aradhana Bhargav & Anr Vs MoEF and Ors*** **(Application No.11 of 2013) (NGT-MANU/GT/0077/2013)**". He further relied upon "***Kehar Singh vs State of Haryana***, **(Application No.124 of 2013)"** decided by Hon'ble Principal Bench of the National Green Tribunal, New Delhi.

In the given case, Applicant **Kehar Singh** alleged that establishing Sewage Treatment Plant (STP), at the site in question was in contravention of the EC Notification. He further alleged that in case the STP is located near the residential colonies, religious place and agricultural lands, it may cause adverse impact on environment, including bacterial diseases, fungus, parasites, increase in noise levels and visual problems. The Hon'ble Bench held that:

> *"the NGT has original jurisdiction in terms of Section 14 of the NGT Act, in relation to substantial question relating to environment or enforcement of legal rights relating to environment, when it arises from implementation of one or more of Acts specified in Schedule-I, of the NGT Act, 2010*".

It is also held that:

> *"**16**. 'Cause of action', therefore, must be read in conjunction with and should take colour from the expression 'such dispute'. Such dispute will in turn draw its meaning from Section 14(2) and consequently Section 14(1) of the NGT Act. These are inter-connected and inter-dependent. 'Such dispute' has to be considered as a dispute which is relating to environment. The NGT Act is a specific Act with a specific purpose and object, and therefore, the cause of action which is specific to other laws or other objects and does not directly relate*

to environmental issues would not be 'such dispute' as contemplated under the provisions of the NGT Act. The dispute must essentially be an environmental dispute and must relate to either of the Acts stated in Schedule I to the NGT Act and the 'cause of action' referred to under Sub-section (3) of Section 14 should be the cause of action for 'such dispute' and not alien or foreign to the substantial question of environment. The cause of action must have a nexus to such dispute which relates to the issue of environment/substantial question relating to environment, or any such proceeding, to trigger the prescribed period of limitation. A cause of action, which in its true spirit and substance, does not relate to the issue of environment/substantial question relating to environment arising out of the specified legislations, thus, in law cannot trigger the prescribed period of limitation under Section 14(3) of the NGT Act. The term 'cause of action' has to be understood in distinction to the nature or form of the suit. A cause of action means every fact which is necessary to establish to support the right to obtain a judgment. It is a bundle of facts which are to be pleaded and proved for the purpose of obtaining the relief claimed in the suit. It is what a plaintiff must plead and then prove for obtaining the relief. It is the factual situation, the existence of which entitles one person to obtain from the court remedy against another. A cause of action means every fact which, if traversed, would be necessary for the plaintiff to prove in order to support his right to a judgment of the court. In other words, it is a bundle of facts which, taken with the law applicable to them, gives the plaintiff a right to relief against the defendant. It does not comprise evidence necessary to prove such

facts but every fact necessary for the plaintiff to prove to enable him to obtain a decree. The expression 'cause of action' has acquired a judicially settled meaning. In the restricted sense, cause of action means the circumstances forming the infraction of the right or the immediate occasion for the action. In wider sense, it means the necessary conditions for the maintenance of the suit including not only the infraction coupled with the right itself. To put it more clearly, the material facts which are imperative for the suitor to allege and prove constitute the cause of action. (Refer: Rajasthan High Court Advocates Asson. V. Union of India [(2001) 2 SCC 294]; Sri Nasiruddin v. State Transport Appellate Tribunal and Ramai v. State of Uttar Pradesh [(1975) 2 SCC 671]; A.B.C. Laminart Pvt. Ltd. and Anr. v. A.P. Agencies, Salem [(1989) 2 SCC 163]; Bloom Dekor Limited v. Sujbhash Himatlal Desai and Ors. with Bloom Dekor Limited and Anr. v. Arvind B. Sheth and Ors. [(1994) 6 SCC 322]; Kunjan Nair Sivaraman Nair v. Narayanan Nair and Ors. [(2004) 3 SCC 277]; Y. Abraham Ajith and Ors. v. Inspector of Police, Chennai and Anr. [(2004) 8 SCC 100]; Liverpool and London S.P. and I. Asson Ltd. v. M.V. Sea Success I and Anr.[(2004) 9 SCC 512]; Prem Chand Vijay Kumar v. Yashpal Singh and Anr. [(2005) 4 SCC 417]; Mayar (H.K.) Ltd. and Ors. v. Owners and Parties, Vessel M.V. Fortune Express and Ors. [(2006) 3 SCC 100])

17. *Upon analysis of the above judgments of the Supreme Court, it is clear that the factual situation that existed, the facts which are imperative for the applicant to state and prove that give him a right to obtain an order of the Tribunal, are the bundle of facts which will constitute 'cause of action'. This obviously means that*

those material facts and situations must have relevancy to the essentials or pre-requisites provided under the Act to claim the relief. Under the NGT Act, in order to establish the cause of action, pre-requisites are that the question must relate to environment or it should be a substantial question relating to environment or enforcement of any legal right relating to environment. If this is not satisfied, then the provisions of Section 14 of the NGT Act cannot be called in aid by the applicant to claim relief from the Tribunal. Such question must fall within the ambit of jurisdiction of the Tribunal i.e. it must arise from one of the legislations in Schedule I to the NGT Act or any other relevant provision of the NGT Act. For instance, the Tribunal would have no jurisdiction to determine any question relating to acquisition of land or compensation payable in that regard. However, it would have jurisdiction to award compensation for environmental degradation and for restoration of the property damaged. Thus, the cause of action has to have relevancy to the dispute sought to be raised, right to raise such dispute and the jurisdiction of the forum before which such dispute is sought to be raised."

24. Learned Counsel Sh. Mihir Desai, seeks to rely upon "***Amit Maru vs The Secretary, MoEF and Ors***. (**M.A. No.65 of 2014 in Application No.13 of 2014**)." This Tribunal held that: " 'cause of action' for environmental dispute could 'first arose' when knowledge of violation of norms was gained and it is referable to the term of 'such dispute' as used in

Section 14(1) of the NGT Act,2010". Thus, "there must exist substantial environmental dispute between the parties relating to enforcement of any act or legal right, available under Schedule-I, of the NGT Act, 2010, 'which dispute' ought to give rise to cause of action that had arisen for first time". It is contention of Sh. Mihir Desai, learned Advocate that in the instant case, when construction activity actually started in September, 2013, public members were alarmed and after enquiry they came to know about commencement of illegal project of Garudeshwar Weir. So, even if first cause of action is counted from September/October, 2013, the Application filed on 16.1.2014, is within period of limitation.

25. True, merits of the Applicants are not required to be considered at this stage. Still, however, *prima facie*, it would be essential to look into the Application to examine as to under which provisions, will it fall for the purpose of counting limitation.

26. Chapter-III of the NGT Act, 2010 deals with jurisdiction, powers and proceedings of the the Tribunal. We may reproduce relevant parts of Ss.

14,15, 16 and 18 of the NGT Act, 2010, for amplification of understanding the scope thereof. It would help us in interpreting purpose of these provisions placed under caption of Chapter-III, together.

Section 14 :

14. Tribunal to settle disputes: -- (1) The Tribunal shall have the jurisdiction over all civil cases where a substantial question relating to environmental (including enforcement of any legal rights relating to environments), is involved and such question arises out of the implementation of the enactments specified in Schedule 1.

2) The Tribunal shall hear the disputes arising from the questions referred to in Sub-section (1) and settle such disputes and pass order thereon.

3) No application for adjudication of dispute under this section shall be entertained by the Tribunal unless it is made within a period of six months from the date on which the cause of action for such dispute first arose.

Provided that the Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days.

Section 15:-

15. Relief, compensation and restitution:-

(1) The Tribunal may, by an order, provide,-

(a) relief and compensation to the victims of pollution and other environmental damage arising under the enactments specified in the Schedule I (including accident occurring while handling any hazardous substance);

(b) for restitution of property damaged;

(c) for restitution of the environment for such area or areas, as the Tribunal may think fit.

(2) The relief and compensation and restitution of property and environment referred to in Clauses (a), (b) and (c) of Sub-section (1) shall be in addition to the relief paid or payable under the Public Liability Insurance Act, 1991 (6 of 1991).

(3) No application for grant of any compensation or relief or restitution of property or environment under this section shall be entertained by the Tribunal unless it is made within a period of five years from the date on which the cause for such compensation or relief first arose;

Provided that the Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days.

(4) The Tribunal may, having regard to the damage to public health, property and environment, divide the compensation or relief payable under separate heads specified in Schedule II so as to provide compensation or relief to the claimants and for restitution of the damaged property or environment, as it may think fit.

Section 16:-

"16. Tribunal to have appellate jurisdiction.—any person aggrieved by,-

(a) an order or decision, made, on or after the commencement of the National Green Tribunal Act, 2010, by the appellate authority under Section 28 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);

(b) an order passed, on or after the commencement of the National Green Tribunal Act, 2010, by the State Government under Section 29 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);

(c) directions issued, on or after the commencement of the National Green Tribunal Act, 2010, by a Board under Section 33A of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);

(d) an order or decision made, on or after the commencement of the National Green Tribunal Act, 2010, by the appellate authority under Section 13 of the Water (Prevention and Control of Pollution) Cess Act, 1977 (36 of 1977);

(e) an order or decision made, on or after the commencement of the National Green Tribunal Act, 2010, by the State Government or other authority under Section 2 of the Forest (Conservation) Act, 1980 (69 of 1980);

(f) an order or decision, made, on or after the commencement of the National Green Tribunal Act, 2010, by the Appellate Authority under Section 31 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981);

(g) any direction issued, on or after the commencement of the National Green Tribunal Act, 2010, under Section 5 of the Environment (Protection) Act, 1986 (29 of 1986);

(h) an order made, on or after the commencement of the National Green Tribunal Act, 2010, granting environmental clearance in the area in which any industries, operations or processes or class of industries, operations and processes shall not be carried out or shall be carried out subject to certain safeguards under the Environment (Protection) Act, 1986 (29 of 1986);

(i) an order made, on or after the commencement of the National Green Tribunal Act, 2010, refusing to grant environmental clearance for carrying out any activity or operation or process under the Environment (Protection) Act, 1986 (29 of 1986);

(j) any determination of benefit sharing or order made, on or after the commencement of the National Green Tribunal Act, 2010, by the National Biodiversity Authority or a State Biodiversity Board under the provisions of the Biological Diversity Act,2002 (18 of 2003);

may, within a period of thirty days from the date of which the order of decision or direction or determination is communicated to him prefer an appeal to the Tribunal:

Provided that the Tribunal may, if it is satisfied that the appellant was prevented by sufficient cause from filing the appeal within the said period, allow it to be filed under this section within a further period not exceeding sixty days.

Section 18:-

18. Application or appeal to Tribunal:

(1) Each application under sections 14 and 15 or an appeal under section 16 shall, be made to the Tribunal in such form, contain such particulars, and, be accompanied by such documents and such fees as may be prescribed.

(2) Without prejudice to the provisions contained in section 16, an application for grant of relief or compensation or settlement of dispute may be made to the Tribunal by—

(a) the person, who has sustained the injury; or

(b) the owner of the property to which the damage has been caused; or

(c) where death has resulted from the environmental damage, by all or any of the legal representatives of the deceased; or

(d) any agent duly authorized by such person or owner of such property or all or any of the legal representatives of the deceased, as the case may be; or

(e) any person aggrieved, including any representative body or organization; or

(f) the Central Government or a State Government or a Union territory Administration or the Central Pollution Control Board or a State Pollution Control Board or a Pollution Control Committee or a local authority, or any environmental authority constituted or established under the Environment (Protection) Act, 1986 or any other law for the time being in force;

Provided that where all the legal representatives of the deceased have not joined in any such application for compensation or relief or settlement of dispute, the application shall be made on behalf of, or, for the benefit of all the legal representatives of the deceased and the legal representatives who have not so joined shall be imp leaded as respondents to the application;

> Provided further that the person, the owner, the legal representative, agent, representative body or organization shall not be entitled to make an application for grant of relief or compensation or settlement of dispute if such person, the owner, the legal representative, agent, representative body or organization have preferred an appeal under section 16.
>
> (3) The application, or as the case may be, the appeal filed before the Tribunal under this act shall be dealt with by it as expeditiously as possible and endeavour shall be made by it to dispose of the application, or, as the case may be, the appeal, after providing the parties concerned an opportunity to be heard.

27. Coming to Sub-clause (3) of Section 15, it is manifest that any Application for grant of compensation or relief or restitution of property, or environment under Section, can be entertained by the Tribunal only if it is made within period of five (5) years from the date on which cause of action for such compensation or relief first arose. Here is the distinguishing line between Sub-Section (1) of Section 14 and Sub-section (3) of Section 15 of the NGT Act, 2010. While Section 14 (3) governs domain of **"**adjudication of dispute arising out of implementation of enactments specified in Schedule-I, or any substantial question relating to environment and then the limitation period would trigger from date on which cause of action for 'such dispute' arose first**".** Sub-section (3) of Section 15,

relates to limitation period of five (5) years in respect of cause for such "compensation or relief" whatever it may be, first arose. There is much difference between process of adjudication of dispute and process of making provision for grant of relief or restitution of property/environment. In our opinion, Section 15 of the NGT Act, 2010, gives discretion to the Tribunal to provide for relief and compensation to victims of pollution, restitution of property damaged due to degradation of environment for such area etc. Needless to say, reliefs sought under Section 15, are not required to be mandatorily granted unless and until adjudication of dispute under Section 14, is completed. For example, compensation to victims of pollution cannot be contemplated unless and until the dispute regarding environmental question arising out of implementation of enactments specified in Schedule-I, or legal right pertaining to violation of mandate of environment is settled, which could show that such Applicant is victim of any violation of enactments specified in Schedule-I, of the NGT Act, 2010, or that it is clear case of an accident, admittedly being result of environmentally adverse impact. In other words,

Section 15, cannot be isolated from Section 14 and Section 18 of the NGT Act. All these provisions will have to be considered together.

28. Normally, it was unessential to give extracts of relevant provisions enumerated in Chapter-III of the NGT Act, 2010, which provide for legal remedies in relation to environmental issues, may be pertaining to enforcement of any right claimed for relief or compensation etc. We have, however, reproduced these provisions in order to highlight Section 18 (1) of the NGT Act, 2010.

Section 18(1) of the NGT Act, 2010, mandates that the Application must contain relevant particulars and be accompanied by such documents, if it is so filed under Ss. 14 and 15 or be it an Appeal under Section 16 of the said Act. Obviously, Section 18(1) of the NGT Act, 2010, mandates as to how and in what manner the Application either under Section 14 or 15 or an Appeal under Section 16, can be filed to the Tribunal. Sub-clause (2) of Section 18, is rather important for the purpose of interpretation of nature of remedy, which can be considered under any Application filed to the Tribunal. Sub-clause

(2) of Section 18, carves out an exception, because opening words used therein are "without prejudice to the provisions contained in Section 16". It follows, therefore, that filing of Application for grant of relief or compensation or settlement of dispute may be made to the Tribunal by a person, who falls within a particular category stated in Sub-clauses (a) to (f) and it does not provide for filing of any Application for restitution of environment for such area or areas, as per discretion of the Tribunal. In other words, though settlement of dispute under Section 14(1) by adjudication of cause of such "substantial question relating to environment" is permissible by filing Application under Section 14 read with Section 18(1) and 18(2), yet, such is not the case with Application under Section 15 (1) read with Section 18(2) of the NGT Act, 2010, at least to the extent of restitution of property damaged or for restitution of environment for such area or areas, as per discretion of the Tribunal. The Application under Section 15 read with Section 18, may be filed for relief or compensation to the victim of pollution and other environmental damages arising under the enactments specified in Schedule-I (including

accident occurred while handling of any hazardous substance), within period of five (5) years from the date of on which 'cause of action' for such compensation or relief, first arose. In such a case, the meaning to expression 'cause of action' will be rather restrictive, inasmuch as it has to be read with rider provided in Section itself; namely; "from the date on which cause for compensation or relief first arise". The cause for compensation, obviously, refers to the cause of incident, which could trigger from date of incident accident or accidental negligence arising out of spillage of hazardous substance or environmental damage, the victimization of pollution, which is result of violation of the enactments specified in Schedule-I, of the NGT Act, 2010. We cannot read anything more when the purposive interpretation of all the provisions, if considered together, is required to be considered. Otherwise, it may open floodgate to bygone litigations. For example; take a case of landslide which occurred somewhere in 2009 i.e. prior to commencement of the NGT Act and Application under Section 15 read with Section 18 of the NGT Act, 2010, and only relief for restitution of environment is sought by filing Application

under Section 15 can such case lie within purview of Section 15, of the NGT Act, only because an Applicant approaches the Tribunal with a case that he gathered information about landslide on basis of internal communication between the Meteorological Department and the Ministry concern, before four (4) years for filing the Application. In such a case, entire scenario of environment could have gone substantial change which is many a times difficult to trace out and, restitution thereof is a difficult task. The co-relation between Ss. 14,15 and Section 18(1) of the NGT Act, 2010, would make it amply clear that where a relief for grant of compensation or damages caused to the property or where death as a result from the breach of environmental Law occurs an Application containing all such particulars can be filed by the person or representative of the deceased, within period of five (5) years, on date of which 'cause of action' for such compensation or relief, first arose. This provision about five (5) years Limitation appears to be analogous to the Limitatio under provisions of Section 166 of the Motor Vehicles Act. So, date on which any incident which could have resulted into injury to a person, death of a person,

due to environmental damage, damage to property, or relief, which can be granted in terms of money due to an accident arising out of spillage, discharge of effluent of hazardous substance, or any kind of loss of fertility as a result of such of pollution, due to act of contravention of enactments specified under the Acts mentioned in Schedule-I, of the NGT Act, 2010, will be date of such incident and cannot be any other date of "knowledge regarding grant of project activity or, absence of Environment Impact Assessment (EIA)". Those subject matters are covered by the "precautionary principle" which are to be taken into account before any project work has to be commenced. Changing of nature of such project work will, therefore, come within ambit of only and only Section 14(1) read with Section 18(1) of the NGT Act, 2010, because it requires "settlement of dispute relating to substantial question of environment"

(**Emphasis supplied**)

Therefore, first cause of action for filing of such Application would trigger from date of knowledge of the project activity which may smack of illegal acts undertaken by the Project Proponent (PP). Herein,

the Applicants referred to communication of Sh. Shekhar Singh, a Member of ESG, dated March 24th, 2013, addressed to the Chairman of ESG. So, they gathered knowledge at least on March 24th, 2013, that project of Garudeshwar Weir was being carried out by Gujarat Government at the site, probably without assessment of environmental impact by the ESG. They also knew that it was a Sub-Group working under the NCA.

29. Conjoint reading of both the above provisions would make it amply clear that adjudication of dispute relating to environment must be the first priority in case the Application comes within domain of Section 14(1). The National Green Tribunal can exercise its jurisdiction in case adjudication of dispute under Sub-clause (1) of Section 14, is made within a period of six (6) months from the date on which cause of action for such dispute first arose. Substantial question relating to environment involved in the instant Application, is allegedly date of construction of Garudeshwar Weir without full feasibility report and social as well as environment impact report, being submitted during course of construction and operation of Garudeshwar Weir, submitted to the

Environment Sub-Groups (ESG). The main thrust of Applicants is on the letter dated 24th March, 2013, written by Sh. Shekhar Singh, a Member of ESG. (Annex-5). Perusal of the letter dated March 24th, 2013, reveals that Sh. Shekhar Singh categorically stated that he had no knowledge whether comprehensive assessment of environment and social impact of Garudeshwar Weir and its contribution to cumulative impact of all the projects and activities in the area was done. He, however, stated that if it had been so done, he did not believe that same was put up to ESGs for its approval. Obviously, approval of ESG for the project of Garudeshwar Weir was thought necessary. According to perception of Sh. Shekhar Singh, the Committee directed Govt. of Gujarat (GoG) to take further follow up actions and, therefore, construction work of Garudeshwar Weir has been started.

30. At the cost of repetition, we may point out that the applicants have vaguely averred that they came to know about the impugned project being carried out without comprehensive assessment of environment and social impact by the ESG. They have not, however, made it clear, in any manner,

whatsoever, how the letter dated 26th October, 2013, sent by Sh. Shekhar Singh, a Member of ESG to the Chairperson of ESG, was accessible to them. It is vaguely stated that the date of knowledge of letter was in October, 2013. How come such knowledge regarding official communication between Sh. Shekhar Singh and the Chairperson of ESG, was gathered by the Applicants, is rather intriguing and the Applicants did not clarify this aspect of the matter. They did not seek such information by submitting any Application under the R.T.I. Act, 2005. The statement of Applicants that limitation commences only in October, 2013, is not only vague, but is totally unacceptable, having regard to the fact that the words "in October, 2013" are subsequently added in the typed script of the Application. The effort of Applicants *prima facie* appear to be somehow or other to bring the Application within six (6) months period, so that it would come within ambit of Section 14 of the NGT Act, 2010. At this juncture, it is pertinent to note that here also is some misconception in the mind of Applicants. The Applicants have come out with a case that they were alarmed when the construction activity was

noticed by them somewhere in September, 2013. They categorically stated in the Application "*it further appears that around March 2012, it was decided to award the contract to one M/s Ritwik Project Pvt. Ltd, Hyderabad for amount of Rs.299.43 Crores for Garudeshwar Weir*". It is explicit from such statement in the Application that they were well aware that the project work was to commence and contract was awarded to M/s Ritwik Project Pvt. Ltd, Hyderabad in March, 2012. This knowledge has absolutely no co-relation with subsequent internal department communication between Sh. Shekhar Singh and the Chairperson of ESG of NCA. Furthermore, it is not case of the Applicants that they in any way concerned with decision of NCA, which is the concerned Authority to decide the issues ventilated through the present Application. In other words, the Applicants have made statements which are inconsistent with each other and moreover, the date of knowledge regarding so called illegal activity alleged by them, is imaginary and carved out to befit the Application within socket of Section 14 of the NGT Act, 2010, somehow or the other.

31. Apart from what is stated above, there is no scintilla of evidence that the work was allotted in March, 2012, the executing agency took such a long time to start the actual construction activity at the site. This is rather improbable.

32. Now, there may be some room to say that word "Restitution" is used in Section 15 read with Section 18 of the NGT Act, 2010 with some connotation and meaning, though it is conspicuously absent in Section 18. We are aware that the Dictionary meaning of words "Restoration" and "Restitution" have semblance. Law Lexicon, (Dr. Shakil Ahmed Khan, 3rd Edition. 2012) defines expression "Restoration" and "Restitution" amends as follows:

> RESTORATION, RESTITUTION, REPARATION, AMENDS.
>
> "Restoration of property may be made by any one whether the person taking it or not: *restitution* is supposed to be made by him who has been guilty of the injustice. The dethronement of a king may be the work of one set of men, and his *restoration* that of another, but it is the bounden duty of every individual who has committed any sort of injustice to another to make *restitution* to the utmost of his power. "*Restoration*" and "*Restitution*" are both

employed in the sense of undoing that which has been done to the injury of another, but the former respects only injuries that affect the property, and *reparation* those which affect a person in various ways. He who is guilty of theft, or fraud, must make *restitution* by either restoring the stolen articles or its full value; he who robs another of his good name, or does any injury to his person, has it not in his power so easily to make *reparation*. The term reparation comprehends all kinds of injuries, particularly those of a serious nature, the word amends is applied only to matters of inferior importance".

33. We are aware that this Tribunal is not bound by procedure laid down by the Code of Civil Procedure, 1908, but shall be guided by the principles of natural justice, as provided under Section 19(1) of the NGT Act, 2010. At the same time, Sub-Section (4) of Section 19, gives power to the Tribunal which indicate that the NGT has all trappings of 'Civil Court'. The power to restitute a property under the Code of Civil Procedure, 1908, is provided under Section 144, which reads:

"Section 144

144. Application for Restoration.-(1) Where and in so far as a decree [or an order] is [varied or reversed in any appeal, revision or other proceeding or is set aside or modified in any suit instituted for the purpose, the Court which passed the decree or order] shall, on the application of any party entitled in any benefit by way of restitution or otherwise, cause such restitution to be made as will, so far as may be, place the parties in the position which they would have occupied but for such decree [or order] or [such part thereof as has been varied, reversed, set aside or modified]; and, for this purpose, the Court may make any orders, including orders for the refund, which are properly [consequential on such variation, reversal, setting aside or modification of the decree or order].

[Explanation- For the purposes of sub-section (1) the expression "Court which passed the decree or order" shall be deemed to include—

(a) Where the decree or order has been varied or reversed in exercise of appellate or revisional jurisdiction, the Court of first instance;

(b) Where the decree or order has been set aside by a separate suit, the Court of first instance which passed such decree or order;

(c) Where the Court of first instance has ceased to exist or has ceased to have jurisdiction to

execute it, the Court which, if the suit wherein the decree or order was passed were instituted at the time of making the application for restitution under this section, would have jurisdiction to try such suit.]

2. No suit shall be instituted for the purpose of obtaining any restitution or other relief which could be obtained by application under sub-section (1)".

Perusal of Section 144 of Civil Procedure Code, 1908, reveals that restitution depends upon final outcome of adjudicatory process. It would also depend upon any variance or subsequent orders passed in the Appeal. The adjudicatory process is, therefore, pre-condition, may be either interim adjudicatory process or final one, but prior to adjudication of dispute, the order for restitution in Application under Section 15 read with Section 18, in our opinion, per-se, may not be within legal domain, having regard to scheme of Chapter-III of the NGT Act, 2010.

34. Before we would consider necessity of approval of ESG of Narmada Control Authority (NCA), it will be appropriate to refer certain observations of the Apex Court in "***Narmada Bachao Andolan vs Union of India***". While

concluding the Apex Court gave direction No.6, as under:

> "Even though there has been substantial compliance with conditions imposed under the EC, the NCA and ESG, will continue to monitor and ensure that all steps are taken not only to project but to restore and improve environment."
>
> (**Emphasis by us**)

35. It follows, therefore, that functions of NCA and ESGs were not restricted to protect and restore and improve environment only in the area covered by SSP. It appears that for such a reason Sh. Shekhar Singh, wrote letter to the Chairman of ESG of the NCA and to the Secretary of MoEF. Taking cue therefrom similar letter was addressed by the Applicant Nos.1 and 2 to the MoEF and Chief Secretary of GoG as well as the Chairman of Sardar Sarovar Narmada Nigam Limited (SSNNL).

36. In the context of commencement of date of limitation, which first arose, giving rise to cause of action, the Applicants are required to explain as to how and when it had arisen and as to how come the Application is within prescribed period of limitation.

37. Unless these issues are crystalized and determined, mere issue of approaching the Tribunal for the purpose of restitution which also is vaguely referred in the Application, would be rather impermissible. It need not be reiterated that the Applicant Nos. 2 and 3 and likewise affected land owners of whose lands have been acquired for Garudeshwar Weir project had already received the compensation. They fought litigation up to the High Court level and never raised any substantial question relating to environment, under Section 14(1) of the NGT Act, 2010, before filing of the present Application. They cannot claim restoration of lands, which are already vested in the Govt. somewhere in 1991, as a result of acquisition proceedings under the Land Acquisition Act, 1894. For, those lands vested in State of Gujarat, which became owner of those lands in the eye of Law. A special Notification under the Land Acquisition Act, 1894, was issued vide No. LAQ(BHAL)/36/87(P260) dated May 18th, 1987, by the Additional Collector, (Narmada) Vadodara. Perusal of said Notification clearly shows that a further Notification dated 24th April, 1987, was issued whereby it was informed to owners of the lands at village Garudeshwar, in

district Bharuch, that lands Survey Nos. 295, 296 and 298, for purpose of acquisition so as to cause alignment of an approach road to Garudeshwar Weir site were acquired. The project of Garudeshwar Weir was, therefore, within knowledge of the persons likely to be affected due to acquisition of their lands. They never raised environmental dispute of any kind before filing of the Application. The Land Acquisition Act, 1894, is also a special enactment. The NGT Act, 2010, came on statute-book after many years of enforcement of the Land Acquisition Act and also the event of acquisition of lands for project of Garudeshwar Weir. We mean to say, even assuming that the Applicants could have any reason to raise environmental dispute by filing the Application under Section 14 of the NGT Act, 2010, cause of action is attributable to them, when in or about due to allotment of the construction work to M/s Ritwik Construction Pvt. Ltd, in 2012, they were alarmed and upon enquiry came to know about commencement of illegal project of Garudeshwar Weir. Needless to say, starting point of cause of action ought to have been shown in the Application and taking a worst case and assuming that

illegality of the project of Garudeshwar Weir came to knowledge of the Applicants, in or about 2012, the Application ought to have been filed within six (6) months thereafter as required under Section 14(3) of the NGT Act, 2010. Instant Application filed on 16.1.2014, is, in any case, much beyond prescribed period of six (6) months from the date on which cause of action for raising environmental dispute had first arisen.

38. Reliance of the Applicants on certain observations in ***Kehar Singh vs. State of Haryana*** (Application No.124 of 2013), decided by Principal Bench of NGT at New Delhi, is misplaced. A Five Member Bench headed by **Hon'ble Chairperson (*Hon'ble Sh. Justice Swatanter Kumar*)** categorically observed that term "cause of action" has to be understood in contradistinction to the nature of form of a suit. It is further observed that in the restricted sense cause of action means the circumstances of forming infraction of right of immediate occasion for action.

39. In "***Aradhana Bhargav & Anr Vs MoEF and Ors*** (Application No.11 of 2013) a co-ordinate Bench of NGT, held that "a person who wishes to

invoke jurisdiction of the Tribunal or Court, has to be vigilant and conscious of his right and should not let the time to go by not taking appropriate steps. The principle of continuing cause of action is not applicable to the provisions of NGT Act, 2010". It is observed at the fag end of para-30

> ***30**. Equally so is the contention put forth by the applicants that the cause of action arose only on 04.11.2012, the date on which the applicants came to know about their right. Even assuming to be so, it cannot be countenanced in law. The application proceeds on the footing as if the applicants came to know about the project activities on 04.11.2012 when the applicant no. 2 was served with a letter on 05.11.2012. The above plea has to be negatived for more than one reason. The said letter dated 05.11.2012by the Collector, Chhindwara to the applicant no. 2 marked as Exhibit A-1 reads as follows:*
>
> > *"Yesterday on 4th November, 2012, the Civil Work for the construction of the Dam in Bahnwada area of Chaurai Division. I received your letter dated 4th November, 2012 at the construction site. On points mentioned in the letter, I request that the construction of the dam in the Chhindwara District is being done by the State Administration for the benefit of the farmers. Water Resource Department has taken all the requisite permission for the implementation of the ambitious project. For your easy reference and perusal the copies of the letters received from the department is being made available with this letter....."*
>
> *Nowhere ii is stated in the letter that construction work commenced on 4th-5th November, 2012. From the reading of the letter, it would be quite*

clear that it was a reply to a letter given by the applicant no. 2 to the Collector, Chhindwara at the dam site. On query as to the non-production of the letter of applicant no. 2, a copy of the letter was produced at the time of arguments. The letter of applicant no. 2 would clearly indicate that the agitation in respect of the dam project was going on for a period of more than seven years. Admittedly, out of 5 applicants, a few are the residents of that area where the project was undertaken and the lands of a few of the applicants were also acquired by the State for the said purpose and proceedings in respect of the acquisition was pending from the time of acquisition in 1990. Under such circumstances, it would be futile on the part of the applicants to say that they came to know about the project and all necessary particulars thereon only from 05.11.2012, the date of reply by the Collector, Chhindwara."

40. There is basic difference between substantive provision in the section of the Act, which specifies particular limitation and excludes provisions of the Limitation Act, 1963 and Rules of the Code of Civil Procedure. As stated before, the concept of 'extent of limitatoin' under the Limitation Act, 1963, is inapplicable to provisions of the NGT Act, 2010, inasmuch as it is a special statute. In *"**Chhatisgarh State Electricity Board Vrs. Central Electricity Regulatory Authority and Ors** **(2010)5, S.C.C. 23**"*, the Apex Court considered Section 125 of the Electricity Act 2003, along with Proviso appended thereto. The Apex Court held that "*limitation period provided under section 125*

is of 60 days and could be extended up to 60 days under Proviso to Section 125 but there is no provision in the said Act for extension beyond this period". It is held that "*the Electricity Act is a special legislation which is excluded from purview of the Limitation Act, 1963 by virtue of Section 29 (2) of the Limitation Act and, therefore, Section 5 of the Limitation Act, cannot be invoked in relation to proceedings of the special enactment*". It is, therefore. Obvious that this Tribunal has no power to extend period of limitation.

41. In "***Gram Ppanchayat Tiroda & Anr vs MoEF & ors***". This Bench also took similar view. The period of limitation of five (5) years will be available if the Application can be considered under Section 15(3) of the NGT Act, 2010. In our opinion, for filing of such Application under Sub-Clause (3) of Section 15, cause of action for compensation or relief will have to be read with Sub-clauses (4) and (5) of Section 15.

42. Initially, we were reluctant to take up the issue of Limitation and other issues for consideration. The question of limitation is a mixed question of facts and Law and ordinarily it has to be determined only when facts are very clear. Else, such an issue should not be taken up for decision at the outset. It is

pointed out by learned Additional Solicitor Generals, appearing for the Respondent No.1 that in case of "***Arun Agarwal vs Nagrika Exports (P) Ltd& Ors*** *(2002) 10, SCC 101, (2)* ***K. Sagar vs A. Bala Reddy & Anr*** *(2008) 7, SC 166 and (3)* **M/s *Reliance Infocom Ltd vs BSNL***" CM 1831/2005 in FAO (OS) 232/2004, the issue is thrashed out. In Reliance Info Co. Ltd. Vs BSNL, by order dated February 10th, 2005, the Hon'ble Delhi High Court held that "*it would decide the issue of jurisdiction/maintainability along with merits of the case*". That order was challenged before the Apex Court. The Apex Court by Judgment dated 7.7.2006, CA, 2930, 2006 (***BSNL Vs Reliance Infocom Ltd***) was pleased to set aside the order of Hon'ble Delhi High Court. It has been held that "*such preliminary issue, shall be decided first, if it can be demonstrated that such preliminary decision would be essential in the facts and circumstances of the given case".*

43. Perusal of the reliefs sought by the Applicants clearly indicate that mainly they seek injunction against commencement of construction work of Garudeshwar Weir. The prayers in the Application, thus, mainly purport to show that stoppage of any further construction in Garudeshwar Weir, is the main object (Prayer) of Application. The Applicants

incidentally say that actions may be taken against the officers, who have committed defaults in going ahead with construction work without following due compliance of the Environment (Protection) Act, 1986 and ESG and RSG of NCA before allowing commencement of construction. Obviously, grievance of the Applicants is that Clearance of the Environmental Sub Group (ESG) and NCA was essential before the construction work of Garudeshwar Weir could be commenced. In other words, the Applicants meekly surrendered to the authority of ESG as the proper authority to assess and approve downstream project of Garudeshwar Weir (G.W). It is *ipse-dixit* that communication of Sh. Shekhar Singh dated March 24th, 2013, addressed to Chairman Dr. V. Rajgopalan of ESG, gave them due alarm note. As a matter of fact, said communication was not placed in public domain. It was internal communication between the Members of ESG. We don't know as to how the Applicants could have access to the said communication and on basis thereof how could they affirm that there was no Clearance from ESG.

44. At this juncture, it would be appropriate to notice that meaning of expression 'Dam and Water

Works' is set out and considered in depth in case of ***State of Andhra Pradesh vs. State of Maharashtra and Ors.*** **(2013) 5 SCC 68**. The Apex Court observed as follows;

> 51.1. The same book with reference to Colwell v. May's Landing Water Power Co. 19. N.J.Eq. (4 C.E.Green) 245, 248, explains the word "dam" as follows:
>
> > The word "dam" is used in two different senses. It properly means a structure raised to obstruct the flow of water in a river, but by well-settled usage it is often applied to designate the pond of water created by its obstruction. The word is used in this conventional sense in some statutes, and it is evidently used in this sense in a statute giving power to raise the "dam and water-works" to a height mentioned.
>
> 51.2. In the Indian Standard Glossary of Terms Relating to River Valley Projects, Part B, Dams and Dam Sections [First Revision], paragraph 2.27 explains "dam" as follows:
>
> > A barrier constructed across a river or natural watercourse for the purpose of: (a) impounding water or creating reservoir; (b) diverting water there from into a conduit or channel for power generation and or irrigation

purpose; (c) creating a head which can be used for generation of power; (d) improving river navigability; (e) retention of debris; (f) flood control; (g) domestic, municipal and induses; (h) preservation of wildlife and pisciculture, (j) recreation etc.

51.3. Glossary of irrigation and Hydro-Electric Terms and Standards Notations used in India, Third Edition, published by Central Board of Irrigation and Power, explains "dam" as under:

> Dam: A structure erected to impound water in a reservoir or to create hydraulic head.

51.4. "Reservoir" is defined in the said publication as follows:

> Reservoir: A pond, lake, or basin, either natural or artificial, for the storage, Regulation and control of water.

51.5. "Introduction to dams", Publication No.220 by Central Board of Irrigation and Power under the Chapter "Dam Sites – Large Dams" with reference to book by J. Cotilon explains the position with regard to dam sites as under:

> A dam is a structure meant to retain water. Only hydraulic dams are dealt with in this paper; when

it is question of other dams, it will be specified "Talling dam", "industrial waste dam".

1. Generally, this retention takes place in a natural dispersions. But it can also take place in an artificial enclosure created, for instance, by embankments set-up along the banks of a river.

   Moreover, the enclosure can be fully artificial; this is the case of a basin filled by pumping, created on a plateau and closed by a ring embankment, in this case, we speak about an "embankment" rather than about a "dam".

2. Generally, the dam is set-up on a river.

   But it can be constructed in a dead valley where only a trickle of water flows; the reservoir is then filled by pumping and/or by gravity diversions.

   It can also close a pass on the perimeter of a reservoir, it is then called "secondary dam" as opposed to "main dam" which closes the natural depression (living valley or dead valley).

3. The dam retains generally the upstream water, its purpose may be also to retain the downstream water for a few hours. That is, an exceptional tidal wave (anti-storm dam).

45. Along with affidavit of Applicant No.2 – Rohit, communication dated June 12th, 2014, (Annex-A) issued by R & R ESG of NCA, is placed on record. It appears that decision was taken in the Meeting dated June 27th, 2013, that phase-I proposal tilted as "construction of spillway Piers to full; Height and Bridge and Installation of Gates to be kept in raised position", was approved by SJ &-E and the Chairman of R&R Sub Group of NCA. So also, communication dated March 29/30 1984, (Annex-D) filed along with affidavit of Rohit Prajapati -Applicant No.2, reveals that Sardar Sarovar Construction Advisory Committee (SSCAC), (Govt. of India, Ministry of Irrigation) granted specific approval to Garudeshwar Weir in following way:

iv) A tail-pool dam located at Garudeshwar Weir about 12.0Km downstream of Sardar Sarovar Dam with a live of storage capacity of 34.36 Moum (27857 Acft) between pond level + 33.15m (103.7ft) and +27.33m (+89.6ft). The recommendation was communicated to

all the concern authorities. The acquisition of lands was started in 1991.

46. The Applicants, in fact, pleaded in the Application- para V(b) and para V(l), which shows that Garudeshwar Weir is a power component of Sardar Sarovar Project (SSP) and they were aware about litigation pertaining to entire project, which was taken up to the Apex Court. It would not be out of place to reproduce certain averments from the pleadings, before the Apex Court in a Petition that was filed in the Writ Petition (Civil) No.314 of 1994 (**Narmada Bachao Andolan)** case.

> "Far from preparing a master plan for resettlement and rehabilitation within two years from the Tribunal's award i.e. by 1981, the authorities had still not been able to prepare such a master plan. Till today, the authorities are unaware of even the approximate number of persons who are going to be affected by the reservoir alone and have not done any proper survey to determine the number of persons who will be affected by other project related works such as canal, colony, Garudeshwar Weir (in the downstream meant for pumping back water at night after power generation), compensatory afforestation etc.

47. The pleadings which are reproduced above go to show that Garudeshwar Weir was considered as part and parcel of SSP. It was known to all concern persons when Garudeshwar Weir in the downstream

was meant for pumping back water at night, after power generation, compensatory afforestation etc. Thus, the very purpose of Garudeshwar Weir was to utilize the storage capacity of reservoir as a pumping station to provide water, which could be pumped back in the night time, for power generation. One of the prayers in that Writ Petition (**Narmada Bachao Andolan**) case was thus:

> "To appoint independent members and representatives from outies organizations of statutory bodies like NCA, Sardar Sarovar Construction Advisory Committee (SSCAC) and Environmental Sub Group (ESG) etc."

48. It is interesting to note that before Environment Impact Assessment (EIA) Notification dated September 14, 2006, the procedure was different in various respects. There was first EIA Notification, 1992, issued on 29.1.1992. The Notification of 1992 was followed by Environment Impact Assessment (EIA) Notification, 1994 that was further followed by Explanatory Note, regarding Environment Impact Assessment (EIA) Notification, 1992. Until 1994, however, EC from the Central Govt. was only of Administrative decision. It lacked

legislative support and did not mandate any kind of Environment Impact Assessment (EIA), as such. It is but natural that when SSP was in contemplation along with ancillary projects like Garudeshwar Weir only administrative decision could suffice the purpose, prior to 1994.

49. Sum and substance of discussion made above is that instant Application falls only within ambit of Section 14(1) of the NGT Act, 2010 and as such it is barred by limitation.

Point No. (iii) :

Whether the Original Application is maintainable at the instance of the Applicant or liable to be dismissed, due to absence of 'locus *standi*'?

50. It is submitted on behalf of the Respondent Nos.1 and 2 that the Applicant Nos.1 to 4, have no '*locus standi*' to file instant Application. Chief bone of their argument is that the Applicant No.4, has received compensation, when his land was acquired and as such, he is beneficiary of the project in question. Therefore, now, he cannot turn back and challenge Garudeshwar Weir project, when he has accepted compensation, challenged land acquisition

Award and also gained more compensation in the Appeal- proceedings before the Hon'ble High Court. The Applicant No.4, alone may be debarred from filing the Application on such a ground, in case, the Application is to be considered as covered under Section 15 of the NGT Act, 2010. For comparative purpose, the Applicant Nos. 1 and 2 were not required to file any Application before they noticed illegalilty of the alleged construction. In case of ***Goa Foundation and Ors Vs. Union of India & Ors*** **(M.A.No.49 of 2013 in Application No.26 of 2012)** Principal Bench of NGT, New Delhi headed by ***Hon'ble Sh.Justice Swatanter Kumar***, observed:

> **25**. The very significant expression that has been used by the legislature in Section 18 is 'any person aggrieved'. Such a person has a right to appeal to the Tribunal against any order, decision or direction issued by the authority concerned. 'Aggrieved person' in common parlance would be a person who has a legal right or a legal cause of action and is affected by such order, decision or direction. The word 'aggrieved person' thus cannot be confined within the bounds of a rigid formula. Its scope and meaning depends upon diverse facts and circumstances of each case, nature and extent of the applicant's interest and the nature and extent of prejudice or injury suffered by him. P. Ramanatha Aiyar's The Law Lexicon supra describes this expression as 'when a person is given a right to raise a contest in a certain manner and his contention is negative,

he is a person aggrieved' [Ebrahim Aboodbakar v. Custodian General of Evacue Property, AIR 1952 SC 319]. It also explains this expression as 'a person who has got a legal grievance i.e. a person wrongfully deprived of anything to which he is legally entitled to and not merely a person who has suffered some sort of disappointment'.

26. Aggrieved is a person who has suffered a legal grievance, against whom a decision has been pronounced or who has been refused something. This expression is very generic in its meaning and has to be construed with reference to the provisions of a statute and facts of a given case. It is not possible to give a meaning or define this expression with exactitude and precision. The Supreme Court, in the case of Bar Council of Maharashtra v. M.V. Dabholkar and Others AIR 1976 SC 242 held as under:-

> "**27**. Where a right of appeal to Courts against an administrative or judicial decision is created by statute the right is invariably con fined to a person aggrieved or a person who claims to be aggrieved. The meaning of the words "a person aggrieved" may vary according to the context of the statute. One of the meanings is that a person will be held to be aggrieved by a decision if that decision is materially adverse to him. Normally, one is required to establish that one has been denied or deprived of something to which one is legally entitled in order to make one "a person aggrieved." Again a person is aggrieved if a legal burden is imposed on him. The meaning of the words "a person aggrieved" is sometimes given a restricted meaning

in certain statutes which provide remedies for the protection of private legal rights. The restricted meaning requires denial or deprivation of legal rights. A more liberal approach is required in the back ground of statutes which do not deal with property rights but deal with professional conduct and morality. The role of the Bar Council under the Advocates Act is comparable to the role of a guardian in professional ethics. The words "persons aggrieved" in Sections 37 and38 of the Act are of wide import and should not be subjected to a restricted interpretation of possession or denial of legal rights or burdens or financial interests. The test is whether the words "person aggrieved" include "a person who has a genuine grievance because an order has been made which pre judicially affects his interests." It has, therefore, to be found out whether the Bar Council has a grievance in respect of an order or decision affecting the professional conduct and etiquette.

28. The pertinent question is: what are the interests of the Bar Council? The interests of the Bar Council are the maintenance of standards of professional conduct and etiquette. The Bar Council has no personal or pecuniary interest. The Bar Council has the statutory duty and interest to see that the rules laid down by the Bar Council of India in relation to professional conduct and etiquette are upheld and not violated. The Bar Council acts as the sentinel of professional code of conduct and is vitally interested in the rights and privileges of the

advocates as well as the purity and dignity of the profession.

40. The point of view stated above rests upon the distinction between the two different capacities of the State Bar Council: an executive capacity, in which it acts as the prosecutor through its Executive Committee, and a quasi-judicial function, which it performs through its Disciplinary Committee. If we can make this distinction, as I think we can, there is no merger between the prosecutor and the Judge here. If one may illustrate from another sphere case, there is no breach of a rule of natural justice. The prosecutor and the Judge could not be said to have the same personality or approach just because both of them represent different aspects or functions of the same State.

44. The short question is as to whether the State Bar Council is a 'person aggrieved' within the meaning of Section 38 so that it has locus standi to appeal to this Court against a decision of the Disciplinary Tribunal of the Bar Council of India which, it claims, is embarrassingly erroneous and. if left unchallenged, may frustrate the high obligation of maintaining standards of probity and purity and canons of correct professional conduct among the members of the Bar on its rolls.

47. Even in England, so well-known a Parliamentary draftsman as Francis Bennion has recently pleaded in the Manchester Guardian against incomprehensible law forgetting 'that it is fundamentally important in a free society that the law should be readily ascertainable and reasonably

> clear, and that otherwise it is oppressive and deprives the citizen of one of his basic rights'. It is also needlessly expensive and wasteful. Reed Dickerson, the famous American Draftsman, said: It cost the Government and the public many millions of dollars annually'. The Renton Committee in England, has reported on drafting reform but it is unfortunate that India is unaware of this problem and in a post-Independence statute like the Advocates Act legislators should still get entangled in these drafting mystiques and judges forced to play a linguistic game when the country has an illiterate laity as consumers of law and the rule of law is basic to our Constitutional order."

51. In order to keep judicial propriety and discipline, we deem it proper to go by logic enumerated above in dictum of Goa Foundation case. So, it goes without saying that the Applicant Nos. 1 to 3, may not be persons directly affected by Garudeshwar Weir project. It supposes that they have "interest in environment and desire to maintain required standard of environment in the area". Such persons can ventilate grievances by filing Application under Section 14(1), in view of Section 2(h) as well as 2(j) of the NGT Act, 2010. The expression 'aggrieved person' is not restricted to person, who is entitled to appeal against any adverse order, but a term used in

juristic sense. Hence, objection regarding maintainability of the Application for want of *'locus standi'* of the Applicants, is rejected.

Point No. (iv) :

Whether the Application is barred by principle of Res-judicata and, as such, is not maintainable in view of the principle underlying Explanation-IV of Section 11 of the Code of Civil Procedure, 1908:

52. As far as objections pertaining to bar of 'Res-judicata' is concerned, Learned Additional Solicitor General Sh. Maninder Singh vehemently argued that the provisions of Section 11 of Explanation IV and Explanation VI of the Code of Civil Procedure, debar the Applicants to file instant Application, when issues were decided by the Apex Court in the earlier Public Interest Litigation (PIL), initiated by a group of persons, who opposed SSP. The issue regarding environmental impact on downstream project, which is part and parcel of the SSP, cannot be reinvestigated or re- agitated at the instance of any other persons, only for the reason that such persons are group comprising of those persons, interested in the project of Garudeshwar Weir, were not parties to the earlier litigation. He vehemently argued that filing

of instant Application by Mr. Lakhan Musafir and others, is no short of 'abuse of process of Court' and, as such, the main Application filed by latter group deserves outright dismissal at the threshold. He mainly seeks to rely upon certain observations in the case of "***State of Karnataka Vs All India Manufactures Organization & Ors*" (2006) 4, SCC, 683**, particularly, which are set out in paragraphs 32 to 40 thereof.

Res Judicata

".....32. Res Judicata Res judicata is a doctrine based on the larger public interest and is founded on two grounds: one being the maxim ***nemo debet bis vexari pro una et eadem causa*** (P. Ramannatha Aiyer, Advanced Law Lexicon (Vol3 3rd Edn. 2005) at p.3170) ("No one ought to be twice vexed for one and the same cause") and second, public policy that there ought to be an end to the same litigation. (Mulla, Code of Civil Procedure (Vol.1, 15th Edn, 1995) at p.94. It is well settled that Section 11 of the Civil Procedure Code, 1908 (hereinafter "the CPC") is not the foundation of the principle of res judicata, but merely statutory recognition thereof and hence, the Section is not to be considered exhaustive of the general principle of law. (See, Kalipada De v. Dwijapada Das) The main purpose of the doctrine is that once a matter has been determined in a former proceeding, it should not be open to parties to re-agitate the matter again and again. Section 11 of the CPC recognizes this principle and forbids a court

from trying any suit or issue, which is res judicata, recognizing both 'cause of action estoppel' and 'issue estoppel'. There are two issues that we need to consider, one, whether the doctrine of res judicata, as a matter of principle, can be applied to Public Interest Litigations and second, whether the issues and findings in Somashekar Reddy constitute res judicata for the present litigation.

33. Explanation VI to Section 11 states:

> "**Explanation VI**. Where persons litigate bona fide in respect of a public right or of a private right claimed in common for themselves and others, all persons interested in such right shall, for the purposes of this section, be deemed to claim under the persons so litigating."

34. Explanation VI came up for consideration before this Court in Forward Construction Co. and Ors. v. Prabhat Mandal (Regd.). (Hereinafter "Forward Construction Co."). This Court held that in view of Explanation VI, it could not be disputed that Section 11 applies to Public Interest Litigation, as long as it is shown that the previous litigation was in public interest and not by way of private grievance. (Ibid at pp. 112-113 (paragraph 21) further, the previous litigation has to be a bona fide litigation in respect of a right which is common and is agitated in common with others. (Id)

35. As a matter of fact, in a Public Interest Litigation, the petitioner is not agitating his individual rights but represents the public at large. As long as the litigation is bona fide, a judgment in a previous Public Interest Litigation would be a judgment in

rem. It binds the public at large and bars any member of the public from coming forward before the court and raising any connected issue or an issue, which had been raised/should have been raised on an earlier occasion by way of a Public Interest Litigation. It cannot be doubted that the petitioner in Somashekar Reddy (supra) was acting bona fide. Further, we may note that, as a retired Chief Engineer, Somashekar Reddy had the special technical expertise to impugn the Project on the grounds that he did and so, he cannot be dismissed as a busybody. Thus, we are satisfied in principle that Somashekar Reddy(supra) , as a Public Interest Litigation, could bar the present litigation.

36. We will presently consider whether the issues and findings in Somashekar Reddy (supra) actually constitute res judicata for the present litigation. Section 11 of the CPC undoubtedly provides that only those matters that were "directly and substantially in issue" in the previous proceeding will constitute res judicata in the subsequent proceeding. Explanation III to Section 11 provides that for an issue to be res judicata it should have been raised by one party and expressly denied by the other:

> **Explanation III** to Section 11 provides that for an issue to be res judicata it should have been raised by one party and expressly denied by the other: "Explanation III. The matter above referred to must in the former suit have been alleged by one party and either denied or admitted, expressly or impliedly, by the other."

37. Further, Explanation IV to Section 11, states:

> "**Explanation IV**. Any matter which might and ought to have been made ground defence or attack in such former suit shall be deemed to have been a matter directly and substantially in issue in such suit."

38. The spirit behind Explanation IV is brought out in the pithy words of Wigram, V.C. in Henderson v. Henderson (All ER pp.381 I-382A) as follows:

"The plea of res judicata applies, except in special case (sic), not only to points upon which the court was actually required by the parties to form an opinion and pronounce a judgment, but to every point which properly belonged to the subject of litigation and which the parties, exercising reasonable diligence, might have brought forward at the time." (Ibid. at pp.381-382).

39. In Greenhalgh v. Mallard (hereinafter "Greenhalgh"), Somervell L.J. observed thus:

> "I think that on the authorities to which I will refer it would be accurate to say that res judicata for this purpose is not confined to the issues which the Court is actually asked to decide, but that it covers issues or facts which are so clearly part of the subject matter of the litigation and so clearly could have been raised that it would be an abuse of the process of the Court to allow a new proceeding to be started in respect of them." (Ibid. at p.257)

40. The judgment in Greenhalgh (supra) was approvingly referred to by this Court in State of U.P. v. Nawab Hussain . Combining all these principles, a

Constitution Bench of this Court in Direct Recruit, Class II Engineering Officers' Association v. State of Maharashtra expounded on the principle laid down in Forward Construction Co. (supra) by holding that:

> "An adjudication is conclusive and final not only as to the actual matter determined but as to every other matter which the parties might and ought to have litigated and have had (sic) decided as incidental to or essentially connected with (sic) subject matter of the litigation and every matter coming into the legitimate purview of the original action both in respect of the matters of claim and defence. Thus, the principle of constructive res judicata underlying Explanation IV of Section 11 of the Code of Civil Procedure was applied to writ case. We, accordingly hold that the writ case is fit to be dismissed on the ground of res judicata. (Ibid. at .741 (paragraph 35) , per LM Sharma, J.) "

53. Learned Additional Solicitor General, Sh. Maninder Singh would submit, therefore, that though issue of Garudeshwar Weir was not separately and specifically referred to or mentioned being a component of SSP while delivering Judgment in case of ***Narmada Bachao Andolan***, by the Apex Court, yet, it cannot be overlooked that estimated cost of Garudeshwar Weir was included by the Planning Commission of India (PCI), in 1988, while

approving total estimated cost of SSP and moreover, there is reference to Garudeshwar Weir in the Judgment of the Apex Court, which impliedly goes to show consideration of such a project as part and parcel of SSP. Thus, it is vehemently argued that when during pendency of PIL before the Apex Court in ***Narmada Bachao Andolan*** case, group of the Applicants (Lakhan Musafir & Ors) never agitated issues pertaining to Garudeshwar Weir and environmental impact of SSP, vis-à-vis Garudeshwar Weir, nor it was conveyed before the Apex Court that Garudeshwar Weir, is a separate component and is not part of SSP, the original Applicants cannot be permitted now to raise such issues, inasmuch as the Judgment of the Apex Court in ***Narmada Bachao Andolan*** case. Learned Additional Solicitor General Sh. Maninder Singh also seeks to rely upon certain observations in the case of ***M. Nagbhushana vs State of Kerala & Ors*** **(2011) 3, SCC 408** and ***State of Tamil Nadu Vs State of Kerala & Ors*** **(2014) 12 SCC 696**.

54. We are called upon to consider the principle of "Public Trust doctrine" and "Precautionary Principle". The Apex Court held that: "*Principle of Public Trust Doctrine has no application in the context of safety*".

The Apex Court observed: "*the contesting party, by applying 'public trust doctrine' or 'precautionary measure' cannot through legislation do an act in conflict with the judgment of the highest Court which has attained finality. If a legislation is found to have breached the established constitutional limitation such as separation of powers, it has to go and cannot be allowed to remain. It is true that the State's sovereign interests provide the foundation of the public trust doctrine but the judicial function is also a very important sovereign function of the State and the foundation of the rule of law. The legislature cannot by invoking "public trust doctrine" or "precautionary principle" indirectly control the action of the courts and directly or indirectly set aside the authoritative and binding finding of fact by the Court, particularly, in situations where the executive branch (Government of the State) was a party in the litigation and the final judgment was delivered after hearing them*."

55. No doubt, the Apex Court further observed that "*Rule of Res-judicata is not merely technical Rule, but is based on high public policy*". Much emphasis was led on observations in Paragraphs 168,170,174 and 175 of the Judgment in ***State of Tamil Nadu Vs State of Kerala*** (supra). For ready reference, these paragraphs may be quoted as follows:

168. Nanak Singh has been followed by a three Judge Bench of this Court in Bua Das Kaushal. In our view, the rule of res judicata which is founded on public policy prevents not only a new decision in the subsequent suit but also prevents new investigation. It prevents the defendant from setting up a plea in a subsequent suit which was decided between the parties in the previous proceedings. The legal position with regard to rule of res judicata is fairly well-settled that the decision on a matter in controversy in writ proceeding (Article 226 or Article 32 of the Constitution) operates as res judicata in subsequent suit on the same matters in controversy between the same parties. For the applicability of rule of res judicata it is not necessary that the decision in the previous suit must be the decision in the suit so as to operate as res judicata in a subsequent suit. A decision in previous proceeding, like under Article 32 or Article 226 of the Constitution, which is not a suit, will be binding on the parties in the subsequent suit on the principle of res judicata.

***

170. In light of the above legal position, if the 2006 judgment is seen, it becomes apparent that after considering the contentions of the parties and examining the reports of Expert Committee, this Court posed the issue for determination about the safety of the dam to increase the water level to 142 ft. and came to a categorical finding that the dam was safe for raising the water level to 142 ft. and, accordingly, in the concluding paragraph the Court disposed of the writ petition and the connected

matters by permitting the water level of Mullaperiyar dam being raised to 142 ft. and also permitted further strengthening of the dam as per the report of the Expert Committee appointed by the CWC. The review petition filed against the said decision was dismissed by this Court on 27.7.2006. The 2006 judgment having become final and binding, the issues decided in the said proceedings definitely operate as res judicata in the suit filed under Article 131 of the Constitution.

***

***

***

174. The rule of res judicata is articulated in Section 11 of the Code of Civil Procedure.

175. Explanations VII and VIII were inserted in the above provision by Code of Civil Procedure (Amendment) Act, 1976 w.e.f. 1.2.1977. Explanation VIII in this regard is quite relevant. The principles of res judicata, thus, have been made applicable to cases which are tried by Courts of limited jurisdiction. The decisions of the Courts of limited jurisdiction, insofar as such decisions are within the competence of the Courts of limited jurisdiction, operate as res judicata in a subsequent suit, although, the Court of limited jurisdiction that decided the previous suit may not be competent to try such subsequent suit or the suit in which such question is subsequently raised. If a decision of the Court of limited jurisdiction, which was within its competence, operates as res judicata in a subsequent suit even when the subsequent suit is not triable by

> it, a fortiori, the decision of the highest Court of the land in whatever jurisdiction given on an issue which was directly raised, considered and decided must operate as res judicata in the subsequent suit triable exclusively by the highest Court under Article 131 of the Constitution. Any other view in this regard will be inconsistent with the high public policy and rule of law. The judgment of this Court directly upon the point, is as a plea, a bar, or as evidence, conclusive between the same parties, upon the same matter, directly in question before this Court, though, label of jurisdiction is different.

56. We do not find it essential to discuss elaborately third case law cited by learned Additional Solicitor General, which, of course, is in keeping with same line of observations, which are in case of ***State of Karnataka Vs All India Manufactures Organization & Ors***". There cannot be duality of opinion that the principle of "Constructive Res-judicata" would be applicable when any issue which is 'directly and substantially' involved in earlier litigation, is not agitated though could have been so pleaded/agitated and decision in the earlier litigation is rendered on such issue. A careful reading of observations in ***State of Tamil Nadu Vs State of Kerala,*** go to show that the principles of 'Res judicata' is made applicable to cases, which are tried by the Courts of limited jurisdiction. The plea of Res-

judicata cannot be considered in isolation and in generality as such, this is procedural defence, which ordinarily, is applicable when the issue is same and is decided by the Court, having same kind of jurisdiction, or, jurisdiction of higher level and identity of the parties is of similar nature. Obviously, there must be semblance of the parties, the issue of jurisdiction before embargo is to be directly or impliedly placed by invoking such defence under Section 11 of Explanation IV or VI of the Code of Civil Procedure, 1908. Admittedly, the present Applicants were not parties before the Apex Court in **Narmada Bachao Andolan** case. We have perused pleadings in the PIL Writ Petition No.319 of 1994, filed in the matter of **Narmada Bachao Andolan** case. The pleadings in the petition of said PIL, do not refer to issue of Garudeshwar Weir and Environmental Impact Assessment (EIA) thereof. The only statement made in paragraph 15, of the said petition is as follows:

> *"far from preparing a master plan for resettlement and rehabilitation within two (2) years from the Tribunal Award by 1981, the authorities had still not been able to prepare such master plan till today. The authorities are unaware of even the approximate number of persons, who are going to be affected by*

the reservoir alone and have not done any proper survey to determine the number of persons, who will be affected by other project relied work, such as Canal, Colony, Garudeshwar Weir, if in the downstream meant for pumping back the water at night after power generation, compensatory afforestation etc."

In the earlier pleadings, it was only stated that

"there is no figure available as to how many families will be adversely affected by other national park and sanctuary proposals connected with this project, Garudeshwar Weir to be built downstream of SSP and other such necessary parts of the project".

57. The prayers in that PIL Writ Petition were to issue Writ of Mandamus for stoppage of construction of SSP to appoint an independent body for implementation of R & R programme and to constitute appropriate NCA. It does not appear that specific issue regarding construction of Garudeshwar Weir, without EIA was raised in that petition. Mere fact that certain lands were acquired for implementation of Garudeshwar Weir will not by itself amount to raising of such an issue in the earlier litigation and any particular finding of the Apex Court in case of **Narmada Bachao Andolan,** notwithstanding certain ***Obiter Dictas*** which are referred by learned Additional Solicitor General Sh. Maninder Singh. It is pertinent to note that purpose

of Garudeshwar Weir is to pump water by pumping the same to the main reservoir of SSP during night hours for power generation and affected villages are only within State of Gujarat. The cost of Garudeshwar Weir was not to be shared by three States i.e. Madhya Pradesh, Maharashtra and Gujarat, as per proposal of SSP, which was approved by the Planning Commission of India. It, therefore, appears that estimates for both the projects were prepared exclusive for each project and not comprehensively as such.

58. Be that may as it is, it is not necessary to examine whether Garudeshwar Weir is part and parcel of SSP and, therefore, it separately requires EIA. This aspect may need examination on merits of the case. We are not supposed to enter into thicket of merits of the case on facts and above observations are only *prima facie* observations to show that the issue of Garudeshwar Weir was not directly and substantially the same, which was before the Apex Court in **Narmada Bachao Andolan** case.

59. In our opinion, Rule of 'Constructive Res judicata' in the facts and circumstances of the present case, would depend upon close examination of the facts on which findings will have to be rendered

before we would be able to deal with such preliminary question. In our opinion, if the issue requires 'construction' for the purpose of applicability of Rule of Res-judicata and that too on consideration of facts of a particular case, such issue should not be decided as a preliminary one. In ***Ramesh Desai and Ors Vs Bipin Vadilal Mehta*** **2006 (5) SCC 638** the Apex Court held that "*mixed question of fact and law, cannot be determined as preliminary issue".* It is observed that "*where a decision on issue of law depends on facts, there it cannot be tried as preliminary issue".* In the given case, it was held that "question of limitation in the particular facts and circumstances of that case was mixed question of fact and law and, therefore, it was improper to decide the same as a preliminary issue".

60. The issues pertaining to environment are flexible. There cannot be strict embargo in respect of environmental issues, inasmuch as juxta position would go on changing due to lapse of time. For example; the forest land available at the time of commencement of project activity may be reduced to large extent at the time of its implementation after the EC. There may be a case where due to afforestation the forest canopy density would be more

than what was available at the time of EC as compared to that of the earlier. In other words, environmental issues are not static and decision may not be binding on the same parties if the issues are directly involved in the earlier litigation with different identity on findings of such issues.

61. In so far as powers of the National Green Tribunal are concerned, it may be mentioned that Section 19 of the NGT Act, 2010, give leverage to this Tribunal to mould/regulate its own procedure and makes it clear that it should not be bound by the procedure laid down by the Code of Civil Procedure, 1908, but shall be guided by the principles of natural justice.

62. The words "shall not be bound" as used in Section 19(1) clearly indicate the intention of legislature in unambiguous words. The legislative mandate reveals that this Tribunal is not required to be under binding procedural Rules of the Code of Civil Procedure, 1908. The Apex Court in ***V. Purushottam Rao Vs Union of India*** **(2001) 10, SCC, 305** held that "*issue of 'constructive Res judicata' is excluded when the Code of Civil Procedure is not applicable to the proceedings under Article 226 of the Constitute, in view of Explanation appended to Section 141 of the Code of Civil*

Procedure". Therefore, it is held that Code of Civil Procedure is not required to be followed in a proceeding under Article 226, unless the High Court itself has made provisions of Civil Procedure Code, applicable to the proceedings under Article 226 of the Constitution. The Court further noted that "*the provisions of Section 11 as well as Order 2, Rule 2 of the Code of Civil Procedure, contemplate adversarial system of litigation where Court adjudicates the rights of the parties and determines issues arising in a given case*". The Public Interest Litigation (PIL), filed for ensuring interest of public, cannot be held to be an adversarial system of adjudication. Similarly, the Apex Court in ***Rural Litigation Entitlement Kendra vs. State of U.P.*** **1989 SUPP (1) SSC 504,** declined to Rule of 'Constructive Res judicata' to a PIL raising issues of public importance on the grounds that a PIL, the disputes raised were not of interested parties and that 'Constructive Res judicata' is a technical defence which could not preclude determination of said matter. The Apex Court further observed that

"*even though, an earlier order could be treated as final one, then also in the dispute like PIL, it would be difficult to entertain 'plea of Res-judicata'* ".

(Emphasis supplied by us)

63. Considering the legal position discussed hereinabove, we are of the opinion that contentions of learned Additional Solicitor General Sh. Maninder Singh, are unacceptable. We do not accept the objections raised by the Respondent Nos.1 and 2 that the Application is barred by the principles of 'Constructive Res judicata' as envisaged under Section 11, Explanation IV and VI of the Code of Civil Procedure, 1908. The objection of such technical defence is, therefore, overruled.

64. In the result, the Misc. Application is allowed. We hold that the main Application No.10 of 2014, is barred by limitation. Hence, the Misc. Application is allowed and Application No.10 of 2014, is dismissed. No costs.

....., **JM**
(Justice V. R. Kingaonkar)

., **EM**
(Dr. Ajay A. Deshpande)

DATE: 1st SEPTEMBER, 2015.
PUNE.
hkk

IN THE SUPREME COURT OF INDIA

CIVIL APPELLATE JURISDICTION

CIVIL APPEAL DIARY NO.(S).9144 OF 2015

LAKHAN MUSAFIR AND ORS — Appellant(s)

VERSUS

SARDAR SAROVAR NARMADA NIGAM LTD AND ORS — Respondent(s)

O R D E R

Heard.

Delay condoned.

We see no reason to interfere with order dated 1st September, 2015 passed by the National Green Tribunal (Western Zone) Bench, Pune.

The civil appeal is accordingly dismissed.

Applications, if any, shall also stand disposed off.

.....CJI.
(T.S. THAKUR)

.....J.
(UDAY UMESH LALIT)

NEW DELHI
DATED 19th APRIL, 2016.

ITEM NO.2 COURT NO.1 SECTION XVII **2758**

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal Diary No(s).9144 of 2016

LAKHAN MUSAFIR AND ORS Appellant(s)

VERSUS

SARDAR SAROVAR NARMADA NIGAM LTD AND ORS Respondent(s)

(With appln.(s) for condonation of delay in filing appeal)

Date : 19/04/2016 This appeal was called on for hearing today.

CORAM :
HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE UDAY UMESH LALIT

For Appellant(s) Mr. Colin Gonsalves,Sr.Adv.
Ms. Shodhika Sharma,Adv.
Mr. Satya Mitra,Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following

O R D E R

Heard.

Delay condoned.

We see no reason to interfere with order dated 1st September, 2015 passed by the National Green Tribunal (Western Zone) Bench, Pune.

The civil appeal is accordingly dismissed.

Applications, if any, shall also stand disposed off.

(MAHABIR SINGH)
COURT MASTER

(VEENA KHERA)
COURT MASTER

(Signed order is placed on the file)

Item No. 02 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 31/2020 (WZ)
(I.A. No. 136/2020)

Shashikant Kamble Applicant

Versus

M/s Embassy Property Development Pvt. Ltd. Respondent

Date of hearing: 10.02.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: Mr. Brajesh Singh, Advocate

Respondent(s): Mr. S.K. Jain, Advocate for R.1
Mr. Aniruddha Kulkarni, Advocate for R3 & R4
Ms. Mansi Joshi, Advocate for R.6
Ms. Shyamli Gadre, Advocate for R.8 – MIDC
Mr. D.M. Gupte Advocate for R-9 (MoEF&CC)

ORDER

1. Grievance in this application is against construction of housing project by respondent No. 1 - M/s Embassy Property Development Pvt. Ltd., Pune, in violations of environmental norms.

2. According to the applicant, the building approval to the project was granted in the year 2005 which was revised in the year 2007. Environmental Clearance (EC) requirement became operative on 14.09.2006 but the project was completed without EC. Later, ex post facto EC was obtained from SEIAA, Maharashtra on 29.03.2011.

3. Vide order dated 14.08.2020, the Tribunal issued notice to the Project Proponent (PP) and the statutory regulators including SEIAA, Maharashtra and State PCB. The Tribunal also constituted a joint Committee of District Collector, Pune, SEIAA, Maharashtra and State PCB to furnish a factual and action taken report in the matter.

4. Accordingly, report dated 06.12.2021 has been filed by the joint Committee to the effect that a criminal case has been filed before the CGM, Pune for construction of the project without requisite EC. However, the PP has filed a Writ Petition in the Bombay High Court against the initiation of criminal proceedings.

5. The PP has filed a reply inter alia raising the plea of limitation. It is submitted that no part of cause of action has arisen within five years prior to filing of the OA. No continued violation pointed out. Thus, the Tribunal cannot entertain the application beyond statutory limitation.

6. We have heard learned counsel for the parties.

7. We find that the petition was filed on 04.02.2020 and no cause of action in five years preceding the filing of OA has been pleaded.

In view of the above, we uphold the objection of limitation and dismiss the application.

I.A. No. 136/2020 also stands disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

Dr. Afroz Ahmad, EM

February 10, 2022
Original Application No. 31/2020 (WZ)
(I.A. No. 136/2020)
A

Item No. 4 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No. 63/2019(WZ)
(I.A. No. 100/2019 & I.A. No. 86/2021)

Mr. Ajay Jayvantrao Bhosale

.....Applicant

Versus

Union of India through MoEF&CC & Ors.

....Respondent(s)

Date of hearing: 01.12.2022

CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

Applicant	:	Mr. Nitin Lonkar, Advocate
Respondent(s)	:	Ms. Manasi Joshi, Advocate for R-1, 6 & 7 Mr. Aniruddha Kulkarni, Advocate for R-3 to 5 Mr. S. Swaminathan, Advocate for R-8 & 9/PCMC Mr. Saket Mone along-with Mr. Abhishek Salian, Advocates for R-11/PP

ORDER

1. Today this matter is listed on the issue of limitation against which objection has been filed by the learned Counsel for the Applicant.

2. Heard the arguments of learned Counsel for the Applicant Mr. Nitin Lonkar and learned Counsel for Respondent No. 11/Project Proponent- Mr. Saket Mone along-with learned Counsel Mr. Abhishek Salian.

I.A. No. 86/2021(WZ)

3. This I.A. has been filed by the Respondent No. 11/Project Proponent (PP), praying for dismissal of the Original Application No. 63/2019(WZ). The main ground which has been set up in this application is that Original Application is time barred, therefore, it requires to be dismissed at the threshold itself. The core issue raised by the Applicant is

that the Respondent No. 11 did not obtain prior Environmental Clearance (EC) with respect to the project in question.

4. As per the Project Proponent (PP), he commenced the construction and excavation in the year, 2012, therefore, the cause of action in respect of the alleged construction first arose in the year, 2012 which is well over 07 years from the date of the filing of the present Original Application.

5. The Sections 14 and 15 of the National Green Tribunal Act, 2010 provide for 06 months from the date when the cause of action first arose within which the Original Application ought to have filed. Therefore, if the 06 months period is calculated from the year 2012, it would expire in the year 2013 and as regards Section 15, it provides for 05 years period from the date of cause of action first arose, which too would expire in the year, 2017, while the Original Application has been filed on 14.08.2019.

6. The learned Counsel for the Respondent No. 11 has drawn our attention to para no. 40 of the main petition, where-in it is stated by the Applicant that the Project Proponent carried out illegal construction on 0 sq. mtrs. to 18500 sq. mtrs. vide sanction dated 24.11.2016.

7. As per the Applicant in O.A., the Project Proponent had intention to go on beyond 36,500 sq. mtrs. vide sanction dated 31.03.2018. The civil construction activity is recurring process. The Project Proponent/Respondent No. 11 has increased the project capacity from 0 sq. mtrs to 18500 sq. mtrs. from 2011 to 19.05.2018, therefore, it is nothing but a recurring cause of action for building construction activity.

8. The Applicant in Original Application had obtained information through online search and under RTI Act from 2017 to 18.05.2018 and thereafter had sent legal notice through Counsel to the Respondents inviting their attention towards the violations committed by the Project

Proponent. Therefore, the cause of action first arose on 15.06.2019 when SEIAA issued a Show Cause Notice to the Project Proponent.

9. Therefore, 06 months period from 15.06.2019 should be counted, which would end on 14.12.2019, while the present application has been filed on 14.08.2019, therefore, it is within time.

10. As per Respondent No. 11/Project Proponent (PP), the above contention of the Applicant in Original Application is absolutely false because the Applicant is trying to establish the date 19.05.2019 as the date, when the first cause of action arose on the basis of his having obtained information under RTI. It is further argued by the learned Counsel for the Respondent No. 11 that any person may move an RTI application on a particular date of his choice in order to create cause of action so as to bring it within the period of limitation in order to initiate legal proceedings, which cannot be allowed to happen because that is not the intent of law.

11. The learned Counsel for the Respondent No. 11 has placed reliance of the Judgment *Jai Javan Jai Kisan and ors. v. Vidarbha Cricket Association and Ors. [MANU/GT/0006/2017],* where-in relevant para no. 11 is as follows:-

> *"11. Conjoint reading of Section 14 and 15 of the National Green Tribunal Act reveals that essentially any application moved for claiming reliefs there-under must necessarily present a Civil case wherein substantial question relating to environment or environmental damage arising under the enactments specified in the Schedule-I of the Act (including accident occurring while handling any hazardous substance) is involved. We are, therefore, of the considered opinion that it is the substantial question relating to the environment or environmental damage as aforesaid which gives rise to the cause for an action under the provisions of National Green Tribunal Act, 2010. In the present case, the question raised is about restoration of the environmental damage on account of injury to it as a result of raising VCA Stadium without EC or consent to operate under the provisions of Schedule-I Acts viz Environment (Protection) Act, 1986, the Air (Prevention and*

> *Control of Pollution) Act 1981 and Water (Prevention and Control of Pollution) Act 1974. As stated herein above, the causes of injury are insufficiency of Effluent Treatment Plant (ETP), open species, parking spaces and tree cover. These facts were very much manifest when the VCA stadium became functional in the year 2008. In our opinion, therefore, the cause of action for the present Application arose first when the VCA stadium became functional. There is nothing in the Application to state that these injuries stood compounded further to actuate the Applicants to initiate the action in the present case as framed."*

12. Thereafter, the learned Counsel for the Respondent No. 11 has placed reliance on *Graminee Environment Development Foundation v. Balaji Infrastructure Ltd. & Ors. [(2017) SCC Online NGT 1098],* where-in relevant para nos. 11 to 13 are as follows:-

> *"**11.** Section 15 (3) of the NGT Act, 2010 in clear terms requires the Application for restitution of the property damaged to be made within the period of five (5) years from the date on which cause for such relief first arose, and provides for discretion to the Tribunal to condone delay for 'sufficient cause' if the application is filed within further period of sixty (60) days and no further. In the present case, the Applicant avers that the cause of action first arose on 24.2.2015, when the letter was addressed by the Member Secretary, Maharashtra Coastal Zone Management Authority (MCZMA) to the Collector, Raigad to take action in respect of the grievance made by the Applicant and yet no action was taken by the authorities. The Applicant has further revealed in her Application that she has been making several complaints to the Authorities about the said grievance, first such complaint being made on 15.9.2014 to the Divisional Commissioner, Konkan Division, Navi Mumbai. Reading of the letter dated 24.2.2015, Annexure ''I to the Application (Pg.81) reveals the nature of grievance made by the Applicant. In short, the Applicant was aggrieved by the alleged illegal blasting work, storage of minerals and reclamation by Dighi Port Ltd. Similarly, the grievance made with complaint dated 15.9.2014 is regarding alleged illegal work of reclamation of seashore and filling rocks at village Nanavali and intertidal land encroachment without EC by Dighi Port Ltd, and Balaji Infrastructure Ltd.*
>
> ***12.** In our considered opinion, making of grievance of the kind in the present case by writing a letter cannot be constituted as 'cause of action' but the actual act or its consequence constitutes 'cause of action' in any case. In the present case, cause of action has arisen as a result of blasting work as well as dumping of rocks etc. by Dighi Port Ltd and its holding Company Balaji Infrastructure Ltd in the said land.*

> ***13.*** *A perusal of the Application gives some clue as to when such acts of blasting of hills and dumping of material excavated started. The Applicant has pleaded in her Application that Respondent No.1 encroached upon 3km of seashore of village Nanavali and without permission of any Govt. Authority dumped soil and rocks there. It is further pleaded that Respondent No.1 has been doing illegal activities of levelling, blasting, excavation of land, filling of land space with soil, dumping huge rocks and artificial land spaces without any permission; and in spite of such illegalities going on, Respondent Nos. 2 to 7- Govt. Authorities did nothing. The Applicant in her pleadings referred to EC granted in the name of Dighi Port Ltd on 30th September, 2005 for construction of Port at village Dighi, Taluka Shrivardhan, District Raigad and states that she does not challenge or dispute anything about such EC or any work at Dighi Port and her only grievance is that Respondent No.1 has encroached upon the property and extended various kinds of constructions beyond consented area. These facts as pleaded if read in conjunction with the plaint in Regular Civil Suit No.4 of 2009 filed by the Applicant in the Court of Civil Judge, Junior Division, Shrivardhan, do make sense as to when alleged activity had started. At para-7 of the said plaint, the Applicant has categorically stated that on 26.12.2008 the defendant (therein) i.e. Dighi Port Ltd came at the land adjacent to the house of the Applicant in order to make encroachment and reclaimed the land, and this highhanded activity of Dighi Port Ltd was resisted by the Applicant with objection that they cannot reclaim land by blasting the hills and dumping rocks at the said land. A clear fact emerges that the act of blasting the hill sides, dumping materials illegally and reclamation of land, first started in or about December, 2008. Thus, cause of action for the present Application clearly arose in or about December, 2008."*

13. Based on the above provisions of law, it is vehemently argued by the learned Counsel for the Respondent No. 11/Project Proponent that the present application is time barred and needs to be dismissed on that ground alone.

14. During argument, the learned Counsel for the Applicant in Original Application has pointed out that he is relying on para no. 18.25 & 18.26 of the reply affidavit dated 26.10.2021, mentioned at page nos. 981 to 986 of the paper book, which are as follows:-

> *"**18.25.** I state that, this Hon-ble Tribunal in the matter of "Forward Foundation, A Charitable Trust and Ors. Vs. State of Karnataka and Ors. (OA No. 222/2014) Judgment dated*

7th May, 2015", reported in 2015 SCC Online NGT 5 in dealing with the issue of limitation and cause of action has specifically held as follows-

"24. The expression 'cause of action' as normally understood in civil jurisprudence has to be examined with some distinction, while construing it in relation to the provisions of the NGT Act. Such 'cause of action' should essentially have nexus with the matters relating to environment. It should raise a substantial question of environment relating to the implementation of the statutes specified in Schedule I of the NGT Act. A 'cause of action' might arise during the chain of events, in establishment of a project but would not be construed as a 'cause of action' under the provisions of the Section 14 of the NGT Act, 2010 unless it has a direct nexus to environment or it gives rise to a substantial environmental dispute. For example, acquisition of land simplicitor or issuance of notification under the provisions of the land acquisition laws, would not be an event that would trigger the period of limitation under the provisions of the NGT Act, 'being cause of action first arose'. A dispute giving rise to a 'cause of action' must essentially be an environmental dispute and should relate to either one or more of the Acts stated in Schedule I to the NGT Act, 2010. If such dispute leading to 'cause of action' is alien to the question of environment or does not raise substantial question relating of environment, it would be incapable of triggering prescribed period of limitation under the NGT Act, 2010. [Ref Liverpool and London S.P. and I Asson. Ltd: v. M.V. Sea Success I and Anr., (2004) 9 SCC 512, J. Mehta v. Union of India, 2013 ALL (I) NGT REPORTER (2) Delhi, 106, Kehar Singh v. State of Haryana, 2013 ALL (I) NGT REPORTER (DELHI) 556, Goa Foundation v. Union of India, 2013 ALL (I) NGT REPORTER DELHI 234].

25. In contradistinction to 'cause of action first arose', there could be 'continuing cause of action', 'recurring cause of action' or 'successive cause of action'. These diverse connotations with reference to cause of action are not synonymous. They certainly have a distinct and different meaning in law, 'Cause of action first arose' would refer to a definite point of time when requisite ingredients constituting that 'cause of action' were complete, providing applicant right to invoke the jurisdiction of the Court or the Tribunal. The Right to Sue' or 'right to take action' would be subsequent to an accrual of such right. The concept of continuing wrong which would be the foundation of continuous cause of action has been accepted by the Hon'ble Supreme Court in the case of Bal Krishna Savalram Pujari & Ors. v. Sh. Dayaneshwar Maharaj Sansthan & Ors., AIR 1959 SC 798.

***18.26** Further I state that, the **Forward Foundation** Judgment was challenged before the FIon'b1e Supreme Court in the matter of **Mantri Technoze Pvt. Ltd. Vs. Forward Foundation, Civil Appeal No. 5016/2016 reported in (2019) 18 SCC 494** has specifically held vide judgment dated 5th March, 2019 and has confirmed the said judgment*

of Forward Foundation and even the Review petition of the same has been dismissed vide order dated 06/08/2019 and has thus become final and binding.

> *"In fact, in the original application before the Tribunal there was no mention of the provision under which it was being filed. It is well settled principal of law that non-mention of or erroneous mention of the provision of law would not be of any relevance, if the Court had the requisite jurisdiction to pass an order. It would be mere irregularity and would not vitiate the application or the judicial order of the Tribunal"*
>
> *The NGT Act being a beneficial legislation, the power bestowed upon the Tribunal would not be read narrowly. An interpretation which furthers the interests of environment must be given a broader reading. (See Kishsore Lal v. Chairman, Employees' State Insurance Corpn. (2007) 4 SCC 579, para 17). The existence of the Tribunal without its broad restorative powers under Section 15(1)(c) read with Section 20 of the Act, would render it ineffective and toothless, and shall betray the legislative intent in setting up a specialized Tribunal specifically to address environmental concerns. The Tribunal, specially constituted with Judicial Members as well as with Experts in the field of environment, has a legal obligation to provide for preventive and restorative measures in the interest of the environment"*
>
> *"The Tribunal has also jurisdiction under Section 15(1)(a) of the Act to provide relief and compensation to the victims of pollution and other environmental damage arising under the enactments specified in Schedule I. Further, under Section 15(1)(b) and 15(1)(c) the Tribunal can provide for restitution of property damaged and for restitution of the environment for such area or areas as the Tribunal may think fit. It is noteworthy that Section 15(1)(b) & (c) have not been made relatable to Schedule I enactments of the Act. Rightly so, this grants a glimpse into the wide range of powers that the Tribunal has been cloaked with respect to restoration of the environment."*
>
> *"Section 15(1)(c) of the Act is an entire island of power and jurisdiction read with Section 20 of the Act. The principles of sustainable development, precautionary principle and polluter pays, propounded by this Court by way of multiple judicial pronouncements, have now been embedded as a bedrock of environmental jurisprudence under the NGT Act. Therefore, wherever the environment and ecology are being compromised and jeopardized, the Tribunal can apply Section 20 for taking restorative measures in the interest of the environment."*

15. The Applicant in Original Application has also placed reliance upon the important dates and events, which have been quoted by him in para

14 of the reply affidavit, mentioned at page nos. 926 to 928 of the paper book, which are as follows:-

"14. IMPORTANT DATES AND EVENTS:

I state that, the following events and dates are very important to understand the collusion between the Government Authorities and Respondent No. 11-PP and tactics, favouring practices adopted by the Joint Committee Members and Respondent No. 11-PP;

"

Sr. No.	Events	Date
1.	*1st Application for EC*	*07.09.2013*
2.	*1st Show Cause Notice by SEIAA & PS- DoE*	*30.08.2014*
3.	*1st Withdrawal Communication for SCN*	*10.03.2015*
4.	*1st Consent to Establish*	*10.03.2015*
5.	*2nd Application for EC*	*30.06.2016*
6.	*2nd Consent to Establish*	*12.10.2017*
7.	*3rd Application for EC*	*06.10.2018*
8.	*Notice/Complaint of Original Applicant*	*19.05.2019*
9.	*MPCB 1st Site Visit by Field Officer*	*10.06.2019*
10.	*2nd Show Cause Notice by SEIAA & PS- DoE*	*15.06.2019*
11.	*MPCB 2nd Site Visit by SRO-2*	*27.06.2019*
12.	*Filing of OA*	*14.08.2019*
13.	*First Order of NGT*	*22.10.2019*
14.	*Service to Joint Committee of SEIAA & MPCB*	*02.11.2019*
15.	*Personal hearing given to PP by PS-DoE*	*11.11.2019*
16.	*2nd Withdrawal Communication for SCN*	*16.11.2019*
17.	*Second Order of NGT*	*10.12.2019*
18.	*Joint Committee Visit to project site*	*15.12.2019*
19.	*Architect Certificates prepared on*	*20.12.2019*
20.	*Joint Committee Report filed to NGT*	*07.01.2020*
21.	*Third Order of NGT issuing Notice 86 Show cause to PP*	*05.02.2020*
22.	*Service to the Respondent No. 11-PP*	*15.02.2020*
23.	*Grant of ex-post facto EC*	*18.02.2020*
24.	*Appeal No. 26/2020 filed on*	*19.03.2020*
25.	*Fourth Order of NGT*	*13.07.2020*
26.	*Respondent No. 11-PP Reply Affidavit Sworn on*	*24.09.2020*
27.	*Respondent No. 11-PP filed*	*24.09.2020*
28.	*Fifth Order of NGT*	*03.09.2021*
29.	*Respondent No. 11-PP filed 86/2020 filed on*	*06.10.2021*
30.	*Respondent No. 11-PP Corrected Reply Affidavit served on Original*	*09.10.2021*

	Applicant	

"

16. He has argued that in this case, there is recurring cause of action and therefore, the date which has stated in his application i.e. 15.06.2019, when the SEIAA issued a Show Cause Notice to the Project Proponent, should be treated to be the date of cause of action.

17. We have heard the arguments of the parties and perused the record and also have gone through the Judgments, which have been relied upon by both the parties, we find that as far as legal position is concerned, Sections 14 & 15 of the National Green Tribunal Act, 2010 provide as follows:-

> *"Section 14:- Tribunal to settle disputes.-*
>
> *(1) .....*
>
> *(2) .....*
>
> *(3) No application for adjudication of dispute under this Section shall be entertained by the Tribunal unless it is made within a period of six months from the date on which the cause of action for such dispute first arose:*
>
> *Provided that the Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days."*
>
> *Section 15:- Relief, compensation and restitution –*
>
> *(1) .....*
>
> *(2) .....*
>
> *(3) No application for grant of any compensation or relief or restitution of property or environment under this section shall be entertained by the Tribunal unless it is made within a period of five years from the date on which the cause for such compensation or relief first arose:*
>
> *Provided that the Tribunal, may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days."*

18. According to the Applicant in Original Application, as per his own pleadings which are stated in para no. 40, it is clear that construction of the project by the Project Proponent was started in the year 2011 and continued till 19.05.2018. He states that he had obtained information

through online search and under RTI from 2017 to 18.05.2018. Thereafter, he had sent legal notice through Counsel on 19.05.2019. According to him, the SEIAA had issued first Show Cause Notice on 15.06.2019. Therefore, that date should be taken to be the date of cause of action, which first arose.

19. We are not inclined to accept this argument because according to his pleading, he had full knowledge in the year 2011 itself when the construction had started. The pretext of having come to know about this project being constructed through RTI on a later date as stated above appears to be only in order to bring the present Original Application within limitation period. We agree with the learned Counsel for the Project Proponent (PP) that it is very easy for any person to use RTI to seek information for any project on any date chosen by him. We are of the considered opinion that such kind of practice cannot be allowed. We are not inclined to accept the argument made by the learned Counsel for the Applicant in Original Application and are convinced with the argument raised by the learned Counsel for the Respondent No. 11/Project Proponent. We find that this Original Application is time barred, hence this Original Application stands dismissed as time barred.

20. All connected I.A.s also stand disposed of.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

December 01, 2022
Original Application No. 63/2019(WZ)
(I.A. No. 100/2019 & I.A. No. 86/2021)
P.Kr

IN THE HIGH COURT OF DELHI AT NEW DELHI

Judgment Reserved on:
16th January 2012

Judgment Pronounced on:
23rd January, 2012

LPA 895/2010

DELHI POLLUTION CONTROL COMMITTEE
Through: Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
Appellant

VERSUS

SPLENDOR LANDBASE LTD
Through: Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr.Harsh Hari Haran, Advocates
Respondent

LPA 1/2011 & CM No.6781/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

SACHDEVA BUILDON PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI
..... Respondents

LPA 6/2011 & CM No.6779/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1
..... Respondents

LPA 7/2011 & CM No.6780/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1
..... Respondents

LPA 8/2011 & CM No.6782/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS
Through Mr. Anil Sapra, Sr. Advocate with Ms. Urvi Kothiala, Ms. Praneeta Vir and Mr. Sanjay Goswami, Advocates
..... Respondents

LPA 9/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

MANISH BUILDWELL PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1
..... Respondents

LPA 10/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

MANISH BUILDWELL PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1
..... Respondents

LPA 11/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

VARDHMAN LAND DEVELOPERS PVT LTD & ANR
Through None
..... Respondents

LPA 22/2011 & CM No.6824/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

PANKAJ BUILDWELL LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI
..... Respondents

LPA 23/2011 & CM No.6832/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.
..... Appellant

VERSUS

RAJESH PROJECTS INDIA PVT LTD & ORS.
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 24/2011 & CM No.8168/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

BEST REALTORS (INDIA) LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 25/2011 & CM No.6828/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

BEST CITY DEVELOPERS (INDIA) PVT LTD. & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 26/2011 & CM No.6831/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

HOME LINKERS PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 27/2011 & CM No.6833/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

RAJESH PROJECTS INDIA PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 28/2011 & CM No.6826/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS.
ThroughMr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 45/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

JINDAL BIOCHEM PVT LTD & ORS
Through Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 46/2011 & CM No.8164/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

AS BUILDWELL PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 47/2011 & CM No.6825/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

MAITRI MUTUAL BENEFITS LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 48/2011 & CM No.6823/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

NIRVAN HIRE PURCHASE LTD & ORS

Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr.Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 50/2011 & CM No.6827/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

NIPUN BUILDERS & DEVELOPERS PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

Respondents

LPA 51/2011& CM No.6829/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 53/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

ESS CEE CEE & ASSOCIATES (INDIA) PVT LTD
Through Mr. Anil Sapra, Sr. Advocate with Ms. Urvi Kothiala, Ms. Praneeta Vir and Mr. Sanjay Goswami, Advocates

.. Respondent

LPA 54/2011 & CM No.6004/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

FARGO ESTATES PVT LTD
Through Mr. Ankit Jain, Advocate

..... Respondent

LPA 58/2011& CM No.6830/2011 (Cross Objections)

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

VARDHMAN PROPERTIES LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 94/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

DLF RETAILER DEVELOPERS LTD
Through Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr. Harsh Hari Haran, Advocates

..... Respondent

LPA 95/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

LAXMI BUILDTECH PVT LTD & ANR
Through Mr. Kailash Vasdev, Sr. Advocate with Ms. Neoma Vasdev Gupta, Ms. Ekta Mehta and Ms. Joanne Pudussery, Advocates for respondent No.1.
Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 96/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

MANISH BUILDWELL PVT LTD & ORS
Through Mr. Sanjay Goswami, Advocate for R-1 Mr. Neeeraj Chaudhari, CGSC with Mr. Akshay Chandra and Mr. Khalid Arshad, Advocates for UOI

..... Respondents

LPA 97/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

BRIGHTWAYS HOUSING & DEVELOPMENT LTD & ANR
Through Mr.Anil Sapra, Sr. Advocate with Ms.Urvi Kothiala and Ms.Praneeta Vir, Advocates for R-1.
Mr.Neeeraj Chaudhari, CGSC with Mr.Akshay Chandra and Mr.Khalid Arshad, Advocates for UOI

..... Respondents

LPA 98/2011

DELHI POLLUTION CONTROL COMMITTEE

Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr.Dinesh Jindal, L.O.

..... Appellant

VERSUS

DLF COMMERCIAL DEVELOPERS LTD
ThroughMr.B.B. Gupta, Ms.Mandeep Kaur and Mr.Harsh Hari Haran, Advocates

..... Respondent

LPA 99/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

GALLERIA PROPERTY MANAGEMENT SERVICES PVT LTD
Through Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr. Harsh Hari Haran, Advocates

..... Respondent

LPA 100/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr.C. Mohan Rao and Mr.Lokesh Sharma, Advocates with Mr.Dinesh Jindal, L.O.

..... Appellant

VERSUS

PROSPEROUS ESTATES PVT LTD
Through None

..... Respondent

LPA 101/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

REGENCY PARK PROPERTY MANAGEMENT SERVICES PVT LTD
Through Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr. Harsh Hari Haran, Advocates

..... Respondent

LPA 102/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr.Dinesh Jindal, L.O.

..... Appellant

VERSUS

PALIWAL DEVELOPERS LTD
Through Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr. Harsh Hari Haran, Advocates

..... Respondent

LPA 103/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr.C. Mohan Rao and Mr.Lokesh Sharma, Advocates with Mr.Dinesh Jindal, L.O.

..... Appellant

VERSUS

RIDGE VIEW CONSTRUCTION PVT LTD
Through Mr. Anil Sapra, Sr. Advocate with Ms. Urvi Kothiala and Ms. Praneeta Vir, Advocates.

..... Respondent

LPA 104/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

RC SOOD & CO PVT LTD
Through Mr. Shobhit Chandra, Advocate

..... Respondent

LPA 709/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

LODHI PROPERTY CO LTD
Through Mr. B.B. Gupta, Ms. Mandeep Kaur and Mr. Harsh Hari Haran, Advocates

..... Respondent

LPA 710/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

BHARTI REALTY LTD
Through Mr. Dushyant Manocha and Ms. Tarunima Vijra, Advocates

..... Respondent

LPA 866/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

ANUSH FINLEASE & CONSTRUCTION PVT LTD
Through Mr. Ajay Kumar and Mr. Naveen Tayal, Advocates

..... Respondent

LPA 867/2011

DELHI POLLUTION CONTROL COMMITTEE
Through Mr. C. Mohan Rao and Mr. Lokesh Sharma, Advocates with Mr. Dinesh Jindal, L.O.

..... Appellant

VERSUS

TIRUPATI INFRAPROJECTS PVT LTD
Through Mr. Ajay Kumar and Mr. Naveen Tayal, Advocates

..... Respondent

CORAM: HON'BLE MR. JUSTICE PRADEEP NANDRAJOG

HON'BLE MS. JUSTICE PRATIBHA RANI

PRADEEP NANDRAJOG, J.

1. A batch of 38 writ petitions was decided by a learned Single Judge vide order dated September 30, 2010. The said decision has been followed subsequently by another learned Single Judge. Instant appeals lay a challenge to the said decisions pronounced by the learned Single Judges of this Court; and since the reasoned decision is the one which was pronounced on September 30, 2010, learned counsel for the parties conceded that it is said decision which needs to be reflected upon by us in the appeal(s).

2. Writ petitions were filed challenging notices issued by the Delhi Pollution Control Committee (DPCC) to the writ petitioners or penalties levied, which were paid under protest or bank guarantees submitted by the writ petitioners, which were under threat of being invoked. The petitions have succeeded, not in full, but in part. Directions have been issued to DPCC to take action afresh and guided by the decision of the learned Single Judge.

3. The buildings with respect whereto action was proposed to be taken or was taken by DPCC, are of three kinds: (i) Residential Housing Complexes, (ii) Commercial Shopping Complexes, and (iii) Shopping Malls. Actions were initiated or decisions were taken on the allegation that with respect to the buildings constructed, the writ petitioners had not obtained a „consent to establish" as required under The Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as „the Water Act") and „consent to operate" as required under The Air (Prevention and Control of Pollution) Act, 1981 (hereinafter referred to as „the Air Act").

4. Issues have been debated before the learned Single Judge and even before us with reference to Sections 2(g), 2(gg), 2(k), Section 25 and Section 33A of the Water Act, and Sections 2(a), 2(j), 2(k), Section 21 and Section 31A of the Air Act. Thus, we begin our chartered journey by noting the said provisions.

5. Section 2(g), 2(gg), 2(k), relevant part of Section 25 and Section 33A of The Water (Prevention and Control of Pollution) Act, 1974 read as under:

"2. Definitions.– In this Act, unless the context otherwise requires,–

(a) .....
(b) .....
(c).....
(d) .....
(e).....
(f) .....
(g) "sewage effluent" means effluent from any sewerage system or sewage disposal works and includes sullage from open drains;
(gg) "sewer" means any conduit pipe or channel, open or closed, carrying sewage or trade effluent;
(h) .....
(i) .....
(j) .....
(k) "trade effluent" includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any industry, operation or process, or treatment and disposal system, other than domestic sewage.

25. Restrictions on new outlets and new discharges.–

(1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board,–
(a) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as discharge of sewage); or
(b) .....
(c).....

Provided that a person in the process of taking any steps to establish any industry, operation or process immediately before the commencement of the Water (Prevention and Control of Pollution) Amendment Act, 1988, for which no consent was necessary prior to such commencement, may continue to do so for a period of three months from such commencement or, if he has made an application for such consent, within the said period of three months, till the disposal of such application.

(2) .....
(3) .....
(4) .....
(5) Where, without the consent of the State Board, any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, is established, or any steps for such establishment have been taken or a new or altered outlet is brought into use for the discharge of sewage or a new discharge of sewage is made, the State Board may serve on the person who has established or taken steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, or using the outlet, or making the discharge, as the case may be, a notice imposing any such conditions as it might have imposed on an application for its consent in respect of such establishment, such outlet or discharge.
(6) .....
(7) The consent referred to in sub-section (1) shall, unless given or refused earlier, be deemed to have been given unconditionally on the expiry of a period of four months of the making of an application in this behalf complete in all respects to the State Board.
(8) .....

33A. Power to give directions.– Notwithstanding anything contained in any other law, but subject to the provisions of this Act, and to any directions that the Central Government may give in this behalf, a Board may, in the exercise of its powers and performance of its functions under this Act, issue any directions in writing to any person, officer or authority, and such person, officer or authority shall be bound to comply with such directions.

Explanation.– For the avoidance of doubts, it is hereby declared that the power to issue directions under this section includes the power to direct–

(a) the closure, prohibition or regulation of any industry, operation or process; or
(b) the stoppage or regulation of supply of electricity, water or any other service."

6. Section 2(a), 2(j), 2(k), relevant part of Section 21 and Section 31A of The Air (Prevention and Control of Pollution) Act, 1981 read as under:-

2. Definitions.– In this Act, unless the context otherwise requires,–

(a) *"air pollutant" means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment;*

(b) .....

(c) .....

(d) .....

(e) .....

(f) .....

(g) .....

(h) .....

(i) .....

(j) *"emission" means any solid or gaseous substance coming out of any chimney, duct or flue or any other outlet;*

(k) *"industrial plant" means any plant used for any industrial or trade purposes and emitting any air pollutant into the atmosphere;*

21. *Restrictions on use of certain industrial plants.–*

(1) *Subject to the provisions of this section, no person shall, without the previous consent of the State Board, establish or operate any industrial plant in an air pollution control area:*

Provided that a person operating any industrial plant in any air pollution control area immediately before the commencement of section 9 of the Air (Prevention and Control of Pollution) Amendment Act, 1987 (47 of 1987), for which no consent was necessary prior to such commencement, may continue to do so for a period of three months from such commencement or, if he has made an application for such consent within the said period of three months, till the disposal of such application.

(2) .....

(3) .....

(4) *Within a period of four months after the receipt of the application for consent referred to in sub-section (1) the State Board shall, by order in writing, and for reasons to be recorded in the order, grant the consent applied for subject to such conditions and for such period as may be specified in the order, or refuse such consent:*

Provided that it shall be open to the State Board to cancel such consent before the expiry of the period for which it is granted or refuse further consent after such expiry if the conditions subject to which such consent has been granted are not fulfilled:

Provided further that before cancelling a consent or refusing a further consent under the first proviso, a reasonable opportunity of being heard shall be given to the person concerned.

(5) .....
(6) .....
(7) .....

31A.Power to give directions.– Notwithstanding anything contained in any other law, but subject to the provisions of this Act and to any directions that the Central Government may give in this behalf, a Board may, in the exercise of its powers and performance of its functions under this Act, issue any directions in writing to any person, office or authority, and such person, officer or authority shall be bound to comply with such directions.

Explanation.– For the avoidance of doubts, it is hereby declared that the power to issue directions under this section includes the power to direct–

(a) the closure, prohibition or regulation of any industry, operation or process; or
(b) the stoppage or regulation of supply of electricity, water or any other service

7. With reference to the Water Act as originally framed in the year 1974 and as amended in the year 1988 and reference to the Statement of Objects and Reasons of Amending Act, the learned Single Judge has opined that the legislative amendments carried out in the original Water Act were intended to expand the scope of the Water Act. The learned Single Judge has highlighted that the expression „establish any industry, operation or process or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent" in clause (a) of Sub-Section (1) of Section 25 made it clear that the requirement to obtain previous consent to establish any industry, operation or process was no longer restricted to trade effluent

being discharged but would also encompass if „sewage effluent" was discharged and with reference to the definition of „sewage effluent" as per Section 2(g), has held that the same would include sewage of any kind, including domestic sewage. The learned Single Judge has also noted the expanded definition of „trade effluent" as per Section 2(k) of the Water Act. Noting the definition of the words „operation" and „process" in para 12 of the decision, and thereafter noting the decisions that purposive construction needs to be followed where the mischief which existed before passing the statute was detected and was intended to be remedied, the learned Single Judge has concluded that collective operation or process of bathing in the bathroom and such processes as take place in the toilet and cooking and washing in the kitchen would be operations and processes contemplated by Section 25(1)(a) of the Water Act for its applicability to residential complexes. This is the conclusion arrived at in para 16, but in the immediate next para i.e. para 17, the learned Single Judge has lodged a caveat by stating that he was not answering the question with reference to single storeyed constructions.

8. With reference to the commercial complexes i.e. Commercial Shopping Complexes and Shopping Malls, the learned Single Judge has held that the definition of „trade effluent" as per Section 2(k) would encompass all kinds of non-domestic sewage and has thus held that these buildings would be governed by clause (a) of Sub-Section 1 of Section 25 of the Water Act.

9. As regards the very act of constructing a building, in paras 19 and 20, the learned Single Judge has held that the very act of constructing a commercial shopping complex, shopping mall or a residential complex would make applicable clause (a) of Sub-Section 1 of Section 25 and for which the reasoning of the learned Single Judge is that construction of commercial shopping or residential complexes is likely to have impact on water pollution because large quantities of water are used during construction and are also discharged.

10. Since, in all the cases, DPCC rose from the slumber after buildings were completed and put to use, the learned Single Judge opined that DPCC could not levy penalties and for which remedial action, as per the learned Single Judge, was as provided in Sub-Section 5 of Section 25 of the Water Act.

11. The argument of DPCC that the power to give directions under Section 33A of the Water Act has been negated by the learned Single Judge,

with reference to various decisions cited which hold that the power to levy penalty has to be expressly conferred by the statute.

12. Pertaining to the Water Act, the learned Single Judge has summarized the legal position, in para 29 as under:-

"29. The discussion so far on the legal position under the Water Act in relation to the petitioners may be summarized thus:

(i) Section 25 (1) of the Water Act is intended to cover not just „industry" which discharges „trade effluent" but any "process or operation" that results in a discharge of „sewage" not limited to trade effluent.

(ii) The words „operation or process" occurring in Section 25(1)(a) have to be given the widest possible meaning and scope. This approach is consistent with the SOR of the 1988 amendments to the Water Act which make it clear that the legislative intent was to expand the scope of the regulatory powers of the state PCC. The principle of ejusdem generis is therefore inapposite in the context.

(iii) Commercial shopping complexes, shopping malls and even residential complexes are covered by Section 25(1)(a) of the Water Act.

(iv) The liability under the Water Act does not get exempted only because the sewage discharged from such complexes joins the main municipal sewerage system which may or may not be treated in keeping with the water pollution norms.

(v) The pollution caused by discharge of domestic sewage from a residential complex or trade effluent from a commercial complex or industry during the construction phase as well as at any stage after the complex becomes functional would attract the various provisions of the Water Act.

(vi) With the buildings in question having already been constructed without obtaining prior consent to establish, the direction of the DPCC that those who had failed to obtain prior consent to establish should now apply for such consent is a direction that is not capable of being complied with. Instead the DPCC should invoke the powers under Section 25(5) of the Water Act, issue show cause notices setting out the conditionalities

required to be complied with within a time frame and upon failure to do so, invoke the powers to issue directions under Section 33A Water Act.

(vii) The Water Act is in a separate domain and its provisions will have to be complied with notwithstanding that the MCD has the power to lay down a separate set of regulations and bye-laws for use of water.

Where an applicant has not been communicated any decision of the DPCC for four months after the making of an application, the deeming provision of Section 25(7) would kick in and it would be deemed that the consent to establish has been granted. In such circumstances, Section 25(1) of the Water Act cannot obviously thereafter be enforced."

13. Discussing the applicability of the Air Act, as conceded to by learned counsel for the parties at the hearing of the appeal, the learned Single Judge has inadvertently referred to the pre-amended provisions of the Air Act, though the learned Single Judge has referred and noted the fact that the Air Act of 1981 was amended in the year 1988.

14. Pertaining to residential complexes, the learned Single Judge has noted the unamended Section 21 of the Air Act which did not have the word „establish" and had only the word „operate" in Sub-Section 1 thereof, and thus the learned Single Judge has held that no permission from DPCC is needed to establish residential complexes, but on the same reasoning as followed in paras 19 and 20 pertaining to the Water Act, has held that during construction phase of residential complexes, permission under the Air Act has to be obtained. Qua shopping complexes and shopping malls, it has been held that under the Air Act, for these complexes, to operate them, prior permission has to be obtained as also during construction phase.

15. The learned Single Judge has summarized the position under the Air Act, in para 41 as under:-

"41. The position under the Air Act may be summarized:

(i) A collective reading of Section 21(1) of the Air Act with Section 2(a), 2(b) and 2(k) thereof leads this Court to the conclusion that a commercial shopping complex or a shopping mall would be covered within the scope of Section 21(1) of the Air Act.

(ii) The definition of „air pollution" under Section 2(a) read with Section 21(1) of the Air Act, and the fact that the commercial shopping complexes or shopping malls are going to be used for a trade activity, is sufficient to attract the provisions of Section 21(1) of the Air Act.

(iii) As far as a purely residential complex is concerned, on the present wording of Section 21(1) of the Air Act, there is no requirement of obtaining the prior consent of the DPCC to operate.

(iv) During the construction phase and after the complex becomes functional, every building, whether it is a commercial shopping complex or a shopping mall or a residential complex, will have to comply with the norms under the Air Act and the Water Act and for that matter the EPA.

(v) Where the construction of a commercial shopping complex or shopping mall has been allowed to be completed without a prior consent to operate, the DPCC can inspect the building, issue a show cause notice requiring time bound compliance with the conditionalities imposed by it under the Air Act failing which it can issue directions under Section 31A Air Act."

16. A perusal of Section 25 of the Water Act would reveal, on a bare reading thereof, that without the previous consent of the State Pollution Board, „no person could establish or take any steps to establish any industry, operation or process,…….. which is likely to discharge sewage or trade effluent". Thus, even if sewage effluent as defined in Section 2(g) was discharged from any industry, operation or process intended to be established, the requirement of prior consent would be necessary and to this extent the view taken by the learned Single Judge is correct.

17. But, what would encompass "any industry, operation or process"?

18. The Water Act does not define, "industry", "operation" or "process". As held in the decisions reported as 1993 (3) SC 2529 Commissioner of Income Tax Orissa vs. M/s.N.C.Budhiraja & Co. and 2010 (320) ITR 420 (Delhi) Ansal Housing & Construction Ltd. vs. Commissioner of Income Tax, the ordinary dictionary meaning of "industry" or an "industrial undertaking" would not include the activity of construction. The word "operation" is defined, as noted by the learned Single Judge,

in the New Shorter Oxford English Dictionary (Lesie Brown Ed.) as follows:

> ***"operation:*** *An action, deed; exertion of force or influence; working, activity; an act of a practical or technical nature, esp one forming a step in a process."*

19. The same dictionary defines „process", as noted by the learned Single Judge, as under:-

> ***"process:*** *The action or fact of going on or being carried on; a continuous series of actions, events or changes; a systematic series of actions or operations directed at a particular end."*

20. As noted herein above, applying purposive construction, the learned Single Judge has held, in para 15, that the two words "operation" and "process" have to be given their widest amplitude and meaning. The purposive construction applied by the learned Single Judge is that widest amplitude needs to be given to Section 25(1)(a) of the Water Act.

21. The error committed by the learned Single Judge is to mechanically note the definition of „operation" and „process", and ignore the sweep of the span of the two words. We do so. Operation is defined as an activity or an act of a practical or technical nature, with emphasis of the acts forming „a step in a process". The word „process" is a going on action or a continuous series of actions „directed at a particular end". Thus, an operation would be a working or an activity, where the core of the act constituting the activity is of a practical or technical nature especially one forming a step in a process, and since process is an going on action or a continuous series of action directed at a particular end, the conjoint reading of an operation and a process or even if the two have to be read disjunctively would mean that the expression „establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent" would mean to take steps to establish any industry, establishment or undertaking where the operation or process i.e. activity is of a practical or technical nature, at the core of which are ongoing acts, in a series, directed at a particular end. Thus, the act of ablution in the toilet or washing vegetables and dishes in the kitchen of a residential complex, within the precincts of residential flats, by no stretch of imagination can be called or labeled as an operation or a process.

22. The view taken by the learned Single Judge pertaining to shopping malls and commercial shopping complexes on the applicability of the Water Act is accordingly upheld and the view taken pertaining to the applicability of the Water Act to residential housing complexes is incorrect.

23. A building where shops would be made and in which shops goods or services would be sold as also shopping malls would be buildings where operation and or process is carried on for the reason they would be places where the activity carried on is of a practical or a technical nature and at the core of which activity would be ongoing acts, in a series, directed at a particular end i.e. if goods are purchased and sold, the sale and purchase of goods; and if service is rendered, the rendition of service directed towards a particular end. If from these buildings sewage is discharged, since sewage effluent as defined in Section 2(k) of the Water Act means effluent from any sewage system, if these buildings are intended to be established, necessary permission would be required from the Board under the Water Act.

24. With respect to the decisions reported as 1993 (3) SC 2529 Commissioner of Income Tax Orissa vs. M/s.N.C.Budhiraja & Co. and 2010 (320) ITR 420 (Delhi) Ansal Housing & Construction Ltd. vs. Commissioner of Income Tax, where it has been held that constructing a building per-se is not an industrial activity the view taken by the learned Single Judge that constructing a building, whether to be used for a residential purpose or to be used for a commercial shopping complex or for shopping malls would be an industrial activity; running contrary to the aforesaid judgments is incorrect.

25. The reasoning of the learned Single Judge to expand the scope of Section 25(1)(a) of the Water Act; that the object of the Water Act was to control water pollution in its widest amplitude and hence the reasoning that while constructing buildings, water is used and sometimes discharged thus requiring a wider meaning to be given, ignores that the Environment (Protection) Act 1986 deals with this larger issue in the context of "environment" therein being defined to include water, air and land and the inter relationship which exists amongst them and human beings and other living creatures, plants and micro-organisms. The said Act and the Rules framed under the said Act are wide enough to cover exploitation of water and the impact thereof on environment and we see no vacuum in the fight against environmental degradation, by understanding the various expressions

and their meaning in Section 25(1)(a) of the Water Act as adopted by us.

26. A word on purposive construction. It simply means that while adopting a purposive approach, Courts should seek to give effect to the true purpose of legislation and must keep in view all material that bears on the background against which a legislation was effected and where more than one construction is possible, the one which eliminates the mischief identified should be favoured. But, where only one construction is possible, the Court is not to strain backwards and then bend forward followed by leaning to the left and then to the right to appropriate a space not intended to be appropriated by the legislation. The Water Act requires prior permission to establish any industry, operation or process which is likely to discharge sewage or trade effluent. It is not intended to apply to all and sundry establishments. It is restricted to only when a building, housing an industry is sought to be established or a building in which an operation or a process is intended to be carried on where effluent or trade effluent would be discharged.

27. To summarize the position under the Water Act the position may be summarized thus: Section 25(1) of the Water Act would apply where a building is proposed to be constructed to set up an industry or carry on an operation or a process as explained in para 21 above and this would mean that the Water Act would not apply to buildings housing residential apartments/ units. It would apply to all other buildings where effluent or trade effluent is discharged, be they where manufacturing activity is carried on, sale or purchase of goods is carried on or services are provided.

28. Pertaining to the Air Act, there is a material difference in the language used in Section 21 of the said Act, vis-à-vis the language used in Section 25 of the Water Act. Whereas the Water Act requires a permission to establish any industry, operation or process, the Air Act restricts its span to prior permission being necessary only where it is intended to establish or operate any industrial plant.

29. Since the learned Single Judge has referred to the unamended provision and has ignored the amendments carried out to the Air Act in the year 1988, we note that as per the amended Section 21, the obligation to obtain the consent of the State Pollution Control Board is only to establish or operate any industrial plant in an Air Pollution Control Area. Section 2(k) defines an “industrial plant” to mean any plant used

for any industrial or trade purposes and emitting any air pollutant.

30. The learned Single Judge has read the unamended Section 21 of the Air Act to mean that prior consent is needed to operate an industrial plant. Since the decision of the learned Single Judge has not noted the language of the amended Section where the words "establish or" have been inserted prior to the word "operate", we need to re-look into the issue.

31. Highlighting the definition of the words "industrial plant" as defined in Section 2(k) of the Air Act, the learned Single Judge has noted that the definition expands the meaning of the words "industrial plant" to include a building used for a trade purpose and with reference to Section 21 of the Air Act has held that a building where trade is carried on the prior consent would be required to operate the building.

32. Since the learned Single Judge has noted the unamended Section 21 and since the amended Section 21 requires prior consent even to establish an industrial plant in an Air Pollution Control Area, agreeing with the reasoning of the learned Single Judge that in view of the extended definition of the expression "industrial plant", which includes a building where trade is carried on, the inevitable conclusion has to be that prior consent under the Air Act would be needed where a building is proposed to be constructed wherefrom trade would be carried on and since from a shopping mall and from a commercial shopping complex trade is carried on, we hold that prior consent under the Air Act would be required when commercial shopping complexes and shopping malls are established i.e. at the commencement of the process of establishment i.e. before the building construction activity commences.

33. As noted herein above, the learned Single Judge has held construction per-se as requiring prior permission, both under the Water Act and the Air Act, and thus the learned Single Judge has held that under the Air Act, consent during construction phase would have to be obtained.

34. For our reasoning herein above pertaining to the Water Act, the said reasoning of the learned Single Judge pertaining to the Air Act is overruled, but would make no difference to the final conclusion arrived at by us pertaining to the applicability of the Air Act when construction activity commences in respect of shopping malls and commercial shopping complexes for the reason, prior consent to establish the same is required on the language of Section 21 of the Air Act in view of the expanded definition of the expression "industrial plant". But, for

residential complexes, we hold that neither to establish nor to operate, (in fact the concept of "to operate" is not even applicable to a residential complex), any permission is required under the Air Act.

35. The learned Single Judge has held that neither the language of Section 33A of the Water Act nor the language of Section 31A of the Air Act contemplates the power on the State Pollution Boards to levy any penalty.

36. The learned Single Judge has noted the decisions reported as 1975 (2) SCC 22 Khemka & Co. (Agencies) Pvt. Ltd. vs. State of Maharashtra, 1994 (4) SCC 276 J.K.Synthetics Ltd. & Birla Cement Works vs. Commercial Taxes Officer and 1997 (6) SCC 479 India Carbon Ltd. vs. State of Assam to opine that power to levy penalty has to be conferred by a substantive provision in the enactment.

37. We concur with the reasoning of the learned Single Judge in paras 58 to 64 of the impugned decision and thus do not elaborate any further, but would additionally highlight that the power to issue directions under Section 33A of the Water Act and the power to issue directions under Section 31A of the Air Act, on their plain language, does not confer the power to levy any penalty. We would further highlight that under Chapter VII of the Water Act, and under Chapter VI of the Air Act penalties and procedure to levy the same have been set out. A perusal of the provisions under the Water Act would reveal that penalties can be levied as per procedure prescribed and only Courts can take cognizance of offences under the Act and levy penalties, whether by way of imprisonment or fine. Similar is the position under the Air Act. The legislature having enacted specific provisions for levy of penalties and procedures to be followed has specifically made the offences cognizable by Courts and the power to levy penalties under both Acts has been vested in the Courts. The role of the Pollution Control Boards is to initiate proceedings before the Court of Competent Jurisdiction and no more.

38. We would be failing not to note that on the issue of a delegatee not being empowered (by law) to further sub-delegate the delegated power, learned counsel for DPCC conceded to said position and thus we leave undisturbed the view taken by the learned Single Judge on the subject.

39. Since our reasoning aforesaid results in the finding, by way of interpreting the provisions in the Water Act and the Air Act, as requiring prior consent to establish and operate shopping malls and

commercial shopping complexes and the provisions being not applicable to residential complexes, we declare void actions initiated by DPCC pertaining to residential complexes and we further hold that said writ petitions are allowed in terms of the prayers made. The impugned decision(s) by the learned Single Judge(s) qua residential complexes is set aside. Qua shopping malls and commercial shopping complexes, since we have held that prior permission is required under both Acts to establish shopping malls and commercial shopping complexes as also to operate them and noting that even DPCC was not too sure of the legal position and thus misinformed a few applicants that no permission was required and qua most persons permitted them to commence and complete construction of shopping malls and commercial shopping complexes, the question which now needs to be answered is: Whether, pertaining to the Water Act, Sub-Section 5 of Section 25 is the answer to what needs to be done and in the absence of a similar provision in the Air Act, what action needs to be directed to be taken.

40. The language of Sub-Section 5 of Section 25 of the Water Act makes it plain clear that the only solution to a situation of a building being constructed to establish an industry, operation or process without obtaining prior consent of the State Pollution Control Board is the power of the Board to serve upon the person concerned a notice imposing such conditions as might have been imposed on an application seeking prior consent; and we find that the learned Single Judge has correctly so opined and has rightly issued the direction that the only way out, pertaining to the Water Act, is to permit DPCC to inspect the shopping malls and the shopping commercial complexes and if it is found that pertaining to discharge of sewage from these buildings any steps are required to prevent water pollution, DPCC would be authorized to issue notices requiring the owner of the building to take steps in terms of the notice issued. Pertaining to the Air Act, notwithstanding there being no similar provision, but the concept of a post decisional hearing may be made applicable with the modification that no hearing would be required inasmuch as there is no decision, but DPCC should be empowered to inspect the shopping malls and the shopping commercial complexes and pertaining to air pollution, if any deficiencies are found, to notify the same to the owner requiring corrective action to be taken. Needless to state, if the owners of the buildings do not take corrective action, DPCC would always have the power to file criminal complaints before the Courts of Competent Jurisdiction, which Courts would alone have the power to impose fine

and additionally impose sentence of imprisonment upon the offending persons.

41. On the issue of Air Pollution, we would like to pen a post-script pertaining to shopping complexes and shopping malls for the reason the only activity of air pollution in these buildings would be through the air conditioning plants and generators installed to supply electricity to the buildings in case of power cuts, for the reason the trade of sale and purchase of goods in these complexes does not entail any activity which causes air pollution. We find that pertaining to DG sets, permissions in any case have to be obtained from DPCC if the capacity of the DG set is beyond a prescribed wattage and thus DPCC may suitably reconsider all shopping complexes and shopping malls where consent of DPCC has been obtained with respect to DG sets installed as also air-conditioning plants installed in the buildings, for if for the DG sets and air-conditioning plants, sanctions have already been obtained, nothing further remains to be got sanctioned under the Air Act.

42. In a few cases, we find that since DPCC was not permitting the buildings to be occupied, under protest, the owners paid the penalty to DPCC and have immediately approached the Court seeking refund and the same has been ordered for the reason neither under the Water Act nor under the Air Act there exists any power in DPCC to levy penalty or impose conditions of furnishing bank guarantee. The decision of the learned Single Judge is correct in directing the bank guarantees to be discharged and penalties levied to be refunded for the reason the said act of DPCC is ultra-vires its power under the two statutes and the levy of penalty is without any authority of law. In the decision reported as 1997 (5) SCC 536 Mafatlal Industries Ltd. & Ors. vs. UOI & Ors., under writ jurisdiction refund can be directed where the levy is without jurisdiction and the same would include a penalty levied without any jurisdiction. In the instant case the penalty levied is unconstitutional being not sanctioned by any power vested in DPCC either under the Water Act or the Air Act. The impugned decisions where penalty levied has been directed to be refunded are upheld.

43. **The appeals filed by DPCC are dismissed and the cross objections filed are allowed in terms of paras 27, 33, 34 and 39 above.**

44. We leave the parties to bear their own costs.

45. All interim orders stand vacated.

(Pradeep Nandrajog) Judge (Pratibha Rani) Judge January 23, 2012 Dk

Anx. R19

AIR CASTLES
BY SERENE-DEVELOPERS
Survey No. 12/6,12/7, 47/2, 47/3,47/4,47/18, 47/19, 47/5/1, 50/1/1A, 55/15,82 Village Marunji, Tal; Mulshi, Dist. Pune.

ENVIRONMENTAL AMENITIES

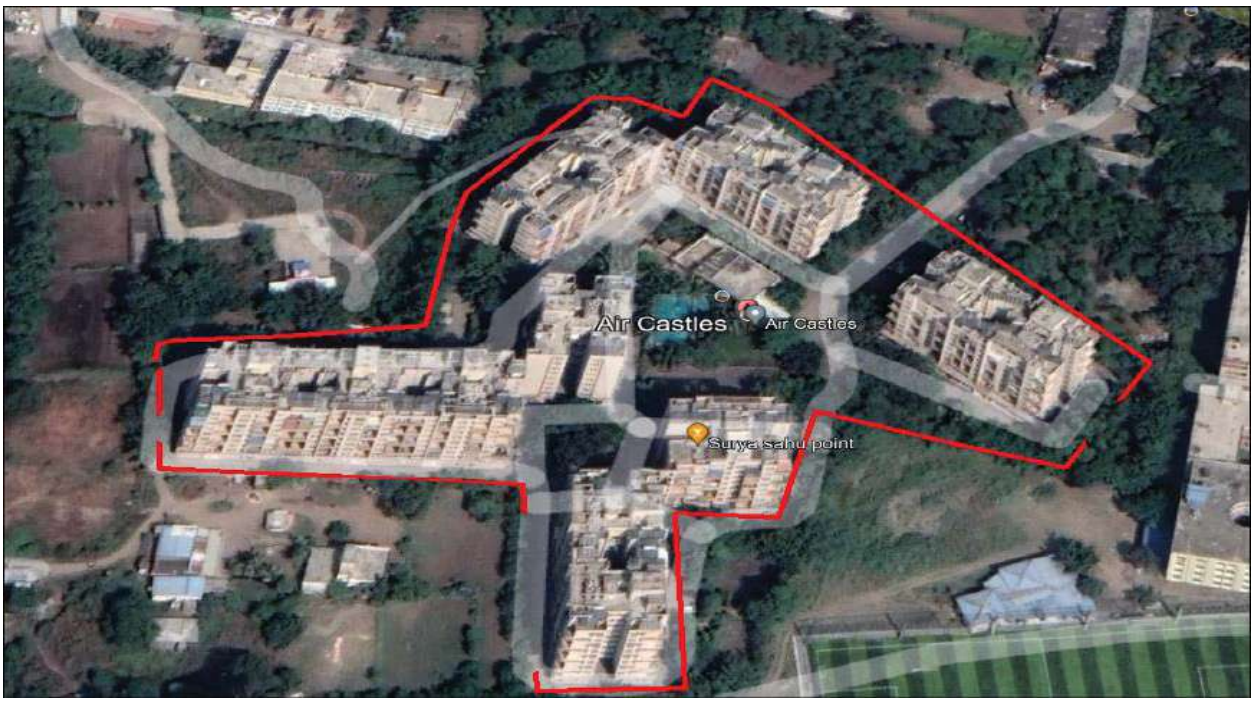
Sr.	Feature	Brief details	Ax.	Photo
1.	Water Treatment Plant	Yes		✓
2.	Effluent Treatment Plant	NO		
3.	Sewage Treatment Plant	Yes, 600 m^3/day		✓
4.	Solar water Heater	Yes		✓
5.	Solar PV Panels	NO		
6.	Rainwater Harvesting	Yes		✓
7.	Storm drains	Yes		✓
8.	Ground Water Recharge Pits	Yes		✓
9.	Roads	Yes, 6 meters		✓
10.	Turning Radius	Yes 9 meters		✓
11.	Recreational Ground	Yes		✓
12.	Green Plantation	Yes		✓
13.	Parking	Yes		✓
14.	Street-light LED	Yes		✓
15.	D.G. Set for power back-up	Yes		✓
16.	Fire Water Tank	Yes		✓
17.	Recirculation of Treated Sewage	Yes, Provided		✓
18.	Utilization of Ground Water	NO		
19.	Use of Fly-Ash bricks	Yes		
20.	Top Soil Conservation	Yes		
21.	Old and current Google image of the plot	Yes		✓
22.	First building plans	Yes	✓	
23.	Approval, Commencement Certificate	Yes	✓	
24.	Plinth Completion Checking Certificate	Yes	✓	
25.	Conformity to MRTP	Yes	✓	
26.	Old land and ready flat sale rates (as per ready reckoner)		✓	
27.	% TDR purchased of total plot and loading on the plot utilized for construction		✓	
28.	Hill cutting	NO		
29.	Excavation quantity			
30.	Traffic increase & NOCs,	NO		
31.	Water consumption			

T.C.

Sr.	Feature	Brief details	Ax.	Photo
32.	Ground water use, CGWA permission			
33.	Fire Tender movement and clear passage of 6m (9 m on turning radius)	Yes		✓
34.	Water for swimming pool	Yes		✓
35.	Ground water table in area			
36.	MSW management	Yes OWC provided		✓
37.	Total population surrounding you in radius of 500 m and 1 & 3 km, any complaints from nearby residents during construction			
38.	Whether you also provided any integrated environmental facilities or features to old residents			
39.	Environmental monitoring reports before and during construction	Yes	✓	

AIR CASTLES
BY SERENE-DEVELOPERS
Survey No. 12/6,12/7, 47/2, 47/3,47/4,47/18, 47/19, 47/5/1, 50/1/1A, 55/15,82 Village Marunji, Tal; Mulshi, Dist. Pune
Photographs

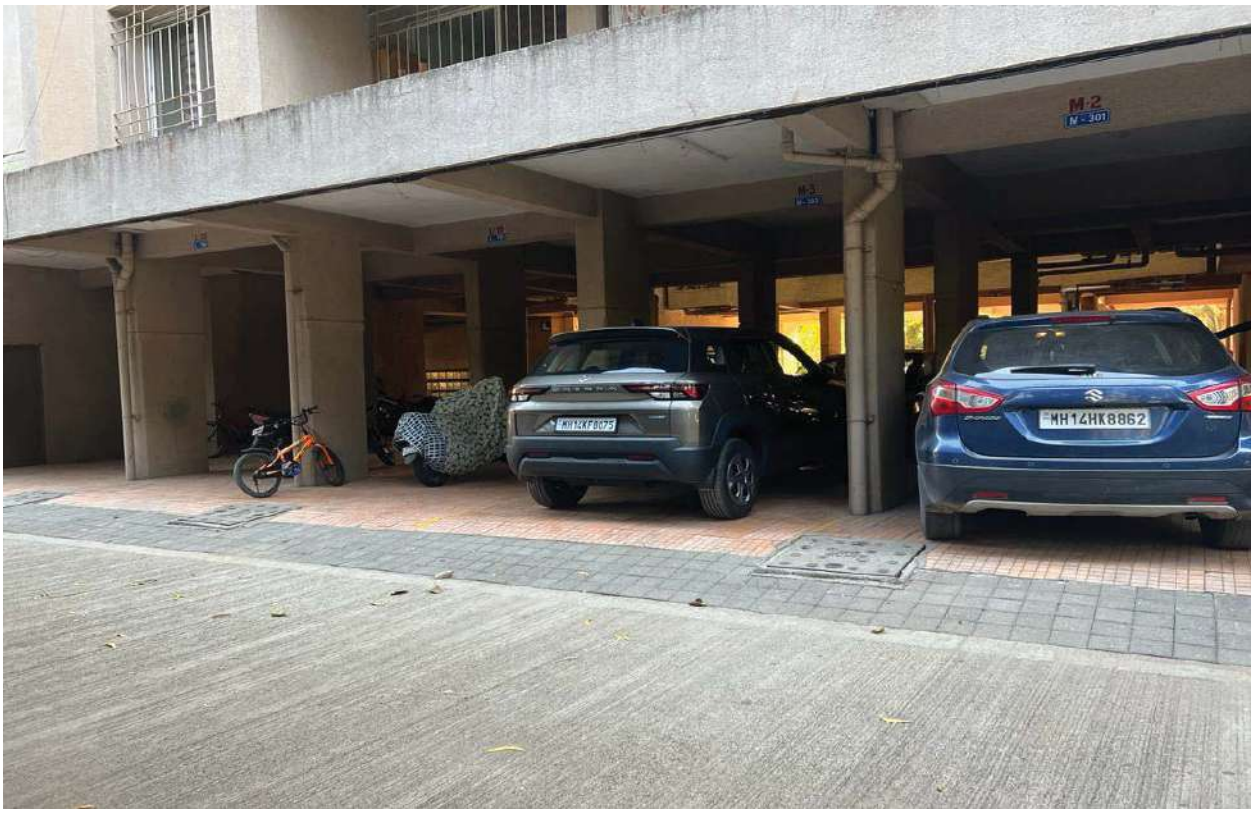
Project Site



Parking Area



Parking Area



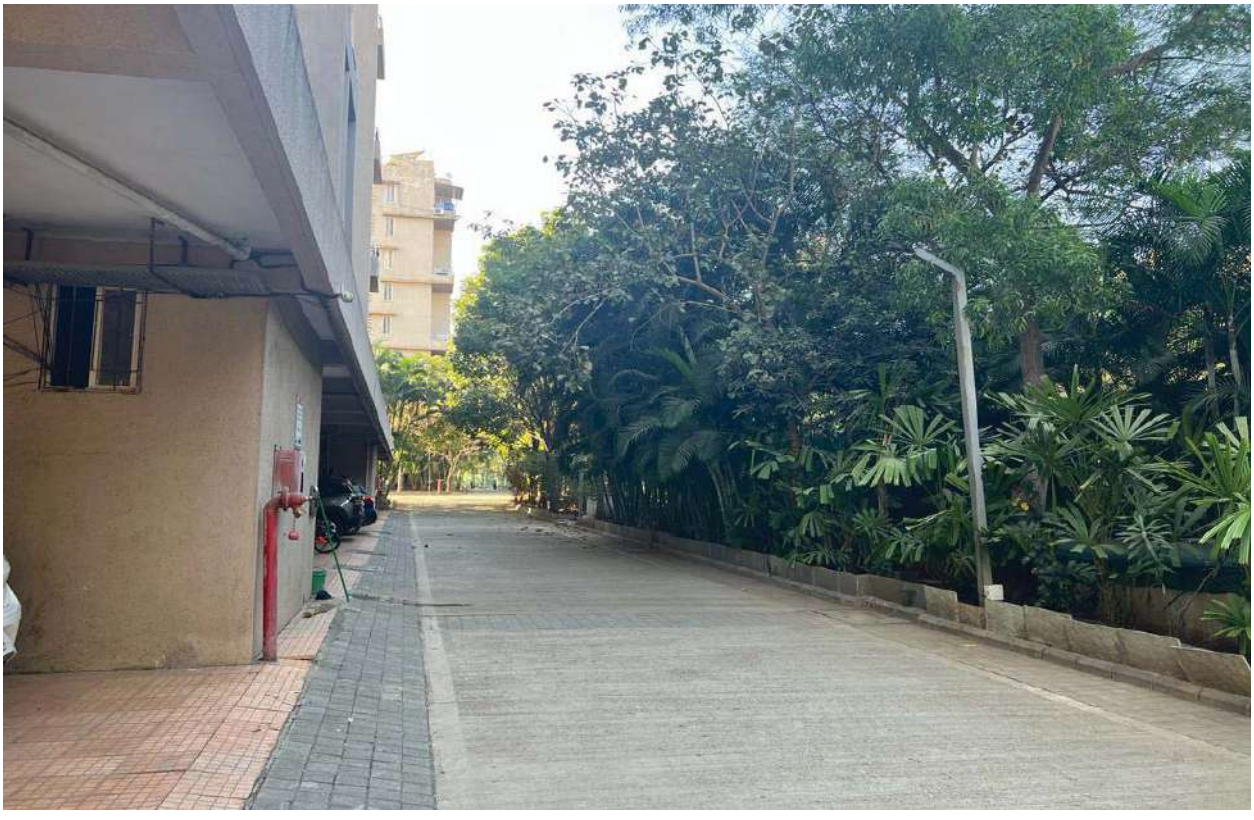
Turning Radius



Turning Radius



Internal Roads & Fire fighting Systems



Internal Road



Newly Installed OWC

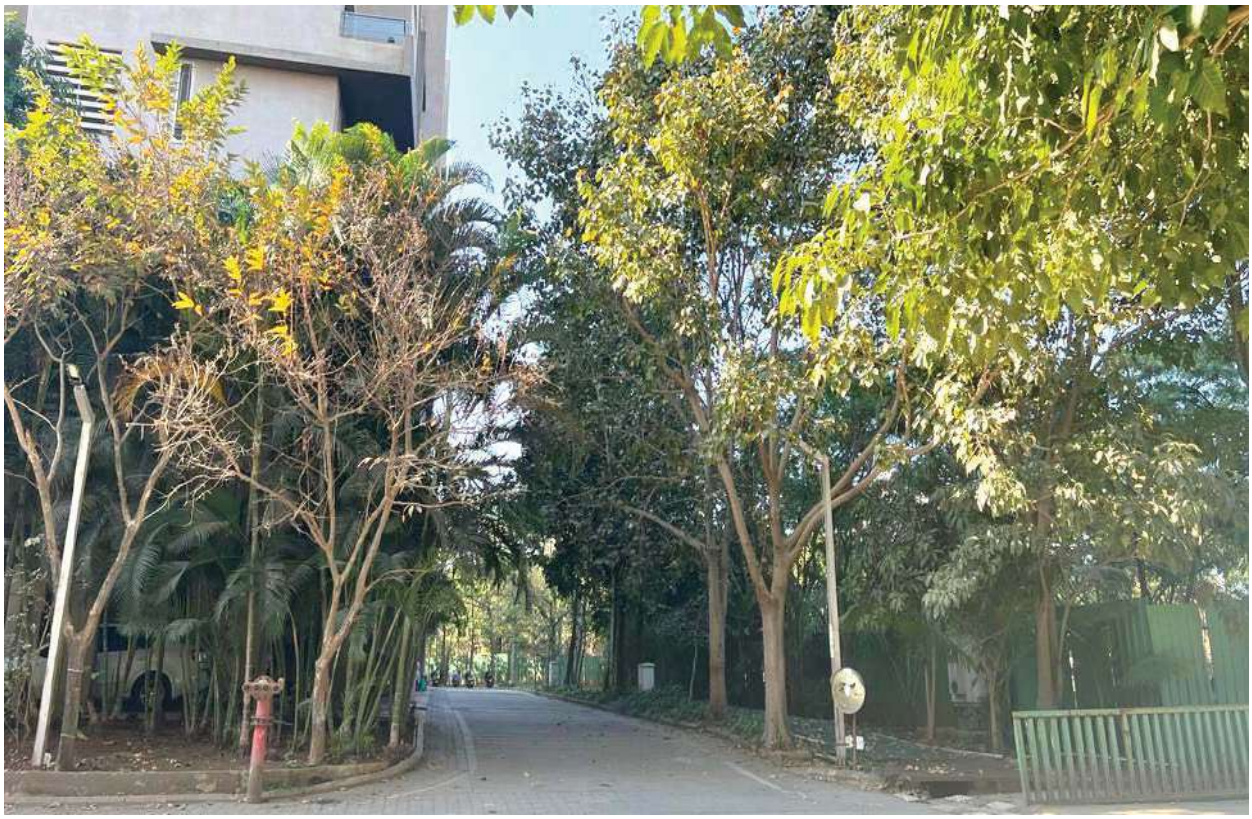


Fire Fighting System




All Dish Fitting

Tree Plantations



Tree Plantations



Tree Plantations



Tree Plantations



Street Lights



Amenity Space Area



Amenity Space Area



Amenity Space Area



Water Reused Alert System through Software



Solar Water heater



Solar Water heater



Solar Water heater



STP Pump Room



STP Pump Room



STP Pump Room



STP Pump Room



STP Pump Room



Strom Water Drainage System



Strom Water Drainage System



Fire Water Storage Tank



Drinking Water Softener



Drinking Water Softener



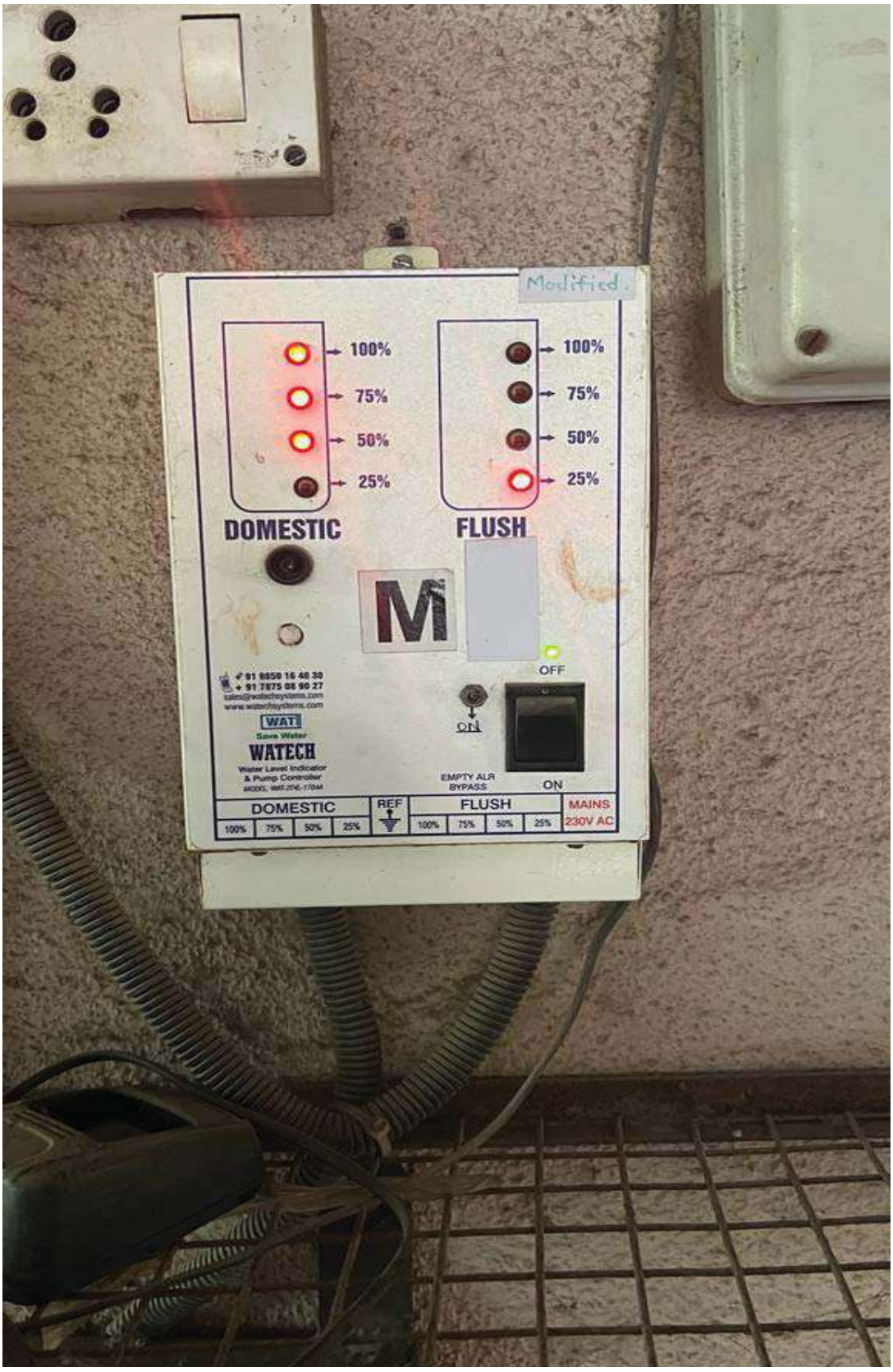
Waste Water Recirculation System



Waste Water Recirculation System

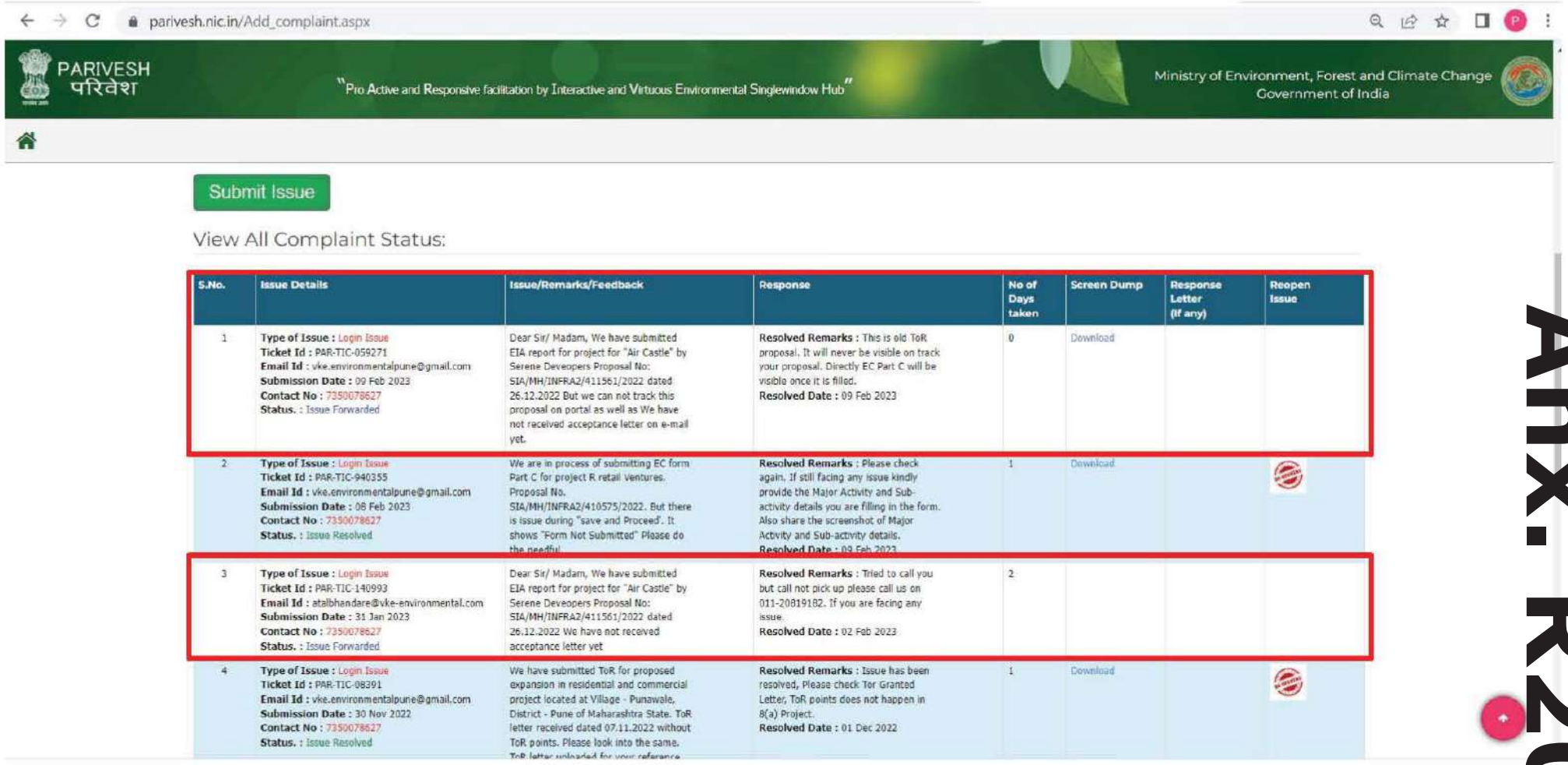


Waste Water Recirculation System



T.C.

Parivesh complaint raised details



parivesh.nic.in/Add_complaint.aspx

PARIVESH
परिवेश

"Pro Active and Responsive facilitation by Interactive and Virtuous Environmental Singlewindow Hub"

Ministry of Environment, Forest and Climate Change
Government of India

Submit Issue

View All Complaint Status:

S.No.	Issue Details	Issue/Remarks/Feedback	Response	No of Days taken	Screen Dump	Response Letter (If any)	Reopen Issue
1	**Type of Issue :** Login Issue **Ticket Id :** PAR-TIC-059271 **Email Id :** vke.environmentalpune@gmail.com **Submission Date :** 09 Feb 2023 **Contact No :** 7350078627 **Status. :** Issue Forwarded	Dear Sir/ Madam, We have submitted EIA report for project for "Air Castle" by Serene Deveopers Proposal No: SIA/MH/INFRA2/411561/2022 dated 26.12.2022 But we can not track this proposal on portal as well as We have not received acceptance letter on e-mail yet.	**Resolved Remarks :** This is old ToR proposal. It will never be visible on track your proposal. Directly EC Part C will be visible once it is filled. **Resolved Date :** 09 Feb 2023	0	Download		
2	**Type of Issue :** Login Issue **Ticket Id :** PAR-TIC-940355 **Email Id :** vke.environmentalpune@gmail.com **Submission Date :** 08 Feb 2023 **Contact No :** 7350078627 **Status. :** Issue Resolved	We are in process of submitting EC form Part C for project R retail Ventures. Proposal No. SIA/MH/INFRA2/410575/2022. But there is issue during "save and Proceed". It shows "Form Not Submitted" Please do the needful.	**Resolved Remarks :** Please check again. If still facing any issue kindly provide the Major Activity and Sub-activity details you are filling in the form. Also share the screenshot of Major Activity and Sub-activity details. **Resolved Date :** 09 Feb 2023	1	Download		
3	**Type of Issue :** Login Issue **Ticket Id :** PAR-TIC-140993 **Email Id :** atalbhandare@vke-environmental.com **Submission Date :** 31 Jan 2023 **Contact No :** 7350078627 **Status. :** Issue Forwarded	Dear Sir/ Madam, We have submitted EIA report for project for "Air Castle" by Serene Deveopers Proposal No: SIA/MH/INFRA2/411561/2022 dated 26.12.2022 We have not received acceptance letter yet	**Resolved Remarks :** Tried to call you but call not pick up please call us on 011-20819182. If you are facing any issue. **Resolved Date :** 02 Feb 2023	2			
4	**Type of Issue :** Login Issue **Ticket Id :** PAR-TIC-08391 **Email Id :** vke.environmentalpune@gmail.com **Submission Date :** 30 Nov 2022 **Contact No :** 7350078627 **Status. :** Issue Resolved	We have submitted ToR for proposed expansion in residential and commercial project located at Village - Punawale, District - Pune of Maharashtra State. ToR letter received dated 07.11.2022 without ToR points. Please look into the same. ToR letter uploaded for your reference	**Resolved Remarks :** Issue has been resolved, Please check Tor Granted Letter, ToR points does not happen in 8(a) Project. **Resolved Date :** 01 Dec 2022	1	Download		

Anx. R20

2814

T.C.

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

SPEED POST

CPCB/IPC-VI/ROGW/ 12.01.2021

To

The Member Secretary
SPCB/PCC
(as per the list)

Sub: Harmonization of Classification of Industrial Sectors into Red, Orange, Green and White Categories-reg.

This has reference to CPCB Directions issued u/s 18(1)(b) of the Air and Water Act on 07.03.2016, regarding 'Harmonization of classification of industrial sectors under Red/Orange/Green/White categories', wherein CPCB has categorized 242 industrial sectors into red, orange, green & white categories and directed all SPCBs/PCCs for its adoption and implementation. The SPCBs/PCCs were also directed that addition of any new or left-over industrial sectors and their categorization, which is not listed in the categorization done by CPCB, shall be carried-out by a Committee at the level of concerned SPCB/PCC, in accordance with the revised criteria and guidelines of CPCB.

Further, a need was felt to categorize some industrial sectors on PAN-India level and to resolve anomalies in categorization, if any. Accordingly, CPCB constituted a Committee to deal with the matter related to categorization of industrial sectors under red/orange/green/white categories.

Subsequently, CPCB categorized (i) Scrapping Centre (ii) Used Cooking Oil Collection Centre (iii) Compressed/Refined Bio-gas production from bio-degradable waste & (iv) Railway Stations, vide directions dated 30.04.2020, and categorized (i) Dairy Farms & (ii) Gaushalas, vide directions dated 10.07.2020, for adoption and implementation.

Further, the CPCB Committee on categorization, in its meetings held on 21.07.2020, 11.08.2020 and 24.08.2020, categorized the following three sectors, the details of which are given at **Annexure-I**:

i. Building and Construction Projects, having built-up area up to 20,000 m^2 and waste water generation ≥ 50 KLD.
ii. Construction and Demolition (C&D) Waste Processing Plants.
iii. Gold Assaying & Hallmarking Centres

T.C

All SPCBs/PCCs are directed to adopt and implement the categorization of these sectors and submit the Action Taken Report (ATR), in this regard to CPCB, within 15 days.

Yours faithfully,

(Prashant Gargava)
Member Secretary

Encl: as above

Copy to:

1 The Joint Secretary (CP Division)
Ministry of Environment, Forests
& Climate Change,
Indira Paryavaran Bhawan,
3rd Floor, Prithivi, Aliganj, Jor Bagh Road,
New Delhi -110 003

2 All Regional Directors, CPCB
(as per list)

3 Div. Head, UPC-I, CPCB, Delhi

4 Div. Head, IPC-V, CPCB, Delhi

5 Div. Head-IT, CPCB, Delhi : *with a request to upload this letter on CPCB website*

(Prashant Gargava)

Annexure-I

Categorization of (i) Building and Construction Projects, (ii) Construction and Demolition (C&D) Waste Processing Plants and (iii) Gold Assaying & Hallmarking Centres

Sl. No.	Sl. No. (as per CPCB Document)	Non-Industrial Operations (Activities/ Facilities/ Infrastructure/ Services)	W1	W2	W	A1	A2	A	H	Pollution Index (PI)	Category	Remarks
1.	88	Building and Construction Projects, having built-up area up to 20,000 m^2 and waste water generation ≥ 50 KLD	20	--	20	--	--	--	--	50	Orange	i. Waste water is generated due to domestic use. ii. Projects having overall waste water generation of 50 KLD or more are considered for categorization. However, projects having waste water generation <50 KLD are also required to treat/manage sewage with appropriate systems such as soak pit, septic tank, STP etc. or direct discharge into sewer connected with terminal STP etc., as per the prescribed guidelines/norms. iii. If the discharge ≥ 100 KLD, it will have the normalized score (pollution index) of 75 and hence, be categorized as Red.
2	89	Construction and Demolition (C&D) Waste Processing Plants	12	--	12	20	--	20	--	50	Orange	i. It is mainly air polluting process/activities. ii. Air pollution score is normalized to 100. iii. Waste water of high TDS of inorganic nature is generated in wet processing units. iv. In case of ancillary units/operations such as manufacturing of tiles, bricks, blocks etc. are associated, the categorization may change, depending on the process and waste generation.
3.	90	Gold Assaying & Hallmarking Centres	-	--	-	25	--	25	10	58.33	Orange	i. There is no wastewater generation from the process. ii. Lead oxide, nitrous fumes are generated during cupellation and parting acid treatment, respectively contributing to the air emissions. iii. The hazardous waste is generated during fire assay in the form of spent cupels bearing lead, spent acid, scrubbed water etc. This HW is required to disposed at TSDFs. iv. All the Gold Assaying & Hallmarking Test Centres certified by BIS shall follow the "Environmental Guidelines for Gold Assaying & Hallmarking Centres" issued by CPCB.

To:

Address List of Member Secretary, SPCBs/PCCs			
1.	The Member Secretary Andhra Pradesh State Pollution Control Board D.No. 33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalmvari Street, Kasturibaipet, Vijayawada- 520010 Andhra Pradesh	2.	The Member Secretary Arunachal Pradesh State Pollution Control Board 'ParyavaranBhavan', Yupla Road, PappuNallah, Naharlagun – 791110 Arunachal Pradesh
3.	The Member Secretary Assam State Pollution Control Board Bamunimaidan, Guwahati – 781021 Assam	4.	The Member Secretary Bihar State Pollution Control Board PariveshBhawan, Plot No.N-B/2, Patliputra Industrial Area Patna-800023
5.	The Member Secretary Chhattisgarh Environment Conservation Board ParyavasBhawan, North Block Sector-19 NayaRaipur – 492 099 Chhattisgarh	6.	The Member Secretary Goa State Pollution Control Board Dempo Tower, EDC Plaza, 1st floor Patto Plaza, Panaji, Goa – 403001
7.	The Member Secretary Gujarat State Pollution Control Board Sector 10-A, Gandhi Nagar – 382043 Gujarat	8.	The Member Secretary Haryana State Pollution Control Board C-11, Sector 6, Panchkula, Haryana 134109
9.	The Member Secretary Himachal Pradesh State Pollution Control Board ParyavaranBhavan, Phase III, New Shimla – 171009 Himachal Pradesh	10.	The Member Secretary J&K State Pollution Control Board, Parivesh Bhawan, Forest Complex, Gladni, Narwal, Transport Nagar, Jammu & Kashmir (J&K)
11.	The Member Secretary Jharkhand State Pollution Control Board T.A Building, HEC Campus, P.O. Dhurwa Ranchi – 834004 Jharkhand	12.	The Member Secretary Karnataka State Pollution Control Board ParisaraBhavan, 4th& 5th floors, Church Street, Bangalore – 560 001 Karnataka
13.	The Member Secretary Kerala State Pollution Control Board Plamoodu Junction, Pattam Palace P.O. Thiruvanathapuram – 695004 Kerala	14.	The Member Secretary Maharashtra State Pollution Control Board Kalpataru Point, 3rd& 4th floors Sion Matunga Scheme Road No. 6 Opp. Cine Planet, Sion Circle, Sion (E), Mumbai 400 022 Maharashtra
15.	The Member Secretary Madhya Pradesh Pollution Control Board ParyavaranParisar, E-5 Arera Colony Bhopal – 462016 Madhya Pradesh	16.	The Member Secretary Manipur State Pollution Control Board Lamphelpat, Imphal West D.C. Office Complex – 795004 Manipur
17.	The Member Secretary Meghalaya State Pollution Control Board Arden, Lumpyngngad, Shillong – 793014 Meghalaya	18.	The Member Secretary Mizoram State Pollution Control Board New Secretariat Complex, Khatla, Thlanmual Peng, Aizwal Mizoram- 796001
19.	The Member Secretary Nagaland State Pollution Control Board Signal Point, Dimapur, Nagaland – 797112 Nagaland	20.	The Member Secretary Odisha State Pollution Control Board ParibeshBhawan A-118, Nilakanta Nagar, Unit –VIII, Bhubaneshwar – 751012. Odisha

To:

21.	The Member Secretary Punjab State Pollution Control Board Nabha Road, ITI Rd, Adarsh Nagar, Prem Nagar, Patiala - 147001. Punjab	22.	The Member Secretary Rajasthan State Pollution Control Board A-4 Institutional Area, JhalaneDungri Jaipur – 302004. Rajasthan
23.	The Member Secretary Sikkim State Pollution Control Board State land Use & Environment Cell Govt. of Sikkim, Deorali, Gangtok. Sikkim	24.	The Member Secretary Tamil Nadu Pollution Control Board No. 76, Mount Salai, Guindy, Chennai - 600032. Tamil Nadu
25.	The Member Secretary Telangana State Pollution Control Board ParyavaranBhavan A-3, Industrial Estate, Sanath Nagar, Hyderabad – 500 018. Telangana	26.	The Member Secretary Tripura State Pollution Control Board Parivesh Bhawan, Pt. Nehru Complex, Gorkhabasti P.O., Kunjaban, Agartala, West Tripura - 799 006. Tripura
27.	The Member Secretary Uttarakhand Pollution Control Board Gaura Devi Bhawan, 46 B IT Park Sahastradhara, Dehradun- 248001 Uttarakhand	28.	The Member Secretary Uttar Pradesh State Pollution Control Board Building.No. TC-12V VibhutiKhand, Gomti Nagar, Lucknow– 226010. Uttar Pradesh
29.	The Member Secretary West Bengal State Pollution Control Board ParibeshBhavan Building, No.10-A, Block –LA, Sector 3, Salt Lake City, Kolkata – 700 091. West Bengal		
30.	The Member Secretary Andaman & Nicobar Islands Pollution Control Committee Department of Science & Technology Dollyganj Van Sadan, Haddo P.O., Port Blair-744102 Andaman & Nicobar	31.	The Member Secretary Chandigarh Pollution Control Committee ParyavaranBhawan Madhya Marg, Sector - 19 B, Chandigarh – 160019. Chandigarh
32.	The Member Secretary Daman, Diu & Dadra Nagar Haveli Pollution Control Committee Office of the Deputy Conservator of Forests Moti Daman, Daman – 396220. Daman & Diu	33.	The Member Secretary Delhi Pollution Control Committee 4th floor, ISBT Building, Kashmeri Gate, Delhi - 110006. Delhi
34.	The Member Secretary Lakshadweep Pollution Control Committee Lakshadeweep Administration Department of Science, Technology & Environment Kavarati – 682555. Lakshadweep	35.	The Member Secretary Puducherry Pollution Control Committee Department of Science, Technology & Environment Housing Board Complex, 3rd floor, Anna Nagar, Pondichery – 600 005

To:

Address list of Regional Directors, CPCB

1.	The Regional Director Regional Directorate (East) Central Pollution Control Board 502, Southend Conclave 1582, Rajdanga Main Road Kolkata-700107	2.	The Regional Director Regional Directorate (Vadodara) Parivesh Bhawan, Opp. Ward No. 10 VMC Office Subhanpura, Vadodara – 390 023 Gujarat
3.	The Regional Director Regional Directorate (North-East) Central Pollution Control Board TUM-SIR, Lower Motinagar, Near Fire Brigade H.Q Shillong-793014	4.	The Regional Director Regional Directorate (Central) Central Pollution Control Board 3rd Floor, Sahkar Bhawan North T.T Nagar Bhopal- 462003
5.	The Regional Director Regional Directorate (North) Central Pollution Control Board Ground Floor, PICUP Bhawan Vibhuti Khand, Gomti Nagar Lucknow- 226020	6.	The Regional Director Regional Directorate (South) Central Pollution Control Board 1st & 2nd Floors, Nisarga Bhawan A-Block, Thimmaiah Main Road 7th D Cross, Shivanagar Opposite Pushpanjali Theatre Banglore 560010
7.	The Regional Director Regional Directorate (Chandigarh) Central Pollution Control Board Parivesh Bhawan, East Arjun Nagar, Delhi-110032	8.	The Regional Director Regional Directorate (Pune) Central Pollution Control Board Parivesh Bhawan, East Arjun Nagar, Delhi-110032
9.	The Regional Director Regional Director - Chennai Central Pollution Control Board 77-A, Second Floor South Avenue Road, Ambattur Industrial Estate, Ambattur Taluk, Thiruvallur District, Chennai - 600 058		

T.C.

Anx. R22

2821

Area Statement Details

S.No. 12/6, 47/5/1, 50/1/A/1, 55/15 & 82 Village - Marunji Tal. - Mulshi Dist – Pune air castle site

Sr. No.	Plan Approved Number & Date	Name of Wing	B/up area (In Sq Mtrs)	Floor	Tenements	Open Space	
1	Form Collector PMA/NA/SR/403/09 Date- 24/08/	A	1752.96	P + 8	32	Open Space No. 1 –	400.25
		B	1752.96	P + 8	32		
		C	1752.96	P + 8	32	Open Space No. 2 –	1824.6
		D	1752.96	P + 8	32		
		E	2616.4	P + 8	32	Open Space No. 3 –	2159.4
		F	2118.72	P + 8	32		
		G	2118.72	P + 8	32		
		H	2118.72	P + 8	32		
		I	2118.72	P + 8	32		
		J	2118.72	P + 8	32		
		K	2616.4	P + 8	32		
		L	1752.96	P + 8	32		
		M	1752.96	P + 8	32		
		N	1095.6	P + 5	20		
			27385.96		436	4384.25	

T.C.

174 th Meeting of SEIAA (Day-1)

SEIAA Meeting number: 174 **Meeting Date** August 28, 2019

Subject: Environment Clearance for Air Castle Proposed Residential Project at Su. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune by Serene developers.

Is a Violation Case: Yes

1.Name of Project	Air Castle Proposed Residential Project at Su. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune by Serene developers.
2.Type of institution	Private
3.Name of Project Proponent	Jeetu Punjabi/ Vineet Goyal
4.Name of Consultant	VK:e environmental
5.Type of project	Housing project
6.New project/expansion in existing project/modernization/diversification in existing project	New project
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Not applicable
8.Location of the project	Proposed Residential Project at 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulashi. Dist. Pune.
9.Taluka	Mulashi.
10.Village	Marunji
Correspondence Name:	S no. 37 oppo. Dilip Vengaskar Cricket Academy Thergaon Pune.
Room Number:	S no. 37
Floor:	S no. 37
Building Name:	S no. 37
Road/Street Name:	oppo. Dilip Vengaskar Cricket Academy
Locality:	oppo. Dilip Vengaskar Cricket Academy Thergaon
City:	Pune
11.Whether in Corporation / Municipal / other area	PMRDA
12.IOD/IOA/Concession/Plan Approval Number	In Process
	IOD/IOA/Concession/Plan Approval Number: PRA/NASR/409/2009
	Approved Built-up Area: 43670.67
13.Note on the initiated work (If applicable)	13 residential buildings exist on site.
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	Not Applicable
15.Total Plot Area (sq. m.)	49,750.00 m2
16.Deductions	681.49 m2
17.Net Plot area	49,068.51 m2
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**a) FSI area (sq. m.):** 49,946.29 m2
	b) Non FSI area (sq. m.): 31,549.99 m2
	c) Total BUA area (sq. m.): 81496
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 27386.96
	Approved Non FSI area (sq. m.): 16283.71
	Date of Approval: 24-08-2010
19.Total ground coverage (m2)	13,248.49
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	27.50 %
21.Estimated cost of the project	950000000

SEIAA-MINUTES-0000002454

22.Number of buildings & its configuration

Serial number	Building Name & number	Number of floors	Height of the building (Mtrs)
1	Building A	Parking + 8	26.6
2	Building B	Parking + 8	26.6
3	Building C	Parking + 8	26.6
4	Building D	Parking + 8	26.6
5	Building E	Parking + 8	26.6
6	Building F	Parking + 8	26.6
7	Building G	Parking + 8	26.6
8	Building H	Parking + 8	26.6
9	Building I	Parking + 8	26.6
10	Building J	Parking + 8	26.6
11	Building K	Parking + 8	26.6
12	Building L	Parking + 8	26.6
13	Building M	Parking + 8	26.6

23.Number of tenants and shops	3690 Persons
24.Number of expected residents / users	3690 Persons
25.Tenant density per hectare	745 Tenants/hectare
26.Height of the building(s)	
27.Right of way (Width of the road from the nearest fire station to the proposed building(s)	18 m Road
28.Turning radius for easy access of fire tender movement from all around the building excluding the width for the plantation	9 m
29.Existing structure (s) if any	13 buildings with approx built up area 37,699.06 m2
30.Details of the demolition with disposal (If applicable)	Not Applicable

31.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

32.Total Water Requirement

SEIAA-MINUTES-0000002454

Dry season:	**Source of water**	Mula river Prior permission obtained from Irrigation Department
	Fresh water (CMD):	335.60
	Recycled water - Flushing (CMD):	166.05
	Recycled water - Gardening (CMD):	73.14
	Swimming pool make up (Cum):	3.50
	Total Water Requirement (CMD) :	574.79
	Fire fighting - Underground water tank(CMD):	300
	Fire fighting - Overhead water tank(CMD):	20
	Excess treated water	186.77
Wet season:	**Source of water**	Mula river Prior permission obtained from Irrigation Department
	Fresh water (CMD):	333.10
	Recycled water - Flushing (CMD):	166.05
	Recycled water - Gardening (CMD):	0
	Swimming pool make up (Cum):	1
	Total Water Requirement (CMD) :	499.15
	Fire fighting - Underground water tank(CMD):	300
	Fire fighting - Overhead water tank(CMD):	20
	Excess treated water	259.86
Details of Swimming pool (If any)	Dimension of Swimming Pool: Area of pool:175 Sq.m Depth: 1.2 m Volume of swimming pool: 259 m3 Total make up Water Requirement in KLD: 3.5 m3 Water requirement for make up in KLD : 105 m3/month (In summer) 30 m3/month (in monsoon & winter) Details of Plant & Machinery used for treatment of Swimming Pool water: Ozone system with chlorination unit along with the entire setup for water filtration and control panel. Details of quality to be achieved for swimming pool water: pH = 7 to 7.6 Chlorine content = 0.8 to1 ppm Capital cost: 72,00,000/- O & M cost: 4,20,000/-	

SEIAA-MINUTES-0000002454

33.Details of Total water consumed

Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

34.Rain Water Harvesting (RWH)	**Level of the Ground water table:**	8 m
	Size and no of RWH tank(s) and Quantity:	Not applicable
	Location of the RWH tank(s):	On ground
	Quantity of recharge pits:	28
	Size of recharge pits :	1 m X 1 m X 1 m
	Budgetary allocation (Capital cost) :	28,00 000
	Budgetary allocation (O & M cost) :	3,00,000
	Details of UGT tanks if any :	UG Tank Capacity for Residential and Commercial UG Tank Capacity for Residential and Commercial Raw water compartment: 100 m3 Domestic water compartment: 400 m3 Fire water compartment: 300 m3 Flushing water compartment: 170 m3
35.Storm water drainage	**Natural water drainage pattern:**	The storm water collected through the storm water drains of adequate capacity will be led to recharge pits and surplus shall be discharged into the existing water course.
	Quantity of storm water:	577.99 cum/hr
	Size of SWD:	600 mm
Sewage and Waste water	**Sewage generation in KLD:**	448.335
	STP technology:	MBBR
	Capacity of STP (CMD):	1, 450
	Location & area of the STP:	On ground
	Budgetary allocation (Capital cost):	1,15,00,000
	Budgetary allocation (O & M cost):	16,50,000

SEIAA-MINUTES-0000002454

36.Solid waste Management

Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	30 Kg/day
	Disposal of the construction waste debris:	The Construction waste generated during construction shall be segregated, reused on site and surplus shall be led to scrap dealers for recycling.
Waste generation in the operation Phase:	**Dry waste:**	738 kg
	Wet waste:	1107 kg
	Hazardous waste:	Not applicable.
	Biomedical waste (If applicable):	Not applicable.
	STP Sludge (Dry sludge):	55 kg
	Others if any:	Not applicable.
Mode of Disposal of waste:	**Dry waste:**	Dry waste will be segregated into recyclable and non-recyclable waste will be managed by SWACH
	Wet waste:	Biodegradable waste will be treated through on-site Organic Waste Converter
	Hazardous waste:	Not applicable.
	Biomedical waste (If applicable):	Not applicable.
	STP Sludge (Dry sludge):	will be used as manure
	Others if any:	Not applicable.
Area requirement:	**Location(s):**	On ground
	Area for the storage of waste & other material:	total 135 sq.m
	Area for machinery:	total 135 sq.m
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	30,50,000
	O & M cost:	8,50,000

37.Effluent Charecterestics

Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Amount of effluent generation (CMD):	Not applicable
Capacity of the ETP:	Not applicable
Amount of treated effluent recycled :	Not applicable
Amount of water send to the CETP:	Not applicable
Membership of CETP (if require):	Not applicable
Note on ETP technology to be used	Not applicable
Disposal of the ETP sludge	Not applicable

SEIAA-MINUTES-0000002454

38.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

39.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

40.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	Not applicable	Not applicable	Not applicable	Not applicable
41.Source of Fuel		Not applicable		
42.Mode of Transportation of fuel to site		Not applicable		

43.Green Belt Development	**Total RG area :**	14778.27 sq m
	No of trees to be cut :	0
	Number of trees to be planted :	644
	List of proposed native trees :	Refer below list
	Timeline for completion of plantation :	Till operation Phase

44.Number and list of trees species to be planted in the ground

Serial Number	Name of the plant	Common Name	Quantity	Characteristics & ecological importance
1	Terminalia Katappa	Badam	50	Small, deciduous, fruit bearing tree
2	Alianthus excelsa	Maharukh	74	Large tree, fruit bearing, good for roadside plantation.
3	Erythrina indica	Panghara	76	Medium sized deciduous tree, bright scarlet colored flowers
4	Anthocephallus kadamba	Kadamba	67	Shady, large tree, ball shaped flowers,
5	Michelia champaca	Son chafa	58	Medium sized evergreen tree, fragrant yellow flowers, butterfly host plant
6	Bahunia blackiana	Kanchan	16	Large evergreen tree, large flowers
7	Oreodoxa regia	Royal Palm	29	Nitrogen fixer, ornamental plant
8	Mahogony justicia	Mahogany	4	Large evergreen tree
9	Plumeria rubra	Dev chafa	40	White /pinkish coloured flowering, ornamental
10	Dwarf coconut	Naral	20	Fruiting, tall handsome tree

SEIAA-MINUTES-0000002454

11	Acacia mangium	Acacia mangium	39	A medium sized tree, widely grown along roads, grows in warm climate, under both dry and wet condition.
12	Cordia sebastina	Orange Geiger Tree	13	Shady, large tree, ball shaped flowers,
13	Dellinia indica	Elephant foot	8	Ornamental,
14	Lagerstromia indica	Taman	12	State flower tree of Maharashtra. Medium sized tree, beautiful purple flowers, grows well in both dry and humid climate.
15	Fiscus elastica	Rubber tree	28	Medicinal plant, big leafs plant
16	Cassia fistula	Amaltas	5	Medium sized deciduous tree. Beautiful yellow flowers, butterfly host plant.
17	Spathodea campanulata	Pichkari	5	A handsome large deciduous tree. Good for road side plantation.
18	Magnolia grandiflora	Kavthi chafa	8	Medium sized, evergreen tree, fragrant yellow flowers, butterfly host plant.
19	Tabebuia argentea	Yellow trumpet	13	Medium height, deciduous, fruit bearing tree, spreading branches.
20	Tabebuia rosea	Pink trumpet	11	Medium deciduous, flowering, fruit bearing tree.
21	Crayota urenus	Fishtail palm	2	Large deciduous tree
22	Foxtail palm	Foxtail palm	18	Large deciduous tree
23	Callistemon lancealatus	Bottle brush	7	Low evergreen tree, produces bright red flowers.
24	Millingtonia hortensis	Akash neem	13	Medium, deciduous, fruit bearing, corky bark.
25	Delonix regia	Gulmohar	3	Large deciduous tree, flowers attract many birds
26	Ficus benjamina	Ficus tree	8	Ornamental, green leafs tree
27	Filicium decephens	Filicium decephens	17	Evergreen, tall tree bird hosting tree
45.Total quantity of plants on ground				

46.Number and list of shrubs and bushes species to be planted in the podium RG:

Serial Number	Name	C/C Distance	Area m2
1	NA	NA	NA

SEIAA-MINUTES-0000002454

47.Energy

Power requirement:	**Source of power supply :**	MSCDCI
	During Construction Phase: (Demand Load)	30 kw
	DG set as Power back-up during construction phase	40 KVA
	During Operation phase (Connected load):	4092
	During Operation phase (Demand load):	3637.33
	Transformer:	22KV/630 KVA – 6 No's 22KV/315KVA – 1 No
	DG set as Power back-up during operation phase:	200 KVA
	Fuel used:	HSD
	Details of high tension line passing through the plot if any:	NA

48.Energy saving by non-conventional method:

• Solar water heating systems will be done for bathrooms.

• Solar lights will be provided for common amenities like Street lighting & Garden lighting.

• CFL & LED based lighting will be done in the common areas, landscape areas, signage's, entry gates and boundary compound walls etc.

• Auto Timer switches will be provided for Street lights, Garden lights, Parking & staircase Lights & other common area Lights, for saving electrical energy.

• Water level controllers with timers will be used for Water pumps.

• To create awareness to end consumer or flat owner, for using energy efficient light fittings like CFL, T5 Lamps & LED lights.

49.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	• Solar water heating systems will be done for bathrooms. • Solar lights will be provided for common amenities like Street lighting & Garden lighting. • CFL & LED based lighting will be done in the common areas, landscape areas, signage's, entry gates and boundary compound walls etc. • Auto Timer switches will be provided for Street lights, Garden lights, Parking & staircase Lights & other common area Lights, for saving electrical energy. • Water level controllers with timers will be used fo	2.87%

50.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed

SEIAA-MINUTES-0000002454

Not applicable	Not applicable	Not applicable

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	Rs 85.44 000
	O & M cost:	Rs 1.95,000

51.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	Air environment	Erosion control – dust suppression measures, barricading and top soil preservation	44,77,500
2	Land	Labour Camp toilets & sanitation	1,50,000
3	Health and safety	Labour Safety	12,00,000
4	Environment	Environmental Monitoring (Air, noise, soil, water)	1,85,600
5	Health and safet	Disinfection and Health Check-ups	96,000
6	Environmental Management	Environmental Management cell	1,42,000
7	Health and safety	Safety Training	2,00,000
8	Waste Water Management	Modular STP	15,00,000

SEIAA-MINUTES-0000002454

b) Operation Phase (with Break-up):

Serial Number	Component	Description	Capital cost Rs. In Lacs	Operational and Maintenance cost (Rs. in Lacs/yr)
1	Sewage treatment plant	1 stp	1,15,00,000	16,50,000
2	Solid waste management	1 owc	30,50,000	8,50,000
3	Landscaping	development and maintenance of green area	2,00,00,000	3,00,000
4	Rain water harvesting	recharge pits	28,00,000	3,00,000
5	Environmental Monitoring	air, water, noise, soil, waste water, owc manure	NA	2,52,500
6	WTP cost	WTP cost	Rs 20,00,000	4,85,000
7	DG set (excluding Fuel Cost)	DG set	85,44,000	1,95,000
8	Drainage water management	Drainage water management	20,00,000	NA
9	Solar PV	Solar PV	17,5000	3,5000

51.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

52.Any Other Information

No Information Available

53.Traffic Management

	Nos. of the junction to the main road & design of confluence:	The site is located in a residential zone in Marunji. The development will be accessible from 18 m wide road while the internal access ways are 12 m & 6 m wide.

SEIAA-MINUTES-0000002454

Parking details:	**Number and area of basement:**	NA
	Number and area of podia:	NA
	Total Parking area:	9,648.00 sq m
	Area per car:	30 sq m
	Area per car:	30 sq m
	Number of 2-Wheelers as approved by competent authority:	976
	Number of 4-Wheelers as approved by competent authority:	268
	Public Transport:	NA
	Width of all Internal roads (m):	6 m, 12m

SEIAA-MINUTES-0000002454

	CRZ/ RRZ clearance obtain, if any:	NA
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	NA
	Category as per schedule of EIA Notification sheet	Building and construction project
	Court cases pending if any	Yes
	Other Relevant Informations	13 residential buildings exist on site as per sanction received. All environmental services has been provided on site.
	Have you previously submitted Application online on MOEF Website.	No
	Date of online submission	-

SEAC DISCUSSION ON ENVIRONMENTAL ASPECTS

Summorised in brief information of Project as below.

Brief information of the project by SEAC

PP submitted their application for prior Environmental clearance for total plot area of 49,750.00 m2, FSI area of 49,946.29 m2, Non FSI area of 31,549.99 m2 and total BUA of 81496 m2.

Now, the PP has applied as per the MoEF&CC Notification dated 14/03/2017 and 8/03/2018. The PP informed that the total constructed area on site is: 37,699.06 m2.

DECISION OF SEAC

SEIAA-MINUTES-0000002454

The Committee noted following chronology of events pertaining to the proposal:

1. The PP has applied for EC in November 2010

2. SEAC Hearings started in 2011 and in 2014, 'Probable Violation' was declared by SEAC-III in its 3rd meeting dt. 09.01.2014.

3. Case was filed against the PP by MPCB in February 2015

4. After this, SEAC-III completed scrutiny of the project and recommended the proposal for grant of EC in its 37th meeting dt. 17.11.2015 to SEIAA.

5. The proposal was considered by SEIAA in its 97th Meeting and was differed since the court case was pending

6. The Court Case was disposed off in January 2019

In view of above, the Committee decided to **refer** to the proposal to SEIAA for further decision.

Specific Conditions by SEAC:

SEIAA DECISION

PP informed that the total constructed area on site is: 37,699.06 m2. PP applied as per the MoEF&CC Notification with in validity of amnesty window period Authority noted the same. constructed area on site is amounts to violation of EIA Notification, 2006. Authority **decided to refer back** the proposal to SEAC-3 for further necessary action as per Notification dt. 14.03.2017 (amended on 08.03.2018) and Office Memorandum dt. 16.03.2018 issued by MoEF&CC.

Specific Conditions by SEIAA:

FINAL RECOMMENDATION

SEIAA have decided to refer back the proposal to SEAC due to the above conditions

SEIAA-MINUTES-0000002454

Anx. R24

2835

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report

REPORT NO.- AB/AC/05/2022-23/344

Client Details Name & Address: Air Castale Marunji, Pune.	Sample Code	AB/AC/05/2022-23/344
	Sample Name	STP Outlet
	Sample Collected By	Water Enviro
	Method for Sampling	--
	Sample Type	Sewage
	Sample Collected On	02/05/2022
	Sample Received on Date	06/05/2022
	Analysis Date	06/05/2022 to 17/05/2022
	Reporting Date	17/05/2022
Sample returned /stored	Stored at 4°C for 1 week from the date of reporting	

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.2	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	5.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	84.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	926.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	14.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	60.87	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager /
Dy. Technical Manager

Govt. Analyst
-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

T.C.

2836

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira® BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report

REPORT NO.-AB/RPO/06/2022-23/111

Client Details Name & Address: Air Castale Marunji, Pune.	Sample Code	AB/06/2022-23/111
	Sample Name	STP Outlet
	Sample Collected By	Water Enviro
	Method for Sampling	--
	Sample Type	Sewage
	Sample Collected On	08/06/2022
	Sample Received on Date	08/06/2022
	Analysis Date	09/06/2022 to 14/06/2022
	Reporting Date	15/06/2022
Sample returned /stored	Stored at 4°C for 1 week from the date of reporting	

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.68	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	1.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Non-agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	<10.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	692.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	34.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	122.81	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst

-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira® BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report

REPORT NO.-AB/RPO/08/2022-23/240

Client Details Name & Address: **Air Castale** **Marunji, Pune.**	**Sample Code**	**AB/08/2022-23/240**
	Sample Name	**STP Outlet**
	Sample Collected By	**Water Enviro**
	Method for Sampling	--
	Sample Type	**Sewage**
	Sample Collected On	**18/08/2022**
	Sample Received on Date	**18/08/2022**
	Analysis Date	**19/08/2022 to 24/08/2022**
	Reporting Date	**25/08/2022**
Sample returned /stored	**Stored at 4°C for 1 week from the date of reporting**	

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.33	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	1.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	3.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	616.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	7.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	28.34	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst

-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira BIOTECH

Test Report

REPORT NO.-AB/AC/09/2022-23/152

Client Details Name & Address: **Air Castale** **Marunji, Pune.**	**Sample Code**	**AB/AC/09/2022-23/152**
	Sample Name	**WTP Outlet**
	Sample Collected By	**Client**
	Method for Sampling	**--**
	Sample Type	**Water Sample**
	Sample Collected On	**13/09/2022**
	Sample Received on Date	**13/09/2022**
	Analysis Date	**14/09/2022 to 15/09/2022**
	Reporting Date	**15/09/2022**
Sample returned /stored	**Stored at 4°C for 1 week from the date of reporting**	

Sr. No.	Parameter	Results	Units	Standard Method
1	Total Suspended Solids	1.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
2	Total Dissolved Solids	138.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
3	Total Hardness(as $CaCO_3$)	57.75	mg/lit	IS: 3025 Part-21 (R.A : 2019)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst

-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira® BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report

REPORT NO.-AB/RPO/11/2022-23/367

Client Details Name & Address: Air Castale Marunji, Pune.	Sample Code	AB/11/2022-23/367
	Sample Name	STP Outlet
	Sample Collected By	Water Enviro
	Method for Sampling	--
	Sample Type	Sewage
	Sample Collected On	20/11/2022
	Sample Received on Date	25/11/2022
	Analysis Date	25/11/2022 to 01/12/2022
	Reporting Date	02/12/2022
Sample returned /stored	Stored at 4°C for 1 week from the date of reporting	

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.0	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	1.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	28.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	404.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	12.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	65.31	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst

-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part,
MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira® BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report

REPORT NO.-AB/RPO/12/2022-23/124

Client Details Name & Address: **Air Castale** **Marunji, Pune.**	**Sample Code**	**AB/12/2022-23/124**
	Sample Name	**STP Outlet**
	Sample Collected By	**Water Enviro**
	Method for Sampling	--
	Sample Type	**Sewage**
	Sample Collected On	**08/12/2022**
	Sample Received on Date	**08/12/2022**
	Analysis Date	**09/12/2022 to 13/12/2022**
	Reporting Date	**14/12/2022**
Sample returned /stored	**Stored at 4°C for 1 week from the date of reporting**	

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.87	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	1.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	3.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	782.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	9.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	52.85	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager /
Dy. Technical Manager

Govt. Analyst
-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

Aavanira Biotech (P) Ltd. Kinetic Innovation Park, D-1 Block, Plot No. - 18/1 Part, MIDC Chinchwad, Pune - 411 019. Maharashtra, India.
■ Tel.: 8308805200 / 8446000118, ■ E-mail : info@aavanira.com, ■ Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Aavanira BIOTECH

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

ULR NO.: Not Applicable

Test Report

REPORT NO.- AB/AC/01/2022-23/483

Air Castale
Marunji, Pune.
weenviro1@gmail.com

Sample Code	**AB/AC/01/2022-23/483**
Sample Name	**STP Outlet**
Sample Type	**Sewage**
Method for Sampling	**Not Applicable**
Sample Collected By	**Water Enviro**
Sample Collected On	**16/01/2023**
Sample Received on Date	**16/01/2023**
Sample Condition/Description	**Received In 1 Litre Sealed & Intact Plastic Container**
Analysis Date	**16/01/2023 to 21/01/2023**
Analysis Done At	**Aavanira Biotech Pvt Ltd**
Reporting Date	**23/01/2023**
Sample returned /stored	**Stored at 4°C for 1 week from the date of reporting**

Sr. No.	Parameter	Result	Unit	Standard Method
1	pH	7.72	--	IS: 3025 Part-11 (R.A : 2017)
2	Colour	1.0	Hazen Units	IS: 3025 Part-04 (R.A : 2017)
3	Odour	Agreeable	--	IS: 3025 Part-05 (R.A : 2018)
4	Total Suspended Solids	2.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
5	Total Dissolved Solids	793.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
6	Biochemical Oxygen Demand (3 day test@27°C)	13.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
7	Chemical Oxygen Demand	84.36	mg/lit	IS: 3025 Part-58 (R.A : 2017)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst

-----End of Report-----

AAVANIRA BIOTECH (P) LTD. * PUNE *

T.C.

LatestLaws.com

CA 1046/2019

1

Anx. R25

Reportable

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION

Civil Appeal No 1046 of 2019

Kantha Vibhag Yuva Koli Samaj Parivartan Trust and Others — **Appellants**

Versus

State of Gujarat and Others — **Respondents**

J U D G M E N T

Dr Justice Dhananjaya Y Chandrachud, J

1 Admit.

2 This appeal under Section 22 of the National Green Tribunal Act 2010[1] arises from a judgment and order of the Principal Bench of the National Green Tribunal[2] dated 28 September 2018, by which it dismissed OA No 81 of 2014 (WZ).

3 OA No 81 of 2014 (WZ), instituted under Sections 14 and 15 of the NGT Act, was

1 "**NGT Act**"
2 "**NGT**"

Signature Not Verified
Digitally signed by DEEPAK SINGH
Date: 2024.12.02 16:19:51 IST
Reason:

T.C.

LatestLaws.com

pending before the NGT for nearly four years since July 2014. It had been filed by the appellants, who are environmental organisations and individuals directly affected by the degradation of the environment in the area in question. The OA pertained to the issue of the dumping of unsegregated and untreated Municipal Solid Waste[3] at an open landfill site admeasuring 188 hectares at Survey No 111 /A, Block No 177, Khajod Village, Taluka Choryasi in the district of Surat, which is surrounded by thirty-five villages. The landfill site had been set up by the fourth respondent, Surat Municipal Corporation[4], which had started dumping 850 Metric Tonnes of waste per day on 24 January 2003. The extent of dumping increased to 1600 Metric Tonnes of waste per day by 16 January 2014. It was alleged, *inter alia*, that the dumping of waste in the open area without prior treatment was in violation of the Municipal Solid Waste (Handling and Management) Rules 2000 and Bio Medical Waste (Management and Handling) Rules 1998. Further, while SMC had been issued multiple warnings during site visits and inspections, the situation did not improve. It was alleged that the waste disposal led to an irreversible contamination of local water bodies and ground water, caused severe air pollution due to the burning of waste, damaged the ecology of the nearby villages and was affecting the health of the citizens and livestock in the vicinity. The appellants sought directions, *inter alia*, for: *(i)* restraining the dumping of MSW at the landfill site; *(ii)* restoration of the environment in the surrounding areas; *(iii)* restitution of the landfill site to its original condition; *(iv)* compensation to all those affected in the nearby villages upon

3 "**MSW**"
4 "**SMC**"

LatestLaws.com

determination of damages by a committee set up to assess the landfill site; and *(v)* implementation of the Solid Waste Management Rules 2016[5].

4 The Western Zone Bench of the NGT issued notice on 8 August 2014. A series of orders emanated from the Western Zone Bench of the NGT in connection with the issues raised. It would suffice to note a few of those orders:

(i) On 20 March 2015, the NGT noted that "*prima facie* there is ring of truth in the averments made by the Applicants, to indicate that MSW plant, is being mismanaged" and that the burning of the untreated MSW was causing severe air pollution affecting the health of the residents of the nearby villages. Interim directions were issued to prevent this from taking place during the pendency of the OA;

(ii) On 22 December 2015, the NGT again reproached SMC for not preparing a proper action plan and audit for the management of MSW in the district of Surat. However, on the appellant's issue of their participation in the management of the landfill site, the NGT noted that it would be decided during the final hearing;

(iii) On 7 March 2016, the NGT directed the Commissioner of SMC to be present and to provide a statement on the following issues: *(a)* extent of waste collected, treated and disposed of in accordance with the mandate of the Municipal Solid Waste (Handling and Management) Rules 2000; *(b)* the officers who have failed

5 "**SWM Rules**"

LatestLaws.com

to enforce the Rules and have failed to comply with the directions of the NGT; *(c)* the time schedule within which proper waste management will be done in the area in terms of the Rules; and *(d)* filing an undertaking that waste management shall be done in letter and spirit;

(iv) On 16 May 2017, the NGT noted that in pursuance of its previous directions, SMC had filed an affidavit indicating, *inter alia*, the action plan which it proposed to execute for handling the problem of MSW within its jurisdiction. The NGT was informed that the issue pertaining to the closure of the Khajod dumping site was pending before the Standing Committee of SMC. Hence, the NGT directed the Standing Committee to take a decision and issue a work order for commencing the work of the closure of the open dumping site within a month. Moreover, SMC was directed to place on the record the details of the lands where the projects are to be commissioned;

(v) On 19 September 2017, a statement was made on behalf of SMC that it is under an obligation to comply with the SWM Rules and that the site at Khajod is designated for a landfill, an MSW processing plant and a waste-to-energy plant of 100 TPD on a public-private partnership basis;

(vi) Pursuant to the order of the NGT dated 19 September 2017, the appellants formulated certain action points for implementation of the SWM Rules. On 26 September 2017, an undertaking was filed on behalf of SMC by the Municipal

LatestLaws.com

Commissioner setting out the steps which would be taken for dealing with MSW, transportation, storage, and processing as well as on other related matters. The undertaking stipulated that there shall be no landfilling or dumping of unprocessed and unsegregated MSW after two years subject to "100% working of the Solid Waste Processing Plant" and certain other conditions;

(vii) On 6 November 2017, an order was passed by the NGT setting out that it would be hearing SMC, *inter alia*, on the qualified nature of the undertaking which was furnished by it, having regard to the SWM Rules and on the proposed use of the Khajod landfill site despite its potential as a landfill site being concluded. The NGT also indicated that it would be hearing submissions on the commissioning of the waste-to-energy plant and the waste-to-compost plant within a given time frame;

(viii) An order was passed by the NGT on 5 December 2017, dealing particularly with the issue of quantification of compensation to the farmers due to the damage caused by the burning of solid waste and ground water pollution;

(ix) On 2 July 2018, the NGT issued directions stating that the submissions which were urged before it by SMC were unacceptable. The NGT declined to accept the contention that the waste-to-energy plant could only be completed by December 2019, and directed that it ought to be completed by March 2018; and

LatestLaws.com

(x) On 17 July 2018, the NGT noted that SMC's current action plan *prima facie* did not fulfill the requirements of Clause J of Schedule-I of the SWM Rules in relation to closure and rehabilitation of old dumping sites and legacy waste. Hence, it directed SMC to file an affidavit recording its compliance.

5 A considerable amount of judicial time and attention was entailed during the course of the hearings associated with the above orders. Earlier Benches of the NGT at the Western Zone Bench had been monitoring the status of compliance with the SWM Rules. The NGT was seized with diverse aspects pertaining to the disposal of MSW by SMC, including the modalities which have to be followed while commissioning projects in the future for the conversion of waste to energy.

6 Rather surprisingly, when the proceedings came up on 28 September 2018 before the Principal Bench of the NGT, the OA was disposed of on the ground that in another OA – OA No 606 of 2018 – the NGT had constituted Apex, Regional and State Level Committees to monitor the implementation of the SWM Rules. The OA filed by the appellants was thus closed with liberty to represent the case and ventilate all grievances before the appropriate committee. For convenience of reference, the order passed by the NGT is extracted below:

> "As this OA relates to implementation of Solid Waste Management Rules, 2016, we are of the considered opinion that it is covered by the order passed by the larger Bench of the Tribunal dated 20th August, 2018 in OA No 606 of 2018.
>
> The Applicant would be at liberty to represent its case and ventilate

LatestLaws.com

all grievance before the Committee which shall look into it and finally decide the same.

Consequently, OA No 81 of 2014 stands disposed of. There shall be no order as to cost.

M.A. No. 1392 of 2018 and 1393 of 2018

These Applications do not survive for consideration as the main Application has been decided and are accordingly dismissed."

7 At this juncture, it is also important to elaborate on NGT's judgment and order dated 31 August 2018 in OA No 606 of 2018. Those proceedings arose from writ petitions filed before this Court in relation to the proper implementation of SWM Rules across the country, which were later transferred to the NGT. The NGT noted in its decision that though it had earlier issued directions for the implementation of the SWM Rules, they had not been complied with. Later, in a meeting organised by the Central Pollution Control Board with all the States and Union Territories, it was recommended that the NGT should form Apex, Regional and State Level Committees for the implementation of the SWM Rules and the directions issued by the NGT, and that these Committees should submit quarterly reports to the NGT. Thus, the NGT directed the following:

(i) The Apex Monitoring Committee was set up for one year, till further orders. Its role was to interact with the relevant Ministries and the Regional Monitoring Committees, and it could formulate guidelines/directions which may be useful to the Regional Monitoring Committees and the States/Union Territories. It

LatestLaws.com

was to meet preferably every month, and also preferably meet the Regional Monitoring Committees once a month. It shall then submit its report to the NGT every quarter. Further, it was also directed that the Committee set up a website for dissemination of information, so as to enable public participation;

(ii) The Regional Monitoring Committees were set up for one year, till further orders, for each zone – North, East, West, South and Central. They were to ensure effective implementation of the SWM Rules, and that mixing of bio-medical waste with MSW does not take place and bio-medical waste is processed in accordance with the Bio-Medical Waste Management Rules 2016. The Committees were to preferably meet every week, and meet the Apex Monitoring Committee, have *inter se* interactions and meet the States when necessary. They were to submit their reports to the Apex Monitoring Committee twice a quarter, and also submit a report to the NGT after the first quarter. Much like the Apex Monitoring Committee, the Regional Monitoring Committees were also directed to set up websites; and

(iii) The State Level Committees were set up for one year, till further orders, for each State and Union Territory. They were to preferably meet with local bodies once every two weeks, and the local bodies were to furnish them reports twice a month. They were to decide on technical and policy issues in accordance with the SWM Rules and consistent with the directions of Apex and Regional

LatestLaws.com

> Monitoring Committees. Further, they were to send their reports to the Regional Monitoring Committee on a monthly basis. It was also directed that public involvement may be encouraged and status of MSW be placed in the public domain.

The NGT directed that the Committees would be at liberty to issue directions for execution of the orders of the NGT to any authority.

8 Ms Shilpa Chohan, learned Counsel appearing on behalf of the appellants, has submitted that relegating the appellants to a committee was wholly inappropriate having regard to the progress which had been achieved by the Western Zone Bench of the NGT in unravelling various aspects of the case. Moreover, it is urged that the jurisdiction to provide restitution and award compensation is entrusted to the NGT and hence, it was not appropriate or proper to dispose of the OA by relegating the decision to a committee.

9 On the other hand, Mr Tejas Patel, learned Counsel appearing on behalf of SMC, submits that the appellants have produced absolutely no material on the basis of which a claim for compensation can be made. Moreover, it was urged that they have a remedy of ventilating their grievances before the appropriate committee.

10 The OA was filed by the appellants under Sections 14 and 15 of the NGT Act. Section 14[6] of the NGT Act vests the NGT with jurisdiction over all civil cases where a

6 "**14. Tribunal to settle disputes.**—(1) The Tribunal shall have the jurisdiction over all civil cases where a substantial question relating to environment (including enforcement of any legal right relating to environment), is involved and such

LatestLaws.com

substantial question relating to the environment is involved, and such question arises out of the implementation of the enactments specified in Schedule I to the statute. Sub-Section (1) of Section 15 is in the following terms:

> "**15. Relief, compensation and restitution.**—(1) The Tribunal may, by an order, provide,—
>
> (a) relief and compensation to the victims of pollution and other environmental damage arising under the enactments specified in the Schedule I (including accident occurring while handling any hazardous substance);
>
> (b) for restitution of property damaged;
>
> (c) for restitution of the environment for such area or areas,
>
> as the Tribunal may think fit."

11 In **Mantri Techzone (P) Ltd.** v. **Forward Foundation**[7], a three-Judge Bench of this Court outlined that Section 15(1)(c) of the NGT Act entrusts broad powers to the NGT. Speaking for the Court, Justice S Abdul Nazeer held:

> "43. Section 15(1)(c) of the Act is an entire island of power and jurisdiction read with Section 20 of the Act. The principles of sustainable development, precautionary principle and polluter pays, propounded by this Court by way of multiple judicial pronouncements, have now been embedded as a bedrock of environmental jurisprudence under the NGT Act. Therefore, wherever

---

question arises out of the implementation of the enactments specified in Schedule I.

(2) The Tribunal shall hear the disputes arising from the questions referred to in sub-section (1) and settle such disputes and pass order thereon.

(3) No application for adjudication of dispute under this section shall be entertained by the Tribunal unless it is made within a period of six months from the date on which the cause of action for such dispute first arose:

Provided that the Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days."

7 (2019) 18 SCC 494

LatestLaws.com

> the environment and ecology are being compromised and jeopardized, the Tribunal can apply Section 20 for taking restorative measures in the interest of the environment."

12 The OA filed by the appellants raised issues falling within the jurisdiction of the NGT under Section 14, since it relates to the implementation of the SWM Rules. The SWM Rules have been notified pursuant to the powers conferred by Sections 3, 6 and 25 of the Environment (Protection) Act 1986, which is Entry 5 in Schedule I of the NGT Act. None of the prayers sought by the appellants are of a nature that cannot be granted by the NGT in accordance with its powers under Section 15(1) of the NGT Act. The OA was being continuously heard by the Western Zone Bench of the NGT since August 2014, and it had already issued significant interim directions.

13 Hence, the issue before us is only whether the Principal Bench of the NGT correctly directed the appellants to now approach one of the Committees set up by it, rather than continue with the proceedings in the OA. To understand this, we must first consider the role of such committees which are set up by courts and tribunals alike.

14 It is first important to differentiate expert committees which are set by the courts/tribunals from those set up by the Government in exercise of executive powers or under a particular statute. The latter are set up due to their technical expertise in a given area, and their reports are, subject to judicially observed restraints, open to judicial review before courts when decisions are taken solely based upon them. The precedents of this court unanimously note that courts should be circumspect in rejecting

LatestLaws.com

the opinion of these committees, unless they find their decision to be manifestly arbitrary or *mala fide*[8]. On the other hand, courts/tribunals themselves set up expert committees on occasion. These committees are set up because the fact-finding exercise in many matters can be complex, technical and time-consuming, and may often require the committees to conduct field visits. These committees are set up with specific terms of reference outlining their mandate, and their reports have to conform to the mandate. Once these committees submit their final reports to the court/tribunal, it is open to the parties to object to them, which is then adjudicated upon. The role of these expert committees does not substitute the adjudicatory role of the court or tribunal. The role of an expert committee appointed by an adjudicatory forum is only to assist it in the exercise of adjudicatory functions by providing them better data and factual clarity, which is also open to challenge by all concerned parties. Allowing for objections to be raised and considered makes the process fair and participatory for all stakeholders.

15 Sections 14 and Section 15 entrust adjudicatory functions to the NGT. The NGT is a specialized body comprising of judicial and expert members. Judicial members bring to bear their experience in adjudicating cases. On the other hand, expert members bring into the decision-making process scientific knowledge on issues concerning the environment. In **Hanuman Laxman Aroskar** v. **Union of India**[9], a two-Judge Bench of this Court noted that the NGT is an expert adjudicatory body on the

---

8 **Basavaiah (Dr.)** v. **Dr. H.L. Ramesh**, (2010) 8 SCC 372 (in relation to appointment in an academic institution); **State of Kerala** v. **RDS Project Ltd.**, (2020) 9 SCC 108 (in relation to safety of a flyover project)

9 (2019) 15 SCC 401

LatestLaws.com

environment. The Court held:

> "133. The NGT Act provides for the constitution of a tribunal consisting both of judicial and expert members. The mix of judicial and technical members envisaged by the statute is for the reason that the Tribunal is called upon to consider questions which involve the application and assessment of science and its interface with the environment…
>
> 134. NGT is an expert adjudicatory body on the environment."

The NGT does not have a dearth of 'expertise' when it comes to the issues of environment.

16 Section 15 empowers the NGT to award compensation to the victims of pollution and for environmental damage, to provide for restitution of property which has been damaged and for the restitution of the environment. The NGT cannot abdicate its jurisdiction by entrusting these core adjudicatory functions to administrative expert committees. Expert committees may be appointed to assist the NGT in the performance of its task and as an adjunct to its fact-finding role. But adjudication under the statute is entrusted to the NGT and cannot be delegated to administrative authorities. Adjudicatory functions assigned to courts and tribunals cannot be hived off to administrative committees. In **Sanghar Zuber Ismail** v. **Ministry of Environment, Forests and Climate Change and Another**[10], a three-Judge Bench of this Court noted that the NGT cannot refuse to hear a challenge to an Environmental Clearance under Section 16(h) of the NGT Act and delegate the process of adjudicating on compliance to

10 2021 SCC OnLine SC 669

LatestLaws.com

an expert committee. The Court held:

> "8…the NGT has not dealt with the substantive grounds of challenge in the exercise of its appellate jurisdiction. Constitution of an expert committee does not absolve the NGT of its duty to adjudicate. The adjudicatory function of the NGT cannot be assigned to committees, even expert committees. The decision has to be that of the NGT. The NGT has been constituted as an expert adjudicatory authority under an Act of Parliament. The discharge of its functions cannot be obviated by tasking committees to carry out a function which vests in the tribunal."

17 The NGT has in the present case abdicated its jurisdiction and entrusted judicial functions to an administrative expert committee. An expert committee may be able to assist the NGT, for instance, by carrying out a fact-finding exercise, but the adjudication has to be by the NGT. This is not a delegable function. Thus, the order impugned in the appeal cannot be sustained. The consequence of the impugned order is to efface the meticulous exercise which was carried out by the earlier Benches. Valuable time has been lost in the meantime and crucial issues pertaining to the environment in the present case have been placed on the back-burner.

18 Hence, we are of the view that it would be appropriate to set aside the impugned order and to restore OA No 81 of 2014 (WZ) to the file of the NGT. We accordingly allow the appeal and set aside the impugned order dated 28 September 2018. OA No 81 of 2014 (WZ) is restored to the file of the NGT. The NGT shall commence with the hearing of the proceedings from the stage which was arrived at before the impugned order dated 28 September 2018 was passed. Unfortunately, more than three years have

LatestLaws.com

passed in the meantime, a delay which could have been avoided had the NGT proceeded to adjudicate upon the issues which were raised before it.

19 This Court has not expressed any opinion on the merits of the issues which are raised before the NGT. The NGT will take an appropriate view and issue appropriate directions in continuation of the directions which hold the field, after hearing the parties.

20 The Court was apprised that the impugned order was passed by the Principal Bench since the Western Zone Bench of the NGT was not functioning at the relevant time. Hence, OA No 81 of 2014 (WZ) may now be heard by the Bench which is assigned with the requisite jurisdiction to hear the subject matter of the OA.

21 The appeal is accordingly allowed in the above terms.

22 Pending applications, if any, stand disposed of.

.....J.
[Dr Dhananjaya Y Chandrachud]

.....J.
[Bela M Trivedi]

New Delhi;
January 21, 2022
CKB

LatestLaws.com

ITEM NO.18 Court 4 (Video Conferencing) SECTION XVII

S U P R E M E C O U R T O F I N D I A

RECORD OF PROCEEDINGS

Civil Appeal No.1046/2019

KANTHA VIBHAG YUVA KOLI SAMAJ PARIVARTAN TRUST & ORS. **Appellant(s)**

VERSUS

THE STATE OF GUJARAT & ORS. **Respondent(s)**

Date : 21-01-2022 This appeal was called on for hearing today.

CORAM :
HON'BLE DR. JUSTICE D.Y. CHANDRACHUD
HON'BLE MS. JUSTICE BELA M. TRIVEDI

For Appellant(s) **Ms. Shilpa Chohan, Adv.**
Mr. Ssawahiq Siddique, Adv.
Dr. Pratyush Nandan, Adv.
Mr. Rajesh Singh, AOR

For Respondent(s) **Ms. Aastha Mehta, Adv.**
Ms. Deepanwita Priyanka, Adv.

Ms. Ruchi Kohli, AOR

Mr. Avijit Roy, AOR

Mr. Tejas Patel, AOR
Mr. Kaushal Pandya, Adv.

UPON hearing the counsel the Court made the following

O R D E R

LatestLaws.com

1 Admit.

2 The appeal is allowed in terms of the signed order.

3 Pending applications, if any, stand disposed of.

(CHETAN KUMAR)
A.R.-cum-P.S.

(SAROJ KUMARI GAUR)
COURT MASTER

(Signed Reportable Judgment is placed on the file)

T.C.

भारतीय गैर न्यायिक

एक सौ रुपये

Rs. 100

रु. 100

ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA ◐ 2014 ◐ LW 093218

अनु.क्र. 26958 दि. 08/01/2015 दु.शु.रक्कम 100x2 = 200/-

दस्ताचा प्रकार सनद पत्र

दस्त नोंदणी करणार असलेल्या कोर्ट / तालुका

मिळकतीचे वर्णन –

मुद्रांक विकत घेणाराचे नाव मे. किमीन डेव्हलपर्स

पत्ता मार्फत मुखत्यार पुणे

दुसऱ्या पक्षकाराचे नाव –

हस्ते व्यक्तीचे नाव व पत्ता महेश मारोदे

मार्फत मुखत्यार पुणे

स्वाक्षरी

मुद्रांक विक्रेता यांची सही

रसीद पट्टी प्र.पभु मुद्रांक विक्रेता ला.न. २२०१५६३

डाग ऑफिस शिवाजीनगर पुणे ३

परवाना मुदत

NOTARY BHALCHANDRA ANANDRAO PATIL PUNE DISTRICT MAHARASHTRA Regd. No. 5924 GOVERNMENT OF INDIA

3 JAN 2015

NOTARY BHALCHANDRA ANANDRAO PATIL PUNE DISTRICT MAHARASHTRA Regd. No. 5924 GOVERNMENT OF INDIA

MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING made and executed at Pune this 20th. day of ~~January~~ Feb, 2015.

T.C.

BETWEEN

1. SHRI VINEET KRISHNAKUMAR GOYAL, Age about 33 years, Occupation Agriculture And Business; 2. SHRI JITENDRA SUNDARDAS PUNJABI, Age about 33 years, Occupation Agriculture And Business; Both of whom are the Partners of M/S. SERENE DEVELOPERS, a registered Partnership Firm having its office at: "Air Castles", Next To Allard Institute, Kasarsai Road, Marunji, Pune-411057, hereinafter referred to or called as "THE PARTY OF THE FIRST PART"

//AND//

'AIR CASTLES CO-OPRATIVE HOUSING SOCIETY LTD; Office at: "Air Castles", Next To Allard Institute, Kasarsai Road, Marunji, Pune-411057, through its authorized,

1. MR. GAURAV MEHROTRA KUMAR, (Flat No. K-202)
The Chairman, Air Castles Co-op; Housing Society, Ltd;

2. MR. AMIT KUMAR, (Flat No. H803)
The Secretary, Air Castles Co-op; Housing Society, Ltd;

3. MR. SHAMBHU, (Flat No. M-604)
The Treasurer, Air Castles Co-op; Housing Society, Ltd;

Hereinafter referred to or called as PARTY OF THE OTHER PART

(Which expression unless repugnant to the context or meaning thereof shall mean and include the said Air Castles Co-op; Housing Society, Ltd, its present members/ shareholders and, right and obligation, executors, administrators and assigns)

... PARTY OF THE OTHER PART

WHEREAS

The Party Of The First Part is the Owner, Promoter/ Builder/ Developers of the residential project developed under name and style as "Air Castles" (Now its Air Castles Co-op; Housing Society Ltd, herein after referred as Said Society) situated at Survey No. 12/6 and others, at Village Marunji, Taluka Mulshi, Dist. Pune.

The Party of the Other Part is the Said Society and their selected/ elected members of the body and flat holders/ shareholders of the

Air Castles Co-op; Housing Society Ltd, situated at Survey No. 12/6, Village Marunje, Taluka Mulshi, Dist. Pune.

The Party Of The First Part collected amount Rs. 60,000/- from per flat holder of the Said Society towards society maintenance, details of which given hereunder And as agreed by and between the parties, The Party Of The First Part maintained the Said Society up to the end of December 2014.

The flat holders of the Said Society established/ formed/ registered the Air Castles Co-op; Housing Society Ltd, Pune and that come in to existence from 1st January 2015 onwards.

The Party of the First Part is liable to maintain the said Society for the period of 3 years, as per the registered Flat Agreements with the flat holders of the Said society. Accordingly, The Party of the First Part maintained the Said Society till date and ready to maintain onwards. The Party of the First Part also formed and registered the Said Housing Society as per the registered Flat Agreements with the flat holders of the Said Society.

That the, The Party of the other Part ready and willing to maintain the Said Society from 1st January 2015. By the mutual understanding between the parties and for good and sufficient reasons The Party of the First Part ready to hand over the whole charge of the Said Society to The Party of The Other Part.

The Party Of The First Part handed over the all the deeds, documents, society maintenance bills, receipts, possession of common amenities like, keys of club house with furniture, auditorium, swimming pool and baby pool, tennis court, basketball court, net cricket area, common parking area, meter room, common toilets, gym with equipment's, all indoor and outdoor games, community hall, children's play equipment's, STP plant, OWP plant, DG set, pump room, underground water tank, badminton court with equipment's, lift with backup, etc; to The Party Of The Other Part.

AND WHEREAS during the course of discussion by and between the parties herein, the Party of the First part has agreed to hand over the maintenance charge, etc; of the Said Society to the Party Of the

Other Part and the Party Of the Other Part has agreed to take the whole maintenance charge, etc; of the Said Society by way of this document on the following agreed terms and conditions:-

1. The details of the Said Society maintenance collection and expenses up to 31st January 2014, is as follows:

Sr. No.	Particular	Amount
A	Maintenance charges collected from Flat Holders	
I	Maintenance per flat holder	60,000/-
II	Total number of flat holders	415
III	Total maintenance amount collected (I*II)	24,900,000/-
IV	Contribution for Ganpati Festival of 2014	50,000/-
	Sub Total of "A"	2,49,50,000/-
B	Expenses incurred on behalf of society maintenance	
I	Security Expenses	44,57,601/-
II	Electricity Expenses	51,51,157/-
III	Housekeeping	18,00,296/-
IV	Diesel for DG	8,56,158/-
V	Maintenance staff salary	4,49,434/-
VI	Lift Maintenance	2,87,930/-
VII	Membership fees paid to Co-Op Hsg, Society	2,48,000/-
VIII	Garden Maintenance	79,000/-
IX	Repairs & Maintenance – D. G. Set	54,482/-
X	Repairs & Maintenance – Pump Set	52,592/-
	Sub Total of B	**1,34,36,650/-**
C	**Full and final Amount payable to society (A-B)**	**1,15,13,350/-**

THAT the The Party Of The Other Part hereby further declare and assure to the The Party Of The First Part that The Party Of The Other Part has inspected and accepted above Said Society maintenance expenses and is satisfied that Said Society maintenance collection and expenses are true and correct. And also confirmed that, the amenities, common area etc; and their specifications are as per the registered flat agreement executed by and between the parties and are well maintained and in good conditions in all respects.

2. THAT the Party Of The Other Part hereby further declare and assure to the The Party Of The First Part that they have accepted the amenities and is satisfied that the construction thereof has been completed in all respects in accordance with approved / modified / Revised plans and as per the rules and regulations of the Assistant Director of Town Planning Branch, Pune including all fittings and fixtures; and the area thereof is as per the terms of the agreement.

3. That the Party of the First Part hereby declare that, they have cleared all maintenance bill up to 31st December 2014 for Air Castles Co-operative housing society ltd, Marunji, Pune hence forth there is no any due's pending towards the party of the First Part and from 1st January 2015 onward all expenses will be bear by the Air Castles Hsg; society Ltd; i.e. the Party of the Other Part.

4. That the Party of the First Part hereby declare that, on the request of the Party Of the Other Part and as per the negotiations by and between the parties, herein, the Party of the First Part hereby agreed to give the balance maintenance amount of Rs. 1,15,13,350/-(One Crore fifteen lack thirteen thousand three hundred and fifty only) with additional maintenance charges of Rs. 30,00,000/- (Rupees Thirty Lacs only) towards remaining maintenance period and thus the deal has been concluded.

5. The Party of the First Part given full and final settlement amount Of Rs. 1,45,13,350/-(One Crore forty five lack thirteen thousand three hundred and fifty only) paid to the Party Of the Other Part as under:-

Amount	Cheque No	Date	Bank
1,15,13,350/-	062896	09/01/2015	Axis Bank, Hinjewadi
30,00,000/-	062915	24/01/2015	Branch, Pune 411057.

The receipts of the said entire amount, the Party of the other Part hereby admits and acknowledges to have received from the Party of the First Part.

6. That, the Party of the Other Part has carefully inspected the above said specifications, amenities and society maintenance collection and expenses and has no complaints and shall not make any grievances whatsoever regarding maintenance expenses and all. The Party of the Other Part further declares that he is satisfied with the maintenance expenses, specification & amenities provided. The Party

of the Other Part has further agreed to maintain the Said Society hereafter.

7. Hereinafter, The Party Of the other Part shall pay/ liable to pay all the taxes, MSEB Bills, other dues and duties in respect of Said Housing Society, also proportionate share towards Taxes or any other charges payable to the Central/State Govt., or any other Local Authorities, from time to time. It is also agreed by the Flat Holder that he / she will pay the House Tax to the concern authorities.

8. That the Party of the First Part hereby declare that, the Party of the First Part will complete the 10ft in width, incomplete compound wall construction, exactly back of "H" building of the Said Society, within 45 days from today.

9. The Party of the First Part have also made it abundantly clear to the Party of the Other Part that the construction of a few Buildings is to be executed by the Party of the First Part in the future which is the part of Entire Property and specifications made known to the Flat Holders/ Said Society & the Flat Holders/ Said Society will not take any objection for the same & bear with the inconvenience, if any. It is also made clear that any further buildings which is in the nature of balance FSI as also additional FSI in the form of FAR or TDR or addition of plot in respect of the said scheme for which layout has been sanctioned and or revised layout has been / will be submitted & will be sanctioned & for the same the Flat Holders/Said Society will not take any objection & bear with the inconvenience, if any.

10. The Party of the First Part have also made it abundantly clear to the Party of the Other Part that the common amenities provided to the Said Society or Phase Ist, are the common for Phase Ist & IInd. Therefore, all the future flat holders from the Phase IInd, will have right, title and or interest to use, the said common amenities. Moreover, the said Party of the Other Part hereby agree that they will merge/add all the flat holders from the Phase IInd in to the Said Society as an members/share holders.

11. THAT pursuant to the agreement, assurances and promises, the Party of the Other Part herein, by this document, voluntarily, absolutely and permanently provided permanent easementary right of way, of RCC roads, from and out of the said Entire Property, more particularly described in the SCHEDULE- Ist written hereunder, in favour of the Party of the First Part, without any consideration.

12. THAT the Party of the First Part herein, is entitled to use the RCC roads, from and out of the said Entire Property, as a permanent road to all the properties, which it has acquired and or likely to be acquired, in future, specifically, adjoining lands. The said right of way is permanently attached to the said Entire Property and the said rights shall run together with the said Entire Property. Moreover, the said Party of the Other Part hereby agree that they shall not cause to do, perform or carry out any act whereby the work of the Party of the First Part is hindered or obstructed and in case of any such acts, if any, loss is suffered by the Party of the First Part, then, in that case, the Party of the Other Part hereby undertake to keep the Party of the First Part harmless and indemnified from any such losses.

AND WHEREAS accordingly, the Parties hereto, have mutually decided to reduce into writing and execute the said document.

That the stamp duty worth Rs. 100/- paid to the document.

THE SCHEDULE Ist

(BEING DESCRIPTION OF THE ENTIRE PROPERTY i.e. PHASE Ist & IInd),

All that piece and parcel of the landed property, bearing Survey Nos. 12/6, 47/5/1, 50/1/1A/1, 55/15, 82, 12/7, 47/2, 47/3, 47/4, 47/18 and 47/19 totally admeasuring 04 Hectare 97.5 Ares, lying, being and situated at Revenue Village - Marunji, Taluka- Mulshi, District- Pune, within the limits of the Zilla Parishad Pune, Taluka Panchayat Samitee Mulshi, Grampanchayat Marunji and Registration District Pune, Sub-Registrar, Mulshi (Paud/Hinjewadi), Pune. and bounded as follows:-

On or towards East & 12 part,	:	By Survey Nos. 50/1 part, 47/5/1 part
On or towards South	:	By Survey Nos. 50/1, 55/17 & 55/16,
On or towards West	:	By Survey Nos. 55/8, 55/7, 47/2 part and road,
On or towards North	:	By Survey Nos. 47/2 part, 12/5part, 12/6 part, 12/7 part & road

THE SCHEDULE IInd;

(BEING DESCRIPTION OF THE PROPERTY, PHASE Ist),

All that piece and parcel of the landed property, bearing Survey Nos. 12/6 part, 47/5/1 part, 50/1/1A/1, 55/15 & 82 totally admeasuring 00 Hectare 55.5 Ares, lying, being and situated at Revenue Village -

Marunji, Taluka- Mulshi, District- Pune, within the limits of the Zilla Parishad Pune, Taluka Panchayat Samitee Mulshi, Grampanchayat Marunji and Registration District Pune, Sub-Registrar, Mulshi (Paud/Hinjewadi), Pune.

THE SCHEDULE IIIrd;

(BEING DESCRIPTION OF THE PROPERTY PHASE IIst),

All that piece and parcel of the landed property, bearing Survey Nos. 12/7, 47/2, 47/3, 47/4, 47/18 & 47/19 totally admeasuring 04 Hectare 42 Ares, which party of the first part has acquired and or more adjoining lands likely to be acquired, in future, specifically lying, being and situated at Revenue Village - Marunji, Taluka Mulshi, District- Pune, within the limits of the Zilla Parishad Pune, Taluka Panchayat Samitee Mulshi, Grampanchayat Marunji and Registration District Pune, Sub-Registrar, Mulshi (Paud/Hinjewadi), Pune.

Together with all rights, title and or interest, hereditaments, privileges, easements, appurtenances etc., attached thereto.

IN WITNESS WHEREOF the parties hereto have set and subscribed their respective hands and sealed on the day month and year first hereinabove written.

1) SIGNED, SEALED AND DELIVERED by within named the party of the first part,

M/S SERENE DEVELOPERS, through its duly authorized partners,

SHRI JITENDRA S. PANJABI

AND

SHRI VINEET K. GOYAL

II) SIGNED, SEALED AND DELIVERED by within named the party of the other part,

'AIR CASTLES COOPRATIVE HOUSING SOCIETY LTD; through its duly authorized,

1. MR. GAURAV MEHROTRA KUMAR, (Flat No. K-202),
   The Chairman,

2. MR. AMIT KUMAR, (Flat No. H-803)
   The Secretary,

3. MR. SHAMBHU, (Flat No. M-604)
   The Treasurer,

IN THE PRESENCE OF:-

1) Signature :
   Name : Mr. Rajeev Patwe,
   Address : "Air Castles", Marunji, Pune 411057.

2) Signature :
   Name : Rohidas Pawar
   Address : Marunji, Pune.

ATTESTED BY
BHALCHANDRA ANANDRAO PATIL
NOTARY
GOVT. OF INDIA
20-2-2015

NOTED AND REGISTERED
AT SR. NO. 1331 2015
DATE 20-2-201

TRUE COPY
BHALCHANDRA ANANDRAO PATIL
NOTARY
GOVT. OF INDIA

T.C.

MAHARASHTRA POLLUTION CONTROL BOARD

SUB - REGIONAL OFFICE PUNE -2

2868

Tel .No : 020- 25816451
Fax : 020- 25811029
E-mail.:sropune2@mpcb.gov.in

2nd floor, Jog Center Building,
Near Vodafone, Wakdewadi,
Pune – 411003.

Anx. R27

Date:- 24.10.2016

Visit Report

1. Name & Address of Industry :- M/s. Serene Developers Sr.No. 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunje Tal. Mulshi Dist Pune
2. Date of Visit :- 24.10.2016
3. Industry Representative :- Mr. Rajeev Patve (Admin Head M/s Serene Developers 9561082619
4. Consent Status :- Obtain Consent to Establish and Record of Consent to operate was not available at site
5. Validity of consent :- COU OR 5 years whichever is earlier
6. Observations made during the visit:-

As per instructions of Sub Regional officer Pune II, visit was made for checking compliances of consent conditions and following observations were made:

① This is a Residential Housing project in the name of 'Air castles' located on the above address at Marunje Tal. Mulshi Dist Pune.

② The project is on plot area of 49750.0 sq.M.

③ During the visit, it is observed that the project-proponent has constructed 13 Buildings namely A, B, C, D, E, F, G, H, I, J, K, L & M. These 13 Buildings consists of P+8 floors with 416 flats. During the visit, it was observed that all 13 Buildings are in operational phase (& in commissioned.).

1/3

T.C.

④ The representative of the project proponent reported that this ~~society has handover to the~~ project is handover to the Air castles ~~Co-op~~ cooperal Housing Society Ltd. before about one and Half year

⑤ Sewage Treatment Plant of Capacity 450 CMD has provided which consists of screen chamber, Equalization Tank, Aeration I, Aeration II, Flocculation Tank, Settling tank, Pressure sand filter, Disinfectic Sludge Drying Bed. During the visit, STP was found in operation. JKs of the same is collected for Analysis. Flow meter has not provided to the STP.

⑥ The representative reported that the treated water is being used for gardening purposes but details of gardening area was not available.

⑦ OWC machine has provided for the Biodegradable solid waste composting. suggested to produce the capacity and daily operation record.

⑧ Club House and swimming pool is provided and found in operation.

⑨ The source of water is through tankers from Marunje Village. Daily requirement is of Avg. 28 Tankers of 10,000 Lit capacity.

⑩ As per Consent to Establish, total of construction area is of 1,06350.0 Sq. meters But During the visit, Actual construction area details ~~were~~ was not available.

⑪ 2 D.G. Sets of Capacities 125 KVA & 160 KVA have provided with Stacks and necessary acoustics.

Please see on next page-3

(12) The details regarding the Bank Guaranttee was not available at site as per consent to Establish as well as Consent to operation status was not available.

(13) The Representative is unknown about Consent (Establish) conditions No. 9, 10, 11, & 12 alongwith commencement & B.G.

(14) The Repoesentative of the prject reported that till Environmental clearance has not received but same is in process. to obtain it.

(15) Requested to ~~poeduce~~ details of plot area alongwith FSI & Non FSI area certified by ~~Architectural~~ Built up Area details, Consent status, EC status, gardening area, disposal details of treated water, B.G. Details, alongwith consent compliance report to this office immediately.

Bhagwan
24/X/2016
(B. Maknikar)
Field Officer,
SRO II MPCB Pune

Rupalve
(Rajeev Palve)

NOTARIAL
SUNIL LAXMAN KHEDEKAR
PUNE DISTRICT
REGN NO 40081
EXP DT 31/12/2017
GOVERNMENT OF INDIA

MAHARASHTRA POLLUTION CONTROL BOARD
Sub-Regional office PUNE
2nd Floor, "Jog Center"
Wakadewadi, Mumbai-Pune
Road, Pune - 411003
Phone (020) - 25816451
Fax (020) - 25811029
Email - sropune2@mpcb.gov.in

VISIT REPORT

Name of Industry	M/s, serene Developers Sr. 010. 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunje Tal. Mulshi, Dist Pune.
Date of Visit	Date: 24.10.2016
Industry Representative	Mr. Rajeev Parve (Admin Head M/s Serene Developers 9561082619)
Consent Status	obtain Consent to establish and record of Consent to operate was not available at site.
Observations made during the visit:-	COU OR 5 years whichever is earlier

As per instructions of Bub Regional officer Pune II, visit was made for checking compliance's of cause Conditions and following observations were made:

1. This is a Residential Housing project in the name of Air castles' located on the above address at Marunje Tal. Mulshi Dist Pune.

2. The Project is on pot area of 49750.0 sq.m.

3. During the visit, it is observed that the project- proponent has constructed 13 Buildings namely A, B, C, D, E, F, G, H, I, J, K, L &M. These 13 Buildings consists of P+8 floors with 416 flats. During the visit, it was observed that all 13 Buildings are in operational phase (in Commissioned.)

4. The The representative of the project proponent reported that this project is handover to the Air castles cooperate Housing society ud, before about one and Half year.

5. Sewage Treatment plant of Capacity 450 CMD has provided which consists of screen chamber, Equalization Tank, Aeration I, Aeration II, flocculation Tank, settling tank, Pressure sand filter, Disinfection sludge drying Bed. During the visit, STP was found in operation. Jvs of the same is collected for Analysis. Flow meter has not provided to the STP.

6. The representative reported that the treated water is being used for gardening purposes but details of gardening area was not available.

7. OWC machine has provided for the Biodegradable solid waste composting. Suggested to produce the Capacity and daily operation record.

8. club House and swimming pool is provided and found in operation.

9. The source of water is through tankers from Marunje village. Daily requirement is of Avg. 28 Tankers of 10,000 lit capacity.

10. As per Consent to establish, total construction is of 1,06350.0 sq. meters but During the visit, Actual construction area details was not available.

11. 2 D.G. sets of Capacities 125 KVA & 160 KVA have provided with stacks and necessary acoustics.

12. The details regarding the Bank Guarantee was not available at site as per consent to establish as well as Consent to operate status was not available.

13. The Representative is unknown about consent (Establish) Conditions No. 9, 10, 11, & 12 along with commencement & B.Q.

14. The Representative of the project reported that till Environmental clearance has not received but same is in process. to obtain it.

15. Requested to produce details of plot area along with FSI & Non FSI area & Certified by Architectural Built up Area details consent status, EC status, gardening area, disposal details of treated water, B.G. Details, along with consent compliance report to this office immediately.

(Rajeev Patre) (B. Maknikar)

Field Officer, SROII MPCB Pune

T.C.

Contents

Contents 1
List of Tables 3
CHAPTER 1 INTRODUCTION 1
1.0 Preamble 1
1.1 History of the Project 1
1.2 Applicable Environmental Regulations and Standards: 2
1.3 Applicability of Violation Notification 2
1.4 Damage Assessment study 3
1.5 Objectives of the EIA study are: 3
1.5 Environmental Clearance Process 4
1.6 Terms of Reference 5
1.7 Validity of Environmental Clearance 17
1.8 Post Environmental Clearance Monitoring 17
1.9 Transferability of Environmental Clearance 17
1.10 Generic Structure of EIA Report 17
1.11 Identification of Project Proponent 18
1.12 Brief Description of the Project 18
1.13 Project History and Project Chronology 19
Chapter 2 PROJECT DESCRIPTION 20
2.0 General 21
2.1 Description of the Proposed Project 21
2.1.2 Site Selection 22
2.2 Identification of Hazard Prone Areas for the site 33
2.3 Site Photographs 35
2.4 Manpower Requirement 36
2.5 Project Implementation Schedule 36
2.5 Damage Assessment 37
Chapter 3 DESCRIPTION OF THE ENVIRONMENT 38
3.0 General 38
3.1 Land Environment 39
3.1.1 Landuse & Landcover 39
3.2 Water Environment 45
3.3 Air Environment 50
3.4 Noise Environment 53
3.5 Biological Environment 55
3.6 Socio-economic Environment 62

T.C.

Recommendations 66
Conclusion 67
3.7 Solid waste 67
3.8 Traffic 68
Chapter 4 Anticipated Impacts & Mitigation Measures 75
4.0 Introduction 75
4.1 Land Environment 78
4.2 Water Environment 79
4.3 Air Environment 82
4.4 Noise Environment 84
4.5 Biological Environment 86
4.6 Socio-Economic Environment 90
4.7 Solidwaste 93
4.8 Traffic 95
4.9 Environmental infrastructure and Mitigation strategies proposed. 97
Solid waste management 98
Organic Waste Converter 98
Chapter 5 Alternative Technologies 100
5.0 General 100
5.1 Building Materials 100
5.2 Energy Conservation 100
5.3 Transportation 103
Chapter 6 Environmental Monitoring Program 105
6.0 General 105
6.1 Description of Environmental Monitoring Program for the Project 105
Chapter 7 Additional Studies 108
7.0 Introduction 108
7.1 Risk Assessment & Disaster Management Plan (DMP) 108
7.2 Natural Resource Conservation Plan 116
7.3 Rehabilitation & Resettlement Plan 121
7.4 Air Modeling Studies 122
7.5 Carbon Footprint 128
7.6 **Gate Mass Balance 133**
7.7 Remediation Plan and Natural & Community Augmentation Plan 136
7.7.1 Community Resource Augmentation Plan 137
7.7.2 Remediation Cost bifurcations 139
Chapter 8 Project Benefits 141
Chapter 9 Environmental Management Plan 142

9.0 General 142
9.1 Organizational Structure for EMP Implementation 142
9.2 Organization & Supply of Basic Services to Proposed Project 144
9.3 Aspects, Impacts, Mitigation and Environmental Management 147
9.4 EMP Costs & Budgeting 159
Chapter 10 Summary & Conclusions 160
10.1 About the Project 160
10.11 Renewable energy 164
10.12 Road Network 164
Mitigation Measures 165
Impact due to road transportation 165
Mitigation Measures 167
Chapter 11 Disclosure of Consultant Engaged 169

List of Tables

Table 1.1 Terms of Reference Approved by SEAC 17
Table 1.2 Structure of EIA Report 18
Table 1.3 Details of Project Proponent 18
Table 1.4 Chronology of the project 20
Table 2.1 Important Features located within 2 km and 10km of the Proposed Project as indicated o Toposheet 25
Table 2.2 Important Features located within 2km & 10km of the Proposed Project as indicated on Google Earth Imagery 28
Table 2.3 Area statement 30
Table 2.4 Building Configuration 31
Table 2.5 Proposed Environmental Infrastructure in the Project 33
Table 2.6 lists the potential Disasters and their level of risk to the proposed project site 35
Table 2.7 Phase wise Building Construction for the Proposed Project 36
Table 3.1 List of Primary surveys and samples undertaken 39
Table 3.2 Study details from Satellite Image 39
Table 3.3 Character of Landcover in the 10km and 2 km radius around proposed project site 41
Table 3.4 Details of the Soil Sampling Locations 43
Table 3.5 Physical and Chemical Parameters of Soil Sample in Study Area 44
Table 3.6 Details of Water Sampling Locations 48
Table 3.7 Analysis of Groundwater in Study Area 49
Table 3.8 Analysis of Surface water in Study Area 49
Table 3.9 Details about the Air Sampling Locations 52
Table 3.10 Analysis of Ambient Air Quality in Study Area 53
Table 3.14 Shows the list of bird species observed at site 59

Table 3.15 shows the detailed list of butterflies observed in study area. 60
Table 3.16 shows the detailed list of mammals likely to be present in the study area. 61
Table 3.17 shows the detailed list of reptiles likely to be present in study area 61
Table 3.18 shows the detailed list of amphibian likely to be present in study area 62
Table 3.22 Adopted PCU factors 69
Table 3.23 PCU per hour for construction vehicles 70
Table 3.24 PCU per hour for vehicles - operation phase 71
Table 3.25 Summary of V/C ratio 73
Table 3.26 Anticipated Developments 74
Table 4.1 Anticipated Impacts for Land Environment 78
Table 4.2 Mitigation Measures for Impacts on Land Environment 79
Table 4.3 Anticipated Impacts on Water Environment 80
Table 4.4 Mitigation Measures for Impacts on Water Environment 82
Table 4.5 Anticipated Impacts on Air Environment 83
Table 4.6 Mitigation Measures for Impacts on Air Environment 84
Table 4.7 Anticipated Impacts on Noise Environment 85
Table 4.8 Mitigation Measures for Impacts on Noise Environment 86
Table 4.9 Anticipated Impacts on Biological Environment 88
Table 4.10 Mitigation Measures for Impacts on Biological Environment 89
Table 4.11 Anticipated Impacts on Socio-Economic Environment 92
Table 4.12 Mitigation Measures for Impacts on Socio-Economic Environment 93
Table 4.13 Anticipated Impacts due to SolidWaste Generation 94
Table 4.14 Mitigation Measures to ensure proper disposal of Solidwaste generated 95
Table 4.15 Anticipated Impacts due to Increase in Traffic 95
Table 4.16 Mitigation Measures for Impacts due to Increased Traffic 96
Table 4.17 Characteristics of Raw & Treated Sewage Quality Parameters 98
Table 7.6 Overview of two scenarios considered for air quality dispersion 122
Table 7.7 Categories of vehicle used in Air modelling study 124
Table 7.8 Summary of Vehicular Exhaust Emission Factors used in the study (g/km) 124
Table 7.9 Overview of two scenarios considered for air quality dispersion modelling 125
Table 7.10 Maximum predicted 24 hour PM10 concentrations at survey locations 125
Table 7.11 Maximum predicted 24 hour PM2.5 concentrations at survey locations 125
Table 7.12 Maximum predicted 8 hour CO concentrations at survey locations 126
Table 7.13 Maximum predicted 24 hour NO2 concentrations at survey locations 126
Table 7.14 Maximum predicted 24 hour SO2 concentrations at survey locations 127
Table 7.16 Estimation For construction material of total project 130
Table 7.16 Energy Consumption 131
Table 7.17 Quantification of environmental impacts for the impact categories (Baseline Case) 132

Table 7.18 Quantification of environmental impacts for the impact categories (Design Case) 133
Table 7.19 Gate Mass Balance 136
Table 7.20 Calculation of cost of remediation plan and natural & community resource augmentation plan 139
Table 7.21 Remediation cost bifurcations 140
Table 9.1 Activities, Aspects and Impacts During Construction Stage 149
Table 9.2 Activities, Aspects and Impacts During Operation Stage 150
Table 9.3 Impacts, Mitigation, Monitoring & Management Plan 158
Table 9.4 Estimated Cost of EMP Implementation during Construction Stage 159

List of Figures

Figure 1.1 Environmental Clearance Process 5
Figure 2.1 Proposed Project Site located on RP indicating the landuse allocation to the site 22
Figure 2.2 Connectivity from Pune city 23
Figure 2.3 Location of Proposed Project Site indicated on Toposheet of India (2 km radius) 23
Figure 2.4 Location of Proposed Project Site indicated on Toposheet of India (10 km radius) 24
Figure 2.5 Road connectivity to Project Site on Google Earth Imagery 25
Figure 2.6 Location of Proposed Project Site on Google Earth Imagery within 2 km radius of the project site 26
Figure 2.7 Location of Proposed Project Site on Google Earth Imagery within 10 km radius of the project site 26
Figure 2.8 Contour Map of the project site 28
Figure 2.9 Proposed Master Layout for the Project 29
Figure 2.9 Master Layout 29
Figure 2.10 Water balance chart during dry season 32
Figure 2.11 Water balance chart during wet season 32
Figure 2.12 Hazard prone areas Maps of India 34
Figure 2.13 Site Photographs 36
Figure 3.1 Classified image of the project area showing different land use classes (area 10 km radius from project area) 40
Figure 3.2 Classified image of the project area showing different land use classes (area 2 km radius from project area) 40
Figure 3.3 The percentage of landuse classes in 10 km and 2 km 41
Figure 3.4 Google image showing Soil Sampling Locations in the Study Area 42
Figure 3.5 Stream network within the 10 km from project site 46
Figure 3.6 Project Site with loation of dugwells 47
Figure 3.7 Water Sampling Locations in the Study Area 47
Figure 3.8 Wind rose Diagram for the Study Area 51
Figure 3.9 Air Sampling Locations in the Study Area 52
Figure 3.10 Noise Monitoring Locations in the Study Area 54
Figure 3.11 Location of villeges within the study area 63
70
Figure 3.12 Traffic Survey locations 70
Figure 4.1 Process flow chart of STP 97
Figure 4.2 Process flow diagram of OWC 99
Figure 5.1 Compliance to ECBC 102
Figure 5.2 Parking Layout 104
Figure 7.1 The Nala and the channelization on project site 117

Figure 7.2 Landscape Layout of the Proposed Project 120
Figure 7.3 Methodology adopted for air quality impact assessment 123
Figure 7.4 Stages and System Boundaries in LCA 129
Figure 7.5 Resource Flows for a Construction Project 135

CHAPTER 1 INTRODUCTION

1.0 Preamble

The proposed residential project "Air Castle" by M/s. Serene Developers is located at S.NO. Su. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi, Dist. - Pune

Marunji is a village in Mulshi taluka of Pune District in the state of Maharashtra, India. Marunji and its neighbourhood towns are a hotspot for upcoming and fully-developed projects. It is mainly known for the Rajiv Gandhi Infotech Park (which also extends to adjacent Maan and Hinjawadi). Hinjawadi Industries Association (HIA) was laid out to provide a joint forum to all stakeholders based out of Hinjawadi and took care of the surrounding area of Marunji. Talukas surrounding the village are Karjat taluka, Talegaon Dabhade Taluka, Mawal taluka and by Khalapur taluka. Districts closest to the village are Raigad district, Thane district, Mumbai City district and Mumbai Suburban district. Nearest railway stations around the village are Vadgaon railway station and Begdewadi railway station. Proposed Line 3 of Pune Metro will pass from Shivaji Chowk on Hinjewadi-Marunji Road.

This EIA study is conducted for a project under the category of 8 (b), Townships & Area Development Projects as listed under the Schedule of the EIA Notification, 2006. EIA is a technical exercise to establish the condition of the environment in the study area, predict impacts on the environment due to the proposed project, assess their significance and provide recommendations for their mitigation. This assessment covers the Construction and Operation phase of the proposed project. The study covers a wide range of technical disciplines such as air quality, water quality & hydrology, noise & vibration, ecology & biodiversity, waste & contamination, energy conservation, landscape and socio-economics.

1.1 History of the Project

Proposed residential project "Air Castle" by M/s Serene Developers located at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulshi Dist. Pune.
The detailed history of the project as follows:

- The Project Applied for EC in November 2010
- In 57th SEAC III meeting held on 31.03.2011, PP received compliance
- In 3rd SEAC III meeting held on 09.01.2014, 'Probable Violation' was declared by SEAC
- Case was filed against the PP by MPCB in February 2015
- After this, SEAC completed scrutiny of the project and RECOMMENDED it to SEIAA in November 2015
- SEIAA (in 97th Meeting), differed the project EC since the court case was pending
- We applied for the Violation Amnesty on 13th April 2018 as EC not granted by SEIAA
- Court Case was disposed-off in January 2019
- The case was discussed in 84th SEAC III meeting on 29th March 2019
- In 174th SEIAA meeting dated 28th August 2019, decided to refer back the proposal to SEAC due to further necessary action as per Notification dt. 14.03.2017 (amendment on 08.03.2018) and Office Memorandum dt. 16.03.2018 issued by MoEF &CC.

- The case was discussed in 100th SEAC III meeting dated 26.12.2019. ToR has been granted for the project for preparation of EIA report and Ecological damage assessment studies.

1.2 Applicable Environmental Regulations and Standards:

This Environmental Impact Assessment Report, hereinafter referred to as EIA Report addresses the environmental impacts of the proposed project and proposes the mitigation measures for the same. The purpose of this Environmental Impact Assessment (EIA) study is to provide information on the surroundings and the extent of environmental impacts likely to arise on account of the proposed construction and its functioning, and also to define an Environmental Management Plan (EMP) to minimize and mitigate the likely adverse environmental impacts.
As per the Environment Impact Assessment (EIA) Notification dated 14th September 2006 and amendments in 2009 & 2011, the study area for primary data generation (Environmental monitoring) is considered as area within 5 km radius of the site while for secondary data generation and studying the environmental sensitivity a radius of 10 km is considered.
With respect to prevention and control of environmental pollution, the following Acts and Rules of MOEF&CC, Government of India govern the proposed an expansion & modernization Project:
EIA Notification dated 14.09.2006 as amended

- Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988
- Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987
- Environment (Protection) Act, 1986 amended in 1991 and Environment (Protection) rules, 1986 and amendments thereafter
- The Noise Pollution (Regulation and Control) Rules, 2000 as amended
- Solid Waste Management Rules, 2016
- Construction and Demolition Waste Management Rules, 2016
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 E-waste Rules, 2016
- MoEF&CC gazette notification S.O No 804 (E) Dated 14.03.2017 and subsequent amendment S.O. 1030(E) dated 8th March 2018
- Corporate Environment Responsibility (CER) 2018

1.3 Applicability of Violation Notification

As discussed above in above point No. 1.1, The Project applied for EC in November 2010. In 3rd SEAC III meeting held on 09.01.2014, 'Probable Violation' was declared by SEAC.
The project will be appraised under MoEF violation Notification No. S.O. 804 (E) dated 14th March 2017 and subsequent amendments S.O. 1030(E) dated 8th March 2018. It will attract Environmental Impact Assessment studies, Environmental management plan and environmental damage assessment studies. The proposed project falls under 'Category B1' with project or activity type number '8(b)', which require preparation of EIA Report to get Environmental Clearance from the State Environmental Impact Assessment Authority (SEIAA). EIA studies have been conducted & EIA report is prepared recognizing the scope and requirement of ToR Approval by SEAC-III; Department of Environment & comply within the same.

1.4 Damage Assessment study

Damage Assessment is the process for determining the nature and extent of the loss, suffering, and/or harm to the community resulting from a natural, accidental or human-caused disaster.

Damage assessment provides situational awareness and critical information on:

- Type, scope and severity of the event
- Impact on individuals and communities
- Additional resource needs
- Justification for disaster declaration
- Emergency public information
- Future hazard mitigation projects

Structural loss is evaluated on 4 criteria:

- **Destroyed**: total loss, permanently uninhabitable
- **Major**: uninhabitable, extensive repairs required that will take more than 30 days to complete
- **Minor:** uninhabitable, repairs can be completed in less than 30 days
- **Affected:** no structural damage, habitable without repairs

1.5 Objectives of the EIA study are:

The main objectives of the EIA study are as follows:

- To describe the scope of the proposed project and associated works;
- To establish the baseline environmental status of the project site;
- To identify and quantify pollution sources and determine the significance of impact on receptors;
- To identify, predict and evaluate environmental and social impact expected during the construction of roads and proposed utilities and use phases in relation to the existing civic infrastructure and receptors, if any;
- To develop mitigation measures to minimize pollution, environmental disturbance and nuisance during construction and use;
- To design and specify Environment Management Plan (EMP) monitoring schedule for implementation and the effectiveness of the mitigation measures adopted.

The scope of work for EIA includes:

- Assess the present status of air, water, noise, land, biological and socio-economic, traffic components of the environment
- Identification and quantification of the impacts due to proposed project on environmental components (in the construction and operation stage)

- Preparation of Environmental Management Plan (EMP) outlining additional control technologies to be adopted for mitigation of adverse impacts if any.
- Delineation of post-project environmental quality monitoring to be pursued by the proponents.
- Water (Prevention and Control of Pollution) Act, 1974 as amended in 1978 and 1988:
- Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987:
- Environment (Protection) Act, 1986 amended in 1991 and Environment (Protection) rules, 1986 and amendments thereafter
- The Noise Pollution (Regulation and Control) Rules, 2000 and as amended in 22.11.2000
- EIA Notification dated 14.09.2006 as amended on December 2009 and April 2011
- MoEF violation Notification No. S.O. 804 (E) dated 14th March 2017 and subsequent amendments S.O. 1030(E) dated 8th March 2018

Methodology of the EIA study

Reconnaissance survey is carried out to understand the nature of the development, by conducting visual site inspection, to decide the sampling locations and programme. Sampling locations were identified based on the following criteria:

- Predominant wind direction in the study area
- Existing topography
- Location of existing activities
- Location of sensitive areas
- Accessibility, availability of power and security of monitoring instruments; and

Based on the above environmental monitoring and surveys, baseline environmental conditions are established. With inputs from relevant experts, impacts are identified and severity of impacts is estimated. Based on this mitigation measures are recommended and an environmental monitoring and management plan is prepared.

1.5 Environmental Clearance Process

Under the EIA Notification, 2006, procedures of environmental clearance are established so that the project proponent and the government can assess the environmental impacts of a proposed project prior to beginning construction. The project proponent is required to furnish details in Form I, Form IA and other supplementary project design details to the government's technical & legal scrutiny. The following process is typically followed under the established procedures. **Figure 1.1** showing a flowchart of the above process.

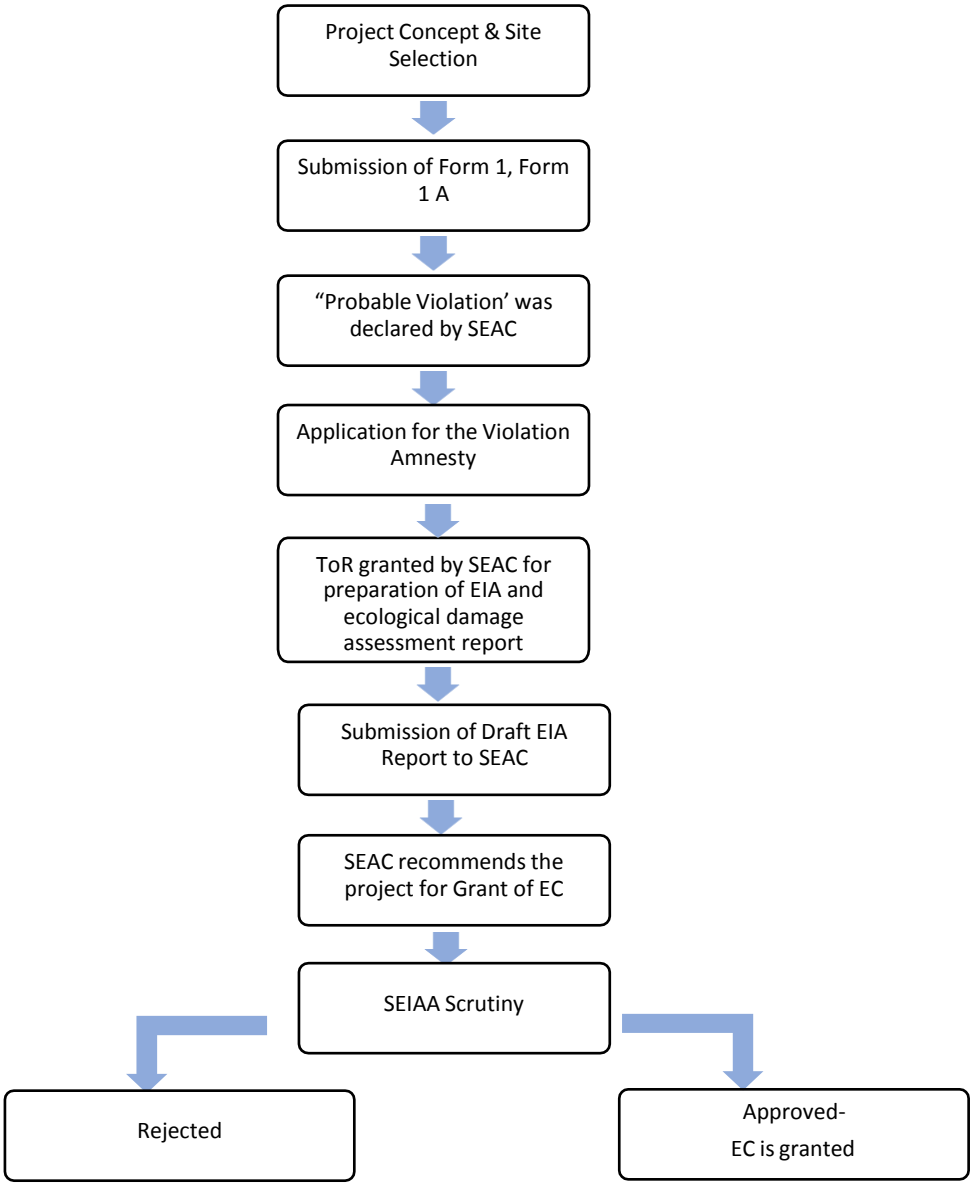


Figure 1.1 Environmental Clearance Process

1.6 Terms of Reference

Proposed residential project "Air Castle" by M/s Serene Developers located at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulshi Dist. Pune**.**

Table 1.1.

Sr. No	Terms of Reference	Summary of Compliance
1.	Project Description, its importance and benefits	• Proposed residential project "Air Castle" located at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulshi Dist. Pune by Serene Developers having total plot area of 49,750 m2. Total Built up area of the project is 81,496.28 m^2. • Application has been submitted for EC for

		plot area – 49,750 m^2, FSI area – 49,946.29 m^2 and Total proposed built up area is 81,496.28 m^2 At present, 37,699.06 m^2 has been completed on site • There are lot of food shops available in front of the proposed project. • During and after completion the shops get majority customers as the users from the project adding to their income. With this project lot of people will start their businesses in retail shops like restaurants, medical, stationery, foot ware, Watch, Cloths, Gifts shops etc.
2	Project site details (location, toposheet of the study area of 10 km, co-ordinated, google maps, layout maps, landuse geological features and geo-hydrological status of the study area, drainage). Hydrogeological survey report with graphs and data	• Project is located at village Marunji, Taluka – Mulshi, Pune. Located 15 km away and at N-W side of Pune city • The location of the project site is marked on the Toposheet of India in 10 km radius of the project site, reference No. 47 F/10, 47 F/14. o Latitude:$18^0$36'34.04"N o Longitude: $73^0$43'04.91" E • The project falls under residential land use as per RP of PMRDA. • Geologically, the area is composed of deccan basalt. • Wells and bore wells around the area were inventoried during survey. The well density in this area is low (about 2 to 3 wells pre 5 hectares). The shallow dug wells in the area are dug up to hard compact massive trap and are generally seasonal. • There are few small streamlets flowing through the plot from N-W to south and N-E to south direction to meet the main nala, which in tern flow in south direction to meet river Mula which is about 5.3 Km away from the plot. All the streams in and around the area ultimately discharge into main nala, which in tern meets river Mula

		• Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage). Hydro-geological survey report with graphs & data is included in **chapter 3**. Also attached Hydro- geological report as an **Annexure 1.**
3	Landuse as per the approved master plan of the area. Permission/Approvals required from the land-owning agencies, Development authorities, local body, Water supply and sewerage board etc.	This is a residential project which is in line with the regional plan of the PMRDA. IOD sanction from PMRDA is under process. We have received NOC from Irrigation Dept., Govt. of Maharashtra dated 13.02.2014 for water supply.
4	Land acquisition status, R & R details	Land is in possession with M/s Serene Developers, Pune. R & R policy does not require for the project.
5	Forest and wildlife and eco sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zone etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.	There are some forest patches comes in study area of 10 km radius are follow: 1. Reserve Forest near Man 2. Reserve forest Near Marunji 3. Reserve Forest near Bodakewadi 4. Reserve Forest near Kasarsai 5. Reserve Forest near Mamurdi There is no wildlife and eco sensitive zone, archaeological structures present in the project vicinity of 10 km. The topographic map, Google Earth of 10 km radius of the project site and details are incorporated in **Chapter 2.** **LULC Report attached as an Annexure 3**
6	High Tension Wires if any on the plot	No High-tension line is passing through the plot.
7	Plan showing HFL	• The river Pawana is flowing at the East of the project site at an approximately distance of 4.8 km • Mula river is flowing at South of the project site at an approximate distance of 5.10 km. Hence, High flood line is not applicable to the project
8	Permissions granted by State Government in tabular and chronological form, Comparative	Permissions granted by State Government are mentioned in **Chapter 2.**

	statement of components constructed as per earlier EC (if applicable) and proposed development.	
9	PP to submit detailed Master Plan indicating already completed construction and proposed construction. PP to submit the certificate from architect for completed work.	The project consists of 17 nos. of buildings; out of which 13 buildings are completed on site. And 4 buildings are not yet constructed. At present, 37,699.06 m^2 has been completed on site. Detailed Master Plan showing completed construction area and proposed construction and architect certificate is incorporated in **Chapter 2.**
B	**Base Line Data**	
10	Baseline environmental study for ambient air (PM10, PM2.5, SO2, NOx& CO),water (both surface and ground), noise and soil as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment	• Baseline environmental study for ambient air (PM_{10}, $PM_{2.5}$, SO_2, NOx & CO) for 5 locations, water (surface water -3 locations and ground water – 3 locations). • Noise and soil as per MoEF&CC/CPCB guidelines at 5 locations in the study area of 5 km has been collected and analysed by NABL & MOEF approved laboratory Green Enviro safe Engineers & Consultant Pvt. Ltd. Results are well within the prescribed standards of MoEF. • The monitoring was done in the month of March 2021 The prevailing wind direction is shown through following wind roses for monitoring period: Pre dominant wind direction is from north west. The detail study is included in **chapter 3.** **Monitoring reports attached as an Annexure 5**
11	Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees.	There are 913 nos. trees exist on the site. Out of which 128 trees to be cut & 785 trees will be retained. Tree survival report is done for the same. Detail on flora and fauna are discussed in Chapter 3. Also attached as **Annexure 2.**
12	Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora	**Ambient air -** The concentration of all monitored air pollutants was well within the permissible limit of National Ambient Air

	and fauna and socio-economic, etc.)	Quality Standards (NAAQS). **Surface water -** Marunji dam water and reservoir water body parameters are within the prescribed limits given in IS 10500 are for drinking water quality. The results show that the river water and nallah water contain the typical pollutants within prescribed limits including fecal coliform **Ground water -** Most of the groundwater sampling locations in the study area have wells, as most of the residents of these villages make use of this water for domestic and irrigation purposes. Whether the water is used for drinking is not confirmed. The physico -chemical quality of the ground water sources at and around the project site have been analysed, which indicate that all the parameters analysed are within "Maximum Acceptable Limits' As per drinking water standards given in IS: 10500-2012. Land (Soil) - From the above monitoring results, it is clear that the soil quality in the study area is Soil at the site is normal from Salinity and Sodicity view points, but in the surrounding areas soils are saline. The topsoil is suitable for conservation and reuse. ➢ **Flora** - 28 species of trees are present on the site out of which 17 are native and 11 exotic ➢ **Fauna** – - A total of 16 species of birds were observed during survey - 1 species of butterflies were observed during survey - No mammals, reptiles and amphibians were observed during other surveys Details are mentioned in **Chapter 3.** Refer **Annexure 2** for Ecological and biodiversity survey report **Socio-economic** – - Within the 10 km study area, approximately 17 number of village gaothans are identified. - Based on the findings, the project will

		provide positive impact on the economic development of the region in terms of employment opportunities. The detail study is included in **chapter 3 & Annexure 4**
13	Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.	Total water requirement during construction phase will be 24 KLD which will be recovered from private water tankers. During operational phase, total freshwater requirement for the scheme is 575 m^3/day. Water will be available from Mula River. Water supply NOC for the project is obtained from Irrigation Department. No water will be extracted from ground.
14	Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.	The site is well connected with public transport system. Marunji Bus Stop = 1 km Pimpari Railway station = 12.6 km Mumbai Pune Highway = 4.3 km Pune railway station = 21.3 km SE Pune Airport = 26.4 km East Details of socio-economic in **chapter 3**
15	PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.	• The contour plan showing Maximum elevation is 104 m at south – west side and minimum contour level is 97.5 m at East side. There is approximately 6.5 m elevation difference. Contour plan of the project site included in Chapter 2. The drainage is of radiating pattern, Runoff calculations before and after development has been done and same is incorporated in hydro-geological report. Details of contour map with slopes, drainage pattern, natural water courses on site; total runoff calculation before and after development are discussed in **Chapter 3** and **Annexure 1**
16	PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report	There are 913 nos. trees exist on the site. Out of which 128 trees to be cut & 785 trees will be retained. Tree survival report has been done for the same. Compensatory plantation of 1347 trees will be done as per tree act.
C	Traffic Impact Study in detail including	
17	Traffic Management Plan for the	• Traffic management plan for the

	development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.	development has been prepared. • Internal road width of 6m with has been proposed. • Project will have access from 12 m road towards Hinjewadi which is proposed to 36 m wide in future. Detailed Traffic Impact Studies included in **chapter 3**. Typical cross section & layouts are prepared for the project
18	Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken	Studies were carried out on Traffic Volume Counts as follows: **For Current Road:** Count Location 1 (Existing 12 m road) - 0.25 (B Category) Count Location 2 (Existing 30 m road) - 0.19 (A Category) Count Location 3 (Existing 9 m road) - 0.46 (C Category) **During Construction Phase:** Count Location 1 (Existing 12 m road) - 0.26 (B Category) Count Location 2 (Existing 30 m road) - 0.20 (A Category) Count Location 3 (Existing 9 m road) - 0.49 (C Category) **After Possession:** Count Location 1 (36 m road) - 0.13 (A Category) Count Location 2 (60 m road) - 0.24 (B Category) Count Location 3 (12 m road) - 0.32 (B Category) Details of Traffic Impact Studies included in **chapter 3** & **Annexure 6.**
19	Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions	Existing V/C Ratio: **For Current Road:** Count Location 1 (Existing 12 m road) - 0.25 (B Category) Count Location 2 (Existing 30 m road) - 0.19 (A Category) Count Location 3 (Existing 9 m road) - 0.46 (C Category)
20	Traffic generation values of similar development to be given by actual count as support data for assumption made to the particular project	Studies were carried out on Traffic Volume Counts as follows: **For Current Road:** Count Location 1 (Existing 12 m road) - 0.25 (B Category)

		Count Location 2 (Existing 30 m road) - 0.19 (A Category) Count Location 3 (Existing 9 m road) - 0.46 (C Category) **During Construction Phase:** Count Location 1 (Existing 12 m road) - 0.26 (B Category) Count Location 2 (Existing 30 m road) - 0.20 (A Category) Count Location 3 (Existing 9 m road) - 0.49 (C Category) **After Possession:** Count Location 1 (36 m road) - 0.13 (A Category) Count Location 2 (60 m road) - 0.24 (B Category) Count Location 3 (12 m road) - 0.32 (B Category)
21	Parking statement mentioning parking as per DCR & parking provided actually	No. of 4 wheeler Required as per DCR 268 Nos. Provided 268 Nos. No. of two-wheeler Required as per DCR 976 Nos. Provided 976 Nos. Parking statement is incorporated in **chapter 5.**
22	Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.	No basement is proposed for the project. Fire Tender Movement plan showing clear road of 6 m with 9 m turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc. are shown in architectural layout.
D	**Environmental Impact and Management Plan**	
23	Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution	The major source of air pollution is increased level of dust and other air pollutants due to infrastructure development, building construction, Emissions from vehicles carrying building material, Emissions from DG sets and Fugitive dust emissions due to construction activity. The major source of noise pollution

		included operation of DG sets, Fabrication of steel structural, Handling of equipment and materials, operation of power shovels. Mitigation measures to reduce air pollution are water sprinkling on site for dust suppression; Use of CPCB approved DG sets. To reduce the air and noise pollution due to construction vehicle movements, the project area must be encircled with a vegetation belt. The details are discussed in **chapter 4**.
24	Debris management plan including (a) debris required for refilling, (b) contour plan, (c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.	For existing buildings 19,079.34 cum debris generated and 23,105.11 cum has been required for filling & levelling. 4025.77 Cum has been procured from outside. For proposed buildings, 8261.86 cum debris will be generated. 10,586 cum will be required for site levelling and back filling. 2324.14 Cum will be procured from outside. The detailed debris management plan is discussed in Environmental Management Plan. Refer EMP **Annexure No 7.**
25	Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.	No demolition waste will be generated. 1107 kg/day Organic waste will be generated same will be treated in Organic Waste Composter on site. Dry waste of quantity 738 kg/day and E-Waste 5 kg/day will be generated and will be handed over to Swach agency for disposal. The solid waste management plan along with marked locations of OWC, design details of waste processing equipment (OWC), E waste and inorganic waste are discussed in **chapter 2** & solid waste management details attached in **Annexure 8.**
26	Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of	Total waste water generated from the project will be 448.33 KLD. STP of capacity 450 KLD been proposed for the treatment of waste water. Treated water will be reused for landscaping and flushing in the

	the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions.	project premises. Excess treated will be disposed-off in gram panchayat drains. Detailed design basis report STP report is attached as **Annexure 8.**
27	PP to show internal storm water drain and sewer line arrangements up to final disposal point	Storm water drain and sewage water drain upto final disposal point has been prepared and layouts of the same are incorporated in chapter 7
28	Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed	RG area 4,844.15 sqm has been provided on virgin land Drawings and calculation are included in **chapter 2**
29	A detailed phase wise development plan with safety planning where occupancy has been given	The project will be executed in 2 Phases. Out of 17 buildings, 13 buildings aready constructed on site and 4 buildings are yet to construct. The detailed phase wise development plan is included in **Chapter 2**
30	If any site specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc, is involved, detailed environmental protection approach for the same shall be provided.	Nala is passing though the plot. No alteration of nala will be done. Based on the permissions received from the local authority, the natural water course or nala has been channelled to maintain its natural water flows and prevent flooding of adjoining areas Pawana River flowing 4.7 km away from the project site. Mula River flowing 4.5 km away from the site.
31	Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels & calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance	Calculations for renewable energy have been done. Total terrace area available in the project = 7,179.27 sqm Total area under RE-937.00 sq.m. (87.01% of terrace area utilized) Total No. of Solar PV – 260 Total No. of Solar Hot water - 139 Total energy saving due to renewable

		energy = 10.73% The renewable energy, energy saving, energy efficient measures and ECBC compliance are discussed in **Chapter 7 & Annexure 9**
32	Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels	Total No. of Solar PV – 260 Total No. of Solar Hot water – 139 Shadow analysis has been done. Total terrace area available in the project = 7,179.27 sqm Total usable terrace area for solar panels = 1,076.89 sqm Actual area proposed to be utilized for generating solar energy = 937.00 sq.m. Solar PV and solar hot water system has been proposed for the project. We have carried out shadow analysis for the site which is included in **Chapter 5**.
33	Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.	Environmental Status Report attached as an Annexure 9
34	PP to submit Disaster management plan	PP has proposed appropriate internal roads and turning radius for movement of fire tender and fire hydrant system has been proposed in case of fire accident. Disaster Management Plan w.r.t various disasters such as flood, cyclone, earthquake considering their risks has been included in chapter 7 attached as **Annexure 14**
35	Preparation of site specific, executable and auditable environment management plan (EMP)	Site specific executable and auditable EMP has been prepared w.r.t environmental aspects like air, water, land etc. and same is included in chapter 9 & attached as **Annexure 7.**
E	**Environmental Modelling and additional Studies**	
36	Fugitive dust modelling by using local meteorological data.	Fugitive dust modelling included in Traffic Impact Studies in **chapter 4** and **Annexure 10**
37	Ecological footprint calculation using LCA approach.	ERA5 meteorological data extracted over modeling domain for the study period i.e. 1st March to 31st March, 2021 is used as input for AERMOD dispersion modeling. Fugitive dust modelling by using local

		meteorological data has been done and attached as **Annexure 10.**
38	Estimation of Carbon footprint of the project	Carbon footprint estimations in EIA report has been included in **Chapter 7 and attached as annexure 11.**
39	Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.	A separate report of Ecological damage assessment report has been Prepared and same is attached as an Annexure 2
40	Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site	Gate mass balance report for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site has been prepared and attached as **Annexure 12**
41	Preparation of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.	Remediation plan and natural and community resource augmentation plan is prepared Attached as an annexure 13
F	**NOCs, Undertakings and CER**	
42	NOC's required: a) CFO NOC, b) Water supply NOC with quantity, c) Drainage NOC, d) Non-biodegradable waste disposal.	The project comes under jurisdiction of PMRDA. We have applied for CFO, drainage NOC. Water NOC has been obtained from Irrigation department. Non-biodegradable waste will be handed over to SWACH, NOC for the same is in process. We will submit it during appraisal of SEAC meeting.
43	Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.	Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc. is in process. We will submit it during appraisal of SEAC meeting
44	PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular	CER report is in process.

	dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.	
45	PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal : "ecmpcb.in".	Environmental damage assessment has been done. Total damage assessment cost is estimated to be Rs**.** 2.1562 Crs and report of the same is attached as an **Annexure 13**

Table 1.1 Terms of Reference Approved by SEAC

1.7 Validity of Environmental Clearance

The prior Environmental Clearance (EC) granted for the project as per the EIA Notification, 2006 for a period of seven years as per Circular of MoEF& CC vide no. S.O.1141 (E) dated 29.04.2015.

1.8 Post Environmental Clearance Monitoring

The following steps are to be followed by the Project Proponent for Post Environmental Clearance Monitoring, once the project has been granted Environmental Clearance.

- Advertise in newspapers that the Project has received Environmental Clearance, giving details of MoEFCC website where details can be accessed
- Submit six monthly compliance reports showing compliance with the terms and conditions of the granted Environmental Clearance

1.9 Transferability of Environmental Clearance

A prior Environmental Clearance granted for the project can be transferred to another legal entity, provided that the EC is valid and No-Objection is given by the transferor; and there is no change in the original design and detailing of the proposed project, thereby complying with all the terms and conditions of the granted EC.

1.10 Generic Structure of EIA Report

The generic structure of the EIA report is as shown in below given **Table 1.2.**

Chapter 1	**Introduction**
Chapter 2	Project Description
Chapter 3	Description of the Environment
Chapter 4	Anticipated Environmental Impacts & Mitigation Measures
Chapter 5	Alternative Technologies
Chapter 6	Environmental Monitoring Program
Chapter 7	Additional Studies
Chapter 8	Renewable Energy
Chapter 9	Project Benefits

Chapter 10	Environmental Management Plan
Chapter 11	Summary & Conclusions
Chapter 12	Disclosure of Consultants Engaged

Table 1.2 Structure of EIA Report

1.11 Identification of Project Proponent

M/s. Serene Developers, having its registered offices at S. no. 37 Opp. Dilip Vengsarkar Cricket Academy, Thergaon, Pune and will be represented by Mr. Jeetu Panjabi, Owner of the Company for the purposes of all legal compliances for the project. The following Table 1.3 indicating the details of the Project Proponent.

Name of the Project	M/s. Serene Developers
Name, contact number & address of the Project Proponent	**Mr. Jeetu Panjabi** Address: S no 37 Opp. Dilip Vengsarkar Cricket Academy, Thergaon Pune. Contact Number: 020- 3232 0000/ 020 3232 3222 Email: jeetuspanjabi@gmail.com
Project co-ordinates	Latitude and Longitude of the project site 18°36'33.14"N, 73°43'04.31"E 18°36'35.41"N, 73°43'01.70"E 18°36'38.18"N, 73°43'09.01"E 18°36'32.22"N, 73°43'07.52"E
Total Plot Area	49,750.00 m^2
Proposed built up area (FSI and Non FSI)	TBUA: 81,496.28 m^2 (FSI = 49,946.29 m^2 + Non FSI = 31,549.99 m^2)
Litigation pending against project	In 3rd SEAC III meeting held on 09.01.2014, 'Probable Violation' was declared by SEAC Case was filed against the PP by MPCB in February 2015 After this, SEAC completed scrutiny of the project and RECOMMENDED it to SEIAA in November 2015 SEIAA (in 97th Meeting), differed the project EC since the court case was pending Application has been made for the Violation Amnesty on 13th April 2018 as EC not granted by SEIAA Court Case was disposed-off in January 2019
Project Cost	Rs. 95 Cr.

Table 1.3 Details of Project Proponent

1.12 Brief Description of the Project

Proposed Residential project "Air Castle" by M/s. Serene Developers located at Marunji, Tal Mulshi Dist. Pune

Plot area of the project is 49,750.00 m^2. The total built up area is 81,496.28 m^2. The completed construction at site is 37,600.06 m^2. Out of which 26,344.16 m^2 is FSI area and 11354.90 m^2 is Non FSI area.

The Project Applied for EC in November 2010. In 3rd SEAC III meeting held on 09.01.2014, 'Probable Violation' was declared by SEAC. Case was filed against the PP by MPCB in February 2015. After this, SEAC completed scrutiny of the project and RECOMMENDED it to SEIAA in November 2015. SEIAA (in 97th Meeting), differed the project EC since the court case was pending. We applied for the Violation Amnesty in 2017. Court Case was disposed-off in January 2019. The case was considered in 100th SEAC III meeting held dated 26th December 2019, in which SEAC committee directed to prepare EIA report as per the MoEF&CC Notification dated 14/03/2017 and 8/03/2018.

The application for Environmental Clearance for proposed residential project is submitted to MoEF&CC through ECMPCB portal having proposal no. SEIAA-STATEMENT-0000001279 dated 13.04.2018. The project was considered in 84th SEAC III meeting dated 29th March 2019 for plot area 49,750 m^2, FSI area 49,946.29 m^2 and proposed construction area 81,496.28 m2

The Project Site falls within the jurisdiction of Pune Metropolitan Region Development Authority (PMRDA), approachable by 12 m wide road at north side which will be proposed to 36 m wide. The site is approximately 21 km from Pune railway station and 26 km away from Pune International Airport.

The area is composed of Alternating layers of Compact and Amygdaloidal Basaltic Lava flow Units.

On this site only amygdaloidal basalt flow unit is exposed on surface, lower contact of this flow unit an be observed on the road that goes to Hinjewadi

General slop direction is towards south and slop is moderate to gentle. It falls in the catchments area of small nala emerging in nearby hills. This seasonal nala is flowing through the centre of the plot in south direction. There are few small streamlets flowing through the plot from N-W to south and N-E to south direction to meet the main nala, which in tern flow in south direction to meet river Mula which is about 2 to 3 Km away from the plot.). The drainage is of radiating pattern.

1.13 Project History and Project Chronology

Detailed chronology of the project is mentioned in below given Table 1.4

Sr. No.	Events	Dates
1	The Project Applied for EC	November 2010
2	The case was discussed in In 57th SEAC III meeting. PP received Compliance	31.03.2011
3	Compliance case was scheduled in 3rd SEAC III meeting, 'Probable Violation' was declared by SEAC	09.01.2014
4	Case was filed against the PP by MPCB	February 2015
5	SEAC completed scrutiny of the project and recommended it to SEIAA	November 2015
6	SEIAA (in 97th Meeting), differed the project EC since the court case was pending	
7	Application has been made for the Violation Amnesty as EC not granted by SEIAA	13th April 2018
8	Court Case was disposed-off	January 2019
9	The case was discussed in 84th SEAC III meeting	29th March 2019
10	In 174th SEIAA meeting, decided to refer back the proposal to SEAC due to further necessary action as per Notification dt. 14.03.2017 (amendment on 08.03.2018) and Office Memorandum dt.	28th August 2019

Sr. No.	Events	Dates
	16.03.2018 issued by MoEF &CC.	
11	The case was discussed in 100th SEAC III meeting, ToR has been granted for the project for preparation of EIA report and Ecological damage assessment studies.	26.12.2019

Table 1.4 Chronology of the project

Chapter 2 PROJECT DESCRIPTION

2.0 General

The following Chapter gives a detailed description of the Proposed Project, its location, site features, project's various features, and types of buildings, scale of construction and timelines of project construction.

This residential project is located in S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, District Pune in the State of Maharashtra, India. Total plot area of the project is 49,750 m².

The Project Site falls within the jurisdiction of Pune Metropolitan Region Development Authority (PMRDA) 21 km away from Pune railway Station, and 26 km from Pune International Airport. Project is accessible from 12 m wide Hinjewadi-Kasarsai. Generally, the project site is well serviced through an existing road network. The river Pawana is flowing at the East of the project site at an approximately distance of 4.8 km and Mula river is flowing at South of the project site at an approximate distance of 5.10 km

The area is part of Deccan Plateau. The area is situated at Marunji village of Pune District in the survey of India Toposheet no. 47 F/10, 47 F/14.

The area is easily approachable by tar road. The plot is situated on hill slop and is a part of small hillock. General slop direction is towards south and slop is moderate to gentle. It falls in the catchments area of small nala emerging in nearby hills. This seasonal nala is flowing through the centre of the plot in south direction.

The proposed project site is basically located on a residential landuse, in a serene and pollution free openness and is earmarked for residential project in the PMRDA plan

The proposed project is residential development including residential flats having following facilities:

1. Solid waste facility – Organic waste converter
2. Sewage treatment plant
3. Power back-up such as DG sets, transformers
4. Road network
5. Garden area
6. Swimming Pool and club house

2.1 Description of the Proposed Project

2.1.1 Location of the Proposed Project

The proposed project "Air Castle" is located at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, District Pune in the State of Maharashtra, India.

Latitude and Longitude of the project site

18°36'33.14"N, 73°43'04.31"E

18°36'35.41"N, 73°43'01.70"E

18°36'38.18"N, 73°43'09.01"E

18°36'32.22"N, 73°43'07.52"E

2.1.2 Site Selection

The proposed project is located in Marunji, Taluka – Mulshi, District of Pune. The Project Site falls within the jurisdiction of PMRDA and is zoned for residential landuse as per the regional Plan (RP) of the government. Figure 2.1 shows site marked on Regional Plan.

The proposed project site is well networked with available road infrastructure and public transport linkage.

The main purpose and benefits of the project are:

1. To create good standards of living and working environment by providing necessary amenities and utilities.
2. To meet the growing demands for comfortable and updated Residential and commercial area in an environmentally sustainable manner.
3. The project will uplift the socio-economic status of the area by providing necessary infrastructure.
4. Uneven, un-approached land parcels will be converted into propose developable and approachable lands.
5. The project will generate employment to skilled and unskilled population in the surrounding area.
6. Approach roads are proposed, width of which is minimum 6 m.

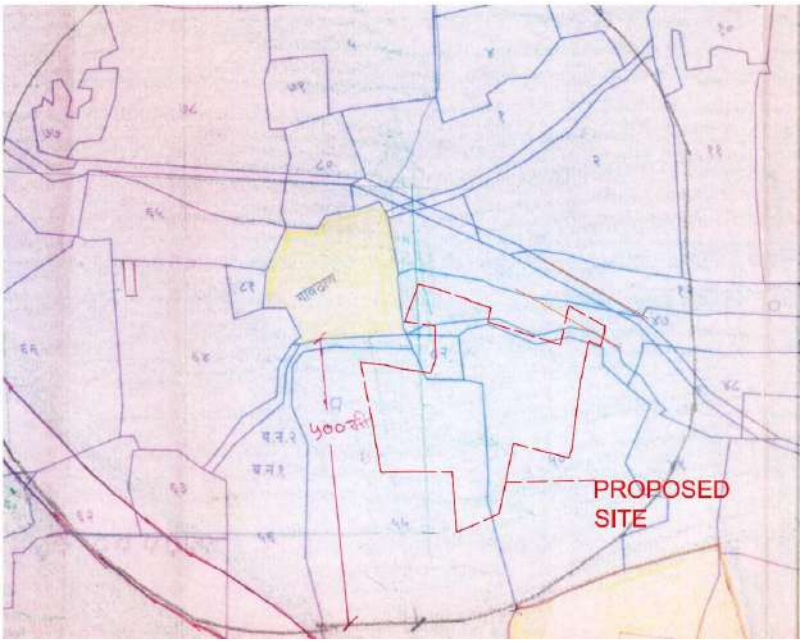


Figure 2.1 Proposed Project Site located on RP indicating the landuse allocation to the site

Other social infrastructure such as schools, colleges, markets and primary health care facilities are available in proximity.

Considering the above, the Project proponent has selected the said project site to develop area to service todays and future growth into this.

Below given figure 2.2 shows the connectivity to the project site from Pune city.

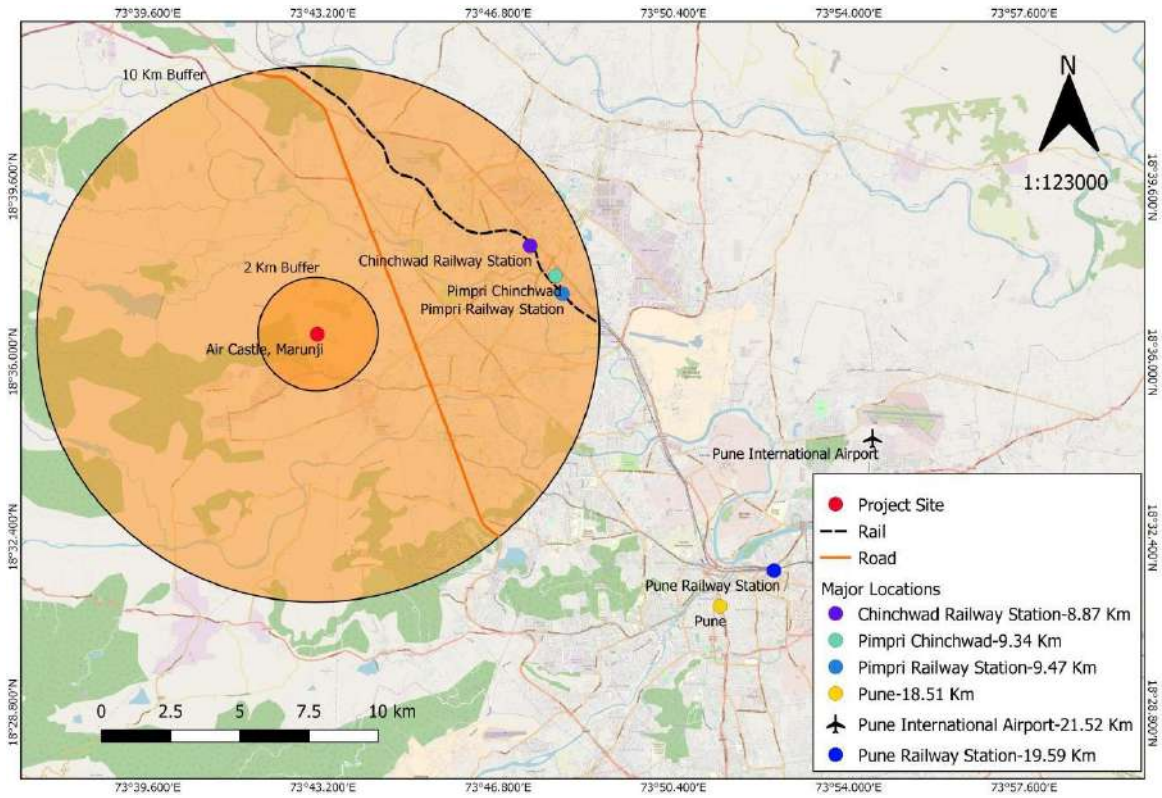
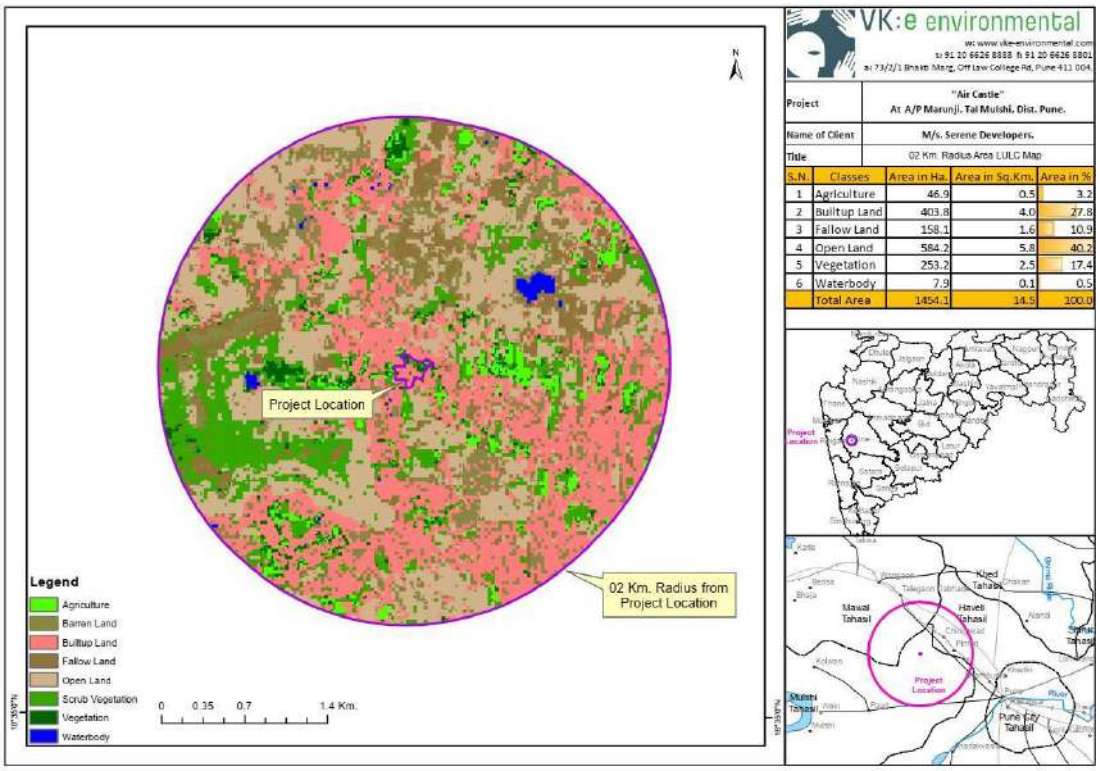


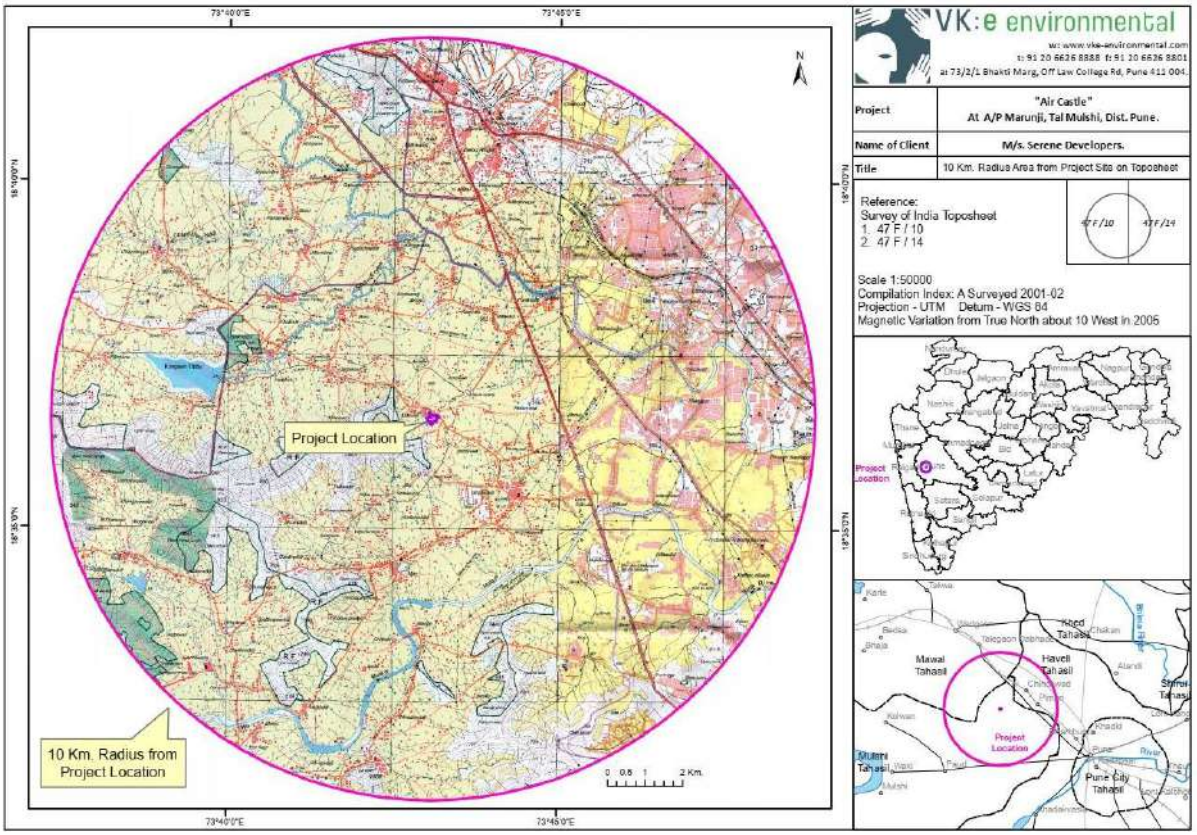
Figure 2.2 Connectivity from Pune city

The following Figure 2.3 and 2.4 shows the location of the proposed project site on the Toposheet of India. Toposheet no. is 47 F/10 and 47 F/14 within 2 km radius and 10 km from Project site respectively.



S.N.	Classes	Area in Ha.	Area in Sq.Km.	Area in %
1	Agriculture	46.9	0.5	3.2
2	Builtup Land	403.8	4.0	27.8
3	Fallow Land	158.1	1.6	10.9
4	Open Land	584.2	5.8	40.2
5	Vegetation	253.2	2.5	17.4
6	Waterbody	7.9	0.1	0.5
	Total Area	1454.1	14.5	100.0

Figure 2.3 Location of Proposed Project Site indicated on Toposheet of India (2 km radius)



Source: Survey of India, Toposheet No. 47 F/10 & 47 F/14

Figure 2.4 Location of Proposed Project Site indicated on Toposheet of India (10 km radius)

The following important features are present within 10 km radius of the project site as indicated on Toposheet.

Sr. no	Important Features within 10 km of proposed project	Approx. Distance in km
A	**Geographical Features**	
1	Latitude	$18^0$36’34.04” N
2	Longitude	$73^0$43’04.91”E
3	Elevation above MSL	616 m AMSL
4	Climatic Conditions	Maximum Temperature: 38.0 °C Minimum Temperature: 15.0 °C Mean Annual Rainfall: 350-375 mm
5	Present land use at the proposed site	The proposed project land is barren, and will be developed as construction project. The construction has already been initiated.
6	Seismic Zone	Zone III
C.	**Social Aspect**	
1	Water Body	Kusgaon Dam – 5.8 km towards West direction Mula River – 4.8 km towards South Pawana River – 5.10 km towards East direction Punawale Kate Wasti Forest Water Body – 1.0 km Marunji Dam – 1.5 km
2	Hills/Valleys	The plot situated on hill slop and is a part of small

		hillock
3	Ecologically sensitive zones	Nil
4	Reserved Forest	Patches of reserved forests present within 10 km area Reserve Forest near Man Reserve forest Near Marunji Reserve Forest near Bodakewadi Reserve Forest near Kasarsai Reserve Forest near Mamurdi
5	Historical/ Archaeological places	Sardar Borje Fort – 8.6 km
6	Defense and other Establishments	Nil

Table 2.1 Important Features located within 2 km and 10km of the Proposed Project as indicated o Toposheet

The location of the site is also indicated on the Google Earth imagery, with a 10 km radius indicating the study area. The Google Earth image shows the road network in the immediate vicinity of the project site and in 10 km radius. Adjacent Marunji Road of 12 m width gives access to the project site; generally, the project site is well serviced through an existing road network and it is indicated in below given figure 2.5. Figure 2.6 and 2.7 showing location of the project within 2 km and 10 km periphery respectively



Figure 2.5 Road connectivity to Project Site on Google Earth Imagery

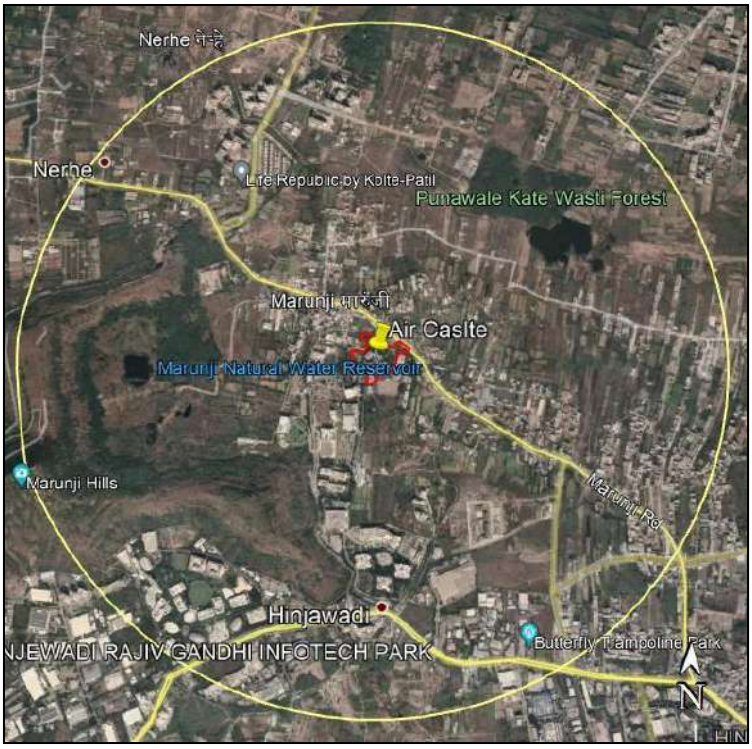


Figure 2.6 Location of Proposed Project Site on Google Earth Imagery within 2 km radius of the project site

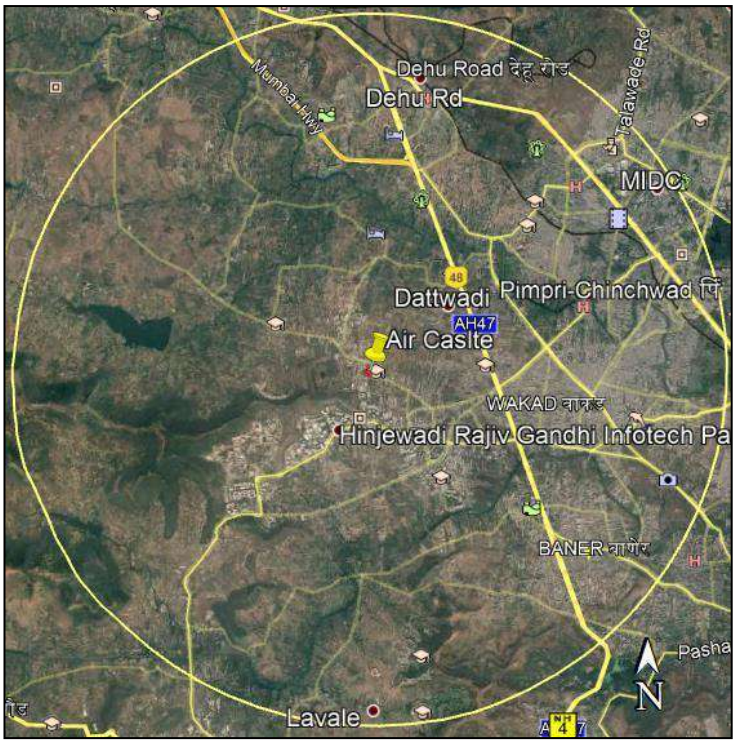


Figure 2.7 Location of Proposed Project Site on Google Earth Imagery within 10 km radius of the project site

The Google Earth imagery also shows certain prominent features in the immediate vicinity of the project site and within the 2 km and 10 km radius. **Table 2.2** shows some prominent features in the immediate vicinity and in the study area of the project site.

Sr. No	Important Features within 2 km and 10 km of Project site	Approx. distance in km
1	Highway	Pune – Mumbai Bypass Road – 3.37 km
2	Nearest Road	12 m Hinjewadi –Kasarsai road – Adjacent to the plot
3	Water Body	Kusgaon Dam – 5.8 km (West direction) Mula River – 4.8 km towards South Pawana River – 5.10 km (East direction) Punawale Kate Wasti Forest Water Body – 1.0 km Marunji Dam – 1.5 km
4	Transportation	Hotel Mahima Bus stop – 0.2 km
5	**Social Aspects**	
Sr. No.	**Hospitals**	
1	Aayushri Hospital	0.60
2	Gurukrupa Hospital	2.30
3	City care Hospital	3.60
4	Balaji Multi speciality Hospital	1.1
5	Shree Hospital	3.45
6	Marunji Hospital	0.80
7	Life Care Multi speciality Hospital	1.0
8	Ruby Hall Clinic	6.0
Sr.	**Pre / Primary Schools**	
1	Lotus Pre School	0.80
2	Kidzz Life Republic	0.75
3	PJK Pre School	1.0
4	Podar Jumbo kids	8.33
5	Star buds day care	9.0
6	Z P School, Marunji	1.2
7	Blue ridge public schoo	3.85
8	Apple Public School	0.5
9	Akshara International School	2.81
10	Mecedes-Benz International Schoo	3.60
Sr.	**Educational Facilities-Colleges**	
1	Alard High School and Jr. College	Adjacent to site
2	Alard College of Pharmacy	Adjacent to site
3	Alard College of Engineering	Adjacent to site
4	WS School of Businesses	1.5
	S.K English Medium School And R.S Junior College	1.0
6	Crimson Anisha Global School	2.5
7	Dr. D.Y. Patil College of Engineering	6.5
8	Pimpri Chinchwad College of Engineering	6.5
Sr. No.	**Shops & Markets**	
1	Radhika Super Market	1.2
2	Bombay Fish Market	1.0
3	Saturday Market	7.0

4	Kunal Super Market	3.4
Sr. no.	**Police Station/Fire Station**	
1	Hinjewadi Police Station	3.5
2	Marunji Fire Station	3.0
Sr. no.	**Companies / Industries**	
1	Deven Infotech PVT Ltd	1.2
2	Embassy Techzone	5.6
3	HCL	2.0

Table 2.2 Important Features located within 2km & 10km of the Proposed Project as indicated on Google Earth Imagery

The Google Earth Imagery shows that the project site is located in a semi-urban setting, with marginal access to social infrastructure such as schools, primary health care and markets. Bus and other public transport routes are well developed in the area in the immediate vicinity of the project. The Google Earth Imagery also indicates the presence of Villages such as Marunji, Hinjewadi within the 10 km radius of the project site. The study area does not show the presence of any protected areas / critically polluted areas which are environmentally sensitive sites.

Topography

The area has an undulating topography. The said plot situated on slight high ground which is sloping towards south West. It falls in the catchments area of a small seasonal Nallah emerging in nearby hills. This seasonal Nallah is cutting through the plot and flowing in the South Easterly direction. Maximum elevation is 104 m at south – west side and minimum contour level is 97.5 m at East side. There is approximately 6.5 m elevation difference. Figure 2.8 indicating Contour plan of the project site.

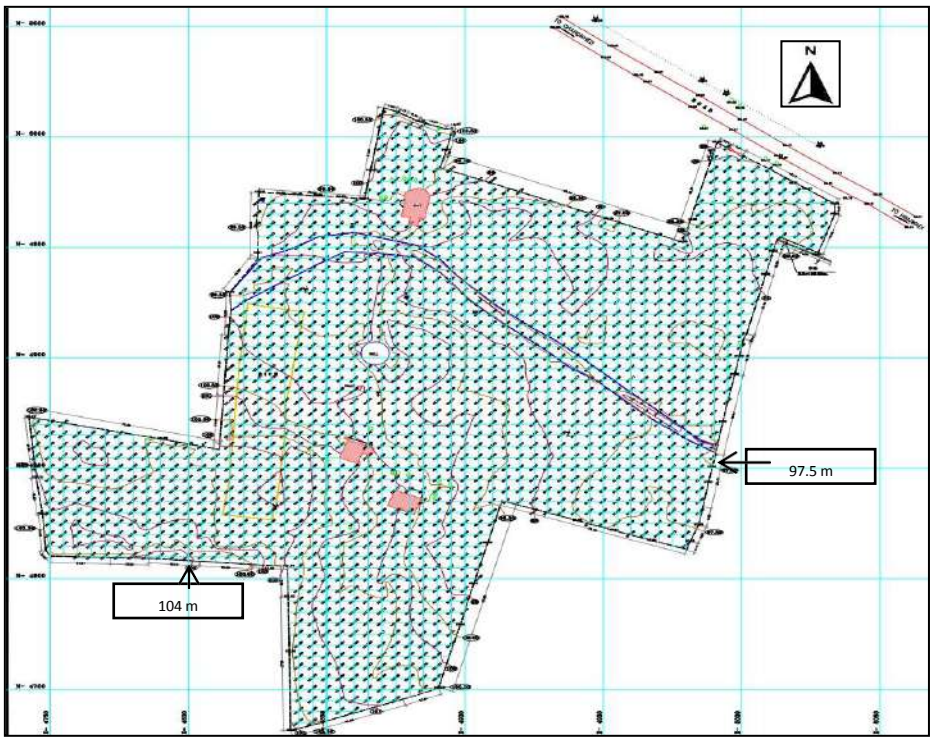


Figure 2.8 Contour Map of the project site

2.1.3 Proposed Master Layout

The proposed project is Residential building construction development. The total project site area is 49,750 m^2. Master layout incorporates total 17 nos. of residential buildings. The project will have

738 nos. of tenements. It is estimated to have 3690 residential population. Figure 2.9 shows Master layout of the project.

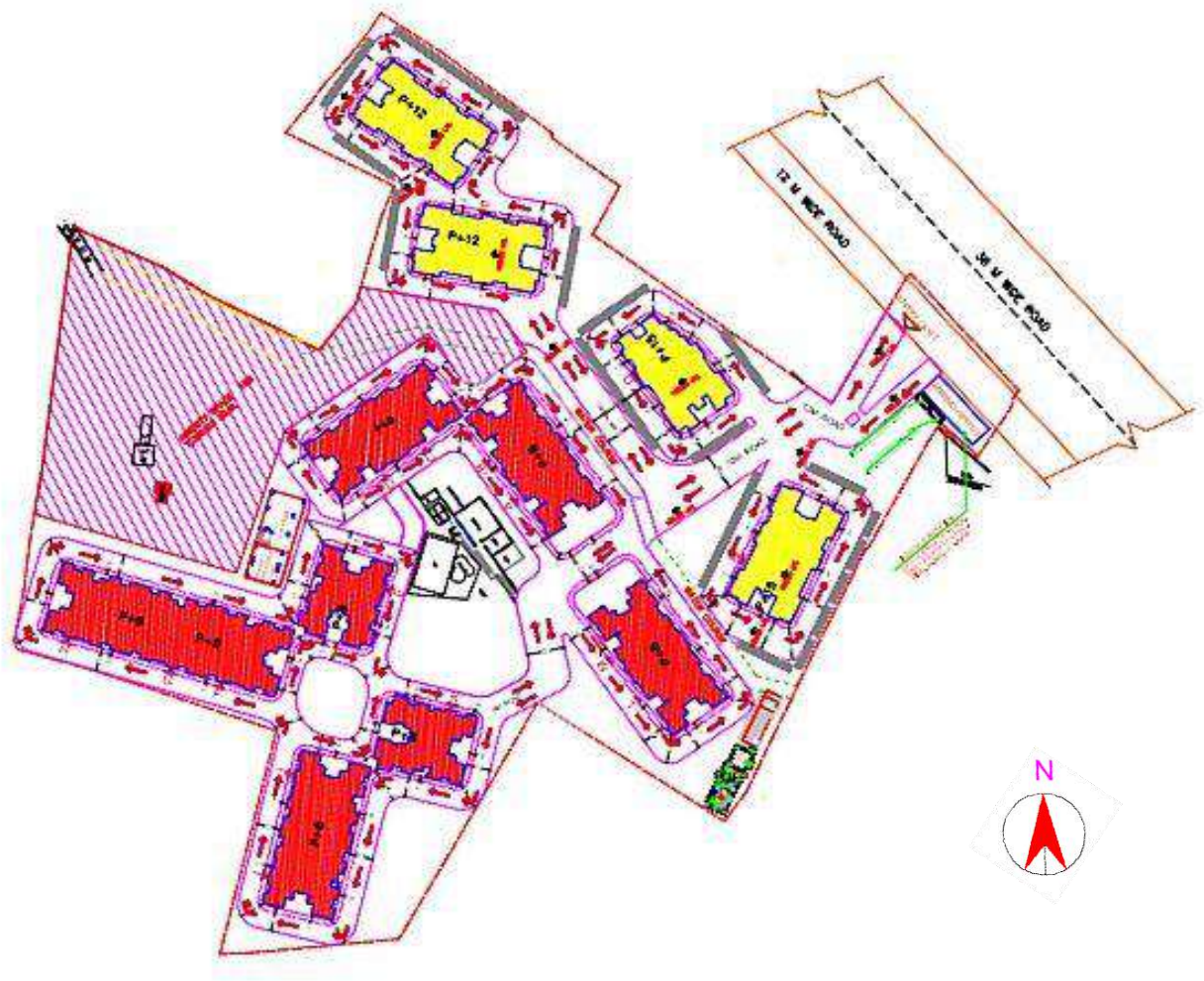


Figure 2.9 Master Layout

Landscape:

The landscape layout indicates that the proposed project will plant 1188 Nos. of trees including existing trees on the entire site, thereby achieving a tree density of 1 tree/41 sq m of site area. The total Green area for the project site is 11,147.14 m^2.

There are 913 no. of trees present on the site; out of which 785 trees will be retained, 128 no. of trees will be cut down. Compensatory plantation of 1347 trees against cut trees will be done as per tree act. Tree survival report for existing trees attached as an **Annexure 6.**

The proposed master layout has a very well laid out vehicular circulation, segregated from pedestrian circulation. Footpaths are proposed along all major internal roads.

Project Cost

The cost of proposed project is **Rs.95 Crore.**

Project Components

The project has total Plot Area of 49,750 m² & Total BUP area 81,496.28 m² (FSI area: 49,946.29 m² & Non FSI area: 31,549.99 m²).

The project will have 17 Nos. of residential buildings including club house. Project involves development of Residential flats: 738 Nos.

Total population of the project will be 3690 Nos.

Parking includes 268 No. of cars, 976 no. of two- wheeler.

Table 2.3 indicates area statement of the project.

Sr. No	Particular	Area in Sqm	Remarks
1	**Plot Area**	**49,750.00**	
2	Deduction		
a	Area Under 36 m Road Widening	189.04	
b	Area Under 12 m service Road Widening	492.45	
3	**Balance Plot Area(1- 2)**	**49,068.51**	
4a	Open Space	4,906.85	10%
4b	Amenity Space	7,360.27	15 %
5	**Net Plot Area (0.9 X(3- 4b)**	**37,537.41**	0.9 %
6	Applicable FSI (1.20)	45,044.89	1.2
7	Additions		
a	Additional Paid FSI	7,507.48	20%
a	Area Under 36 m Road Widening	189.04	
b	Area Under 12 m service Road Widening	492.45	
d	Total Additions	8,188.97	
8	**Permissible area under FSI (6 + 7d)**	**53,233.86**	
9	**Total Proposed FSI Area**	**49,946.29**	**26,344.16 completed**
10	**Total Proposed Non FSI Area**	**31,549.99**	**11354.90 completed**
11	**Total B/U Area**	**81,496.28**	**37,699.06 completed**

Table 2.3 Area statement

Below given Table 2.4 shows building configuration

Sr. No.	Building Name & Number	Number of Floors	Height of the building	No. of Flats	No. of population	Status
1	Building A	Parking +8	25.80 m	32	160	Completed on Site
2	Building B	Parking +8	25.80 m	32	160	Completed on Site

3	Building C	Parking +8	25.80 m	32	160	Completed on Site
4	Building D	Parking +8	25.80 m	32	160	Completed on Site
5	Building E	Parking +8	25.80 m	32	160	Completed on Site
6	Building F	Parking +8	25.80 m	32	160	Completed on Site
7	Building G	Parking +8	25.80 m	32	160	Completed on Site
8	Building H	Parking +8	25.80 m	32	160	Completed on Site
9	Building I	Parking +8	25.80 m	32	160	Completed on Site
10	Building J	Parking +8	25.80 m	32	160	Completed on Site
11	Building K	Parking +8	25.80 m	32	160	Completed on Site
12	Building L	Parking +8	25.80 m	32	160	Completed on Site
13	Building M	Parking +8	25.80 m	32	160	Completed on Site
14	Building N	Parking +15	42.75 m	72	360	Not yet started
15	Building O	Parking +15	42.75 m	72	360	Not yet started
16	Building P	Parking +12	37.20 m	90	450	Not yet started
17	Building Q	Parking +12	37.20 m	88	440	Not yet started

Table 2.4 Building Configuration

2.1.4 Proposed Infrastructure & Services

Internal Roads:

The internal roads are maximum 6 m wide with a turning radius of maximum 9 m to accommodate fire tender movement within the project site for emergency services.

The proposed master layout has a very well laid out vehicular circulation, segregated from pedestrian circulation. Footpaths are proposed along all major internal roads.

Water Requirement & Waste Water Generation:

The water requirement for construction activity will be 17.05 KLD & Water requirement for workers will be 6.75 KLD.

It is estimated that for a total estimated population of 3690 No. Of people, the water demand for the project will be 574.79 KLD. The proposed project will receive water supply from Mula River, prior permission has been obtained from Irrigation Department.

The wastewater generation is estimated at 448.33 KLD. Treated water will be reused for flushing and landscaping. The excess treated 186.77 KLD will be disposed-off in Grampanchayat Drain for dry season and 259.86 KLD will be disposed-off in wet season.

In order to ensure that 100% wastewater is treated within the project premises, Sewage Treatment Plant (STP) of capacity 450 KLD is provided.

The water balance chart below indicates the proposed project is estimated to require a total water supply of 574.79 KLD including domestic, flushing and gardening. Fresh water requirement is 335.60 KLD. This water supply needs to be of potable water quality as per BIS standards. The water balance estimation is based on an assumption of 3690 persons occupying the proposed area development project as and when buildings are constructed and occupied Figure 2.10 & Figure 2.11 indicating water balance chart during dry season and wet season respectively

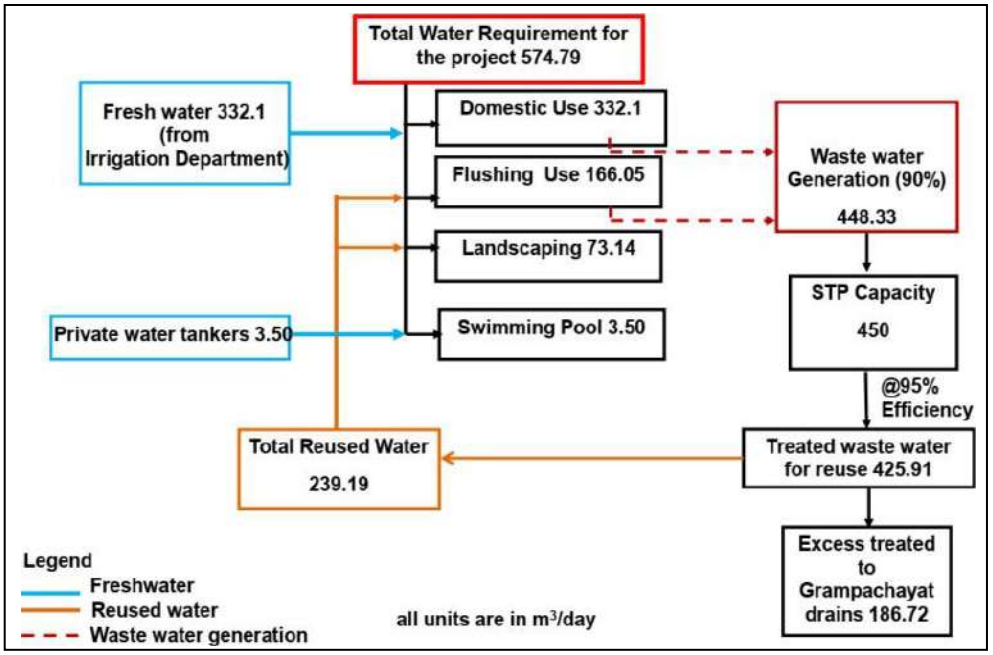


Figure 2.10 Water balance chart during dry season

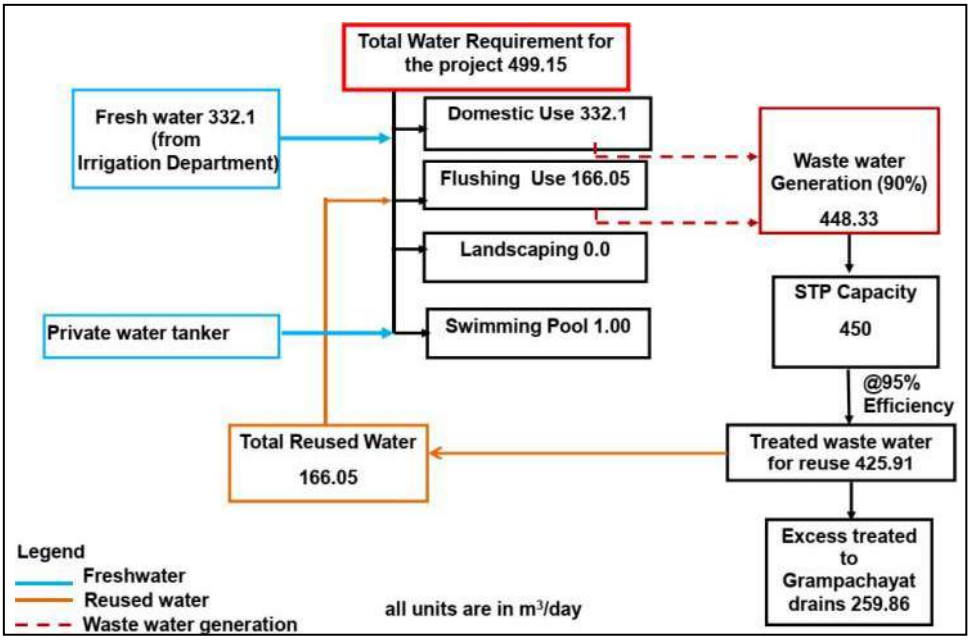


Figure 2.11 Water balance chart during wet season

Power Supply:

The demand load for construction activity is estimated to be 30 kW.

The estimated connected load for operational phase of the project is 4092 kW.

The project will receive energy supply from Maharashtra State Electricity Distribution Company Ltd (MSEDCL).

Also, the project will have 1 DG sets of capacity 200 kVA and 1 Nos. of 160 kVA operational phases.

Solid Waste:

The total solid waste generation will be 1845 kg/day; out of which dry waste is 738 kg/day and wet waste is 1107 kg/day. To process the generated biodegradable solid waste, OWC Machine is proposed. Organic solid waste will be fully processed to convert into manure and will be reused within the project premises as manure.

Non- biodegradable solid waste & E-waste will be sent to authorize vendor for further processing. Generated sludge from STP will be used as manure for landscaping within the premises.

Adequate storage space will be provided within the project site to store temporarily the inorganic waste before it is carted away.

Rain water Harvesting:

The project will have 28 Nos. of recharge pits, through which surface run off and roof top run off during rainy season will be channelized into ground water recharge.

Rain water harvesting details attached in **Annexure 1.**

Table 2.4 gives the list of all environmental infrastructure & services proposed in the project.

No	Type of Infrastructure	Number	Capacity
1	Sewage Treatment Plant	1	450 m^3/day
3	Organic Waste Converter	1	1250 kg/day
4	Transformer	7	630 KVA- 6 Nos. 315 KVA-1 No
5	DG Set	2	200 KVA-1 No. 160 KVA-1 No.

Table 2.5 Proposed Environmental Infrastructure in the Project

2.2 Identification of Hazard Prone Areas for the site

The proposed project site is located in North-west region of Maharashtra, in the city of Pune. Based on the hazard prone maps generated by Government of India under its Vulnerability Atlas of India, we can generally assess the hazard prone nature of the project site vis a various hazards such as earthquake, landslides, wind, cyclones and flooding.

Figure 2.12 below gives the Hazard prone areas for India based on the Edition 3 of Vulnerability Atlas of India, published by Government of India.

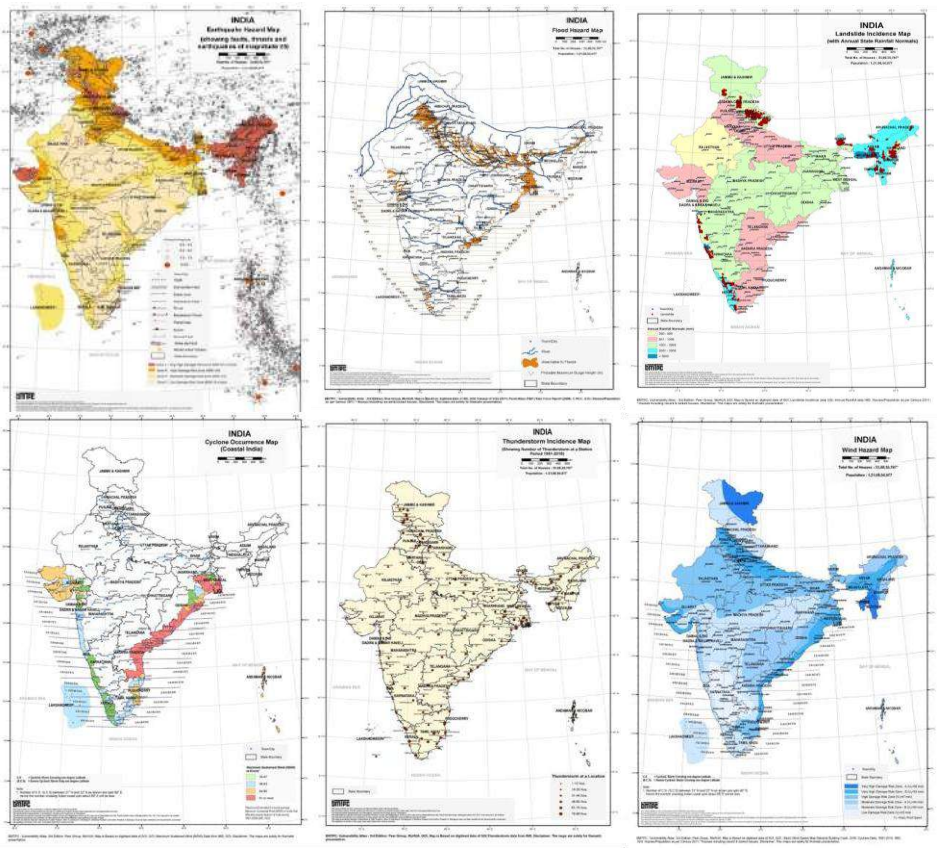


Figure 2.12 Hazard prone areas Maps of India

Earthquake Prone Areas

From the above maps, it can be inferred that the proposed project site falls under Zone III of Earthquake Prone Map. Thus, it will be essential for the project to design the structure of all buildings for seismicity related collapse of structures. Further, the Disaster Management Plan will address the emergency procedures and guidelines to be undertaken on project site during an earthquake.

Flood Prone Areas

The states falling under "India Flood Prone Area" are West Bengal, Orrisa, Andhra Pradesh, Kerala, Assam, Bihar, Gujrat, Uttar Pradesh, Haryana and Punjab. The project is in Maharashtra state hence, it does not come under Flood Prone areas but can be considered sometimes.

The project site lies in a low risk zone of the Flood hazard map and hence does not pose any flood risk.

Landslide Prone Areas

Based on the Landslide prone map, the project site does not lie in any of the designated high proposed on the project site.

Cyclone Prone Areas

The proposed project site does not fall in the cyclone prone areas as per the Cyclone occurrence map of India; hence cyclones do not pose a risk to the development on the project site.

Thunderstorm Prone Areas

The Thunderstorm incidence Map indicates that the project site may be prone to thunderstorms. Based on historical evidence and local weather insights, it is found that the incidence of thunderstorms is seen during the period of July to September months. Disaster Management Plan will address guidelines and emergency measures to be undertaken during thunderstorms.

The project site does not fall in the Wind hazard map and hence no risk is posed to the development on the project site due to high velocity and destructive winds.

Summary of Hazard prone

Disaster can take many different forms and the duration can range from an hourly disruption to days or weeks of on-going destruction. The Hazard & Risk Assessment looks at all the human-made elements of a project site that can potentially lead to an emergency.

The disasters that are naturally occurring in addition to developing a management system for human-made incidences such as Fire, Collapse of Building etc. The following Table 2.6 lists the potential Disasters and their level of risk to the proposed project site. This is done based on the Vulnerability Atlas maps for the project site as mentioned above.

Type of Disaster	Level of Risk			
	High	Medium	Low	Not Applicable
Natural Disasters				
Earthquake		✓		
Cyclone		✓		
Landslide				✓
Floods		✓		
High Winds			✓	
Tsunamis				✓
Man-Made Disasters				
Fire			✓	
Collapse of Structure				✓
Biological & Chemical Exposure				✓
Bomb Threat				✓

Table 2.6 lists the potential Disasters and their level of risk to the proposed project site

2.3 Site Photographs

The following images show actual conditions of project site. The images have taken during the study period of project i.e March 2021




Figure 2.13 Site Photographs

2.4 Manpower Requirement

The construction of a building project requires numerous skilled professionals, skilled labour and unskilled labour on project site. It is estimated that the project will have 150 numbers of unskilled and skilled labour on project site during the construction phase of the project. More than 80% of these labours will be provided housing on the construction site and/or in labour camps established for the purpose by the project contractor.

The labour colony will be established in accordance with the norms and will ensure basic shelter, water supply and sanitation to the entire workforce. The provisions of the following Acts are applicable and the project proponent will ensure that these are followed.

- Minimum Wages Act, 1948
- Contract Labour (Regulation & Abolition) Act, 1970
- Inter State Migrant Workmen (Regulation of Employment & Conditions of Services) Act, 1979
- The Building & Other Construction Workers (Regulation & Employment of Service) Act, 1996
- The Building & Other Construction Workers Welfare Cess Act, 1996

During the construction and operational phases of the project a workforce will be needed which includes both skilled and unskilled people. The workers from areas outside the region may impact the local culture, habits and economics. These effects have both positive and negative aspects and will be managed by the project proponents & developers from their experience in other similar projects

2.5 Project Implementation Schedule

The proposed project will construct in 2 phases. The details of the buildings to be constructed in each Phase are given in Table 2.7 below.

Phase	Year of Completion	Buildings to be constructed	Construction area
Phase 1	2014	Building A, B, C, D, E, F, G, H, I, J, K, L, M	31,549.99 m^2
Phase 2	2 years after getting EC	Building N, O, P, Q	Not yet started

Table 2.7 Phase wise Building Construction for the Proposed Project

Figure 2.12 indicates the Phase wise development of buildings proposed on the project site

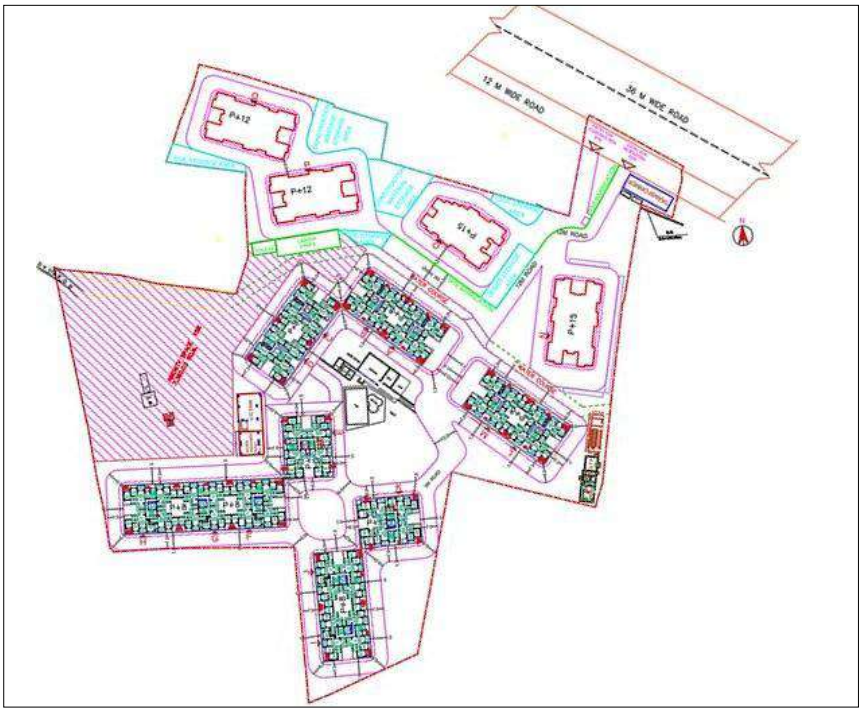


Figure 2.14 Phase wise Building Construction of the Proposed Project

2.5 Damage Assessment

Damage Assessment is the assessment of actual impacts in terms of air, water, land, ecology, socio-economic aspects on a particular area resulting from the incidents like disaster, construction etc. Ministry of Environment and Forest (MoEFCC) has issued a notification on procedure to be adopted for dealing with the EC violation cases on 14.3.2017. These violations are primarily related to initiating the project work or carrying out the project activities without obtaining the mandatory EC. The notification dated 14.3.2017 stipulated the procedure for consideration of such cases where construction of projects was carried out without obtaining EC, treating such cases as violation cases.

M/s. Serene Developers constructed 13 no. of buildings of Parking+ 8 floors with services (club house, STP, Transformer & DG) covering total built up area of 37,699.06 m2 of their Air Castle Project on site without obtaining prior EC. Hence the damage assessment, remediation & natural community augmentation plan was carried out as per approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects provided by Environment Department, Government of Maharashtra.

Damage Assessment Report attached as an **Annexure 13.**

Chapter 3 DESCRIPTION OF THE ENVIRONMENT

3.0 General

The following Chapter gives a detailed description of the baseline environmental conditions present on the project site and the study area. The various environmental parameters used to establish this baseline environmental status are as follows:

- Land
- Air
- Noise
- Water
- Biological
- Socio-economic
- Solidwaste
- Traffic

Study Area

The **study area** designated for projects under the Township and Area Development Projects is a radius of 10 km surrounding the project site. So, the primary data collection is restricted to locations within a radius of 2.0 to 10 km from the project site boundary. Further to this primary data collection, secondary sources are used, wherever applicable, to be able to establish a baseline environmental status of the project site and its immediate vicinity.

Study Period

For surveying, primary data monitoring has been carried out in the month of March 2021, which is a typical summer season and not the monsoon period as specified by MoEFCC in its guidelines.

Primary Surveys

The following Table 3.1 gives a list of surveys and sampling conducted in the study area to assess the baseline environmental condition.

Environmental Aspect	**Parameters Analysed**	**Monitoring schedule/ Source of information**
Land	Topography, Landcover & Landuse Soil quality – Physical & chemical parameters	LULC Analysis using GIS mapping, Contour Survey of Project Site Soil Sampling, once during the study period
Water	Hydrogeological survey Water Quality – Physical & Chemical parameters	Contour Survey & Test Pits Water Sampling, once during the Study Period, at specific locations, from groundwater & surface water sources
Air	Ambient Air Quality-CO, SO_2,NO_x, PM_{10} , $PM_{2.5}$ Climate and weather	24 hourly ($PM_{10,}$ $PM_{2.5,}$ SO_2, $NO_{x,}$ CO) at specific locations; 2 times a week over the study period IMD, Pune
Noise	Noise levels in dB(A)	Continuous recording for 24 hrs. at hourly interval at specific selected locations, once in the study period

Biological	Identification of flora and fauna in the study area; assess affected areas	Site survey within study area
Socio-economic	Demographics; Identify socio-cultural infrastructure	Site Survey within study area
Solidwaste	Identify infrastructure for solidwaste management	Site survey within study area
Traffic	Identify existing traffic patterns vis a vis available road networks and future expansion	Traffic counts over peak hours, once during study period

Table 3.1 List of Primary surveys and samples undertaken

3.1 Land Environment

The land resource is a base on which any development activity takes place. Also, once the character of land – its land covers and uses changes, it is an irreversible impact. Thus, it is important to assess the historic and prevailing land character present in the study area of the proposed project.

3.1.1 Landuse & Landcover

The Satellite data or Satellite Image downloaded from U.S. Geological Survey web site USGS Earth Explorer (https://earthexplorer.usgs.gov/) into the system. The first step involved was the preparation of standard FCC satellite Image (using Landsat ETM 8 band 1, 2, 3, 4, 5, 6 and 8) and done supervised classified LULC Map of the study area, which was followed by the ground truthing of the image and identification of Ground Control Points (GCP) for the geo-registration of the images. The Details of the Satellite image used for this study is given in table 3.2.

Figure 3.1 and Figure 3.2 indicating classified image of the project area showing different land use classes in 10 km & 2 km radius of from the project site respectively.

The Satellite image used for this study details as follow

• LANDSAT_SCENE_ID	"LC81470462021034LGN00"
• LANDSAT_PRODUCT_ID	"LC08_L1TP_147046_20210203_20210203_01_RT"
• SPACECRAFT_ID	"LANDSAT_8"
• SENSOR_ID	"OLI_TIRS"
• WRS_PATH	147
• WRS_ROW	46
• DATE_ACQUIRED	2021-02-03
• STATION_ID	"LGN"
• MAP PROJECTION	"UTM"
• DATUM	"WGS84"
• UTM ZONE	43 N

Table 3.2 Study details from Satellite Image

Based on the above analysis, the study area shows the following landcover characteristics in the 10 km radius around the proposed project site

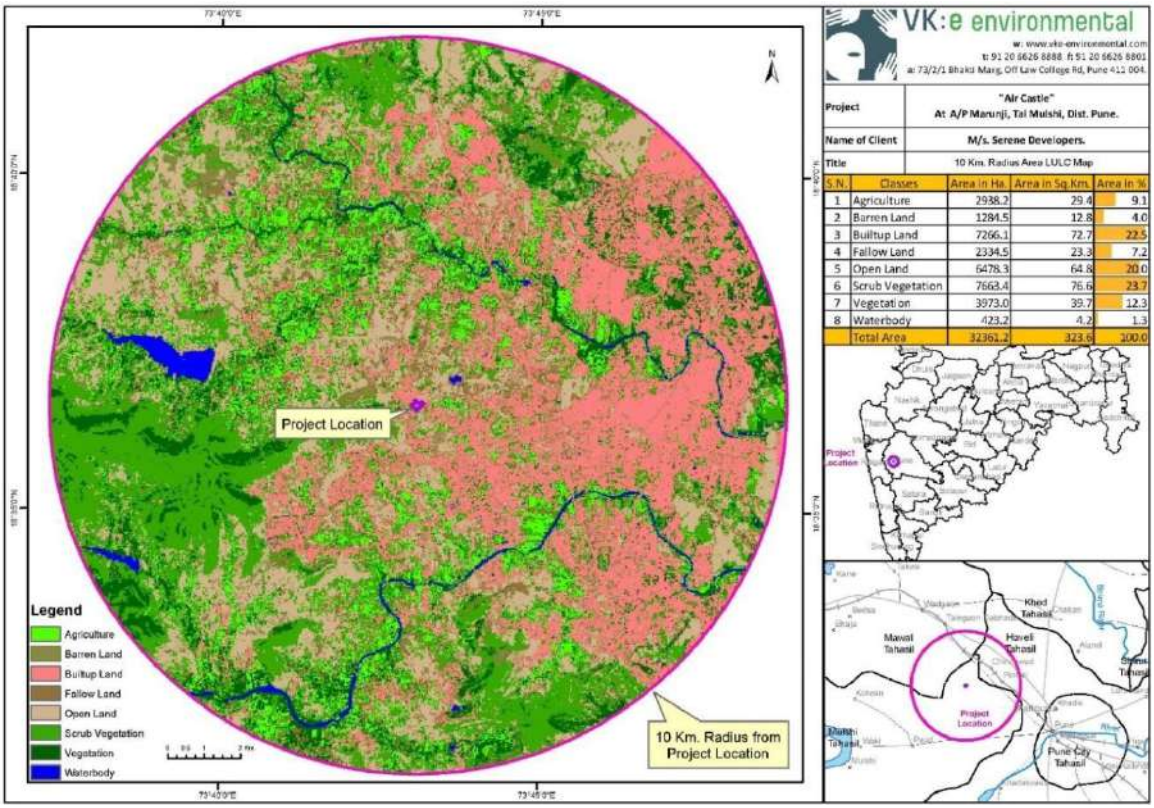


Figure 3.1 Classified image of the project area showing different land use classes (area 10 km radius from project area)

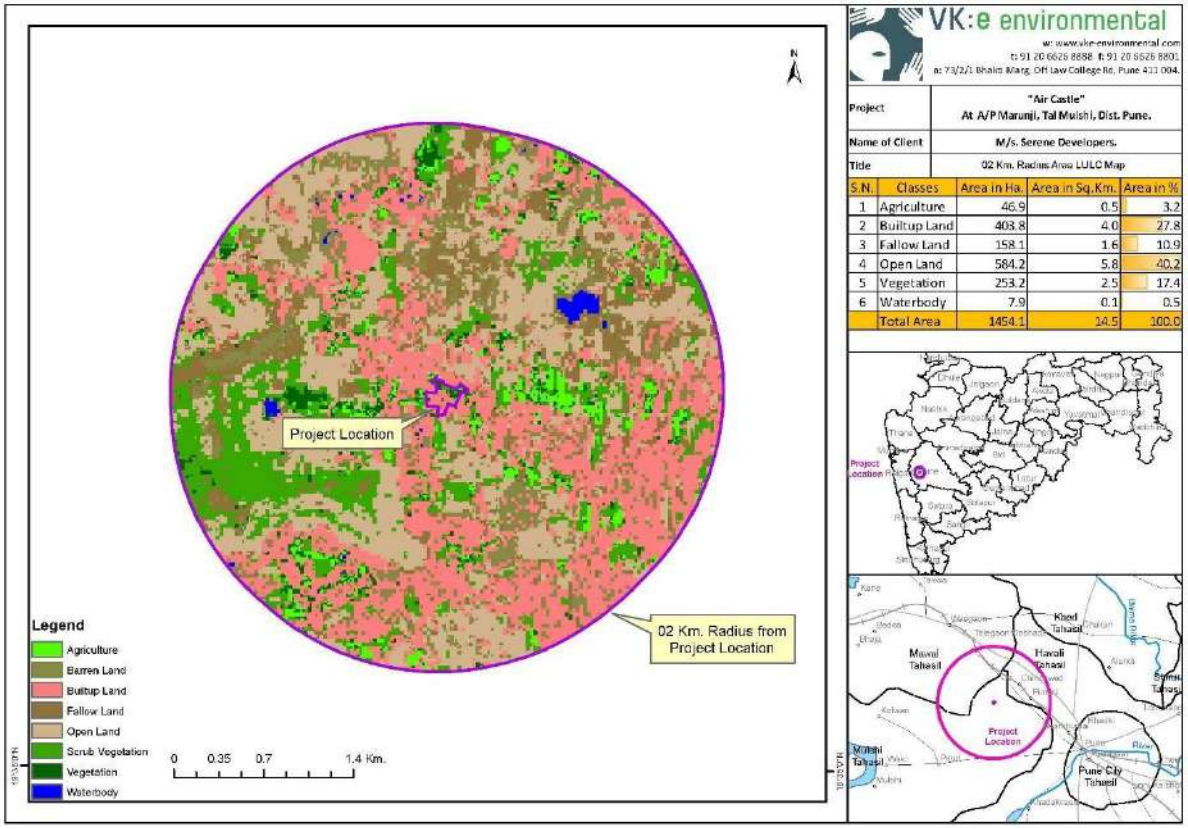


Figure 3.2 Classified image of the project area showing different land use classes (area 2 km radius from project area)

Table 3.3 gives a breakup of the percentage of landcover observed in the 10km and 2 km radius of the proposed project site.

No	Category of Landcover	Area in sq km	Percentage	Area in sq km	Percentage
		10 km radius		2 km radius	
1	Agricultural Land	29.4	9.1&	0.5	3.2%
2	Barren Land	12.8	4%	00	00
3	Built up Land	72.7	22.5%	4.0	27.8%
4	Fallow Land	23.2	7.2%	1.6	10.9%
5	Open Land	64.8	20%	5.8	40.2%
6	Scrub vegetation	76.6	23.7%	00	00
7	Vegetation	39.7	12.3%	2.5	17.4%
8	Water body	4.2	1.3%	0.1	0.5%

Table 3.3 Character of Landcover in the 10km and 2 km radius around proposed project site

The percentage of landuse classes in 10 km and 2 km are shown in figure 3.3

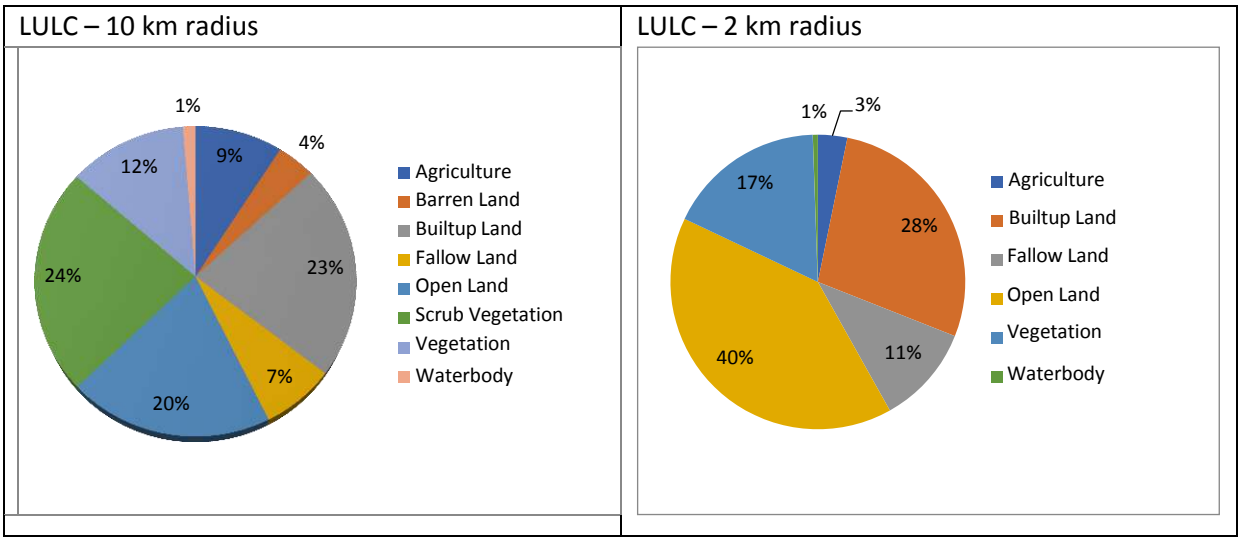


Figure 3.3 The percentage of landuse classes in 10 km and 2 km

Observations of LULC in 10 km radius of the project site

The Land use Land Cover analysis done for the project area. The graphs and maps within the 10 Km radius of the project area indicate that the dominant land classes are scrub vegetation, which is 23.7% of the total land respectively. The next dominant class found within the 10 km radius is Built up and open land covering 22.5% and 20.0% of the total area followed by vegetation 12.3% and agriculture land 9.1%. Fallow land, barren land and Water body covering area of 7.2%, 4.0% and 1.3% respectively of the total area of 323.6 Sqkm within the 10 km radius of the project area.

Observations of LULC in 2 km radius of the project site

However, In 2 Km radius around the project area the dominant land use/land cover is open Land area which is 40.2% and minimum area covered by water body, which is 0.5% of the total area.

Detailed LULC report is attached as an Annexure 3

3.1.2 Soil Quality

Soil is an important aspect of the land to understand it's agricultural and afforestation potential. Topsoil is of particular importance as it is a precious resources and needs to be conserved, particularly, if the soil quality shows good nature and character.

Soil Quality is tested through a sampling of soils in the study area. Typically, soils samples are taken for every observed landuse within the study area and project site. This can help us assess the overall quality of soil in the project's vicinity and on the project site itself. Figure 3.4 gives a Google Earth image of the study area, indicating the locations of soil sampling.

The locations for Soil Sampling are fixed based on the land use and land cover within the core area of 5km radius from the project site boundaries. Being a large area development real estate project, ecological and pollution related impacts of the project are expected to be insignificant beyond the core area within 2 km radius from the project site boundaries.

Soil Sampling has been done to determine the baseline characteristics of Soils of the study area via-a-vis the possibility of their use for agriculture or urban greenery in relation to the existing LULC status as stated above. Soil Sampling Locations were selected based on the LULC status of the study area of 10 km radius (from the project site boundaries) and by thorough examination of Google maps of the relevant area. Five composite soil samples were collected to represent the major soil types observed within the core area of 2 km radius from the project site boundaries. Soil sampling was done once in the month of March 2021. The soil sampling locations are shown in below given figure 3.4

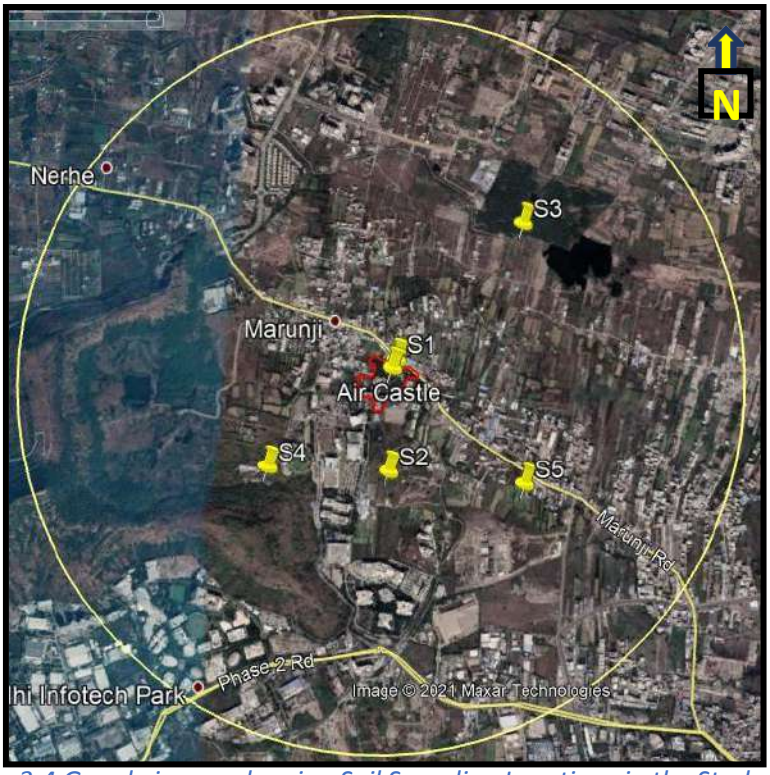


Figure 3.4 Google image showing Soil Sampling Locations in the Study Area

Table 3.3 gives the details about the sampling locations, their latitude-longitude any specific observations made during sampling at each location.

Sampling Location Code	Name of the Sampling Location	Distance from project site	Latitude – Longitude of the Sampling Location	Specific Observations about the Sampling Location
S1	Project site	--	18°36'36.10"N 73°43'6.76"E	Residential area
S2	Open land near project site	400 m from S boundary of the plot	18°36'16.58"N 73°43'6.43"E	Barren land
S3	Near Wetland area	1 km towards NE from project site,	18°37'1.25"N 73°43'29.24"E	Wetland near Punawale Kate Wasti Forest
S4	Bottom of the hill	790 m SW from project site	18°36'16.35"N 73°42'43.83"E	Hilly area, backside of the Nile Building Embassy Techzone
S5	Agriculture Land	470 m SE from project site	18°36'15.65"N 73°43'31.78"E	Near Shinde Nagar Marunji

Table 3.4 Details of the Soil Sampling Locations

Physical and Chemical parameters of soil are tested and Table 3.5 below shows the values observed.

Sr. No.	Parameter	Unit(s)	Location					Analysis Method
			S1	S2	S3	S4	S5	
	Physical Parameters							
1.	Colour	-	Faint Black	Faint Black	Reddish Brown	Black	Faint Black	IS 2720
2.	Grain Size Distribution							IS 2720-P4
		Sand %	5%	3%	3%	2	2%	
		Silt%	20%	20%	5%	15	20%	
		Clay %	75%	77%	92%	83	78%	
3.	Texture Class		Clay Silt	Clay	Clay	Clay Silt	Clay Silt	IS 2720
4.	Bulk Density	gm/cc	1.17	1.14	1.21	1.11	1.21	IS 2720-p2
5.	Permeability	cm/hr	0.06	0.07	0.05	0.52	0.05	IS:2720 P-17/36
6.	Water Holding capacity	%	34	24	48	70	26	IS 14765
7.	Porosity	%	44.2	42.11	43.12	45.21	60	IS 2720
	Chemical Parameters							
	pH (1: Aq Extraction)	--	8.0	7.9	7.7	6.9	8.0	IS 2720 (Part 26)
8.	Electrical Conductivity (1: Aq Extraction)	µS/cm	0.05	0.06	0.03	0.2	0.05	IS:1892
9.	Cation Exchange Capacity	meq/ 100gm	40.2	41.21	41.12	50.12	42.25	IS 2720
10.	Exchangeable Calcium	meq/ 100gm	16.64	17.63	5.61	22.46	13.62	IS 2720
11.	Exchangeable Magnesium	meq/ 100gm	3.85	4.32	1.92	6.32	3.36	IS 2720
12.	Exchangeable Potassium	meq/ 100gm	0.39	0.41	0.30	0.42	0.29	IS 2720
13.	Exchangeable Sodium	meq/ 100gm	0.67	0.25	0.31	0.21	0.30	IS 2720
14.	Sodium Absorption Ratio	----------	0.15	0.34	0.43	0.034	0.42	IS 2720
15.	Nitrogen (N)	mg/kg	210.4	230.32	245.11	250.20	250.12	IS 14684:1999 Reaff 2005
16.	Available Phosphorous (P)	mg/kg	11.08	12.2	5.5	10.73	8.76	IS 2720
17.	Available Potassium	mg/kg	120.6	120.2	115.23	123.14	12.32	IS 2720
18.	Organic Carbon	%	0.36	0.21	0.33	1.185	0.21	IS 2720-P22
19.	Organic Matter	%	0.62	0.36	0.56	2.04	1.36	IS 2720-P22
20.	Water Soluble Chloride (Cl)	mg/kg	20.80	18.20	21.84	46.58	20.80	IS:812 P-4
21.	Water Soluble Sulphate (SO_4)	mg/kg	47.06	56.09	28.05	49.33	39.8	IS 2720-27
22.	pH (1: Aq Extraction)	--	8.0	7.9	7.7	6.9	8.0	USEPA Method 3050B

Table 3.5 Physical and Chemical Parameters of Soil Sample in Study Area

Characteristics of the Soils of the Project Core Area with respect to productivity, as interpreted from the Soil Analytical Data presented in the above Table

Five composite soil samples were collected to represent the major soil types observed within the core area of 2 km radius from the project site boundaries. The approximate depth and colour of the

said soils along with the result of important physical and chemical analysis performed on the same are presented in the above Table.

- Soil pH is an important parameter indicative of alkaline or acidic nature of soil. It greatly affects the microbial population as well as solubility of metal ions and regulates nutrient availability. The presence of organic matter in the soil determines the stability of soil aggregates and enhances the metabolic activity of soil micro-organisms. This results in the release of nutrients such as Nitrogen and Phosphorus to plants or crops.
- Colour of the soils varied from black, faint black to reddish brown
- All Soils have good physical properties vis-à-vis their potential for plant growth in terms of good Porosity ranged from 42.11 –60 % and Water Holding Capacity varied from 26 – 70 %, while permeability ranged from 0.05 – 0.52 cm/hr.
- The recorded soil pH (6.9 to 8.0) and electrical conductivity (0.03 to 0.2 µS/cm), indicate that the sampled soils are acidic to basic in reaction but do not have any salinity constraint for plant growth. However, soil amendment (such as gypsum) may be required to reduce the pH to around 7.5 for higher crop yields.
- The sampled soils are extremely high in available Nitrogen content. Have a low content of Phosphorus and are low to medium in available Potassium.
- The contents of micronutrients such as Iron (Fe), Manganese (Mn), Zinc (Zn) and Boron (B) range from very low to high and hence pose no problem to most of the crops. However, wherever the content of Copper (Cu) are high to very high, it may cause toxicity problems to some sensitive crops. For high value cash crops, some addition of Fe and Zn may be required where their contents are low.
- Analytical results also indicate that all sampled soils are free from plant toxicity problems associated with heavy metals such as Chromium (Cr), Lead (Pb), Nickel (Ni), As (Arsenic), Mercury (Hg), Selenium (Se), Barium (Ba) and Cadmium (Cd), as their contents are below detection level (BDL).
- It is therefore apparent that the cultivable soils of the Core area can attain very good crop productivity under kharif season as well as under irrigated rabbi season by addition of adequate quantities of major nutrients (N and K), gypsum and organic manure. Integrated pest control measures are also important to attain and sustain profitable crop yields.

From the above monitoring results, it is clear that the soil quality in the study area is the topsoil is suitable for conservation and reuse. Soil sampling monitoring report attached annexure

3.2 Water Environment

3.2.1 Water Quality

The water flows and the natural drainage pattern of the project site will be changed due to any change in the use of the site for building construction. It is important to assess the natural water flows that currently exist on project site and in the study area. There is nala present on project site

The toposheet showing the study area and the project site in Figure 2.1 in Chapter 2 shows the presence of a natural stream. The toposheet shows a network of streams in the study area.

Figure 3.5 shows the network of natural streams with reference to the study area and the proposed project site. The river Pawana is located towards the East of the project site at an approximately

distance of 4.8 km and Mula river is located towards the South of the project site at an approximate distance of 5.10 km.

Topographically the area is undulatory. The said plot situated on hill slop and is a part of small hillock. General slop direction is towards south and slop is moderate to gentle. It falls in the catchments area of small nala emerging in nearby hills.

The base flow conditions of stream during non- monsoon season indicates no ground water discharge which results in low to moderate ground water potential of the area. Entire area is drained by these streams. All the streams in and around the area ultimately discharge into main nala. The drainage is of radiating pattern.

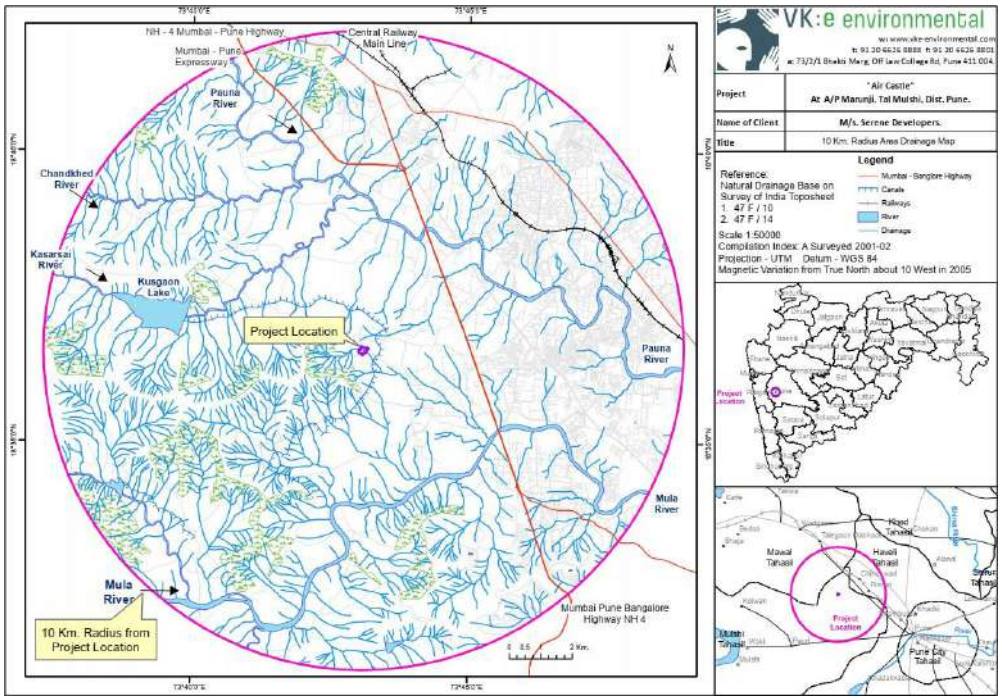


Figure 3.5 Stream network within the 10 km from project site

The hydro-geological study shows that, deeper aquifers may not be very productive. However slight decrease in resistivity values in between 25 mts. to 40 mts., 50 mts. to 70 mts. and below 90 mts. indicates pours and permeable formation suitable for artificial recharge. West side area and S-W area at higher elevation shows high resistivity indicating that this area is non-worthy from ground water point of view.

Wells and bore wells in and around the area were inventoried. The well density in this area is low (about 2 to 3 wells pre 5 hectares). The shallow dug wells in the area are dug up to hard compact massive trap and are generally seasonal. The average depth of dug well is 8 to 10 Mts. below ground level (b.g.l.) with diameter of 8 to 10 meters. Average yield of the wells in the area is reported as 1 to 1.5 lacks litres per day in winter and about 40 to 50 thousand litres per day in summer. Groundwater in the wells occurs mainly in fractures and fissures within the rock bodies and moderately weathered v. zeolitic rock. There are three open dug wells in the study area which are in use. The wells are perennial.

Figure 3.6 shows dug well present in the study area.

Please refer Annexure 1 for Hydro-geological report.

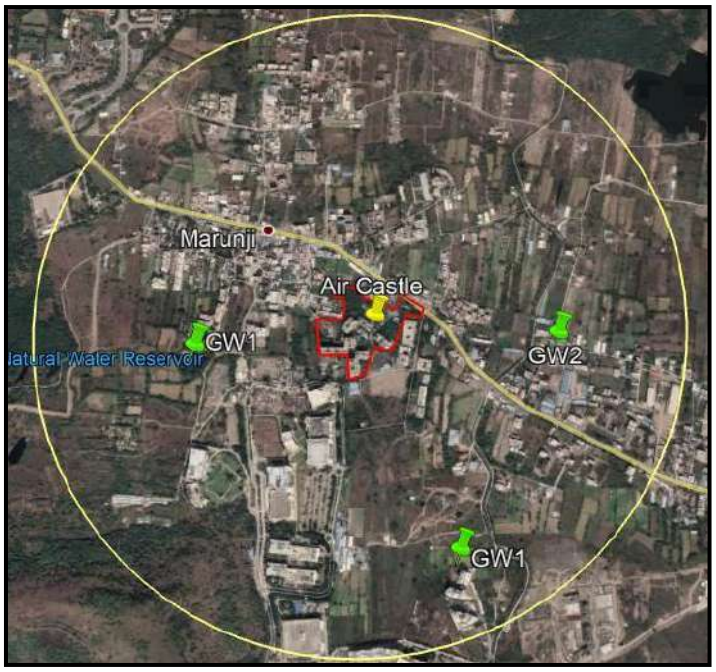


Figure 3.6 Project Site with loation of dugwells

To understand the quality of water resources in the study area, primary data sampling is done at specific locations. The primary water sampling is done for groundwater quality and surface water quality at 3 locations each to assess the water quality and compare it to available standards in the month of March 2021. Figure 3.7 gives the locations where water sampling is done. Table 3.5 gives the details about the water sampling locations, their latitude-longitude any specific observations made during sampling at each location.



Figure 3.7 Water Sampling Locations in the Study Area

Sampling Location Code	Name of the Sampling Location	Latitude – Longitude of the Sampling Location	Distance & Direction of the location from project site	Specific Observations about the Sampling Location
Ground Water				
GW1	Open Well	18°36'11.29"N 73°43'14.17"E	650 m towards SE	Near Sarrthi Sovereign Housing Society, Residential area
GW2	Open Well	18°36'32.21"N 73°42'47.23"E	400 m from ENE side project site boundary	--
GW3	Open Well	18°36'32.14"N 73°43'25.12"E	460 m from West side project site Boundary	--
Surface Water				
SW1	Marunji Dam	18°36'30.42"N 73°42'21.10"E	2 km SE side of Project site	Dam water
SW2	Open Water body	18°36'58.72"N 73°43'34.34"E	1 km NE side of Project site	Punawale Kate Wasti Forest water body
SW3	Nala water at site	18°36'36.75"N 73°43'4.94"E	Within project premises	Nala water

Table 3.6 Details of Water Sampling Locations

Physical and chemical parameters of the Ground water samples and Surface water samples are given in Tables 3.6 & 3.7 respectively.

Sr. No.	Parameter	Unit(s)	Location			Limits as per IS 10500:2012
			GW1 Open Well Near Saarrthi Sovereign Housing Society	GW2 Open Well	GW3 Open Well West side project site Boundry	
1.	Color	Hazen Unit	1.0	1.0	1.0	5.00
2.	Odor	--	Agreeable	Agreeable	Agreeable	Agreeable
3.	pH	--	7.7	7.2	7.6	6.5-8.5
4.	Conductivity	µS/cm	250.4	200.1	210.7	Not Specified
5.	TDS	mg/lit	151.2	105.4	170.0	< 500.00
6.	Turbidity	NTU	<1.0	<1.0	<1.0	< 1.00
7.	TSS	mg/lit	19.00	17.00	21.10	Not Specified
8.	Chemical Oxygen Demand (COD)	mg/lit	40.00	72.00	55.12	Not Specified
9.	Biochemical Oxygen Demand (BOD)3 days a 27°C	mg/lit	1.00	7.00	6.51	Not Specified
10.	Ammonical Nitrogen	mg/lit	0.02	0.03	0.06	< 0.50
11.	Nitrate as NO_3	mg/lit	13.28	7.89	10.26	< 45.00
12.	Nitrite as NO_2	mg/lit	0.0203	0.0960	0.0658	Not Specified
13.	Nitrogen as N	mg/lit	BDL	BDL	BDL	Not Specified

14.	Phosphorous as PO_4	mg/lit	1.30	1.01	1.51	Not Specified
15.	Potassium as K	mg/lit	12.31	9.70	12.12	Not Specified
16.	Sodium as Na	mg/lit	7.14	4.65	7.81	Not Specified
17.	Calcium as Ca	mg/lit	19.25	60.12	40.21	< 75.00
18.	Magnesium as Mg	mg/lit	19.45	28.83	15.14	< 30.00
19.	Total Hardness as $CaCO_3$	mg/lit	232.18	248.19	224.42	< 200.00
20.	Carbonates as CO_3^{2-}	mg/lit	2.11	1.38	1.13	Not Specified
21.	Bicarbonates as HCO_3	mg/lit	32.55	43.73	36.45	Not Specified
22.	Chlorides as Cl^-	mg/lit	33.64	28.46	36.78	< 250.00
23.	Sulphates as SO_4	mg/lit	27.77	29.77	22.45	< 200.00
24	Total Coliform	No./100ml	Absent	Absent	Absent	Absent
25	Fecal Coliform	No./100ml	Absent	Absent	Absent	Absent

Table 3.7 Analysis of Groundwater in Study Area

Sr. No.	Parameter	Unit(s)	Location			Limits as per IS 10500:2012
			SW1 Marunji Dam	SW2 Water body	SW3 Nala water at site	
1.	Color	Hazen Unit	<5HZ	<5HZ	<5HZ	5.00
2.	Odor	--	Agreeable	Agreeable	Agreeable	Agreeable
3.	pH	--	7.2	8.1	8.3	6.5-8.5
4.	Conductivity	µS/cm	130.8	180.1	599.0	Not Specified
5.	TDS	mg/lit	196	241	366.0	< 500.00
6.	Turbidity	NTU	<0.7	<0.9	<1.0	< 1.00
7.	TSS	mg/lit	11.0	16.00	82.00	Not Specified
8.	Dissolved Oxygen	mg/lit	1.2	1.4	2.9	Not Specified
9.	Chemical Oxygen Demand (COD)	mg/lit	46.4	56.00	100	Not Specified
10.	Biochemical Oxygen Demand (BOD)3 days a27°C	mg/lit	2.40	3.00	14	Not Specified
11.	Ammonical Nitrogen	mg/lit	<0.1	<0.1	<0.1	< 0.50
12.	Nitrate as NO_3	mg/lit	5.4	7.0	<1.0	< 45.00
13.	Nitrite as NO_2	mg/lit	0.0124	0.0268	0.055	Not Specified
14.	Nitrogen as N	mg/lit	0.053	0.080	3.16	Not Specified
15.	Phosphorous as PO_4	mg/lit	3.26	2.58	21.22	Not Specified
16.	Potassium as K	mg/lit	23.61	26.65	16.70	Not Specified
17.	Sodium as Na	mg/lit	18.35	19.87	18.45	Not Specified
18.	Calcium as Ca	mg/lit	45.91	47.29	12.64	< 75.00
19.	Magnesium as Mg	mg/lit	14.23	17.51	98.0784	< 30.00
20.	Total Hardness as $CaCO_3$	mg/lit	135.3	190.152	2.90	< 200.00
21.	Carbonates as CO_3^{2-}	mg/lit	3.62	4.15	37.24	Not Specified
22.	Bicarbonates as HCO_3	mg/lit	15.89	19.25	7.763	Not Specified
23.	Chlorides as Cl^-	mg/lit	23.21	25.87	25.22	< 250.00
24.	Sulphates as SO_4	mg/lit	18.74	20.55	BDL	< 200.00
25.	Sulphide as H_2S	mg/lit	<0.1	<0.1	0.23	< 0.05
26.	Fluorides as F^-	mg/lit	0.08	0.21	0.21	< 1.00
27.	Iron as Fe	mg/lit	0.25	0.36	BDL	< 0.30
40.	Total Coliform	No./100ml	Absent	Absent	38	Absent
41.	Fecal Coliform	No./100ml	Absent	Absent	16	Absent

Table 3.8 Analysis of Surface water in Study Area

In order to have an idea about in variation in ground water quality with respect to space & depth, water samples have been collected and subjected to chemical analysis.

Most of the groundwater sampling locations in the study area have wells, as most of the residents of these villages make use of this water for domestic and irrigation purposes. Whether the water is used for drinking is not confirmed. The physico -chemical quality of the ground water sources at and around the project site have been analysed, which indicate that all the parameters analysed are within "Maximum Acceptable Limits' As per drinking water standards given in IS: 10500-2012.
Marunji dam water and reservoir water body parameters are within the prescribed limits given in IS 10500 are for drinking water quality.
The results show that the river water and nallah water contain the typical pollutants within prescribed limits ; nala including fecal coliform. The stretch of the Marunji dam where a sample was collected will be used for drawing drinking water for the development through a lift station. As the water quality does not have any significant issues, there is no evidence of industrial pollution or unauthorized sewers besides development in the area, the dam water is considered to be safe for drinking purposes after conventional water treatment and disinfection.
Ground water and Surface Water quality analysis reports are attached as an ***Annexure 7***

3.2.2 Water Availability

The proposed project is in the jurisdiction of PMRDA. During construction phase total water requirement will be 24 KLD including construction activities and labour domestic use. The water will be met through authorized water tanker.
During operation phase, the fresh water requirement will be 335.60 KLD. The fresh water will be lifted from Mula river in WTP and will be supply to the buildings through a piped water distribution system.

3.3 Air Environment

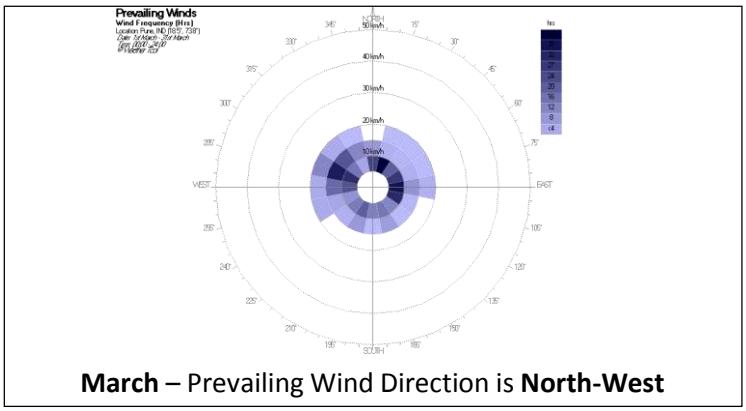
Ambient Air Quality (AAQ) is an indication of overall state of environment of a particular area. AAQ is an important criterion for healthy environment and its degradation causes various long-term impacts on the human health. AAQ can be termed to be good only if it is having proportionate concentrations of natural gases like oxygen, nitrogen etc. Toxic gases like SO_2, NOx, CO, CO_2, Hydrocarbons, and chlorofluorocarbons; introduced through various polluting sources cause degradation of ambient air quality. To understand the air quality in the study area, primary air samples are taken at specific locations in the immediate vicinity of the project site.

To understand the baseline air environment, it is important to have information about the area's climatic conditions and primary parameters or meteorology such as rainfall data, wind direction and wind speeds. This data can help understand the way air pollutant dispersion may happen on the project site.

3.3.1 Climate Conditions in the Study Area

Based on the Indian Meteorological Department (IMD) data for Pune Station, Based on the Indian Meteorological Department (IMD) data for Pune Station, the average annual rainfall is 763 mm in the study area. On plotting the Windrose diagram on the study area, it can be inferred that the

primary wind direction is North-west March month. Figure 3.8 gives the Windrose diagram for the study area. The average summer temperature during the month of March was 32 to 37 deg C The climatic condition is a dry tropical climate.



March – Prevailing Wind Direction is **North-West**

Figure 3.8 Wind rose Diagram for the Study Area

3.3.2 Ambient Air Quality

Ambient air quality of the study area has been assessed during study period for the month of March 2021, through a network of seven ambient air quality stations within an area of 5 km region around the project.

The locations for Ambient Air Quality Monitoring were decided based on the guidelines given in EIA manual from MoEF&CC and micro and macro meteorological condition like wind direction, wind speed, temperature etc.

The monitoring stations have been setup in order to locate the locations as close as feasible to the anticipated maximum pollutant concentration areas. Logistic consideration such as accessibility, security and availability of reliable power supply etc. were also examined while finalized the stations.

The concentrations of PM_{10}, $PM_{2.5}SO_{2,}$ $NO_X$and CO samples were collected as 24-hourly average by drawing air at the rate of 1.0 -1.5 m^3/min through glass fibre filter paper and analyzing by the gravimetric method. Concentrations of SO_2 and NO_X were analyzed by absorption & colorimetric method. Recalibrated fine dust particulate samplers were used for monitoring of PM_{10}& $PM_{2.5}$.

The Monitoring and analysis of the samples was carried out through the NABL approved laboratory. To understand the air quality in the study area, primary air samples are taken at specific locations in the immediate vicinity of the project site. Figure 3.9 gives the locations of air sampling stations in the study area.

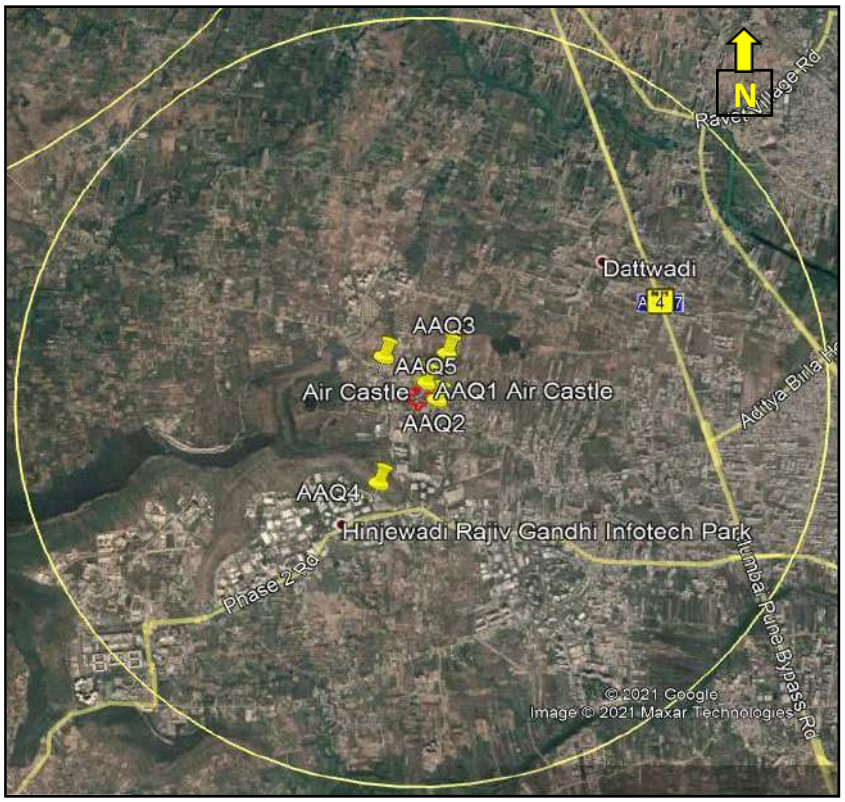


Figure 3.9 Air Sampling Locations in the Study Area

Table 3.8 gives details of the air sampling locations.

Sampling Location Code	Name of the Sampling Location	Latitude-Longitude of the Sampling Location	Distance & Direction of the location from the project site	Specific Observations about the Sampling Location
AAQ1	Project site	18°36'34.99"N 73°43'5.29"E	--	Residential area
AAQ2	Near Alard Public School	18°36'27.39"N 73°43'10.87"E	110 m towards South- East from project site	College premises
AAQ3	12 m wide Marunji Road	18°36'36.68"N 73°43'11.43"E	Adjacent to the project site	Service road
AAQ4	near Infosys	18°35'52.00"N 73°42'47.25"E	1.4 km towards south direction from project site	IT park premises
AAQ5	Marunji Gaon	18°36'44.93"N 73°42'47.59"E	540 m form Site towards North-West direction	Near Marunji Grampanchayat office.

Table 3.9 Details about the Air Sampling Locations

The air samples were analysed for the following pollutants namely, PM_{10}, $PM_{2.5}$, SO_2, Nox& CO. The air samples show the following air quality in the study area. Table 3.10 gives the air quality monitoring results.

Sampling Location Code	PM_{10} (µg/m^3)				$PM_{2.5}$ (µg/m^3)				SO_2 (µg/m^3)				NOx (µg/m^3)				CO (mg/m^3)			
	Max	Min	Mean	98th Percentile	Max	Min	Mean	98th Percentile	Max	Min	Mean	98th Percentile	Max	Min	Mean	98th Percentile	Max	Min	Mean	98th Percentile
AAQ1	67.2	58.3	62.88	67.08	36.6	30.2	32.98	36.33	24.9	20.5	22.58	22.84	29.7	24.2	24.78	29.44	1.3	0.85	1.03	1.27
AAQ2	66.2	58.2	61.72	66.07	36.6	25.3	31.71	36.46	25.9	19.5	22.16	25.76	28.7	23.6	25.95	28.58	1.9	0.70	1.15	1.83
AAQ3	68.7	58.3	62.93	68.28	36.6	30.7	33.32	36.27	25.5	19.4	22.83	25.41	29.7	24.6	27.35	29.63	1.6	0.80	1.18	1.57
AAQ4	58.3	53.7	55.63	58.14	37.6	32.3	34.73	37.46	24.9	21.8	23.46	24.84	29.7	26.8	28.53	29.70	1.3	0.8	1.06	1.3
AAQ5	58.8	54.2	55.97	58.57	39.3	36.3	37.87	39.3	21.1	18.9	19.61	20.97	28	23.8	26.26	28	1.2	0.8	0.98	1.18

Table 3.10 Analysis of Ambient Air Quality in Study Area

Observations

• **PM10** – A maximum value of 67.2 µg/m^3 were observed at project site and 12 m wide Marunji road, minimum value of 53.7 µg/m^3 was observed at Infosys location. Observed values are well within the NAAQ specific standards of 100 µg/m^3 for residential areas. The average values ranged from 55.67 µg/m^3 to 65.06 µg/m^3. 98th percentile ranged between 58.14 µg/m^3 to 67.10 µg/m^3.

• **PM2.5** – The maximum value of 37.6 µg/m^3 were observed at almost all locations and minimum value observed 28.3 µg/m^3 near Alard Public School. The values are within the permissible limits of NAAQ specified standards of 60 µg/m^3 for residential areas. The average values ranged from 34.3 µg/m^3 to 37.87 µg/m^3. 98th percentile ranged between 37.4 µg/m^3 to 39.3 µg/m^3.

• **SO2** – Maximum concentration of SO_2 observed 25.9 µg/m^3 near Alard Public School and minimum value of 18.9 µg/m^3 at Marunji Gaon. Observed values are well within the NAAQ specified standards of 80 µg/m3 for residential areas. The average values ranged from 19.61 µg/m^3 to 23.46 µg/m^3. 98th percentile ranged between 20. 97 µg/m^3 to 25.76µg/m^3.

• **NOX** – Maximum concentration of NOx was observed 28 µg/m^3 and minimum value 23.80 at Marunji Gaon. The observed values are well within the NAAQ specified standards of 80 µg/m^3 for residential areas. The average values ranged from 26.26 µg/m^3 to 28.53 µg/m^3. 98th percentile ranged between 28 µg/m^3 to 29.7 µg/m^3.

Based on the ambient air analysis, the air quality in the study are cannot be inferred.

3.4 Noise Environment

Noise caused due to construction equipment and activities are a significant source of environmental pollution. Hence, before any project activity begins, it is important to ascertain the baseline noise levels on the project site and its immediate vicinity.

An assessment of baseline noise quality was under taken to establish the status of exposure of the major sensitive receptors.

Noise generating sources have been identified with respect to the activities, viz. construction noise and ambient noise. The measurements were carried out in such a way that the monitoring locations were 1 m away from the sources and 1 m away from the edge of the roads.

Noise monitoring was conducted at five locations within the study area. The background monitoring program was done in accordance with the requirements of an EIA study. Sound pressure level (SPL) measurements were automatically recorded to give the noise level for every hour continuously for 24hours in a day for the month of May 2021. These monitoring locations are detailed in Table Figure 3.10 and Table 3.11

Figure 3.10 gives locations of the noise monitoring stations in the study area.

Sampling Location Code	Name of the Sampling Location	Latitude-Longitude of the Sampling Location	Distance & Direction of the location from the project site	Specific Observations about the Sampling Location
N1	Project site	18°36'34.81"N 73°43'6.80"E	--	Near entry gate, residential zone
N2	Near Fabrication Unit	18°36'31.11"N 73°43'26.33"E	200 m towards East side of Project	Industrial zone
N3	Marunji Gaon	18°36'44.90"N 73°42'58.03"E	330 m towards NW side of Project	Near Marunji Hospital-Silent zone
N4	Near Infosys	18°35'52.83"N 73°42'47.76"E	1.09 km, S side of Project	Commercial zone
N5	Near Life Life repuplic society by Kolte Patil	18°37'7.53"N 73°42'38.22"E	1.2 km of North-West side of the project	Residential Area

Table 3.11 Noise Monitoring Locations in the Study Area

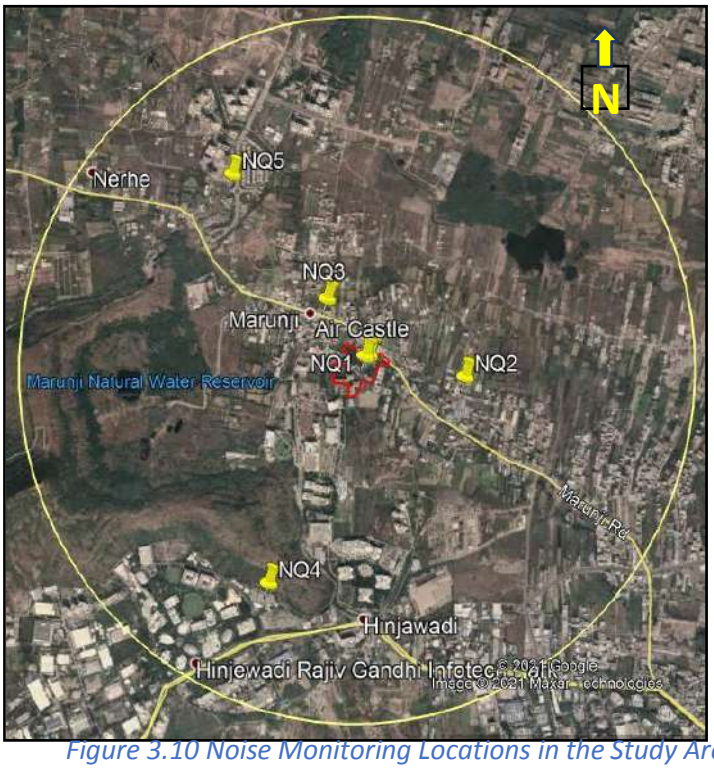


Figure 3.10 Noise Monitoring Locations in the Study Area

The following Table 3.11 gives the results of noise monitoring in the study area.

Location	Project site	Near Alard Public School	12 m wide Marunji Road	IT Park - near Infosys	Near Marunji Gaon
Time	**N1**	**N2**	**N3**	**N4**	**N5**
6.00	58.6	58.9	52.8	53.6	51.2
7.00	58.4	58.7	48.9	52.4	52.6
8.00	58.9	55.6	58.4	51.6	50.3
9.00	52.6	52.8	58.9	50.4	51.6
10.00	54.2	48.9	52.1	51.6	51.8

11.00	55.6	58.4	59.4	52.4	52.3
12.00	55.6	58.9	51.3	53.6	54.3
13.00	56.8	52.6	52.3	51.4	53.6
14.00	57.9	54.2	52.6	52.6	51.4
15.00	58.9	58.4	53.6	51.4	52.9
16.00	58.7	58.9	51.3	52.3	51.4
17.00	55.6	55.6	52.4	53.3	53.6
18.00	52.8	52.8	53.6	54.9	52.4
19.00	48.9	48.9	52.4	56.4	51.4
20.00	51.9	51.9	51.0	51.2	50.6
21.00	49.7	55.6	52.3	59.3	51.4
22.00	50.2	52.8	51.4	51.3	52.3
AVG Day	**55.01**	**54.93**	**53.21**	**52.92**	**52.06**
23.00	44.3	42.3	41.2	45.3	42.6
24.00	40.3	41.6	43.6	42.3	41.6
1.00	41.6	44.5	42.5	41.6	43.6
2.00	42.5	42.9	41.6	40.5	44.1
3.00	39.6	40.7	40.8	41.6	42.6
4.00	40.5	41.3	41.6	40.5	41.6
5.00	38.3	42.3	40.2	41.3	40.8
AVG Night	**41.01**	**42.22**	**41.64**	**42.01**	**42.41**

Day time shall mean from 6.00 a.m to 10.00 p.m

Night time shall mean from 10.00 p.m to 6.00 a.m

Table 3.12 Results of Noise Monitoring in the Study Area

Observations

The noise levels in the study area vary between 38.54– 39.94 dB (A) during night time & 43.11 – 45.26 dB (A) during day time. Noise level readings are observed that the maximum noise levels at all the locations are within the limits specified for residential area.

Please refer **Annexure 7** for Noise Monitoring Reports

3.5 Biological Environment

Ecology and Biodiversity survey was carried out on the project site and secondary sources of information were used for the study area to understand the status of biological environment in the study area.

3.5.1 Method of Survey

Physical survey carried out for flora, birds and butterflies. The survey was planned based on details of site provided by developer and Google Earth images.

Flora:

Check-list Survey: The site is almost fully constructed and landscaped. There are two open plots where there is some natural vegetation. Since most of the vegetation is planted in a orderly manner and there is only a small patch of native vegetation a check-list based survey method was used to document the floral diversity. All species of flora encountered were noted down while covering the entire plot on foot. Unidentified species were photographed and identified later using standard references

Fauna:

Birds: Check-list Survey: Since the size of the site is small enough to cover the entire site on foot a walking count of birds was made to arrive at a checklist of bird species observed. Butterflies: Check-list Survey: Since the size of the site is small enough to cover the entire site on foot an encounter survey was carried by walking across different parts of the site and noting down the species

Secondary data:

Secondary data sources (see references page) were used for arriving at a list of mammal, reptile and amphibian species likely to be present at the site. If any mammals, reptiles and amphibians were spotted during site visits then such sightings were noted down and added to the lists.

Though physical survey was carried out for birds and butterflies, secondary sources (see references page) also studied to determine species likely to be present but not encountered during physical site survey.

3.5.2 Habitat

There are two open plots on the site with some natural vegetation. The rest of the site is completely constructed and the residences have been occupied and it operates as a housing society. This area is fully landscaped which orderly plantation of trees and landscaped areas. Many species planted in the landscaped area are native and a few are exotic.

Out of the open plots one is sparsely covered with slow shrubbery with a couple of trees. This plot is disturbed and there is some debris lying on the plot. The other open plot is almost entirely covered with Subabhul trees. The ground is almost totally taken over by Subabhul saplings. There are very few other plant species here owing to the Subabhul invasion.

There is a small patch of vegetation inside the residential area next to the stream which has very dense vegetation. There are trees in the centre of the plot and very dense thickets of shrubs and herbs. There is good bird activity here.

There is also a stream which runs through the plot but this has been completely covered and made into a walking path.

Observations of Flora:

Trees: Out of the open plots one is sparsely covered with slow shrubbery with a couple of trees. This plot is disturbed and there is some debris lying on the plot. The other open plot is almost entirely covered with Subabhul trees. The ground is almost totally taken over by Subabhul saplings. There are very few other plant species here owing to the Subabhul invasion.

There is a small patch of vegetation inside the residential area next to the stream which has very dense vegetation. There are trees in the centre of the plot and very dense thickets of shrubs and herbs. There is good bird activity here.

There is also a stream which runs through the plot but this has been completely covered and made into a walking path.

Shrubs:

13 shrub species are occurring on site out of which only two are native. The only naturally growing species are Eranda (Ricinus communis) and Ghaneri/Tantani (Lantana camara). All the other shrub species are part of the landscaping.

Herbs, Climbers and Grasses:

Nine species of herbs encountered at site out of which three are native.
There are four species of climbers and the only species of grass is Bamboo which has been planted.

The primary survey lists the flora encountered on the project site. It is depicted in Table 3.12.

Sr. No.	Common Name/Scientific Name	Botanical Name	Exotic/Native
Trees			
1.	Kadunimb /Neem	*Azadirachta indica*	Native
2.	Pimpal/Peepal/Holy Fig	*Ficus religiosa*	Native
3.	Sonchapha/Golden Champa/Champak	*Magnolia champaca*	Native
4.	Kadamba	*Neolamarckia cadamba*	Native
5.	Weeping Fig	*Ficus benjamina*	Native
6.	Kanchan	*Bauhinia sp.*	Native
7.	Coconut	*Cocos nucifera*	Native
8.	Amba/Mango	*Mangifera indica*	Native
9.	Shankasur/Peacock Flower	*Caesalpinia pulcherrima*	Native
10.	Umbar/Cluster Fig	*Ficus racemosa*	Native
11.	Taman/Jarul/Queen Crape Myrtle	*Lagerstroemia speciosa*	Native
12.	Babhul/Gum Arabic	*Vachellia nilotica*	Native
13.	Satvin/Devil's Tree/Scholar Tree	*Alstonia scholaris*	Native
14.	Jangli Badam/Indian Almond	*Terminalia catappa*	Native
15.	Ashok/False Ashok/Mast Tree	*Monoon longifolium*	Native
16.	Bahava/Indian Laburnum	*Cassia fistula*	Native
17.	Khair/Cutch Tree	*Senegalia catechu*	Native, observed growing as a sapling on site
18.	Gulmohar	*Delonix regia*	Exotic
19.	Frangipani	*Plumeria rubra*	Exotic
20.	Pichkari/African Tulip Tree	*Spathodea campanulata*	Exotic
21.	White Silk-Cotton	*Ceiba pentandra*	Exotic
22.	Royal Palm	*Roystonea regia*	Exotic
23.	Pink Trumpet Tree	*Tabebuia sp.*	Exotic
24.	Peru/Guava	*Psidium guajava*	Exotic, fruit tree
25.	Mahogany	*Swietenia macrophylla*	Exotic
26.	Subabhul	*Leucaena leucocephala*	Exotic, Invasive
27.	Singapore Cherry	*Muntingia calabura*	Exotic
28.	Weeping Bottlebrush	*Melaleuca viminalis*	Exotic
Shrubs			
29.	Tagar/Crape Jasmine	*Tabernaemontana divaricata*	Native
30.	Eranda/Castor	*Ricinus communis*	Native, medicinal
31.	Duranta	*Duranta erecta*	Exotic, attracts butterflies
32.	Ghaneri/Tantani/Lantana	*Lantana camara*	Exotic, Invasive

33.	Yellow Bells	*Tecoma castanifolia*	Exotic
34.	Bougainvillea	*Bougainvillea sp.*	Exotic
35.	Bitti/Mexican Oleander	*Cascabela thevetia*	Exotic
36.	Yellow Allamanda	*Allamanda cathartica*	Exotic
37.	Areca Palm	*Dypsis lutescens*	Exotic
38.	Lady Palm	*Rhapis excelsa*	Exotic
39.	Chinese Fan Palm	*Livistona chinensis*	Exotic
40.	Magnificent Angel's Trumpet/Pink Angel's Trumpet	*Burgmansia x insignis*	Exotic, ornamental cultivar
Herbs			
42.	Blue Snakeweed	*Stachytarpheta urticifolia*	Native
43.	Alternanthera/Stalkless Joyweed	*Alternanthera sessilis*	Native
44.	Aghada/Prickly Chaff Flower	*Achyranthes aspera*	Native
45.	Gholu/Purslane	*Portulaca oleracea*	Naturalized
46.	Kalanchoe/Air Plant	*Kalanchoe pinnata*	Exotic
47.	Wild Poinsettia	*Euphorbia heterophylla*	Exotic
48.	Spider Lily	*Hymenocallis littoralis*	Exotic
49.	Kardal/Canna	*Canna sp.*	Exotic
50.	Moses in Cradle	*Tradescantia spathacea*	Exotic
Climbers			
51.	Madhumalati/Rangoon Creeper	*Combretum indicum*	Native
52.	Morning Glory	*Ipomoea sp.*	Exotic
53.	Gokarna/Butterfly Pea	*Clitoria ternatea*	Exotic
54.	Red Passionflower	*Passiflora coccinea*	Exotic
Grasses/Bamboo			
55.	Golden Bamboo	*Phyllostachys aurea*	Exotic

Table 3.13 The primary survey lists the flora encountered on the project site

Fauna:

Walking counts and point counts were conducted for birds in different areas of the site to ensure coverage of all types of habitats as well as covering the entire area. Butterfly species observed were noted down while covering different habitats and areas of the site

Birds:

16 species of birds were observed at the site during survey. Most of these species are among those commonly seen in the city. Species like Spot-breasted Fantail and Tickell's Blue Flycatcher wereseen in the dense vegetation patch near the stream. This patch shows good bird activity

Table 3.13 Shows the list of bird species observed at site.

Sr. No.	Common Name	Zoological Name
1.	Ashy Prinia	Prinia socialis
2.	Asian Koel	Eudynamys scolopaceus
3.	Baya Weaver	Ploceus philippinus

4.	Black Drongo	Dicrurus macrocercus
5.	Common Iora	Aegithina tiphia
6.	Common Myna	Acridotheres tristis
7.	Coppersmith Barbet	Psilopogon haemacephalus
8.	Indian White-eye	Zosterops palpebrosus
9.	Large-billed Crow	Corvus macrorhynchos
10.	Oriental Magpie-Robin	Copsychus saularis
11.	Red-vented Bulbul	Pycnonotus cafer
12.	Red-wattled Lapwing	Vanellus indicus
13.	Red-whiskered Bulbul	Pycnonotus jocosus
14.	Rock Pigeon	Columba livia
15.	Spot-breasted Fantail	Rhipidura albogularis
16.	Tickell's Blue Flycatcher	Cyornis tickelliae

Table 3.14 Shows the list of bird species observed at site

Butterflies:

One species of butterflies were observed on the site. The site is well landscaped and there are many plants which would serve as host and nectaring plants and hence many more butterfly speciescould possibly be seen on the site.

Table 3.14 shows the detailed list of butterflies observed in study area.

Sr. No.	Common Name	Zoological Name
Butterflies Observed		
1.	Common Emigrant	Catopsilia pomona
Butterflies likely to be present – from secondary data		
2.	African Babul Blue	Azanus jesous
3.	Blue Mormon	Papilio polymenstor
4.	Blue Pansy	Junonia orithya
5.	Bright Babul Blue	Azanus ubaldus
6.	Blue Tiger	Tirumala limniace
7.	Common Banded Awl	Hasora chromus
8.	Common Baron	Euthalia aconthea
9.	Common Castor	Ariadne merione
10.	Common Cerulean	Jamides celeno
11.	Common Crow	Euploea core
12.	Common Emigrant	Catopsilia pomona
13.	Common Evening Brown	Melanitis leda
14.	Common Grass Yellow	Eurema hecabe
15.	Common Gull	Cepora nerissa
16.	Common Jezebel	Delias eucharis
17.	Common Leopard	Phalanta phalantha
18.	Common Mormon	Papilio polytes
19.	Common Pierrot	Castalius rosimon
20.	Common Rose	Pachilopta aristolochiae
21.	Common Sailor	Neptis hylas
22.	Common Silverline	Spindasis vulcanus
23.	Common Three Ring	Ypthima asterope
24.	Common Wanderer	Pareronia valeria
25.	Crimson Rose	Pachilopta hector

26.	Danaid Eggfly	Hypolimnas misippus
27.	Dark Cerulean	Jamides bochus
28.	Dark Grass Blue	Zizeeria karsandra
29.	Dull Babul Blue	Azanus Uranus
30.	Glassy Tiger	Parantica aglea
31.	Gram Blue	Euchrysops cnejus
32.	Grass Demon	Udaspes folus
33.	Great Eggfly	Hypolimnas bolina
34.	Grey Pansy	Junonia atlites
35.	Indian Palm Bob	Suastus gremius
36.	Indian Skipper	Spialia galba
37.	Indian Sunbeam	Curetis thetis
38.	Lemon Pansy	Junonia lemonias
39.	Lesser Glass Blue	Zizina otis
40.	Lime	Papilio demoleus
41.	Mottled Emigrant	Catopsilia pyranthe
42.	Painted Lady	Vanessa cardui
43.	Pale Grass Blue	Pseudozizeeria maha
44.	Pea Blue	Lampides boeticus
45.	Peacock Pansy	Junonia almanac
46.	Pioneer	Belenois aurota
47.	Plains Cupid	Chilades pandava
48.	Plain Tiger	Danaus chrysippus
49.	Psyche	Leptosia nina
50.	Red Pierrot	Talicada nyseus
51.	Rice Swift	Borbo cinnara
52.	Small Grass Yellow	Eurema brigitta
53.	Small Orange Tip	Colotis etrida
54.	Spotless Grass Yellow	Eurema laeta
55.	Striped Tiger	Danaus genutia
56.	Tailed Jay	Graphium Agamemnon
57.	Tawny Coster	Acraea terpsicore
58.	Tawny Coster	Acraea terpsicore

Table 3.15 shows the detailed list of butterflies observed in study area.

Mammals:

No mammal species were observed on the site. But it is possible that common mammals like Mongoose and species of rodents and shrews as well as squirrels would be present on site. Bats would also be attracted to fruit bearing trees.

Table 3.15 shows the detailed list of mammals likely to be present in study area.

Sr. No.	Common Name	Zoological Name
1.	Indian Pygmy Shrew	Suncus etruscus
2.	Fulvous Fruit Bat	Rousettus leschenaultii
3.	Indian Flying Fox	Pteropus giganteus
4.	Short-nosed Fruit Bat	Cyanopterus sphinx
5.	Indian Pipistrelle	Pipistrellus coromandra
6.	Indian Pygmy Pipistrelle	Pipistrellus tenuis

7.	Great Yellow House-bat	Scotophilus heathii
8.	Lesser Yellow House-bat	Scotophilus kuhlii
9.	Indian Bushrat	Golunda ellioti
10.	Indian Gerbil	Tatera indica
11.	Common House Rat	Rattus rattus
12.	Little Indian Field Mouse	Mus booduga
13.	Common House Mouse	Mus musculus
14.	Indian Mole-rat	Bandicota bengalensis
15.	Bandicoot Rat	Bandicota indica
16.	Three-striped Palm Squirrel/Indian Palm Squirrel	Funambulus palmarum
17.	Indian Grey Mongoose	Herpestes edwardsii

Secondary source

Table 3.16 shows the detailed list of mammals likely to be present in the study area.

Reptiles and Amphibians:

No reptile or amphibian species were observed during the survey. It is likely that common snake species like Indian Rat Snake are present. Apart from that it is very likely that Oriental Garden Lizard and some species of geckos and skinks are present on the site.

No amphibian species were observed during the survey. Many amphibians are active at night during the monsoon and hence difficult to spot during the day.

Table 3.16 shows the detailed list of reptiles likely to be present in the study area.

Sr. No.	Common Name	Zoological Name
1.	Bark gecko	Hemidactylus leschenaultia
2.	Indian Garden Lizard	Calotes versicolor
3.	Spotted Supple Skink	Lygosoma punctatus
4.	Keeled Indian Mabuya	Eutropis carinata
5.	Brahminy Worm Snake	Ramphotyphlops braminus
6.	Beaked Worm Snake	Rhinotyphlops acutus
7.	Indian Sand Boa	Eryx johnii
8.	Common Indian Trinket Snake	Elaphe Helena
9.	Common Wolf Snake	Lycodon aulicus
10.	Green Keelback	Macropisthodon plumbicolor
11.	Banded Kukri Snake	Oligodon arnensis
12.	Indian Rat Snake	Ptyas mucosus
13.	Common Indian Krait	Bungarus caeruleus
14.	Spectacled Cobra	Naja naja
15.	Russell's Viper	Daboia russelii
16.	Saw-scaled Viper	Echis carinatus

Secondary source

Table 3.17 shows the detailed list of reptiles likely to be present in study area

Table 3.17 shows the detailed list of amphibians likely to be present in study area

Sr. No.	**Common Name**	**Zoological Name**
1.	Skipper Frog	*Euphlyctis cyanophlyctis*
2.	Indian Bullfrog	*Hoplobatrachus tigerinus*

3.	Indian Burrowing Frog	*Sphaerotheca breviceps*
4.	Common Indian Toad	*Bufo melanostictus*

Secondary source

Table 3.18 shows the detailed list of amphibian likely to be present in study area

The primary survey lists the flora and fauna encountered on the project site. It is appended in **Annexure 2.**

Impact on Ecology

Based on the ecological impact study conducted in study area, major impacts are identified. Construction of infrastructure and subsequent rise in construction activity in the area may lead to higher emissions, load on natural resources like water, loss of natural habitat connectivity in the landscape, higher human presence leading to increased traffic, light and noise, setting the trend of type of construction – all these factors will contribute to the overall modification of ecology of the region.

3.6 Socio-economic Environment

To understand the demographic profile, employment status, literacy and availability of socio-cultural infrastructure in the immediate vicinity of the proposed project site, a sampling of socio-economic survey was conducted. Specific groups of stakeholders were identified and survey tools were used to gather their responses. Census and other government sources are referred to get demographic and literacy profile of the study area.

Within the study area, approximately 17 number of village gaothans are identified as indicated in Figure 3.11 below Google Earth Showing location of villages within the study area. Based on available Census data, supplemented by some primary surveys, the following information is recorded for the villages within the study area in Table 3.18

3.6.1 Objective of the study

The present study attempts to delineate the social and economic profile of the site area, identify potential critical impacts due to the proposed project and suggests mitigative measures and recommendations to minimize the impacts on local community.

Generally, in SE report, the impacts of any development activity is summarized from the third person's view, to understand the opinion of the community regarding the proposed development, the benefits and disadvantages etc. This study talks about how the project will have effects on lifestyle, quality of life and health on the local community

3.6.2 Data collection Method and Techniques

To understand the overall public opinion of the project, data is collected in the study area with the use of Site visit, social screening, discussions with villagers and visits of villages. As per stated Minutes of meeting of ToR, secondary data for socio-economic profiling is used for the study area of 10 km. Secondary sources of data used are as follows:

2011 census records of primary census abstract of Maharashtra and civic amenities data, through site visits was collected. During site visit discussion with locals was done to understand their opinion or concerns.

Socio Economic study is conducted for a study area of 10 km radius around the proposed area development project. It is observed that the entire 10 km study area falls under Pune District.
Within the study area, approximately 22 number of village gaothans are identified as indicated in Figure 3.11 below. Based on available Census data, supplemented by some primary surveys, the following information is recorded for the villages within the study area in Table 3.12

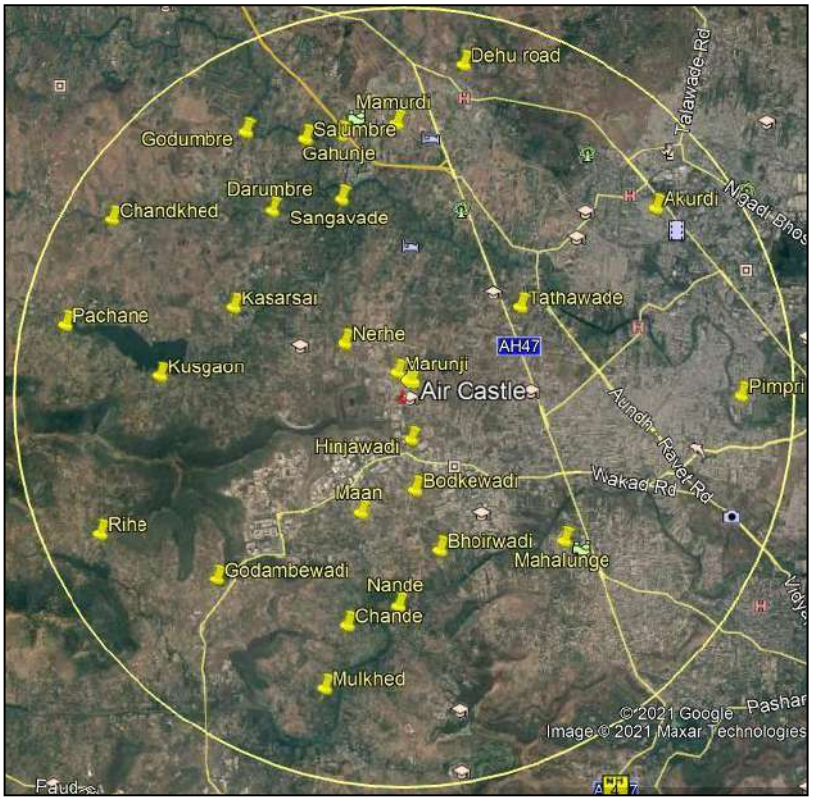


Figure 3.11 Location of villeges within the study area

Name	No_HH	TOT_P	TOT_M	TOT_F	P_SC	M_SC	F_SC
Gahunje	863	4046	2461	1585	687	356	331
Sangavade	266	1411	703	708	191	93	98
Darumbare	344	1736	893	843	200	112	88
Chandkhed	847	3867	2021	1846	593	299	294
Rihe	424	2124	1122	1002	78	42	36
Godambewadi	183	987	503	484	40	22	18
Man	1661	7527	4043	3484	1112	602	510
Bhoirwadi	138	700	368	332	37	20	17
Chande	258	1273	663	610	150	74	76
Kasarsai	689	3381	1755	1626	386	201	185
Nere	299	1587	810	777	148	73	75
Mahalunge	1517	6471	3426	3045	1254	639	615
Marunji	1145	4853	2827	2026	679	375	304
Mulkhed	243	1159	599	560	38	21	17
Nande	305	1622	871	751	145	78	67
Lavale	1537	6732	3621	3111	700	369	331
Hinjewadi	2856	11459	6294	5165	1767	935	832
Total	**13575**	**60935**	**32980**	**27955**	**8205**	**4311**	**3894**

Table 3.19a Demographic Profile of Villages within the Study Area

Name	P_ST	M_ST	F_ST	P_LIT	M_LIT	F_LIT	P_ILL	M_ILL	F_ILL
Gahunje	140	71	69	2851	1782	1069	1195	679	516
Sangavade	69	29	40	1022	557	465	389	146	243
Darumbare	12	5	7	1250	697	553	486	196	290
Chandkhed	858	448	410	2282	1318	964	1585	703	882
Rihe	23	10	13	1418	830	588	706	292	414
Godambewadi	0	0	0	657	370	287	330	133	197
Man	398	222	176	5065	2926	2139	2462	1117	1345
Bhoirwadi	0	0	0	537	291	246	163	77	86
Chande	101	54	47	801	467	334	472	196	276
Kasarsai	52	24	28	2465	1384	1081	916	371	545
Nere	25	12	13	1109	605	504	478	205	273
Mahalunge	350	178	172	4714	2664	2050	1757	762	995
Marunji	190	106	84	3442	2211	1231	1411	616	795
Mulkhed	4	1	3	833	455	378	326	144	182
Nande	33	22	11	1262	731	531	360	140	220
Lavale	497	257	240	4543	2598	1945	2189	1023	1166
Hinjewadi	194	106	88	8171	4793	3378	3288	1501	1787
Total	**2946**	**1545**	**1401**	**42422**	**24679**	**17743**	**18513**	**8301**	**10212**

Table 3.19 b Demographic Profile of Villages within the Study Area

As per above tables Nos. 3.12a and 3.12b, 17 villages come under study area with a combined population of 60935. A total number of 13575 houses. Out of 17 villages, Man, Marunji, Mahalunge, Hinjewadi and Lavale have more than 1000 houses. All these four villages are very close to the city. The Marunji village where the project is located has a population of 4853 and 1145 houses. Bhoirwadi village has the lowest number of Scheduled Castes i.e. 37 and Godambewadi and Bhoirwadi villages have no Scheduled Tribes. The total population of Scheduled Tribes is 2946. Out of the total population, 69.61% are literate. Both the above tables are based on the 2011 census and the figures will definitely be very different in 2021.

3.6.3 Employment opportunities due to project

Opportunity for employment generation- Few people have migrated for the jobs and some are already having small jobs here. Many utilities have already been introduced in this project is going to create a lot of jobs. The locals that have migrated, now that they have a job, they can come back to their homes. Job opportunities both skilled, non skilled in all categories could be available here i.e. office Services, Transportation services, Security services, housemaids, drivers, Garden services, technicians, professional, etc.

Opportunity to grow local business- People from the villages around the project run small and large businesses here. The market is a business selling agricultural products from neighboring villages. Businesses of some people in the nearby project area like construction project suppliers, fish shops dumper vehicle services, shops, market material suppliers, dairies, brokerage establishments, hotels

etc. The project will definitely boost the lives of these people and help them improve their businesses.

The proposed project falls in an area where social infrastructure is well developed. Table 3.20 gives a list of social infrastructure available within the study area.

Sr. No.	Hospitals	Distance in km
1	Aayushri Hospital	0.60
2	Gurukrupa Hospital	2.30
3	City care Hospital	3.60
4	Balaji Multi speciality Hospital	1.1
5	Shree Hospital	3.45
6	Marunji Hospital	0.80
7	Life Care Multi speciality Hospital	1.0
8	Ruby Hall Clinic	6.0
Sr.	**Pre / Primary Schools**	**Distance in km**
1	Lotus Pre School	0.80
2	Kidzz Life Republic	0.75
3	PJK Pre School	1.0
4	Podar Jumbo kids	8.33
5	Star buds day care	9.0
6	Z P School, Marunji	1.2
7	Blue ridge public schoo	3.85
8	Apple Public School	0.5
9	Akshara International School	2.81
10	Mecedes-Benz International Schoo	3.60
Sr.	**Educational Facilities-Colleges**	**Distance in km**
1	Alard High School and Jr. College	Adjacent to site
2	Alard College of Pharmacy	Adjacent to site
3	Alard College of Engineering	Adjacent to site
4	WS School of Businesses	1.5
	S.K English Medium School And R.S Junior College	1.0
6	Crimson Anisha Global School	2.5
7	Dr. D.Y. Patil College of Engineering	6.5
8	Pimpri Chinchwad College of Engineering	6.5
Sr.No.	**Shops & Markets**	**Distance in km**
1	Radhika Super Market	1.2
2	Bombay Fish Market	1.0
3	Saturday Market	7.0
4	Kunal Super Market	3.4
Sr.	**Police Station/Fire Station**	**Distance in km**
1	Hinjewadi Police Station	3.5
2	Marunji Fire Station	3.0
Sr.	**Companies / Industries**	**Distance in km**
1	Deven Infotech PVT Ltd	1.2
2	Embassy Techzone	5.6
3	HCL	2.0

Table 3.20 Social Infrastructure within Study Area

Schools and colleges in study area like Akshara International School and Alard College of Engineering etc. The people in this project will definitely benefit from these schools.
In Marunji, There are plenty of public transport options here. Private vehicles are also available. There are also PMPML and MSRTC buses to travel to Pune and Pimpri Chinchwad in large numbers. The frequency of buses is enough to connect Pune and Pimpri Chinchwad. Also the rest of the villages are well connected by bus.
Bus stop is available in front of the proposed project. Most of the citizens use public transportation. All bus stands and roads are in good conditions. Also bus stands available in rest of the villages and city area.
IT parks like Hinjewadi comes in study area. Hinjewadi is very near from this proposed project. Many IT / private companies are in Hinjewadi IT Park. Companies in the area are doing well outside of their social responsibility (CSR) so that the social environment is also maintained.

There are good facilities in the health sector. Health / medical facilities in such developed areas like hospitals, clinics, dispensaries, drug stores etc. are also available in the study area which are useful to the citizens in case of health problems. In study areas, government hospitals and private clinics / hospitals also provide better facilities.
Fire station is available approximately 3 km from the proposed project site. It will be very helpful during fire emergency.

Recommendations

1. The project site adjoins the road. Proper care should be taken so that road should not be damaged during construction work. During construction phase circumspection should be taken that the drainage water should not enter in the existing project and on the road.
2. Since there is likelihood of fugitive dust from the construction activity, material handling and from the truck movement in the vicinity of the project site, the project proponent should go for tree plantation programme along the approach roads and the construction camps.
3. The construction site should be provided with sufficient and suitable toilet facilities for workers to allow proper standards of hygiene. These facilities would be connected to a STP which should maintain properly to ensure minimum environmental affect.
4. Provide protective equipment; helmets etc., provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
5. Few individuals residing in the nearby hamlets possess some skills as they can work as electrician, fitter, mechanic etc. Such locally available skills can be utilized during the project implementation phase. This will not only help those individuals in terms of creating employment opportunities for them, but also create goodwill for the developer. Non skilled labor available locally can also be utilized during the construction phase.
6. Some individuals in near by project area own businesses such as construction material supplier, water tanker, dumper vehicle services etc which can be during construction phase. This will help to increase local economy. This can also benefit the developer by reducing the cost involved in transport.
7. Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles, guarding all parts of dangerous machinery in good condition.

8. To maintain local micro-environment clean, landscape, green areas.
9. PP should take training and awareness programs for HM Royal residential regarding Fire Safety, Disaster Management, Waste Management, Water saving etc.
10. Information regarding the proposed development, community programmes etc. should be communicated to the project people and local community in the form of booklets and audio-visuals
11. Proper training and awareness programme should be carried out so that the workers understand the importance of wearing the personal protective equipments.

Conclusion

The report is a step towards preparation of baseline study for Socio Economic status. Based on the findings from observations and discussions during the study some measures must be considered from the inception of the project, which will reduce the detrimental effects of project appreciably. Considering above observation it seems that the proposed project will be socially feasible.

3.7 Solid waste

The issue of solidwaste and its improper collection and disposal systems have led to a massive littering and contamination of environmental resources. It is essential to understand if solidwaste systems are established in the study area and whether they can be utilized by the proposed project when the project is in its Operation phase.

It is found through socio-economic surveys that solidwaste management is an established practice within the village gaothans in the study area. As a result, solid waste dump sites are/are not found in the study area at various locations. Based on the estimates of village population numbers and households, we can infer the volume of solidwaste that must be getting generated in the study area.

Sr. no	Name of Village	Travel Distance from Project Site	Estimated Population (no.)	Estimated solid waste generated	
				Biodegradable Waste (60%)	Non-Biodegradable Waste (40%)
V1	Marunji Gaon	0.32 km	4853	1455.9	970.6
V2	Hinjawadi	1.3 km	11459	3437.7	2291.8
V3	Nerhe	1.85 km	1587	476.1	317.4
V4	Darumbre	5.55 km	1736	520.8	347.2
V5	Sangavade	5.0 km	1411	423.3	282.2
V6	Kasarsai	4.7 km	3381	1014.3	676.2
V7	Kusgaon	6.2 km	1112	333.6	222.4
V8	Maan	3.5 km	7527	2258.1	1505.4
V9	Bhoirwadi	4.0 km	700	210	140
V10	Mahalunge	6.0 km	6471	1941.3	1294.2
V11	Chandkhed	8.6 km	3867	1160.1	773.4
V12	Pachane	8.8 km	1657	497.1	331.4
V13	Salumbre	8.5 km	1397	419.1	279.4
V14	Gahunje	6.5 km	4046	1213.8	809.2
V15	Godumbre	7.7 km	1069	320.7	213.8
V16	Mamurdi	6.60 km	634	190.2	126.8
V17	Dehu road	8.30 km	6133	1839.9	1226.6
V18	Chande	6.26 km	1273	381.9	254.6
V19	Nande	5.50 km	1622	486.6	324.4
V20	Mulkhed	7.90 km	1159	347.7	231.8
V21	Godambewadi	6.60 km	987	296.1	197.4
V22	Rihe	8.60 km	2124	637.2	424.8
	Total			19861.5	13241

Table 3.21 Estimated Solidwaste Generated in the Study Area

The proposed project is estimated to generate a total solidwaste of 1845 kg per day. Out of this, 1107 kg per day will be biodegradable waste, while 738 kg per day will be non-biodegradable waste. Considering the general scenario of solidwaste management in the study area, it is inferred that any additional generation of solidwaste will burden the already existing system of solidwaste collection and disposal. Hence, it will be necessary for the proposed project to look at means and methods to treat biodegradable waste and recycle non-biodegradable waste through authorized vendors, by establishing a proper system of collection, storage and handing over.

3.8 Traffic

A separate Traffic Assessment was carried out in the study area to understand the existing condition of traffic and mobility, future growth of vehicles due to the proposed project vis a vis the available and proposed transport infrastructure.

3.8.1 Traffic Impact of the proposed development

Traffic Impact from the proposed development is derived on the basis of the data base, collected from various traffic surveys conducted over the years by the consultants with respect to the traffic generation norms, modal split and vehicle occupancy.

The modal split technique analyses the mode used by the occupants for their day-to-day trips.

Various kinds of vehicles will be passing intersecting through the project, therefore the traffic of any road is considered as mixed traffic condition. To cater this, IRC has recommended "Passenger Car Unit" (PCU). Each vehicle type is converted into equivalent PCUs based on their interference value. IRC has recommended the conversion factors as shown in below Table 3.22.

Type of Vehicles	PCU Factor
Car/Van Jeep	1
Taxi	1
Auto Rickshaw	0.75
Bus	3
Two Wheelers	0.5
Cycle	0.5

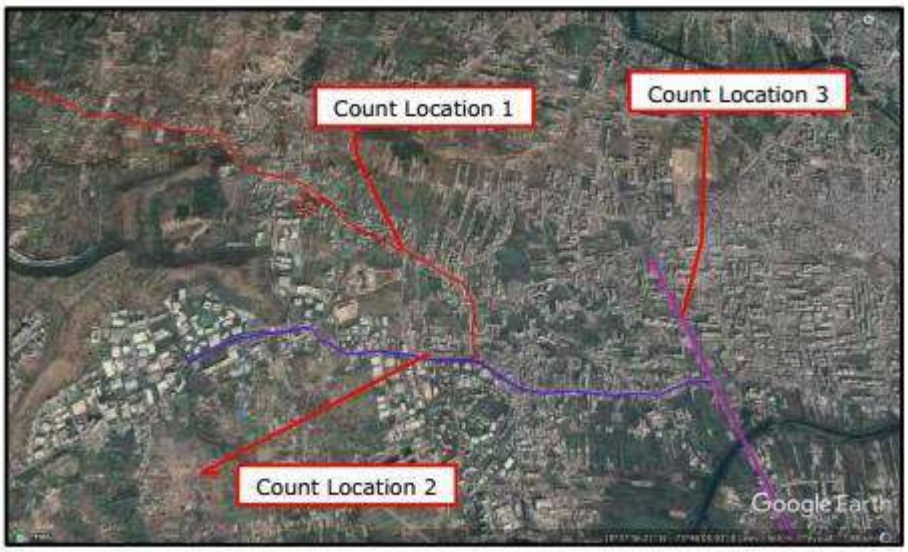
Source-IRC106-1990

Table 3.22 Adopted PCU factors

Based on Modal Split, Vehicles Occupancy Ratio, hourly variation of Traffic and PCU factors, the traffic impact from the proposed area development project when it is fully developed and occupied, in terms of PCU/Day is derived as shown in Table 3.23

It is proposed to analyze the impact of traffic movement due to proposed work of Proposed Project.

Vehicular traffic movement Surveys were carried out at one location. Traffic volume count was conducted at two locations near the proposed development. The survey was carried out to take count of both upstream as well as downstream traffic for 24 hours.
These roads located near site. These roads do not have any signal at this point.



(Source :RCPL)

Figure 3.12 Traffic Survey locations

During Construction Phase

Table 3.23 showing PCU per hour for construction vehicles

Sr. No.	Vehicle Type	Vehicle Count	PCU Factor	Operating Hours	Total Vehicles per hour	Total PCUs per hour
1	Bicycle	30	0.5	2	15.0	7.50
2	2 Wheeler	30	0.8	2	15.0	11.25
3	4 Wheeler	10	1.0	2	5.0	5.00
4	Auto Rickshaw	5	1.4	4	1.3	1.75
5	Light Commercial Vehicles	10	1.4	4	2.5	3.50
6	Heavy Vehicles - Truck / Buses	20	3.7	5	4.0	14.80
7	Trailer	2	4.0	3	0.7	2.67
	Total	107				46.47

Table 3.23 PCU per hour for construction vehicles

Total PCU count per hour- 46.47 PCUs/hr

During Operation phase

Table 3.24 and 3.25 showing *PCU per hour for vehicles for residential sector and commercial sector respectively*

Sr. No.	Vehicle Type	Vehicle Count	PCU Factor	Operating Hours	Total Vehicles per hour	Total PCUs per hour
1	Bicycle	268	0.5	4	67	33.5
2	2 Wheeler	976	0.8	4	244	195.2
3	4 Wheeler	268	1	4	67	67
4	Auto Rickshaw	40	1.2	4	10	12
5	LCV	20	1.4	4	5	7
5	Heavy Vehicles - Buses	10	2.2	5	2	4.4
	Total	1582				90.4

Table 3.24 PCU per hour for vehicles - operation phase

Total PCU count per hour- 90.4 PCU/hr

PCU Count

I) Actual Field Study:

On current Traffic condition maximum PCU are

Count Location 1:

Maximum PCU Count: 758.00 PCUs/hr (Evening)

Count Location 2:

Maximum PCU Count: 1398.00 PCUs/hr (Evening)

Count Location 3:

Maximum PCU Count: 692.20 PCUs/hr (Evening)

II) PCUs during Construction Phase:

Hourly PCUs likely to make impact on current traffic during construction phase per hour = 46.47PCUs/hr

Total PCUs= Maximum of Peak Hours PCUs (Morning vs. Evening) +PCUs during construction Phase

Assume construction vehicles will impact on both the roads.

Count Location 1:

= 758.00 +46.47

= 804.47 PCUs/hr

Count Location 2:

= 1398.00 +46.47

= 1444.47 PCUs/hr

Count Location 3:

= 692.20 +46.47

= 738.67 PCUs/hr

V/C Ratio:

I. Actual Field Study:

Count Location 1: 12Mtr

V/c ratio = 758.00/3000

= 0.25 (B Category)

Count Location 2: 30 Mtr

V/c ratio = 1398.00 / 7200

= 0.19 (A Category)

Count Location 3: 9 Mtr

V/c ratio = 692.20/1500

= 0.46 (C Category)

II. During Construction Phase:

Count Location 1: 12 MTR

V/c ratio = 804.47/3000

= 0.26(B Category)

Count Location 2: 30 MTR

V/c ratio = 1444.47/ 7200

= 0.20 (A Category)

Count Location 2: 9 MTR

V/c ratio = 738.67 /1500

= 0.49 (C Category)

III. Total PCUs after Expansion Project:

1. 36 M wide Road:

V/c ratio = 848.40/8700

= 0.09 (A Category)

2. 60 M wide Road:

V/c ratio = 1488.40 /14400

= 0.10 (A Category)

3. On 12 M wide Road:

V/c ratio = 737.40/3000

= 0.24 (B Category)

Summary of v/c ratios mentioned in below table

Sr. No.	Category	V/C Ratio
A)	**For Current Road Traffic**	
	On Existing 12 M wide Road	0.25 (B Category)
	On Existing 30 M wide Road	0.19 (A Category)
	On Existing 9 M wide Road	0.46 (C Category)
B)	**During Construction Phase**	
	On Existing 12 M wide proposed Road	0.26 (B Category)
	On Existing 30 M wide proposed Road	0.20 (A Category)
	On Existing 9 M wide proposed Road	0.49 (C Category)
C)	**After possession Phase**	
	On proposed 36 M wide Road	0.09 (A Category)
	On Existing 60 M wide Road	0.10 (A Category)
	On New Proposed 12 M wide Road	0.24 (B Category)

Table 3.25 Summary of V/C ratio

Anticipated Development

Assuming 3% natural growth, so anticipated growth will be as follow along with v/c ratios

Year	PCU Count			V/C ratio		
	36 m wide Road	60 m wide Road	12 wide Road	30m wide Road	60 m wide Road	36 wide Road
1	848.4	1488.4	737.4	0.09	0.1	0.24
2	873.85	1533.05	759.52	0.09	0.10	0.25
3	900.07	1579.04	782.31	0.10	0.11	0.25
4	927.07	1626.41	805.78	0.10	0.11	0.26
5	954.88	1675.21	829.95	0.10	0.11	0.27
6	983.53	1725.46	854.85	0.10	0.12	0.28
7	1013.03	1777.23	880.49	0.11	0.12	0.29
8	1043.42	1830.54	906.91	0.11	0.12	0.30
9	1074.73	1885.46	934.12	0.11	0.13	0.30
10	1106.97	1942.02	962.14	0.12	0.13	0.31
11	1140.18	2000.29	991.00	0.12	0.13	0.32
12	1174.38	2060.29	1020.73	0.12	0.14	0.33
13	1209.62	2122.10	1051.36	0.13	0.14	0.34
14	1245.90	2185.77	1082.90	0.13	0.15	0.35
15	1283.28	2251.34	1115.38	0.14	0.15	0.36

Table 3.26 Anticipated Developments

Chapter 4 Anticipated Impacts & Mitigation Measures

4.0 Introduction

Based on the understanding of the baseline environmental condition and the needs and requirements of the proposed projects, anticipated impacts are identified in this Chapter. The impacts identified are direct and indirect; and are both positive and negative in nature. Further, impacts are also categorised as long term and short-term impacts; temporary and permanent impacts; local and widespread impacts.

Impact can be defined as "any alteration of environmental conditions or creation of a new set of environmental conditions, adverse or beneficial, caused or induced by the action or set of actions under consideration".

Once anticipated impacts are identified and its severity is understood, methods and designs to avoid / mitigate are listed under each identified impact as Mitigation measures.

This chapter describes various social and environmental impacts identified and assessed with respect to the project development during construction and operation phases. These impacts have been identified through available project documents – Concept plan.

Analyzing is the objective task of identifying impacts/concerns, taking measurement of baseline conditions and predicting the changes to baseline conditions that are likely to occur as a result of the proposed actions.

Evaluation here is a subjective or normative task, which depends on the application of the human values. It involves determining the significance of the effects to the affected parties.

The proposed project will involve development of an urban settlement and all associated infrastructure facilities. The key baseline environmental and social characteristics of the region are as identified in the earlier chapter are:

- Topography is gently undulating with significant urban growth on all side
- Current Landuse is predominently agriculture, fruit and flower farming.
- Proximity of Pawana river, Indrayani river and presence of a perennial Nala, there by occasional floods is a possibility.
- Good recharge potential, ground water quality.
- Surface water quality of category E as per CPCB
- Moderate to good biodiversity resources, with presence of livestock
- Overall good air quality in the region, within NAQS standards
- Peri urban socio-economic character with pressure of urban development and current livelihood dependent on agricultural and urban services.

Environmental Aspects and Impacts Analysis Approach

The approach adopted in assessing environmental impacts and the mitigation measures for this development is focused primarily on ensuring that:

- The land use and key infrastructure planned for the proposed development is in accordance with Environmental laws and environmental aspects recognised in key sectoral policies (such as Sustainable Habitat, Sustainable Urban transport etc.,)
- Sufficient but optimal space allocation for an activity group or resource (such as water supply, waste management, housing, etc.,) in accordance with sizes or quantum's estimated from need assessment.
- Optimization of usage of other natural resources: Commitment to adopting approach/ methods such as efficiency of utilising natural resources such as energy, water, topography, hydrology.
- Waste generation and its handling including management.

In doing the above, the two distinct and separate phases of the proposed project are considered namely, Construction Phase and Operation Phase.

Prediction of Impacts during Construction Phase

The project is planned over 49,750 m². Project proposes housing units and utilities like Solid waste facility, Electric substation, Sewage treatment plant etc. Based on the activities involved, an impact interaction matrix for construction phase was prepared for the project. The impact identification matrix is presented in Table 4.1.

S. No.	Main Activities	Potential Impact								
		Ecology	Water Resources	Ambient Air Quality	Soil Resource	Ambient Noise Quality	Water Quality	Traffic &Transport	Livelihood	Occupation al Health &Safety
A	**Site Preparation/Reclamation**									
1	Site clearing			√	√		√		√	√
2	Excavation			√	√	√				
3	Access Road	√		√				√		
4	Tree and vegetation clearance	√			√					
5	Transportation of Machinery			√		√		√		√
B	**Labour Engagement**									
1	Construction of Labour camp		√				√			
2	Waste handling & its disposal		√		√		√			√
3	Sewage disposal						√			√
4	Power Supply			√						
5	Water Requirement		√							
C	**Material Handling & Storage**									
1	Transportation & Unloading of construction material			√		√		√		
2	Storage & Handling of construction material			√						√
D	**Construction activities**									
1	Preparation/Mixing of construction material			√		√				
2	Supply of water, power, sanitation facilities		√				√			
3	Operation of construction machinery Handling and Disposal of construction wastes			√		√				√
E	**Demobilisation**									
1	Demobilisation of Construction Equipment						√	√		
2	Dismantling of temporary support construction structures /equipment's					√		√		
3	Removal of construction machinery			√		√		√		
4	Transportation of Construction/Dismantled wastes			√		√		√		

4.1 Land Environment

Land resource is the base upon which the proposed project will be constructed. Land will undergo considerable change and the change is expected to be irreversible over the entire life cycle of the project.

Table 4.1 gives the anticipated impacts on Land Environment.

Sr. no	Anticipated Impacts on Land Environment	Category	Sub Category	Observations
	During Construction Phase			
1	Loss of Topsoil due to its Removal during excavation of site	Direct; negative	Permanent; Local	Tospoil loss is particularly significant as the soil quality shows a good character of soil on project site
2	Change in natural topography of site	Direct, negative	Permanent, Local	The cite being contoured, this change will alter the natural water flows on the site and its vicinity
3	Decrease in permeability of land resource	Direct, negative	Permanent, local	Since paved and hard surfaces will increase, overall permeability of land will decrease
4	Alteration of landcover, leading to urbanization of region	Indirect, positive	Permanent, widespread	Landcover change will be permanent
5	Alteration of water flows	Direct, negative	Permanent, local	The natural drainage pattern of the land will alter
6	Soil Erosion	Direst, negative	Permanent, widespread	Silting of downstream water courses, while losing soil cover on project site
	During Operation Phase			
1	Change in Soil Quality	Direct, negative	Temporary, local	Due to overuse of chemical pesticides and manures for landscaping

Table 4.1 Anticipated Impacts for Land Environment

Based on the above anticipated impacts, the following mitigation measures are recommended for each impact that is envisaged to the land environment. Table 4.2 gives the Mitigation Measures for Impacts on Land Environment

Sr no	Anticipated Impacts on Land Environment	Significance	Mitigation Measures
1	Loss of Topsoil due to its Removal during excavation of site	Significant	Excavated Top soil conserved and reused during existing building 917.04 cum.

			Excavation soil 442.41 cum for proposed will be conserved and stored separately before excavation and shall be used for landscape development once the construction is in peak.
2	Change in natural topography of site	Significant	Excavation, cut and fill of the site will be minimized by planning the buildings as per contours.
3	Decrease in permeability of land resource	Significant	Instead of paving bocks, Grass pavers will be used to maximum extent to increase permeability. Minimum 10% Open space will be provided on virgin land.
4	Alteration of landcover, leading to urbanization of region	Significant	Demarcated 10% of open space will be provided. Around 1188 No. of trees will be planted on site with creation of shrub and lawn area
5	Alteration of water flows	Significant	Natural drainage pattern will be maintained on site. Nala is channelized, ensuring that the water carrying capacity of the nala is not diminished in any way
6	Soil Erosion	Significant	Provision of Soil erosion control measures by considering the slope of the site & sedimentation control measures
7	Change in Soil Quality due to overuse of chemical pesticides and manures for landscaping	Non-Significant	We will make sure the pesticides we are using that product properly to minimize the risks to the environment. Herbal sprays, neem oil will be used on plants. Or use of chemical pesticides will be minimal. Generated organic waste (Biodegradable wet waste) and STP sludge 55 kg/day will be treated in organic waste converter and will be used as manure for gardening. No harmful chemical fertilizers and pesticides will be used.

Table 4.2 Mitigation Measures for Impacts on Land Environment

4.2 Water Environment

Water flows and water quality have the potential to be changed due to construction activities. During Operation phase of the proposed project, the generated wastewater and the demand for

freshwater supply can induce added burden on the existing water supply distribution in the region. Table 4.3 gives the anticipated impacts on the water environment due to the proposed project.

Sr. no	Anticipated Impacts on Water Environment	Category	Sub Category	Observations
	During Construction Phase			
1	Alteration of natural drainage or water flows	Direct; negative	Permanent; widespread	Drainage will not be altered
2	Contamination of water resources due to construction materials in stormwater discharges, leading to water pollution of surface water sources downstream	Direct, negative	Temporary, widespread	Improper storage of construction material.
3	Increasing water demand on the existing water supply infrastructure leading to water shortages to other users	Direct, negative	Permanent, local	Consumption of water for construction purposes & for labours domestic needs
	During Operation Phase			
1	Increasing water demand on the existing water supply infrastructure leading to water shortages to other users	Direct, negative	Temporary, local	Water Demands by residents for various purposes like drinking, bathing, flushing, gardening etc.
2	Contaminate and pollute downstream water sources, if untreated wastewater is released	Direct, negative	Temporary, widespread	Consumption of Untreated water
3	Decreased rainwater recharges into groundwater due to decreased permeability of project site	Direct, negative	Temporary, local	Hard Paved areas like Pathways and walkways in the project will reduce permeability.

Table 4.3 Anticipated Impacts on Water Environment

Based on the above identified impacts on the Water environment resources, the following Table 4.4 outlines the Mitigation Measures that can be undertaken to mitigate the potentially significant impacts.

Sr no	Anticipated Impacts on Water Environment	Significance	Mitigation Measures
1	Alteration of natural drainage or water flows	Significant	No alteration of drainage flows. The site layouts are designed in such a way that the existing drainage patterns are not altered
2	Contamination of water resources due to construction materials in storm water discharges, leading to water pollution of surface water sources downstream	Significant	Materials will be stored in shed and above ground, to avoid ground water pollution. While wheel washing water will be used to its minimal and it will be done at a designated place where it does not cause additional runoff.
3	Increasing water demand on the existing water supply infrastructure leading to water shortages to other users	Significant	In construction phase, fresh water will be used for drinking only. Chemical admixtures will be used for accelerating time required for curing; water reducing admixtures will used for more consistent setting time and higher strength. Gunny bags and pounding methods will be used for moist curing to prevent evaporation of moisture content of the concrete mix. Fresh water will be used for drinking purpose only. Recycled water will be used for construction whenever possible. In operation phase around 56% of water will be recycled for flushing, and Gardening. Water saving measures is adopted to decrease the demand of fresh water.
4	Contaminate and pollute downstream water sources, if untreated wastewater is released	Significant	Labour colony will be provided with portable toilets. During operation phase, STP having capacity 450 KLD has been installed for treatment of sewage generated in the project as per CPCB norms will be reused on site. Care should be taken for minimal discharge of wastewater into grampanchayat drainage line. An awareness program mentioning about the ecofriendly housing practices will be conducted for

			occupants. Replacement of household chemical cleaners with easily biodegradable cleaners will be recommended
5	Decreased rainwater recharges into groundwater due to decreased permeability of project site	Significant	Pathways and walkways in the project will have pavers instead of concrete blocks and the landscaped areas will have grass pavers in order to increase the percolation. Also Rain water harvesting system has been provided for recharging ground water table; all the rooftop runoff will be diverted to the 30 nos. recharge pits on site. Excess runoff discharged into nearby SWD line after filtration.

Table 4.4 Mitigation Measures for Impacts on Water Environment

4.3 Air Environment

Air and access to clean air is one of the most basic human rights. Construction sector is one of the important sectors that add to air pollutants, due to their numerous land excavation and building material use.

In order to understand the impacts of the proposed project on ambient air quality air modelling studies are conducted. The air modelling studies look at potential receptor locations around the proposed project site and predicts the contribution of air pollutants due to construction activity on these receptors. The detailed description of the air modelling study is given in Chapter 7 of this report. However, significant inferences are drawn from the air modelling study to identify the impacts on air environment and outline the corresponding mitigation measures. Table 4.5 gives the Anticipated Impacts on Air Environment.

Sr no	**Anticipated Impacts on Air Environment**	**Category**	**Sub Category**	**Observations**
	During Construction Phase			
1	Increase in air pollutant concentrations, particularly PM10 / PM2.5/SO2/NOx/CO due to movement & operation of construction vehicles and equipment	Direct; negative	Temporary, Local	AQ modelling study indicates that at Receptor PM_{10}, air pollutant concentrations at AAQ1 (Project site), PM2.5 at AAO 5 (Marunji Gaon) may rise due to increased vehicular movement

2	Increase in air pollutant concentrations, particularly PM10 and PM2.5, due to excavation activities	Direct, negative	Temporary, local	There will be increase in PM10 at AAQ 1 74 $\mu g/ m^3$
3	Increase in air pollutant concentrations, particularly PM10 and PM2.5 due to resuspension of dust from unsealed vehicular ways on project site	Direct, negative	Temporary, local	Unpaved /unsealed roads during construction will lead to this
4	Increase in air pollutant concentrations, particularly SO2 due to operation of DG sets	Direct, negative	Temporary, local	AQ modelling prediction indicates the increase at specific receptor locations
5		Direct, negative	Permanent, local	
	During Operation Phase			
1	Increase in air pollutant concentrations, particularly SO2 due to operation of DG sets	Direct, negative	Temporary, local	DG Set will be used as power back leads to air pollution.
2	Increase in air pollutant concentrations, particularly PM10 / PM2.5/SO2/NOx/CO due to movement of resident/user vehicles	Direct, negative	Temporary, widespread	Vehicles used by residents leads to add in air pollution.

Table 4.5 Anticipated Impacts on Air Environment

Based on the anticipated impacts on air quality above, the following Table 4.6 outlines the Mitigation measures that need to be undertaken to reduce/avoid the anticipated impacts. In some cases, where the AQ modelling indicates that a specific receptor is at risk, special mitigation measures are listed.

Sr no	Anticipated Impacts on Air Environment	Significance	Mitigation Measures
1	Increase in air pollutant concentrations, particularly PM10 / PM2.5/SO2/NOx/CO due to movement & operation of construction vehicles and equipment	Significant	PUC certified vehicles will be used for carrying construction materials. Wheel washing of the vehicles shall be done throughout the construction phase.
2	Increase in air pollutant	Significant	Excavation activities will be avoided

	concentrations, particularly PM10 and PM2.5, due to excavation activities		on windy days to reduce dust emissions. Site clearing process will be phased out to only areas that need excavation initially; this reduced the dust emission from currently unused areas. Water sprinkling will be done. Dust suppressants will be used to ensure dust is effectively managed. Dust and air emission can be controlled by development of greenbelt / green cover
3	Increase in air pollutant concentrations, particularly PM10 and PM2.5 due to resuspension of dust from unsealed vehicular ways on project site	Significant	Plantation of tall fast growing trees around the boundary of project prior to construction activity. Open space on 7508.04 sq.m area already developed with 785 nos. of plants. Water sprinkling will be done on site. Traffic will be regulated through proper signage, instruction & parking spaces.
4	Increase in air pollutant concentrations, particularly SO2 due to operation of DG sets	Significant	The DG sets will be installed to provide power backup will adhere to the emission standards specified by Minimal National Standards (MINAS) and stack designed for DG set exhaust will fulfill the minimum stack height criteria. Regular monitoring will be conducted in order to detect the emission levels.
6	Increase in air pollutant concentrations, particularly PM10 / PM2.5/SO2/NOx/CO due to movement of resident/user vehicles	Significant	Site will be provided with entry & exit points, Proper signages and driveways for easy movement of vehicles. Residents will be advised to check & repair their vehicles time to time

Table 4.6 Mitigation Measures for Impacts on Air Environment

4.4 Noise Environment

Noise is unwanted sound. Construction activity produces noise levels that can disturb the immediate locality. Thus, noise impacts are necessarily temporary and local in nature. In order to understand the impact of noise on specific receptors in the immediate vicinity of the proposed project site, noise modelling studies are conducted. Details of the noise modelling carried out are presented in Chapter 7 of this report. Inferences from the noise modelling studies are used to anticipate impacts and

outline mitigation measures here. Table 4.7 gives the Anticipated Impacts of the proposed project on Noise environment.

Sr. no	Anticipated Impacts on Noise Environment	Category	Sub Category	Observations
	During Construction Phase			
1	Increase in Noise levels at specific receptor locations due to construction equipment	Direct; negative	Temporary, Local	Increase in noise level due to use of construction vehicle
2	Increase in Noise Levels at specific receptor locations due to operation of DG sets	Direct, negative	Temporary, local	Increase in noise level due to use of DG set for power Backup
3	Increase in Noise levels at specific receptor locations due to increased construction vehicle movement	Direct, negative	Temporary, local	Increase in noise level due to loading & unloading of construction vehicle.
	During Operation Phase			
1	Increase in Noise levels at specific receptor locations due to increased construction vehicle movement	Direct, negative	Temporary, local	As a development project there will be increased in vehicular load
2	Increase in Noise levels at specific receptor locations due to Use of DG set	Direct, negative	Temporary, local	Increase in noise level due to use of DG set for power Backup

Table 4.7 Anticipated Impacts on Noise Environment

Based on the above listed anticipated impacts due to proposed project, the following mitigation measures are outlined to address / reduce/avoid the impacts. Table 4.8 gives the Mitigation measures for reducing the impacts on Noise environment.

Sr. no	Anticipated Impacts on Noise Environment	Significance	Mitigation Measures
1	Increase in Noise levels at specific receptor locations due to construction equipment	Significant	Site is barricaded unto the height of 3m with GI sheets in areas where noise will have impact on surrounding areas, to avoid noise penetration into the neighboring sites. Construction activity to be avoided

			during night time 9.00 pm to 6.00 am
2	Increase in Noise Levels at specific receptor locations due to operation of DG sets	Significant	All DG sets shall be housed on plinths with rubber base to reduce vibrations. Enclosures will be built for DG sets providing sufficient insertion loss as per CPCB norms.
3	Increase in Noise levels at specific receptor locations due to increased construction vehicle movement	Significant	Vehicle owners shall be advised to maintain their vehicles to reduce the noise generation
4	Increase in Noise levels at specific receptor locations due to increased construction vehicle movement	Significant	Silencer/dampers will be attached to the equipment to reduce noise from the equipment.

Table 4.8 Mitigation Measures for Impacts on Noise Environment

4.5 Biological Environment

The biological resources of any landscape are impacted due to urbanization of areas. Construction projects can reduce the overall tree density of a region and shift faunal movements. In case of the proposed project, the following are some of the anticipated impacts on the Biological environment due to the proposed construction project. Table 4.9 gives these Anticipated Impacts

Sr. no	**Anticipated Impacts on Biological Environment**	**Category**	**Sub Category**	**Observations**
	During Construction Phase			
1	Loss of topsoil			Loss of fertile topsoil along with seeds of naturally occurring flora
2	Modification of land	Direct, negative	Permanent, local	Paving of land surface which can hamper natural water drainage and water percolation. Excavation and leveling leading to destruction of habitat for soil dwelling fauna.
3	Loss of vegetation	Direct, negative	Temporary, local	Clearing of natural

				herbaceous, shrubby and tree vegetation.
4	Loss of habitat leading to lossof faunal diversity	Direct, negative	Temporary, local	Loss of habitat for various species of flora and fauna
5	Disturbance to fauna dueto noise	Direct, negative	Permanent, local	Noise generated due to construction activity
6	Spread of dust over vegetation on site and surrounding areas	Direct, negative	Temporary, local	Dust generated due to construction activity
7	Pollution and siltation of nearby watersources	Direct, negative	Temporary, widespread	Erosion of soil from site which will get washed upin water bodies. Sewage from labour colonies and operational phase of project will find its way into nearby water bodies
8	Disturbance to fauna dueto increased human activity at the site	Direct, negative	Temporary, local	Increased human activity
9	Contribution to overall modification to ecology and environment of the region			Construction and operational phases of the project will lead to higher emissions, load on natural resources like water, loss of natural habitat connectivity in the landscape, higher human

				presence leading to increased traffic, light and noise, setting the trend of type of construction – all these factors will contribute to the overall modification of ecology of the region.

Table 4.9 Anticipated Impacts on Biological Environment

Based on the above enlisted Anticipated Impacts, the following Table 4.10 outlines the Mitigation measures that can be undertaken to avoid/ reduce the impacts envisaged due to the proposed project.

Sr. no	Anticipated Impacts on Biological Environment	Significance	Mitigation Measures
1	Loss of topsoil	Significant	- Proper removal and storage of topsoil which will be used later in the landscaping
2	Modification of land	Significant	- Provision of storm drainage keeping in mind slope of the land - Rain-water harvesting and percolation measures - Provision of adequate open, unpaved areas with good vegetation cover to provide habitat to soil fauna.
3	Loss of vegetation	Significant	- Ensuring minimal cutting of existing trees by modifications in project plan - Transplantation of trees on the site - Transplantation of trees at another suitable site - Planting of required number of trees as compensation ensuring that the trees planted are native and local Use of local and native species of shrubs in landscaping
4	Loss of habitatleading to loss of faunal diversity	Significant	The patch of dense vegetation near the stream should be maintained

			as it is and not be disturbed. This will ensure that birds and other fauna will continue to have a suitable habitat on the site. - Creation of varied habitats in landscaped areas as follows: A. Dense shrubbery B. Tall grass C. Plantation of Native and local Tree species D. Open patches of short vegetation Artificial Nest Boxes
5	Disturbance to fauna due to noise	Significant	- Use of noise reduction technology during construction
6	Spread of dust over vegetation on site and surrounding areas	Significant	- Use of dust reduction measures during construction
7	Pollution and siltation of nearby watersources	Non-Significant	- - Ensuring in-situ treatment of sewage and water recycling Soil stabilization methods during construction
	Disturbance to fauna due to increased human activity at the site		- Creating areas among the landscape that are not meant for human use and can act as shelters for fauna. - Using optimal lighting at night to ensure fauna is not disturbed due to excessively bright light.
	Contribution to overall modification to ecology and environment of the region		Adopting a sustainable approach to construction and incorporating Environmental considerations right from the planning stage - Adoption of green technologies during operational phase to reduce emissions and load on natural resources - Preservation and protection of a part of site, however small, to ensure pockets of biodiversity continue to survive and thrive in the larger landscape - Encouragement of adoption of green technologies and sustainable approach in the larger construction fraternity

Table 4.10 Mitigation Measures for Impacts on Biological Environment

4.6 Socio-Economic Environment

The proposed project is a township project and thus the socio-cultural character of the area is going to undergo a change when the project is under construction and once it is occupied by residents / users. While a township project can have the benefit of employment generation, access to infrastructure such as school and healthcare facilities, it is important to understand if the proposed project drastically changes the current lifestyle of the residing population, including access to certain locations, increase in traffic, loss of safety etc. Table 4.11 enlists the anticipated impacts on Socio-economic Environment.

Sr. no	Anticipated Impacts on Socio-Economic Environment	Category	Sub Category	Observations
	During Construction Phase			
1	Creation of new land	Direct; positive	Permanent, Local	Proposed project land was barren and non-irrigated. Hence, with the development of project, landscaping increased the greenery of the surroundings.
2	Increase in traffic on the 12 M wide Road	Direct, positive	Permanent, local	➢ Traffic is increased but being managed efficiently. Residential population will be increased

				remarkably.
3	Benefit to area	Direct, positive	Permanent, local	The surrounding area land cost will be increased with the development in the infrastructure.
4	Creation of employment /economic opportunities	Direct, positive	Permanent, Local	➢ At present there are lot of street food stalls and shops available in front of the project. With this project the stalls and shops get majority customers as the users from the project adding to their income.
	During Operation Phase			
1	Creation of employment/ economic opportunities	Direct, positive	Permanent, local	➢ People already got jobs like Home / Made Services,

				Transportation services, Security services, Garden services, etc. This project has improving livelihood of community people. The project will provide positive impact on the economic development of the region in terms of employment opportunities.
2	Access to School/ healthcare facility / market developed within the proposed project	Direct, positive	Permanent, local	Schools like Lotus pre-school, Apple public school, Markets – Radhika super market Hospital – Ayushri hospital, Marunji Hospital present within 1 km radius of the area

Table 4.11 Anticipated Impacts on Socio-Economic Environment

Based on the above, Table 4.12 lists the Mitigation Measures to be undertaken to avoid / reduce the anticipated impacts on the socio-economic and socio-cultural environment.

Sr. no	**Anticipated Impacts on Socio-Economic Environment**	**Significance**	**Mitigation Measures**
1	Adverse effect on workers' health due to construction activity	Significant	Since there is likelihood of fugitive dust from the construction activity, material handling and from the truck movement in the vicinity of the

			project site, the project proponent should go for tree plantation programme along the approach roads and the construction camps.
2	Increase in traffic on the 12 M wide Road	Significant	The project site adjoins the road. Proper care should be taken so that road should not be damaged during construction work. During construction phase circumspection should be taken that the drainage water should not enter in the existing project and on the road.
3	Poor hygienic conditions during construction phase	Significant	The construction site should be provided with sufficient and suitable toilet facilities for workers to allow proper standards of hygiene. These facilities would be connected to a STP which should maintain properly to ensure minimum environmental affect.

Table 4.12 Mitigation Measures for Impacts on Socio-Economic Environment

4.7 Solidwaste

Improper solidwaste disposal leads to massive issues for the environment. When urban development in the form of building construction takes place, if adequate infrastructure is not provided, it can add to environmental degradation due to improper solidwaste disposal.

For a township project, there are primarily two types of solid waste that are important to be addressed at two stages of the project – Construction & Demolition Waste during Construction and Solidwaste generated during Operational Phase of the proposed project. Table 4.13 enlists the anticipated impacts due to solidwaste generated on the project site.

Sr. no	**Anticipated Impacts due to Solidwaste**	**Category**	**Sub Category**	**Observations**
	During Construction Phase			
1	Environmental degradation due to improper disposal of construction & demolition	Direct; negative	Temporary, Widespread	There will be generation of construction waste such as Chemicals like paints &

	waste.			varnishes which will be harmful to the environment if not disposed properly.
2	Environmental degradation due to improper disposal of solidwaste from labor colony.	Direct, negative	Permanent, local	There will be generation of 20 kg/d of solid waste from labour colony which needs to be disposed properly.
	During Operation Phase			
1	Environmental degradation due to improper disposal of solidwaste from residents/ users	Direct, negative	Permanent, local	Due to generation of approx. 1845 kg/day of solid waste from residents, visitors & commercial occupiers, there may be chances of environmental degradation if not disposed properly.

Table 4.13 Anticipated Impacts due to SolidWaste Generation

It is seen above that there are some specific points and uses where solidwaste is generated and need to be adequately managed to ensure that environmental degradation of natural resources do not happen. Table 4.14 outlines the Mitigation Measures to be undertaken to ensure that solidwaste is properly treated and disposed off as per government guidelines and regulations.

Sr. no	**Anticipated Impacts due to Solidwaste generation**	**Significance**	**Mitigation Measures**
1	Environmental degradation due to improper disposal of construction & demolition waste; estimated to be 27,341.20 kg/day	Significant	For existing buildings 19,079.34 cum debris generated and 23,105.11 cum has been used for filling & levelling. 4025.77 Cum has been procured from outside. For proposed buildings, 8261.86 cum debris will be generated. 10,586 cum will be required for site levelling and back filling. 2324.14 Cum will be procured from outside.
2	Environmental degradation due to improper disposal of solidwaste from labor colony estimated to be 20 kg/day	Significant	Approx.20 kg/day solid waste will be generated and same will be handed over to authorized re-cycler
3	Environmental degradation due to improper disposal of solidwaste from residents	Significant	738 kg/day Dry waste waste will be generated and same will be handed over to Swach authorized recycler.

	users; estimated to be 1845 kg/day		1107 kg/day Wet waste will be treated in on-site Organic waste Converter.

Table 4.14 Mitigation Measures to ensure proper disposal of Solidwaste generated

4.8 Traffic

Based on the Traffic Assessment Study outlined in Chapter 3 / Chapter 7, it is found that the proposed project may increase the currently existing traffic volumes of some of the adjoining roads. V/C ratios are calculated to see if any specific road / junction will have a very severe impact due to the proposed project. It is generally found that in the worst case scenario, the project may induce specific traffic issues at specific locations. Table 4.15 enlists the anticipated impact of increased traffic on existing infrastructure.

Sr. no	Anticipated Impacts due to Increased Traffic	Category	Sub Category	Observations
	During Construction Phase			
1	Anticipated congestion at Junction on 12 m wide adjacent Road due to construction vehicular movement	Direct; negative	Temporary, local	Due to Movement of construction vehicles
2	Loss of Road Safety due to heavy vehicular movement on nearby Road	Direct, negative	Permanent, local	Due to movement of heavy vehicles on road, safety issue may occur to the nearby citizens.
	During Operation Phase			
1	Anticipated congestion at Junction on Nearby Road due to increased vehicular movement by residents / users of the proposed project	Direct, negative	Permanent, local	Due to increase in no. of vehicles by residents & commercial users congestion may occur in nearby area.
2	Loss of safety of road users due to increased traffic on road nearby roads.	Direct, negative	Permanent, local	Due to increase in number of vehicles on road, safety issue may occur to the nearby citizens.

Table 4.15 Anticipated Impacts due to Increase in Traffic

Based on the above anticipated impacts, the following Table 4.16 lists the Mitigation Measures to be undertaken to avoid / manage the impacts.

Sr. no	Anticipated Impacts due to Increased Traffic	Significance	Mitigation Measures
1	Anticipated congestion at Junction on Nearby Road due to construction vehicular movement	Significant	Manning of critical junctions, to facilitate easy vehicular movement.
2	Loss of Road Safety due to heavy vehicular movement on nearby Road	Significant	Wide Internal roads proposed considering heavy construction vehicles.
3	Anticipated congestion at Junction on Nearby Road due to increased vehicular movement by residents / users of the proposed project	Significant	Separate Entry /Exit will be provided for construction vehicle & occupants to avoid congestion
4	Loss of safety of road users due to increased traffic on road nearby roads.	Significant	Proper sign boards at driveways and at parking areas will be installed. Pedestrian areas within the vicinity of the site will be protected through signage and barricades. No pedestrian route through the construction site.

Table 4.16 Mitigation Measures for Impacts due to Increased Traffic

4.9 Environmental infrastructure and Mitigation strategies proposed.

Based on the identified impacts and recommended mitigation measures the following environmental infrastructure is proposed as an integral part of the proposed area development project. Summary details of this environmental infrastructure is given below.

Environmental infrastructure to be provided as a part of mitigation.

Details of sewage treatment plant:

It is estimated to generate total sewage from the project is 448.33 KLD. In order to ensure that 100% wastewater is treated within the project premises, Sewage Treatment Plants (STP) of capacity 450 KLD has been provided for wastewater treatment. STP will be functioning on MBBR technology. Treated water 439 KLD will be reused for flushing and gardening. The excess treated will be disposed of into available municipal drain. Process Flow Chart of STP is indicated in below given **Figure 4.1**

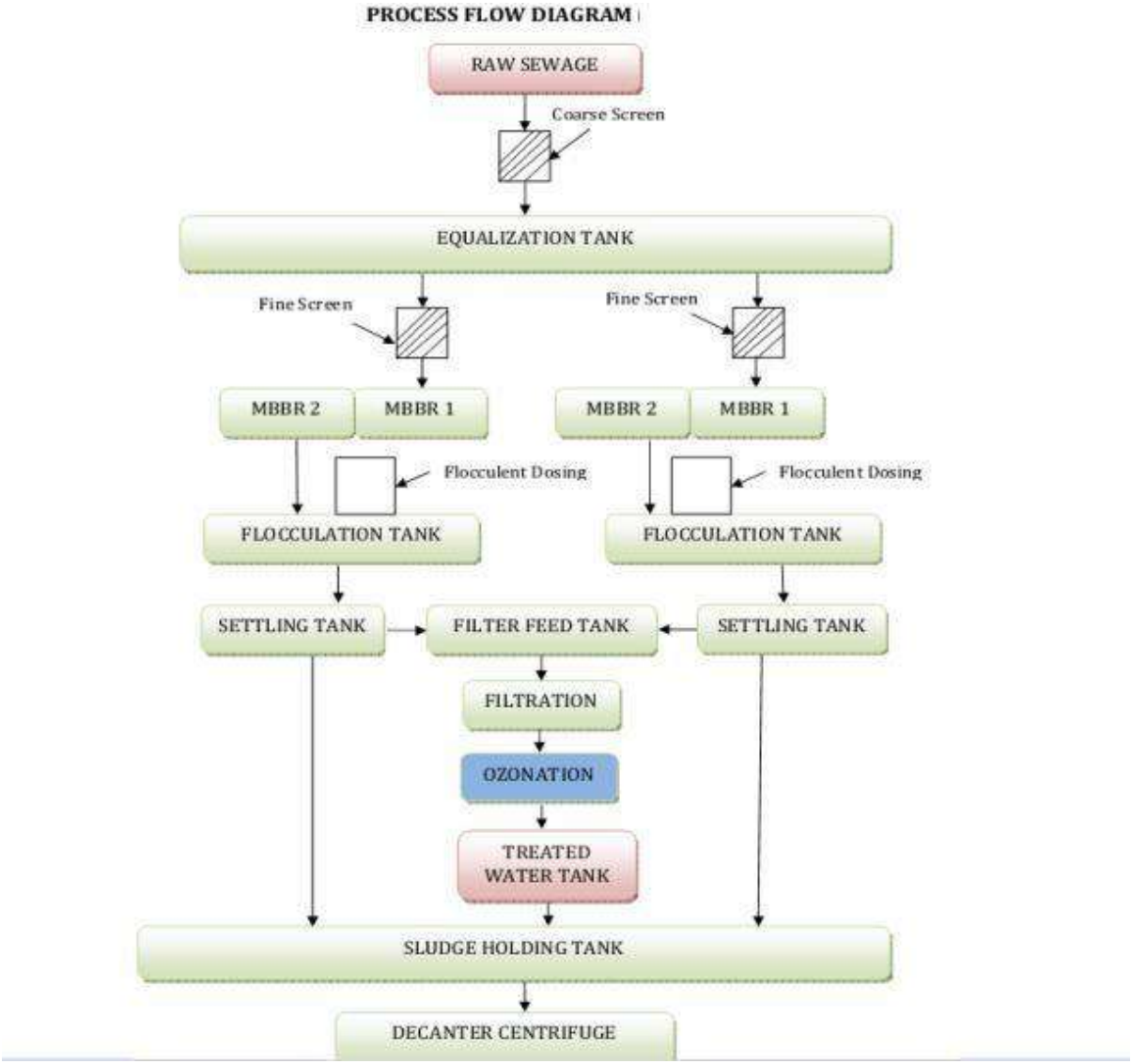


Figure 4.1 Process flow chart of STP

The Sewage treatment plant is designed taking the following parameters into account as mentioned below.

Table 4.18 shows Characteristics of Raw & Treated Sewage Quality Parameters

Sr. No.	Design Parameters	Inlet Characteristics	Outlet Characteristics from our Plant	Permissible limit for discharge to inland surface water per schedule 6 of Epact 1986
1.	pH	6.5-8.5	6.5-8.5	5.5-9.
2.	Oil & Grease (mg/l)	10-20	< 10	<30
3.	Biological Oxygen Demand (BOD) (mg/l)	200-250	< 10	<30
4.	Chemical Oxygen Demand (COD) (mg/l)	400-450	< 50	<100
5.	Total Suspended Solid (TSS) (mg/l)	200-300	< 10	<100
6.	Total Nitrogen (mg/l)	30-35	< 15	<50
7.	Nitrate (mg/l)	8-10	< 10	<10
8.	Dissolve PO_4 (mg/l)	05-10	< 3	<5
9.	Faecal Coliform (MPN/100 ml)	10^6	Nil	<100/ml
10.	Residual Chlorine (ppm)	5	0.5 – 1.0	1.0 mg/lit max
11.	Detergent (ppm)	4-6	< 1	<1
12.	Floating Matter (ppm)	50-100	<10	Floatable solid <3mm, settable solid <850 micron
13.	Bio-assay Test	-	90% survival in 100% treated effluent per 96hr.	90% survival in 100% treated effluent per 96hr.
14	Color & odour		Un-objectionable	NA
15	Temperature	Ambient	<40°C	<40°C
16	Ammonical nitrogen (as N) mg/l Max	50	20 Max	<50
17	Free Ammonia (as N) mg/l Max,	5.0	3 Max	---
18	Arsenic (as As) mg/l Max	NA	NA	0.2

Table 4.17 Characteristics of Raw & Treated Sewage Quality Parameters

Rainwater Harvesting System

To recharge rain water harvesting, total 30 nos. of recharge pits are proposed to recharge ground water from roof top as well as from surface water having recharge pit size 1 X 1 X 1 m. via 1 no. of 0.9 m. dia. 1 m. deep De - siltation pit

Solid waste management

Based on composition and characteristics solid waste generated are further categorized as bio-medical waste, wet organic waste, dry organic waste, electronic- waste, recyclable waste, and inert material. For the processing and treatment of solid waste generated in the proposed project. The entire Town Planning Scheme Area will be divided in four zones. Waste treatment authority will collect the waste accordingly and dispose it at the disposal site allotted within the project site. The treatment authority will do the necessary procedure of waste segregation and treatment.

Organic Waste Converter

The Process:

The 100% segregated bio-degradable waste has to be treated in this composting machine. The machine works in two process stages of 5 min. each to complete one cycle. It's termed as batch process. In initial 5 min. the machine crushes the waste & mixes it homogeneously with the bio decomposition culture.

In the second stage this homogeneous mixture is further mixed & churn with saw dust / bagasse, to soak the excess water content from the biomass which ultimately deodorizes it. Later this pre-

composted mass is kept for curing in the curing bays for about 18 days. Optimum irrigation has to be observed to the curing system. After the 18th day the container is ready with compost and can be used for field applications.

OWC process flow chart showing in below Figure 4.2

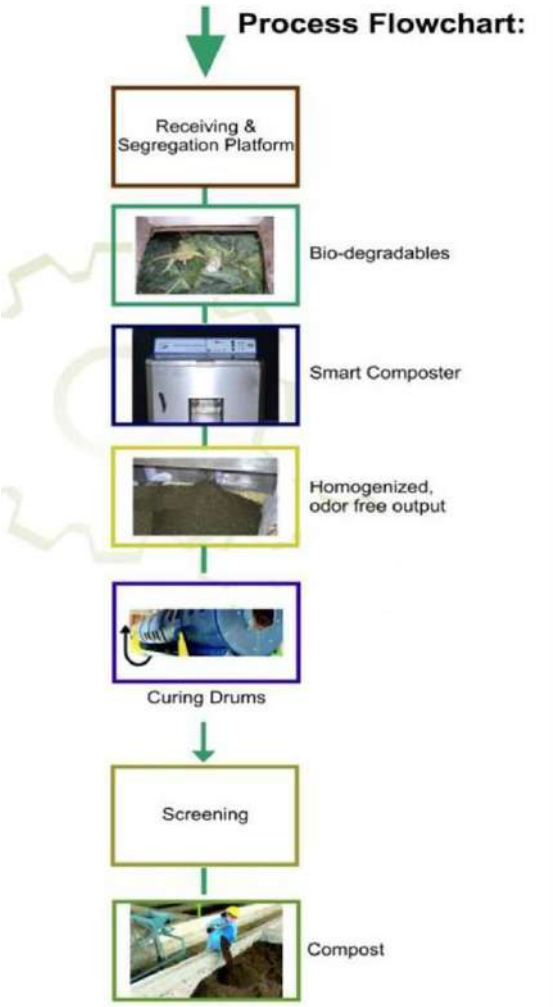


Figure 4.2 Process flow diagram of OWC

Chapter 5 Alternative Technologies

5.0 General

This Chapter looks at various ways in which the proposed project has looked at Alternative Technologies to reduce its overall impact on the environment, through reducing its material intensity, integrating energy conservation measures and methods employed for traffic planning within the proposed project area.

5.1 Building Materials

The proposed project is a RCC Frame with Wall infill structure. In order to reduce the material intensity of the building and also optimizing the comfort achieved inside the building, the following building materials will be used by the proposed project during construction.

Sr. No	Building Component	Conventional Material	Proposed By the Project
1	Foundation	Steel, Cement, River Sand	Concrete, Reinforcement Steel
2	Superstructure	Steel, Cement, River Sand	Concrete, Reinforcement Steel
3	Wall	Fly Ash/ Clay Brick	Autoclave Airated Concrete(AAC) Blocks, fly ash
4	Roof	Clay Bricks, River Sand	RCC Slab concrete, RCC Slab Steel, Vitrified Tiles
5	Fenestration & Shading Devices	Aluminium Windows with 4mm clear glass	Aluminium Windows with 4mm clear glass
6	Roads	Bitumen Roads	Trimix concrete road using maximum GGBS/ Fly Ash
7	Paving	60-90mm Thick over PCC	60-90mm Thick over murum so Water percolation to subsurface done
8	Water Fixtures	Ceramic	Ceramic
9	Landscape Areas	Paving, Lawn, Garden	Paving, Lawn, Garden, waste stone chips, aac blocks etc

Table 5.1 Building Materials to be used by the Proposed Project

5.2 Energy Conservation

For a building, integrating energy conservation measures into its design is one of the best and cost effective ways to reduce its energy footprint. For energy conservation, multiple measures can be undertaken, which primarily address the demand side and the supply side. Under demand side management, a building should be designed based on energy conservation principles. This can be effectively done by complying with the Energy Conservation Building Code (ECBC) of Government of Maharashtra for Commercial and Residential buildings within the project, separately. Further, on the demand side, all electrical fixtures & services are selected that consume less energy. This includes optimum efficiency of HVAC systems, Water Pumping systems, Lighting systems etc.

On supply side management, energy conservation can be achieved by integrating the installation of Renewable Energy Systems into the buildings. Details about these two approaches are given below.

5.2.1 Energy Conservation Building Code (ECBC) Compliance

This analysis will be useful to undertake design decisions to incorporate energy conservation measures. It also presents estimated annual savings in energy consumption as compared to base case, based on various passive and active energy saving measures.
Based on the overall analysis it was found that the project complies with ECBC requirements and demonstrates reduction in EPI as 9.30% as compared to base case and achieves EPI ratio of 0.91 for residential buildings and reduction in EPI as 11% as compared to base case and achieves EPI ratio of 0.89 for commercial buildings

Energy performance analysis has been undertaken based on building envelope design, artificial lighting, and energy active appliances. It has been compared with base case which is similar to conventional case and Energy performance ratio has been calculated. Providing herewith details of input parameters and schedules for respective active energy sources to calculate energy performance analysis for design case.
Energy reduction is achieved due to Building Envelope, Comfort system and controls, lighting systems, Electrical systems and Renewable Energy System.

Building envelope component	**Details of material assembly**	**U value (W/sqm K) and SHGC, VLT (in case of glazing)**
1. Wall assembly	AAC block as wall material with cement plaster	U value-0.83 w/sqmk
2. Roof assembly	The roof is finished with high SRI tile and measures of Water proofing on RCC slab.	U value– 2.05 W/sqm K
3. Glazing details	Glazing- Glass used for fenestration is Saint Gobain SGU	U value-5.7 w/sqmk SHGC-0.27 VLT-89%

Table 5.2 Energy analysis components

Compliance requirements as per Energy Conservation Building Code (ECBC) 2017

Artificial lighting location	**Energy Conservation measures in Residential buildings**
Indoor lighting	Individual dwelling units - 7.5 W/sqm (as per ECBC 2007, since its provision is not under developer's scope)
Common lighting and controls	lobby and staircase area in buildings- 6.0 W/sqm (9% reduction as compared to prescribed LPD in ECBC 2017)
Outdoor lighting and controls	Landscape area, driveways/ street lighting- 10% less as per the ECBC 2017 Automatic on-off controls

Individual dwelling units	Natural ventilation, hence HVAC is not applicable (Assuming 1 Star AC for all bedrooms and shops to calculate energy consumption)
Common lobby and staircase area in buildings	Natural ventilation, hence HVAC is not applicable.
Renewable Energy system	Capacity of Solar PV system proposed on building terrace – 91 KW Estimated energy generation-241100 kWh/year Capacity of Solar Hot Water system proposed on building terrace – 20.80 KLD i.e. 40% of total requirement. Energy offset estimated due to Solar PV panels- 1,36,500.00 kWh/yr Energy offset estimated due to Solar hot water panels- 2,39,496.40 kWh/yr

Table 5.3 Energy Conservation Building Code (ECBC) Compliance

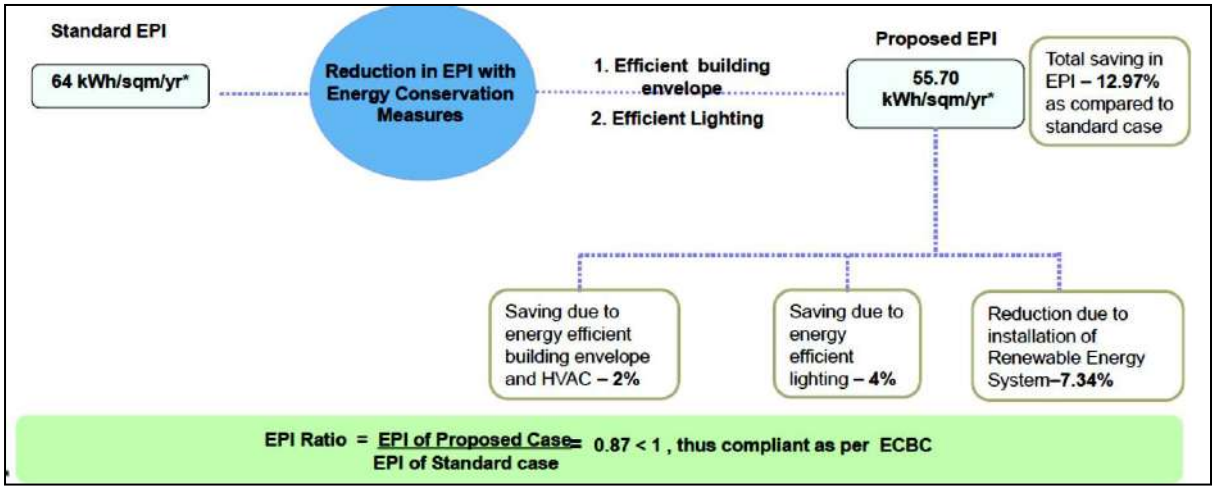


Figure 5.1 Compliance to ECBC

5.2.2 Renewable Energy

The proposed project has designed use of Renewable Energy in the following ways namely,

- Solar Hot Water Systems
- Solar PVs for electricity generation
- Solar Street Lights
- (Any other)

Solar Hot Water Systems

Total Solar Hot Water capacity-20.80 KLD i.e. 40% of total requirement.

Total No. of Solar Hot water panel provided – 139

Energy offset estimated due to Solar hot water panels- 2,39,496.40 kWh/yr

Solar PV for Electricity Generation

Total Solar PV capacity-91 KW i.e. 2.50% of demand load (3637.33 KW) is provided.

Total No. of Solar PV – 260
Energy offset estimated due to Solar PV panels- 1,36,500.00 kWh/yr

5.3 Transportation

The proposed project is a township which will have a number of buildings and services to accommodate a large number of people at full capacity, including visitors and other users of facilities provided within the township.
This requires a proper design of transport infrastructure to enable proper and adequate mobility to all the stakeholders.

5.3.1 Road Network

The proposed project will have a hierarchical road network. The main arterial road will be 12 m wide and will give access to the second tier/internal roads.
This internal road network will connect with the main road that gives access to the project site to provide a separate entry and exit points for the residential and commercial users of the township. This segregation will ensure that all users of the project can get quick access to the from the project site.

5.3.2 Traffic Management Measures

The proposed project will have various measures to ensure there is proper traffic management within the project site. These include:

- Proper and visible signages
- Maintaining Speed by signages
- Properly marked Parking Areas
- Lane Markings on Roads
- Street Lights for proper visibility
- Signage lighting
- Policing measures, if required
- (Any Other)

5.3.3 Parking

The proposed project will have 268 no. of four wheeler and 976 no of two wheeler. Parking layout given below in figure 5.2



Figure 5.2 Parking Layout

Chapter 6 Environmental Monitoring Program

6.0 General

This Chapter outlines the various technical aspects of environmental monitoring to be followed at specified intervals to assess the effectiveness of mitigation measures. The details of environmental monitoring include locations, requirements of monitoring facilities, frequency, parameters to be monitored and methods for compiling and analysing data; making comparisons with the baseline data and check points of whether compliance is being achieved.

6.1 Description of Environmental Monitoring Program for the Project

Environmental monitoring plan is an essential process component of environmental management plan of any development project. This helps in indicating the potential problems that may result from the proposed project both during construction and operation period. It allows for prompt implementation of effective corrective measures in case of significant deterioration of environmental quality.

Environmental monitoring shall be undertaken during the construction and operation phases (post project monitoring and evaluation) of the project. The overall responsibility of monitoring shall lie with a specially formulated and empowered EHS department of the Developer / Project Proponent during Construction Phase of the Project and should be carried forward by the Housing Society / Housing Management Authority of the Residents / Occupants during the Operation Phase of the Project.

The objectives of an Environmental Monitoring Plan are as follows:

- To assist in detecting the development of any unwanted environmental situation and thus, provide opportunities for adopting appropriate control measures.
- To define the responsibilities of the project proponent, contractors and environmental monitors and provide means of effectively communicating environmental issues among them.
- To define monitoring mechanism and identify monitoring parameters.
- To evaluate the performance and effectiveness of mitigation measures proposed in the Environment Management Plan (EMP) and suggest improvements in management plan, if required.
- To identify training requirement at various levels.

It is proposed to continuously/periodically monitor critical parameters both during the construction and operation phases of the project for:

- Ambient air quality
- Ambient noise quality
- Surface and Ground water quality
- Wastewater quality
- Soil quality/Manure

6.1.1 Ambient Air Monitoring

For 24 hours, twice a week, every month, ambient air monitoring will be carried out for the ambient air quality for the parameters PM_{10}, SO_2, $PM_{2.5}$ and NOx. Dust emissions from construction activities shall require comprehensive mitigation measures as explained in detail in Chapter 4 of EIA report. Ambient air monitoring should assess if the mitigation measures recommended are effective and chart a course of remedial action, if not. Air Monitoring will be done during Construction phase.
Ambient Air quality monitoring will be conducted at specific locations, particularly to assess the impact of DG set operation.

6.1.2 Noise Monitoring

Noise monitoring will be done daily during Construction phase. The noise level shall be checked during construction activities. The location shall be selected in the area where there are chances of high noise levels. The noise emitted from heavy duty construction equipment during construction period being high shall require occupational preventive measures and temporary noise barriers for noise attenuation.
Noise monitoring will be conducted at DG set locations during Operation phase.

6.1.3 Water Monitoring

Water monitoring will happen for different water sampling locations and uses, to check the physicochemical and bacteriological parameters. These water samples shall be from:

- Surface or ground water locations present on project site
- Outlet of treated effluent from STP, during Operation phase
- Drinking water supply source, for labour colony during Construction phase and for residents, during Operation phase of the project

Water sampling shall be done once in six months for natural water bodies. For STP effluent, it will be done monthly and for drinking water, it will be monitored weekly.

6.1.4 Soil / Manure Monitoring

Soil sampling, during construction will be done on the conserved top soil stockpile to check any contamination. Soil Sampling will be done once in six months and physicochemical and bacteriological parameters of soil will be monitored.

Manure from the Organic Waste Convertor (OWC) machines shall be monitored during the Operation Phase of the project.

Environmental monitoring parameters and frequenciesof monitoring are given in Table 6.1 and Table 6.2. Routine monitoring of environmental parameters willbe carried out during construction and operation phases of the project.

Sr. No.	Monitoring	Parameter	Frequency	Location	Cost per year (Rs.)
1	Ambient Air Monitoring	PM_{10}, $PM_{2.5}$, SO_2, NOx	24 hours twice in a week every three months	DG set, upwind, downwind,	4,80,000/-

				entry gate, parking area	
		CO	8 hourly twice a week every threemonths	DG Set	
2	Ambient Noise	Hourly equivalent Noise level in dB(A)	Daily	near entry gate, One at Exit and One near DG set	4,20,000/-
3	Water Monitoring	As per IS: 10500 standards	Once in a week	One for Labour drinking water	1,44,000/-
4	Soil Testing	Physical& chemical properties	Once in six months	One sample from study area	12,000/-
Total					10,56,000/-

Table 6.1 Environmental Monitoring during Construction Phase

Sr. No.	**Particular**	**Parameter**	**Frequency**	**Location**	**Cost per year (Rs.)**
1	Ambient Air Monitoring	PM_{10}, $PM_{2.5}$, SO_2, NO_x	24 hours twice in a week every three months	DG set, upwind, downwind, entry gate, parking area	2,40,000/-
2	DG Stack Monitoring	CO	8 hourly twice a week once in a month for three months.	DG sets, upwind site and downwind site	
3	Ambient Noise	Hourly equivalent Noise level in dB(A)	Once in a month	DG set,entry gate, parking area	60,000/-
4	Water Monitoring	As per IS: 10500 standards	Once in months	Water from STP outlet	60,000/-
			Once in a week	WTP/drinking water	72,000/-
5	OWC manure	Physical & chemical properties	Once in a month	One sample of manure	24,000/-
Total					4,56,000/-

Table 6.2 Environmental Monitoring during Operation Phase

Chapter 7 Additional Studies

7.0 Introduction

This Chapter includes and describes in detail the various additional studies that are required to be a part of an EIA study. These include,

- Risk Assessment & Disaster Management Plan
- Natural Resource Conservation Plan
- Rehabilitation & Resettlement Plan
- Traffic Assessment
- Air & Noise Modelling Studies
- Carbon Footprint Analysis

7.1 Risk Assessment & Disaster Management Plan (DMP)

Risk Assessment involves identification and quantification of various probable hazards (unsafe conditions) and risks (personnel exposed and potential accidents due to hazards present) that can follow during construction & operation of the proposed project. At the proposed development, hazard occurrence may result in on-site situations like:

- Collapse of shuttering / formwork leading to injury of construction labour
- Leakage of flammable material resulting in fire;
- Collapse of construction due to Natural calamities like earthquake etc.
- Collapse of construction due to improper construction quality control
- Accidents due to impropriate storage of building materials
- Accidents due to non-use of safety equipment by construction labour
- Theft & Sabotage, due to external factors

Prevention of Risks to personnel and property is possible with good design, operation, maintenance and inspection that will reduce the probability of occurrence of risks and consequential effect of such eventualities. However, it is not possible to totally eliminate such eventualities and random failures of equipment or human errors, omissions and unsafe acts cannot be ruled out. So, an essential part of disaster or risk management has to also lay down procedures for mitigating the effects of risks and accidents, if they occur and restoration to normalcy at the earliest.

7.1.1 Identification of Hazards & Risks on Project Site

A construction project site has numerous activities and equipment which can lead to hazardous situations if proper management practices are not established as a part of Project Management. To be able to address these hazards, a Checklist method is used to identify the various hazards on a construction project site. Table 7.1 below gives a checklist to identify potential hazards and risks on construction site of the proposed project.

Sr. No	Potential Hazard	Whether in use or Not Y/N	Frequency of Use	Potential Risk
	Will the Project use these?			
1	RMC Plant	Y	Entire duration	Low Risk
2	Scaffolding	Y	Entire duration	Medium Risk to

				Safety
3	Pressure Boilers /Vessels	N	-	-
4	Lifts / Hoists / Cranes	Y	Entire duration	High Risks to safety
5	Moving Electrical Equipment	Y	Entire duration	Low Risk
6	Diesel Generators	Y	During Power failure periods only	Low Risk
7	Ladders	Y	Entire duration	Medium Risk
	Will the project involve these activities?			
1	Excavation / trenching	Y	During initial stages only	Medium Risk
2	Lifting / moving heavy objects	Y	Entire duration	Medium Risk
3	Working at a height > 3m	Y	Entire duration	Medium Risk
4	Using tools with moving parts	Y	Entire duration	Medium Risk
5	Equipment that vibrates	Y	Periodic use	Low Risk
6	Working near traffic	N	-	-
7	Working in isolation	Y	Periodically	Low Risk
8	Hazardous material handling	N	-	-
9	Removal of materials such as asbestos / glass	N	-	-
10	Welding / electrical wiring	Y	Entire Duration	Medium Risk
11	Demolition	N	-	-
12	Working close to electrical installations / moving electrical	Y	Periodically	Medium Risk
13	Manual Labour	Y	Entire Duration	Medium Risk
	Will there by these on the project site?			
1	Noise	Y	Frequently	Medium Risk
2	Extreme Climatic Conditions	N	-	-
3	Slippery surfaces	Y	Periodically	Low Risk
4	Poorly lit work spaces	N	-	-
5	Poorly ventilated work spaces	N	-	-
6	Dust / fumes/gases	Y	Entire duration	Medium Risk
7	Risk of Fire / explosion	Y	Frequently	High Risk

Table 7.1 Identification of Hazards and Risks for the Construction Site

7.1.2 Controlling Risks

For any projects/tasks that present a high and medium level risk, the Contractor must be made liable to include Safety Norms & Specifications as a part of the Contractor Work Agreement. Contractors' Safety Norms & Specifications should include specific measures to be undertaken to control the identified risks.

Project Proponent, through external consultants or internal Heath & Safety team, should carry out regular auditing of the construction site to check if all safety procedures are being followed by the Contractor. This may include controls like,

- Redesigning the workplace, using guards or barriers
- Controlling access to hazardous areas on project site, such as excavated areas
- Providing lighting & ventilation wherever required
- Using lifting equipment, where manual labour will be unsafe
- Using personal safety equipment
- Using trained and skilled labour for specific tasks
- Standard Operating Procedures of all equipment should be followed
- Training of semi-skilled & unskilled labour to undertake safety measures
- Must maintain all required permits / approvals for the work being undertaken
- Must maintain competency certificates / approval marks for equipment
- Must have emergency evacuation and control procedures in place

7.1.3 Disaster Management Plan (DMP)

Disaster management means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for prevention of danger or threat of any disaster, mitigation or reduction of risk of any disaster or its severity or consequences, capacity-building, preparedness to deal with any disaster, prompt response to any threatening disaster situation or disaster, assessing the severity or magnitude of effects of any disaster, evacuation, rescue and relief, rehabilitation and reconstruction.

As per Disaster Management Act, 2005, "A catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of environment and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area."

Disaster Management Plan (DMP) should include pre-disaster planning and preparedness activities, organizational planning, training, information management, public relations & post-disaster assistance. The events of a disaster move rapidly and can be extremely traumatic for those who are unprepared. Disaster managers often do not get a second chance. Principles of disaster management apply in both routine & crisis incident, during disaster mitigation & disaster reconstruction. Emergency operations cover both the preparedness phase & the immediate post disaster period

Disasters

Disasters are characterized by some or all of the following:

- They are disruptive to individuals and communities.
- They are not part of day to day experience and are outside normal life expectations.
- They are unpredictable in occurrence and effects can be of sudden onset.
- They require a response for which normal local resources may be inadequate.

- They have a wide range of effects and impacts on the human and physical environment.

Regular awareness, updating the knowledge and exercise / mock drills may help in controlling the disastrous situation at any given time.

Disaster Management Cycle

Three major functional areas are recognized as necessary components of a comprehensive approach; prevention, response and recovery.

- Planning: The analysis of requirements and the development of strategies for resource utilization.
- Preparedness: The establishment of structures, development of systems and testing and evaluation by organizations of their capacity to perform their allotted roles.
- Co-ordination: The bringing together of different individuals for common goal of mitigating the impacts of a disaster.

Different Phases of a Disaster

- Warning Phase (Before disaster): Emergencies /disasters are generally preceded by warnings during which preventive measures may be initiated.
- Period of Impact Phase (During disaster): This is the phase when emergency /disaster actually strikes and preventive measures may hardly be taken. However, control measures to minimize the effects may be taken through a well-planned and ready-to-act disaster management plan. The duration may be from seconds to days.
- Rescue Phase: This is the phase when impact is almost over and efforts are concentrated on rescue and relief measures.
- Relief Phase (post disaster): In this phase, apart from organization and relief measures internally, depending on severity of the disaster, external help should also be summoned to provide relief measures (like evacuations to a safe place and providing medical help, food clothing etc.). This phase will continue till normalcy is restored.
- Rehabilitation Phase: This is the final and longest phase. During which measures required to put the situation back to normal as far as possible are taken. Checking the systems, estimating the damages, repair of equipment and putting them again into service are taken up.

Objectives of a DMP

The key objectives of this Disaster Management Plan are:

- To improve the preparedness for any disastrous situation, through training, capacity building and actual participation by the people staying in this project.
- To evolve a suitable mitigation strategy so as to minimize the impact of disaster in terms of men, material and monitory loss.
- To have readily available & implementable plan in hand.
- To create awareness amongst the concerned community [of the proposed mixed use] to face any eventuality in the in case of a disaster.
- To enable quick restoration of the normalcy and routine in the community affected by such disaster.

The DMP is created with the aim of an effective management for the disaster with the minimum possible impact on humans, society and the establishment as a whole. The "best" disaster is one for which we are so well prepared that it never happens. Potential for disaster can be reduced by identifying and correcting hazardous conditions and by encouraging staff alertness in detecting and reporting problems.

The proposed project aims to achieve this through pro-active measures, protective equipment's, efficient and rigorous trainings & drills and practicing exhaustive emergency procedures. The DMP has two primary purposes namely, to reduce the likelihood that the society premises will experience disaster and to mitigate the impact of any disasters that do occur.

Classification of Disaster

Disaster can take many different forms and the duration can range from an hourly disruption to days or weeks of on-going destruction. The Hazard & Risk Assessment looks at all the human-made elements of a project site that can potentially lead to an emergency situation.

The DMP looks at disasters that are naturally occurring in addition to developing a management system for human-made incidences such as Fire, Collapse of Building etc. The following Table7.2 lists the potential Disasters and their level of risk to the proposed project site

Sr No	**Type of Disaster**	**Level of Risk**			
		High	Medium	Low	Not Applicable
1	Earthquake			√	
2	Cyclone				√
3	Landslide				√
4	Floods		√		
5	High Winds		√		
6	Tsunamis				√
7	Fire		√		
8	Collapse of Structure		√		
9	Biological & Chemical Exposure				√
10	Bomb Threat				√

Table 7.2 Assessment of Risks due to various Disasters

The above table lists fire and collapse of structure as disasters that have a potential high and medium risk to the project site. Earthquake, cyclone, landslide, tsunami, biological and chemical exposure, bomb threat disasters either have a Low or No risk to the project. High and medium risk disaster types are addressed in the DMP.

Emergency Response Agency & Equipment on Site

The following are the Emergency Response Agencies that will be required to carry out the SOP and DMP procedures.

Primary Agency: Health & Safety Team on Project Site

Secondary Agency: Fire brigade of Urban Local Body; Police; State District Disaster Control Cell; Rescue Non-governmental Organizations (NGOs)

The following equipment/systems are to be maintained on project site during & post construction:

- Provision of Fire fighting equipment such as Fire hydrant system, Water sprinkler system, in case of high rise buildings, Portable Fire extinguishers or as prescribed by the Fire Department of the Government
- CCTV
- PA System
- Portable flood lights, Search lights

For other rescue equipment, it can be made available from external sources at the time of the disaster.

7.3.2.1 Standard Operating Procedure (SOP) in case of Floods

Floods have been recurrent phenomena in India from time immemorial. Almost every year floods of varying magnitude affect some parts of the country or the other. Monsoon rainfall is an annual phenomenon in India and year's 90% rainfall happens during this period of 3-4 months. Thus, there is a concentrated rain activity, which, depending on its intensity and other factors can lead to floods in certain low lying areas.

Causes of Floods

Primarily, the cause of flooding is directly linked to heavy rainfall over a short period of time. This leads to natural water channels to overflow, thereby causing the water to escape the conventional boundaries of the water courses and spill over to the surrounding land. In an urban context, high discharges of rainwater due to non-permeable surfaces also lead to floods, which are short lived, but can cause destruction over a local area.

Prevention of Floods

Floods on a building construction project can be avoided through various means such as :

- Follow the local development control regulations that keep a buffer of no-development area between a water body such as a river/ lake and building construction
- Study the contours of a project site to identify any seasonal water flows that may be present only during the monsoons.
- Demarcate the area of potential natural water course and maintain its existing flows, taking care not disturb its water flowing capacity
- Demarcate the flood lines if government document do not indicate these
- Respect the flood lines of water courses, keeping these area free of any encroachments
- Construct embankments / retaining structures, if needed to protect the proposed development from flooding

Table 7.3 gives the SOP in case of Floods on project site

SOPs for Disaster Management - Floods			
Life Saving Activities	***Disaster Preparedness Activities***	***Disaster Response Activities***	***Disaster Recovery Activities***

▪ Seek higher ground when flood occurs ▪ If you are inside a building, move on upper floors ▪ Move away from low lying areas ▪ Move away from building construction materials and equipment, vehicles etc ▪ Take shelter inside buildings, preferably on upper floors ▪ Do not attempt to navigate flood waters with a vehicle ▪ Stay indoors and at upper floors till evacuation assistance arrives	▪ Before taking up any construction, adopt planned outlay involving geologists, engineers and planners for allocation and zoning of land for specific uses, regulation of the intensity of use, and formulation of legal and administrative instruments that support the plan. ▪ Construct engineered buildings and keep yourself updated with near land deformations. ▪ Mostly floods occur at same place again and again, so be informed. ▪ Adopt construction practices that adhere to Indian Standards/Local regulations and other Structural codes ▪ Maintain natural water courses on project site, taking care to remove any blockages to the water flows ▪ Demarcate flood lines and be aware of potential flooding issues ▪ Respect the flood lines during construction, not allowing any encroachments within the buffer spaces	▪ To activate on-site alarm from control room ▪ Site Manager to inform the chief site controller and activate DMP Activate emergency services for search and rescue teams in the affected areas with immediate effect ▪ Inform police, Fire brigade and Mobilizing site emergency services. ▪ Site Manager to analyze the available initial information on damage and needs. ▪ Verify the authentic of the incident and take decision on the level of the disaster, inform the necessary Authorities such as Fire Brigade and Police. ▪ Emergency Coordinator to Mobilizing The On Site Emergency Plan. ▪ Sound a warning signal or make an announcement to gather at Safe Assembly point and conduct a head count. ▪ Site Manager to activate first aiders to provide first aid to affected and	▪ Stay away from the flooded area if rainfall persists. ▪ Listen to local radio or television stations for the latest emergency information. ▪ Watch for flooding, that may trigger a landslide or debris flow. ▪ Check for injured and trapped persons. ▪ Give first aid facility if trained or call rescuers for help. ▪ Look for and report broken utility lines and damaged roadways and railways to appropriate authorities. ▪ Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazard and injury. ▪ Check the building foundation, surrounding land for damage. Damage to

		arranges to shift injured people to hospital if required. ▪ Emergency Coordinator to ensure appropriate mobilization of medical services from external agencies. ▪ Site Manager to activate Maintenance team to re-establish communication links and restoration of critical utility services like water for fire-fighting, restoration of access roads. ▪ Emergency Coordinator to Mobilize emergency response teams, co ordinate with District disaster cell. NGO's help and establish media management/ guidance to volunteers and aid agencies and for rumor control. ▪ Provide additional security in affected areas and maintain law and order situation. ▪ Restore essential services i.e. power, water supply, communication Facilities etc, on priority basis.	foundations or surrounding land may help you assess the safety of the area. ▪ Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding and landslides in the near future. ▪ Re-indicate the flood lines for future development ▪ Check for damaged utility lines. Report any damage to the utility company.

		▪ Develop situation report of the affected areas and share with all Stakeholders. ▪ Set-up an information center/ help desk for identification ▪ Evacuation Procedures should be carried out by trained personnel, preferably with the help of Emergency services of the government.	

Table 7.3 SOP in case of Floods

7.2 Natural Resource Conservation Plan

Natural Resources Conservation refers to specific set of actions that are done to effectively harness the three basic natural resources such as soil, water and vegetation on a construction site. In a wider view, Natural Resources can also refer to resources such as biodiversity, biomass resources, forests, livestock, fisheries, wild flora and fauna and genetic resources. However, since the project site is relatively small, the Natural Resources Conservation Plan for a construction project site refers to conservation actions undertaken for conservation of soil, water and vegetation.

7.2.1 Soil Resources

Soil is an important layer of the land environment. Topsoil, particularly, is a very precious resource. Typically, in non-agricultural uses, soil cover is often excavated for construction activities and disposed off. This leads to loss of topsoil cover from project site. Further, topsoil layer is also mixed with the subsoils and hard materials below, thereby losing this precious and fertile resource.

The project has proposed a topsoil conservation activity as a part of the Environmental Management Plan. The following are the measures that will be undertaken on the project site, to systematically remove the topsoil later a d store it on the project site till building completion and then reuse the topsoil for landscaping purposes.

Methods of Top Soil Conservation

- A layer of 15-20 cms is stripped manually using scrapers on the project site, prior to any other construction activity
- The topsoil, so removed, is laid down in layers not exceeding 40 cms depth, in a designated area on the project site
- This site where top soil is stockpiled should be protected by a silt fence, to avoid soil runoffs

- Grassing or plantation of vegetation can be done on the top soil stockpile to avoid runoffs
- The top soil stockpile should be kept free from other material contamination
- Upon completion of the building project, the stockpiled topsoil can be removed and reused for landscaping purposes on the project site.

7.2.2 Water Resources

There are three types of water resources that are present on the project site namely,

- water in the natural water channel (seasonal)
- groundwater resources, below the surface
- rainwater, during monsoon

The project aims to harness / maintain all these three natural water flows.

The Natural Water Course on Project Site

The natural water course running through the project site is maintained for its natural water flow capacity. The buffer is maintained as required by the local regulations on both sides of the nala, keeping this area completely free from any building construction.

Based on the permissions received from the local authority, the natural water course or nala can be channelled to maintain its natural water flows and prevent flooding of adjoining areas. Based on this, the nala is channelized, ensuring that the water carrying capacity of the nala is not diminished in any way. Figure 7.1 indicates the channelization proposed, including sections, buffer areas and flood lines

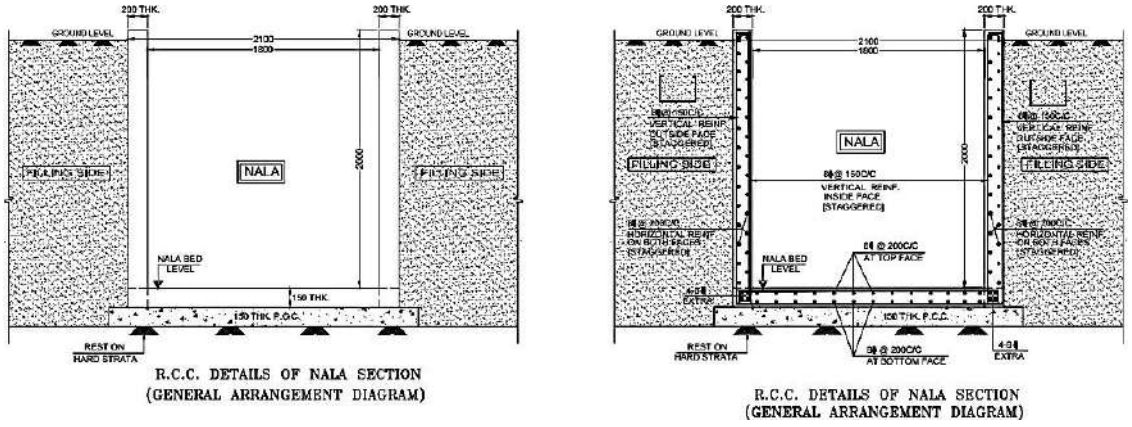


Figure 7.1 The Nala and the channelization on project site

Rainwater & Groundwater Resources

Based on the hydrogeological survey conducted on project site, it is found that the project site is a recharge zone / discharge zone. The status of the groundwater in this area is threatened / on verge of exploitation and thus, it is important that the project site should maximize the recharge of groundwater as far as possible.

7.2.3 Vegetation Resources

There are 913 nos. trees exist on the site. Out of which 128 trees to be cut & 785 trees will be retained. Tree survival report is done for the same.

Table 7.4 lists the number and species of Trees present on Project site, and also indicates the trees that will be cut / transplanted

Sr. No.	Botanical Name	Common/Local Name
1.	*Ficus religiosa*	Pimpal/Peepal/Holy Fig
2.	*Ziziphus mauritiana*	Bor/Indian Jujube
3.	*Cordia dichotoma*	Bhokar/Indian Manjack/Indian Cherry/Clammy Cherry
4.	*Mangifera indica*	Amba/Mango
5.	*Ficus racemosa*	Umbar/Cluster Fig
6.	*Prosopis juliflora*	Wedi Babhul/Prosopis
7.	*Terminalia catappa*	Badaam/Indian Almond
8.	*Polyalthia longifolia*	Ashok/Mast Tree
9.	*Azadirachta indica*	Kadulimb/Neem
10.	*Jacaranda mimosifolia*	Neelmohar/Blue Jacaranda
11.	*Trema orientale*	Kapshi/Khargol/Indian Charcoal tree
12.	*Vachellia nilotica*	Babhul/Gum Arabic
13.	*Alstonia scholaris*	Saptaparni/Satveen/Scholar ’s Tree/Devil’s Tree
14.	*Eucalyptus sp.*	Nilgiri/Eucalyptus
15.	*Moringa oleifera*	Shewga/Drumstik
16.	*Melaleuca viminalis*	Bottle Brush Tree
17.	*Plumeria alba*	Devchapha/Frangipani
18.	*Muntingia calabura*	Singapore Cherry
19.	*Millingtonia hortensis*	Buch/Cork Tree
20.	*Spathodea campanulata*	Pichkari/African Tulip Tree
21.	*Peltophorum pterocarpum*	Sonmohar/Copperpod
22.	*Leucaena leucocephala*	Subabhul
23.	*Ricinus communis*	Eranda/Castor

Table 7.4 Trees Existing at proposed buildings

SR.NO	BOTANICAL NAME TREE	COMMON NAME
1	Azadirachta Indica	Kadulimb
2	Hyophorbe lagenicaulis	Bottle palm
3	Foxtail Palm	Foxtail Palm
4	Leucaena leucocephala	Subabul
5	Koelreuteria paniculata	Golden Rain Tree
6	Hevea brasiliensis	Rubber Tree
7	Bombax ceiba	Red cotton tree
8	Eucalyptus	Nilgiri
9	Denolix regia	Gulmohar
10	Anthocephalas cadamba	Kadamb
11	Michelia champaca	Sonchafa
12	Tabebuia rosea	Halka Gulabi Tabubia
13	Swietenia macrophylla	Mahogany
14	Ficus benjamina	Nandaruk
15	Filicium decipiens	fern leaf tree
16	Bauhinia variegata	Kanchana
17	Mangifera indica	Amba
18	Alstonia scholaris	Saptaparnia
19	Lagerstroemia speciosa	Tamhan
20	Cassia fistula	Bahava
21	Tamarindus indica	Chinch
22	Syzygium cumini	Jambhul
23	Plumeria alba	Champa
24	Polyalthia longifolia	Ashok
25	Cocos nucifera	Naral
25	Bismarckia Palm	Bismarkia Palm

Table 7.5 Trees Planted by PP at existing building

The propose project has proposed a landscape plan that will design and carry out plantation of additional trees on the project site, compensating for the cut trees. Table 7.8 gives the list and number of proposed trees to be planted on the project site. Once the plantation is complete, the proposed project will have a tree density of 1 tress/ 41 sqm in comparison to the 1 trees/80 sq m that is required by MoEFCC.



Figure 7.2 Landscape Layout of the Proposed Project

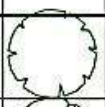
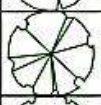
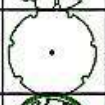
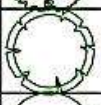
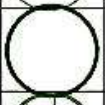
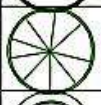
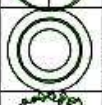
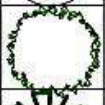
PLANTING SCHEDULE FOR PROPOSED TREES ON SITE						
Trees Proposed on Ground						
SR. NO.	SYMBOL	SPECIES NAME	HEIGHT	C/C (IN M)	(IN M) NOS.	SIGNIFICANCE
1		Putranjiva roxburghii (Putranjiva)	20-30	3.5	20	and attracts a variety of birds.
2		Millingtonia hortensis (Indian cork tree)	10-20	3.0	42	both dry and moist regions
3		Lagerstromia flos-regineae (Tamhan)	15-20	3.5	31	State flower tree of Maharashtra Medium sized tree, beautiful purple flowers, grows well in both dry and humid climate
4		Pongamia pinnata (Karanj)	10-15	3.0	44	Large tree good for stopping soil erosion along canal banks
5		Azadirachta indica (Neem)	10-15	3.5	13	A medium to large size hardy tree which stands in drought conditions. Air purifying quality . Attains a much larger size in dry regions
6		Cassia fistula (Bahava)	8-10	3.0	58	Small deciduous tree. Excellent bright flowering tree for arid regions.
7		Sapota zapotilla (Chiku)	8-10	3.0	30	Medium sized evergreen tree with elegant appearance and moderate water requirement
8		Plumeria alba (Champa)	10-25	3.0	31	Ornamental flowering tree
9		Michelia champaca (Sonchapha)	10-25	3.5	38	Medium sized evergreen tree, fragrant yellow flowers, Butterfly host plant
10		Polyalthia longifolia (Ashoka)	20-25	3.0	39	Large evergreen tree Effective in decreasing noise pollution.
11		Mangifera indica (Mango)	10-25	3.5	20	Large evergreen and fruit bearing tree
12		Millettia pinnata (karanja)	15-20	3.5	14	Shady, large tree, ball shaped flowers
13		bauhinia purpurea (Butterfly Tree)	3-15	3.5	23	Ornamental flowering tree
Total proposed trees on site					403	

Table 7.8 List and Number of Proposed Trees

The estimated cost for Natural Resources Conservation is included as a part of the Environmental Management Plan costs.

7.3 Rehabilitation & Resettlement Plan

The proposed project does not involve any displacement of people and/or communities and hence there is no requirement for a Rehabilitation & Resettlement Plan for the said project.

7.4 Air Modeling Studies

Air Dispersion Modelling has been carried out to study the impact of the proposed project on the ambient air quality of the region. This study has the following objectives

1. To determine the air emissions attributed to the traffic activity for current and future scenarios
   of the proposed project and predict corresponding air pollutant concentrations.
2. To qualitatively assess the air emissions and air pollutant concentrations during the current and future years of the proposed project
3. To compare the air pollutant levels to National Ambient Air Quality Standards (NAAQS) prescribed by the Central Pollution Control Board (CPCB), India.

For this modelling the following emission sources were considered.

▪ Construction activity emissions
▪ Vehicular re-suspension of dust in and around project site
▪ Diesel generator emissions taken as point source emissions during construction and operation phase

The following Scenarios are considered for Air Quality Dispersion modelling.

Sr. No.	Scenario	Title	Description
1.	SC2020	Current Scenario	This scenario considers current traffic on selected roadways.
2.	SC2025	Future Scenario	This scenario considers traffic on selected roadways in year 2025 estimated using suitable traffic growth models.

Table 7.6 Overview of two scenarios considered for air quality dispersion.

This study considers four criteria air pollutants of vehicular origin i.e.

- Respirable Particulate Matter (PM10),
- Fine Respirable Particulate Matter (PM2.5),
- Carbon Monoxide (CO)and
- Nitrogen Dioxide (NO2).

SO2 emitted from vehicles is not considered in this study, because the emission quantity is very less due to low sulphur content in the fuel and emission factors for vehicular SO2 emissions are not available in Indian context.

Figure 7.4 below shows the methodology adopted for the proposed project for the projected air quality impact assessment.

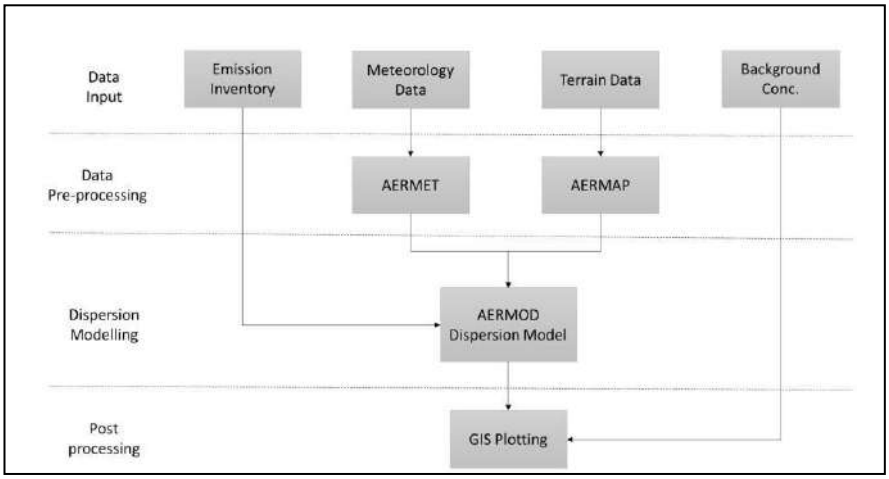


Figure 7.3 Methodology adopted for air quality impact assessment

To develop an emission inventory, two major sources are considered namely vehicular exhaust emissions and re-suspended particulate matter. During construction phase, construction activities such as site preparation, construction work, earthwork and vehicle movement are the main sources of emissions. Both PM10 andPM2.5 are likely to increase during construction phase. Type of emissions generated due to construction activities are, Fugitive emissions from earthwork, Particulate concentrations resulting from vehicle movement and Fugitive dust emissions are observed due to construction activities, exposed topsoil, moved overburden and stored dusty construction material.

Particulate matter emissions occur whenever vehicles travel over a paved surface such as a road. The re-suspended dust emissions were calculated following approved methodology specified in the U.S. EPA's AP-42, Chapter 13.2.1 emission factors for paved roads. This methodology with appropriate assumptions is used in different studies in India taken up by CPCB.

To calculate vehicular exhaust emissions, traffic surveys are conducted at selected locations near the proposed project site. Based on the findings of traffic survey, vehicles over proposed project site are projected using appropriate mathematical models for the future scenario. In the present study, average emission factors are selected from various literatures including regulatory agencies like CPCB, MPCB and research institutes like ARAI, NEERI, etc. Vehicles are classified into different categories and emissions for each category are determined using emission factors published by the Automotive Research Association of India (ARAI, 2018), which relate activity levels to contaminant emissions.

Sr. No.	Vehicle Category	Representative Vehicles	Fuel Used
1.	Two Wheelers	Motorcycles, Scooters, Mopeds, etc.	Petrol
2.	Passenger Cars (Petrol)	Cars, Jeeps, Taxis, etc.	Petrol
3.	Passenger Cars (Diesel)	Cars, Jeeps, Taxis, etc.	Diesel
4.	Passenger Cars (CNG)	Cars, Jeeps, Taxis, etc.	CNG
5.	Heavy Duty Vehicles	Trucks, Buses	Diesel

Table 7.7 Categories of vehicle used in Air modelling study

Category Pollutants	Two Wheelers	Passenger Cars (Gasoline)	Passenger Cars (Diesel)	Passenger Cars (CNG)	Heavy Duty Vehicles
PM10	0.0023	0.0021	0.0228	0.0007	0.3990
PM2.5	0.0023	0.0021	0.0228	0.0007	0.3990
CO	1.3153	0.8253	0.2988	1.0205	4.8570
NOx	0.1993	0.0683	0.4113	0.0340	8.3530

Table 7.8 Summary of Vehicular Exhaust Emission Factors used in the study (g/km)

7.4.1 AERMOD Dispersion Modelling

The U.S. EPA's AERMOD dispersion modelling system is applied to determine the maximum concentration of contaminants of interest viz. PM10, PM2.5, CO, NO2, and SO2. AERMOD is a state-of-the- art modelling system which uses steady state Gaussian plume approach to calculate pollutant dispersion under a variety of meteorological conditions and terrain conditions including flat, elevated and complex (EPA, 2004a). The modelling domain covers an area approximately 400 km^2 (20 km x 20 km) around the proposed project site.

7.4.1.1 Background Concentrations

To evaluate the potential impacts of emissions on the public, air quality modelling evaluation must consider the existing background concentrations of pollutants in the area where impacts are being evaluated. During the baseline evaluation of air environment within study area, air quality monitoring is conducted during the month of 1st March to 23rd March 2021 at five selected monitoring locations. Air quality monitoring at these locations is conducted following the standard guidelines set by CPCB. The maximum observed concentrations during the monitoring period (8 hourly avg. for CO and 24 hourly avg. for all other contaminants of interest) is chosen as representative background concentration of each pollutant for the modelling study.

7.4.1.2 Assessment of Particulate matter (PM10 and PM2.5) concentrations

The spatial distribution of maximum predicted 24 hour averaged concentrations of PM_{10} and $PM_{2.5}$ over the modelling domain for two scenarios. An examination of contour plots show that, both PM_{10} and $PM_{2.5}$ are likely to increase during construction phase and operation phase due to construction activities, DG sets and vehicular growth, respectively. It is very important to note that, high particulate concentrations are likely to occur at receptors located in proximity of sources. Our analysis also confirms the above fact, as high concentrations are predicted for receptors located within construction area, roadway and closest receptors, while other receptors which are distant from roadway are likely to experience lesser concentration of pollutants.

7.4.2 Scenarios considered for air quality dispersion modelling assessment

Two scenarios consisting of Construction Phase (CP) and Operational Phase (OP) are considered for air quality dispersion modelling assessment. Table 7.9 presents an overview of these two scenarios considered for air quality impact assessment.

Sr. No.	Scenario	Title	Description
1.	CP	Construction Phase	This scenario considers construction area, traffic on selected roadways (current traffic + construction vehicles) and DG sets to be used for construction activities.
2.	OP	Operational Phase	This scenario considers traffic on selected roadways (current traffic + predicted vehicles after project operation) and DG sets to be used during routine operations.

Table 7.9 Overview of two scenarios considered for air quality dispersion modelling

Table 7.10 , Table 7.11, Table 7.12, Table 7.13 and Table 7.14 below show the baseline concentration and maximum predicated concentration of PM10 , PM2.5, CO, NO2 and SO2 respectively.

Scenario	Receptor	Lat	Lon	Backgro und Conc.	24 Hr Max. Predicted Conc.	24 Hr Max. Predicted Total Conc.
		^{0}N	^{0}E	µg/ m3	µg/ m3	µg/ m3
CP	AAQ1	18°36'34.99"N	73°43'5.29"E	67.2	6.96	74.2
	AAQ2	18°36'27.39"N	73°43'10.87"E	65.2	2.52	67.7
	AAQ3	18°36'36.68"N	73°43'11.43"E	67.2	1.40	68.6
	AAQ4	18°35'52.00"N	73°42'47.25"E	58.3	0.45	58.8
	AAQ5	18°36'44.93"N	73°42'47.59"E	58.8	0.30	59.1
OP	AAQ1	18°36'34.99"N	73°43'5.29"E	67.2	7.11	74.3
	AAQ2	18°36'27.39"N	73°43'10.87"E	65.2	2.58	67.8
	AAQ3	18°36'36.68"N	73°43'11.43"E	67.2	2.26	69.5
	AAQ4	18°35'52.00"N	73°42'47.25"E	58.3	0.45	58.8
	AAQ5	18°36'44.93"N	73°42'47.59"E	58.8	0.31	59.1

Table 7.10 Maximum predicted 24 hour PM10 concentrations at survey locations

Scenario	Receptor	Lat	Lon	Background Conc.	24 Hr Max. Predicted Conc.	24 Hr Max. Predicted Total Conc.
		0N	0E	µg/ m3	µg/ m3	µg/ m3
CP	AAQ1	18°36'34.99"N	73°43'5.29"E	37.6	1.74	39.3
	AAQ2	18°36'27.39"N	73°43'10.87"E	37.6	0.63	38.2
	AAQ3	18°36'36.68"N	73°43'11.43"E	37.6	0.35	38.0
	AAQ4	18°35'52.00"N	73°42'47.25"E	37.6	0.11	37.7
	AAQ5	18°36'44.93"N	73°42'47.59"E	39.3	0.08	39.4
OP	AAQ1	18°36'34.99"N	73°43'5.29"E	37.6	1.78	39.4
	AAQ2	18°36'27.39"N	73°43'10.87"E	37.6	0.65	38.2
	AAQ3	18°36'36.68"N	73°43'11.43"E	37.6	0.57	38.2
	AAQ4	18°35'52.00"N	73°42'47.25"E	37.6	0.11	37.7
	AAQ5	18°36'44.93" N	73°42'47.59" E	39.3	0.08	39.4

Table 7.11 Maximum predicted 24 hour PM2.5 concentrations at survey locations

Scenario	Receptor	Lat	Lon	kground Conc.	24 Hr Max. Predicted Conc.	24 Hr Max. Predicted Total Conc.
		0N	0E	µg/ m3	µg/ m3	µg/ m3
CP	AAQ1	17°39'6.14"N	75°52'48.57"E	1.3	0.40	1.7
	AAQ2	17°38'49.29"N	75°52'24.42"E	1.3	0.14	1.4
	AAQ3	17°38'45.74"N	75°53'3.70"E	1.3	0.61	1.9
	AAQ4	17°39'4.06"N	75°53'51.12"E	1.3	0.28	1.6
	AAQ5	17°40'3.24"N	75°52'49.98"E	1.2	0.05	1.3
OP	AAQ1	17°39'6.14"N	75°52'48.57"E	1.3	0.50	1.8
	AAQ2	17°38'49.29"N	75°52'24.42"E	1.3	0.20	1.5
	AAQ3	17°38'45.74"N	75°53'3.70"E	1.3	0.62	1.9
	AAQ4	17°39'4.06"N	75°53'51.12"E	1.3	0.29	1.6
	AAQ5	17°40'3.24"N	75°52'49.98"E	1.2	0.07	1.3

Table 7.12 Maximum predicted 8 hour CO concentrations at survey locations

Scenario	Receptor	Lat	Lon	Backgro und Conc.	24 Hr Max. Predicted Conc.	24 Hr Max. Predicted Total Conc.
		0N	0E	µg/ m3	µg/ m3	µg/ m3
CP	AAQ1	18°36'34.99"N	73°43'5.29"E	29.7	17.12	46.8
	AAQ2	18°36'27.39"N	73°43'10.87"E	29.7	7.11	36.8
	AAQ3	18°36'36.68"N	73°43'11.43"E	29.7	3.88	33.6
	AAQ4	18°35'52.00"N	73°42'47.25"E	27.9	0.76	28.7
	AAQ5	18°36'44.93"N	73°42'47.59"E	28.0	2.72	30.7
OP	AAQ1	18°36'34.99"N	73°43'5.29"E	29.7	1.06	30.8
	AAQ2	18°36'27.39"N	73°43'10.87"E	29.7	0.69	30.4
	AAQ3	18°36'36.68"N	73°43'11.43"E	29.7	3.96	33.7
	AAQ4	18°35'52.00"N	73°42'47.25"E	27.9	0.15	28.1
	AAQ5	18°36'44.93"N	73°42'47.59"E	28.0	0.13	28.1

Table 7.13 Maximum predicted 24 hour NO2 concentrations at survey locations

Scenario	Receptor	Lat	Lon	Backgrou nd Conc.	24 Hr Max. Predicted Conc.	4 Hr Max. Predicted Total Conc.
		0N	0E	µg/ m3	µg/ m3	µg/ m3
CP	AAQ1	18°36'34.99"N	73°43'5.29"E	24.9	0.0	24.9
	AAQ2	18°36'27.39"N	73°43'10.87"E	25.9	0.0	25.9
	AAQ3	18°36'36.68"N	73°43'11.43"E	24.9	0.0	24.9
	AAQ4	18°35'52.00"N	73°42'47.25"E	24.9	0.0	24.9
	AAQ5	18°36'44.93"N	73°42'47.59"E	21.1	0.0	21.1
	AAQ1	18°36'34.99"N	73°43'5.29"E	24.9	0.43	25.3

OP	AAQ2	18°36'27.39"N	73°43'10.87"E	25.9	0.57	26.5
	AAQ3	18°36'36.68"N	73°43'11.43"E	24.9	0.31	25.2
	AAQ4	18°35'52.00"N	73°42'47.25"E	24.9	0.14	25.0
	AAQ5	18°36'44.93"N	73°42'47.59"E	21.1	0.03	21.1

Table 7.14 Maximum predicted 24 hour SO2 concentrations at survey locations

Assessment of the results:

Maximum predicted PM10 and PM2.5 concentrations respectively, at discrete receptor sites during the two scenarios. The AERMOD predicted particulate concentrations are added to the background particulate concentration at various receptor locations to yield maximum predicted ambient concentrations. Both PM10 and PM2.5 concentrations at all the discrete receptors do not exceed the NAAQS limit prescribed by CPCB. The impact of the 'proposed residential project' construction and operation phases is likely cross the safe limits but it is worst case scenario. Further it is very important to note that the total predicted concentrations represent maximum levels that do not occur frequently. Average concentrations under more typical meteorological. Pm2.5 Concentration is around 25 % of PM10.

Total maximum predicted 8 hour CO concentrations at discrete receptors. The proposed project is situated near urban setting; background CO concentrations are significantly higher i.e. > 0.9 mg/m3 at some of the locations. Owing to vehicular movement and DG sets, proposed project is likely to only add marginal values to background concentrations.

Compared to other pollutants, SO2 is spread over maximum area of modelling domain. SO2 is emitted from DG sets through stacks at a higher level compared to ground level release from vehicles and hence it is likely spread across the modelling domain. Even though SO2 spreads across the modelling domain, the concentrations are very low including project site and will not cause any unwanted impact on surroundings. Highest SO2 concentrations are observed over the project site and decreases gradually away from the sources.

The predicted SO2 concentrations at discrete receptor locations. As discussed earlier maximum SO2 concentrations are likely to occur at project site i.e. AAQ1. Other receptors exhibit either a fractional increase or no increase in background SO2 concentrations during the operation phase.

Conclusion:

Evaluation of dispersion modelling results indicate that, the proposed project is not likely to cause any severe impact on air quality, but few pollutants are likely to reach higher levels but within the

threshold limits prescribed by NAAQS. Mitigation measures are suggested for construction and operation phase.

7.5 Carbon Footprint

A carbon footprint is the total greenhouse gas (GHG) emissions caused directly and indirectly by an individual, organization, event or product." It is calculated by summing the emissions resulting from every stage of a product or service's lifetime (material production, manufacturing, use, and end-of-life). Throughout a product's lifetime, or lifecycle, different greenhouse gases GHGs may be emitted, such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), each with a greater or lesser ability to trap heat in the atmosphere.

Definitions of carbon footprint vary in terms of activities and GHGs which should be included within the scope of a carbon footprint assessment. In the context of area development project, the primary activity is of construction of roads and services. Construction sector is a major consumer of all energy forms and thus, major contributor to emission. Construction sector in India emits about 22% of the total annual emission of CO2 resulting from the Indian economy.
To minimize the impact of construction activity on environment it is very essential to measure energy input throughout the life cycle. Various processes and materials which have direct and indirect impact on environment should be identified and reduction measures should be suggested.

7.5.1 Life Cycle Analysis

Life-cycle analysis (LCA) is a comprehensive approach in examining the environmental impacts of building throughout its life. LCA is a process whereby the material and energy flows of a system are quantified and evaluated. Typically, upstream (extraction, production, transportation, and construction) use and downstream (deconstruction and disposal) flows of a product or service system are inventoried first. Subsequently, global and regional impacts are calculated based on energy consumption, waste generation and other impact categories (e.g. global warming, ozone depletion, nitrification and acidification).

In order to calculate the environmental impact of a construction activity over its entire life cycle, we need to first identify its various life phases. Typically, infrastructure life cycle can be considered in four distinct phases namely,

The Product Stage: This stage includes the processes of extracting, producing materials, and transporting materials (along with workers and vehicles) anywhere between the extraction/production point and the construction site.

The Construction Stage: This stage includes transporting materials, converting energy to power for construction equipment, supporting construction materials, and disposing any waste.

The Use Stage: This stage consists of the operational energy used to use the infrastructure over its lifetime (electricity, heating, etc.), maintenance, repairs, and replacement of materials.

End of Life Stage: This stage includes demolition of the infrastructure and recycling or disposal of materials.

Figure 7.3 below indicates the Stages and the System Boundaries and the inclusion / optionality of the data requirements for LCA analysis.

Product Stage			Construction Process Stage		Use Stage							End-of-Life Stage				Benefits and loads beyond the system boundary		
Raw material supply	Transport	Manufacturing	Transport to building site	Installation into building	Use/application	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D

Figure 7.4 Stages and System Boundaries in LCA

7.5.2 LCA Analysis Using One Click LCA

Methodology & Scope

For ease of calculations and for accessing worldwide databases, a web based tool called as One Click LCA has been employed to estimate the Carbon Footprint / Impact of the proposed construction on the environment.

One Click LCA supports calculations of all life cycle stages from Cradle to Grave as defined in EN 15978, including construction products and processes in A1-A5, use, maintenance, energy and water consumption in B1-B7, end-of-life impacts in C1-C4. External impacts in module D are not a part of the scope of this LCA.

Environmental Impact Categories in Results

One Click LCA supports and can predict all 24 environmental impact categories as required under the EN Standard 15804. However, The BREEAM International Mat tool within the One Click LCA, which is most suitable for Indian database and material data lists the five primary environmental impacts namely, Global Warming Potential, Acidification Potential, Ozone Depletion Potential, Photochemical Ozone Depletion Potential, Abiotic Depletion Potential.

Standards supported by One Click LCA

One Click LCA's whole building life cycle assessment and EPD tools for European markets are based on the EN 15978 standard. The EN 15978 standard is in line with the ISO 14040/44 standard, which means that any EN standard-based tools are also compliant with ISO 14040/44.

End of Life Scenarios

One Click LCA's calculation method for End-of-life scenario C1 (Deconstruction/demolition) and C2 (Transport) are based on default values for demolition and transport. These emissions are a significantly smaller portion of the total C1-C4 emissions. C1 emissions only consider the fuel consumption of machinery, C2 emissions are based on the removed material mass.

One Click LCA's calculation method for End-of-life scenario (C3-C4) follows EN 15978 / EN 15804 and follows the categorization and end-of-life scenarios from DGNB international, 2014. Refer to C1-C4 in image above.

Units of Reporting in One Click LCA

For construction projects, most of the LCA tools of One Click LCA provide results as a total for the whole construction activity and per m2 of constructed area.

Estimated Materials Inventory

The following is Inventory of construction material input heads under which data is input for LCA.

Estimation For construction material of total project

Sr. No.	Category	Material	Unit	Quantity
1.	Foundations and Sub-structure	Concrete	m^3	1,630.00
2.		Reinforcement Steel	kg	81,496.00
3.		Excavation	m^3	27,342
4.	Vertical Structures and Facade	SGU Glass	m^2	8,231.92
5.		AAC Blocks External	m^3	468.47
6.		Column Concrete	m^3	6,193.70
7.		Column Reinforcement Steel	kg	1,238,739.20
8.		AAC Blocks Internal	m^3	951.13
9.	Horizontal Structures-Beams,Floors, Roofs	RCC Concrete for Slabs and Beams	m^3	15,973.22
10.		Reinforcement Steel in Slabs and Beams	kg	1,916,785.92
11.		Vitrified Tiles	m^2	89,645.60
12.	Other Structures, Services and Materials	Solar PV Panels	m^2	937.00
13.		No. of Light Fittings Estimated	nos.	7,416.00
14.	External Areas and Site Elements	Concrete Paving	kg	8,86,545.00
15.		Concrete for Road	m^3	1,791.00
16.		Reinforcement Steel for Concrete Road	kg	71,640.00

Table 7.16 Estimation For construction material of total project

Energy Consumption

The project consists of Residential spaces. The Energy Performance Index of the uses in the project are presented hereunder along-with their projected Annual Energy Consumptions

Building Type	Energy Performance Index (EPI Achieved in kWh/sqm/year)	Annual Energy Consumption in kWh
Baseline Case	64.00	52,15,761.92
Design Case	52.41	42,71,089.28

Table 7.16 Energy Consumption

Diesel Consumption in the Operational Phase for proposed D.G. Sets planned are as follows:
1 x 160 kVA
1 x 200 kVA

Water Consumption

Water consumption in the operational phase of the project has been input considering two sources and water qualities – fresh water for domestic use and recycled reused water for flushing and landscaping use. The water quantity per day is computed as 335.60 cum of fresh water and 239.19 cum of treated water.

Construction Site Operations

The construction site scenario is input based on the project climate type and considers electricity, fuel, waste, and transportation impacts during the construction phase of the project primarily based on the construction area of the project.

Emissions and Removal of Carbon through Landscaping

The landscaping and trees planted in the project shall work towards mitigation of the carbon emissions. A total of 1961 nos. of native trees are proposed by the project with a minimum Biogenic CO_2 storage 55.22 kg CO2e / unit

Calculation Period

The Life Cycle Assessment considers the impact of the project for a span of 60 years which is the anticipated maximum use of the buildings in the project

Results & Interpretation

The LCA outcomes present the Life cycle Carbon Footprint of the project along with Environmental Impacts expressed as –

- Total Emissions expressed as tonnes of CO_2 emissions
- Total Emissions expressed as KG of CO_2 emissions per sqm
- Embodied Carbon in kg CO_2e per sqm
- Total Acidification Potential expressed as kg SO_2e
- Total Eutrophication Potential expressed as kg PO_4e
- Total Biogenic Carbon Storage expressed in kgCO_2e bio

Quantification of of environmental impacts for design case and for Baseline case is presented in below Table 7.17 and 7.18 respectively

Baseline Case

Impact Category	Sector	Global Warming kg CO2e	Biogenic Carbon Storage kgCO2e bio
A1-A3	Construction Materials	24,506,967.61	-
A4	Transportation to site	539,161.2	-
A5	Construction/ Installation Process	2,783,080.45	-
B1	Use Phase	-	3,024,677.7
B4-B5	Maintenance and Material Replacement and Refurbishment	577,703.58	-
B6	Energy Use	325,840,583.23	-
B7	Water Use	5,831,744.61	-
C1-C4	End of Life	239,179.27	-
D	External Impacts not included in Totals	-6,059,337.12	-
	TOTAL	**360,318,419.94**	**3,024,677.7**

Table 7.17 Quantification of environmental impacts for the impact categories (Baseline Case)

Design Case

Impact Category	Sector	Global Warming kg CO2e	Biogenic Carbon Storage kgCO2e bio
A1-A3	Construction Materials	17,576,633.81	-
A4	Transportation to site	536,329.29	-

A5	Construction/ Installation Process	2,462,786.17	-
B1	Use Phase	-	6,496,596.9
B4-B5	Maintenance and Material Replacement and Refurbishment	745,970.92	-
B6	Energy Use	267,278,677.62	-
B7	Water Use	5,831,744.61	-
C1-C4	End of Life	242,877.82	-
D	External Impacts not included in Totals	-26,014,302.4	-
	TOTAL	**294,675,020.24**	**6,496,596.9**

Table 7.18 Quantification of environmental impacts for the impact categories (Design Case)

Legend -

A1 – Product Stage – Raw Material Supply
A2 – Product Stage – Transport
A3 – Product Stage – Manufacturing
A4 – Construction Process Stage – Transport to Building Site
A5 – Construction Process Stage – Installation into Building
B1 – Use Stage – Use/Application (Refrigerant, vegetation withdrawal)
B2 – Use Stage – Maintenance
B3 – Use Stage – Repair
B4 – Use Stage – Replacement
B5 – Use Stage – Refurbishment
B6 – Use Stage – Operational Energy Use
B7 – Use Stage – Operational Water Use
C1 – End of Life Stage – Deconstruction / Demolition
C2 – End of Life Stage – Transport
C3 – End of Life Stage – Waste Processing
C4 – End of Life Stage – Disposal
D – Benefits and loads beyond the system boundary – Reuse
D – Benefits and loads beyond the system boundary – Recovery
D – Benefits and loads beyond the system boundary – Recycling

Please refer **Annexure 10** for LCA report

7.6 Gate Mass Balance

Mass balance is mainly a material balance of a project. It is an accounting of material inputs, material outputs, reactions in the process and accumulations. The mass balance equation forms basis

to number of process calculations. Mass balance equation simply states that total mass in any system
is always conserved i.e., Total mass in = Total mass out + Total mass accumulated in the system In respect to construction projects the mass balance study has carried out to understand the impact of the construction activity on natural resources as well as on the environment. If we know the
amount of material that enters a chain of any processes and keep an account of all the amounts in different paths, we can calculate quantities of materials that are difficult to measure. For example, we
can calculate the amount of material entering the atmosphere if we know the amounts that went in, the transformations, and the waste streams to land and water. Mass Balance analysis identifies and quantifies the natural resources used, and the wastes and emissions produced by the construction and operation activities related to the proposed project.

7.6.1 Approach & Methodology for Mass Balance

In building and other construction projects, we employ mass balance / material balance to determine the usage and remnants of materials like water, soil, bricks, and other natural resources used while constructing and to assess the amount of pollution expected during construction and operation of project. Mass balance for construction project is the material accounting of unit processes by application of conservation of mass to the analysis of physical systems. For assessing the mass balance for construction industry, the sources mainly considered are raw material, through construction product, material and product transport, construction and demolition site activities, waste transport, treatment, and disposal.

7.6.2 Gate Mass Balance for a Construction project

Mass balance is mainly a material balance of a project. It is an accounting of material inputs, material outputs, reactions in the process and accumulations. The mass balance equation forms basis to number of process calculations. Mass balance equation simply states that total mass in any system is always conserved i.e., Total mass in = Total mass out + Total mass accumulated in the system In respect to construction projects the mass balance study has carried out to understand the impact of the construction activity on natural resources as well as on the environment. If we know the amount of material that enters a chain of any processes and keep an account of all the amounts in different paths, we can calculate quantities of materials that are difficult to measure. For example, we can calculate the amount of material entering the atmosphere if we know the amounts that went in, the transformations, and the waste streams to land and water. Mass Balance analysis identifies and quantifies the natural resources used, and the wastes and emissions produced by the construction and operation activities related to the proposed project.

7.6.3 Approach & Methodology for Mass Balance

In building and other construction projects, we employ mass balance / material balance to determine the usage and remnants of materials like water, soil, bricks, and other natural resources used while constructing and to assess the amount of pollution expected during construction and

operation of project. Mass balance for construction project is the material accounting of unit processes by application of conservation of mass to the analysis of physical systems. For assessing the mass balance for construction industry, the sources mainly considered are raw material, through construction product, material and product transport, construction and demolition site activities, waste transport, treatment, and disposal.

7.6.4 Gate Mass Balance for a Construction project

The following chart gives a Flow of Resources expected for a construction project.

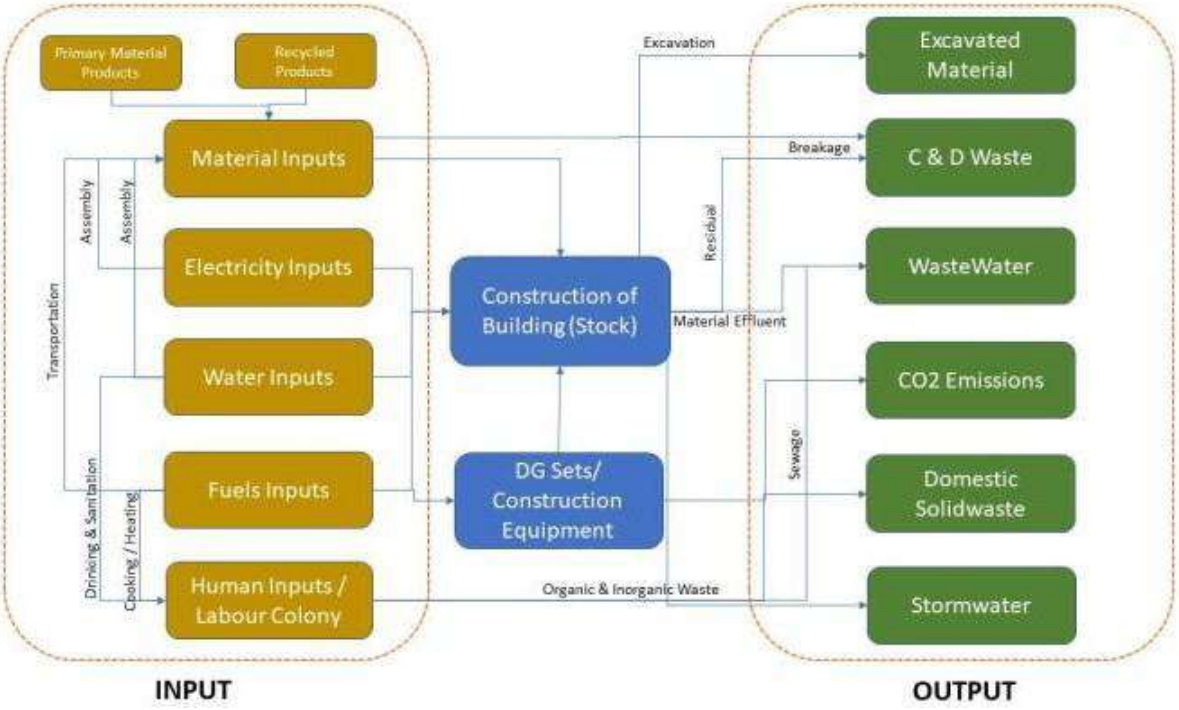


Figure 7.5 Resource Flows for a Construction Project

	INPUT	USAGE (BUILDING STOCK)	OUTPUT
Construction Phase	**MATERIAL INPUT**		
	Excavated Material: 27,342 cum	27,342 cum	27,342 cum: The excess debris shall be diverted away from the site
	WATER INPUT		
	Water for Construction: 24 KLD	24 KLD	-
	HUMAN INPUT		
	Water for Labors: 4.50 KLD	4.50 KLD	Wastewater: 4.05 KLD
	MATERIAL INPUT		
	Concrete: 25,588 cum	24,564 cum	1,024 cum: Reuse for landfill and site levelling purposes
	AAC Blocks: 1420 cum	1,313 cum	106 cum
	Steel: 3,30,8,661 kg	3,14,8,191 kg	1,60,470 kg
	Tiles:750 MT	653 MT	98 MT
Operational Phase	**MATERIAL INPUT**		
	Quantity of Material Replacement as per LCA	Quantity of Material Replacement as per LCA	CO2 Emissions: 745 Tons CO2e
	ELECTRICITY INPUT		
	42,71,089.28 kWh	2,71,089.28 kWh	CO2 Emissions: 2,64,772 Tons CO2e/year
	WATER INPUT		
	Dry season : 574.79 KLD Wet season: 499.15 KLD	Dry season : 574.79 KLD Wet season: 499.15 KLD	Dry season : 448.33 KLD Wet season: 448.33 KLD
	WASTEWATER INPUT		
	Dry season : 448.33 KLD Wet season: 448.33 KLD	Dry season : 425.91 KLD for reuse Wet season: 425.91 KLD for reuse	Dry season : 186.72 KLD excess treated water Wet season: 259.86 KLD excess treated water
	FUEL INPUT		
	Total Fuel used in DG sets: 12,893 lit/year	12,893 lit/year	CO2 Emissions: 2,448 Tons CO2e/ year
	HUMAN INPUT		
	3690 population estimated at full occupancy: Material / Food Estimation not quantified	-	Domestic Solid waste: 738 kg/day (Dry Waste) 1107 kg/day (Wet Waste) E-waste:5 kg/day

Table 7.19 Gate Mass Balance

Please refer Annexure 10 for detailed Gate mass balance report

7.7 Remediation Plan and Natural & Community Augmentation Plan:

Natural Resource Augmentation: Following measures were already taken to and will also be continued on project which will help in natural resource augmentation.

Rain water harvesting: Roof top rain water harvesting is proposed through 28 nos. of bore well recharge pits. 18 nos. of bore well recharge pits are already provided on site and 10 bore well recharge pits will be provided.

Trees: In entire project 14,778.27 m2 landscape area is proposed with 644 nos. of tree plantation. In existing portion green area is developed with plantation of 535 nos. of native trees. Green area development within project premises will serve as a carbon sink for the site, assembly point during emergencies and would improve the aestheticism of the area.

Renewable Energy: In said project is planning to provide solar hot water system along with Solar PV unit. The annual energy saving through renewable energy sources will be minimum 5% as per requirement. This will be help to reduce the carbon footprint of project.

Building Material: The project design uses high energy performing building materials which would have low U value (Thermal Conductance) as compared to the conventional materials. The external wall of proposed building would use fly ash blocks, AAC blocks & glass will have mandatory SHGC as required by ECBC.

Water Recycling: Total water requirement during operational phase is 574.79 KLD. Currently at 72 KLD is used for flushing & 5 KLD for landscaping. In all buildings dual plumbing is provided for recycling of treated sewage for flushing. Flushing requirement of proposed portion is 94.05 KLD. This will help to reduce the fresh water requirement.

7.7.1 Community Resource Augmentation Plan

The project is a residential project and the major benefit due to the project activity will be in the field of generating direct and indirect employment for the nearby locality. The local people were given priority during the construction period as labourers. The project will provide positive impact on the economic development of the region in terms of employment opportunities.

The significant positive impact on employment and occupation is envisaged on account of

- Better Economic status of the community due to better earnings
- Local people will get opportunity as permanent employees like Housekeeping staffs, Security guards, Electricians, Plumbers etc.
- Development of better infrastructural facilities

Project Proponent will set out responsibilities for implementation and monitoring of augmentation plan. Monitoring of Augmentation Plan will be done to determine:

- Whether the measures have been implemented as per plan
- The success of implemented measures;
- Identification and reporting of measures which are not proving effective

Calculation of cost of remediation plan and natural & community resource augmentation plan:

Sr. No.	Description	Details	Amount (Rs.)
A	Assessment of Environment Damages		
1.	Total of recurring Cost	Capital Cost arrived from table No. 3 per day X number of days in violation Construction Phase **a)** Water Consumption Cost arrived from Table above for water consumption per day = Rs. 405/day Period of violation (Construction days): 4517 days Total Cost = 405 x 4517 = Rs. 18,29,385/- **b)** Sewage generation Period of violation construction = 4517 days Cost arrived from Table above for sewage treatment per day = Rs. 40.70/day Total cost =40.70 x 4517 = Rs. 1,83,841.9/- Operational phase **c)** Water consumption Cost arrived from Table above for water consumption per day = Rs. 73.77/day No. of days of operation to application date = 4517 days Cost = 73.77 x 4517 = Rs. 3,33,219.09/- **d)** Sewage Generation STP was provided after occupancy hence no damage caused to Envt.	(a+b+c+d) Rs. 23.46/- Lakhs
2.	Non-recurring cost	Cost as arrived from above table	Rs. 97.16 lakhs/-
3.	Sub Total (1+2 above)	(Subject to minimum Rs. 1 Crore)	Rs. 120.62 lakhs/- i.e. Rs. 1.2062 Cr
B	Economic benefits accrued due to violation		
1.	Economic benefits accrued due to violation	1% of Total project cost including land (Rs. 95/- Cr.) as declared by project proponent before SEAC, subject to maximum Rs. 10 Cr.	Rs. 0.95 Cr.
2.	Track record of project	Incremental cost of Rs. 10 lakhs for	0.0

Sr. No.	Description	Details	Amount (Rs.)
	proponent	each EC violation by PP or its directors observed at any other projects in last 3 years	
C	Cost of remediation plan and natural & community resource augmentation plan	Sum of A and B above or amount equivalent to the CER amount as per the MOEF&CC's office Memorandum No: F NO 22-65/2017-IA-III dated 01/05/2018, whichever is higher.	Rs. (1.2062+0.95) Crs Rs. 2.1562 Crs (Rs. 215.62 lakhs) CER is not applicable

Table 7.20 Calculation of cost of remediation plan and natural & community resource augmentation plan:

7.7.2 Remediation Cost bifurcations

Sr. No.	Description of Activity	% allocation	Implementing agency	Remarks	Probable Activities to be carried out
1	Afforestation (can include plantation, garden development)	25% Rs. 53.905 lakhs	Social forestry and Local body	The afforestation can be either through social forestry or the Local body. Preferably within50 km from project site	These locations will be identified and recommended by the local body. Mass plantation in fallow land or barren area suggested by the Local body for social forestry
2	Water conservation program (Jalyukt Shivar etc.)	25% Rs. 53.905 lakhs	NGO/ Local body	Preferably within50 km radius of project site	Provision of water efficient faucets in nearby schools, public hospitals. Construction of percolation tanks in area suggested by the local body
3	Urban environment and sanitation (can include Swacha Bharat, playground development, urban ground-water recharge	20% Rs. 43.124 lakhs	Local body		Provision of RWH in public schools, hospitals, Road side beautification, public park recreation

Sr. No.	Description of Activity	% allocation	Implementing agency	Remarks	Probable Activities to be carried out
	schemes etc.)				
4	Sewerage lines and STP, solid waste management	20% Rs. 43.124 lakhs	Local body		Provision of community dustbins, conducting health camps at public schools suggested by Local body
5	Urban air/noise Pollution control initiatives	10% Rs. 21.562 lakhs	Local body (Pune Municipal Corporation)		Tree plantation, provision of sound barriers if required at any location identified by the local body, provision of solar heating/lighting system in public spaces or public infrastructures.
6	Total	Rs. 215.62 lakhs/-			

Table 7.21 Remediation cost bifurcations

Chapter 8 Project Benefits

The proposed project is expected to bring significant socio-economic and environmental benefits both at local and also in State level as listed below

8.1 Physical Infrastructure

The 12 m wide Hinjewadi- Kasarsai road which runs adjacent to the site is a very important road for connectivity of towns. Project will have 6 m internal roads with 9 m turning radius. Water supply will be from Irrigation department. Due to gross increase in water demand after the entire complex is commissioned, necessary larger incoming line by the Irrigation Department.

STP of capacity 450 KLD will be installed within project premises for sewage generated from domestic use.

Organic waste composter will be installed for treatment of organic waste generated by residence.

Authority supplying electricity in the area is MSEDCL. They will ensure necessary power supply for the entire complex.

8.2 Social Infrastructure

Proposed project will provide the residents a safe housing and modern facilities will be a real benefit to the society as a whole. The proposed complex will have many modern facilities like community center; children play area, sewage treatment plant etc. The proposed project, therefore, is not expected to strain similar existing facilities of the locality

Shops and other daily need centres will definitely have increased clientele. This will help local business to flourish. Availability of diverse consumer products is also bound to improve in the immediate vicinity of the complex.

8.3 Employment Potential

Expected to employ a peak workforce of about 100 during construction phase.

Long-term contract employment of 25 to 40 people in the operation and maintenance of the complex may be there. Additional jobs generated by way of domestic help etc. are very much expected. It may be few hundred.

The project will have commercial shops in the premises. This will be useful in creating jobs in the nearby areas.

8.4 Other Benefits

With improvement of commercial activities it can be expected that more housing projects will come up within close vicinity that will accelerate intensive development of civic and other amenities in the area.

Landscape – Project will planted 1961 nos. of flowering and fruit bearing trees. The trees will help reduce air pollution and noise pollution within premises. Also, helps in increase beauty of the area.

Chapter 9 Environmental Management Plan

9.0 General

The purpose of an EIA study is to arrive at a specific action plan such that the identified Impacts on the Environment due to the proposed project are addressed in a systematic manner through avoidance, mitigation and compensation. An Environmental Management Plan (EMP) is a site specific plan developed to ensure that the project is implemented in an environmentally sustainable manner where all stakeholders including project proponents, contractors and subcontractors, including consultants, understand the potential environmental risks arising from the proposed project and take appropriate actions to properly manage that risk.

The actions of an EMP need to be incorporated during the entire life cycle of the proposed project, including project planning, site preparation, construction and operating stages of the project to minimize any adverse environmental impact and compensate for any anticipated loss of resources. The EMP is proactive in nature so that actions are not done post environmental damage, but are planned for before the actual impact takes place.

9.1 Organizational Structure for EMP Implementation

An Environmental Management Plan needs an implementation mechanism in the form of an organizational structure. The organizational structure during Construction and during Operation stages of the project are separate, since the project will see a change in the stakeholders associated with the proposed project.

For effective implementation of an EMP, all actors in the organizational structure are responsible in implementing the mitigation and compensatory measures on project site.

9.1.1 Organizational Structure During Construction Stage

During the construction stage of the project, the Project Proponent is the primary employers and controller of the proposed project site, along with the team of consultants and project contractors. In order to ensure an effective implementation of EMP, the following organizational structure is proposed. Figure 9.1 gives the organizational chart.

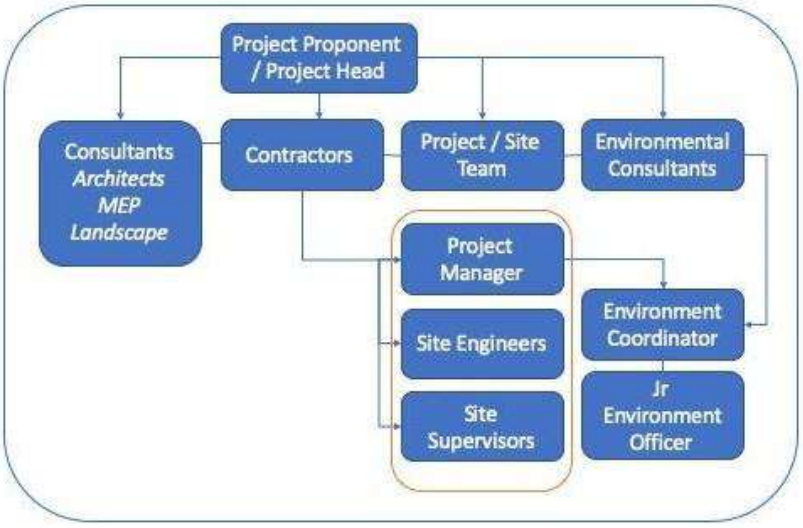


Figure 9.1 Organizational Structure during Construction Stage of the Project

The Project Site Team, along with the Project Manager and his team of Site Engineers and Site Supervisors shall be a primary persons who will be responsible to implement the EMP on proposed project site. The Project Proponent should make the necessary budgetary arrangements for EMP as described in the later section of this Chapter.

Consultants of the proposed project, including Environmental Consultants should be available to provide any expertise regarding mitigation, make any changes if required so that goals of mitigation are achieved.

9.1.2 Organizational Structure During Operation Stage

During the Operation stage of the project, the project proponent would have gradually given the project to users such as residents, commercial users, other users etc. In such a case, a separate organizational structure will need to be established to ensure that anticipated environmental impacts are mitigated through diligent and systematic operation of environmental services, including monitoring of their performance through environmental monitoring, maintenance of systems and upgradation, as may be required. The following Figure 9.2 gives an organizational structure suggested during Operation stage of the project.

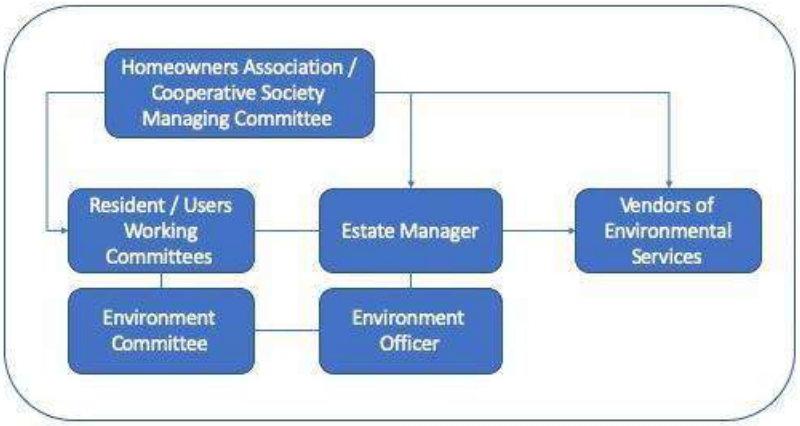


Figure 9.2 Organizational Structure During Operation Phase

During the Operation stage of the project, it is expected that as per prevailing government norms, an association / cooperative of the users will be formed. This body will be a registered body and will have the main function of maintaining the project on behalf of all the users of the project.

It is recommended that such a Homeowners' Association or a Housing / Commercial Users Cooperative Society should have a full time Estate Manager with a suitable size of junior team members. This team shall be responsible to conduct daily operation and maintenance of all environmental services provided within the project. It is also recommended that the homeowners / users should have an environmental committee or a working Group of members to guide and oversee the work of the Estate Manager for environmental compliance. This body of users can take the assistance of consultants, vendors of environmental services etc to ensure that the EMP is implemented on project site during operation stage of the project, including environmental monitoring.

9.2 Organization & Supply of Basic Services to Proposed Project

The successful operation of the proposed project, upon completion, will depend on the various environmental resources and services that are provided to the project as a part of its EMP. These are summarized below:

Water Supply & Delivery Management

a. During Construction Phase:

The water requirement for construction activity will be 17.5 KLD & Water requirement for workers will be 6.75 KLD. Source of water supply will be PMRDA authorized water tanker.

b. During Operation Phase:

The total water requirement for the project will be 575 KLD. The proposed project will receive water from the Mula River for which permission from Irrigation Department, GoV. has been obtained. Water lifted from Mula River and treated in on-site water treatment plant (WTP). After treatment in WTP, water will be primarily stored in Underground Storage tanks located at various locations within the project site. The operation and maintenance cost for the WTP will be Rs. 4,85,000/- Per Annum.

From the underground water tank, water will be pumped to the Overhead water storage tanks, located at every building, at terrace level. From there, water will be supplied at user locations by gravity. Fire storage tanks are also located at the underground and overhead locations, which will maintain dead water storage for emergency use.

Electricity Supply & Distribution

The proposed project will receive an electricity supply from Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) during construction as well as operation phase.

a. During Construction Phase:

The estimated demand load for the construction activity is 30 kW. The project will have 1 no. Of DG set of capacity 40 kVA.

b. During Operation Phase:

During operation Phase, the estimated connected load is 4092 kW and maximum demand is 3637.33 kW.

The cabling work will carry the electricity to each distribution point located below each building, where upon it will be supplied to each and every individual meter.

An adequate power back up for all environmental services has been planned through operation of DG sets located within the site premises. Details of DG sets provided are given below.

200 KVA – 1 No

160 KVA – 1 No

Transformers:

630 KVA – 6 No

315KVA – 1 No

Infrastructure Maintenance

The project contains numerous infrastructure facilities like 6m internal roads, driveways, community centre, children's play areas etc. These shall be maintained by the homeowners' association / cooperative that is established as per government provisions.
Cleaning, sweeping of roads and maintenance of other infrastructure is to be carried out on a regular basis.

Building Management Systems

Any Building integrated management system to ensure efficiency of building's services, uninterrupted services etc should be properly maintained through vendor maintenance contracts. The Master Plan of the project has been designed considering the aspect of energy efficiency following the guidelines of National Building Code 2005 and Energy Conservation Building Code 2007.

Maintenance of Renewable Energy Systems

Solar hot water systems, Solar PVs are provided in the project should be regularly cleaned for maximum efficiency. Solar Water Heating System is proposed Capacity 20.80 KLD i.e. 40% of total requirement. 139 Nos. of solar hot water panels and 260 nos. of solar PV panels will be installed. The operation and maintenance cost for the renewable energy systems will be Rs. 5,00,000/- Per Annum.

Maintenance of Sewage Treatment Plant & Recycling

The estimated wastewater generation is 448 KLD. In order to ensure that 100% wastewater is treated within the project premises, Sewage Treatment Plant (STP) of capacity 450 KLD will be proposed with MBBR Technology.
Treated water will be reused for flushing and landscaping. Dual plumbing line which ensures reuse of treated waste water for flushing, gardening. The excess treated will be disposed-off in Grampanchayat Drain.

Sewage Treatment Plant (STP) is one of the most important mitigation measures undertaken to address the impact of contamination due to domestic sewage generated within the project premises.

Operation of the STP

The plant is designed based on Moving Bed Bio Reactor (MBBR) which needs no skilled manpower.
The operations involved are ON / OFF of the pumps Includes air blower, sludge removal system, filter backwash. These operations can be done by the skilled Operator. The pumps are provided level switch for ON / OFF based on the tank water level and to avoid dry run and mechanical damage. This is SEMI – AUTOMATIC design.
The STP effluent water is to be regularly monitored to ensure that it adheres to EPA Rules / CPCB standards as may be prevalent and revised from time to time. Its operation and maintenance is compulsory and needs to be conducted through a proper vendor / expert.

It is recommended to have a STP audit done after every 3-5 years to identify any upgradation needs etc. The treated effluent water that is stored in a domestic water tank needs to be regularly used for

flushing and irrigation purposes on project premises. The operation and maintenance cost for STP will be Rs. 16,50,000/- Per Annum.

Maintenance of Solid Waste Management Systems

The total solid waste generation will be 1845 kg/day; out of which dry waste is 738 kg/day and wet waste is 1107 kg/day. The project has provided 2 Organic Waste Composter machines to process the organic solidwaste generated by the project users. This is an important service provided as a part of the project's EMP to address the impact of contamination that may be caused due to improper disposal of organic solidwaste. Hence, it is very important to operate and maintain the OWC system.
It is recommended that the OWC should be operated and maintained through proper vendor / expert. The estimated operation and maintenance cost for OWC is Rs. 8,50,000/- per annum.

Maintenance of Stormwater& Rainwater Harvesting Systems

The project has a stormwater runoff system to carry the rainwater discharges away from habitable areas to the municipal stormwater drains. It is important to maintain the continuity of stormwater channels. Every year, pre monsoon cleaning of this network is necessary to remove any blockages, which may lead to flooding.
The project will have 28 nos. Of recharge pits having size 1m X 1m X 1m. The rainwater harvesting pits with bores will be cleaned and maintained to ensure that rainwater so channelled is used to recharge the groundwater systems. This is an important mitigation measure to address the additional stormwater discharges anticipated due to increase in paving areas on project site.

Operation & Maintenance of DG systems

DG sets are required to provide electricity supply during power failures. The project will have 1 DG sets of capacity 1 no. of 200 kVA and 1 no. of 160 kVA proposed for operational phase. The stack heights of DG sets are to be maintained away from habitable areas and as per the prescribed standards established by CPCB.
DG sets will be regularly maintained and operated by vendors. Noise enclosures for the DG sets should be maintained to ensure that the noise and vibrations do not cause disturbance to the users.

Maintenance of Landscape Areas & Enhancement of Green Spaces

The landscaped areas of the project is part of the EMP to compensate for the loss of vegetation on project site as well as to enhance the tree density and overall environmental quality on the project site. It is important to ensure that trees planted in the landscaped areas are protected and maintained.
The proposed project will plant 1188 Nos. Of trees on the entire site. RG area of the project is 4844.15 m^2. The total Green area for the project site is 11147.14 m^2.
The sludge generated from STP will be treated in organic waste converter and will be used as manure for landscaping within the premises. The operation and maintenance cost is estimated to be Rs. 3,34,414/-per annum.

Use of Green Chemicals, Repairs & Replacements

During the course of operation of the project, it is recommended that the cleaning agents used for upkeep and maintenance should be Green in nature and should not contain harmful chemicals. Any repairs to environmental services should be carried out by expert vendors capable of undertaking

the job. Any replacements that may be required should adhere to the norms of the EP Rules and/or CPCB.

9.3 Aspects, Impacts, Mitigation and Environmental Management

Aspects are components of construction activities on the project site that have the potential to cause an impact. Environmental Management Plan will have to address the Aspects and their ensuing Impacts for successful implementation of the EMP. Hence, the following Table 9.1 gives the Aspects and Impacts identified for the proposed project.

	Activities	Aspects	Impacts
1	Site clearing activities	▪ Removal of topsoil ▪ Removal/ transplantation of existing trees coming into building footprint & proposed road. ▪ Increase in soil erosion & dust generation. ▪ Habitat threats to local birds. ▪ Reduced ground water recharge ▪ Increase in noise generation. ▪ Change in natural topography & drainage pattern	▪ Loss of topsoil ▪ Loss of Vegetation, leading to reduction in the existing tree density of the area & its ecological characteristics ▪ Increase stormwater runoffs which may pollute the riverine systems downstream due to high content of silt ▪ Increase in noise levels in the immediate adjoining areas ▪ Alteration of natural water flows, which may lead to water logging
2	Excavation& foundation activities	▪ Removal of substantial quantity of soil and rock ▪ Noise generation ▪ Dust generation ▪ Unorganized site	▪ Loss of Topsoil ▪ Increase in noise levels in the immediate adjoining areas ▪ Increase in Particulate Matter in the air, leading to polluted air quality in immediate vicinity ▪ Threat to Safety & potential to cause accidents
3	Sub structure construction	▪ Increase in hard scape area ▪ Reduced ground water recharge ▪ Resource extraction ▪ Heat Island Effect ▪ Increase in noise & air	▪ Change in the perviousness of project site, leading to increased stormwater discharges, which may lead to water logging at low lying areas

		pollution ▪ Disturbance to the neighboring plot and residents ▪ Health & safety hazards ▪ Construction waste generation ▪ Increase in land pollution ▪ Soil erosion ▪ Alternation of natural drainage pattern	▪ Increase in noise levels in the immediate adjoining areas ▪ Increase in Particulate Matter in the air, leading to polluted air quality in immediate vicinity ▪ Loss of Topsoil ▪ Alteration of natural water flows, which may lead to water logging ▪ Threat to Safety & potential to cause accidents
4	Construction & Operation of a Labor colony	▪ Land pollution ▪ Water pollution ▪ Unhygienic conditions ▪ Mismanaged solidwaste generated within the camp ▪ Resource depletion ▪ Safety hazards	▪ Littering & improper disposal of solid waste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from the project site ▪ Threat to health & safety of labourers due to unhygienic conditions ▪
5	Use of construction vehicle traffic	▪ Dust generation ▪ Air pollution ▪ Generation of noise & vibrations ▪ Fuel leakage ▪ Local area traffic congestion	▪ Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity
6	Material storage and movement	▪ Land pollution ▪ Air pollution ▪ Resource wastage ▪ Ground water pollution ▪ Mismanagement of construction debris	▪ Littering & improper disposal of solid waste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from the project site
7	Monsoon Period	▪ Water and Ground water pollution ▪ Land pollution	▪ Monsoon period is a sensitive period and soil erosion can be rapid

		▪ Health hazards ▪ Wastage of materials	during this period of time, leading to heavy loss of soil and other contaminants to flow downstream into natural water bodies.
8	Solid waste generation	▪ Land pollution ▪ Water pollution ▪ Health hazards due to unhygienic conditions	▪ Littering & improper disposal of solid waste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from the project site

Table 9.1 Activities, Aspects and Impacts During Construction Stage

The project, during its Operation stage will also have numerous activities and aspects that will impact the environment resources. The following Table 9.2 lists the Activities, Aspects and Impacts that are anticipated in the Operation stage of the proposed project.

Sr. No.	Activities	Aspects	Impacts
1	Increase in traffic movement	▪ Air pollution ▪ Noise pollution ▪ Traffic congestion ▪ Land pollution due fuel leakage	▪ Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity due to traffic
2	Solid waste generation	▪ Land pollution ▪ Water pollution ▪ Health hazards due to unhygienicconditions ▪ Damage to the proposed landscape area	▪ Littering & improper disposal of solid waste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from the project site
3	Increase in rainwater discharge	▪ Water pollution ▪ Flooding conditions ▪ Unhygienic conditions ▪ Damage to the proposed landscape area	▪ Change in the perviousness of project site, leading to increased stormwater discharges, which may lead to water logging at low lying areas
4	Water consumption	▪ Fresh water depletion ▪ Sewage generation & disposal problems ▪ Unhygienic conditions	▪ Untreated wastewater if flows out of the project site can lead to unsanitary conditions in the immediate vicinity of the project site and cause degradation of water quality in water bodies downstream
5	Energy consumption	▪ Wastage of energy ▪ Safety hazards ▪ Indirect impact on climate due to	▪ Energy consumption has a direct impact on the region's CO2 emissions and thus are a contributor

		CO_2 emissions	to Climate Change ▪ Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity due to operation of DG sets
6	Cleaning & repairing activities	▪ Land pollution ▪ Air pollution ▪ Resource wastage ▪ Ground water pollution ▪ Damage to the proposed landscape area	▪ Wastewater discharges carrying hazardous cleaning agents can cause degradation of water quality of natural water bodies downstream

Table 9.2 Activities, Aspects and Impacts During Operation Stage

Based on the above Activities, Aspects and corresponding Impacts identified for a construction project on the various environmental resources, the following table gives details about the mitigation actions and management plans to be undertaken. Further, each Mitigation measure is assigned a responsibility and timeline to ensure that the Mitigation Plan becomes a Management Plan to be executed on project site.

	Identified Impacts	**Mitigation Plan**	**Monitoring Plan**	**Responsible Personnel & Timeline**
	CONSTRUCTION PHASE			
1	Loss of topsoil	Prior to construction, 6-8 inches of topspoil layer will be stripped separately and stockpiled in a part of the project site that is protected and sheltered This stockpiled topsoil shall be retained throughout the construction phase and reused for landscaping in the Operation Phase of the project. The topsoil stockpile shall be protected and will not allow to be contaminated by other construction materials etc.		To be included in Contractor Tender Agreement; Site / Project Engineer to oversee implementation; *Throughout the Construction Phase*
2	Loss of Vegetation, leading to reduction in the existing tree	A plantation plan has been prepared for the whole site, where native	Tree Watering should be carried out on a weekly basis	Site Engineer; *Throughout the Construction Phase*

	density of the area & its ecological characteristics	plant species will be planted. This will enhance the existing landscape; All the landscaped area will be watered with recycled water from the Sewage Treatment Plant; To enhance faunal movement, particularly avian fauna, specific tree species are suggested in the landscape / green belt development for the project. Any trees that are to be retained should be adequately protected by a tree guard / brick guard		
3	Increase stormwater runoffs which may pollute the riverine systems downstream due to high content of silt	Chemicals like paints & varnishes, oil and grease will be stored in cemented areas and they will be fully covered.	Store Manager to keep track of major spillages and wastage of material, including thefts	Site Engineer, *At the Finishing Stage of the project*
4	Increase in noise levels in the immediate adjoining areas	Excavation and drilling activities, these activities will be restricted during the day time only (07:00 – 19:00 hrs.) Noise generating equipment shall be buffered, if possible, by provision of insulated matting / barricading from receptors Vehicular noise shall be controlled by restricting time of construction between 07:00 to 19:00 hrs. Acoustic barriers including shuttering panels will be used	Noise will be monitored Near entry gate, at Exit and near DG set of project site daily.	Project / Site Engineer / Health & Safety Officer; *To be maintained throughout the time for construction activity*

		around the site to reduce the noise impacts. DG sets installed on site norms for Noise Compliance and will be placed suitably on a raised and insulted platform to mitigate Vibrations.		
5	Alteration of natural water flows, which may lead to water logging	No natural water flows as demarcated on the government plans shall be diverted, blocked or altered. The contours have been taken into consideration during planning of building levels on the project site, thereby maintaining the overall topographical feature of the project site	One drinking water sample from labour colony will be collected once in a week.	Architect, *At the Design Stage of the project*
6	Change in the perviousness of project site, leading to increased stormwater discharges, which may lead to water logging at low lying areas	The project will incorporate the design to harvest and recharge the ground water with the rainwater collected on the roof tops; A separate Storm Water Management plan will be prepared to cater the rainwater flow generated due to inevitable hardscape areas within the project. To ensure adequate passage of the storm water, water channels will be provided in the project area. There will be no excavation during monsoons. The roof tops of the	MEP Consultant to monitor implementation of RWH &stormwater scheme	At Project completion

		buildings will be connected to the rainwater collection system. This will not only reduce the pressure of storm water management system of the city but also reduce extraction of ground water.		
7	Littering & improper disposal of solid waste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from the project site	Various categories of waste likely to be generated on site. These will be identified and documented proof of the type and volume of waste disposed of at these sites will be maintained; All construction waste will be collected, properly stored and handed over to recyclers, or disposed off to allocated government C & D waste site by the government Scrap metal (components, sheet metal, nails, tins) will be collected stored in a designated scrap metal container and where possible, waste will be sold to scrap dealers for recycling purposes On completion of construction, all leftover construction materials are to be removed from the working area to designated C & D waste site approved by the government. The general cleanliness of the site will form part of	Site cleanliness to be maintained through regular inspections One sample from project site will be collected once in six months.	Contractor Agreement should carry these requirements; Site/Project Supervisor, *throughout project implementation*

		project compliance The inert waste material generated during the operational stage will be segregated and will be recycled / disposed of as per the type of material; The waste oil generated due to the DG sets will be sent to authorised recyclers / disposal authority. Ensure prompt cleaning up of accidental spillages; The machinery/ equipment is maintained in a good operating condition; Specially designated areas for vehicle maintenance are created; All liquid fuels (e.g. diesel and petrol) which are stored on the site will be provided with the bund wall around the tanks to prevent liquids from escaping in the event of a spill or leak; Any person delivering fuels or other chemicals to the site will be made aware of the appropriate storage / drop-off locations and the environmental controls that apply to the storage area		
8	Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity	Excavation, handling and transport of materials will be avoided under high wind conditions Contractor is required to establish dust	24 hours twice in a week every three months samples will be collected from DG set, upwind, downwind, entry gate,	Contractor Tender documents should carry these requirements; Site Engineer / Health & Safety Officer should oversee its

		suppression measures such as water sprinkling on unpaved roads, keeping materials under tarpaulin, site barricading, tyre washing etc. Harvested topsoil stockpiles will be located in sheltered areas where they will not be exposed to the erosive effects of the wind The generators used on the site for energy backup will be CPCB norms complaint for air emissions with possibility of using low Sulphur diesel; The vehicles hired for transportation of material and labour must have PUC certificate in order to reduce air emissions; The development will use Ready Mix Cement (RMC) to prevent any air emission occurring during mixing of the cement; If small volumes of concrete are to be mixed (manually), mixing is to be undertaken on a hard surface covered in plastic sheeting so that concrete waste and runoff can be contained; Switching off vehicle / equipment engines when not in use. Temporary road network will be developed within	parking area of project site.	implementation; *To be maintained throughout the time for construction activity*

		the site during construction phases and will appropriately be managed; Schedule road traffic movements, internally and externally, to avoid periods of congestion.		
9	Monsoon period is a sensitive period and soil erosion can be rapid during this period of time, leading to heavy loss of soil and other contaminants to flow downstream into natural water bodies.	No excavation activity is to be carried out during the monsoon period Natural water flows on the site are to be maintained and they should be free from any contaminating sources such as building material storages, sanitation facilities on site etc		Contractor Agreement, Site Supervisor to check implementation on site, *During monsoon period*
OPERATION PHASE				
1	Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity due to traffic	Signage to be installed in parking areas to avoid Idling of Vehicles Speed Limit to be enforced through proper signage Society can conduct regular vehicular PUC camps to maintain individual vehicles DG sets should be properly maintained as per manufacturer's instructions through an authorized vendor	24 hours twice in a week every three months samples will be collected from DG set, upwind, downwind, entry gate, parking area of project site.	Society Chairman / Secretary / Administrator
2	Littering & improper disposal of solidwaste can lead to soil degradation, blocking of water flows & pollution of water quality in natural water bodies downstream from	Organic Waste during operational stages will be managed within the site with the help of either Organic Waste Converter (OWC) Unit. The manure produced through the system will be used for the	OWC machines should be properly operated and maintained by an authorized vendor Once in a month, one sample of OWC manure will be collected.	Society Environment Committee/ Administrator

	the project site	landscaping purposes; All non-biodegradable waste should be stored properly in designated space and disposed off to relevant waste vendors on a periodic basis		
3	Change in the perviousness of project site, leading to increased stormwater discharges, which may lead to water logging at low lying areas	The project will incorporate the design to harvest and recharge the ground water with the rainwater collected from roof tops RWH pits will be created at various locations along the stormwater channel to direct stormwater into the ground for groundwater recharge, thereby increasing the perviousness of the project site post completion Landscape areas are to be maintained on virgin ground to allow for groundwater percolation All other stormwater discharges to be diverted through proper slopes to the stormwater channels	Cleaning of RWH pits and clearing of stormwater channels prior to monsoon to be undertaken	Society Administrator/ Maintenance Staff
4	Untreated wastewater if flows out of the project site can lead to unsanitary conditions in the immediate vicinity of the project site and cause degradation of water quality in water bodies downstream	All the wastewater generated within the site during operational phases will be treated within the premises with the help of Sewage Treatment Plant (STP) and reused for various purposes including flushing & landscaping; In case of STP	For water quality monitoring once in a month, one sample STP outlet will be collected from project site.	Society Chairman/ Secretary

		troubleshooting, the sewage line will be connected to the sewer mains.		
5	Energy consumption has a direct impact on the region's CO2 emissions and thus are a contributor to Climate Change	Various Energy Conservation Measures are included in the architectural design of the project, including compliance with ECBC norms LED lights will be used for all common and landscape lighting Solar Hot water System is proposed for the entire project Tenants of Office Spaces shall be asked to opt for energy efficient systems	Architect should monitor ECBC Compliance and procurement of other fittings and fixtures	Project Proponent
6	Increase in Particulate Matter, NOx, SO2 and CO in the air, leading to polluted air quality in immediate vicinity due to operation of DG sets	DG sets should be operated and maintained as per manufacturer's guidelines to ensure emissions are within CPCB limits DG sets should be maintained regularly through authorized vendors	Annual Maintenance Contracts to be established by individual building teams	Society Administrator
7	Wastewater discharges carrying hazardous cleaning agents can cause degradation of water quality of natural water bodies downstream	It is recommended that buildings, in Operation Phase should establish practices where non-hazardous chemicals are used for cleaning and maintenance purposes. This can be undertaken by individual societies to make residents / users aware of alternatives	-	Society Environment Committee

Table 9.3 Impacts, Mitigation, Monitoring & Management Plan

Upon adoption of mitigation measures in a systematic management framework; the predicted impacts will be minimised/ at times eliminated. A monitoring scheme should be implemented in order to check efficacy of the EMP. Furthermore, the regular monitoring activities will provide information regarding any substantial change that this development may cause and its positive as well as negative impact the environment. Additionally, the results of the monitoring activities will provide data sets for the compliance reports.

9.4 EMP Costs & Budgeting

Based on the above mitigation measures and management plan, the following costs are estimated to implement the EMP. The costs include the remuneration of personnel and other administrative costs that may be incurred. Table 9.4 and 9.5 gives the estimated costs of EMP implementation in the Construction and Operation stages of the project, respectively.

Estimated Cost of EMP Implementation during Construction Phase

Sr. No.	Particular	Total Cost in Rs.
1	Erosion control – dust suppression measures, barricading and top soil harvesting & preservation.	44,77,500/-
2	Labor Camp toilets & sanitation	1,50,000/-
3	Labor Safety Equipment's and training	12,00,000/-
4	Disinfection and Health Check-ups	96,000/-
5	Environment management cell	1,70,000/-
6	Environmental Monitoring	10,56,000/-
	Total	**71,49,500/-**

Table 9.4 Estimated Cost of EMP Implementation during Construction Stage

Estimated Cost of EMP Implementation during Operation Phase

Component	Details	Capital (Rs.)	O&M (Rs. /Y)
Sewage treatment	STP with MBBR Technology	1,15,00,000	16,50,000
RWH	Recharge pits with bore well	28,00,000	2,80,000
Solid Waste	OWC	30,50,000	8,50,000
Green belt development	Development and Maintenance	2,00,00,000	3,00,000
Energy saving	Solar PV	82,68,000	5,53,800
Environmental Monitoring	Environment Monitoring Plan		4,56,000

Table 9.5 Estimated Cost of EMP Implementation during Operation Phase

10.1 About the Project

10.1.1 Location of the project

Proposed residential project "Air Castle" located at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18,47/19, 50/1/1A/1, 55/15, 82 A/P Marunji, Tal Mulshi Dist. Pune by M/s. Serene Developers in the State of Maharashtra, India. The core city of Pune is located towards South-East direction of the project site. The project falls under the project/activity 8(a): Building & construction Projects & classified as Category B project as per schedule of EIA Notification, 2006 and its subsequent as amendments.

Latitude and longitude of the project:

18°36'33.14"N, 73°43'04.31"E

18°36'35.41"N, 73°43'01.70"E

18°36'38.18"N, 73°43'09.01"E

18°36'32.22"N, 73°43'07.52"E

10.1.2 Project Description and magnitude of the project

The proposed project having total plot area of 49,750 m^2. Total Built up area of the project is 81,496.28 m^2. Out of which, 37,699.06 m^2 has been completed on site.

The project will have 17 Nos. Of Residential Buildings with total tenements 738 nos.; estimated to accommodate a total population of 3690 No. of people for residential at full occupancy.

Total parking area will be 9648 m^2 including drive way. It includes 268 No. of cars, 976 no. of two-wheelers.

Total estimated cost for the project is Rs. 95.00 Cr.

History of the project:

- The Project Applied for EC in November 2010
- In 57th SEAC III meeting held on 31.03.2011, PP received compliance
- In 3rd SEAC III meeting held on 09.01.2014, 'Probable Violation' was declared by SEAC
- Case was filed against the PP by MPCB in February 2015
- After this, SEAC completed scrutiny of the project and RECOMMENDED it to SEIAA in November 2015
- SEIAA (in 97th Meeting), differed the project EC since the court case was pending
- We applied for the Violation Amnesty on 13th April 2018 as EC not granted by SEIAA
- Court Case was disposed-off in January 2019
- The case was discussed in 84th SEAC III meeting on 29th March 2019
- In 174th SEIAA meeting dated 28th August 2019, decided to refer back the proposal to SEAC due to further necessary action as per Notification dt. 14.03.2017 (amendment on 08.03.2018) and Office Memorandum dt. 16.03.2018 issued by MoEF &CC.

- The case was discussed in 100th SEAC III meeting dated 26.12.2019. ToR has been granted for the project for preparation of EIA report and Ecological damage assessment studies.

10.2 Overall justification for implementation of the project

The Metro city of Pune is expanding along its periphery by way of housing and infrastructure development to meet the need of growing urbanization of the existing city's immediate surroundings. Keep in mind the demand of modern housing, the project will have facility like parking, sewage treatment, water treatment plant, organic waste converter and ensured water supply, park, club etc. for residents.

10.3 Employment Potential

The proposed project has the following potential of employment:

a) Temporary employment of around 100 people during construction phase.
b) The project will have STP, OWC, WTP within premises which will require persons for operation and maintenance

10.4 Water requirement and waste water requirement

During construction phase, water requirement for construction activity and for labour will be 17.05 KLD and 6.75 KLD respectively; which will be sourced from Tanker water supply. Mobile toilets will be provided to construction workers.

During operation phase total water requirement will be 575 KLD. Fresh water requirement for domestic purpose will be 332 KLD. The water will be lifted from Mula river for which permission from Irrigation department is taken. The raw water from river further treated in on site Water Treatment Plant will be operated 12 hours per day before distributed to users.

The estimated waste water generation is 448 KLD. Sewage treatment plant of capacity 450 KLD will be installed for treatment of sewage generated from domestic use. The treated water will be used for flushing and landscaping purpose. Excess treated will be disposed in grampanchayat drain.

10.5 Solid waste

During construction phase municipal solid waste, construction debris, steel scrap, cement bags, packing material etc. solid waste generated due to the project activities. The same will be disposed through authorized vendor.

During operation phase, it is estimated that approx. 1845 kg/day of solid waste (including 1107 kg/day biodegradable & 738 kg/day Non-biodegradable) will be generated from the project premises. Solid wastes generated will be segregated into biodegradable and non-biodegradable components and collected in separate bins. Organic waste convertor provided for bio-degradable waste generated during operation phase and manure will be used within the site premises for landscaping. Non bio-degradable waste and E waste will be sent to authorize vendor.

10.6 Top Soil & Excavated Earth Management

Excavated Top soil conserved and reused during existing building 917.04 cum.
Excavation soil 442.41 cum for proposed will be conserved and stored separately before excavation and shall be used for landscape development once the construction is in peak.

For existing buildings 19,079.34 cum debris generated and 23,105.11 cum has been required for filling & levelling. 4025.77 Cum has been procured from outside.chapter 9

For proposed buildings, 8261.86 cum debris will be generated. 10,586 cum will be required for site levelling and back filling. 2324.14 Cum will be procured from outside.

10.7 Electricity supply

The demand load for construction activity is estimated to be 30 W.

The estimated connected load for the project is 4092 kW.

The project will receive energy supply from Maharashtra State Electricity Distribution Company Ltd (MSEDCL).

Also, the project will have 1 no. of DG set of capacity 40 kVA for construction phase during construction activity. 1 DG sets of capacity 160 kVA and 200 kVA proposed for operational phase.

10.8 Rain water and storm water

Considering the aspect of water conservation, the project proponent will provide rainwater harvesting for project by way of using several rooftop rainfall runoffs groundwater recharge wells and storage tanks scattered and located at strategic locations within the complex. Rainfall runoff will be stored in those tanks for use during off monsoon period.

Total no. of recharge pits: 28 with bores having Sizes of recharge pits: 1 m X 1 m X 1 m.

10.9 Greenbelt development

The proposed project will plant 644 Nos. of trees on the entire site; thereby achieving a tree density of 1 tree / 79 m^2 of site area. 10% mandatory RG area will be provided. The total Green area for the project site is 14778.27 m^2, which is 30% of the total site area.

10.10 Baseline environmental studies

The baseline environmental quality was assessed through field studies within the impact zone for various components of the environment viz. land, air, noise, water, ecological environment and socio-economic environment with specific reference to environmental aspects. The baseline study conducted during study period of 1 month i.e. March 2021. The study area covers 10 km radius around the project site.

10.10.1 Meteorology of the study area

Based on the Indian Meteorological Department (IMD) data for Pune Station, Based on the Indian Meteorological Department (IMD) data for Pune Station, the average annual rainfall is 763 mm in the study area. On plotting the Windrose diagram on the study area, it can be inferred that the primary wind direction is North-west March month. Figure 3.10 gives the Windrose diagram for the study area. The average summer temperature during the month of March was 32 to 37 deg C The climatic condition is a dry tropical climate.

10.10.2 Ambient Air Quality

Ambient Air Monitoring was conducted at 5 different locations selected on the basis of local climate conditions mainly wind direction patterns which include base station, upwind station,

downwind station and crosswind station as per wind regime within the study area during study period for parameters such as Particulate matter (PM10, PM2.5), Sulphur Dioxide (SO2), Oxides of Nitrogen (NOx), Carbon Monoxide (CO)

Observations of air quality monitoring are as follows:

• **PM10** – A maximum value of 67.2 µg/m^3 were observed at project site and 12 m wide Marunji road, minimum value of 53.7 µg/m^3 was observed at Infosys location. Observed values are well within the NAAQ specific standards of 100 µg/m^3 for residential areas. The average values ranged from 55.67 µg/m^3 to 65.06 µg/m^3. 98th percentile ranged between 58.14 µg/m^3 to 67.10 µg/m^3.

• **PM2.5** – The maximum value of 37.6 µg/m^3 were observed at almost all locations and minimum value observed 28.3 µg/m^3 near Alard Public School. The values are within the permissible limits of NAAQ specified standards of 60 µg/m^3 for residential areas. The average values ranged from 34.3 µg/m^3 to 37.87 µg/m^3. 98th percentile ranged between 37.4 µg/m^3 to 39.3 µg/m^3.

• **SO2** – Maximum concentration of SO_2 observed 25.9 µg/m^3 near Alard Public School and minimum value of 18.9 µg/m^3 at Marunji Gaon. Observed values are well within the NAAQ specified standards of 80 µg/m3 for residential areas. The average values ranged from 19.61 µg/m^3 to 23.46 µg/m^3. 98th percentile ranged between 20. 97 µg/m^3 to 25.76µg/m^3.

• **NOX** – Maximum concentration of NOx was observed 28 µg/m^3 and minimum value 23.80 at Marunji Gaon. The observed values are well within the NAAQ specified standards of 80 µg/m^3 for residential areas. The average values ranged from 26.26 µg/m^3 to 28.53 µg/m^3. 98th percentile ranged between 28 µg/m^3 to 29.7 µg/m^3.

Based on the ambient air analysis, the air quality in the study are cannot be inferred.

10.10.3 Noise Quality

The main sources of noise will be vehicular movement, Construction equipment, and D. G. Set. Monitoring of noise was done at 5 different locations. Background noise quality was monitored in dB (A) Leq (d) and dB (A) Leq (n) at the selected locations.

The noise levels in the study area vary between 38.54– 39.94 dB (A) during night time & 43.11 – 45.26 dB (A) during day time. Noise level readings are observed that the maximum noise levels at all the locations are within the limits specified for residential area.

10.10.4 Water quality

The results show that the river water and nallah water contain the typical pollutants within prescribed limits except for fecal coliform. The presence of coliform is expected to be a result of animal waste being discharged to the water bodies and can be eliminated by disinfection. Although such connections were not seen, washing of cattle, vehicles and open defecation cannot be ruled out around the river and lakes. The stretch of the Mula River where a sample was collected will be used for drawing drinking water for the development through a lift station. As the water quality does not have any significant issues, there is no evidence of industrial pollution or unauthorized sewers besides development in the area, the river water is considered to be safe for drinking purposes after conventional water treatment and disinfection.

10.10.5 Biological and ecological environment

The site is mostly barren with only a few scattered shrubs and some herbaceous species.

- **Flora** - 28 species of trees are present on the site out of which 17 are native and 11 exotic
- **Fauna** –

- A total of 16 species of birds were observed during survey
- 1 species of butterflies were observed during survey
- No mammals, reptiles and amphibians were observed during other surveys

10.10.6 Socio-economic study

Within the 10 km study area, approximately 17 number of village gaothans are identified.
Based on the findings, the project will provide positive impact on the economic development of the region in terms of employment opportunities.

The proposed project falls in an area where social infrastructure is well developed such as hospitals, market, schools, colleges etc.

10.10.7 Traffic study

A separate Traffic Assessment was carried out in the study area to understand the condition of traffic and mobility vis a vis the available transport infrastructure. Traffic analysis is carried out roads wise.

The traffic survey at the project area is conducted for two days at location 1 during peak hours i.e. morning 08.00 am to 12.00 pm and evening 05.00 pm to 09.00 pm. The study is bifurcated on the types/category of vehicles at this location. The majority of traffic is found of two wheelers, cars followed by Light Vehicles, Heavy Vehicles, 3 wheelers and tractors

During construction, total PCU count recorded 46.47 PCU/hr and total PCU count per hour 90.4 PCU/hr during operation phase.

10.11 Renewable energy

The proposed project has designed use of Renewable Energy in the following ways namely,

A. Solar Hot Water Systems
   - Total Solar PV capacity-91 KW i.e. 2.50% of demand load (3637.33 KW) is provided.
   - Total No. of Solar Hot water – 139
   - Energy offset estimated due to Solar hot water panels- 2,39,496.40 kWh/yr

B. Solar PVs for electricity generation
   - Total Solar PV capacity-91 KW i.e. 2.50% of demand load (3637.33 KW) is provided.
   - Total No. of Solar PV – 260
   - Energy offset estimated due to Solar PV panels- 1,36,500.00 kWh/yr

10.12 Road Network

The proposed project will have a hierarchical road network. The main road will be 12 m Hinjawadi-Kasarsai road and will give access to the internal roads of 6 m width.

10.13 Anticipated impacts and mitigation measures

10.13.1 Land Environment

Potential impact on land environment due to construction activities are mainly due to land procurement, Clearance of vegetation, Cutting & filling of earth materials, excavation and casting of foundation.

The following mitigation measures are suggested to manage the anticipated environmental impacts: Clearance of vegetation limited to project footprint.

- Storage of top soil separately and its reuse for greenbelt within the site.
- Landscape development within site.
- Use of excavated earth for backfilling.
- Maintain natural drainage pattern of the surrounding area as it is.

10.13.2 Ambient air

Impact on ambient air would be due to:

- SO2, NOx, PM10 emission from operation of DG sets;
- Pollutants NOx, PM10, HC, CO from vehicular movement;

Emission from all the sources were analysed for their impacts on the GLC for various distances using the dispersion modelling guidelines of AERMOD, developed by the AERMIC (American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee) as directed by CPCB.

During operation phase, emission of flue gases stack from stack attached to DG set will be predicted. DG set will be operated for power generation/power backup during power supply failure or in absence of power supply. Emission from the vehicular exhaust due to burning of fuel were analysed for impacts on sensitive receptors.

Mitigation Measures

Mitigation Measures for air Quality impacts during operational phase:

- PUC certified all cars /vehicles shall be allowed to enter.
- Vehicular emission can be mitigated by strictly following traffic management plan at site. Also by maintaining the roads and by controlling speed limit.
- Dust and air emission can be controlled by development of greenbelt / green cover.
- Periodic air quality monitoring will be carried out at project site and other location within study area.

10.13.2 Incremental traffic

Impact due to road transportation:

- Increase in transportation will lead to increase in road traffic
- Generation of dust
- Emission of pollutants like HC, SO2, CO, CO2;
- Noise generation from vehicular movement;
- Spillage or leak of raw materials during transportation.

Mitigation measures

- Proper and visible signages
- Maintaining Speed by signages
- Properly marked Parking Areas
- Lane Markings on Roads
- Street Lights for proper visibility
- Signage lighting
- Policing measures, if required
- Separate entry/exit provided to residential and commercial users

10.13.3 Noise Environment

Anticipated impacts

- Noise from construction machinery/equipment
- Noise from vehicle/traffic

Mitigation Measures

- Restricted the use of noise generating equipment, machinery and vehicles during day time only.
- Use of well-maintained equipment, machinery and vehicles to avoid generation of high noise.
- Peripheral barricading to prevent noise emission outside the project premises.
- Provision of personnel protective equipment (PPEs) like ear plugs/muffs for all the workers at siteand ensuring that the same wore by everybody during construction work.
- Acoustic enclosures will be provided for DG set.
- Noise to be monitored in ambient air within the premises.
- Green belt shall be prepared in order to reduce the intensity of noise generating from outside sources.

10.13.4 Water environment

Potential impacts predicted are:

- Surface water depletion due to water consumption.
- Water and soil contamination due to wastewater generation & disposal.

Mitigation Measures

Following mitigation measures will be implemented to reduce surface water related impacts:

- Separate drainage will be proposed for storm water and for sewage to avoid run off contamination as well as any contamination of surface water sources.
- Drip irrigation system will be proposed to reduce fresh water demand for gardening.
- Care will be taken to reduce water consumption by providing water conservation measures.

10.13.5 Solid waste management

Mitigation Measures for Impact on land/SW due to Solid Waste Generation and Disposal:

- Solid waste will be properly collected & segregated into biodegradable and non-bio degradablecomponents as per Rules. Separate bins will be provided for collection of wastes.
- Organic waste converter will be provided for biodegradable waste disposal. Manure generated fromOWC will be used as compost within the premises for gardening purposes.
- Recyclable waste will be handed over to authorized recyclers and non-recyclable waste will bedisposed through Govt. approved agency.

10.13.6 Soil Environment

Soil Quality will get affected by construction activities like excavation, vehicle movements, storage and handling of materials, storage and disposal of wastewater & solid waste. The impacts would be degradation of soil or change in its structure due to compaction and erosion during site preparation activities and plying of trucks during construction and operation phase.

Contamination of soil can result from the project activities due to improper storage and handling of construction materials, improper storage, handling & disposal of wastewater and Solid waste.

Mitigation Measures

- Excavated top soil will be reused in landscaping
- Spillage of construction materials was avoided to prevent soil contamination and deterioration on soil quality.
- Spillage of oil, diesel etc. was minimized to avoid soil contamination.
- If soil becomes saline/alkaline due to fall of construction materials, use of municipal solid waste etc.;use gypsum, organic manures and provide drainage for removal of excess salt.

10.13.7 Ecology & Biodiversity

No immediate action required because all local species from project site would be common as reported from nearby environment and well adapted to the routine urban activities, so they would not face significant impact on their normal movements.

10.14 Environmental Monitoring Program

Monitoring is as important as that of control of pollution since the efficiency of control measures can only be determined by monitoring. The study has also examined the extent to which the adverse impacts identified can be controlled through the adoption of mitigation measures.

From the monitoring point of view, the important components are air, water and noise. Regular monitoring will be carried out during the operation phase. An Environment Management Cell (EMC) will be formed to perform & implement the post project-monitoring plan for this project.

10.15 Disaster Management Plan (DMP)

The DMP has been prepared for this project based on the Risk Assessment and related findings. It consists of Emergency Response/Evacuation Plan in case of building area-covering issues during construction and operational phase (if any).

The overall objectives of the Disaster Management Plan (DMP) are to contain and control emergency incidents, to prevent loss of life and minimize the risk of bodily injury to workers during construction phase and residential, and neighbouring population and visitors during operation phase, to minimize damage to property, to provide maximum possible safety equipment for the emergency response personnel.

10.16 Environmental Management Plan

An EMP describes generic good practice measures as well as site-specific measures, the implementation of which is aimed at mitigating potential impacts associated with the proposed activities. For each stage of the program, the EMP lists all the administrative aspects necessary to ensure effective implementation of the mitigation measures. It also lists the parameters which need to be monitored to ensure effective implementation. For each impact or operation, which could otherwise give rise to impact, the following information is presented:

- A comprehensive listing of the mitigation measures (actions) that will implement;
- The parameters that will be monitored to ensure effective implementation of the action;
- The timing for implementation of the action to ensure that the objectives of mitigation are fully met.

An Environment Management Cell (EMC) will be responsible for implementation of the post project- monitoring plan for this project.

10.17 Project Benefits

- During construction phase direct employment opportunity will be created for contractor, laborersand workers, indirect employments in transportation and construction allied sectors.
- During operation phase, long-term job opportunities will be created in terms of security,housekeeping and gardening personnel which will lead to increase their living standard.
- Exposure of modernized infrastructural & technological facilities due to proposed project activities will helpful to boost knowledge of employees, workers, locals.
- 10% of the plot area is being developed as landscape area /green belt, which will enhance thebeauty and aesthetics of the project area.
- Adequate parking space for residents commercial users and visitors.
- The project will have developed internal drainage systems which will improve the managementand maintenance.
- Good solid waste management system consisting of proper collection, designated storage,provision of composting facility for bio degradable waste disposal.
- Effective site security with separate entry-exit checks.
- Project will set a good example for surrounding area about good solid waste management systemconsisting of proper collection, storage & disposal facility.

Chapter 11 Disclosure of Consultant Engaged

Sr. No	Subject Expert/EIA report Contributor	Name of the organization and complete address and phone no
1.	Environmental Consultant	**Ar. Anagha Paranjape Purohit** **VK:e Environmental LLP** Ground floor, Nextgen Avenue, Survey No. 103 Part, C.T.S No. 2850, Bahiratwadi , Senapati Bapat Road, Near ICC Trade Tower, Pune – 411016 Phone: 020 – 66268888
2.	EIA Coordinator	**Ar. Anagha Paranjape Purohit** Team Member : Mr. Ajinkya Pathak **VK:e Environmental LLP** Ground floor, Nextgen Avenue, Survey No. 103 Part, C.T.S No. 2850, Bahiratwadi, Senapati Bapat Road, Near ICC Trade Tower, Pune – 411016 Phone: 020 – 66268888Phone: 020 – 66268888
3.	Project Architect	**Ar. Shahnawaz Jamadar** **Parvez Jamadar And Associates**
4.	Water Pollution Control- WP	**FAE: Mrs. Amruta Mirajkar,** Team member: Mrs. Rutugandha Parasnis, **VK:e Environmental LLP**
5.	Air Pollution-AP	**FAE: Mr. Adhikrao Yeole (Empaneled Consultant)** Team member: Ms. Sonali Nichal
6.	Land Use-LU	**FAE: Dr. Poorva Keskar** Team member **:**Ms. Akila (GIS Expert) **VK:e Environmental LLP**
7.	Socio Economic Aspects-SE	**Mr. Amol Umbarje (Empaneled Consultant)** **Sustainability Initiative** Ground floor, Nextgen Avenue, Survey No. 103 Part, C.T.S No. 2850, Bahiratwadi, Senapati Bapat Road, Near ICC Trade Tower, Pune – 411016 Phone: 020 – 66268888
8.	Ecology & Biodiversity-EB	**FAE: Kedar Champhekar (Empaneled Consultant)** Team member: Ms. Chaitrali Kulkarni
9.	Noise and Vibration	**FAE: Mrs. Amruta Mirajkar,** **Team Member Ms.** Amrapali Talbhandare **VK:e Environmental LLP**
10.	Soil Conservation -SC	**FAE: Mr. Naraina Varde**
11.	Solid & Waste Management	**FAE: Ms. Akanksha Kembhavi** Team Member: Mr. Ajinkya Pathak **VK:e environmental LLP**
12.	Landscape Architect	**VKa Architect**

13.	Hydrogeology Consultant	**Dr. Anil Lalwani** Well & Water Works M od el C ol ony , Pune
14.	Environmental Laboratory	**Vendor: Green Envirosafe** MoEF approved Lab by Govt. of India. Survey No-1405/06, Mayuri Residency, Shop No-16, 2nd Floor, Sanaswadi, Tal- Shirur, Pune-412208. info@greenenvirosafe.co.in Phone9545084620, 9970849849
15.	Traffic and Transport Planning Consultant	**Vendor: Rheaa Consultancy Services** 2nd Floor, Bhujbal House, Panmala, above cosmos bank, Sinhgad Road, Pune - 411030 traffic@rheaa.co.in Phone No:-020-65360055, 020-24330005/6
16.	Electrical consultants	**VK:e Environmental LLP** Ground floor, Nextgen Avenue, Survey No. 103 Part, C.T.S No. 2850, Bahiratwadi , Senapati Bapat Road, Near ICC Trade Tower, Pune – 411016 Phone: 020 – 66268888
17.	Plumbing Consultant	**Pushkaraj Consultancy**
18.	STP consultants	**Earthcare Consultants**
19.	OWC consultants	**Vendor: M/s Smart Enviro Systems** Corporate Office: 10, Industrial Estate, Kothrud, Kothrud, Pune, Maharashtra 411038 info@smartenvirosystems.co.in Phone no- +91 9371236226
20.	Carbon Footprint Consultant	**VK:e Environmental LLP** Ground floor, Nextgen Avenue, Survey No. 103 Part, C.T.S No. 2850, Bahiratwadi , Senapati Bapat Road, Near ICC Trade Tower, Pune – 411016 Phone: 020 – 66268888

Table 10.1 Disclosure of Consultant Engaged

Consolidated Statement for

1.	Proposal Number		
2.	Name of Project	Proposed residential project "Air Castle" at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune by Serene Developers	
3.	Project category	8(b) B1 Building & construction projects	
4.	Type of Institution	Private	
5.	Project Proponent	Name	Mr. Jeetu Punjabi
		Regd. Office address	S No 37 Opposite to Dilip Vengaskar Cricket Academy Thergaon Pune
		Contact number	020-32320000
		e-mail	
6.	Consultant	Vk:e Environmental LLP, Pune.	
7.	Applied for	New Project	
8.	Details of previous EC	N0	
9.	Location of the project	S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune	
10.	Latitude and Longitude	Latitude: 18°36'33.80"N Longitude: 73°43'05.72"E	
11.	Total Plot Area (m2)	49,750.00	
12.	Deductions (m2)	681.49	
13.	Net Plot area (m2)	49,068.51	
14.	Proposed FSI area (m2)	49,946.29 (26,344.16 completed)	
15.	Proposed Non-FSI area (m2)	31,549.99 (11354.90 completed)	
16.	Proposed TBUA (m2)	81,496.28 (37,699.06 completed)	
17.	TBUA (m2) approved by Planning Authority till date	Under Process	
18.	Ground coverage (m2) & %	27.50 %	
19.	Total Project Cost (Rs.)	95 Crores	
20.	CER as per MoEF& CC circular dated 01/05/2018	Activity / Location / Cost (Rs.) / Duration	
		As CER is under adjudication. PP would like to await decision for adjudication before committing it to EC	

21. Details of Building Configuration:
<Please use following legends: Floor = F, Parking = Pk, Podium = Po, Stilt =St, Lower Ground = LG, Upper Ground = UG, Basement = B, Shops = Sh>

Previous EC / Existing Building			Proposed Configuration				Reason for Modification / Change
Building Name	Configuration	Height (m)	Building Name	Configuration	Height		
NA			Building A	Parking + 8	25.80 m	Completed	New project
			Building B	Parking + 8	25.80 m	Completed	
			Building C	Parking + 8	25.80 m	Completed	
			Building D	Parking + 8	25.80 m	Completed	
			Building E	Parking + 8	25.80 m	Completed	
			Building F	Parking + 8	25.80 m	Completed	
			Building G	Parking + 8	25.80 m	Completed	
			Building H	Parking + 8	25.80 m	Completed	
			Building I	Parking + 8	25.80 m	Completed	
			Building J	Parking + 8	25.80 m	Completed	
			Building K	Parking + 8	25.80 m	Completed	
			Building L	Parking + 8	25.80 m	Completed	
			Building M	Parking + 8	25.80 m	Completed	
			Building N	Parking + 15	42.75 m	Not started yet	
			Building O	Parking + 15	42.75 m	Not started yet	

		Building P	Parking + 12	37.20 m	Not started yet	
		Building Q	Parking + 12	37.20 m	Not started yet	

22.	Total number of tenements		738 Flats
23	Total number of Population		3690 Persons

24.	Water Budget	Dry Season (CMD)			Wet Season (CMD)
		Fresh Water	332.1	Fresh Water	332.1
		Recycled for landscape	73.14	Recycled for landscape	00
		Swimming Pool	3.50	Swimming Pool	1.00
		Flushing	166.05	Flushing	166.05
		Total	574.79	Total	499.15
		Wastewater generation	448.33	Wastewater generation	448.33

25.	Water Storage Capacity for Firefighting / UGT	Raw water compartment: 100 m3 Domestic water compartment: 400 m3 Fire water compartment: 300 m3 Flushing water compartment: 170 m3	
26.	Source of water	Irrigation Dept.	
27.	Rainwater Harvesting (RWH)	Level of the Ground water table:	Level of ground water level:8 m BGL
		Size and no of RWH tank(s) and Quantity:	28 nos.
		Quantity and size of recharge pits:	
		Details of UGT tanks if any:	NA
28.	Sewage and Wastewater	Sewage generation in KLD	448.33
		STP technology:	MBBR
		Capacity of STP KLD:	450 KLD

	Solid Waste Management during Construction Phase	Type	Quantity (kg/d)	Treatment / disposal
		Dry waste:	18 kg/day	The maximum construction waste will be used within the site for leveling purposes and base course preparation of internal approach roads.
		Wet waste:	12 kg/day	
		Construction waste	30 kg/day	
30.	Solid Waste Management during Operation Phase OWC-(1250)	Type	Quantity (kg/d)	Treatment / disposal
		Dry waste:	738	Handed over to authorize recycler for further handling & disposal purpose.
		Wet waste:	1107	Wet waste will be treated in onsite organic waste converter machine.
		Hazardous waste:	NA	NA
		Biomedical waste	NA	NA
		E-Waste	5	Handed over to authorized recyclers for further handling & disposal purpose.
		STP Sludge (dry)	55	Will be used as manure
31.	Green Belt Development	Total RG area (m2):		4906.85
		Existing trees on plot:		913
		Number of trees to be planted:		644
		Number of trees to be cut:		128
		Number of trees to be Retain:		785
		Total No. of Proposed trees:		644
32.	Power requirement:	Source of power supply:		MSEDCL
		During Construction Phase (Demand Load):		40 KVA-1Nos
		During Operation phase (Connected load):		4092 KVA

		During Operation phase (Demand load):		3637.33
		Transformer:		630 KVA – 6 No 315KVA – 1 No
		DG set:		200 KVA-1 Nos 160 KVA – 1 No
		Fuel used:		HSD
33.	Details of Energy saving		**Detail calculations & % of saving: - 2.87%**	

34.	Environmental Management plan budget during Construction phase	Type	Details	Cost (Rs.)
		Air Environment	Erosion control – dust suppression measures, barricading and topsoil preservation	44,77,500
		Land	Labor Camp toilets & sanitation	1,50,000
		Health and Safety	Labor Safety Equipment's and training	12,00,000
		Health facility	Disinfection and Health Check-ups	96,000
		Environment Management	Environment management cell	1,70,000
		Environment Management	Environmental Monitoring	3,26,000

35.	Environmental Management plan Budget during Operation phase	Component	Details	Capital (Rs.)	O&M (Rs. /Y)
		Sewage treatment	STP with MBBR Technology	1,15,00,000	16,50,000
		RWH	Recharge pits with bore well	28,00,000	3,00,000
		Solid Waste	OWC	30,50,000	8,50,000
		Green belt development	Development and Maintenance	2,00,00,000	3,00,000
		Energy saving	Solar PV	17,5000	3,5000
		Environmental Monitoring	Environment Monitoring Plan		2,52,500
		Disaster Management Plan	Lightening Arrester		

36.	Traffic Management	Type	Required as per DCR	Actual Provided	Total parking Area(m2)
		4-Wheeler	268	268	9,648.00
		2-Wheeler	976	976	
37.	Details of Court cases / litigations w.r.t. the project and project location if any.	yes			

Mr. Jeetu Punjabi **M/s Serene Developers**		**Ar. Anagha Paranjape Purohit** **VK:e Environmental LLP, Pune.**

******

APPENDIX I

FORM 1

Project: Proposed Residential Project “Air Castle” at Marunji, Pune			
Project Proponent: Mr. Jeetu Punjabi			
	Basic Information		
Sr No.	Item	Details	
1	Name of the project	Air Castle Proposed Residential Project at S. No. 12/6, 27/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulshi. Dist Pune By Serene Developers	
2	S. No. in the schedule	8(a) B2	
3	Proposed capacity /area /length /tonnage Handled /command area/lease area/number wells to be drilled	Plot Area	49,750.00 sq m
		Proposed FSI Area	49,946.29 sq m
		Proposed Non FSI Area	31,549.99 sq m
		Total Built-up area	81,496.28 sq m
4	New/Expansion/Modernization	New Project	
5	Existing Capacity/Area etc.	13 buildings with approx built up area 37,699.06 m2	
6	Category of Project. e.' A' or 'B'	B2; Activity under Item 8 (a)	
7	Does it attract general conditions? If yes, please Specify	No	
8	Does it attract specific condition: If 'yes, please Specify	No	
9	Location	Marunji, Taluka Mulashi District Pune Maharashtra Latitude: 18°36’33.80"N Longitude: 73°43’05.72"E	
	Plot/Survey/Khasra No.	S. No 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulashi. Dist. Pune.	
	Village	Marunji	
	Tehsil	Mulashi	
	District	Pune	
	State	Maharashtra	

10	Nearest railway station/airport along with distance in km.	Pimpri Chinchwad railway station (Approximately Distance 8.28 Km) Pune Railway Station (Approximate. Distance 18.64 km) Pune International Airport (Approximate distance of 21.11 km)
11	Nearest Town, city, District Headquarters along with distance in kms.	Pimpri Chinchwad Municipal Corporation: 7.8 Km from proposed site Office Of District Collector Agarkar Nagar, Pune, Maharashtra (Approximate Distance 19.26 Km)
12	Village Panchayats, Zilla Parishad Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	PMRDA
13	Name of the applicant	Mr. Jeetu Panjabi M/s Serene Developers
14	Registered Address	" S No 37 Opposite to Dilip Vengaskar Cricket Academy Thergaon Pune
15	Address of correspondence	" S No 37 Opposite to Dilip Vengaskar Cricket Academy Thergaon Pune
	Name	Mr. Jeetu Panjabi
	Designation (Owner/Partner/CEO)	Partner
	Pin Code	411033
	E-mail	nilesh@planedge.in
	Telephone No.	020- 3232 0000
	Fax No.	---
16	Details of Alternative Sites examined if any. Location of these sites should be shown on a toposheet.	Not Applicable
17	Interlinked Projects	Not Applicable
	Whether separate application of interlinked project has been submitted	Not Applicable
	If yes, date of submission	Not Applicable

	If no, reason		Not applicable as there is no interlinked project. This is a proposed in the Proposed Residential building project.
18	Whether the proposal involves approval/ clearance under: if yes, details of the same and their status to be given: (a) The Forest (Conservation) Act – 1980? (b) The Wildlife (Protection) act – 1972? (c) The C.R.Z. Notification, 1991?		No, the proposal does not involve any of these approvals/clearances.
19	Whether there is any government order/ policy relevant/ relating to the site?		No. The area falls under governed Regional Plan of Pune & governed by PMRDA by laws.
20	Forest land involved (hectare)		No forest land involved
21	Whether there is any litigation pending against the project and /or the land in which the project is proposed to be set up? (a)Name of the Court (b)Case No. (c) Orders/directions of the Court, if any and its relevance with the proposed project		No
I	**Activity**		
1.0	Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)		
Sr. No	***Information /Checklist confirmation***	***Yes / No***	***Details thereof (with approximate quantities /rates, wherever possible) with source of information data***
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	NO	▪ The existing land use is Residential Zone as per PMRDA Regional plan. ▪ 13 buildings exist on site and excavation will be done for Proposed 4 building ▪ Hence, there will be no change in land use pattern due to proposed project. ▪ There is change in land-cover and topography of the site as it is construction project.
1.2	Clearance of existing land, vegetation and buildings?	NO	There are no vegetation/buildings on the project site. Hence, no clearance of vegetation /building required.

1.3	Creation of new land uses?	NO	The proposed project is in Residential zone as per PMRDA regional plan There will be no change in land use.	
1.4	Pre-construction investigations e.g. bore houses, soil testing?	YES	Geo-technical investigation is done. Hydrogeological study has been conducted	
1.5	Construction works?	YES	The project proposes the following buildings:	
			Building A	Parking + 8
			Building B	Parking + 8
			Building C	Parking + 8
			Building D	Parking + 8
			Building E	Parking + 8
			Building F	Parking + 8
			Building G	Parking + 8
			Building H	Parking + 8
			Building I	Parking + 8
			Building J	Parking + 8
			Building K	Parking + 8
			Building L	Parking + 8
			Building M	Parking + 8
			Building N	Parking + 15
			Building O	Parking + 15
			Building P	Parking + 12
			Building Q	Parking + 12
			Total Construction area	***81,496.00sq m***
1.6	Demolition works?	NO	No demolition works involved	
1.7	Temporary sites used for construction works or housing of construction workers?	YES	Temporary sheds will be constructed for labour colony, including toilets, and site office and material storage facilities.	
			Workers on Project site	100 nos
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	YES	▪ Excavation for foundation and basement will be done. The debris from the excavation will be reused for site leveling, road construction and backfilling. ▪ The topsoil layer will be recovered during excavation work and will be used for landscaping. Details are elaborated in the Debris Management Plan.	
1.9	Underground works including mining or tunneling?	NO	The proposed development work does not include any mining or tunneling.	
1.10	Reclamation works?	NO	Not applicable	
1.11	Dredging?	NO	Not applicable	

<table>
<tr><td>1.12</td><td>Offshore structures?</td><td>NO</td><td>Not applicable</td></tr>
<tr><td>1.13</td><td>Production and manufacturing processes?</td><td>NO</td><td>Not applicable</td></tr>
<tr><td>1.14</td><td>Facilities for storage of goods or materials?</td><td>YES</td><td>During construction, the building materials will be temporarily stored within site premises in temporarily constructed sheds</td></tr>
<tr><td>1.15</td><td>Facilities for treatment or disposal of solid waste or liquid effluents?</td><td>YES</td><td>
Construction Phase:
▪ Solid wastes such as empty bags, packaging material, are properly segregated and will be sent to authorize recyclers.
▪ C&D Waste will be collected, stored temporarily on project site and either disposed off as backfilling material or to authorized vendors, depending on type of waste.
▪ Wastewater generated due to the labour colony will be collected in mobile toilets, which are being disposed through a tanker to wastewater facilities of PMC.
<table>
<tr><td>Estimated Solid waste generated in labour colony</td><td>30 kg/day</td><td>Disposed through PMC waste management system</td></tr>
<tr><td>Estimated Wastewater generated in labour colony</td><td>4.5 KLD</td><td>Periodic Desludging of mobile toilets</td></tr>
</table>
Operation Phase:
▪ The total solid waste generated will be treated through an Organic Waste Convertor to generate manure for use in landscape areas.
▪ The Inorganic waste shall be handed over to SWACH for further recycling.
▪ E-Waste shall be handed over to authorized recyclers
▪ Wastewater generated treated in a STP and reused for Flushing and Irrigation purposes
<table>
<tr><td>Estimated Organic Waste</td><td>1107 kg/day</td><td>Treated in OWC of capacity 1250 kg/day to convert into manure</td></tr>
<tr><td>Estimated Inorganic Waste</td><td>738 kg/day</td><td>Handed over to SWACH for recycling</td></tr>
<tr><td>Estimated Wastewater generated</td><td>448.335 KLD</td><td>Treated in STP of capacity 450 KLD and treated wastewater reused for Flushing & Irrigation</td></tr>
</table>
</td></tr>
<tr><td>1.16</td><td>Facilities for long term housing of operational workers?</td><td>NO</td><td>The proposed development will have temporary workers during construction phase only.</td></tr>
<tr><td>1.17</td><td>New road, rail or sea traffic during construction or operation?</td><td>NO</td><td>There is no need to construct new road as project site is well connected through existing roads. Rail and Sea traffic are not applicable.</td></tr>
</table>

1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	NO	There is no need to construct new road and other transport infrastructure, as project site is well connected through existing roads. Rail and Sea traffic are not applicable.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	NO	There will be no diversion or closure of the existing transport routes or infrastructure.
1.20	New or diverted transmission lines or pipelines?	NO	No diversion of transmission lines or pipelines.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	NO	No change in existing hydrology of water sources or aquifers.
1.22	Stream crossings?	NO	No stream crossing through the project site.
1.23	Abstraction or transfers of water form ground or surface waters?	NO	▪ No ground water extraction. ▪ During Construction Phase, water will be supplied through authorized water tankers, without any direct abstraction of water from surface/ground water source. ▪ During Operation Phase, Irrigation Dept. will supply water to the project through its network of water supply.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	NO	▪ There are no water bodies on project site. There will not be any alteration in the drainage pattern. ▪ Post development, the site shall generate surface run-offs. A storm water management plan has been designed to divert excess runoffs to groundwater recharge.

1.25	Transport of personnel or materials for construction, operation or decommissioning?	YES	**Construction Phase:** ▪ Transportation of material shall be undertaken within the site through lorries/dumpers. ▪ Labour working on site will be housed in a temporary labour colony on site premises. Thus, there is no transport of labor required. **Operational Phase:** ▪ Road traffic of the area will increase during operation phase, once the project is fully operational.		
1.26	Long-term dismantling or decommissioning or restoration works?	NO	Proposed project does not involve decommissioning, long term dismantling or restoration works		
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	NO	Not Applicable as the project does not involve decommissioning.		
1.28	Influx of people to an area in either temporarily or permanently?	YES	There will be influx of persons due to the project. temporary influx of 100 labors during the construction phase and 6465 nos. influx of residential & commercial users during the operational phase.		
			During Construction Phase (Temporary)	100 labors	
			During Operation Phase At Full Occupancy & Permanent)	3690 persons	
1.29	Introduction of alien species?	NO	No introduction of alien species is envisaged.		
1.30	Loss of native species or genetic diversity?	NO	No trees will be cut on project site for this project		
1.31	Any other actions?	NO	No other actions envisaged.		
2.0	**Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply)**				
2.1	Land especially undeveloped or agricultural land (ha)	NO	The proposed site is a non-agricultural land.		
2.2	Water (expected source & competing users) unit: KLD	YES	**Construction Phase**		
			Estimated Water for Labour Colony	4.5 KLD	Water Tanker
			Estimated Water for Construction	6.8 KLD	Water Tanker
			During Operation Phase		
			Estimated Total Water Requirement	574.79 KLD	Irrigation Dept.Water Supply + Recycled Water

			Estimated Fresh Water Requirement	335.60 KLD	Irrigation Dept. Water Supply
			Estimated Flushing Water Requirement	166.05 KLD	Recycled Water from STP
			Estimated Irrigation Water Requirement	73.14 KLD	Recycled Water from STP
2.3	Minerals (MT)	NO	No minerals will be used for the construction purpose.		
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	YES	Construction materials will be used on project site for construction of the buildings.		
			Cement	5.00%	
			Steel	4.85%	
			Blocks	7.50%	
			Tiles	10.00%	
			Glass	1.00%	
2.5	Forests and timber (source – MT)	No	Not Applicable		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	YES	**Construction Phase**		
			Estimated Demand Load	40 KW	MSEDCL
			Proposed DG Set Installation	40 KW	Authorized agency with DG sets of CPCB guidelines
			During Operation Phase		
			Estimated Connected Load	4092 KW	MSEDCL
			Estimated Demand Load	3637.33 KW	MSEDCL
			Transformers Proposed	6 x 630 KVA 1 x 315 KVA	BEE Rated Transformers for low losses
			Proposed DG Set installation	1 x 200 KVA 1 x 160 KVA	Authorized agency with DG sets of CPCB guidelines
2.7	Any other natural resources (use appropriate standard units)	NO	No other natural resources will be used.		
3.0	**Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health**				

3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	▪ Materials that are Hazardous or Inflammable shall be paints, lubricating oil grease etc. The quantities used shall be minimal i.e. less than 200 litre/year. ▪ These substances shall be handled as per norms. Any waste produced due to the use shall be managed as per the norms of Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016**.** ▪ Spent oil from DG set will be handed over to authorized recyclers.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	NO	Not Applicable
3.3	Affect the welfare of people e.g. by changing living conditions?	YES	▪ There will be economic growth and improved quality of life. ▪ The project will not have any negative impact on human welfare.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc	NO	No vulnerable group of people will be affected by the project
3.5	Any other causes	NO	Not Applicable
4.0	**Production of solid wastes during construction or operation or decommissioning**		
4.1	Spoil, overburden or mine wastes	YES	▪ Excavation work initiated and stopped as of now as we are going for expansion proposal. ▪ Excavation debris will be used for within site for road development and site leveling, remaining debris will be disposed off on developers another plot.
			Estimated excavated earth generated on project site: 65,684.00 cum
			Estimated excavated earth to be used on project site: 27,970.00 cum
			Estimated excavated earth to be sent out of project site: 37,714.00 cum
4.2	Municipal waste (domestic and or commercial wastes)	YES	**Construction Phase**
			Estimated Solid waste generated due to labor colony: 30 kg/day: Disposal through PMC Waste Management system
			During Operation Phase
			Estimated Organic Waste generation: 1107 kg/day: Treated in OWC and turned into manure
			Estimated Inorganic Waste: 738 kg/day: Handed over to SWACH for recycling

			E- waste	5 kg/day	Handed over to authorized recyclers
			Sludge	55 kg/day	Treated in OWC and converted into manure
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	NO	Minimal quantity of hazardous waste like spent oil or grease from DG sets shall be generated. It will be handled as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016**.**		
4.4	Other industrial process wastes	NO	Not applicable		
4.6	Sewage sludge or other sludge from effluent treatment	YES	Sludge	55 kg/day	Treated in OWC and converted into manure
4.7	Construction or demolition wastes	YES	▪ Construction wastes will be generated and used for leveling of site. ▪ Excess debris will be disposed on Developer's another plot. ▪ No demolition waste will be generated		
			Estimated excavated earth generated	65,684.00 cum	
			Estimated excavated earth to be used for backfilling on project site	27,970.00 cum	
4.8	Redundant machinery or equipment	NO	All construction equipment will be moved off the project site upon completion of the project		
4.9	Contaminated soils or other materials	NO	Not applicable		
4.10	Agricultural wastes	NO	No applicable		
4.11	Other solid wastes	NO	We do not envisage any other type of solid waste		
5.0	**Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	YES	▪ Vehicular movement and DG set during construction and operation phase will be the sources of air emissions both during Construction & Operation Phases. ▪ Standard DG sets adhering to CPCB norms shall be installed that curb air emissions below limits. ▪ Use of DG sets is temporary and only during power failure. ▪ Vehicular emissions shall be controlled through proper vehicular circulation, cleaning of roads / dust mitigation on unpaved roads during construction. ▪ Vehicles shall be encouraged to undergo PUC certification and maintain speed limits		
5.2	Emissions from production processes	NO	Not Applicable		

5.3	Emissions from materials handling including storage or transport	YES	▪ It is estimated that dust emission due to handling and loading/unloading of construction material will be expected during construction phase. ▪ This will be very temporary. ▪ Site barricading will be undertaken to ensure that dust emissions are not carried to adjacent properties ▪ Frequent water sprinkling will be done to minimize the fugitive emissions.
5.4	Emissions from construction activities including plant and equipment	YES	▪ Emissions during handling of construction equipment and excavation activities may occur which will be controlled by effective mitigation measures such as Site Barricading, Water sprinkling etc ▪ Construction equipment will be maintained properly and operated as per standard SOPs to limit air emissions
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	YES	▪ Dust will arise during transportation and handling of construction materials. Proper measures such as sprinkling of water will be done to control the dust. ▪ There will be no odor problem from solid waste & sewage since proper segregation and treatment is proposed for the project, during construction and operation phases
5.6	Emissions from incineration of waste	NO	▪ No incineration activities will be involved in the proposed development.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	NO	▪ No material will be burnt within the project premises.
5.8	Emissions from any other sources	NO	There are no other air emissions envisaged.
6.0	**Generation of Noise and Vibration, and Emissions of Light and Heat**		
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	YES	▪ The sources of noise estimated during Construction Phase will from use of machinery, construction, equipment, vehicular movement, and DG sets. ▪ Noise expected during operation of DG set shall be approx. 65 db(A). which will be of a temporary nature during power failure only. To control noise emissions, the following measures shall be adopted: ▪ Construction activity will be avoided during nighttime 9.00 pm to 6.00 am. ▪ Enclosures will be built for DG sets and base dampers are be used as per CPCB guidelines ▪ Construction equipment and machinery will be properly maintained and used as per standard SOPs
6.2	From industrial or similar process's	NO	Not applicable

6.3	From construction or demolition	YES	▪ Construction activities include noise generating activities i.e. concreting and mixing, heavy vehicle movement, Operation of D.G sets. ▪ Precautions will be taken to control the noise. The construction activities shall be avoided during night time. ▪ Site will be barricaded in areas where noise have impact on surrounding areas / adjacent properties, to avoid noise penetration into the neighboring sites.		
6.4	From blasting or piling	NO	No blasting or piling involved.		
6.5	From construction or operational traffic	YES	▪ Construction phase due to vehicles like trucks, tractors, lorries etc. Permanent marginal noise disturbance due to traffic during operational stage. ▪ Measures will be taken to reduce the impacts of the vehicular movement by decreasing vehicular trips at peak traffic hours.		
6.6	From lighting or cooling systems	NO	Not applicable		
6.7	From any other sources	NO	No other sources for noise emissions are envisaged		
7.0	**Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea**				
7.1	From handling, storage, use or spillage of hazardous materials	NO	▪ There is no significant use and handling of Hazardous substances. ▪ Finishing & inflammable materials such as paints, oils and varnishes shall be handled with care and disposal shall be as per norms ▪ For minimal hazardous waste like used oil, the collection, treatment and disposal of hazardous waste will be as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016		
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	YES	During Construction Phase:		
			Estimated wastewater generation from labour colony	30 Kg/day	Mobile toilets shall be used to retain wastewater and authorized agency will de-sludge the toilets on a regular basis
			During Operation Phase		
			Estimated Wastewater generation	448.33 KLD	Treated in a STP of capacity 450 KLD, treated wastewater to be reused for Flushing and Irrigation
			Estimated Surplus Treated Wastewater	186.72KLD	Disposal to existing sewerage network

7.3	By deposition of pollutants emitted to air into the land or into water	NO	▪ We do not envisage deposition of pollutants of air emissions to land and water. ▪ The DG sets shall be provided with stack of sufficient height to disperse the pollutants effectively.
7.4	From any other sources	NO	We do not envisage any other sources of pollution
7.5	Is there a risk of long-term buildup of pollutants in the environment from these sources?	NO	▪ Being a construction project, during construction, the pollutants or emissions will be temporary in nature and will not lead to build up of pollution in the environment. ▪ During Operation Phase, emissions from vehicular sources and DG sets will be there. ▪ These will be controlling through appropriate environmental mitigation such as maintaining vehicles, ensuring good vehicular circulation, maintaining speed limits etc.
8.0	**Risk of accidents during construction or operation of the Project, which could affect human health or the environment**		
8.1	From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances	No	Not applicable. We do not envisage storage of large quantities of hazardous or flammable material on project
8.2	From any other causes	NO	▪ During Construction Phase, there is a risk of accidents to labor. ▪ Provision of safety gear, training of personnel to manage risks will be undertaken ▪ Safe Assembly points shall be marked for occupants during Operation Phase of the project.
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	NO	▪ The project area falls under Seismic Zone III as per Map showing Seismic Zones of India. Zone III is of moderate Seismic Intensity. The building design has been planned considering the relevant design parameters as per Zone III. ▪ Proposed site does not fall in Landslide prone area.
9.0	**Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**		

9.1	Lead to development of supporting utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or wastewater treatment, etc.) a. Housing development b. Extractive industries c. Supply industries d. Other	NO	The site is within Pune city and already developed. Nearby areas are developed and have existing supportive infrastructure like roads, transport facility, entertainment and hospitals.
9.2	Lead to after-use of the site, which could have an impact on the environment.	NO	Not Applicable
9.3	Set a precedent for later developments	YES	▪ The project shall set precedent for further development of housing in the area ▪ The project may also contribute to better development of public facilities in the area such as public transport, social amenities etc.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	YES	▪ With other housing projects developing in the area, there is envisaged a cumulative effect of growing traffic on the existing roads. ▪ Plantation of trees and development of recreational areas will cumulatively increase the biodiversity of the area.

II	**Environmental Sensitivity**		
S No	***Area***	***Name / Identity***	***Aerial Distance (within 15km of the project site)***
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	None Present	None present
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	None Present	None present

3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	None Present	None Present
4	Inland, coastal, marine or underground waters	None Present	None Present
5	State, National boundaries	None Present	None Present
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	The project site does not directly come on any important routes or in immediate vicinity of facilities that are used by tourists for recreational and pilgrimage purposes. The transport infrastructure for the city of Pune is as follows:	
		Pune International Airport	6.5 km
		Pune Railway Stations	5.1 km
		Hadapsar Railway Station	0.8 km
		Pune Bus Stand	1.2 km
7	Defense installations	None Present (Check)	None Present
8	Densely populated or built-up area	The project is a part of the Pune city and located within its jurisdiction. The core city of Pune is about 6.8 km from the project site.	
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	The project site is located in an urban area and thus there are numerous educational and healthcare facilities located in its immediate vicinity. Being a residential & commercial project, the project will not have any major impact on sensitive locations such as hospitals, schools and religious places. The details of some of these establishments is as follows:	
		Educational Facilities	
		Kidzee	7.10 km
		Petals nursery and day care centre:	9.37 km
		Podar Jumbo kids	8.33 km
		Pawar public school:	2.25 km
		Blue ridge public school	3.85 km
		Alard College of engineering:	1.05 km
		Rajarshi Shahu College of Engineering	3.30 km
		Healthcare Facilities	
		Guru krupa Hospital	2.30 km
		City care hospital	3.60 km
		Hinjewadi Hospital:	2.95 km

10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	**River:** 1) Mula river 2) Pawana river 3) Indrayani river **Lakes:** 1) Kusegaon dam 2) Padalgharwadi dam	 4.5 Km 4.3 Km 13.30 Km 5.8 Km 8 Km
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	None Present	None Present
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	None Present	▪ The project site lies in Earthquake Zone III. Thus there is a moderate to low risk of earthquake. ▪ All relevant design parameters as per zone III have been considered for RCC design of the buildings. ▪ As per the Vulnerability Index Map of India, the project site does not fall in any other zones with a high risk of natural disaster.
	END		
Signed			
Date			

FORM 1A			
Only for Construction Projects listed under Item 8 of the Schedule			
Name of Proposed Project	Proposed Residential Project “Air Castle” at Marunji, Pune		
Location	S. No 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulashi. Dist. Pune		
Project Proponent	Mr. Jeetu Panjabi		
Contact Details	020 3232 3222		
Estimated Cost of proposed project	Rs. 95 Crores		
Total Construction Area	Proposed FSI	49,946.29	Sq m
	Proposed Non FSI	31,549.99	Sq m
	Total	81,496.00	Sq m

CHECK LIST OF ENVIRONMENTAL IMPACTS	
1.0	**Land Environment**
1.1	Will the existing land use get significantly altered from the project that is not consistent with the surroundings? (Proposed land use must conform to the approved Master Plan / Development Plan of the area. Change of land use if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans
Response	The proposed project is in PMRDA jurisdiction. Project does not include any alteration of land use. It is in a residential zone as per Regional Plan of PMRDA. Project comprises of 17 Residential buildings With 738 flats, having configuration of Building A- Parking+8 Building B- Parking+8 Building C- Parking+8 Building D- Parking+8 Building E- Parking+8 Building F- Parking+8 Building G- Parking+8 Building H- Parking+8 Building I- Parking+8 Building J -Parking+8 Building K- Parking+8 Building L- Parking+8 Building M- Parking+8 Building N- Parking+8 Building O- Parking+8 Building P- Parking+8 Building Q- Parking+8 The proposed land use is also conducive and in harmony with the site surroundings. The site is located in a fully urbanized area toward Pimpri Chinchwad core city and is well developed in terms of services and amenity.

	i)Site location: S. No 12/6, 12/7, 47/2, 47/3, 47/4, 47/5/1, 47/18, 47/19, 50/1/1A/1, 55/15, 82 A/P Marunji Tal Mulashi. Dist. Pune. Maharashtra. Latitude: 18°36'33.80'' N Longitude: 73°43'05.72'' E			
1.2	List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.			
Response	**No**	**Area Details**	**Area in sq m**	
	1	**Plot Area**	49,750.00	
	2	**Construction Area**	FSI	49,946.29
			Non FSI	31,549.99
			Total	81,496.28
	3	**Proposed Infrastructure / Utilities**		
	3a	***Water Requirement & Supply***		
		During Construction Phase	For Workers	4.75 KLD
			For Construction Purposes	6.80 KLD
		During Operation Phase	Total water requirement	574.79 KLD
			Freshwater requirement	332.1 KLD
			Flushing water requirement	166.05 KLD
			Irrigation requirement	73.14 KLD
			Swimming pool makeup	3.50 KLD
	3b	***Power Requirement & Supply***		
		During Construction Phase	Connected Load	40 KVA
			Demand load	1 x 40 KVA
		During Operation Phase	Connected Load	4092 KVA
			Demand load	3637.33 KVA
			Transformer Provision	6 x 630 KVA 1 x 315 KVA
			DG Set Provision	1 x 200 KVA
	3c	**Road / Transport Connectivity**	The Project Site is accessible by 18 m wide road, which is well developed. The project site is located at a distance of 8.28 km from Pimpri Chinchwad railway station & 18.64 km from Pune International Airport	
	3d	**Wastewater Generation & Infrastructure proposed**	During Operation Phase, the following wastewater generation is estimated	
			Wastewater estimated	448.35 KLD
			Wastewater Treatment by STP capacity	450 KLD
	3e	**Solidwaste generation & Infrastructure**	During Operation Phase, the following solid waste generation is estimated	

		proposed	Total Organic Waste estimated	1107 Kg/day
			Total Inorganic Waste estimated	738 Kg/day
			Treatment of Organic waste on Site by OWC of capacity	1250 Kg/day
	3f	**Estimated Vehicular Parking requirement**	At full occupancy of the project, the following nos. of vehicles can be accommodated in the Parking Space provided	
			4 - wheelers	268
			2 - wheelers	976
1.3	What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing land use, disturbance to the local ecology).			
Response	There is no major environmental impact likely on the adjacent existing facilities, as the proposed building & construction project will follow all norms for environment & ecological maintenance. ▪ There shall be additional tree plantation, rainwater harvesting, wastewater treatment, energy conservation measures, which will mitigate the impact of construction activity. ▪ The proposed site is expected to promote local ecology through the proposed plantation of native species. ▪ The properly planned rainwater harvesting will ensure that additional surface water flows are directed to the groundwater, thereby ensuring stability of aquifer. ▪ The proposed project is also expected to maintain open space as per the DCR & also to provide amenity space for civic amenities as defined by the municipal authority so that community development and facilities are established in the immediate vicinity. ▪ The energy conservation measures, and installation of renewable energy systems will ensure that operational energy consumption is optimum, thereby protecting environmental resources.			
1.4	Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).			
Response	The site is moderately contoured from Northeast to South west direction. Hence, no land disturbance is envisaged that will result in soil erosion, subsidence or instability, due to the proposed project. ▪ The proposed project will undertake adequate & proper construction practices, maintain storm water management and have soil management techniques in place. ▪ To control soil erosion by rainwater, during construction phase, excavation areas shall be protected with shoring and such techniques. ▪ During operation phase rainwater harvesting & landscape area development & tree plantation is proposed at the site, which will ensure that soil and land areas remain undisturbed. The project site comes under Seismic Zone -III and the building structure will be designed in accordance with the norms.			
1.5	Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)			
Response	No. The proposal does not involve any alteration of natural drainage systems			

<table>
<tr><td>1.6</td><td colspan="4">What are the quantities of earthwork involved in the construction activity- cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved transport of fill materials from outside the site etc.)</td></tr>
<tr><td>Response</td><td colspan="4">Excavation for foundation will be done. The topsoil shall be harvested separately and stored for use in landscape development. Excavation material shall be reused for backfilling purposes on the project site itself and any excess will be reused on developer’s another site. The details of volumes are included in Debris Management Plan.</td></tr>
<tr><td>1.7</td><td colspan="4">Give details regarding water supply, waste handling etc. during the construction period.</td></tr>
<tr><td rowspan="8">Response</td><td colspan="4">Water Requirement & Supply During Construction Phase</td></tr>
<tr><td colspan="2">Source of Water: Water Tankers</td><td>For Workers</td><td>4.75 KLD</td></tr>
<tr><td colspan="2">▪ Water supply facility shall be properly maintained to ensure that there is no stagnation.
▪ Sanitation facilities like mobile toilet will be provided for the construction worker and site staff. The mobile toilets will be regularly maintained / de-sludged to ensure sanitary conditions.</td><td>For Construction Purposes</td><td>6.8 KLD</td></tr>
<tr><td colspan="4">Solidwaste Generation & Disposal during Construction Phase</td></tr>
<tr><td colspan="2">Disposal: Into Municipal Waste Management streams</td><td>Organic Waste</td><td>12 kg/day</td></tr>
<tr><td colspan="2">▪ Labours and Staff on site shall be encouraged to segregate waste into waste bins provided for the purpose.</td><td>Inorganic Waste</td><td>18 kg/day</td></tr>
<tr><td colspan="2"></td><td>Total</td><td>30 kg/day</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>1.8</td><td colspan="4">Will the low-lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)</td></tr>
<tr><td>Response</td><td colspan="4">No wetlands or low-lying areas have been identified within the project or in immediate vicinity of the project. Therefore, no impact is envisaged on the wetlands and low-lying areas, due to the proposed project.</td></tr>
<tr><td>1.9</td><td colspan="4">Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)</td></tr>
<tr><td>Response</td><td colspan="4">Construction Waste & Debris (C&D Waste) is estimated to be generated on project site during construction phase. The estimated quantum of C&D Waste is as follows:
<table>
<tr><th>Material</th><th>Waste Estimation</th><th>Method of Disposal</th></tr>
<tr><td>Cement</td><td>5.00%</td><td>Used for backfilling</td></tr>
<tr><td>Steel Scrap</td><td>4.85%</td><td>Sold to authorized recyclers</td></tr>
<tr><td>AAC / FlyAsh Blocks</td><td>7.50%</td><td>Used for backfilling</td></tr>
<tr><td>Tiles</td><td>10.00%</td><td>Used for backfilling</td></tr>
<tr><td>Glass</td><td>1.00%</td><td>Handed over to authorized recyclers for crushing</td></tr>
</table>
C&D Waste shall be:
▪ Properly segregated and care will be taken such that this shall not cause any health hazard.
▪ The construction waste material will either be reused on site or will be sold to the scrap dealer for recycling purpose. Part of the waste such as broken pieces of bricks will be reused on site for sunk filling and road leveling; part</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">of the scrap steel & broken tiles will be reused on site where required.
▪ Other construction waste material such as packaging waste, cement bags, scrap steel and aluminum, plastic, glass material will be sold to the local scrap dealer for recycling purpose.
Details of construction & debris waste management is given in the Debris Management Plan</td></tr>
<tr><td>2.0</td><td colspan="2">Water Environment</td></tr>
<tr><td>2.1</td><td colspan="2">Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement be met? State the sources & quantities and furnish a water balance statement</td></tr>
<tr><td rowspan="11">Response</td><td colspan="2">During Construction Phase
The Supply of water for construction activities and labour colony is through Water Tankers. The details are as follows:</td></tr>
<tr><td>Water Requirement for Labour colony</td><td>4.75 KLD</td></tr>
<tr><td>Water Requirement for Construction Activities</td><td>6.8 KLD</td></tr>
<tr><td colspan="2">During Operation Phase
The Water Supply for the proposed project during Operation Phase is through the piped supply of Irrigation Dept. The details are as follows: (Dry Season)</td></tr>
<tr><td>Total Water Requirement at Fully Occupancy</td><td>574.79 KLD</td></tr>
<tr><td>Total Fresh Water Requirement</td><td>332.1 KLD (57.77%)</td></tr>
<tr><td>Flushing Water Requirement, will be met through STP treated water</td><td>166.05 KLD (69.42%)</td></tr>
<tr><td>Irrigation Water Requirement, will be met through STP treated water</td><td>73.14 KLD (30.58%)</td></tr>
<tr><td>Swimming Pool make up water, will be met through Fresh Water</td><td>3.50 KLD</td></tr>
<tr><td colspan="2">The detailed Water Balance Chart for Dry and Wet Season is provided.</td></tr>
<tr><td>2.2</td><td colspan="2">What is the capacity (dependable flow or yield) of the proposed source of water?</td></tr>
<tr><td>Response</td><td colspan="2">The water demand for the proposed project will be met from Irrigation Dept. (Mula River).</td></tr>
<tr><td>2.3</td><td colspan="2">What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)</td></tr>
<tr><td>Response</td><td colspan="2">Since the water supply is from Irrigation Dept. (Mula River) water supply sources, we do not envisage any other source of water to be used by the proposed project for its Fresh water needs.</td></tr>
<tr><td>2.4</td><td colspan="2">How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)</td></tr>
<tr><td rowspan="4">Response</td><td colspan="2">Out of the total 448.33 KLD treated wastewater generated, 425.91 KLD will be utilized for Flushing and Irrigation purposes.</td></tr>
<tr><td>Flushing Water Requirement, will be met through STP treated water</td><td>166.05 KLD (69.42%)</td></tr>
<tr><td>Irrigation Water Requirement, will be met through STP treated water</td><td>73.14 KLD (30.57%)</td></tr>
<tr><td>Total Water requirement met through treated STP water</td><td>425.91 KLD (95%)</td></tr>
<tr><td>2.5</td><td colspan="2">Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption).</td></tr>
<tr><td>Response</td><td colspan="2">We do not foresee any diversion of water from other competing water users. Since this is a municipal area, the water allocation is for domestic water use in the immediate and surrounding areas.</td></tr>
<tr><td>2.6</td><td colspan="2">What is the incremental pollution load from wastewater generated from the</td></tr>
</table>

	proposed activity? (Give details of the quantities and composition of waste water generated from the proposed activity).	
Response	The details of the wastewater generated, treated and reused on project site are as follows:	
	Total estimated Wastewater generated for full occupancy	451.49 KLD
	Sewage Treatment Plant proposed	450 KLD
	Total treated Wastewater available for reuse (with 90% efficiency)	428.91KLD
	Flushing Water Requirement, will be met through STP treated water	166.05 KLD (69.42%)
	Irrigation Water Requirement, will be met through STP treated water	73.14 KLD (30.57%)
	Total Water requirement met through treated STP water	450 KLD
	Estimated Surplus treated wastewater to be disposed in Municipal drain	186.72 KLD
2.7	Give details of the water requirements met from water harvesting? Furnish details of the facilities created	
Response	▪ Rainwater harvested (RWH) shall be directly diverted for recharge of groundwater resources and will not be used for water requirements on project site. Hence, no rainwater harvesting storage tank is proposed. ▪ During peak rainfall days, any surplus of rainwater surface flows, will be managed through internal & municipal storm water drains.	
2.8	What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?	
Response	No adverse impact is envisaged due to change in landcover. Due to change in land Cover, run off from site post development is estimated to increase due to increase in hard paved surfaces. This increase in the post development runoff due is designed to be managed through recharge pits. An internal stormwater infrastructure that connects to the Municipal stormwater infrastructure is proposed. This will ensure that water flows are maintained without any obstruction, thereby we do not anticipate significant problem of flooding or waterlogging due to the project.	
2.9	What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)	
Response	▪ Ground water will not be extracted from project site or surrounding areas for the purpose of construction and /or for domestic use. ▪ It is planned to provide proper internal storm water management system with oil and grease traps to carry rainwater discharges from hard paved areas and roof tops from project site to recharge structures. ▪ Through the recharge structures, we estimate a positive impact on ground water levels due to the project in the long term.	
2.10	What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts).	
Response	Following measures are proposed in project during Construction Phase to control runoff from construction site from polluting land & acquifers: ▪ Avoid excavation activities during the Monsoon and rainy days ▪ Barricading of excavation spots and sites so that soil does not runoff to low	

<table>
<tr><td></td><td>lying areas
▪ Stockpile of Topsoil shall be properly covered during monsoons and rainy days, grassing to be done.
▪ Construct temporary swales / bunding measures to ensure that runoffs are not contaminated by building materials
▪ Storage of all hazardous and flammable building materials such as paints, oils etc. in closed storage areas.
▪ Enclosed and protected material storage sheds for cement etc.
▪ Steel and aggregate, sand storage to be protected with gunny bags or temporary walls to avoid their runoff.
▪ Sanitation facilities to be provided to labour colony so that there is no mixing of rainwater with sewage</td></tr>
<tr><td>2.11</td><td>How is the storm water from within the site managed? (State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)</td></tr>
<tr><td>2.12</td><td>Will the deployment of construction labour particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)</td></tr>
<tr><td>Response</td><td>We estimate approximately 100 persons as labor to be residing on the project site during the peak period of construction. A properly laid out labor colony, with proper shelters along with labor toilets, water supply facilities and required amenities like creche or daycare is proposed.
Labor contract with the contractor will specify that labor shall be mandated to use sanitation facilities and avoid open defecation and dumping of waste in an illegal manner.
Labor toilets in the proportion of 1 toilet per 10 labours is to be provided.
Water supply areas and toilet areas are to be regularly cleaned and maintained for proper use on project site. Additionally, the project proponent shall undertake the following:

▪ Regular Health Check ups of labour & families residing on project site
▪ Training camps for maintaining sanitation and safety
▪ Pest control programs & disinfection will be carried out on site so as to keep hygienic conditions at labour camp.</td></tr>
<tr><td>2.13</td><td>What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of waste water generation, treatment capacities with technology & facilities for recycling and disposal)</td></tr>
<tr><td>Response</td><td>
<table>
<tr><td colspan="2">During Construction Phase</td></tr>
<tr><td>Mobile Toilets provided</td><td>10 nos.</td></tr>
<tr><td colspan="2">The agency providing service of sanitation will be contracted to regularly de - sludge the mobile toilets and carry the waste to treatment facilities of Government for disposal</td></tr>
<tr><td colspan="2">During Operation Phase</td></tr>
<tr><td>Total estimated Wastewater generated for full occupancy</td><td>448.33 KLD</td></tr>
<tr><td>Sewage Treatment Plant proposed</td><td>450 KLD</td></tr>
<tr><td>Type of Treatment technology in STP</td><td>MBBR</td></tr>
<tr><td colspan="2">During Operation Phase, the treated wastewater shall be reused on project for Flushing and Irrigation purposes. The STP shall be maintained to ensure that 95% wastewater is fully treated as per CPCB standards for treated wastewater and/or as laid down by MoEFCC / Department of Environment.</td></tr>
</table>
</td></tr>
<tr><td>2.14</td><td>Give details of dual plumbing system if treated waste is used for flushing of toilets or any other use</td></tr>
<tr><td>Response</td><td>The project will provide separate plumbing lines for supplying flushing water to</td></tr>
</table>

	all the toilets. 95% flushing water requirement is catered through water recovered after on-site STP. Treated wastewater from STP is stored in a separate compartment of the UGT. From there, it will be pumped to OHT for distribution through a separate plumbing line to all the toilets for Flushing purposes.	
	Total estimated Wastewater generated at full occupancy	448.33 KLD
	Sewage Treatment Plant proposed	450 KLD
	Total treated Wastewater available for reuse (with 95% efficiency)	308.7 KLD
	Flushing Water Requirement, will be met through STP treated water	166.05 KLD (69.42%)
	Irrigation Water Requirement, will be met through STP treated water	73.14 KLD (30.57%)
	Total Water requirement met through treated STP water	239.19 KLD
3.0	**Vegetation**	
3.1	Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any)	
Response	There is no sensitive ecosystem present at site that will be disturbed by the project construction. Since the project site is a part of residential land use and within the municipal limits, neighboring/immediate vicinity also doesn't have any identified biodiversity hotspots that will get affected due to this project. There are 913 trees existing on project site. Native trees and shrubs will be a part of the landscape development that will enhance the biodiversity of the area.	
3.2	Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)	
Response	The project development will require removal of vegetation, details are as given below:	
	Total no. of trees presents on project site	913
	Total no. of trees that will need to be cleared / cut	128
3.3	What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)	
Response	▪ Then following measures are to be undertaken to ensure that the overall impact on vegetation, ecology and biodiversity is minimized: ▪ The topsoil of 15-18 cm will be stripped and stored separately on project site in a stockpile of 30-36 cm, as per stockpiling guidelines, in order to preserve the topsoil layer and reuse it for landscape development. ▪ Plantation of trees and vegetation to enhance the biodiversity of the area, giving shade to hard paved areas, recreational areas etc. The details of tree plantation are as given below:	
	Total mandatory Open Space provided	4906.851 sq m (10% of total plot area)
	Total Landscape Area provided	14778.27 sq m (30 % of total plot area)
	Total no. of trees proposed to be	644

	planted	
	Estimated tree density to be achieved	613
4.0	**Fauna**	
4.1	Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.	
Response	No, there will not be displacement of the local fauna. With plantation of trees on an otherwise barren site, we estimate a positive impact on avifaunal activity.	
4.2	Any direct or indirect impacts on the avifauna of the area? Provide details	
Response	No, there is no significant adverse impact on avifauna of the area. With plantation of trees on an otherwise barren site, we estimate a positive impact on avifaunal activity.	
4.3	Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna.	
Response	There is no identified faunal corridor on site but there is a nala flowing through the site. Hence, there is no significant adverse impact on faunal movement. Plantation of vegetation that supports fauna will help to enhance it.	
5.0	**Air Environment**	
5.1	Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)	
Response	The proposed project is not expected to increase concentration of gases / air emissions beyond permissible limits. Primarily, there are expected to be the following emission sources on project site: ▪ Construction activities such as excavation/drilling, resulting in particulate matter emissions ▪ Gases such as Sox due to operation of DG sets ▪ Vehicular gaseous emissions due to vehicular movement Mitigation measures for each of these activities such as enclosures, management of traffic flows and use of standard DG sets equipment as per CPCB norms, will ensure that air emissions are controlled and do not exceed beyond permissible limits.	
5.2	What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.	
Response	The following potential air emissions sources are identified during Construction and Operation of the proposed project: ▪ Construction activities such as excavation/drilling, resulting in particulate matter emissions ▪ Gases such as Sox due to operation of DG sets ▪ Vehicular gaseous emissions due to vehicular movement The project site is not located in an exposed area and hence, does not experience any unique meteorological conditions such as high winds and high diurnal variations. Hence, we do not anticipate any significant carriage of air emissions from project site to surrounding areas. Each of the above sources, when properly mitigated and managed, will not lead to emissions beyond permissible limits. The following mitigation measures are to be undertake on project site: During Construction: • For all unpaved roads to be used for vehicular circulation, water	

<table>
<tr><td></td><td>sprinkling should be carried to avoid resuspension of dust.
• The Project site shall be barricaded upto a minimum height of 3m so as to avoid construction activity emissions to impact immediate vicinity.
• Labour and site staff to be provided with safety gear, particularly dust masks, when working in dusty conditions such as dry excavation, drilling, finishing tasks etc.
• Construction vehicles and equipment with PUC certification shall be made mandatory on project site
• Circulation of construction vehicles shall be managed such that there is no traffic congestion that can lead to excessive air emissions.
• DG sets shall be installed that adhere to the CPCB norms of air emissions, with stack heights to be maintained, turned away from labour colony and neighboring areas.</td></tr>
<tr><td>5.3</td><td>Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site</td></tr>
<tr><td>Response</td><td>▪ The proposed project will provide the requisite parking space for vehicles of all the occupants and provision for additional required visitor parking. There will be no spillage of parking requirement on the city streets due to the project.
▪ The project site is accessible by a 18 m wide well developed public road. The project does not envisage a very significant impact on the V/C ratio of the existing road.
▪ During construction phase, movement of heavy vehicles will be restricted during peak hours to avoid traffic congestion and accidents.
▪ Vehicular movement will be regulated at entry and exit points of the project through manual intervention, traffic light and reflective mirrors, if required.
▪ Traffic Impact Study has been conducted to ensure that the adjoining roads are capable to undertake the load of traffic due to the proposed project
▪ Evacuation study is undertaken to ensure that the proposed entry and exits are adequate to evacuate people and vehicles in case of emergency.

The details of parking spaces provided in the project are as follows:</td></tr>
<tr><td></td><td>
<table>
<tr><td>Vehicle Type</td><td>Required as per DCR</td><td>Provided</td></tr>
<tr><td>4 wheelers</td><td>268</td><td>268</td></tr>
<tr><td>2 wheelers</td><td>976</td><td>976</td></tr>
</table>
</td></tr>
<tr><td>5.4</td><td>Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.</td></tr>
<tr><td></td><td>▪ Internal driveways of 6 m are provided to give vehicular access to all buildings & ease of parking.
▪ There is a proper segregation of vehicular and pedestrian movement.
▪ Internal traffic movement is regulated through traffic signage and speed limits.</td></tr>
<tr><td>5.5</td><td>Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above</td></tr>
<tr><td>Response</td><td>No, there will not be significant increase in traffic noise & vibrations, though the number of vehicles will rise.
▪ Proper entries /exits are proposed in the project with adequately wide internal roads for smooth traffic movement
▪ DG sets, with adequate measures such as dampening base and noise proof enclosures, will be installed for the project. These will be made operational</td></tr>
</table>

	only during power failure for backup only. We do not estimate that its noise will not have a significant impact on occupants and surrounding environment.
5.6	What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.
Response	▪ DG sets installed on project site will be used in construction and operation phase, only in case of power failure. ▪ The DG Sets shall be as per the guidelines laid down by CPCB for specific noise emission standards. ▪ Measures shall be taken for reduction of noise by using acoustic enclosures and base dampening measures. ▪ Since the scale of the project is small, we do not estimate significant increase in emissions of dust, particulate matters in the ambient air quality due to the DG sets. ▪ These emissions are temporary and intermittent in nature
6.0	Aesthetics
6.1	Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?
Response	▪ No. The proposed construction is not in an area of high value landscapes or tourism and hence we do not foresee any significant visual obstruction to surrounding views. ▪ The proposed project is in the residential landuse zone of PMRDA and will be carried out as per the DCR, thereby ensuring proper setback and height restrictions of the local authority. ▪ Setback requirements shall ensure that views of adjoining buildings is not obstructed.
6.2	Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?
Response	▪ The proposed construction is of similar nature with surrounding existing buildings. Hence, we do not foresee any significant adverse impact on aesthetics of surrounding construction. ▪ The proposed project is in the residential land use zone PMRDA and will be carried out as per the DCR, thereby ensuring proper setback and height restrictions of the local authority. ▪ Setback requirements shall ensure that views of adjoining buildings is not obstructed. ▪ During excavation and construction, due care will be taken to ensure that neighbouring buildings are impacted due to vibrations and noise ▪ Traffic circulation, particularly of construction equipment and vehicles shall be managed such that neighbouring buildings do not get impacted
6.3	Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spell out.
Response	The building construction shall follow the local government DCR for setback, height and volumetric requirements of design.
	Building Configuration
	Building A- Parking + 8
	Building B- Parking + 8
	Building C- Parking + 8
	Building D- Parking + 8
	Building E- Parking + 8
	Building F- Parking + 8
	Building G- Parking + 8

	Building H- Parking + 8	
	Building I- Parking + 8	
	Building J- Parking + 8	
	Building K- Parking + 8	
	Building L- Parking + 8	
	Building M- Parking + 8	
	Building N- Parking + 15	
	Building O- Parking + 15	
	Building P - Parking + 12	
	Building Q- Parking + 12	
6.4	Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.	
Response	There are no Anthropological or archaeological sites observed in and within the vicinity of the project site.	
7.0	**Socio Economic Aspects**	
7.1	Will the proposal result in any changes to the demographic structure of local population? Provide the details	
Response	The proposed project will bring in more residential into the area for staying and employment	
	Estimated Residential Users	3690 nos.
	Estimated population of the project at Full Occupancy	3690 nos.
7.2	Give details of the existing social infrastructure around the proposed project	
Response	The project site lies in a well-developed area of Pune city and has all necessary civic amenities in its immediate vicinity. The detailed list is as follows:	
	Amenities	***Distance in km***
	Educational facilities: School	
	Lotus Pre School	0.80
	Kidzz Life Republic	0.75
	PJK Pre School	1.0
	Educational facilities: College	
	WS School of Businesses	1.5
	S.K English Medium School And R.S Junior College	1.0
	Crimson Anisha Global School	2.5
	Healthcare Facilities	
	Aayushri Hospital	0.60
	Gurukrupa Hospital	2.30
	City care Hospital	3.60
	Markets	
	Radhika Super Market	1.20
	Bombay Fish Market	1.00
7.3	Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?	
Response	▪ No. There will be no adverse impacts on local communities/disturbance to sacred sites or other cultural values. ▪ The project site is within a well-established urban area o Pune city. ▪ The project will improve availability of housing / residential space in the city and induce economic growth in the area	
8.0	**Building Materials**	

<table>
<tr><td>8.1</td><td colspan="3">May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)</td></tr>
<tr><td>Response</td><td colspan="3">The following types of building materials will be used for construction of the project. Though, some of these materials are conventionally high embodied energy materials, replacement of these materials with waste and recycled products has reduced the embodied energy of these materials.

▪ Concrete, to be utilized will contain percentage of flyash (25% to 40%, replacing the component of cement, which is a high energy material. The percentage replacement will be as per the ISI regulations for Structural stability.
▪ Conventional burnt brick is replaced by AAC blocks and Fly Ash bricks, which have a lower embodied energy, utilize waste material life flyash and offer numerous operational energy benefits to the building in Operation phase.

▪ For flooring, vitrified Ceramic Tiles will be used that offer low breakage, thereby less wastage. Many companies producing these tiles utilize recycled material in production, thereby reducing the embodied energy

▪ Glass that will be used shall be Sant Gobain glass of standard quality to suit the thermal comfort requirements for operational energy use of the building in Operation Phase of the project.</td></tr>
<tr><td>8.2</td><td colspan="3">Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?</td></tr>
<tr><td>Response</td><td colspan="3">Vehicular movement for material transport, use of equipment and construction activity may cause noise and nuisance intermittently and for temporary duration only.
Following measures shall be undertaken on project site to mitigate these impacts:
▪ Barricading of minimum 3m height around the project site.
▪ Noise generating activities like excavation and movement of vehicles to be carried out in the daytime only.
▪ All the workers will be provided with the ear plugs & dust masks for safety.
▪ Construction equipment will be used as per their SOPs .
▪ Contractors will advise to use covered vehicles with tarpaulin sheets during transport of materials.
▪ PUC certificates to vehicles will be mandatory for entry to project site.
▪ Sprinkling of water to avoid dust pollution</td></tr>
<tr><td>8.3</td><td colspan="3">Are recycled materials used in roads and structures? State the extent of savings achieved?</td></tr>
<tr><td>Response</td><td colspan="3">C&D Waste and excavated earth is proposed to be used for backfilling and creation of subsurface for internal roads and driveways in the project site. As far as possible, no additional material will be brought on project site for backfilling and minimum excavated material will be transported out of project site for disposal.
Estimated excavated earth quantities are as below:
<table>
<tr><td></td><td>Volume in m3</td><td>Method of Disposal</td></tr>
<tr><td>Estimated Topsoil to be removed</td><td>917.04</td><td>Used for Landscaping</td></tr>
</table></td></tr>
<tr><td>8.4</td><td colspan="3">Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.</td></tr>
</table>

<table>
<tr><td>Response</td><td colspan="3">At source waste segregation will be encouraged for organic and inorganic waste, both during Construction and Operation phase of the project.
For collected and segregated waste, a common solid waste storage facility is provided, where inorganic waste can be further segregated into categories such as Paper, cardboard, metals, plastics, glass and E-waste.
The biodegradable/organic waste i.e. wet waste shall be diverted to the Organic Waste Converter system on site for conversion into manure.
Recyclable waste and E-waste will be handed over to MPCB authorized vendor.
The details of the total Waste generated on project site during Operation Phase and their respective methods of treatment and/or disposal are as given below:</td></tr>
<tr><td></td><td>Type of Waste generated during Operation Phase</td><td>Quantity</td><td>Method of Treatment and/or Disposal</td></tr>
<tr><td></td><td>Wastewater / Sewage</td><td>448.33 KLD</td><td>Treatment through a MBBR STP of capacity 450 KLD on project site. Treated wastewater reused, surplus disposed to municipal sewerage network</td></tr>
<tr><td></td><td>Organic Solid waste</td><td>1107 kg/day</td><td>OWC of capacity 1250 kg/day will convert the organic waste into manure. Manure shall be used for landscaping purpose and/or sold off to vendors</td></tr>
<tr><td></td><td>Inorganic Solidwaste</td><td>738 kg/day</td><td>SWaCh cooperative shall be contracted to pick up the inorganic waste at periodic intervals from the designated storage area provided on project site</td></tr>
<tr><td></td><td>e-waste</td><td>5 kg/day</td><td>Storage to be provided on project site. This waste will be periodically handed over to authorized vendors for recycling</td></tr>
<tr><td>9.0</td><td colspan="3">Energy Conservation</td></tr>
<tr><td>9.1</td><td colspan="3">Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?</td></tr>
<tr><td>Response</td><td colspan="3">The source of electrical power is MSEDCL. The energy consumption per sq m of built up area is assumed to be 0.00075 KW/sq m. The details of power requirement for the proposed project are as follows:</td></tr>
<tr><td></td><td colspan="3">During Construction Phase</td></tr>
<tr><td></td><td>Demand Load</td><td colspan="2">40 KW</td></tr>
<tr><td></td><td>DG Sets proposed</td><td colspan="2">1 x 40KVA</td></tr>
<tr><td></td><td colspan="3">During Operation Phase</td></tr>
<tr><td></td><td>Demand Load</td><td colspan="2">3637.33 KVA</td></tr>
<tr><td></td><td>Connected Load</td><td colspan="2">4092 KVA</td></tr>
<tr><td></td><td>Transformers</td><td colspan="2">6 x 630 KVA
1 x 315 KVA</td></tr>
<tr><td></td><td>DG Sets proposed</td><td colspan="2">1 x 200 KVA
1 x 160KVA</td></tr>
<tr><td></td><td colspan="3">The following energy conservation measures are proposed to be undertaken:
▪ Installation of Renewable energy system for Water Heating, which will</td></tr>
</table>

<table>
<tr><td></td><td>reduce the consumption of energy by water geysers.
▪ Measure for automatic switch off such as Timer Switches will be provided for Street lights
▪ Water system will use Energy efficient pumps that are BEE rated
▪ Most of the common area & external lighting are proposed to work on high energy efficient lamps (LED) as specified by BEE which again results in saving in general consumption
▪ Low loss Transformers due to which 6.22% losses are saved against conventional transformer.
▪ Power Capacitors are proposed for load power factor correction and to maintain a healthy power situation. This also results in less demand load factor for the project.</td></tr>
<tr><td>9.2</td><td>What type of and capacity of, power back-up do you plan to provide?</td></tr>
<tr><td>Response</td><td>It is proposed to provide Diesel Generators (DG Sets) for Power back-up. The proposed DG sets shall be compliant with the CPCB norms. The details of DG sets are as follows:
<table>
<tr><td>During Construction Phase</td><td></td></tr>
<tr><td>DG set compliant with CPCB emission norms for noise and air emissions</td><td>1 x 40 KVA</td></tr>
<tr><td>During Operation Phase</td><td></td></tr>
<tr><td>DG set compliant with CPCB emission norms for noise and air emissions</td><td>1 x 200 KVA
1 x 160 KVA</td></tr>
</table></td></tr>
<tr><td>9.3</td><td>What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiations?</td></tr>
<tr><td>Response</td><td>The glass proposed to be used in the project will allow short as well as long wave radiations to pass through. However, weather shades, louvers and low SHGC values will be used effectively to reduce heating inside the buildings. The properties of the glazing is as given here under:
<table>
<tr><td>Glazing Type</td><td>Colour Shade</td><td>Brand</td><td>Solar Factor</td><td>U value W/sqmK</td></tr>
<tr><td>Single Glazed Unit</td><td>Neutral</td><td>Saint Gobain</td><td>0.28</td><td>1.79</td></tr>
</table></td></tr>
<tr><td>9.4</td><td>What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.</td></tr>
<tr><td>Response</td><td>The proposed project has the following features incorporated into the architectural design:

▪ Provision of windows such that there is maximum use of natural light in indoor spaces
▪ Use of shading devices on windows so as to reduce direct radiation.
▪ Design of window fenestration for proper air circulation so as to allow passive cooling.
▪ The proposed building is designed at a suitable orientation to avoid excessive solar radiation during summer months while ensuring adequate daylight is accessible to more than 80% of habitable areas.
▪ The facade of the building has well designed shading devices and weather projections to ensure habitable areas are protected from climate stresses.The design of the building is such that maximum use of natural ventilation cab be achieved.</td></tr>
</table>

<table>
<tr><td>9.5</td><td>Does the layout of streets & buildings maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.</td></tr>
<tr><td>Response</td><td>The project has proposed to install Solar Streetlight on its internal driveways.</td></tr>
<tr><td>9.6</td><td>Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?</td></tr>
<tr><td>Response</td><td>▪ The proposed building is designed at a suitable orientation to avoid excessive solar radiation during summer months while ensuring adequate daylight is accessible to more than 80% of habitable areas.
▪ The facade of the building has well designed shading devices and weather projections to ensure habitable areas are protected from climate stresses. The building envelope uses suitable material to avoid excessive heat gain.
▪ The roof shall be treated with solar reflective paint/insulation/water proofing to protect against excessive heat gain. This will reduce the heat island effect and will also reduce the thermal gain of the building.</td></tr>
<tr><td>9.7</td><td>Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.</td></tr>
<tr><td>Response</td><td>▪ The proposed project will not be providing air conditioning to the residential component.
▪ All the pumps, transformers and lifts used within the development will have efficiency as specified by ECBC.
▪ The Lighting Power density shall be compliant with ECBC.</td></tr>
<tr><td>9.8</td><td>What are the likely effects of the building activity in altering the micro-climates? Provide a self-assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?</td></tr>
<tr><td>Response</td><td>Introduction of hard paved area has the potential of increasing the heat absorption of surfaces thereby giving rise to the effect of Heat Island. However, the surfaces, if protected / shaded by various means, can reduce the heat absorption rate. The proposed project will under the following which will counter the effect of Heat Island:
▪ Development of landscape area and plantation of 644 trees, which will shade hard surfaces from heat absorption.
▪ Cool reflective paint on rooftops will reduce heat absorption
▪ Solar PVs and Solar Water Heating systems on Rooftops protect the concrete surfaces from direct radiation
▪ Green pavers will reduce the hard pavement in landscape areas.</td></tr>
<tr><td>9.9</td><td>What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.</td></tr>
<tr><td>Response</td><td>The following are the details of the thermal characteristics for Roof, External Walls and Fenestration for the proposed project:
<table>
<tr><th>Building envelope component</th><th>Details of material assembly</th><th>U value (W/sqm K) and SHGC, VLT (in case of glazing)</th></tr>
<tr><td>Wall assembly</td><td>AAC block as wall material with cement plaster</td><td>U value-0.83 w/sqmk</td></tr>
<tr><td>Roof assembly</td><td>The roof is finished with high SRI tile / paint and measures of Water proofing</td><td>U value– 2.05 W/sqm K</td></tr>
</table></td></tr>
</table>

<table>
<tr><td></td><td></td><td>on RCC slab.</td><td></td></tr>
<tr><td></td><td>Glazing details</td><td>Residential Building -
Glass used for fenestration will be Saint Gobain SGU</td><td>U value-5.7 w/sqmk
SHGC-0.27
VLT-89%</td></tr>
<tr><td>9.10</td><td colspan="3">What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.</td></tr>
<tr><td>Response</td><td colspan="3">The proposed project will adhere to all norms and conditions laid down in the Fire NOC issued by the government. Some of the features of fire safety proposed are as follows:
▪ The fire doors and fire escape staircases will be provided as per DC Regulations and in line with NBC 2016.
▪ 6m clear driveway with 9m turning radius will be provided for fire tender movement
▪ Refuge floor shall be provided as stipulated by DCR
▪ Provision of a Fire water tank will be made in UGT & OHT to ensure water supply for firefighting.
▪ Signages will be provided to enable quick and systematic evacuation.</td></tr>
<tr><td>9.11</td><td colspan="3">If you are using glass as wall material provide details and specifications including emissivity and thermal characteristics</td></tr>
<tr><td>Response</td><td colspan="3">Glass is not proposed to be used as a façade material for Residential buildings. The percentage of glass in building façade will be less than 25% of the total exposed surface and shaded with shading devices.
For residential building, the glass used will have the following characteristics:
<table>
<tr><td>Glazing Type</td><td>Colour Shade</td><td>Brand</td><td>Solar Factor</td><td>U value W/sqmK</td></tr>
<tr><td>Single Glazed Unit</td><td>Neutral</td><td>Saint Gobain</td><td>0.28</td><td>1.79</td></tr>
</table></td></tr>
<tr><td>9.12</td><td colspan="3">What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.</td></tr>
<tr><td>Response</td><td colspan="3">The project does not propose to give full air-conditioned spaces in the residential buildings.
▪ In case of residential buildings, if air conditioning is proposed, the air infiltration from the fenestration shall not exceed 2.0 l/s-sqm as per the ECBC to minimize air conditioning losses. For mitigation of infiltration, measures shall be undertaken as follows:
▪ Mechanical ventilation & exhaust will be provided in spaces like mechanical plant rooms, DG rooms, electrical substations etc. Toilets to have air exhausts. Fans will be complete with filters and gravity louvers wherever required.</td></tr>
<tr><td>9.13</td><td colspan="3">To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used</td></tr>
<tr><td>Response</td><td colspan="3">Non-conventional technology is proposed to be used in the project with the use of LED and/or high energy efficient lamps (LED) as specified in bureau of energy efficiency, which will result in energy conservation</td></tr>
<tr><td>10.0</td><td colspan="3">Environmental Management Plan</td></tr>
<tr><td></td><td colspan="3">The Environment Management Plan would consists of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.</td></tr>
</table>

Response	The EMP aims at controlling pollution at source to the possible extent with the best available technology followed by treatment measures before they are discharged to the environment. The EMP has been prepared for both construction and operational phases. The environmental components taken into considerations during the study include air quality, water quality, soil, land use, ecology and socio-economic parameters.

Signed by:

Date:

Proof of Service

Adv. Sachin Subhash Gore <ssgore2005@gmail.com>

NGT: OA 94/2016: Dinbandhu Singh V/s Serene Developers Ltd: Additional Affidavit by Respondent No. 1

2 messages

Adv. Sachin Subhash Gore <ssgore2005@gmail.com> Thu, Feb 16, 2023 at 4:17 PM
To: National Green Tribunal Pune <ngt-pune@gov.in>, Rahul Garg <rahul.garg@mgklegal.com>, Manasi Joshi <adv.manasi.joshi@outlook.com>, aniruddha1488@gmail.com, hnanaware@triyama.com, Raghunath Mahabal <mahabal60@gmail.com>, mpcbpune@mpcb.gov.in, sudhakarkale54@gmail.com, "adv.rbmahabal" <adv.rbmahabal@gmail.com>, Anup Hadgaonkar <anuphadgaonkar@gmail.com>, collector.pune@maharashtra.gov.in, secy-moef@nic.in, chiefsecretary@maharashtra.gov.in, comm@pmrda.gov.in, sropune2@mpcb.gov.in, ropune@mpcb.gov.in, sameer.khale@mgklegal.com, devalempcb@gmail.com

I am an Advocate of Respondent No. 1 in Original Application No. 94 of 2016 (WZ) i.e., "Dinbandhu Singh V/s Serene Developers". As per the order of the Hon'ble National Green Tribunal dated 13/02/2022, I am submitting/circulating the copy of the additional Affidavit of Respondent No. 1 i.e., M/s. Serene Developers. I am also e-filling the same through the NGT e-filing portal.

Best regards

Sachin Subhash Gore, ADVOCATE
B.Sc(Chemistry), M.Sc.(Environment), LL.M (Crime), MBA (Corporate Law),D.TL,D.LL, D.E.M.S.
ISO 14000-14001, NABET Accredited 'Functional Area Expert'Govt.Analyst Environment Laboratory' u/s.12 & 13 of EP Act 1986 and u/s.17(2) of Water & Air Acts
Address: A2, Kakade Angan, Opposite Talera Hospital, Tanaji nagar, Chinchwad, Pune-411033.
Tel.: 020-27612357 / 7350212877. ssgore2005@gmail.com

Working: Only Sunday closed. 9am to 6pm on ALL other days, without any off day.

(2536-3085) 2023-02-15 R1 SERENE Additional Affidavit f.pdf
20827K

Adv. Sachin Subhash Gore <ssgore2005@gmail.com> Thu, Feb 16, 2023 at 4:18 PM
To: jagdeep@ramagroupindia.com

[Quoted text hidden]

(2536-3085) 2023-02-15 R1 SERENE Additional Affidavit f.pdf
20827K