Kapstone Constructions Pvt. Ltd.

Registered & Corp. Office : 702, NATRAJ, M. V. Road Junction, Western Express Highway, Andheri (East), Mumbai - 400 069. Tel.: +91 - 22 - 6676 6888, Fax: +91 - 22 - 6676 6999.
E-mail: comehome@rustomjee.com, Web : www.rustomjee.com, CIN : U45200MH2003PTC140091

28th May, 2017

To,
The Director
Regional Office (West Central Zone),
Ministry of Environment, Forest and Climate Change,
Ground Floor, East wing,
New Secretariat Building,
Civil lane, Nagpur-440001

Subject: **Half-yearly Compliance Report: December 2016 to May 2017**

Project **Environmental and CRZ Clearance for the construction of Residential and Commercial Complex-Rustomjee 100 Acres- at village Majiwade Thane Municipal Corporation District Thane-Maharashtra. by Kapstone Construction Pvt. Ltd.**

CRZ No. **CRZ clearance Letter No. F.No.11-74/2009-IA.III Dated 18th May, 2012**

Dear Sir,

We are submitting half-yearly Compliance Report (hard & soft copy) in respect of the of stipulated terms and conditions of 'Prior Environmental Clearance' as specified in 'Environment Clearance' Notification Clause No. 10(ii).

Thanking you,
Yours faithfully,
For Kapstone Construction Pvt. Ltd.

Project Proponent

Enclosure:
1. A hard copy of the compliance and monitoring report
2. A CD containing the same report

CC copy to:
1. Regional officer, Maharashtra Pollution Control Board, Thane (SRO-I)
2. Member Secretary, Maharashtra Pollution Control Board, Sion, Mumbai
3. Member Secretary, State Environmental Impact Assessment Authority, Govt. of Maharashtra, Mumbai

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Ground Floor, East wing,
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30-6-17 कार्यालयीन लिपिक पर्यावरण विभाग मंत्रालय, मुंबई-३२.

Subject: **Half-yearly Compliance Report: December 2016 to May 2017**

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30/6/17 Regional Office M.P.C Board Complex Bldg., 5th Floor Near Mulund Check Naka, Thane-400 60[illegible]

Maharashtra [illegible] Board Kalina Sion Mumbai Opp. [illegible] MUMBAI [illegible] Phone : 24070[illegible] 30/6/17

o/c

Environmental and CRZ Clearance Compliance Report

for the period of

December 2016 to May, 2017

for

Kapstone Constructions Pvt. Ltd.

Environmental and CRZ Clearance for the construction of Residential and Commercial Complex, at Majiwade, Thane (West), Maharashtra

CRZ clearance Letter No. F.No.11-74/2009-IA.III Dated 15th May, 2012

Proposed by

Kapstone Constructions Pvt. Ltd.

CONSULTANT

Mahabal Enviro Engineers Pvt. Ltd.

Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604

Phone:+91-22-25823139/1663/0658 thane@mahabal.com

Contents

CRZ Clearance

F.No. 11-74/2009-IA.III
Government of India
Ministry of Environment & Forest
(IA-III Division)

RETYPED

Paryavaran Bhawan
CGO Complex Lodhi Road
New Delhi-110 003
Dated: 15th May, 2012

To,
M/s. Kapstone Consultants Pvt. Ltd.
702, Natraj. M.V. Road Junction,
Western Express Highway, Andheri (East)
Mumbai-400 069

Subject: Environmental and CRZ Clearance for the construction of Residential and Commercial Complex-Rustomjee 100 Acres-at village Majiwade Thane Municipal Corporation District Thane-Maharashtra by Kapstone Construction Pvt. Ltd.-Reg.

This has reference to your letter dated 13.07.2009, 13.08.2009, 12.01.2010, 17.02.2010, 18.02.2010, 14.04.2010, 17.06.2010, 01.07.2010, 15.09.2011, 13.01.2012 and 18.04.2012 seeking Environmental Clearance under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 1991/2011. The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone Notification, 1991/2011 on the basis of the mandatory documents enclosed with the application viz., the Questionnaire, EIA,EMP, and the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constructed by the competent authority in its meetings held on 27th-28th August 2009, 27th-28th January 2010, 25th 26th March 2010 and 28th-29th June 2010.

2. It is interalia, noted that the proposal involves construction of Residential and Commercial Complex-Rustomjee 100 Acres on a plot area of 2,01,436,62 m^2 at village Majiwade, Thane Municipal Corporation, District Thane. 1,45,834 m^2 is affected by the CRZ and 55,602.43 m^2 is outside CRZ. The total built up area of the project including the CRZ area is 1,63,446 m^2. There will be 2 commercial buildings (1, 02,677 m^2) of 10 and 17 storey, 4 residential buildings with built up area of 50,896.35 m2One school building with built up area of 9,490 m^2. The total cost of the project proposed is Rs.310.00 Crore. The Thane Municipal Corporation has assured the water supply for the project. The water requirement for the proposed project is about, 1,089 KLD fresh water requirements will be 217 KLD). The capacity of 6 STPs proposed is 1,000 KLD. The Flushing and the Gardening requirement of water are met by the water recycled from the STP. 242.7 m^3/day of rain water will be harvested from the roof top area of 11,503.58 m^2 Provisions of 7 rain water harvesting tanks of various capacities are made to collect the roof top rain water. Solid waste generation will be about 5,970 kg/day of which 3,585 kg/day is biodegradable. MSEDC Ltd. has assured the project with electricity supply. 2,500 KVA DG set backup is proposed for the project. A provision of 440 Nos. of heating panels is made to provide hot water to the residential population and for food court in commercial buildings. Solar lights will be provided for street lighting and garden lighting.

3. As per CZMP of Maharashtra and as well as CRZ map prepare by CESS, under CRZ Notification 1991/2011, the site under reference falls in CRZ-1(i) and CRZ Proposed development is falling in CRZ II. The MCZMA has recommended the project to MoEF for CRZ clearance vide letter No. MCZMA 2009/CR. 103/TC, dated 3rd July, 2009. The environmental clearance for the Phase I area has been issued by SEIAA of Maharashtra on 6.7.2009.

4. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent and additional clarifications furnished in the grant of Environmental and CRZ Clearance for the Project. Accordingly, the Ministry hereby accords necessary Environment Clearance and CRZ Clearance for the above project as per the provisions of Environment Impact Assessment Notification, 2006 and its subsequent amendments and CRZ Notification, 1991/2011, subject to strict compliance of the terms and conditions as follows:

Conditions of CRZ Clearance
F. No. 11-74/2009-IA.III Dated 15th May, 2012

Sr.	Conditions	Compliance	Annex	Photo
5.	**Specific Conditions**			
i.	"Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and copy shall be submitted to the Ministry before start of any construction work at the site.	We have obtained Consent to Establish from Maharashtra Pollution Control Board, under air & water act. Dated 10/11/2006. CTE Copy is provided.	✓	
ii.	As per the undertaking submitted on 13.01.2012, the area up to 10 mts. from the HTL along Mangrove area, 10 mts. over and above the 50 meters buffer zone shall be excluded from the development.	Yes. We have maintained the buffer zone the as per condition.		
iii.	Construction shall be carried out strictly as per the provisions of CRZ Notification, 2011 shall be carried out in Coastal Regulation zone area.	Yes, we have constructed as per the provisions of CRZ Notification, 2011		
iv.	All height and coverage of the construction work shall confirm the provisions of the CRZ Notification, 2011.	We agree with the condition		
v.	There shall be no disposal of solid and liquid wastes in to the Coastal areas.	We agree with the condition		
vi.	Sewage Treatment facility should be provided in accordance with the CRZ Notification. Treated sewage shall be reused for flushing of toilets and horticulture purposes.	Construction of sewage treatment plants is completed. Treated sewage water will be reused for gardening, irrigation, lawns, trees plantations within the p premises.		
vii.	The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.	The biodegradable and non-biodegradable waste is segregated at the source of waste generation. Then it is separately disposed by municipal waste disposal system. Biodegradable garbage is composted using Organic waste converter Technology.		✓

Sr.	Conditions	Compliance	Annex	Photo
viii.	Standby arrangements shall be made for power for the operation of STP during and electricity failure. Installation and operation of DG set if any shall comply with the guidelines of CPCB.	We have provided 2,500 kVA capacities of DG sets as a power backup.		✓
ix.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile, toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Construction of building is completed. No labour camp is provided on site.		
x.	A First Aid Room will be provided in the project both during construction and operation of the project.	Well-equipped first aid box has been provided to workers. The first aid box contains, 1) Disposable syringes 2) Cotton 3) Disposable needles 4) Bandage 5) Soframycin 6) Burnol 7) Dettol		✓
xi.	All the topsoil excavated during construction activities should be stored for use in horticulture/ landscape development within the project sites.	Excavated soil was stored and was reused for the development of green belt.		
xii.	Disposal of muck during construction phase should not be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Noted		
xiii.	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.	Analysis report of soil is attached and drinking water analysis report attached. There is no any ground water source.		

Sr.	Conditions	Compliance	Annex	Photo
xiv.	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.	Construction spoils do not include bituminous and hazardous materials.		
xv.	Any hazardous waste generated during construction phase, should be disposed-off as per applicable rules and norms with necessary approvals of the Maharashtra State Pollution Control Board.	No hazardous waste will be generated.		
xvi.	The diesel generator sets to be used during construction phase, should be disposed-off as per applicable rules and norms with necessary approvals of the Maharashtra State Pollution Control Board.	Construction completed.		
xvii.	The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosive shall be taken.	No diesel has been stored at the site. At the time of requirement, vendor will make availability of the diesel.		
xviii.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.	Construction completed. In operational phase we are monitored the noise limits. Noise monitoring report is provided.		
xix.	Ambient noise levels should confirm to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MSPCB.	The noise levels as well as air pollution has been monitored regularly from MoEF recognized laboratory. Air and Noise Monitoring report for period of December 2016 to May, 2017 is provided.	✓	

Sr.	Conditions	Compliance	Annex	Photo
xx.	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.	We have used fly ash base material for building construction.		
xxi.	Ready mixed concrete must be used in building construction.	Building construction is completed.		
xxii.	Storm water control and its re-use as per CGWB and BIS standards for various applications.	We agree with the condition		
xxiii.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	Construction is completed. Operational phase water requirement is provided by Thane Municipal Corporation		
xxiv.	Permission to draw ground water shall be obtained from the competent Authority prior to construction/ operation of the project.	Not applicable		
xxv.	Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.	We have provided separate pipe line for gray & black water.		
xxvi.	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.	We have provided low fixture for showers, toilet flushing and drinking.		
xxvii.	Use of glass may be reduced by up to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective e coating in windows.	As this is a residential & commercial project We is using 4 mm plain flat glass only for windows pans.		
xxviii.	Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.	We have use thermal insulation material to fulfill requirement.		

Sr.	Conditions	Compliance	Annex	Photo
xxix.	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 space by use of appropriate thermal insulation material to fulfill requirement.	Opaque walls for commercial building will be as per the energy conservation building code.		
xxx.	The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including the measures from lighting.	We have appointed authorized structural engineer for the same.		
xxxi.	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	Supervisors will be trained in Environmental Management measures and they will be held responsible for onsite Environmental Management Plan.		
xxxii.	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.	Noted. We started the construction after getting Environment & CRZ Clearance. EC & CRZ Clearance copy is provided.	✓	
II	**Operation phase**			

Sr.	Conditions	Compliance	Annex	Photo
i.	The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the Ministry before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled /reused to the maximum extent possible. Treatment of 100% gray water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the Maharashtra Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.	We have installed STP. Monitoring report attached Treated water generated from STP will be used & recycled to the maximum extent possible.		
ii.	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 the approved sites for land filling after recovering recyclable material.	Wet garbage will be composted by organic waste converter method & the manure will be utilized in the existing premises. Dry/inert solid waste will be disposed in the municipal bins and handed over to municipal corporation		✓
iii.	Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use low sulphur diesel. The location of DG sets may be decided with in consultation with Maharashtra Pollution Control Board.	We have installed DG set as a source of power backup during power failure.		

Sr.	Conditions	Compliance	Annex	Photo
iv.	Noise should be controlled to ensure that it does not exceed the prescribed standards. 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.	The day and night ambient noise levels within project area are monitored through MoEF approved lab. Noise Monitoring report for the month of December 2016 to May, 2017 is provided.	✓	
v.	The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.	Green belt has been developed.		
vi.	Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchments area during the monsoon period.	We have provided the weep holes in the compound wall to ensure natural drainage of rain water in the catchments area during the monsoon period.		
vii.	Rain water harvesting for roof runoff and surface run off as plan submitted should be implemented. Before recharging the surface run off pre-treatment must be done to remove suspended matter	We have complied with the condition.		✓
viii.	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	Not applicable		
ix.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.	We have complied with the condition.		
x.	A report on the energy conservation norms finalize by Bureau of energy efficiency should be prepared incorporating details about building materials and technology, R & U factors etc. and submit to the ministry in three months time.	Noted		

Sr.	Conditions	Compliance	Annex	Photo
xi.	Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed of / sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.	We have provided CFL lamps. Solar street light in areas such as open spaces, pathways, RG etc. also solar hot water system in the residential building.		
xii.	Adequate measures should be taken to prevent odour problem from solid waste processing plants and STP.	We have taken adequate measures to prevent odour problem from solid waste processing plants and STP.		
xiii.	The building should have adequate distance from between them to allow movement of fresh air and passage of natural light, air and ventilation.	Enough distance will be provided between the buildings to allow the circulation of air, natural light & ventilation.		
xiv.	The project proponent shall set up a separate environmental management cell for effective implementation of the stipulated environmental safeguard under the supervision of a Senior Executive.	We will make the provision for management cell with qualified staff for the implementation of the stipulated environmental safeguards.		
xv.	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	We will make provision for Green Belt development in the site.		
xvi.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	We have provided separate budgetary for environment management plan.		

Sr.	Conditions	Compliance	Annex	Photo
xvii.	Noise should be controlled to ensure that it does not exceed the prescribe standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevent regulations.	The day and night ambient noise levels within project area are monitored through MoEF approved lab. Noise Monitoring report for the month of December 2016 to May, 2017 is provided.	✓	
xviii.	Efforts may be made to use solar energy to the maximum extent possible.	We have a provision of 440 no. of solar heating panel for hot water and solar lighting area for street lighting and & garden lighting.		
6	**General conditions**			
i.	Adequate provision for infrastructure facilities including water supply fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	We had provided all the provision during construction phase of the project to avoid any damage to the environment.		
ii.	Full support shall be extended to the officers of this Ministry/Regional office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	We agree with the condition.		
iii.	Ministry of Environment & Forest or any other competent authority may stipulated any additional conditions or modify the existing once, if necessary in the interest of environment and the same shall be complied with.	We agree with the condition.		
iv.	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the ministry.	Noted.		

Sr.	Conditions	Compliance	Annex	Photo
v.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	We agree with the condition.		
vi.	The project proponent shall inform the regional office as well as the ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	We agree with the condition.		
vii.	A copy of the clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been made received while processing the proposal.	We agree with the condition.		
viii.	Maharashtra Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's office/Tehsildar's office for 30 days.	Noted.		
7.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	We agree with the condition.		
8.	All Other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project; proponents from the respective competent authorities.	We agree with the condition.		

Sr.	Conditions	Compliance	Annex	Photo
9.	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Maharashtra Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	We have given advertisement in local newspapers.		
10.	Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Noted		
11.	Any appeal against this Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted.		
12.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ Municipal corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Noted.		

Sr.	Conditions	Compliance	Annex	Photo
13.	The proponent shall upload the status of compliance of the stipulated EC conditions including results; of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Yes. We have submitted the previous compliance report. Acknowledgment copy is provided		
14.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (data in hard copes as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	We have submitted the six monthly monitoring reports to the MPCB department Regional Officer, MoEF, Nagpur. We are submitting the compliance and monitoring report for the month of December 2016 to May 2017. Report attached.	✓	
15.	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Office of MoEF by e-mail.	We submitted environmental statement for each financial year ending 31stMarch in Form-V to the concerned State Pollution Control Board. The copy of the same is attached	✓	

Consent to Establish

RETYPED

ORANGE/LSI
Consent No. BO/RO/ (P&P)/700 **Date: 10/11/2006**

Consent to Establish is granted to **Kapstone Constructions Pvt. Ltd., "Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p) 2(p), 3-6, 17/3, 4(p), 5,6(p), 18/3(p),4(p),6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 4(p), 6,7(p), 9(p), 38/1(p), 2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3(p), 4(p), 6(p), 7(p), 8,47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9m 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4, 5(p), 6(p), 345/1-17, 383,423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.**

located in the area declared under the provisions of Water Act (P&CP) 1974, Air Act (P&CP), 1981 and Authorization under the provisions of H.W. (M&H) Rules and amendments thereto subject to the provisions of the Acts and the Rules and the Orders that may be mad further and subject to the following terms and conditions:-

The Consent to Establish is issued to Kapstone Constructions Pvt. Ltd., **"Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p) 2(p), 3-6, 17/3, 4(p), 5,6(p), 18/3(p),4(p),6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 4(p), 6,7(p), 9(p), 38/1(p), 2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3(p), 4(p), 6(p), 7(p), 8,47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9m 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4, 5(p), 6(p), 345/1-17, 383,423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.**

For development of land/plot as new construction activates named as Kapstone Constructions Pvt. Ltd., "Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p) 2(p), 3-6, 17/3, 4(p), 5,6(p), 18/3(p),4(p),6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 4(p), 6,7(p), 9(p), 38/1(p), 2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3(p), 4(p), 6(p), 7(p), 8,47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9m 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4, 5(p), 6(p), 345/1-17, 383,423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane. On 4,39,437m^2 including utilities and services such as residential & commercial 6500 no. of flats etc. as per construction commencement certificate issued by local body.

Condition of Consent

<table>
<tr><th>Sr.</th><th>Condition</th><th>Compliance</th><th>Annex</th><th>Photo</th></tr>
<tr><td></td><td>Conditions under water Act:</td><td></td><td></td><td></td></tr>
<tr><td>(i)</td><td>The daily quantity of (a) sewage effluent from above construction project including (b) waste water from swimming tank/water sports shall not exceed 4,714 m^3/day.</td><td>We agree with the condition.</td><td></td><td></td></tr>
<tr><td>(ii)</td><td>Sewage Effluent Treatment: The Applicant shall provide a comprehensive sewage treatment plant as is warranted with reference to influent quality and corresponding mode of disposal and operate and maintain the same continuously so as to achieve the quality of treated effluent to the following standards:-
<table>
<tr><th rowspan="2">Parameters</th><th rowspan="2">Limit</th><th colspan="3">Standards for sub-streams</th></tr>
<tr><th>(A)</th><th>(B)</th><th>(C)</th></tr>
<tr><td>PH</td><td>In between</td><td>5.5 to 9</td><td>7 to 8.5</td><td></td></tr>
<tr><td>Suspended Solids</td><td>Not to exceed</td><td>100</td><td>10</td><td>mg/l</td></tr>
<tr><td>B.O.D. 3 days 27 C</td><td>Not to exceed</td><td>30</td><td>10</td><td>mg/l</td></tr>
<tr><td>Dissolved Phosphates (as p)</td><td>Not to exceed</td><td>10</td><td>NIL</td><td>mg/l</td></tr>
<tr><td>Dissolved Oxygen</td><td>Not to exceed</td><td>5</td><td>5</td><td>mg/l</td></tr>
<tr><td>R. Chlorine</td><td>Not to exceed</td><td>0.1</td><td>0.1</td><td>mg/l</td></tr>
</table></td><td>We have provided STP of capacity 3,041 KLD.
The quality of treated effluent will be in accordance to the standards.</td><td></td><td></td></tr>
<tr><td>(iii)</td><td>Sewage effluent Disposal:-
Domestic treated effluent shall be disposed of on land for gardening/irrigation/lawns/ tree plantations within own premises. Excess treated sewage effluent shall be disposed into to underground drainage scheme provided by local body. In no case, effluent shall find its way to any water body directly/indirectly at any time.</td><td>Treated effluent will be reused for gardening, irrigation, lawns, tree plantations within the own premises.</td><td></td><td></td></tr>
<tr><td>(iv)</td><td>Non-Hazardous Solid Waste:-
The total quantity shall not exceed 26284 kg per day and shall be segregated and treated as follows:-
<table>
<tr><th>Sr. No</th><th>Type of Segregated Solid waste</th><th>Quantity kg/day</th><th>Treatment</th><th>Disposal</th></tr>
<tr><td>1</td><td>Organic</td><td>13,142</td><td>In vessel Composting at site only</td><td>Self-use</td></tr>
<tr><td>2</td><td>Inert</td><td rowspan="4">12,000</td><td>Segregation</td><td>At approved landfill</td></tr>
<tr><td>3</td><td>Paper packing</td><td>Segregation</td><td>Sale</td></tr>
<tr><td>4</td><td>Rubber</td><td>Segregation</td><td>AT approved landfill</td></tr>
<tr><td>5</td><td>Glass</td><td>Segregation</td><td>Sale</td></tr>
<tr><td>6</td><td>Miscellaneous (STP Sludge)</td><td>1,142</td><td>Segregation</td><td>Sale at approve landfill</td></tr>
</table></td><td>The total solid waste generation will be 26,284 KLD
The biodegradable waste generated on site will be composted using OWC Composting Technology and used as manure for landscaping.
The non-biodegradable waste generated segregated and be disposed of to recyclers</td><td></td><td></td></tr>
</table>

Sr.	Condition	Compliance	Annex	Photo
3.	**Other Conditions:-**			
	1. All activities shall be in resonance with the provisions of Indian Forest Act. 1927 (16 of 1927), Forest (Conservation) Act, 1980 (69 to 1980) and wildlife (protection) Act, 1972 (53 to 1972), CRZ notification, and special notifications published for Dahanu, MurudJangira, Matheran and Mahabaleshwar area wherever applicable and all the Environmental Statutes and Instruments.	We have received the CRZ clearance. Copy attached		
	2. This Consent to establish is issued only for Developing Construction Project Purposes.	The CTE is obtained The copy of CTE is provided.	✓	
	3. No quarrying activities shall be commenced in the area unless appropriate permissions are obtained for a limited quarrying material required for construction of local residential housing and traditional road maintenance work provided that such quarrying is not done on Forest Lands and the material is not exported to not export to the outside area.	We agree with the condition.		
	4. There shall be no felling of trees whether on Forest, Government, Revenue or Private lands except as per prevailing Rules.	Noted		
	5. Extraction of Groundwater for the residential complex shall require prior permission of the State Ground Water Authority or other relevant authorities, as applicable	Not applicable		
	6. Near the activities that are related to water (like activity of water parks, water sports) and/or in the vicinity of Lake Dissolved Oxygen shall not be less than 5 mg/litter.	Noted		
	7. In order to ensure that the water from this residential complex do not enter into outside environment, the nallas crossing the township/complex premises, shall be lined, covered and made water tight by the applicant within the premises with intermittent inspection f chambers following good engineering practices as per the regulations of local body. This management shall be such as also to help in excluding the external pollutants degrading the internal environment of residential complex.	We agree with the condition.		

Sr.	Condition	Compliance	Annex	Photo
	8. The Applicant shall prepare management plan for water harvesting, roof-water reclamation,	We have provided rain water harvesting tanks to collecting the roof top rain water.		
	9. The applicant shall draw plans for the segregation of solid wastes into biodegradable and non-biodegradable components. The biodegradable material shall be recycled through scientific in-house composting with the approval of local body and the inorganic material shall be disposed of at approved Municipal Solid Waste landfill site of local body environmentally acceptable location and method. It is clarified that the term solid waste includes domestic, commercial, and garden wastes, but does not include hazardous and bio-medical wastes. The activities of bio-composting and engineered land fill shall be as per the Municipal Solid Waste(M&H) Rules, 2000	The biodegradable waste generated on site is composted at site only using OWC Composting Technology and is used as organic manure for landscaping. The non-biodegradable waste generated is segregated and be disposed of to recyclers.		
	10. Applicant shall be responsible to take adequate precautionary measures as detailed in this consent.	We agree with the condition.		
	11. The applicant/generator shall be responsible for safe and scientific collection, transportation, treatment and disposal of Bio-medical waste as per the provisions made under the Bio-Medical Waste (Management & Handling) Rules, 1998. Any activity as denied under BMW (M&H) Rules has to obtain a separate Authorization from Maharashtra Pollution Control Board.	Noted		
	12. The applicant, during the construction stage shall provide a) Septic tank and soak pit of adequate capacity for the domestic effluent generated due to workers residing at site b) Proper loading and unloading of construction material, excavated material and its proper disposal as per MSW (M&H) Rules 2000. Cutting o f trees is not permitted, however in unavoidable conditions necessary permission from the local body shall be obtained. c) Green belt of 33% of the open space shall be developed excluding lawns.	We agree with the condition.		

<table>
<tr><th>Sr.</th><th>Condition</th><th>Compliance</th><th>Annex</th><th>Photo</th></tr>
<tr><td>4</td><td>The application shall comply with all the previsions of the water (prevention and Control of pollution) Cess Act 1977 (to be referred as Cess Act) and Rules as Amended, 2003 and Rules there under:-
The daily water consumption for the following category shall not exceed, as under
<table>
<tr><th>i</th><th>Domestic</th><th>From ULB (In CMD)</th><th>From other sources (In CMD)</th></tr>
<tr><td>a)</td><td>During construction stage</td><td>----</td><td>1,000</td></tr>
<tr><td>b)</td><td>After completion</td><td>5,893</td><td>-----</td></tr>
<tr><td>c)</td><td>For Fire Fighting (make up water)</td><td>-----</td><td>-----</td></tr>
</table>
The applicant shall regularly submit to the Board, the returns of water consumption in the prescribed form and pay the CESS as specified under section 3 of the said Act.</td><td>During operational phase, total water requirement for the proposed project is about 2,812 KLD.</td><td></td><td></td></tr>
<tr><td>5</td><td>CONDITIONS UNDER AIR ACT:-</td><td></td><td></td><td></td></tr>
<tr><td></td><td>The Applicant may installnumber of diesel generating sets (DG Sets). Of capacity 5995 kVA and shall be equipped with comprehensive control system as is warranted with reference to generations of emissions and operate maintain the same continuously so as to achieve the level of pollutants to the following standards:</td><td>We has installed the DG set at site of capacity 5,995 kVA.

DG set will be provided as alternate supply for essential services such as STP, fire fighting & Lift etc. (During Emergency)</td><td></td><td></td></tr>
<tr><td></td><td>(i) Standards for emissions of air Pollutants
<table>
<tr><td>i)</td><td>SPM/TPM</td><td>Not to Exceed</td><td>150</td><td>mg/Nm^3</td></tr>
<tr><td>ii)</td><td>SO_2</td><td>Not to Exceed</td><td>50</td><td>PPM</td></tr>
<tr><td>iii)</td><td>NO_X</td><td>Not to Exceed</td><td>60</td><td>PPM</td></tr>
<tr><td>iv)</td><td>SO_2 (D.G Set)</td><td>Not to Exceed</td><td>48</td><td>kg/8hrs</td></tr>
</table></td><td>We agree with the condition.</td><td></td><td></td></tr>
<tr><td></td><td>(ii) The Applicant shall observe the following fuel patterns
<table>
<tr><td>No.</td><td>Type of Fuel</td><td>Quantity</td></tr>
<tr><td>1.</td><td>----</td><td>-----</td></tr>
</table></td><td>As per requirement.</td><td></td><td></td></tr>
</table>

<table>
<tr><th>Sr.</th><th>Condition</th><th>Compliance</th><th>Annex</th><th>Photo</th></tr>
<tr><td></td><td>(iii) The Applicant shall erect the Chimney (s) of the following specifications
<table><tr><td>No.</td><td>Chimney attached to</td><td>Height above roof level</td></tr><tr><td>1.</td><td>------</td><td>------</td></tr></table>a) The Applicant shall provide ports in the chimney and facilities such as ladder, platform etc for monitoring. The air emissions and the same shall be open for inspection to/and for use of the Board's staff. The Chimneys shall be numbered as S-1, S-2 etc and these shall be painted /displayed to facilitate identification.
b) Water spraying shall be done on ground to avoid fugitive emissions.
c) Construction material shall be carried in enclosed vehicle during construction activities.</td><td>This is Residential project exhaust attached to DG Set.</td><td></td><td></td></tr>
<tr><td></td><td>(iv) Conditions for DG Sets:-
1. Noise from DG Sets shall be controlled by providing acoustic enclose or by treating the room acoustically.</td><td>We has provided DG set of enclosed type.</td><td></td><td></td></tr>
<tr><td></td><td>2. Applicant should provide acoustic enclose for control of noise. The acoustic enclosure/ acoustic treatment
Of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise
Standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss shall be done at different point at 0.5 meters from acoustic Enclosure/ room and then average.</td><td>We has provided DG set of acoustic enclosure.
And noise level generated is within the prescribed limits.</td><td></td><td></td></tr>
<tr><td></td><td>3. The applicant should make efforts to bring down noise level due on to DG set, outside the premises, with ambient noise level requirements by proper setting and control measures.</td><td>The day and night ambient noise levels within project area are monitored through MoEF approved lab. Monitoring reports for December 2016 to May, 2017 are provided.</td><td></td><td></td></tr>
<tr><td></td><td>4. Installation of DG Set must be strictly incompliance with recommendations of DG set manufacturer.</td><td>We agree with the condition.</td><td></td><td></td></tr>
</table>

Sr.	Condition	Compliance	Annex	Photo
	5. A proper routine and preventive maintenance procedure for DG set shall be set and followed in consultation with the DG manufacturers. This would help to prevent noise levels of DG Sets from deteriorating with use.	We agree with the condition.		
	6. The DG Set shall be operated only in case of power failure. The applicant shall make arrangement for regular electrical power.	We will operate the DG set only in case of power failure. (During emergency)		
	7. The Applicant shall not cause any nuisance in the surrounding area due to operation of DG sets.	We will comply with the condition.		
	8. In case of problems, the D.G. set shall not be operated until it is set back to satisfactory position.	We agree with the condition.		
	(v) Conditions for Utilities like Kitchen, Eating Places etc. – 1. The Kitchen shall be provided with exhaust system chimney with oil catcher connected to chimney with oil catcher connected to chimney through ducting 2. The toilet shall be provided with exhaust system connected to chimney through ducting. 3. The air conditioner shall be vibration proof and the noise shall not exceed 68 db (A). 4. The exhaust hot air from A.C shall be attached to chimney at least 5 mtrs. Higher than the nearest tallest building through ducting and shall discharge into open air in such way that no nuisance is caused to neighbors.	We agree with the condition.		
	(i) The Applicant shall take adequate measures for control of noise levels from its own sources within the complex (residential cum Commercial) in respect of noise to less than 55 dB(A) during day time and 45 dB(A) during the night time. Day time is reckoned as between 6 a.m to 10 p.m and night time is reckoned between 10 p.m to 6 a.m	We have provided DG set of acoustic enclosure. We will ensure that the noise level generated is within the prescribed limits.		
	(ii) Construction equipments generating noise of less than 65/90 db (A) are permitted.	We agree with the condition.		
	(iii) No construction work is permitted during night time.	We agree with the condition.		
6	**CONDITIONS UNDER HW (M & H) & AMENDMENT RULES 2003**			

Sr.	Condition	Compliance	Annex	Photo
	The Applicant shall not generate or handle any hazardous waste. 7. The proposed activity comes under Entry 31 (New Construction Project) listed in schedule I of the EIA Notification dated January 27, 1994 (as amended till date) issued by Ministry of Environment & Forest, Govt. of India, New Delhi and therefore, Environment Clearance from Govt. Of India (MoEF) shall be required as per conditions in the amended EIA Notification dated July 07, 2004.	Noted.		
	8. The applicant shall certify that the bricks used in construction are manufactured using the ash from Thermal Power stations if it is within a radius of 100 km. From Thermal power Plant and submit the names of bricks manufacturer.	Noted there is no thermal power stations within radius of 100 km.		
	9. This "consent to Establish" is issued subject to the planning permission and permission for non-agriculture (N.A) use for the Competent Authority.	We has obtained CTE is obtained. The CTE copy is provided.	✓	
	10. The applicant shall obtain Environmental Clearance from MoEF, GOI before taking any steps to develop/ start construction the site.	Environment Clearance is obtained. And copy enclose	✓	
	11. The applicant shall not-Handover the residential complex unless obtain Consent to Operate/NOC from Maharashtra Pollution Control Board and compliance of Environment clearance granted by MoEF Government of India.	we agree with the condition.		
	12.The applicant shall take the proper remediation measures to ensure that the ground water and soil contamination is prevented and follow due diligence at the construction stage.	we agree with the condition.		
	13. This board reserves the right amend or any conditions in this consent and the same shall be binding on the Applicant.	we agree with the condition.		
	14. This consent is issued with the post fact to approval of the consent appraisal committee.	Noted		

To,
M/s. Kapstone Constructions Pvt. Ltd.,
"Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p) 2(p), 3-6, 17/3, 4(p), 5,6(p), 18/3(p), 4(p),6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 4(p), 6,7(p), 9(p), 38/1(p), 2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9, 10, 46/1(p)2, 3(p), 4(p), 6(p), 7(p), 8,47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9, 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4, 5(p), 6(p), 345/1-17, 383, 423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.

Copy forwarded with compliments to:
The Collector, Thane
Received Consent fee of

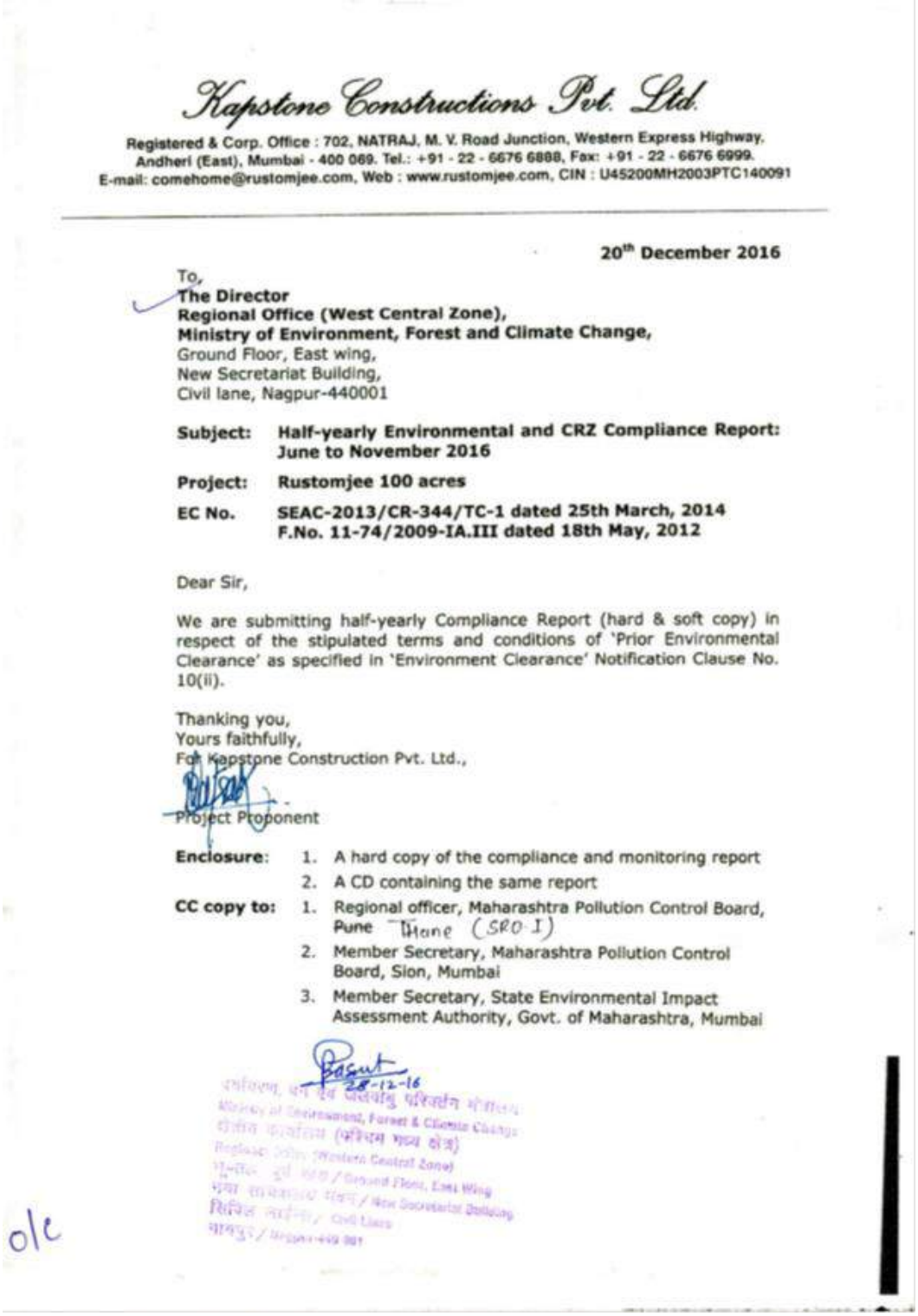
Received Consent fee of

Sr. No.	Amount (Rs.)	DD No.	Date	Drawn On
1	**10,08,000/-**	**050295**	**24.06.2006**	**Punjab National Bank**

Copy to:

1. Regional Office, MPCB, Thane
2. Sub Regional Officer, MPCB, Thane-I
3. Chief Accounts Officer, MPCB, Mumbai.
4. Cess Branch, MPCB, Mumbai
5. Master File.
6. EIC, M.P.C. Board, Mumbai

Annexure I
Previous Compliance Report Acknowledgement copy



Kapstone Constructions Pvt. Ltd.

Registered & Corp. Office : 702, NATRAJ, M. V. Road Junction, Western Express Highway, Andheri (East), Mumbai - 400 069. Tel.: +91 - 22 - 6676 6888, Fax: +91 - 22 - 6676 6999. E-mail: comehome@rustomjee.com, Web : www.rustomjee.com, CIN : U45200MH2003PTC140091

20th December 2016

To,
The Director
Regional Office (West Central Zone),
Ministry of Environment, Forest and Climate Change,
Ground Floor, East wing,
New Secretariat Building,
Civil lane, Nagpur-440001

Subject: **Half-yearly Environmental and CRZ Compliance Report: June to November 2016**

Project: **Rustomjee 100 acres**

EC No. **SEAC-2013/CR-344/TC-1 dated 25th March, 2014**
F.No. 11-74/2009-IA.III dated 18th May, 2012

Dear Sir,

We are submitting half-yearly Compliance Report (hard & soft copy) in respect of the stipulated terms and conditions of 'Prior Environmental Clearance' as specified in 'Environment Clearance' Notification Clause No. 10(ii).

Thanking you,
Yours faithfully,
For Kapstone Construction Pvt. Ltd.,

Project Proponent

Enclosure:
1. A hard copy of the compliance and monitoring report
2. A CD containing the same report

CC copy to:
1. Regional officer, Maharashtra Pollution Control Board, Pune Thane (SRO I)
2. Member Secretary, Maharashtra Pollution Control Board, Sion, Mumbai
3. Member Secretary, State Environmental Impact Assessment Authority, Govt. of Maharashtra, Mumbai

28-12-16

o/c

Kapstone Constructions Pvt. Ltd.

Registered & Corp. Office : 702, NATRAJ, M. V. Road Junction, Western Express Highway,
Andheri (East), Mumbai - 400 069. Tel.: +91 - 22 - 6676 6888, Fax: +91 - 22 - 6676 6999.
E-mail: comehome@rustomjee.com, Web : www.rustomjee.com, CIN : U45200MH2003PTC140091

20th December 2016

To,
The Director
Regional Office (West Central Zone),
Ministry of Environment, Forest and Climate Change,
Ground Floor, East wing,
New Secretariat Building,
Civil lane, Nagpur-440001

आवक लिपिक
पर्यावरण विभाग
मंत्रालय, मुंबई-३२.

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1. Regional officer, Maharashtra Pollution Control Board, Thane (SRO I)
2. Member Secretary, Maharashtra Pollution Control Board, Sion, Mumbai
3. Member Secretary, State Environmental Impact Assessment Authority, Govt. of Maharashtra, Mumbai

Regional Office
M.P.C Board
Office Complex Bldg., 5th Floor
Near Mulund Check Naka,
Eagle Estate, Thane-400 60

Maharashtra Pollution Control Board
Kalpataru Point, 2/3,4th Floor,
Sion Matunga Scheme, Road No. 8,
Opp. Sion Circle, Sion (East),
MUMBAI - 400 022.
Phone : 24010437 / 24020781

O/C

Annexure II
Site Photograph

Entrance gate

Parking Area

FIRE SAFETY

Sprinkler

GYM & Ladies Room

GYM facility

Organic waste composting

Sewage treatment plant

Sewage treatment plant

RG Area

DG Set

Annexure III
CRZ Clearance copy
(As per CRZ condition: xlii)

F. No. 11-74/2009-IA.III
Government of India
Ministry of Environment & Forests
(IA-III Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003.

Dated: 18th May, 2012

To
M/s Kapstone Consultants Pvt. Ltd.,
702, Natraj, M.V. Road Junction,
Western Express Highway, Andheri (East)
Mumbai – 400 069

Subject: Environmental and CRZ Clearance for the construction of Residential and Commercial Complex - Rustomjee 100 Acres - at village Majiwadi Thane Municipal Corporation District Thane, Maharashtra by M/s. Kapstone Construction Pvt. Ltd. - Reg.

***

This has reference to your letter dated 13.07.2009, 13.08.2009, 12.01.2010, 17.02.2010, 18.02.2010, 14.04.2010, 17.06.2010, 01.07.2010, 15.9.2011, 13.01.2012 and 18.04.2012 seeking Environmental Clearance under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 1991/2011. The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone Notification, 1991/2011 on the basis of the mandatory documents enclosed with the application viz., the Questionnaire, EIA, EMP, and the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on 27th – 28th August 2009, 27th – 28th January 2010, 25th 26th March 2010 and 28th – 29th June 2010.

2. It is interalia, noted that the proposal involves construction of Residential and Commercial Complex -Rustomjee 100 Acres on a plot area of 2,01,436.62 Sqm. at village Majiwadi, Thane Municipal Corporation, District Thane. 1,45,834 sq.m is affected by the CRZ and 55,602.43 sq.m is outside CRZ. The total built up area of the project including the CRZ area is 1, 63,446 sq.m. There will be 2 commercial buildings (1, 02,677 m^2) of 10 and 17 storey, 4 residential buildings with built up area of 50,896.35 sq.m, one school building with built up area of 9490 m^2. The total cost of the project proposed is Rs. 310.00 Crores. The Thane Municipal Corporation has assured the water supply for the project. The water requirement for the proposed project is about 1,089 KLD (fresh water requirement will be 217 KLD). The capacity of 6 STPs proposed is 1000 KLD. The Flushing and the Gardening requirement of water are met by the water recycled from the STP. 242.7 m^3/day of rain water will be harvested from the roof top area of 11,503.58 Sq.mt. Provisions of 7 rain water harvesting tanks of various capacities are made to collect the roof top rain water. Solid waste generation will be about 5,970 kg/day of which 3,585 kg/day is biodegradable. MSEDC Ltd. has assured the project with electricity supply. 2500 KVA DG set backup is proposed for the project. A provision of 440 Nos. of Solar Heating Panels is made to provide hot water to the residential population and for Food court in commercial buildings. Solar lights will be provided for street lighting and garden lighting.

3. As per CZMP of Maharashtra and as well as CRZ map prepared by CESS, under CRZ Notification 1991/2011, the site under reference falls in CRZ-1(i) and CRZ II. The proposed development is falling in CRZ II. The MCZMA has recommended the project to MoEF for CRZ clearance vide letter No. MCZMA 2009/CR.103/TC.3, dated 3rd July, 2009. The environmental clearance for the Phase I area has been issued by SEIAA of Maharashtra on 6.7.2009.

4. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent and additional clarifications furnished in response to its observations, site visit report of the sub-committee, have recommended for the grant of Environmental and CRZ Clearance for the project. Accordingly, the Ministry hereby accords necessary Environment Clearance and CRZ Clearance for the above project as per the provisions of Environment Impact Assessment Notification, 2006 and its subsequent amendments and CRZ Notification, 1991/2011, subject to strict compliance of the terms and conditions as follows:

5. **SPECIFIC CONDITIONS :**

(i) "Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.

(ii) As per the undertaking submitted on 13.01.2012, the area up to 10 mts from the HTL along Mangrove area, 10 mts over and above the 50 meters buffer zone shall be excluded from the development.

(iii) Construction shall be carried out strictly as per the provisions of CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification 2011 shall be carried out in Coastal Regulation Zone area

(iv) All height and coverage of the construction work shall confirm the provisions of the CRZ Notification, 2011.

(v) There shall be no disposal of solid and liquid wastes in to the Coastal areas.

(vi) Sewage Treatment facility should be provided in accordance with the CRZ Notification. Treated sewage shall be reused for flushing of toilets and horticulture purposes.

(vii) The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.

(viii) Standby arrangements shall be made for power for the operation of STP during the electricity failure. Installation and operation of DG set if any shall comply with the guidelines of CPCB.

(ix) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile

toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(x) A First Aid Room will be provided in the project both during construction and operation of the project.

(xi) All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.

(xii) Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

(xiii) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals an other toxic contaminants.

(xiv) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

(xv) Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Maharashtra State Pollution Control Board.

(xvi) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.

(xvii) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosive shall be taken.

(xviii) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

(xix) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MSPCB.

(xx) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.

(xxi) Ready mixed concrete must be used in building construction.

(xxii) Storm water control and its re-use as per CGWB and BIS standards for various applications.

(xxiii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

(xxiv) Permission to draw ground water shall be obtained from the competent Authority prior to construction/ operation of the project.

(xxv) Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.

(xxvi) 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.

(xxvii) Use of glass may be reduced by up to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective e coating in windows.

(xxviii) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.

(xxix) 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 material to fulfill requirement.

(xxx) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc, as per National Building Code including protection measures from lightening etc.

(xxxi) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

(xxxii) Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.

II. Operation Phase

i) The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the Ministry before the project is commissioned for operation. Treated affluent emanating from STP shall be recycled/ reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards

of the Maharashtra State Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.

ii) 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 the approved sites for land filling after recovering recyclable material.

iii) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra State Pollution Control Board.

iv) Noise should be controlled to ensure that it does not exceed the prescribed standards. During nighttime the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

v) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.

vi) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchments area during the monsoon period.

vii) Rain water harvesting for roof run- off and surface run- off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.

viii) The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.

ix) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.

x) A report on the energy conservation measures confirming to energy conservation norms finalize by Bureau of Energy Efficiency should be prepared incorporating detgails about building materials and technology, R & U Factors etc and submit to the Ministry in three months time.

xi) Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.

xii) Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

xiii) The building should have adequate distance between them to Allow movement of fresh air and passage of natural light, air and ventilation.

xiv) The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.

xv) The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.

xvi) The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.

xvii) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevent regulations.

xviii) Efforts may be made to use solar energy to the maximum extent possible.

6. **GENERAL CONDITIONS :**

(i) Adequate provision for infrastructure facilities including water supply fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.

(ii) Full support shall be extended to the officers of this Ministry/Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.

(ii) Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.

(iii) The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.

(iv) In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.

(v) The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

(vi) A copy of the clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.

(vii) Maharashtra Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildar's office for 30 days.

7. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.

8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

9. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Maharashtra Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.

10. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

11. Any appeal against this Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

12. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

13. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

14. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in

hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

15. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

(Lalit Kapur)
Director (IA-III)

Copy to:

1. The Secretary, Department of Environment, Govt. of Maharashtra, Mantralaya, Mumbai – 400 032.
2. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
3. The Chairman, Maharashtra Coastal Zone Management Authority, Room No.217 (Annexe), Mantralaya, Mumbai – 400 032.
4. The Chairman, Maharashtra Pollution Control Board.
5. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravishankar Nagar, Bhopal – 462016 (M.P.)
6. Guard File.
7. Monitoring Cell.

(Lalit Kapur)
Director (IA-III)

GOVT. OF INDIA
NOTARY
R.S. PANDEY
Reg.No. 6867
THANE
MAHARASHTRA

Seen Original document on the basis of the same document Attested the

TRUE COPY

R. S. PANDEY
ADVOCATE & NOTARY
THANE-MAHARASHTRA
24 MAY 2012

Annexure IV
Monitoring Report
(As per CRZ condition: 14)

Mahabal Enviro Engineers Pvt. Ltd.

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Stack Emission Monitoring Report

Report No.: ME-TH2797-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. DG Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	138	160	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.28	15.29	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	843	1190	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	21	24	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.13	0.46	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	21	37	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

Note:
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Stack Emission Monitoring Report

Report No.: ME-TH2798-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	
Stack attached to		D.G. Set	D.G.Set	
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	
Stack height above ground level		5	5	
Stack diameter		0.2	0.2	
Stack shape at top		Round	Round	
Type of fuel		H.S.D.	H.S.D.	
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	176	194	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.36	18.1	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1227	1306	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	28.5	33	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.94	2.38	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	39	42	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-TH2747-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	As per Method reference		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
5.0 km/h	SW	70	46	32	24
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	6.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	8.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	50	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	$\mu g/m^3$	21	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
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Noise Level Monitoring Report

Report No. : ME-TH2748-171219-SA-RA-THANE		**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	12.12.2016	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	46	42
	Night	22:00	44	40

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Water Sample Analysis Report

Report No.: ME-TH2749-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	<1	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.2	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	96	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	48	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	68	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	12.8	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	8.75	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.22	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	11.5	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	18.6	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	2.92	APHA 22nd Ed. 2012, 4500-NO_3-E, 4-125
14	Fluoride	mg/L	0.22	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

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Effluent Sample Analysis Report

Report No.: ME-TH2799-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.8	7.2	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	2.3	5.7	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	24	6.8	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	76	24	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.66	0.34	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	442	388	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.89	6.46	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	1.62	0.92	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

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Effluent Sample Analysis Report

Report No.: ME-TH2800-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.9	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	4.1	5.8	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	38	14	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	128	44	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.2	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.02	0.64	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	564	442	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.92	7.87	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.88	1.68	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH2801-161219-SA-RA-THANE			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.8	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.2	5.5	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	36	9.0	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	112	28	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.02	0.66	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	668	499	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.52	6.56	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.48	0.80	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Soil Sample Analysis Report

Report No. :ME-TH2750-161219-SA-RA-RAIGAD			**Date:** 19.12.2016
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Soil	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	1 kg X No. Polyethene bag
Date of Sampling	12.12.2016	**Date of Receipt of Sample**	16.12.2016
Sampling Procedure	Manual on Soil, Plant& Water Analysis		
Date of Start of Analysis	16.12.2016	**Date of Completion of Analysis**	19.12.2016

Sr. No.	Parameter	Unit	Result	Method Reference
1	pH	-	7.3	IS 2720 (Part 26) :1987, RA 2002
2	Moisture Content	%	6.2	IS 2720 (Part II): 1973, RA 2002, Ed. 3.1
3	Water holding capacity	%	50.6	IBM Manual Page 264
4	Organic Carbon	%	0.46	WLII Sec. B7, Page No. 10
5	Total Kjeldahl Nitrogen	mg/kg	100	APHA 22nd Ed. 2012
6	Available Potassium	mg/kg	388	FAO Sec. III .8-1, Page No. 115
7	Available Magnesium	meq/100gm	11.4	FAO Sec. III .8-1, Page No. 115
8	Available Calcium	meq/100gm	22.4	FAO Sec. III .8-1, Page No. 115
9	Cation Exchange Capacity	meq/100gm	38.8	FAO Sec. III .7-2, Page No. 104
10	Boron as B	mg/kg	4.8	FAO Sec. III,16-6, Page No. 200
11	Cadmium	mg/kg	<2	USEPA method No. 200, 200.2
12	Chromium	mg/kg	17.4	USEPA method No. 200, 200.2
13	Copper	mg/kg	44	USEPA method No. 200, 200.2
14	Lead	mg/kg	16.8	USEPA method No. 200, 200.2
15	Nickel	mg/kg	33.2	USEPA method No. 200, 200.2
16	Sodium	mg/kg	930	USEPA method No. 200, 200.2
17	Zinc	mg/kg	88.6	USEPA method No. 200, 200.2
18	Sulphate	mg/kg	257	IS 2720 (Part XXVII):1977, RA 2001.
19	Chloride	mg/kg	156	USEPA / SW 846/ 9253
20	Available Phosphate	mg/kg	9.4	WLII Sec.B10 A, Page No.16
21	Mercury	mg/kg	0.88	USEPA /SW 846/7471 B

Remarks: N.D. – Not Detected

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3177-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. D G Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	133	164	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.24	15.35	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	850	1183	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	19	21	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.17	0.40	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	29	33	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3178-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	-
Stack attached to		D.G. Set	D.G.Set	-
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		5	5	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	171	190	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.44	18.5	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1247	1346	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	28.9	30	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.96	3.25	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	38	43	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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Ambient Air Quality Monitoring Report

Report No.: ME-TH3135-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	As per Method reference		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
5.0 km/h	NW	78	48	32	24
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	µg/m^3	5.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	µg/m^3	7.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	µg/m^3	56	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	µg/m^3	26	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Noise Level Monitoring Report

Report No. : ME-TH3136-170120-SA-RA-THANE		**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	13.01.2017	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	48	44
	Night	22:00	45	42

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Water Sample Analysis Report

Report No.: ME-TH3137-160618-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	<1	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.3	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.6	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	91	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	44	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	64	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	12	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	8.26	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.18	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	10.5	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	19.6	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	2.88	APHA 22nd Ed. 2012, 4500-NO_3-E, 4-125
14	Fluoride	mg/L	0.25	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Phone : 91-712-2612162 **T/Fax:** 91-712-2612212 **Email:** nagpur@mahabal.com

Effluent Sample Analysis Report

Report No.: ME-TH3179-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.9	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	2.1	5.5	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	30	7.4	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	92	28	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.48	0.29	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	418	352	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.02	6.88	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	1.88	1.04	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

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Effluent Sample Analysis Report

Report No.: ME-TH3180-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.2	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	2.1	5.9	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	36	9.0	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	112	32	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.56	0.75	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	522	396	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.56	9.28	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.06	1.82	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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Effluent Sample Analysis Report

Report No.: ME-TH3181-170120-SA-RA-THANE			**Date:** 20.01.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.01.2017	**Date of Receipt of Sample**	17.01.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.01.2017	**Date of Completion of Analysis**	20.01.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.7	7.2	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.0	5.4	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	44	12	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	132	40	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.4	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.36	0.78	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	702	584	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.56	7.02	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.88	0.76	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3577-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. D G Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	130	167	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.26	15.39	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	858	1178	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	16	23	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.11	0.38	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	26	34	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3578-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	-
Stack attached to		D.G. Set	D.G.Set	-
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		5	5	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	174	196	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.40	18.8	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1236	1350	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	28.6	34	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.88	3.50	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	38	43	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-TH3535-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	As per Method reference		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
5.5 km/h	NW	76	47	34	26
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	<4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	9.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	65	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	$\mu g/m^3$	32	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

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Noise Level Monitoring Report

Report No. : ME-TH3536-170220-SA-RA-THANE		**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	13.02.2017	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	50	48
	Night	22:00	42	40

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

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Water Sample Analysis Report

Report No.: ME-TH3537-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	1	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.4	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	86	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	40	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	61	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	13.6	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	6.56	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.2	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	10	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	17.4	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	2.76	APHA 22nd Ed. 2012, 4500-NO_3-E, 4-125
14	Fluoride	mg/L	0.29	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH3579-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.2	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	2.0	5.2	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	31	9.0	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	100	32	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.69	0.41	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	486	396	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.96	7.12	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.04	1.22	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
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Effluent Sample Analysis Report

Report No.: ME-TH3580-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.0	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.6	5.5	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	40	11	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	132	36	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.98	0.58	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	602	500	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.10	8.86	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.32	1.56	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

Mahabal Enviro Engineers Pvt. Ltd.

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Effluent Sample Analysis Report

Report No.: ME-TH3581-170220-SA-RA-THANE			**Date:** 20.02.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	13.02.2017	**Date of Receipt of Sample**	17.02.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	17.02.2017	**Date of Completion of Analysis**	20.02.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.9	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	<0.5	5.1	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	52	14	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	172	48	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.2	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.98	0.58	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	776	612	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.88	5.89	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	3.5	0.91	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3879-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. D G Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	134	162	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.21	15.32	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	845	1186	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	18	25	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.15	0.47	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	28	36	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH3880-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	-
Stack attached to		D.G. Set	D.G.Set	-
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		5	5	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	170	192	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.43	18.2	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1249	1318	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	28.4	31	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.92	2.86	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	39	42	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-TH3835-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	As per Method reference		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
4.5 km/h	W	85	71	32	26
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	<4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	8.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	59	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	$\mu g/m^3$	30	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Noise Level Monitoring Report

Report No. : ME-TH3836-170321-SA-RA-THANE		**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	14.03.2017	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	49	47
	Night	22:00	44	42

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

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Water Sample Analysis Report

Report No.: ME-TH3837-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	2	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.6	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	94	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	42	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	66	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	12.8	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	8.26	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.17	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	13.0	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	19.2	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	2.92	APHA 22nd Ed. 2012, 4500-NO_3-E, 4-125
14	Fluoride	mg/L	0.33	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH3881-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.1	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.9	5.4	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	26	6.8	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	84	24	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.72	0.49	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	402	312	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.88	5.96	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	1.72	1.08	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
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Effluent Sample Analysis Report

Report No.: ME-TH3882-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.1	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	<0.5	5.0	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	50	15	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	156	48	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.3	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.12	0.69	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	582	456	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	1.88	7.92	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	3.12	1.18	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

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Effluent Sample Analysis Report

Report No.: ME-TH3883-170321-SA-RA-THANE			**Date:** 21.03.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	14.03.2017	**Date of Receipt of Sample**	18.03.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	18.03.2017	**Date of Completion of Analysis**	21.03.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.1	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.0	5.3	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	40	10	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	128	32	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.5	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.54	0.69	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	632	502	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.12	6.72	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.48	0.78	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-TH0234-170428-SA-RA-THANE			**Date:** 28.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. D G Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	20.04.2017	**Date of Receipt of Sample**	24.04.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	24.04.2017	**Date of Completion of Analysis**	28.04.2017

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	139	159	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.27	15.37	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	840	1199	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	20	22	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.12	0.48	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	20	32	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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Stack Emission Monitoring Report

Report No.: ME-TH0235-170428-SA-RA-THANE			**Date:** 28.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	20.04.2017	**Date of Receipt of Sample**	24.04.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	24.04.2017	**Date of Completion of Analysis**	28.04.2017

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	-
Stack attached to		D.G. Set	D.G.Set	-
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		5	5	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	175	195	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.38	18.7	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1232	1346	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	29.0	33	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.90	3.38	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	39	43	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-TH0282-170418-SA-RA-THANE			**Date:** 18.04.2017
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	12.04.2017	**Date of Receipt of Sample**	14.04.2017
Sampling Procedure	As per Method reference		
Date of Start of Analysis	14.04.2017	**Date of Completion of Analysis**	18.04.2017

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
3.6 km/h	NW	89	65	36	30
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	µg/m^3	4.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	µg/m^3	7.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	µg/m^3	64	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	µg/m^3	33	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Noise Level Monitoring Report

Report No. : ME-TH0283-170418-SA-RA-THANE		**Date:** 18.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	12.04.2017	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	52	50
	Night	22:00	42	40

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

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Water Sample Analysis Report

Report No.: ME-TH0284-170321-SA-RA-THANE			**Date:** 18.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	12.04.2017	**Date of Receipt of Sample**	14.04.2017
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	14.04.2017	**Date of Completion of Analysis**	18.04.2017

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	1	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.5	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.5	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	98	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	48	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	72	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	16.0	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	7.78	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.16	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	12	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	20.2	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	3.02	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
14	Fluoride	mg/L	0.40	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

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Effluent Sample Analysis Report

Report No.: ME-TH0326-170428-SA-RA-THANE			**Date:** 28.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	20.04.2017	**Date of Receipt of Sample**	24.04.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	24.04.2017	**Date of Completion of Analysis**	28.04.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.0	7.4	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.4	5.3	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	34	8.4	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	96	28	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.88	0.56	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	501	400	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.15	6.68	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	1.92	1.19	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH0327-170428-SA-RA-THANE			**Date:** 28.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	20.04.2017	**Date of Receipt of Sample**	24.04.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	24.04.2017	**Date of Completion of Analysis**	28.04.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.8	7.1	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	<0.5	5.2	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	48	12	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	148	36	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.86	0.49	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	514	402	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.32	10.2	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.88	1.62	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
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Effluent Sample Analysis Report

Report No.: ME-TH0328-170428-SA-RA-THANE			**Date:** 28.04.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	20.04.2017	**Date of Receipt of Sample**	24.04.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	24.04.2017	**Date of Completion of Analysis**	28.04.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	7.0	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	<0.5	5.2	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	50	13	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	156	44	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.2	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	1.22	0.72	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	678	532	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.36	6.44	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.88	0.91	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

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Stack Emission Monitoring Report

Report No.: ME-TH0829-170526-SA-RA-THANE			**Date:** 26.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1. D G Set 15 kVA 2. D G Set 62.5 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	18.05.2017	**Date of Receipt of Sample**	22.05.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	22.05.2017	**Date of Completion of Analysis**	26.05.2017

Stack Details		**Stack 1**	**Stack 2**	
Stack Identity		1	2	-
Stack attached to		D.G. Set	D.G. Set	-
Capacity		15 kVA	62.5 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		3	3	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		3	10	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	142	165	IS:11255 (Part 3):2008
Flue gas velocity	m/s	10.23	15.27	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	830	1174	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	17	24	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.14	0.40	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	27	34	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

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Stack Emission Monitoring Report

Report No.: ME-TH0830-170526-SA-RA-THANE			**Date:** 26.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** / Verbal Discussion
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	3. D G Set 125 kVA 4. D G Set 500 kVA	**Sample Quantity/Packing**	Thimble: 1 X 2 No. SO_2: 30 mL X 2 No. PVC Bottle NO_X: 25 mL X 2 No. PVC Bottle
Date of Sampling	18.05.2017	**Date of Receipt of Sample**	22.05.2017
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	22.05.2017	**Date of Completion of Analysis**	26.05.2017

Stack Details		**Stack 3**	**Stack 4**	
Stack Identity		3	4	-
Stack attached to		D.G. Set	D.G.Set	-
Capacity		125 kVA	500 kVA	
Material of construction		M.S.	M.S.	-
Stack height above ground level		5	5	Meter
Stack diameter		0.2	0.2	Meter
Stack shape at top		Round	Round	-
Type of fuel		H.S.D.	H.S.D.	-
Consumption		20	80	L/h
Parameter	**Unit**	**Result**		**Method Reference**
Flue gas temperature	^oC	179	191	IS:11255 (Part 3):2008
Flue gas velocity	m/s	16.42	19.2	IS:11255 (Part 3):2008
Total gas quantity	Nm^3/h	1224	1394	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm^3	29.5	34	IS 11255 (Part 1): 1985, RA 2003 (Gravimetric Method)
Sulphur Dioxide (SO_2)	kg/day	0.84	3.45	CPCB, Emission Regulations, Part 3(Titrimetric IPA Thorine)
Oxides of Nitrogen (NO_X)	mg/Nm^3	40	42	IS 11255 (Part 7): 2005 (PDSA Colorimetric Method)
Remark:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-TH0682-170323-SA-RA-THANE			**Date:** 23.05.2017
Name and address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	Filter Paper (PM_{10}): 1 X 3 No. Filter Paper ($PM_{2.5}$): 1 X 1 No. SO_2: 30 mL X 6 No. PVC Bottle NO_2: 30 mL X 6 No. PVC Bottle
Date of Sampling	16.05.2017	**Date of Receipt of Sample**	18.05.2017
Sampling Procedure	As per Method reference		
Date of Start of Analysis	18.05.2017	**Date of Completion of Analysis**	23.05.2017

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
3.7 km/h	NW	87	62	33.4	30.4
Location	Project Site 1	**Duration of Survey**		24 hours	

Parameter	Unit	Result	*NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	5.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	8.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	67	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	$\mu g/m^3$	35	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30

Remarks: TWA - Time Weighted Average, *- NAAQS specified as: 24 h. TWA in case of SO_2, NO_2, PM_{10}, $PM_{2.5}$

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Noise Level Monitoring Report

Report No. : ME-TH0683-170523-SA-RA-THANE		**Date:** 23.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane	**Order Reference:**
		Telephonic Discussion
Date of Sampling	16.05.20177	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Sr. No.	Location	Time	Sound Level dB(A) Fast Response	Sound Level dB(A) Slow Response
1	**A. Project Site 1**			
	Day	10:00	50	48
	Night	22:00	43	41

Noise Level Standard

Area Code	Area Type	Limit in dB(A) weighted scale	
		Day	Night
C	Residential	55	45

----------END----------

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Water Sample Analysis Report

Report No.: ME-TH0684-170523-SA-RA-THANE			**Date:** 23.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference:** Telephonic Discussion
Sample Description/Type	Drinking Water	**Sample Collected by**	Laboratory
Sampling Location	Project Site 1	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 1 No. Sterile Glass Bottle
Date of Sampling	16.05.2017	**Date of Receipt of Sample**	18.05.2017
Sampling Procedure	IS 1622:1981, RA 2009 & IS 3025 (Part-1):1987, RA 1998 & APHA 22nd Ed. 2012, 1060 B,1-39,9060 B,9-35		
Date of Start of Analysis	18.05.2017	**Date of Completion of Analysis**	23.05.2017

Sr. No.	Parameter	Unit	Result	Method Reference
1	Colour	Hazen	1	APHA 22nd Ed. 2012, 2120-B, 2-6
2	Odour	-	Agreeable	IS 3025 (Part 5):1983, Reaffirmed 2006
3	Turbidity	NTU	0.8	APHA 22nd Ed. 2012, 2130-B, 2-13
4	pH	-	7.7	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
5	Total Dissolved Solids	mg/L	102	IS 3025 (Part 16):1984 Reaffirmed 2006
6	Alkalinity Total (as CaCO3)	mg/L	50	IS 3025 (Part 23):1986 Reaffirmed 2009
7	Total Hardness (as CaCO3)	mg/L	78	APHA 22nd Ed. 2012, 2340-C, 2-44,45
8	Calcium (as Ca)	mg/L	15.2	APHA 22nd Ed. 2012, 3500-Ca-B, 3-67
9	Magnesium (as Mg)	mg/L	9.72	APHA 22nd Ed. 2012, 3500-Mg- B, 3-84
10	Free Chlorine (Residual)	mg/L	0.15	APHA 22nd Ed. 2012, 4500-Cl G, 4-69
11	Chloride	mg/L	14.0	APHA 22nd Ed. 2012, 4500-Cl-B, 4-72
12	Sulphate	mg/L	21.2	APHA 22nd Ed. 2012, 4500- SO_4-E, 4-190
13	Nitrite	mg/L	3.14	APHA 22nd Ed. 2012, 4500-NO_3-E, 4-125
14	Fluoride	mg/L	0.43	APHA 22nd Ed. 2012, 4500-F- B & D, 4-84, 4-87
15	Iron	mg/L	<0.08	APHA 22nd Ed. 2012, 3111-B, 3-18
Microbiological Analysis				
16	Total Coliforms	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-D, 9-73
17	E. coli	MPN/100mL	Absent	APHA 22nd Ed. 2012, 9221-G, 9-76
Remarks:				

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH0831-170526-SA-RA-THANE			**Date:** 26.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Acura Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	18.05.2017	**Date of Receipt of Sample**	22.05.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	22.05.2017	**Date of Completion of Analysis**	26.05.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.8	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.5	5.2	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	29	7.2	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	88	24	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	<1	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.64	0.39	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	446	364	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.32	6.12	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	1.78	1.36	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Effluent Sample Analysis Report

Report No.: ME-TH0832-170526-SA-RA-THANE			**Date:** 26.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Atilier Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	18.05.2017	**Date of Receipt of Sample**	22.05.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	22.05.2017	**Date of Completion of Analysis**	26.05.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.9	7.2	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	1.5	5.0	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	40	10	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	128	32	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.0	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.92	0.56	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	596	488	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	2.50	9.68	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.5	1.69	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

Mahabal Enviro Engineers Pvt. Ltd.

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Effluent Sample Analysis Report

Report No.: ME-TH0833-170526-SA-RA-THANE			**Date:** 26.05.2017
Name and Address of Customer	**RUSTOMJEE 100 ACRES** At Majiwade, Thane		**Order Reference** Telephonic Discussion
Sample Description/Type	Sewage Effluent	**Sample Collected by**	Laboratory
Sampling Location	**Kaveri Building** 1. STP Inlet 2. STP Outlet	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 100 mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle 500 mL X 2 No. PVC Can
Date of Sampling	18.05.2017	**Date of Receipt of Sample**	22.05.2017
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 22nd Ed. 2012, 1060-B, 1-39		
Date of Start of Analysis	22.05.2017	**Date of Completion of Analysis**	26.05.2017

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1	pH	mg/L	6.9	7.3	APHA 22nd Ed. 2012, 4500-H^+-B, 4-92
2	Dissolved Oxygen	mg/L	0.9	5.2	APHA 22nd Ed. 2012, 4500-O, B & C, 4-136, 4-139
3	Biochemical Oxygen Demand (3 days, 27°C)	mg/L	44	11	IS 3025 (Part 44): 1993, Reaffirmed 2003, Amds.1
4	Chemical Oxygen Demand	mg/L	140	36	APHA 22nd Ed. 2012, 5220-B, 5-17
5	Oil & Grease	mg/L	1.5	<1	IS 3025 (Part 39): 1991, RA 2003, Ed. 2.1
6	Iron (as Fe)	mg/L	0.88	0.48	APHA 22nd Ed. 2012, 3111-B, 3-18
7	Total Dissolved Solids	mg/L	596	498	IS 3025 (Part 16):1984 Reaffirmed 2006
8	Cadmium (as Cd)	mg/L	<0.05	<0.05	APHA 22nd Ed. 2012, 3111-B, 3-18
9	Nitrate-Nitrogen (as NO_3-N)	mg/L	3.02	7.12	APHA 22nd Ed. 2012, 4500-NO_3.E, 4-125
10	Dissolved Phosphate (as PO_4)	mg/L	2.76	0.84	APHA 22nd Ed. 2012, 4500-P B, 4-151, E, 4-155
11	Lead (as Pb)	mg/L	<0.1	<0.1	APHA 22nd Ed. 2012, 3111-B, 3-18
Remarks:					

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi
TECHNICAL MANAGER

Note:
1. The result listed refers only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.

Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra
(600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room. Next to Ashida Electrical - near J B Sawant Bus Stop)
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SCHEDULE

(see rule 3(1) and 4(1))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note:- 1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

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National Ambient Air Quality Standards: Central Pollution Control Board

In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevntion and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in suppression of the Notification No(s). S.O.384(E), dated 11th April, 1994 and S.O.935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards **with immediate effect**, namely:

Sr. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Areas	Ecologically Sensitive Areas (Notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	**Sulphur Dioxide (SO_2)** µg/m^3	Annual *	50	20	– Improved West and Gaeke – Ultraviolet fluorescence
		24 hours **	80	80	
2	**Nitrogen Dioxide (NO_2)** µg/m^3	Annual *	40	30	– Modified Jacob & Hochheiser (Na-Arsenite) – Chemiluminescence
		24 hours **	80	80	
3	**Particulate Matter (size less than 10 µm) or PM_{10}** µg/m^3	Annual *	60	60	– Gravimetric – TOEM – Beta attenuation
		24 hours **	100	100	
4	**Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$** µg/m^3	Annual *	40	40	– Gravimetric – TOEM – Beta attenuation
		24 hours **	60	60	
5	**Ozone (O_3)** µg/m^3	8 hours **	100	100	– UV photometric – Chemiluminescence – Chemical Method
		1 hour **	180	180	
6	**Lead (Pb)** µg/m^3	Annual *	0.50	0.50	– AAS/ICP method after sampling on EPM 2000 or equivalent filter paper – EDXRF using Teflon filter
		24 hours **	1.0	1.0	
7	**Carbon Monoxide (CO)** mg/m^3	8 hours **	02	02	– Non Dispersive Infra Red (NDIR) spectroscopy
		1 hour **	04	04	
8	**Ammonia (NH_3)** µg/m^3	Annual *	100	100	– Chemiluminescence – Indophenol blue method
		24 hours **	400	400	
9	**Benzene (C_6H_6)** µg/m^3	Annual *	05	05	– Gas Chromatography based continuous analyzer – Adsorption and Desorption followed by GC analysis
10	**Benzo (a) Pyrene (BaP)** – particulate phase only, ng/m^3	Annual *	01	01	– Solvent extraction followed by HPLC/GC analysis
11	**Arsenic (As)** ng/m^3	Annual *	06	06	– AAS/ICP method after sampling on EPM 2000 or equivalent filter paper.
12	**Nickel (Ni)** ng/m^3	Annual *	20	20	– AAS/ICP method after sampling on EPM 2000 or equivalent filter paper.

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2 % of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman, Central Pollution Control Board [ADVT-III/4/184/09/Exty.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India. Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October,1998.

Indian Standard

DRINKING WATER — SPECIFICATION

(Second Revision)

1 SCOPE

This standard prescribes the requirements and the methods of sampling and test for drinking water.

2 REFERENCES

The standards listed in Annex A contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 TERMINOLOGY

For the purpose of this standard the following definition shall apply.

3.1 Drinking Water — Drinking water is water intended for human consumption for drinking and cooking purposes from any source. It includes water (treated or untreated) supplied by any means for human consumption.

4 REQUIREMENTS

Drinking water shall comply with the requirements given in Tables 1 to 4. The analysis of pesticide residues given in Table 3 shall be conducted by a recognized laboratory using internationally established test method meeting the residue limits as given in Table 5.

Drinking water shall also comply with bacteriological requirements (*see* **4.1**), virological requirements (*see* **4.2**) and biological requirements (*see* **4.3**).

4.1 Bacteriological Requirements

4.1.1 *Water in Distribution System*

Ideally, all samples taken from the distribution system including consumers' premises, should be free from coliform organisms and the following bacteriological quality of drinking water collected in the distribution system, as given in Table 6 is, therefore specified when tested in accordance with IS 1622.

4.2 Virological Requirements

4.2.1 Ideally, all samples taken from the distribution

Table 1 Organoleptic and Physical Parameters
(*Foreword* and *Clause* 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Colour, Hazen units, *Max*	5	15	Part 4	Extended to 15 only, if toxic substances are not suspected in absence of alternate sources
ii)	Odour	Agreeable	Agreeable	Part 5	a) Test cold and when heated b) Test at several dilutions
iii)	*p*H value	6.5-8.5	No relaxation	Part 11	—
iv)	Taste	Agreeable	Agreeable	Parts 7 and 8	Test to be conducted only after safety has been established
v)	Turbidity, NTU, *Max*	1	5	Part 10	—
vi)	Total dissolved solids, mg/l, *Max*	500	2 000	Part 16	—

NOTE — It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.

Table 2 General Parameters Concerning Substances Undesirable in Excessive Amounts
(*Foreword* and *Clause* 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Aluminium (as Al), mg/l, *Max*	0.03	0.2	IS 3025 (Part 55)	—
ii)	Ammonia (as total ammonia-N), mg/l, *Max*	0.5	No relaxation	IS 3025 (Part 34)	—
iii)	Anionic detergents (as MBAS) mg/l, *Max*	0.2	1.0	Annex K of IS 13428	—
iv)	Barium (as Ba), mg/l, *Max*	0.7	No relaxation	Annex F of IS 13428* or IS 15302	—
v)	Boron (as B), mg/l, *Max*	0.5	1.0	IS 3025 (Part 57)	—
vi)	Calcium (as Ca), mg/l, *Max*	75	200	IS 3025 (Part 40)	—
vii)	Chloramines (as Cl_2), mg/l, *Max*	4.0	No relaxation	IS 3025 (Part 26)* or APHA 4500-Cl G	—
viii)	Chloride (as Cl), mg/l, *Max*	250	1 000	IS 3025 (Part 32)	—
ix)	Copper (as Cu), mg/l, *Max*	0.05	1.5	IS 3025 (Part 42)	—
x)	Fluoride (as F) mg/l, *Max*	1.0	1.5	IS 3025 (Part 60)	—
xi)	Free residual chlorine, mg/l, *Min*	0.2	1	IS 3025 (Part 26)	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be minimum 0.5 mg/l
xii)	Iron (as Fe), mg/l, *Max*	0.3	No relaxation	IS 3025 (Part 53)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xiii)	Magnesium (as Mg), mg/l, *Max*	30	100	IS 3025 (Part 46)	—
xiv)	Manganese (as Mn), mg/l, *Max*	0.1	0.3	IS 3025 (Part 59)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xv)	Mineral oil, mg/l, *Max*	0.5	No relaxation	Clause **6** of IS 3025 (Part 39) Infrared partition method	—
xvi)	Nitrate (as NO_3), mg/l, *Max*	45	No relaxation	IS 3025 (Part 34)	—
xvii)	Phenolic compounds (as C_6H_5OH), mg/l, *Max*	0.001	0.002	IS 3025 (Part 43)	—
xviii)	Selenium (as Se), mg/l, *Max*	0.01	No relaxation	IS 3025 (Part 56) or IS 15303*	—
xix)	Silver (as Ag), mg/l, *Max*	0.1	No relaxation	Annex J of IS 13428	—
xx)	Sulphate (as SO_4) mg/l, *Max*	200	400	IS 3025 (Part 24)	May be extended to 400 provided that Magnesium does not exceed 30
xxi)	Sulphide (as H_2S), mg/l, *Max*	0.05	No relaxation	IS 3025 (Part 29)	—
xxii)	Total alkalinity as calcium carbonate, mg/l, *Max*	200	600	IS 3025 (Part 23)	—
xxiii)	Total hardness (as $CaCO_3$), mg/l, *Max*	200	600	IS 3025 (Part 21)	—
xxiv)	Zinc (as Zn), mg/l, *Max*	5	15	IS 3025 (Part 49)	—

NOTES

1 In case of dispute, the method indicated by '*' shall be the referee method.

2 It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.

Table 5 Pesticide Residues Limits and Test Method

(*Foreword* and *Table* 3)

Sl No.	Pesticide	Limit µg/l	Method of Test, Ref to	
			USEPA	AOAC/ ISO
(1)	(2)	(3)	(4)	(5)
i)	Alachlor	20	525.2, 507	—
ii)	Atrazine	2	525.2, 8141 A	—
iii)	Aldrin/ Dieldrin	0.03	508	—
iv)	Alpha HCH	0.01	508	—
v)	Beta HCH	0.04	508	—
vi)	Butachlor	125	525.2, 8141 A	—
vii)	Chlorpyriphos	30	525.2, 8141 A	—
viii)	Delta HCH	0.04	508	—
ix)	2,4- Dichlorophenoxyacetic acid	30	515.1	—
x)	DDT (*o, p* and *p, p* – Isomers of DDT, DDE and DDD)	1	508	AOAC 990.06
xi)	Endosulfan (alpha, beta, and sulphate)	0.4	508	AOAC 990.06
xii)	Ethion	3	1657 A	—
xiii)	Gamma — HCH (Lindane)	2	508	AOAC 990.06
xiv)	Isoproturon	9	532	—
xv)	Malathion	190	8141 A	—
xvi)	Methyl parathion	0.3	8141 A	ISO 10695
xvii)	Monocrotophos	1	8141 A	—
xviii)	Phorate	2	8141 A	—

NOTE — Test methods are for guidance and reference for testing laboratory. In case of two methods, USEPA method shall be the reference method.

Table 6 Bacteriological Quality of Drinking Water[1)]

(*Clause* 4.1.1)

Sl No.	Organisms	Requirements
(1)	(2)	(3)
i)	*All water intended for drinking*:	
	a) *E. coli* or thermotolerant coliform bacteria[2), 3)]	Shall not be detectable in any 100 ml sample
ii)	*Treated water entering the distribution system*:	
	a) *E. coli* or thermotolerant coliform bacteria[2)]	Shall not be detectable in any 100 ml sample
	b) Total coliform bacteria	Shall not be detectable in any 100 ml sample
iii)	*Treated water in the distribution system*:	
	a) *E. coli* or thermotolerant coliform bacteria	Shall not be detectable in any 100 ml sample
	b) Total coliform bacteria	Shall not be detectable in any 100 ml sample

[1)]Immediate investigative action shall be taken if either *E.coli* or total coliform bacteria are detected. The minimum action in the case of total coliform bacteria is repeat sampling; if these bacteria are detected in the repeat sample, the cause shall be determined by immediate further investigation.

[2)]Although, *E. coli* is the more precise indicator of faecal pollution, the count of thermotolerant coliform bacteria is an acceptable alternative. If necessary, proper confirmatory tests shall be carried out. Total coliform bacteria are not acceptable indicators of the sanitary quality of rural water supplies, particularly in tropical areas where many bacteria of no sanitary significance occur in almost all untreated supplies.

[3)]It is recognized that, in the great majority of rural water supplies in developing countries, faecal contamination is widespread. Under these conditions, the national surveillance agency should set medium-term targets for progressive improvement of water supplies.

Annexure V
Consent to Establish letter attached
(As per CRZ Condition: i)

MAHARASHTRA POLLUTION CONTROL BOARD

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Kalpataru Point,
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Opp. Cineplanet,
Near Sion Circle, Sion (E),
Mumbai - 400 022.

ORANGE/LSI

Consent No. BO/RO (P&P)/ 900

Date: 10/11/2006.

Consent to Establish is granted to **M/s. Kapstone Construction Pvt. Ltd.,**
'Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p), 2(p), 3-6, 17/3,4(p), 5,6(p), 18/3(p),4(p), 6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 5(p), 6,7(p), 9(p), 38/1(p),2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3 (p), 4(p), 6(p), 7(p), 8, 47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9, 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4,5(p), 6(p), 345/1-17, 383, 423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.

located in the area declared under the provisions of Water Act (P&CP) 1974, Air Act (P&CP), 1981 and Authorization under the provisions of H.W (M & H) Rules and amendments thereto subject to the provisions of the Acts and the Rules and the Orders that may be made further and subject to the following terms and conditions :-

1. **The Consent to Establish is issued to M/s. Kapstone Construction Pvt. Ltd.,**
'Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p), 2(p), 3-6, 17/3,4(p), 5,6(p), 18/3(p),4(p), 6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 5(p), 6,7(p), 9(p), 38/1(p),2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3 (p), 4(p), 6(p), 7(p), 8, 47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9, 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4,5(p), 6(p), 345/1-17, 383, 423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.

For development of land/plot as new construction activities named as M/s. Kapstone Construction Pvt. Ltd., 'Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p), 2(p), 3-6, 17/3,4(p), 5,6(p), 18/3(p),4(p), 6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 5(p), 6,7(p), 9(p), 38/1(p),2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3 (p), 4(p), 6(p), 7(p), 8, 47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9, 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4,5(p), 6(p), 345/1-17, 383, 423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane on **4,39,437 sq mtrs** including utilities and services such as residential & commercial **6500 no. of flats** etc. as per construction commencement certificate issued by local body.

2. **CONDITION UNDER WATER ACT :-**

(i) The daily quantity of (a) sewage effluent from above construction project including (b) waste water from swimming tank/water sports shall not exceed **4,714** cubic meters per day

(ii) **Sewage Effluent Treatment :** The Applicant shall provide a comprehensive sewage treatment plant as is warranted with reference to influent quality and corresponding mode of disposal and operate and maintain the same continuously so as to achieve the quality of treated effluent to the following standards:-

PARAMETERS	Limit	Standards for sub- streams		
		(A)	(B)	Unit
pH	In between	5.5 to 9	7 to 8.5	
Suspended Solids	Not to exceed	100	10	mg/l
B.O.D. 3 days 27 C	Not to exceed	30	10	mg/l
Oil & Grease	Not to exceed	10	NIL	mg/l
Dissolved Phosphates (as P)	Not to exceed	5	5	mg/l
Dissolved Oxygen	Not less than	5	5	mg/l
R. Chlorine	Not to exceed	0.1	0.1	Mg/l.

(iii) **Sewage effluent Disposal:-**
Domestic treated effluent shall be disposed of on land for gardening/ irrigation/ lawns/ tree-plantations within own premises. Excess treated sewage effluent shall be disposed into to under ground drainage scheme provided by local body. In no case, effluent shall find its way to any water body directly/indirectly at any time.

iv) **Non-Hazardous Solid Waste:-**

The total quantity shall not exceed 26284 Kg per day and shall be segregated and treated as follows:-

Sr. No.	Type of Segregated solid waste	Quantity Kg/day	Treatment	Disposal
1	Organic	13142	Invessel Composting at site only	Self-use
2	Inert	12000	Segregation	At approved landfill
3	Paper Packing		Segregation	Sale
4	Rubber		Segregation	At approved landfill
5	Glass		Segregation	Sale
6	Miscellaneous(STP Sludge)	1142	Segregation	Sale/At approved landfill

3. Other Conditions:-

1. All activities shall be in resonance with the provisions of Indian Forest Act, 1927 (16 of 1927), Forest (Conservation) Act, 1980 (69 of 1980) and Wildlife (Protection) Act, 1972 (53 of 1972), CRZ notification, and special notifications published for Dahanu, Murud Jangira, Matheran and Mahableshwar area wherever applicable and all the Environmental Statutes and Instruments.
2. This Consent to Establish is issued only for Developing Construction Project purposes.
3. No quarrying activities shall be commenced in the area unless appropriate permissions are obtained for a limited quarrying material required for construction of local residential housing and traditional road maintenance work, provided that such quarrying is not done on Forest Lands and the material is not exported to the outside area.
4. There shall be no felling of trees whether on Forest, Government, Revenue or Private lands except as per prevailing Rules.
5. Extraction of Groundwater for the residential complex shall require prior permission of the State Ground Water Authority or other relevant authorities , as applicable;
6. Near the activities that are related to water (like activity of water parks, water sports) and/or in the vicinity of lake, Dissolved Oxygen shall not be less than 5 mg/liter.
7. In order to ensure that the water from this residential complex do not enter into outside environment, the nallas crossing the township/complex premises, shall be lined, covered and made water tight by the applicant within the premises with intermittent inspection of chambers following good engineering practices as per the regulations of local body. This management shall be such as also to help in excluding the external pollutants degrading the internal environment of residential complex.
8. The Applicant shall prepare management plan for water harvesting, roof-water reclamation, water/storm water conservation and implement the same before handling over of complex for occupation.
9. The Applicant shall draw plans for the segregation of solid wastes into biodegradable and non-biodegradable components. The biodegradable material shall be recycled through scientific in-house composting with the approval of local body and the inorganic material shall be disposed off at approved Municipal Solid Waste landfill site of local body environmentally acceptable location and method. It is clarified that the term solid waste includes domestic, commercial, and garden wastes, but does not include hazardous and bio-medical wastes. The activities of bio-composting and engineered land fill shall be as per the Municipal Solid Waste (M&H) Rules, 2000
10. Applicant shall be responsible to take adequate precautionary measures as detailed in this consent
11. The applicant/generator shall be responsible for safe and scientific collection, transportation, treatment and disposal of Bio-Medical Waste as per the provisions made under the Bio-Medical Waste (Management & Handling) Rules, 1998. Any activity as defined under BMW (M & H) Rules has to obtain a separate Authorization from Maharashtra Pollution Control Board.
12. The applicant, during the construction stage shall provide.

a) Septic tank and soak pit of adequate capacity for the domestic effluent generated due to workers residing at site.
b) Proper loading and unloading of construction material, excavated material and its proper disposal as per MSW (M&H) Rules 2000.
c) Cutting of trees is not permitted, however in unavoidable conditions necessary permission from the local body shall be obtained.
d) Green belt of 33% of the open space shall be developed excluding lawns.

4. The Applicant shall comply with all the provisions of, the Water (Prevention and Control of Pollution) Cess Act, 1977 (to be referred as Cess Act) and Rules as Amended ,2003 and Rules there under :-
The daily water consumption for the following categories shall not exceed, as under

(i) **Domestic**

	From ULB (In CMD)	From other sources (In CMD)
a) During construction stage	------	1000
b) After completion	5893	------
c) For Fire Fighting (make up water)	------	------

The Applicant shall regularly submit to the Board, the returns of water consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act.

5. **CONDITIONS UNDER AIR ACT :-**

The Applicant may install ------ numbers of diesel generating sets (DG Sets), of capacity ----------, and shall be equipped with comprehensive control system as is warranted with reference to generations of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:-

(i) **Standards for emissions of air Pollutants**

i)	SPM/TPM	Not to Exceed	150	mg/Nm3
ii)	SO2	Not to Exceed	50	PPM
iii)	NOx	Not to Exceed	60	PPM
iv)	SO2 (D.G.Set)	Not to Exceed	48	Kg/8 Hrs.

(ii) **The Applicant shall observe the following fuel patterns**

No.	Type of Fuel	Quantity
1	----	------

(iii) **The Applicant shall erect the Chimney (s) of the following specifications**

No.	Chimney attached to	Height above roof level
1.	----	----

a) The Applicant shall provide ports in the chimney and facilities such as ladder, platform etc for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's staff. The chimneys shall be numbered as S-1, S-2 etc and these shall be painted/ displayed to facilitate identification.
b) Water spraying shall be done on ground to avoid fugitive emissions.
c) Construction material shall be carried in enclosed vehicles during constriction activities.

(iv) **Conditions for DG Sets :-**

1. Noise from DG Sets shall be controlled by providing acoustic enclosure or by treating the room acoustically.
2. Applicant should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room shall be designed for minimum 25 dB(A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB(A) shall also be provided. The measurement of insertion loss shall be done at different points at 0.5 meters from acoustic enclosure/ room and then average.
3. The Applicant should make efforts to bring down noise level due to DG Set, outside the premises, with ambient noise level requirements by proper setting and control measures.
4. Installation of DG Set must be strictly in compliance with recommendations of DG set manufacturer;
5. A proper routine and preventive maintenance procedure for DG Set shall be set and followed in consultation with the DG manufacturers, which would help to prevent noise levels of DG Sets from deteriorating with use.
6. The DG set shall be operated only in case of power failure. The applicant shall make arrangement for regular electrical power.
7. The Applicant shall not cause any nuisance in the surrounding area due to operation of DG sets.
8. In case of problems, the D.G. set shall not be operated until it is set back to satisfactory position.

(v) **Conditions For Utilities like Kitchen, Eating Places etc., :-**

1. The kitchen shall be provided with exhaust system chimney with oil catcher connected to chimney through ducting
2. The toilet shall be provided with exhaust system connected to chimney through ducting.
3. The air conditioner shall be vibration proof and the noise shall not exceed 68 dB (A).
4. The exhaust hot air from A.C. shall be attached to Chimney at least 5 mtrs. higher than the nearest tallest building through ducting and shall discharge into open air in such way that no nuisance is caused to neighbors.

(i) The Applicant shall take adequate measures for control of noise levels from its own sources within the complex (residential cum Commercial) in respect of noise to less than 55 dB(A) during day time and 45 dB(A) during the night time. Day time is reckoned as between 6 a.m. to 10 p.m. and night time is reckoned between 10 p.m. to 6 a.m.
(ii) Construction equipments generating noise of less than 65/90 db(A) are permitted.
(iii) No construction work is permitted during night time.

6. **CONDITIONS UNDER HW (M & H) & AMENDMENT RULES 2003**

The Applicant shall not generate or handle any hazardous waste.

7. The proposed activity comes under Entry 31 (New Construction Project) listed in schedule I of the EIA Notification dated January 27, 1994 (as amended till date) issued by Ministry of Environment & Forest, Govt. of India, New Delhi and therefore, Environmental Clearance from Govt. of India (MoEF) shall be required as per conditions in the amended EIA Notification dated July 07, 2004.

8. The applicant shall certify that the bricks used in construction are manufactured using the ash from Thermal Power stations if it is within a radius of 100 km. from Thermal Power Plant and submit the names of bricks manufacturer.

9. **This "Consent to Establish" is issued subject to the planning permission and permission for non-agricultural (N.A.) use from the Competent Authority.**
10. **The applicant shall obtain Environmental Clearance from MoEF, GOI before taking any steps to develop/ start construction the site.**

11. **The applicant shall not-handover the residential complex unless obtain Consent to Operate/NOC from Maharashtra Pollution Control Board and compliance of Environment Clearance granted by MoEF Government of India.**
12. **The applicant shall take the proper remediation measures to ensure that the ground water and soil contamination is prevented and follow due diligence at the construction stage.**
13. This Board reserves the right to amend or add any conditions in this consent and the same shall be binding on the Applicant;
14. This consent is issued with the post facto approval of the consent appraisal committee.

For and on behalf of the
Maharashtra Pollution Control Board

(Dr. D.B. Boralkar)
Member Secretary

To
M/s. Kapstone Construction Pvt. Ltd.,
'Rustomjee 100 Acres" at S. Nos. 12/1-4, 13/1-3,15/1-5, 16/1(p), 2(p), 3-6, 17/3,4(p), 5,6(p), 18/3(p),4(p), 6(p), 19/1(p)-5(p), 20/1-4, 35/1-8, 36/1-7, 37/1-4, 5(p), 6,7(p), 9(p), 38/1(p),2,41/1-9, 42/1-7, 43/1-12, 44/16, 45/1,2(p), 3,4, (p), 5(p), 7(p), 8(p), 9,10,46/1(p)2,3 (p), 4(p), 6(p), 7(p), 8, 47/1(p), 3(p), 4-8, 48/1-8, 49/1-3, 50/1-3, 51/1-9, 54/1-4, 55/1-5, 84(p), 89(p), 327A-2/1-9, 329/1-4,5(p), 6(p), 345/1-17, 383, 423-A/1-8, 423C, 424-A/1-4, 424C, 22(p), at Majiwade, Thane.

Copy forwarded with compliments to
1. The Collector, Thane.

Copy to
1. Regional Officer, MPCB, Thane.
2. Sub Regional Officer, MPCB, Thane-I.
3. Chief Accounts Officer, MPCB, Mumbai

Received consent fee of

Amount	DD No.	Date	Drawn on
Rs. 10,08,000/-	050295	24.06.2006	Punjab National Bank

4. Cess Branch, MPCB, Mumbai.
5. Master file.
6. EIC, M.P.C.Board, Mumbai.

TRUE COPY
Attested by me

20 JAN 2007

P. H. PATIL B.A.LL.B.
Advocate & Notary
Thane

Seen original document
on the basis of the said
document I Attested.

Annexure VI
Form-V - ESR Report
(As per EC Condition: 15)

Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

Environmental Audit Report for the financial Year ending the 31st March 2017

Company Information

Company Name
Kapstone Construction Pvt. Ltd.

Application UAN number
MPCB-CONSENT-0000018736

Address
Construction Office, Azziyano-J Wing, Mumbai Nashik Bypass Highway, Majiwade, Thane (West)

Plot no
327/2/1,327/2/4,423/A/4,423/A/2,423/A/6,424/A/4

Taluka
Thane

Village
Majiwade

Capital Investment (In lakhs)
400.00

Scale
S.S.I

City
Thane

Pincode
-

Person Name
Mr. BOMAN IRANI

Designation
Director

Telephone Number
9167929942

Fax Number

Email
prasaddhatrak@rustomjee.com

Region
SRO-Thane I

Industry Category
Green

Industry Type
G72 Ready mix cement concrete

Last Environmental statement submitted online
no

Consent Number
MPCB-CONSENT-0000018736

Consent Issue Date
20.03.2017

Consent Valid Upto
15.11.2017

Product Information

Product Name	***Consent Quantity***	***Actual Quantity***	***UOM***
Ready Mix Concrete No. 1 & Ready Mix Concrete No. 2	60000	--	MT/A

By-product Information

By Product Name	***Consent Quantity***	***Actual Quantity***	***UOM***
NA	NA	NA	MT/A

1) Water Consumption in m3/day

Water Consumption for	***Consent Quantity in m3/day***	***Actual Quantity in m3/day***
Process	63	63
Cooling	0	0
Domestic	2	2
All others	0	0
Total	65	65

1) Effluent Generation in CMD / MLD

Particulars	***Consent Quantity***	***Actual Quantity***	***UOM***
Domestic Sewage	1	1	CMD

Effluent	0.2	0.2	CMD

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
RMC	2.64	2.64	CMD

3) Raw Material Consumption (Consumption of raw material per unit of product)

Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
Cement	1900	1900	MT/A
Fly Ash	8000	8000	MT/A
Crush Sand	41100	41100	MT/A
M Sand	3000	3000	MT/A
Metal-I	33000	33000	MT/A
Metal-II	38880	38880	MT/A
Micro Silica	350	350	MT/A
MAPAI-DYNAMON 530	300	300	MT/A
SWC CHRYSO 3230	300	300	MT/A

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
Diesel	18615	18615	Ltr/A

Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

[A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
NA	NA	NA	NA	NA	NA

[B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/NM3)	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
NA	NA	NA	NA	NA	NA

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	NA	NA	

2) From Pollution Control Facilities

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	NA	NA	

SOLID WASTES

1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM

Organic	4796830	4796830	Kg/Annum
Inert, Paper packing, Rubber, Glass	4380000	4380000	Kg/Annum
Miscellaneous (STP Sludge)	416830	416830	Kg/Annum

2) From Pollution Control Facilities

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	NA	NA	CMD

3) Quantity Recycled or Re-utilized within the unit

Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	NA	NA	

Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

1) Hazardous Waste

Type of Hazardous Waste Generated	Qty of Hazardous Waste	UOM	Concentration of Hazardous Waste
0	NA	CMD	NA

2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
Organic	4796830	Kg/Annum	Self-use
Inert, Paper Paking, Rubber, Glass	4380000	Kg/Annum	At approved landfill, Sale
Miscellaneous (STP Sludge)	416830	Kg/Annum	Sale at approve landfill

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
NA	NA	NA	NA	NA	NA	NA

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.

[A] Investment made during the period of Environmental Statement

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
STP	Water prevention	703
Rainwater harvesting	Water prevention	100
Solid Waste Composting plant	Soil prevention & protection	161

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
NA	NA	NA

Any other particulars in respect of environmental protection and abatement of pollution.

Particulars

NA

Name & Designation

Environmental Status Report (ESR)

As per EC condition (15)

December 2016 to May 2017

"Kapstone Constructions Pvt. Ltd."

Expansion of Residential & Commercial Project

at Majiwade, Thane(W)

Proposed by

Kapstone Constructions Pvt. Ltd."

Mahabal Enviro Engineers Pvt. Ltd.

Environmental Consultant (NABET Approved)

Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra, India

Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 thane@mahabal.com

Contents

Environmental Status Report

Introduction

Kapstone Construction Pvt. Ltd. is grant of environment clearance for Proposed expansion of Residential & Commercial at At Majiwade,Thane (W), Maharashtra. SEAC considered the project under screening category 8(b) B1 as per EIA Notification 2006

Received Environment Clearance file no. SEAC-2013/CR-344/TC-1 Govt. of India from MoEF, dated 25.03.2014

Name	**Kapstone Construction Pvt. Ltd.** **Mr. Manish Sawant**
Address	702, Natraj, M.V. Road Junction, Western Express Highway, Andheri (East), Mumbai
Telephone	022 - 66766888
Fax	022 - 66766999
Email ID	manishsavant@rustomjee.com

Present status

Buildings re completed & handed over to the society.

Construction activity

Construction completed area – 26172.21m^2

Construction completed floors and building details

Environmental facilities are

Sr.	Details	Status
1.	DG set	2 no. of 500 kVA & 125 kVA DG set provided onsite for construction phase
2.	Landscape area	Sub plot 6A- 2565.60 m^2 Sub plot 4- 1440.40 m^2
3.	Tree plantation	Sub plot 6A- 171 nos of plants planted Sub plot 4- 96 nos of plants planted
4.	STP work	Sub plot 4-200 m^3/day Sub plot 5-325 m^3/day Sub plot 6-225 m^3/day
5.	Solid waste management : OWC details	Completed

Sr.	Details	Status
6.	Parking	completed
7.	Labour camp	Is provided
8.	Excavation details	43 m^3
9.	Debris details and its management	This material was used for back filling and leveling of the plot and remaining will be disposed to authorized sites.
10.	Ground water recharge : Rain water harvesting	RWH is in progress
11.	Storm water harvesting	Under construction
12.	RMC plant and brick details	Concrete is outsourced
13.	Contact person on site	Mr.

Construction facility on site

PP has provided safety personal protective equipment & safety net. PP has arranged training programmes for workers about EHS

Facility provided on site for Labour

Labour camp has been provided for the labours with the all basic necessities like sanitary facilities, drinking water facility, and health check up for workers. Well-equipped first aid box is provided to the workers.

Plot area details

Details	**Total**	**Unit**
Plot area	2,01,436,62	m^2
Net plot area	2,01,436,62	**m^2**

Proposed construction area details

1,45,834 m^2 is affected by the CRZ and 55,602.43 m^2 is outside CRZ. The total built up area of the project including the CRZ area is 1,63,446 m^2.

Proposed Building Configuration details

There will be 2 commercial buildings (1, 02,677 m^2) of 10 and 17 storey, 4 residential buildings with built up area of 50,896.35 m2One school building with built up area of 9,490 m^2.

Land: Excavation details

Reutilization and recycling of the construction waste as well as municipal waste on site generating during excavation and from existing and labour camp.

Non compostable waste will be handling by authorised dealer.

Total excavation quantity is used for land filling on site.

Water Supply

Construction phase:

For drinking, there is corporation water supply for the labour. We are doing regular water monitoring. Reports submitted along with Compliance Report.

Operational phase:

Water supply source is TMC. Silt fences to reduce the run-off secondary containment and dykes in material storage area

Sewage Collection and Disposal System

Construction phase

As on date, there are about no labours on site. We have provided 11 no of mobile toilets to the construction workers. Treated sewage is directed discharged to Municipal Sewer line commissioned.

Operational phase

We will provide the 6 STP for proposed project of capacity 1,000 m^3/day. Existing municipal drainage line is also available on project site. Excess treated water will be drain and connected to the municipal drainage.

Storm Water Drain

We have provided the proper storm water drainage layout along the periphery. And it is connected to the municipal drainage line which already existed. We have the received the permission.

Solid Waste Disposal

Construction phase

Excavated quantity -m^3 is used in landscape area. Solid waste generation from Labour, municipal waste is handled in -- Kg/day

Operational phase

We have provided the 1 no. of OWC for management of the municipal solid waste having area is -.

For Non-Biodegradable waste is handover authorised dealer.

Power Supply and consumption

Construction phase

We have received the power supply from MSEDCL, Pune

Operational phase

Connected load is - MW. We have provided the DG set having total capacity is 2,500 kVA.

Roads, Traffic and Transport.

Construction phase

Project has well connectivity for road. Internal road having width is 6 m and proper Entry & Exit points. Nearest DP road is having 60 m width.

All incoming and outgoing vehicles during construction phase will be having direct access from the main road to project site, so there will not be any disturbance to existing traffic movement.

Well maintained the existing traffic by providing the internal road as per norm. (6 m internal driveway). We have maintained the proper entry record register of each vehicle was entered.

Operational phase

We will provide proper 6 m internal road and its having proper connectivity to main road.

Housing and Slums

We are providing the labour camp on site. (Proposed construction) and there was a contract basis labour in nearby area on daily basis.

Slums issue is not applicable for this project.

Air

We have monitored the Air pollution every in month and 6th monthly report have sent to MoEF, Bhopal and RO & HQ of MPCB offices with the EC compliance condition.

Dust

Use of water sprinkles during construction phase. Proposed road side plantation along the boundary of the proposed construction site and also within the project site.

Safety catch nets are provided around the construction are to ensure a safe walk way for the construction workers & machinery.

Use the RMC plant on site.

Cleaned the debris waste Or constriction waste every day.

Periodic maintenance of construction equipment. And use the good quality of fuels and use of personal protective equipments.

Noise levels

We have monitored the Air pollution every in month and 6th monthly report have sent to MoEF, Nagpur and RO & HQ of MPCB offices with the EC compliance condition.

No construction work will be done during night time

Construction equipment will be well maintained to reduce the noise pollution as per the standard limits.

We have provided the earplugs, muffs to the construction staff.

Industries, Wastes and Hazards

It is a residential & commercial project. This issue is not applicable.

Health

We have provided the regular facility of the Health Check-up to the labour. Provide the Medical facility to the labour and resident. Also provide the ambulance facility. Gym, physiotherapy and card room & indoor game facility, club house facility, Temple, Pool with bars, grab bars & Ramps is also provided for resident.

Facility

Doctors Room, Doctor, Physiotherapist on call (24 hr.), Ambulance, Tie ups with leading hospitals, Health checkup, Tie-up with Health Spring, Shuttle Bus Service, Lifts with Stretcher Lift, Canteen, Bill pay service like MSEB, Telephone, Property Tax & Maid servants

Environmental Impacts

The potential environmental impact, which needs to be regulated, is mentioned below:

- Air pollution due to the emission of Particulate Matter and gaseous pollutants;
- Noise pollution due to various noise generating equipment as well as vehicular movement;
- Wastewater generation from sanitary/domestic activities; and Solid waste disposal.

To ensure better environment in & around the project site as well as for the neighbouring population, an effective EMP is developed separately for construction and operational phases.

1.1 During construction phase

The proposed project will have certain construction activities. Pollution control during construction is of considerable importance and it is necessary to consider the potential of environmental pollution during this phase.

The following measures will be adopted during construction phase:

- Construction materials will be stored in covered go-down or enclosed spaces to prevent the windblown fugitive emissions.
- Adequate and proper procedures for construction material handling / overhauling will be followed.
- Truck carrying soil, sand, stone dust, and stone will be duly covered to avoid spilling and fugitive emissions.
- Adequate dust suppression measures such as regular water sprinkling at vulnerable areas of construction sites will be done to control fugitive dust during material handling and hauling activities in dry seasons.
- During construction activity, labour may be employed from outside and require temporary housing. We will be providing Labour camp, drinking water, sanitary services for the workers.
- Noise control measures will be adopted at appropriate stages, the most effective being control at the source itself.
- The onsite workers using high noise equipment and those working in the noisy area will adopt noise protection devices like ear plugs/ muffs.
- Use fly ash in the building structure, walling as well as plasters and mortars.

- The vehicle maintenance area during construction will be located in such a manner as to prevent contamination of ground water by accidental spillage of oil.
- We will be providing separate parking area for unloading material vehicles within the site premises so as to avoid waiting of other vehicles.
- We will be providing Mobile Sewage treatment Plant for labour.
- Monitoring of air and water quality at regular intervals will be conducted during construction phase

1.2 During operation phase

Environment Monitoring Cell will be developed for environmental monitoring, analysis and control of all possible sources due to the proposed project. The responsibility of the cell will be to keep regular check on the pollution control measures adopted at proposed project site through a regular monitoring of various environmental parameters and strict implementation of the environment management plan adopted.

1.3 Land Environment

1.3.1 Construction phase

Waste generated from construction activity includes construction debris, biomass from land clearing activities; waste from the Labour camp, etc.

The following section discusses management for each type of waste. Besides, management of topsoil is an important area for which management measures are required.

Construction debris:

Construction debris is bulky and heavy and re-utilization and recycling is an important strategy for management of such waste.

Recycled aggregate will be used for filler application, and as a sub-base for road construction. Mixed debris with high gypsum, plaster, will not be used for filling, as they are highly susceptible to contamination, and will be given to recyclers.

Construction contractors will remove metal scrap from structural steel, piping, concrete reinforcement and sheet metal work from the site. A significant portion of wood scrap can be reused on site. Recyclable wastes such as plastics, glass fibber insulation, roofing etc. will be sold to recyclers.

Waste from Labour camp:

Waste generated from labour camps will mainly comprise of household domestic waste, which will be collected and composted on site. The non-compostable and non-recyclable portion of the waste will be collect & segregated. We have made arrangement for collection & disposal of Non-biodegradable waste.

Topsoil management:

To minimize disruption of soil and for conservation of topsoil, the contractor will take out the topsoil separately and stockpile it. After the construction activity is over, topsoil will be utilized for land levelling activity.

1.3.2 Operation phase

Solid waste management will be to encourage the four ways of waste i.e. Waste Reduction, Reuse, Recycling, and Recovery (materials & energy). This will result lesser quantity will be land fill.

The Environmental Management Plan for solid waste focuses on three major components of the waste management system i.e. collection & transportation, treatment or disposal and closure & post closure care of treatment/disposal facility.

Collection & transportation:

During the collection stage, the biodegradable and non-recyclable/inert waste will be stored and collected separately.

Treatment & disposal:

The segregated biodegradable waste will be composted by using OWC machine, i.e. the compost will be used as manure for landscaping.

The non-compostable and non-recyclable portion of the waste will be collect & segregated & handed over to the authorised dealer

1.4 Air Environment

1.4.1 Construction phase

Daily sprinkling of water on road will reduce the fugitive dust emission. PUC will be compulsory for all the vehicles being parked in the project site. The construction machinery will kept in secured place and use of low sulphur fuel will help in reducing the adverse impact.

Following measures will be carried out for further environmental improvements.

- Environment management cell will be developed for the regular check-up and efficient maintenance of all the pollution control arrangements.
- To prevent fugitive emissions at solid handling areas conveyors, elevators, silos etc. All other transfer points, proper care will be taken to minimise the exit of particulates. There will be no falling of raw materials from the conveyors.
- We will use covered vehicles used for the loading & unloading material which will reduced the fugitive dust emission.
- Cleaning and sweeping of floors will be a regular feature of normal plant operations.
- A green belt around the project site and plantation within the plant premises especially around the possible sources of fugitive emissions is

recommended to further reduce the dust emissions to maintain a clean and healthy environment.
- Water sprinkling will be carried out to prevent dust pollution.
- Site will be provided with entry & exit points and driveways for easy movement of vehicles.
- Sign boards at driveways and at parking areas will be installed.

1.4.2 Operation phase

To mitigate the impact of pollutants from vehicular traffic during the operational phase of the site, the following measures are recommended for implementation.

- **Vehicle emission controls**

Adequate informatory signage's/Speed control devices will be put up within premises near entry/exit gates to regulate and control the speed of outgoing/incoming traffic. Regular maintenance of the vehicles will be mandatory. PUC will be compulsory for all the vehicles being parked in the building premises. Security persons at entry and exit point to insure the smooth traffic movement.

- **Landscape development**

Increasing vegetation in the form of landscape is one of the preferred methods to mitigate air pollution. Plants generate oxygen, serve as a sink for pollutants, reduce the flow of dust and reduce noise pollution.

1.5 Noise Environment

1.5.1 Construction phase

To mitigate the impact of noise from construction equipment, the following measures will be proposed:

- Noise prone activities will be restricted to the extent possible during night.
- Screening or fencing of the construction site will be done with proper height of fence to prevent nuisance to neighbouring habitation.
- Workers employed in high noise areas will be rotated. Earplugs/muffs, or other hearing protective wear will be provided to those working very close to the noise generating machinery.
- Tree plantation along the periphery of road will act as noise barrier.

1.5.2 Operation phase

We will provide - no. of DG sets when power failure, Acoustic enclosures will be provided on DG sets which will reduce the noise during operation phase.

- **Landscaping:**

Noise attenuating species will be used in a landscape especially surrounding noise generating sources. Trees plantation area act as noise barriers in the premises.

1.6 Water Environment

1.6.1 Construction phase

Following measures will be carried out for further environmental improvements.

- We will not doing excavation during monsoon.
- Necessary care will be taken to avoid soil erosion.
- We will be providing Mobile STP for sanitary facility. The treated sewage used for construction.
- To prevent surface and ground water contamination by oil/grease, leak proof containers will be used for storage and transportation of oil/grease. The floors of oil/grease handling area will be kept effectively impervious. Any wash off from the oil/grease handling area or workshop shall be drained through impervious drains.
- Construction activities generate disturbed soil, concrete fines, oils and other wastes. On-site collection and settling of storm water, prohibition of equipment wash downs, and prevention of soil loss and toxic releases from the construction site are necessary to minimize water pollution.

1.6.2 Operation phase

Water conservation measures have been taken including all possible potential for reuse and recycling of water. These could be in the form of the following:

- **Minimizing water Consumption**

Water consumption will be minimized by a combination of water saving devices and other domestic water conservation measures. Furthermore, to ensure ongoing water conservation, an awareness programme will be introduced.

Usage:

- We will use of water efficient plumbing fixtures (ultra flow toilets and urinals, low flow sinks). The water efficient plumbing fixtures use less water with no marked reduction in quality and service.
- Leak detection and repair techniques.
- Sweep with a broom and pan where possible, rather than hose down for external areas.
- Promoting reuse of water after treatment & development of closed loop systems
- To promote reuse and development of closed loop system for water, segregation of two schemes namely;

  - Wastewater treatment scheme
  - Storm water management schemes have been suggested.

Storm water management

The storm water generates from the proposed project will be 13,467 m^3/hr (for entire plot). We have provided 0.45x 0.45 m, 0.45x0.35m, 0.6x0.55m, 0.5 x0.5m size of storm water drain channel.

We have constructed storm water drainage line upto the final disposal point at our own cost. We have added this cost in the environment management plan.

Rain Water Harvesting

We will be proposing the RWH tank having capacity of 904 m^3 for two days storage will be provided..

For rainwater collected from ground surface following actions are usually taken:

- Cleaning of surface of vegetation, organic and loose materials.
- Smoothening the surface by mechanical compaction or surface binding treatment.
- Checking that the surface is free from all such chemical and organic material, which may cause chemical/bacterial contamination of harvested water.

1.7 Biological Environment

1.7.1 Construction phase

The construction activities will be carried out only in day time by minimizing the magnitude of the impact. Also water sprinkling will be carried out on the construction site.

After completion of major construction work, the landscape will be developed as there will be no or less disturbance in these areas.

1.7.2 Operation phase

The project is mainly residential in nature and will not have any emissions. Hence the impact envisaged is negligible. Extensive plantation and landscaping is proposed to mitigate any impact during this phase.

- **Plantation & Landscaping**

Selection of the plant species has been done on the basis of their adaptability to the existing geographical conditions and the vegetation composition of the region. During the development of the green belt within the project area, emphasis has been given to selection of plant species like nitrogen fixing species, species of ornamental values, species of very fast growth with good canopy cover etc.

- **Landscape development plan**

In the proposed project, the area allotted for landscaping is 46,379.63 m^2 (prop+comp) (39,631.89 m^2proposed) (6,747.74 m^2completed).

Various types of trees are proposed for plantation. Total **301 no.** of trees will be planted in the proposed project. The trees will be planted along the compound wall and along the road with adequate space between them so that their growth is not hampered. Plantation has to be taken up randomly and landscaping aspects could be taken into consideration.

1.8 Environment Monitoring Cell

Environmental management cell will be formed headed by an Environment Manager supported by adequate number of personnel having sufficient educational and professional qualification and experience to discharge number of personnel having sufficient educational and professional qualification and experience to discharge responsibilities related to environmental management including statutory compliance, pollution prevention, environmental monitoring, preventive maintenance of pollution control equipment and green belt development & maintenance of pollution control equipment and green belt development & maintenance. The head of the cell will directly report to the top management. This cell will be the nodal agency to co-ordinate and provide necessary services on environmental issues during construction and operation of the project. This department will interact with MPCB, MoEF, CPCB and Other environment regulatory agencies. The cell will be effective till handing over of the project to society.

Environmental Management cell will implement and review the compliance of the stipulated conditions specified in Environmental Clearance and Consent for Establish. Environmental cell will submit six monthly compliance report regarding status of implementation of each stipulated conditions to MoEF. The cell will be responsible to obtain consent of operate under water Act and Air from MPCB. On getting Consent to operate, the project will be handed over to society. The project proponent will provide technical knowhow, legal and technical training to society personnel for continuing the EMP.

Environmental Management Audits:

The management audits are to determine whether the activities are conforming to the environmental management systems and effective in implanting the environmental policy. They may be internal or external, but carried out impartially and effectively by a person properly trained for it. Broad knowledge of the environmental process and expertise in relevant disciplines is also required. Appropriate audit programs and protocols will be established.

Table 1: Organization & Environment Management Cell

Sr.	Level	Designation	Purpose
1	Honorary	Director / Managing Committee	Policy
2	Manager	Environmental Scientist /Chemist	Job (*)

3	Executive	Supervisor, contractor, Engineers	Implement
4	Third Party	Environmental sampling, analysis will be done through external agency **approved by** MoEFCC / MPCB	monitoring, testing,

Table 2: Responsibilities of Environment monitoring cell

Attribute	Construction Phase	Operation Phase
Water Regime	• Install water meters, take readings routinely, and record in the register. • Install necessary modular STP for construction workers and staff etc. to look after its operational & maintenance, take periodical sample to assess the quality. • Keep a daily watch on sanitation/ drains, & good housekeeping. • Examine proper management of channelization of water to avoid water logging at site • Oil spill prevention measures to be taken to avoid pollution of water body. • Material storage areas to be kept far away from water body	• Install water meters and take readings routinely, • Monitoring of pH, COD, BOD and TSS of the units to ensure good treatment of waste water into Sewage Treatment • Ensure the network of connection to rain water harvesting units; maintain its sanitation and documentation. • Storm water drainage system for any abnormality as to its siltation, dropping leaves, hampering of carrying capacities: and if found quickly arrange the rectification. • Monitoring of water from recharge pits for specified parameters
Air	• Monitoring of Air quality through MoEF approved Laboratory. • Ensure water sprinkling for dust suppression. • Ensure the use of covering sheets, on the material being transported incoming or outgoing or stored. • Use as backup power DG sets to be procured from renowned suppliers with acoustic enclosures. • Examine proper traffic arrangement for the construction vehicles including instance of their PUC. • Prohibition of open burning of solid waste. • Provision of mask and other personnel gazettes to workers with regular health check-up programme.	• Prepare a schedule and implement proper maintenance of DG sets for use as backup power DG sets to be procured from renowned suppliers with acoustic enclosures and specification as per CPCB norms for its stack height • Trees will be planted with special care for controlling dust and noise and placing them very near to the sources of nuisance from air & noise point of view. • Monitoring of Air quality through MoEF approved Laboratory. • DG set stack monitoring through MoEF approved Laboratory.

Attribute	Construction Phase	Operation Phase
Solid waste	• Provide training to subcontractor & workers for good sanitation & collecting their individual waste separate it as dry & wet in respective colour coded dust bins provided. • Isolated storage of construction raw material such as paint varnishes etc. • Segregated garbage will be handed over to authorized agency.	• Ensure collection of solid waste every day & keeping the record of this qty., & documents. • Segregation of garbage into degradable & non biodegradable waste in a shed earmarked inside the premises. • For treatment of biodegradable garbage sent it to the dedicated OWC, carefully without spillage. • The separated non biodegradable & inert waste will be sent to authorized agency. • The empty drums of paints, pesticides & tubes, E-waste, biomedical waste , spent batteries, rubber tires so be collect, end sent to respected site.
Soil & Greening	• Provision of separate place for storage of top soil to be used in due course for plantation. • Avoiding excavation during high windy day & heavy monsoon day. • Excess excavation will be used within the premises. • Ensuring that no trees cutting • Plant trees along the boundary of project area.	• Proper landscaping is designed by the landscape architect that are of native species, having good canopy capable of barricading noise, wind borne dust. • Ensure maintenance of lawn & Tree plantation • Provision of work force, tools & watering arrangement. • The trimming to be conducted routinely & especially at the advent of monsoon • Dropping leaves to be collected & used for mulching & not to burn openly. • To keep a watch on storm water drainage especially on adequacy of capacity.
Noise	• To prepare & get approved a regular Noise monitoring schedule & stations • Provision of ear plugs for construction labour and staff & insist its use. • There will be no noisy work in night shifts.	• To prepare & get approved a regular Noise monitoring schedule • To obtain guidance from the suppliers & maintain acoustic enclosure for DG sets • To ensure smooth flow make provision of proper parking arrangement, traffic management.

Attribute	Construction Phase	Operation Phase
	• Ensure the provision of barricades along periphery of the site • To obtain guidance from the suppliers & maintain acoustic enclosure for DG sets	
Socio economic	• Providing labour camps with drinking water and sanitation facility. • pre and post employment opportunities for local people • First aid and medical facilities • Proper safety precaution to prevent any accident.	• Job opportunities will be generated for skilled and unskilled such as cleaners, drivers and security guard, etc. • Increased business opportunities viz. market, trade and commerce • Adhere to the high standard of maintenance and services for consistency of the economic development

1.9 Environmental Monitoring

The objectives of carrying out Environmental monitoring for the project include the following:

- To provide a database against which any short or long term environmental impacts of the Project can be determined;
- To provide an early indication should any of the environmental control measures or practices fail to achieve the acceptable standards;
- To monitor the performance of the Project and the effectiveness of mitigation measures;
- To verify the environmental impacts due to proposed project activities
- To determine project compliance with regulatory requirements, standards and government policies;

Table 3: Environment monitoring programme during construction phase

Sr.	Item	Parameters	Frequency	Location
1	Ambient air quality	$PM_{2.5}$ & PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni	Monthly	At major construction area. (total 6 locations)
2	Noise level	Equivalent noise level dB(A)	Weekly	At major construction area & during major construction, excavation, slab filling
3	Water analysis	Colour and odour, Suspended solids, pH, turbidity, total dissolved solid, Calcium, Chloride, Fluoride, Residual free	Monthly	Tankers / Municipal supply and bore well

Sr.	Item	Parameters	Frequency	Location
		chlorine, Iron, magnesium, nitrate, sulphate, Phenolphthalein Alkalinity, Total hardness, total coliform, E-coli		
5	Waste water analysis	Color ,pH, BOD, COD, TSS, TDS, O &G , Iron, Silica, Total hardness, Nitrates, Fluoride, Manganese, Bio assay test, Arsenic, Mercury, Lead, Copper, zinc, Selenium, Nickel, Cadmium, hexavalent Chromium, Chromium, cyanide, Vanadium, Nitrate Nitrogen, Total Kjeldahl Nitrogen, Sulphide	Daily	Before & after treatment from STP.
3	Exhaust from DG set	$PM_{2.5}$ & PM_{10}, SO_2, NO_x	Six Monthly	Stack of DG sets.

Table 4: Environment monitoring programme during operational phase

Sr.	Item	Parameters	Frequency	Location
1	Ambient air Quality	$PM_{2.5}$ & PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C6H6, BaP, As, Ni	Monthly	Periphery of the site.
2	Noise level	Equivalent noise Level	Monthly (Especially during festival period)	Near DG sets, Near STP, Near parking area.
3	Exhaust from DG set	$PM_{2.5}$ & PM_{10}, SO_2, NO_x	Monthly	Stack of DG sets.
4	Water analysis	Colour and odour, Suspended solids, pH, turbidity, total dissolved solid, Calcium, Chloride, Fluoride, Residual free chlorine, Iron, magnesium, nitrate, sulphate, Phenolphthalein Alkalinity, Total hardness, total coliform, E-coli	Monthly during rainy season	Harvested water stored in tank.
5	Waste water analysis	pH, BOD, COD, TSS, TDS, O &G , Iron, Silica, Total hardness, Nitrates, Fluoride, Manganese, Bio assay test, Arsenic, Mercury, Lead, Copper, zinc, Selenium, Nickel, Cadmium, hexavalent Chromium, Chromium, cyanide, Vanadium, Nitrate Nitrogen, Total Kjeldahl Nitrogen, Sulphide	Daily, Monthly and Six monthly	Before & after treatment from STP.

1.10 Budgetary provisions for Environmental Management Plan

Adequate budgetary provisions we have been made for construction & operational phase. For the initial five years, the management shall keep regular budget provision for in-plant measures to reduce pollution and construction of additional treatment units to facilitate wastewater recycling/reuse and reduction in air pollution. A budgetary provision will be made for up gradation of air pollution control equipments to control the gaseous pollutants and dust emission.

Table 5: Budgetary provisions during operation phase

Sr	Component	Total Set up cost (In Lakh)	O & M cost (In Lakh / year)
1	STP (Tertiary)	703	56
2	Solar System	486	19
3	Rainwater harvesting	100	11
4	Solid Waste Composting plant	161	13
5	Landscape	370	44
6	Environmental Monitoring	10	-
7	**Total Cost**	**1,830**	**144**