

MONITORING THE IMPLEMENTATION OF ENVIRONMENTAL SAFEGUARDS

MINISTRY OF ENVIRONMENT & FORESTS

Regional Office (W), Bhopal

Monitoring Report

PART – I
DATA SHEET

No.: 01	Date
1. Project type: River –Valley/ Mining/ Industry/ Thermal/ Nuclear/ other (specify)	: Residential.
2. Name of the project	: Kumar Prince town
3. Clearance letter (s)/OM no. and date	: No. 21-221 /2007-IA-III dated 24 December, 2007
4. Location	:
(a) District	: Pune
(b) State	: Maharashtra
(c) Latitude / Longitude	: Latitude: 18 ⁰ 31 'N Longitude: 73 ⁰ 51' E
5. (a) Address for correspondence	M/s Manikchand Kumar Properties,
(b) Address of Executive Project Engineer/ Manager (with pin code / Fax)	: M/s Manikchand Kumar Properties Kumar Capital, 1 st Floor, 2413 East Street Camp Pune – 411001 Fax. 91-20-26353365
6. Salient Features	
(a) Of the project	: Refer Annexure I
(b) Of Environmental Management Plans	: Refer Annexure I
7. Break up of the project area	
(a) Submergence area: forest & non forest.	: Nil.
(b) Others	: The entire project area is non-agricultural land.

8. Break up of the project affected population with enumeration of those losing houses /dwelling units only, agricultural land only, both dwelling units & agricultural land & landless labourers /artisan. : Nil.
 (a) SC, ST /Adivasis : Nil.
 (b) Others : Nil.
 (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details and years of survey)
9. Financial details
 (a) Project cost as originally planned and sub-sequent revised estimates and the year of price reference. : Yet to finalise.
 (b) Allocation made for environmental management plans with item wise and year wise break-up. : Yet to finalize
 (c) Benefit cost ratio/Internal rate of Return and the year of assessment : Yet to finalize.
 (d) Whether (c) include the cost of environmental management as shown in the above. : Not applicable since (c) is yet to finalise.
 (e) Actual expenditure incurred on the project so far : Yet to finalize.
 (f) Actual expenditure incurred on the environmental management plans so far : Yet to finalize.
10. Forest land requirement. : Nil
 (a) The status of approval for diversion of forest land for non-forestry use : Not applicable.
 (b) The status of clearing felling : Not applicable.
 (c) The status of compensatory afforestation, if any : Not applicable.
 (d) Comments on the viability & sustainability of compensatory afforestation programme in the light of actual field experience so far : Not applicable.
11. The status of clear felling in non-forest areas (such as submergence area of reservoir, approach roads), if any with quantitative information : Nil.
12. Status of construction. :
 a) Date of commencement (Actual and / or planned) : (10 % of civil work completed)

- b) Date of completion (Actual and/ or planned) : The project is under construction.
13. Reason for the delay if the project is yet to start. : Not applicable
14. Dates of site visits
(a) The dates on which the project was monitored by the Regional Office on previous occasions, if any : Not applicable
(b) Date of site visit for this monitoring report : February & April, 2008. (*Env. Monitoring report done by Green Circle Consultants (I) Pvt. Ltd. is attached as Annexure – II*)
15. Details of correspondence with project authorities for obtaining action plans / information on status of compliance to safeguards other than the routine letters for logistic support for site visits. : **Letter issued by MoEF:**
EC No. : No. 21-221 /2007-IA-III dated 24 December, 2007

(The first monitoring report may contain the details of all the letters issued so far, but the later reports may cover only the letters issued subsequently.)

COMPLIANCE REPORT

EC No. : 21-221/2007-IA-III Dated: December 24, 2007

Project Name : Residential Complex at Undri.

Project location : S.No. 9/1(pt) Undri, Pune.

Developer name : M/s. Manikchand Kumar Properties.

Developers address : M/s. Manikchand Kumar Properties.
Kumar Capital, 1st Floor.
2413 East Street, Camp
Pune 411001

Sr. No.	EC Conditions	Compliance Status
1.	I am directed to refer to your application seeking prior environmental clearance for the above project under the EIA Notification 2006. The above proposal has been appraised as per prescribed procedure on the basis of the mandatory documents enclosed with the application viz., the Form 1&1A and conceptual plan and the additional clarifications furnished in response to the observations of the Additional Expert Appraisal Committee constituted by the competent authority in its 21 st meeting held on 24-12-14 September, 2007.	No comment.
2.	The project proponent is proposing for construction of Residential Complex at S.No. 9/1(pt) Undri, Pune at a cost of Rs 132.45 crore. The proposed development will consist of residential building for 9456 flats. The total plot area is 1.01.600sq. m. The total built up area as indicated is 94,413 sq. m. Total water requirement will be 775 cu. m. /day including recycled water and total waste water generation from the project will be 620 cu. m/day. The STP (capacity 650 cu. m. /day) will be installed at site to treat waste water generated from the project. The treated waste water will be used for landscape, flushing and non-potable purpose in the premises and unused water will be discharged into public sewer. The total solid waste generated will be 1265 kg/day. Vermi-composting of biodegradable solid waste will be done and Non-biodegradable waste will be handed over to local municipal authority for disposal. Total parking space will be provided for parking of 1050 cars and 950 two-wheelers.	Noted.
3.	The Documents submitted along with the application	Noted.

	<p>predicts that there will be minor negative impact on air quality during construction as well as operation phase. There will be minor negative impact on Air quality during construction and operation phase. There will be minor impact on ambient noise level inside the premises during construction phase. There will be positive impact on land use pattern due to landscaping and green belt development. Plantation of trees and development of recreational area, surrounding area will have positive impact on overall land use.</p>	
4.	<p>The additional EAC after due consideration of the relevant documents submitted by the project proponent and additional clarifications furnished in response to its observations have awarded “Gold” grading and recommended the grant of environmental clearance for the project mentioned above subject to compliance with the EMP and other stipulated conditions Accordingly, the Ministry hereby accords necessary environmental clearance under category 8(a) for the project subject to the strict compliance with the specific and general conditions mentioned below.</p>	
PART A- SPECIFIC CONDITIONS		
I. Construction Phase		
1.	<p>Consent for establishment shall be obtained from State Pollution Control Board/Pollution Control Committee under Air and Water Act and a copy of the same shall be submitted to the Ministry before start of any construction work at site.</p>	Noted.
2.	<p>For disinfection of waste water, ultraviolet radiation shall be used in place of chlorination.</p>	Complied. Adequate measures are provided
3.	<p>Vehicles hired for construction activities should be operated only during non - peak hours.</p>	Complied.
4.	<p>All the top soil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.</p>	All the top soil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
5.	<p>Ready mixed concrete shall be used in building construction.</p>	Complied. Adequate measures are provided
6.	<p>Water demand during construction shall be reduced by</p>	Complied.

	use of premixed concrete, curing agents and other best practices.	Adequate measures are provided
7.	Permission to draw ground water shall be obtained from competent authority prior to construction/operation of the project.	Noted.
8.	Separation of gray and black water should be done by use of dual plumbing line. Treatment of 100% gray water by decentralized treatment should be done.	Complied. Adequate measures are provided
9.	Fixtures for showers, toilet, flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.	Complied. Adequate measures are provided
10.	Use of glass may be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, use high quality double glass with special reflective coating in windows.	Complied. Adequate measures are provided.
11.	Roof should meet the prescriptive requirement as per Energy Conservation Building code by using appropriate thermal insulation material to fulfil requirement.	Complied. Adequate measures are provided
12.	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation to fulfil requirement.	Complied. Adequate measures are provided
13.	Storm water control and its reuse should be as per Central Ground Water Boards and BIS standards for various applications.	Complied. Adequate measures are provided
14.	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.	Complied. Toilets are provided at site.
15.	Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.	Complied. Env. Monitoring report is attached as Annexure – I.I
16.	A First Aid Room will be provided at the project site both during construction and operation of the project.	Complied. First aid kit is provided at site.
17.	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.	Complied. Proper drinking water & toilet facility is provided at site.
18.	Disposal of muck including excavated material during construction phase should not create any adverse effects on the neighboring communities and be disposed off	Disposal of muck including excavated material during

	taking the necessary precautions for general safety and health aspects of people.	construction phase should not create any adverse effects on the neighboring communities and be disposed off taking the necessary precautions for general safety and health aspects of people.
19.	The diesel power generating sets used during construction phase should be of “enclosed type” to prevent noise and should confirm to rules made under Environmental (Protection) Act 1986, prescribed for air and noise emission standards.	Complied. DG sets are having acoustic enclosure.
20.	Ambient noise levels should confirm to residential standards both during day and night when measured at boundary wall of the premises. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.	Complied. Env. Monitoring report is attached as Annexure –II
21.	The construction agencies shall use fly ash based material/products as per the provisions of fly ash Notification of 14.9. 1999 and as amended on 27.8 2003	Noted.
22.	Vehicles hired for bringing construction material at site should be in good condition and should have valid "pollution under check" (PUC) certificate and to confirm to applicable air and noise emission standards and should be operated only during non-peaking hours.	Complied. Vehicles are checked for PUC certificate.
23.	Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they should not leach into the ground water.	Complied. Adequate measures are provided.
24.	Any hazardous waste generated during construction phase should be disposed of as per applicable Rules and norms with necessary approvals of the Maharashtra State Pollution Control Board.	Noted.
25.	Regular supervision of the above and the other measures for monitoring should be in place all through the construction phase so as to avoid disturbance to the surroundings.	Noted.
26.	Under the provision of Environmental (Protection) Act. 1986, legal action shall be initiated against the project proponent if it was found that construction of the project had started without obtaining environmental clearance.	Noted.

II. Operation Phase		
1.	Necessary permission of competent authority shall be taken to store diesel in the premises for operation of DG set.	Noted. The project is in construction phase.
2.	Diesel power generating sets proposed as source of back up power for lifts and common area illumination should be of "enclosed type" and confirm to rules made under Environment (Protection) Act 1986, prescribed for air and noise emission standards as per CPCB guidelines. Exhausts should be discharged by stack, raised to 4 meters above the rooftop.	Noted. The project is in construction phase.
3.	During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	Noted. The project is in construction phase.
4.	Noise barriers should be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards.	Noted. The project is in construction phase.
5.	Weep holes in the compound walls shall be provided to ensure natural drainage of rainwater in the catchment area.	Noted. The project is in construction phase.
6.	The Sewage Treatment Plant (STP) of adequate capacity should be provided to treat sewage generated from the complex and it should be certified by an independent expert for adequacy as well as efficiency and should submit a report in this regard to the Ministry before the project is commissioned for operation. Discharge of treated sewage shall confirm to the norms and standards prescribed by of Maharashtra State Pollution Control Board.	Noted. The project is in construction phase.
7.	Rain water harvesting and ground water recharging shall be practiced. Oil & Grease trap shall be provided to remove oil and grease from the surface run off and suspended matter shall be removed in a settling tank before its utilization for rainwater harvesting.	Noted. The project is in construction phase.

8.	The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to approved sites for land filling after recovering recyclable material.	Noted. The project is in construction phase.
9.	Any hazardous waste including biomedical waste should be disposed of as per applicable Rules & norms with necessary approvals of the Maharashtra State Pollution Control Board.	Noted. The project is in construction phase.
10.	The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribe for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous variety.	Noted. The project is in construction phase.
11.	Incremental pollution load on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.	Noted. The project is in construction phase.
12.	The ground water level and its quality should be monitored regularly in consultation with Central Ground water authority.	Noted. The project is in construction phase.
13.	A Report on energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building material & technology, R & U Factors etc and submitted to Ministry in three months time.	Complied. Energy conservation measures are addressed in Rapid EIA report which is already submitted to MoEF.
14.	The values of R & U for the commercial building envelop should meet the requirements of the hot & humid climatic location. Details of the building envelop should be worked out and furnished in three months time.	Complied. Thermal characteristics of building envelope are addressed in Rapid EIA report which is already submitted to MoEF.
15.	Energy conservation measures like installation of solar panels for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.	Noted. The project is in construction phase.
PART - B. GENERAL CONDITIONS		
1.	This environmental clearance is subject to Hon'ble	Noted.

	Supreme Court's decision regarding siting of project near wildlife sanctuary.	
2.	The environmental safeguards contained in the document should be implemented in letter and spirit.	Noted.
3.	Provision should be made for the supply of kerosene or cooking gas and pressure cooker to the laborers during construction phase.	Noted. Local labours are employed.
4.	All the laborers to be engaged for construction workers should be screened for health and adequately treated before the issue of work permits.	Complied. Medical checkup of worker is ensured before appointing for work.
5.	6 monthly monitoring reports should be submitted to the Ministry and its Regional office, Bangalore.	Complied.
6.	Officials from the Regional Office of MoEF, Bhopal who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to the CCF, Regional office of MoEF, Bhopal.	Noted.
7.	In case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.	Noted.
8.	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted.
9.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, State Forest Department, Wildlife Act, 1972 etc. shall be obtained, as applicable by the project proponents from the competent authorities.	Noted.
10.	A copy of the environmental clearance letter would be marked to the local NGO(s), if any, for their information.	Noted.
11.	The project proponent should advertise in at least two local Newspapers widely circulated in the region one of which shall be in vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with Karnataka State Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forest at	Complied. Copy of advertisement is attached as Annexure II

	http://www.envfor.nic.in . The advertisement should be made within 7 days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	
12.	These stipulations would be enforced among others under the provisions of the Water (prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) Act 1981, the Environment (Protection) Act, 1986 and the Public Liability (Insurance) Act, 1991.	Noted.
13.	The project authority will enter in to MOU with all buyers of the property, shops etc. to ensure operation and maintenance of the assets of the building.	Noted.

POST ENVIRONMENT REPORT

Period: JANUARY– MARCH 2008

Project

Residential Complex

**Undri,
Pune**

Developer

M/s. Manikchand Kumar Properties

East Street, Camp,

Pune – 411001

Prepared by



GREEN CIRCLE CONSULTANTS (I) PVT. LTD.

Pune

CERTIFICATE

This is to certify that the post environment monitoring of RESIDENTIAL COMPLEX PROJECT for M/s. Manikchand Kumar Properties, Pune has been carried out by M/s. Green Circle Consultants (I) Pvt. Ltd., Pune during the period of January - March, 2008. The study reveals that there is no negative impact of project on the environment.

For Green Circle Consultants (I) Pvt. Ltd.

(Ashish Dubey)
Assistant Project Manager

INTRODUCTION:

M/s. Manikchand Kumar Properties., Pune has received Environment Clearance from the Ministry of Environment & Forest, New Delhi for proposed construction of Residential Complex Project on plot No. of S. No 9/1 (PT) Undri, Pune, Maharashtra. vide clearance letter No. 21-221/ 2007-IA-III dated 24 December, 2007. As per the directives of the clearance letter, periodic Environmental Monitoring is to be carried out. M/s. Manikchand Kumar Properties assigned the job of Post Environment Monitoring to M/s. Green Circle Consultants (I) Pvt. Ltd., Pune.

SCOPE OF WORK:

It includes quarterly monitoring of:

- A. Ambient Air Quality.
- B. Stack Emission from DG Set, if any.
- C. Water & Sewage quality.
- D. Noise Level.

A. AMBIENT AIR MONITORING:

Ambient Air Quality Monitoring was carried out at two locations within the project site for 48 hours. Six (8 hourly) samples were collected and analyzed for SPM, RSPM, SO₂, NO_x & CO as per the standard methods mentioned in Table No. 1. The results are summarized in Table No. 2.

Table No. 1 Standard method of analysis for ambient air quality.

SPM/RSPM	:	IS: 5182 (Part IV) 1999
SO ₂	:	IS: 5182 (Part II) 2001 Improved West & Gaek method
NO _x	:	IS: 5182 (Part VI) 1998 Jacob & Hochheiser modified method
CO	:	IS: 5182 (Part X) 1991

Table No. 2: Ambient air Quality.

Parameters		SPM		RSPM		SO ₂		NOX		CO	
NAAQS		200		100		80		80		2000	
Day		1	2	1	2	1	2	1	2	1	2
Location	Set										
Near Site Office (AQ-1)	I	150	147	63	66	13	12	15	16	155	154
	II	148	155	66	71	11	10	17	18	156	154
	III	150	152	65	67	12	13	15	17	152	153
Back Side (AQ-2)	I	148	150	59	62	11	14	17	19	141	143
	II	139	141	62	59	12	13	15	17	142	144
	III	152	151	60	61	13	14	16	16	145	143

Note:All values are in $\mu\text{g}/\text{m}^3$

NAAQS: National Ambient Air Quality Standards

Observations:

All the ambient air parameters are well within the prescribed NAAQS.

B. STACK MONITORING:

DG Set under installation processes.

C. WATER & SEWAGE QUALITY:**Water:**

Two samples of water i.e. two open well was collected (grab sample) and analyzed as per the BIS methods. That water will be used only for construction purposes. Mineral water will be used for drinking purpose. The quality of water samples is reported in Table no .3.

Table No. 3: Quality of water sample.

Sr. No.	Parameters	Unit	Water sample		Desirable limit as per IS 10500:1991
			Open well (W1)	Open well (W2)	
1.	Turbidity	NTU	BDL	BDL	5
2.	pH	---	7.10	7.12	6.5 to 8.5
3.	Total Dissolved Solids	mg/l	743	742.05	500
4.	Phenolphthalein Alkalinity	mg/l as CaCO ₃	NIL	NIL	N.S.
5.	Total Alkalinity	mg/l as CaCO ₃	265	263	200
6.	Total Hardness	mg/l as CaCO ₃	430	431	300
7.	Calcium	mg/l as Ca	128	130	75
8.	Magnesium	mg/l as Mg	26.1	27	N.S.
9.	Iron	mg/l as Fe	0.55	0.56	0.3
10.	Chlorides	mg/l as Cl	45.2	46.3	250
11.	Sulphate	mg/l as SO ₄	69.2	72	200
12.	Nitrates	mg/l as NO ₃	N.S.	N.S.	45
13.	Fluoride	mg/l as F	0.5	0.42	1

Note:

BDL = Below Detectable Limit

N.S. = Not Specified

Observations:

The quality of bore well water shows that all parameters are well within the prescribed limit.

EFFLUENT: There is no effluent from STP because it is under construction.

NOISE LEVEL MEASUREMENT:

Noise level monitoring was carried out at four locations within the project site for 48 hours using sound level meter and the results are reported in Table No. 4.

Table No. 4 Noise Level Measurement Results

Sr. No.	Sampling locations	Noise Level in dB (A) Leq. during			
		Day Time		Night Time	
		Measured	Limit*	Measured	Limit*
N1	At South corner of site	54	55	45	45
N2	At East corner of site	55	55	44	45
N3	At West corner of site	57	55	43	45
N4	At North corner of the site	53	55	44	45

Note:

* Ambient Noise level Limit for Residential area as per Noise Pollution (Regulation & Control) Rules, 2003.

Day time is reckoned between 6 A.M. to 10 P.M. & Night time between 10 P.M. to 6 A.M.

Observations:

The noise level at site is well within the prescribed limit. However it is marginally higher at west end of site due to vehicular movement in near by undri road.

POST ENVIRONMENT REPORT

Period: APRIL - JUNE 2008

Project

Residential Complex

**Undri,
Pune**

Developer

M/s. Manikchand Kumar Properties

East Street, Camp,

Pune – 411001

Prepared by



GREEN CIRCLE CONSULTANTS (I) PVT. LTD.

Pune

CERTIFICATE

This is to certify that the post environment monitoring of RESIDENTIAL COMPLEX PROJECT for M/s. Manikchand Kumar Properties, Pune has been carried out by M/s. Green Circle Consultants (I) Pvt. Ltd., Pune during the period of April - June, 2008. The study reveals that there is no negative impact of project on the environment.

For Green Circle Consultants (I) Pvt. Ltd.

(Ashish Dubey)
Assistant Project Manager

INTRODUCTION:

M/s. Manikchand Kumar Properties., Pune has received Environment Clearance from the Ministry of Environment & Forest, New Delhi for proposed construction of Residential Complex Project on plot No. of S. No 9/1 (PT) Undri, Pune, Maharashtra. vide clearance letter No. 21-221/ 2007-IA-III dated 24 December, 2007. As per the directives of the clearance letter, periodic Environmental Monitoring is to be carried out. M/s. Manikchand Kumar Properties assigned the job of Post Environment Monitoring to M/s. Green Circle Consultants (I) Pvt. Ltd., Pune.

SCOPE OF WORK:

It includes quarterly monitoring of:

- A. Ambient Air Quality.
- B. Stack Emission from DG Set, if any.
- C. Water & Sewage quality.
- D. Noise Level.

A. AMBIENT AIR MONITORING:

Ambient Air Quality Monitoring was carried out at two locations within the project site for 48 hours. Six (8 hourly) samples were collected and analyzed for SPM, RSPM, SO₂, NO_x & CO as per the standard methods mentioned in Table No. 1. The results are summarized in Table No. 2.

Table No. 1 Standard method of analysis for ambient air quality.

SPM/RSPM	:	IS: 5182 (Part IV) 1999
SO ₂	:	IS: 5182 (Part II) 2001 Improved West & Gaek method
NO _x	:	IS: 5182 (Part VI) 1998 Jacob & Hochheiser modified method
CO	:	IS: 5182 (Part X) 1991

Table No. 2: Ambient air Quality.

Parameters		SPM		RSPM		SO ₂		NOX		CO	
NAAQS		200		100		80		80		2000	
Day		1	2	1	2	1	2	1	2	1	2
Location	Set										
Near Site Office (AQ-1)	I	149	145	59	67	10	12	14	18	154	155
	II	145	149	57	72	13	14	16	14	155	158
	III	151	151	61	69	15	11	12	17	152	157
Back Side (AQ-2)	I	152	153	63	63	11	15	16	18	149	145
	II	145	148	61	55	16	12	18	15	151	147
	III	148	152	64	58	14	13	12	14	153	142

Note:All values are in $\mu\text{g}/\text{m}^3$

NAAQS: National Ambient Air Quality Standards

Observations:

All the ambient air parameters are well within the prescribed NAAQS.

B. STACK MONITORING:

DG Set under installation processes.

C. WATER & SEWAGE QUALITY:**Water:**

Two samples of water i.e. two open well was collected (grab sample) and analyzed as per the BIS methods. That water will be used only for construction purposes. Mineral water will be used for drinking purpose. The quality of water samples is reported in Table no .3.

Table No. 3: Quality of water sample.

Sr. No.	Parameters	Unit	Water sample		Desirable limit as per IS 10500:1991
			Open well (W1)	Open well (W2)	
1.	Turbidity	NTU	BDL	BDL	5
2.	pH	---	7.21	7.23	6.5 to 8.5
3.	Total Dissolved Solids	mg/l	747	745	500
4.	Phenolphthalein Alkalinity	mg/l as CaCO ₃	NIL	NIL	N.S.
5.	Total Alkalinity	mg/l as CaCO ₃	262	265	200
6.	Total Hardness	mg/l as CaCO ₃	421	425	300
7.	Calcium	mg/l as Ca	129	131	75
8.	Magnesium	mg/l as Mg	25.6	26	N.S.
9.	Iron	mg/l as Fe	0.52	0.57	0.3
10.	Chlorides	mg/l as Cl	45.1	46.1	250
11.	Sulphate	mg/l as SO ₄	68.3	73	200
12.	Nitrates	mg/l as NO ₃	N.S.	N.S.	45
13.	Fluoride	mg/l as F	0.4	0.40	1

Note:

BDL = Below Detectable Limit

N.S. = Not Specified

Observations:

The quality of bore well water shows that all parameters are well within the prescribed limit.

EFFLUENT: There is no effluent from STP because it is under construction.

NOISE LEVEL MEASUREMENT:

Noise level monitoring was carried out at four locations within the project site for 48 hours using sound level meter and the results are reported in Table No. 4.

Table No. 4 Noise Level Measurement Results

Sr. No.	Sampling locations	Noise Level in dB (A) Leq. during			
		Day Time		Night Time	
		Measured	Limit*	Measured	Limit*
N1	At South corner of site	53	55	44	45
N2	At East corner of site	54	55	43	45
N3	At West corner of site	56	55	42	45
N4	At North corner of the site	52	55	44	45

Note:

* Ambient Noise level Limit for Residential area as per Noise Pollution (Regulation & Control) Rules, 2003.

Day time is reckoned between 6 A.M. to 10 P.M. & Night time between 10 P.M. to 6 A.M.

Observations:

The noise level at site is well within the prescribed limit. However it is marginally higher at west end of site due to vehicular movement in near by undri road.

ANNEXURE – 1**1. Name and Address of the Project Proposed :**

Proposed projects are construction of Residential Complex at land bearing S. No. 9/1(pt) Undri, Pune.

2. Project Proposed:

M/s. Kumar Properties Pvt. Ltd has proposed Residential Complex at Undri, Pune. The proponent has tried to take all the steps for care of the environment and the nature. Some recreational facilities like landscape garden, health club, club house, swimming pool, etc., will be developed by M/s. Kumar Properties Pvt .Ltd in residential complex.

AREA STATEMENT INCLUDING PARKING STATEMENT:

1.	Total Gross Plot Area	1,01, 600.00 m ²		
2.	Total Deduction area	55,989.64 m ²		
3.	Net Plot Area (1-2)	45,610.36 m ²		
4.	Total Addition Area(TDR)	36,488.29 m ²		
5.	Total Balcony Area	12,314.80 m ²		
6.	F.A.R Permissible (with Balcony) (3+4+5)	94413.45 m ²		
7.	Total Built Up area	94413.45 m ²		
8.	Total No. of Building	22 nos.		
9.	Total No. of Flats	946 nos.		
	Parking Statement	Cars	Scooters	Cycles
10.	Parking Required by DC Rules	946	946	946
11.	Parking Provided	1050	950	950

WATER CONSUMPTION:

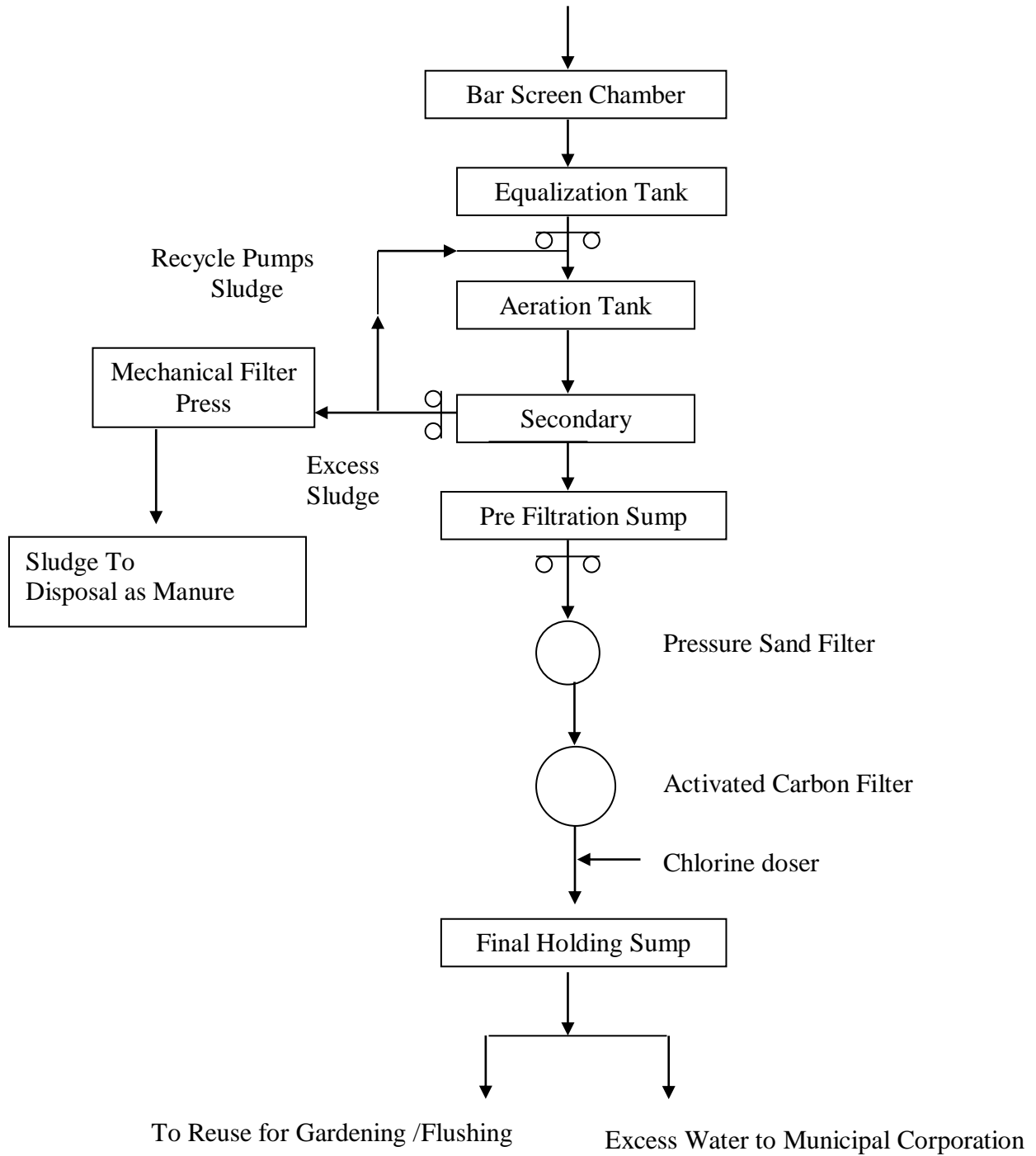
Total water demand: 775 m³/day

Source of water : Municipal Corporation

SEWAGE GENERATION & TREATMENT PLANT:

- Sewage from the project will be generated at the rate of 620 m³ / day
- During functional phase about 620 m³ / day of sewage will generated
- The sewage generated during operational phase will be treated in STP of 650 m³ / day capacity.
- The STP is designed on the basis of extended aeration principle

ANNEXURE -1
SCHEMATIC FLOW DIAGRAM FOR SEWAGE TREATMENT



RAIN WATER HARVESTING DETAILS

For rain water harvesting, no. of bore well will be proposed within building premises. It is proposed rainwater from roof tops and from surrounding area within the complex will be considered for recharging of these bore wells. Open trenches/storm water drain has been considered along the road side and as per topography of the plot.

DETAILS OF STORM WATER

It is proposed to have separate storm water conveyance system for the project. For this purpose rain water from roof tops and from surrounding area within the complex will be considered. Open trenches/storm water drain has been considered along the road side and as per topography of the plot.

SOLID WASTE GENERATION:

QUANTITY OF SOLID WASTES GENERATED:

Density of Refuse	= 240 Kg / M3
Volume of Refuse / Capita / Day	= 2.83 kgs
Total number of persons	= 4730
Volume of Refuse produced/Day	= 2.83 X 4730
	= 13385.9 kg / Day
Quantity of Solid Waste generated	= 4730 X 240 / 1000
	= 1135.2 Kg / Day.

SOLID WASTE DISPOSAL METHOD:

Domestic garbage generated from the proposed project is envisaged to be disposed through Trash bins, Trash cover collection system & then through the municipal Garbage collection Trucks for further disposal. Domestic household garbage would be segregated into Organic and Inorganic wastes and then kept ready for disposal. The volume of garbage produced from the Project is worked out as per the guidelines of IS 6924-1973.

POWER REQUIREMENT:

- The main source of Electricity supply will be from M.S.E.B
- Total requirement of Electrical load will be 20 KW during construction phase.
- During Operational Phase, total requirement of Electrical load will be 2500 KW.
- Total electrical connected load will be 2623 KVA.

It is proposed to install three DG sets each of 125 KVA capacity with Acoustic noise controlled measures. The fuel for DG set will be HSD.

TREE PLANTATION:

About 300 trees are proposed to plant in the R. G. (6544.43 m²) Area.

Sr. No.	Common Name	Botanical Name	Height	Canopy (dia)	No. of Trees
01.	Jawa Willow	Ficus Benjamina	18 to 20 mt	9 to 11 mt	49
02.	Devil's Tree	Alistonea Scholaris	12 to 15 mt	10 to 12 mt.	96
03.	Hongkong Orchid Tree	Bauhinia Blackeana	7 to 8 mt	5 to 6 mt.	42
04.	Lagerstroemia	Lagerstroemia Flosregia	12 to 15 mt.	8 to 9 mt.	43
05.	Peltophorum	Peltophorum	Up to 10 mt.	8 to 9 mt.	44
06.	Chafa	Plumeria Alba	6 to 8 mt.	Up to 4 mt.	44
07.	Pangara	Erythrina verigated	8 to 12 mt.	6 to 8 mt.	46
08.	Golden Shower	Cassia Fistula	8 to 10 mt.	Up to 5 mt.	31
09.	Fish Tail Palm	Alphanes Erosa	12 to 15 mt.	4 to 5 mt.	142
10.	Scarlet Bell Tree	Spathodia	12 to 15 mt.	12 to 13 mt.	61
11.	Bottle Palm	Bottle Palm	12 to 15 mt.	3 to 4 mt.	37

ENVIRONMENT MANAGEMENT PLAN

ENVIRONMENT MANAGEMENT PLAN FOR AIR:

CONSTRUCTION PHASE

- Proper precaution will be taken to reduce the particulate matter by water sprinkling on the dry site area, covering the periphery by corrugated tin sheets to protect the surrounding area from dusting. Wet jute bags will also be used for the control of dust pollution.
- Dust will be controlled by sprinkling of water on roads.
- Equipments used for construction will be maintained periodically.
- Use of face mask to avoiding inhalation of dust particles.

OPERATIONAL PHASE

- DG sets will be installed with proper precautions.
- DG Sets will be used as a backup only during power failure.

ENVIRONMENT MANAGEMENT PLANS FOR WATER:

CONSTRUCTION PHASE

- Impact during construction phase will be temporary.
- Sewage Effluent will be treated in Septic tank and disposed into municipal sewer lines.

FUNCTIONAL PHASE

- Sewage generated during operation phase will be treated in STP and treated water will be reused for non potable purpose.
- Use of well maintained equipment
- Providing earmuffs/earplug for working staff
- Rain Water Harvesting will be done for recharging bore well.

ENVIRONMENT MANAGEMENT PLANS FOR NOISE:

CONSTRUCTION PHASE

- In order to reduce the impact of noise during construction, well maintained equipment will be used.
- Earmuffs /earplugs should be provided for working staff.
- Construction Activity will be limited up to daytime only.
- Construction equipments will be fitted with silencers.

OPERATIONAL PHASE

- DG sets will be installed with appropriate acoustic measures.
- Green Belt Development and well planned entry and exit point

ENVIRONMENT MANAGEMENT PLANS FOR LAND:

CONSTRUCTION PHASE

- Reuse of construction waste through vendors

FUNCTIONAL PHASE

- Integrated solid waste management plan is proposed for the project.

ENVIRONMENT MANAGEMENT PLANS FOR SOLID WASTE:

CONSTRUCTION PHASE

- Normal debris, waste concrete, soil, broken bricks, waste plasters etc. will be collected properly and reused for in the premises. • Reuse for land filling in the project premises will be land filling
- Metallic Waste will be collected separately and will be reused.

OPERATIONAL PHASE

- Reuse of the paper and plastic waste.
- Well planned system is proposed for the collection and storage of the solid waste at the point of generation.