As per the “Sub Para (ii)” of “Para 10” of EIA Notification 2006, it is stated that “It shall be mandatory for the project management to submit six monthly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year” and as per compliance of condition mentioned in Environment Clearance Letter (i.e. Part B General Condition, point number XVII), Six monthly compliance reports should be submitted to the Regulatory Authority of Central and State Government.

It is mandatory to submit a Six Monthly Compliance Report to show the status & compliance of all the Conditions mentioned in Environment clearance Letter, along with monitoring of various Environmental Parameters (as per CPCB Norms).

The regulatory authorities in this case are MoEF & CC, Delhi, MoEF & CC, Chandigarh and HSPCB, Panchkula. Various scheduled Site Visits were conducted by a team of Experts to Monitor Pollution related parameters as defined by CPCB / HSPCB. Samples for water and soil were also collected for further analysis.

Based on the Specific and General Conditions mentioned in the EC Letter, a Compliance Report was prepared by the Vardan Enviro Net, Gurgaon on behalf of Project Proponent; details of which are present in Chapter – “Compliance Report”.

This report is supposed to submit after every six month as per the conditions stipulated in Environment Clearance Order. The Environmental assessment has been carried out to verify:

1) That the proposed project has not any adverse effect on the project site as well as its surrounding.
2) That there is compliance with the conditions stipulated in the Environmental Clearance Letter.
3) That the Project proponent is implementing the environmental safeguards and environmental pollution mitigative measures as suggested in approved Form-1 and Form – 1A, Environmental Management Plan and Building Plan with true spirit.
4) The non conformity in the project with respect to the environmental implication of the project.

1.1 Methodology for Preparation of Report is as follows:

1) Study of EC Letter & Related Documents,
2) Site Visits by a Team of Experts,
3) Monitoring of Environment Parameters, viz. Ambient Air, Water, Noise, Soil & DG stack emissions,
4) Analysis of Samples collected during Monitoring,
5) Interpretation of Monitoring Results,
6) Preparation of six monthly Environmental Compliance Report.
1.2 Generic Structure of Report:

1) Purpose of the Report, explaining the need of a Compliance Report and Methodology Adopted for preparation of Report.
2) Compliance Report, explaining the entire specific & general conditions given in the EC Letter and providing details w.r.t. each condition/guideline.
3) Monitoring Reports & Analysis, showing the level of pollution/ emission within the project site for various Environment Parameters.
4) Photographs showing status of the project and sampling/monitoring of environmental parameters.
5) Supporting Documents related mandatory for the project.
ADHERENCE TO SPECIFIC AND GENERAL CONDITIONS

2.0 Introduction

M/s Spaze Towers Pvt. Ltd. has proposed a Group Housing Project named Spaze Privy “The Address”, situated at Sector-93, village- Hayatpur, Gurgaon (Haryana).

The Project has been recommended by State Expert Appraisal Committee (SEAC). This Project has obtained its Environmental Clearance from State Environment Impact Assessment Authority (SEIAA), Haryana with the EC No. SEIAA/HR/2014/371 on 28th February 2014.

At Present, project is in construction stage.

A. SPECIFIC CONDITION

1. Construction Phase

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Condition</th>
<th>Reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>“Consent to Establish” shall be obtained from Haryana State Pollution Control Board under Air &amp; Water Act and a copy shall be submitted before the start of any construction work at site.</td>
<td>We have obtained “Consent to Establish” from HSPCB before staring the construction of project site. Copy of CTE is enclosed as Annexure-1</td>
</tr>
<tr>
<td>2.</td>
<td>A First Aid room as proposed in the project report shall be provided both during construction and operational phase of the project.</td>
<td>The First Aid room has been provided to the workers in the project site during construction phase of the project.</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate drinking water and sanitary facilities shall be provided for construction work at the site. Provision should be made for mobile toilets. Open defecation by the labourers is strictly prohibited. The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.</td>
<td>We have provided the best facilities to workers for drinking water &amp; Sanitary facilities and mobile toilets. We will install STP for waste water &amp; solid waste disposal in the construction phase.</td>
</tr>
<tr>
<td>4.</td>
<td>All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site.</td>
<td>The excavated soil is being use in horticulture &amp; landscape development.</td>
</tr>
<tr>
<td>5.</td>
<td>The project proponent shall ensure that the building material required during construction phase is properly stored within the project area and disposal of construction waste should not create any adverse effect on the neighbouring communities and should be disposed off after taking necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent Authority.</td>
<td>We ensure that the building waste material is being properly stored and also used in construction of road in the project site area. There is none adverse effect on the neighbouring communities due to disposal of construction waste. We are giving the safety instruction to all the workers.</td>
</tr>
<tr>
<td>6.</td>
<td>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 and any other hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approval of the Haryana State Pollution Control Board.</td>
<td>We assure that no bituminous material and other hazardous materials is allowed to contaminate water courses and the dump sites for such material will be made secure so that they should not leach into the ground water and will take necessary approval of HSPCB if required.</td>
</tr>
<tr>
<td>7.</td>
<td>The diesel generator sets to be used during construction phase shall be of ultra low sulphur diesel type and should</td>
<td>We are using the low sulphur diesel type DG Sets according the Environmental (Protection) Rules.</td>
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<tr>
<td>8.</td>
<td>The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken. We store the diesel in tankers. Approval from Chief Controller of Explosives is not required as the quantity of diesel is less than 2500 ltrs.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Ambient noise level shall conform to the residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be taken to reduce ambient air pollution and noise level during construction phase, so as to conform to the stipulated residential standards of CPCB/MoEF. Ambient Noise Levels is conforming the commercial standards and incremental pollution loads on the ambient air and noise quality is monitored regularly during construction phase. Monitoring for the period of April 2015 to September 2015 has been done. Noise Levels are within the prescribed limit. Lab Reports are attached as Annexure-2.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Fly ash shall be used as building material in the construction as per the provisions of Fly Ash Notification of September 1999 and as amended on 27th August, 2003. Fly ash is being used as building material in the construction purpose as per the provisions of fly ash notification of September 1999.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Storm water control and its re-use as per CGWB and BIS standards for various applications should be ensured. The storm water is being reuse as per the guideline given by CGWB and BIS.</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Water demand during construction shall be reduced by use of pre-mixed concrete, curing agents and other best practices. Pre mix concrete, curing agents and other means are being used for less consumption of water.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>In view of the severe constraints in water supply augmentation in the region and sustainability of water resources, the developer will submit the NOC from CGWA specifying water extraction quantities and assurance from HUDA/utility provider indicating source of water supply and quantity of water with details of intended use of water- potable and non-potable. Assurance is required for both construction and operation stages separately. It shall be submitted to the SEIAA and RO, MoEF, Chandigarh before the start of the construction. We are not using ground water for the construction of the project. Only treated water is being used for the construction work.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Roof must meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material. We are following the ECBC norms for the construction of the roof by using thermal insulation material.</td>
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</tr>
<tr>
<td>15.</td>
<td>Opaque wall must meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air conditioned spaces while it is desirable for non air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement. The walls will be constructed following the ECBC rules by use of thermal insulation material as a source of energy conservation.</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>The approval of the competent Authority shall be obtained for structural safety of the building on account of earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightning etc. If any forest land is involved in the proposed site, clearance under Forest Conservation Act shall be obtained from the Competent Authority. We are following the rules of National Building Code for safety by earthquake and other structural safety of the building. Approval from the Fire Authority will be obtained in due course of time to fulfil the requirement of the project.</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Overexploited groundwater and impending severe shortage of water supply in the region requires developer to redraw the water and energy conservation plan. Developer shall reduce the overall footprint of the proposed development. Project proponent shall incorporate water efficiency/ savings measures as well as water reuse/recycling within 3 months and before start of construction to the SEIAA, Haryana and RO, MoEF, GoI, Chandigarh. Same will be complied as and when required.</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>The project proponent as stated in the proposal shall We have constructed rain water harvesting pits.</td>
<td></td>
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</tbody>
</table>
19. The project proponent shall provide for adequate fire safety measures and equipment as required by Haryana Fire Services Act, 2009 and instruction issued by the local Authority/ Directorate of fire from time to time.

Adequate measures are being provided to workers to prevent the mishap from fire during the construction phase of the project. Approval from Fire Department will be obtained in due course of time to fulfil the requirement of the project.

20. The project proponent shall obtain assurance from DHBVN for supply of 2880 KVA of power supply before the start of the construction. In no case project will be operational solely on generators without any power supply from any external power utility.

The assurance from DHBVN regarding the supply of electricity will be obtained in due course of time.

21. Detail calculation of power load and ultimate power load of the project shall be submitted to DHBVN under intimation to SEIAA Haryana before the start of construction. Provisions shall be made for electrical infrastructure in the project area.

The detailed calculation sheet of power load and ultimate power load will be submitted prior to the construction work.

22. The project proponent shall not raise any construction in the natural land depression/ Nallah/ Water course and shall ensure that the natural flow from the Nallah/ water course is not obstructed.

We agree that there is none construct nallah or land depression for natural flow of the water.

23. The project proponent shall keep the plinth level of the building blocks sufficiently above the level of the approach road to the project. Levels of the other areas in the projects shall also be kept suitably so as to avoid flooding.

The plinth level of the building has been kept above the approach road to avoid flooding near the project.

24. Construction shall be carried out so that density of the population does not exceed norms approved by Director General Town & Country Department, Haryana.

We agree that the density of the population will not be exceeding above the norms approved by DTCP. Copy of DTCP is enclosed as Annexure-3.

25. The project proponent shall submit an affidavit with the declaration that ground water will not be used for construction and only treated water should be used for construction.

We are not using ground water for the construction work of the project. Water requirement is being fulfilled with the treated water supplied by the authority for construction use.

26. The project proponent shall not cut any existing tree and project landscaping plan should be modified to include those trees in green area.

We assure that we have not cut any tree for the construction of the project. Landscaping has designed to include the existing trees in the project.

27. The project proponent shall provide 3 meter high barricade around the project area, dust screen for every floor above the ground, proper sprinkling and covering of stored material to restrict dust and air pollution during construction.

We have provided 3 meter high barricade around the project area, dust screen for every floor above the ground, proper sprinkling and covering of stored material to restrict dust and air pollution during construction.

28. The project proponent shall construct a sedimentation basin in the lower level of the project site to trap pollutant and other wastes during rains.

We have provided sedimentation tank to trap the pollutants and other unwanted material during rains.

29. The project proponent shall provide proper rasta of proper width and proper strength for the project before the start of construction.

We have provided Rasta of proper width and proper strength for the project before the start of construction.

30. The project proponent shall ensure that the U-value of the glass is less than 3.177 and maximum solar heat gain coefficient is 0.25 for vertical fenestration.

We are complying the requirement.

31. The project proponent shall adequately control Adequate control measures are being taken for
<table>
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<tr>
<th>Condition</th>
<th>Description</th>
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<tbody>
<tr>
<td>32.</td>
<td>The project proponent shall develop complete civic infrastructure of the Group Housing Colony including internal roads, green belt development, sewerage line, rain water recharge arrangements, storm water drainage system, solid waste management site and provision for treatment of bio-degradable waste, STP, water supply line, dual plumbing line, electric supply lines etc. and shall offer possession of the units/flats thereafter.</td>
</tr>
<tr>
<td>33.</td>
<td>The project proponent shall provide one refuse area till 24 meter, one till 39 meter and one till 15 meter as per National Building Code. The project proponent shall not convert any refuse area in the habitable space and it should not be sold out/commercialized.</td>
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<tr>
<td>34.</td>
<td>The project proponent shall provide fire control room and fire officer for building above 30 meter as per National Building Code.</td>
</tr>
<tr>
<td>35.</td>
<td>The project proponent shall obtain permission of Mines and Geology Department for excavation of soil before the start of the construction.</td>
</tr>
<tr>
<td>36.</td>
<td>The project proponent shall seek specific prior approval from concerned local Authority/HUDA regarding provision of storm drainage and sewerage system including their integration with external services of HUDA/Local Authorities beside other required services before taking up any construction activity.</td>
</tr>
<tr>
<td>37.</td>
<td>The site for solid waste management plant be earmarked on the layout plan and the detailed project for setting up the solid waste management plant shall be submitted to the Authority within one month.</td>
</tr>
<tr>
<td>38.</td>
<td>The project proponent shall submit a copy of fire safety plan duly approved by Fire Department before the start of the construction.</td>
</tr>
<tr>
<td>39.</td>
<td>The project proponent shall discharge excess of treated waste water/storm water in the public drainage system and shall seek permission of HUDA before the start of the construction.</td>
</tr>
<tr>
<td>40.</td>
<td>The project proponent shall maintain the distance between STP and water supply line.</td>
</tr>
<tr>
<td>41.</td>
<td>The project proponent shall ensure that the stack height is 6 meter more than the highest tower.</td>
</tr>
<tr>
<td>42.</td>
<td>The project proponent shall provide helipad facility as required under NBC norms and shall seek permission of helipad from AAI/relevant Authority.</td>
</tr>
<tr>
<td>43.</td>
<td>All system of water supply, sewerage system, STP etc. shall be provided based on revised requirement of 135 lpcd.</td>
</tr>
<tr>
<td>44.</td>
<td>The project proponent shall ensure that structural stability to withstand earthquake of magnitude 8.5 on Richter Scale.</td>
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Operational Phase

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Condition</th>
<th>Reply</th>
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<tbody>
<tr>
<td>a.</td>
<td>&quot;Consent to Operate &quot;shall be obtained from Haryana State Pollution Control Board under Air and Water Act and a copy shall be submitted to the SEAA, Haryana.</td>
<td>We will obtain Consent to Operate from Haryana State Pollution Control Board under Air and Water Act before the operational phase and copy will be submitted to SEIAA, Haryana.</td>
</tr>
<tr>
<td>b.</td>
<td>The Sewage Treatment Plant (STP) shall be installed for the treatment of the sewage to the prescribed standards including odour and treated effluent will be recycled to achieve zero exit discharge. The installation of STP shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Haryana before the project is commissioned for operation. Tertiary treatment of wastewater is mandatory. The project proponent shall remove not only Ortho-phosphate but total phosphorus to the extent of less than 2mg/litre. Similarly, total nitrogen level shall be less than 2mg/litre in tertiary treated waste water. Discharge of treated sewage shall conform to the norms and standards of CPCB/HSPCB, whichever is environmentally better. Project proponent shall implement such STP technology which does not require filter backwash.</td>
<td>STP of 450KLD capacity will be installed and treated effluent will be recycled to achieve zero discharge during operational phase.</td>
</tr>
<tr>
<td>c.</td>
<td>Separation of the grey and black water should be done by the use of dual plumbing line. Treatment of 100% grey water by decentralized treatment should be done ensuring that the re-circulated water should have BOD level less than 5mg/litre and the recycled water will be used for flushing, gardening and DG Set cooling etc. to achieve zero exit discharge.</td>
<td>Provision of dual plumbing will be made for separation of black and grey water. Treated waste water will be used for flushing, HVAC water make up and landscaping.</td>
</tr>
<tr>
<td>d.</td>
<td>For disinfection of the treated wastewater ultra-violet radiation or ozonization process should be used.</td>
<td>We will use the ultra violet radiation or ozonization for disinfection of treated waste water.</td>
</tr>
<tr>
<td>e.</td>
<td>Diesel power generating sets proposed as source of back-up power for lifts, common area illumination and for domestic use should be of enclosed type and conform to the rules made under the Environment (Protection) Act, 1986. The location of the DG sets shall be in the basement as promised by the project proponent with the appropriate stack height above the highest roof level of the project as per the CPCB norms. The diesel used for DG sets shall be ultra low sulphur diesel (35 ppm sulphur), instead of low sulphur diesel.</td>
<td>Yes, we will use low sulphur diesel and all diesel power generating sets used will be of 'enclosed type' to prevent noise and should conform to rules made under EPA 1987, presented for air and noise emissions standards.</td>
</tr>
<tr>
<td>f.</td>
<td>Ambient noise level should be controlled to ensure that it does not exceed the prescribed standards both within and at the boundary of the Proposed Group Housing Project.</td>
<td>Monitoring for the ambient noise level will be done regularly to keep a check on the noise pollution. Adequate measures will be used to reduce the noise pollution level.</td>
</tr>
<tr>
<td>g.</td>
<td>The project proponent as stated in the proposal should maintain at least 30 % as green cover area for tree plantation especially all around the periphery of the project and on the road sides preferably with local species which can provide protection against noise and suspended particulate matter. The open spaces inside the project shall be preferably landscaped and covered with vegetation/grass, herbs and shrubs. Only locally available species shall be used.</td>
<td>Same will be compiled with during the operation phase and we will use only native plant species.</td>
</tr>
<tr>
<td>h.</td>
<td>The project proponent shall strive to minimize water</td>
<td>Appropriate water conservation practices will be</td>
</tr>
<tr>
<td>Conditions</td>
<td>Details</td>
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</tr>
<tr>
<td>in irrigation of landscape by minimizing grass area, using native variety, xeriscaping and mulching, utilizing efficient irrigation system, scheduling irrigation only after checking evapo-transpiration data.</td>
<td>done to minimize the consumption of water.</td>
<td></td>
</tr>
<tr>
<td>i. Rain water harvesting for roof run-off and surface run-off, as per plan submitted should be implemented. Before recharging the surface run-off, pre-treatment through sedimentation tanks must be done to remove suspended matter, oil and grease. The bre well for rain water recharging shall be kept at least 5 mts. Above the ground water table. Care shall be taken that contaminated water do not enter any RWH pit. The Project proponent shall avoid rain water harvesting of first 10 minutes of rain fall. Roof top of the building shall be without any toxic material or paint which can contaminate rain water. Wire mess and filters should be used wherever required</td>
<td>We will have rain water harvesting pits for the recharge of ground water by the surface or roof run off.</td>
<td></td>
</tr>
<tr>
<td>j. The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.</td>
<td>Ground water is not used at the project for any purpose.</td>
<td></td>
</tr>
<tr>
<td>k. A report on the Energy Conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials &amp; technology, R &amp; U Factors etc and submitted to the SEIAA, Haryana in three months time.</td>
<td>Report on implementation of energy conservation practices to be taken in the project to conform the rules of will be submitted to the SEIAA, Haryana once in a trimester</td>
<td></td>
</tr>
<tr>
<td>l. Energy Conservation measures like installation of LED only for lighting the areas outside the building and inside the building should be integral part of the project design and should be in place before project commissioning. Use of solar panel must be adapted to the maximum energy conservation</td>
<td>The LED will be used for lightening purposes at common areas.</td>
<td></td>
</tr>
<tr>
<td>m. The project proponent shall use zero ozone depleting potential material in insulation, refrigeration, air conditioning and adhesive. Project proponent shall also provide Halon free fire suppression system.</td>
<td>Yes, we will use zero ozone depleting potential material in the insulation, refrigeration, air-conditioning and adhesive; also provide Halon free fire suppression system operational phase.</td>
<td></td>
</tr>
<tr>
<td>n. The solid waste generated should be properly collected and segregated as per the requirement of the MSW Rules, 2000 and as amended from time to time. The bio-degradable waste should be treated by appropriate technology at the site earmarked within the project area and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.</td>
<td>Yes, the solid waste will be collected and segregated. The biodegradable waste will be composted by vermin composting at the site earmarked within the project area and dry /inert solid waste would be disposed off to municipal landfill sites after recovering recyclable wastes</td>
<td></td>
</tr>
<tr>
<td>o. The provision of the solar water heating system shall be as per norms specified by HAREDA and shall be made operational in each building block.</td>
<td>Appropriate provisions will be provided as per norms specified by HAREDA.</td>
<td></td>
</tr>
<tr>
<td>p. The traffic plan and the parking plan proposed by the project proponent should be adhered to meticulously with further scope of additional parking for future requirement. There should be no traffic congestion near the entry and exit points from the roads adjoining the proposed project site. Parking should be fully internalized and no public space should be used.</td>
<td>The traffic and parking plan has been proposed as per the bylaws of the region. It will be ensured that no parking is made in open/public spaces</td>
<td></td>
</tr>
<tr>
<td>q. The project shall be operationalized only when HUDA/local authority will provide domestic water supply system in the area.</td>
<td>We have obtained assurance from HUDA that the authority will provide water supply after the completion of the project. The copy of the same is</td>
<td></td>
</tr>
</tbody>
</table>
### Conditions

#### r.
Operation and maintenance of the STP, solid waste management and electrical infrastructure, pollution control measures shall be ensured even after the completion of the project.

#### s.
Different types of waste should be disposed off as per provisions of municipal solid waste, biomedical waste, e-waste, batteries & plastic rules made under Environment (Protection) Act, 1986. Particularly E-waste and Battery waste shall be disposed off as per existing E-waste Management Rules 2001. The project proponent should maintain a collection centre for E-waste and it shall be disposed off to only registered and authorized dismantler/recycler.

The waste generated from the project will be disposed off following the norms of MSW Rules, Biomedical Waste (Management & Handling Rules), hazardous waste, e-waste, batteries & plastic rules made under Environment (Protection) Act, 1986. E-waste will be segregated and disposed off as per the norms.

#### t.
Standards for discharge of environmental pollutants as enshrined in various schedules of Rule 3 of Environmental Protection Rule 1986 shall be strictly complied with.

Standards for discharge of Environmental pollutants will be strictly complied as per Environmental (Protection) Rules, 1986.

#### u.
Water supply shall be metered among different users and different utilities.

We will count the readings of water utility among different users.

#### v.
The project proponent shall ensure that the DG Sets is more than the highest tower and also ensure that the emission standards of noise and air are within the CPCB latest prescribed limits. Noise and Emissions level of DG sets greater than 800 KVA shall be as per CPCB latest standards for high capacity DG sets.

Adequate stack height will be provided as per CPCB guidelines and norms. Regular monitoring and measures will be undertaken to ensure that the emission levels are below the prescribed limits.

#### w.
All electric supply exceeding 100 amp., 3 phase shall maintain the power factor between 0.98 lag to 1 at the point of connection.

Same will be complied for the requirement.

#### x.
The project proponent shall use only treated water instead of fresh water for HVAC and DG cooling. The project proponent shall also use evaporative cooling technology and double stage cooling system for HVAC in order to reduce water consumption. Further, temperature, relative humidity during summer and winter seasons should be kept at optimal level. Variable speed drive, best co-efficient of Performance (CoP), as well as optimal Integrated Point Load Value and minimum outside fresh air supply may be resorted for conservation of power and water. Coil type DG sets shall be used for saving cooling tower consumption for water cooled DG sets.

Yes, will use only STP water during operation phase for HVAC and DG cooling & also use evaporative cooling technology and double stage cooling system for HVAC in order to reduce water consumption.

#### y.
The project proponent shall ensure that the transformer is constructed with high quality grain oriented, low loss silicon steel and virgin electrolyte grade copper. The project proponent shall obtain manufacturer’s certificate also for that.

A certified transformer of high quality grain, low loss silicon steel and virgin electrolyte grade copper will be installed during the operational stage.

#### z.
The project proponent shall ensure that exit velocity from the stack should be sufficiently high. Stack shall be designed in such a way that there is no stack downwash under any meteorological conditions.

Same will be complied as per the requirement of the project.

#### aa.
The project proponent shall provide water sprinkling system in the project area to suppress the dust in addition to the already suggested mitigation measures in the Air Environment Chapter of EMP.

Provision of water sprinkling system will be made to let the dust settle and to prevent the spread of particulate matter in the air.

#### ab.
The project proponent shall ensure proper Air Ventilation and light system in the basements area for

Appropriate ventilation, cooling and light system will be provided in the basement area.
comfortable living of human being and shall ensure that number of Air Changes per Hour (ACH) in basement never falls below 15. In case of emergency capacity for increasing ACH to the extent of 30 must be provided by the project proponent.

### B. GENERAL CONDITIONS

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<tr>
<th>Sr. No.</th>
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<tbody>
<tr>
<td>i.</td>
<td>The project proponent shall ensure the contaminants made in Form-I, Form IA, EIA/EMP and other documents submitted to the SEIAA for the protection of environment and proposed environmental safeguards are complied within letter and spirit. In case of contradiction between two or more documents on any point, the most environmentally friendly commitment on the point shall be taken as commitment by project proponent.</td>
<td>Environmental Safeguards as prescribed by the Ministry of Environment and Forests in the clearance document is being implemented in true spirit.</td>
</tr>
<tr>
<td>ii.</td>
<td>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 Northern Regional Office of MoEF, the respective Zonal Office of CPCB, HSPCB and SEIAA, Haryana.</td>
<td>We will regularly submit six monthly monitoring reports to the SEIAA and the regional office, MoEF, GOI, Northern region Chandigarh.</td>
</tr>
<tr>
<td>iii.</td>
<td>STP outlet after stabilization and stack emission shall be monitored monthly. Other environmental parameters and green belt shall be monitored on quarterly basis. After every 3 (three) months, the project proponent shall conduct environmental audit and shall take corrective measures, if required, without delay.</td>
<td>Monitoring of DG Stack and STP Outlet will be conducted monthly for the analysis. The report of both will be submitted once in quarter of the year.</td>
</tr>
<tr>
<td>iv.</td>
<td>The SEIAA, Haryana reserves the right to add additional safeguards measures subsequently, if found necessary. Environmental Clearance granted will be revoked if it is found that false information has been given for getting approval of this project. SEIAA reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of SEIAA/MoEF.</td>
<td>Noted. We agree that SEIAA have all the rights for additions/modifications in the projects.</td>
</tr>
<tr>
<td>v.</td>
<td>The project proponent shall not violate any judicial orders/pronouncements issued by any court/Tribunal.</td>
<td>Noted for the compliance in the project.</td>
</tr>
<tr>
<td>vi.</td>
<td>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, 1927, PLPA 1900 etc. shall be obtained, as applicable by project proponents from the respective authorities prior to construction of the project.</td>
<td>All relevant clearances have been obtained/ will be obtained as and when required. Copy of NOC Aravalli Clearance &amp; NOC from AAI are enclosed as Annexure-6 &amp; 7</td>
</tr>
<tr>
<td>vii.</td>
<td>The project proponent should inform the public that the project has been accorded Environmental Clearance by the SEIAA and copies of the clearance letter are available with the Haryana State Pollution Control Board &amp; SEIAA. This should be advertised within 7 days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region and the copy of the same should be forwarded to SEIAA, Haryana. A copy of Environment Clearance conditions shall also be put</td>
<td>Same will be informed in two local newspapers that are widely circulated in the region and copy of the same has been forwarded to SEIAA, Haryana. A copy of environment clearance conditions also will be displayed on PP's website for public awareness.</td>
</tr>
<tr>
<td>Condition</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>viii.</td>
<td>Under the provisions of Environmental (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started before obtaining prior Environmental Clearance.</td>
<td></td>
</tr>
<tr>
<td>ix.</td>
<td>Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.</td>
<td></td>
</tr>
<tr>
<td>x.</td>
<td>The project proponent shall put in place Corporate Environmental Policy as mentioned in MoEF, GoI OM No. J-11013/41/2006-IA.II (I) dated 26.04.2012 within three months period. Latest Corporate Environmental Policy should be submitted to SEIAA within 3 months period of issuance of this letter.</td>
<td></td>
</tr>
<tr>
<td>xi.</td>
<td>The fund ear-marked for environmental protection measures should be kept in separate account and should not be diverted for other purposes and year wise expenditure shall be reported to the SEIAA/RO MoEF GoI under rules prescribed for Environment Audit.</td>
<td></td>
</tr>
<tr>
<td>xiii.</td>
<td>The project proponent shall ensure that no vehicle during construction/operation phase enter the project premises without valid “Pollution under Control” certificate from Competent Authority.</td>
<td></td>
</tr>
<tr>
<td>xiv.</td>
<td>The project proponent is responsible for compliance of all conditions in Environmental Clearance letter and project proponent cannot absolve himself/herself of the responsibility by shifting it to any contractor engaged by project proponent.</td>
<td></td>
</tr>
<tr>
<td>xv.</td>
<td>The project proponent shall seek fresh environmental clearance if at any stage there is change in the planning of the proposed project.</td>
<td></td>
</tr>
<tr>
<td>xvi.</td>
<td>Beside the developer/applicant, the responsibility to ensure the compliance of Environmental Safeguards/conditions imposed in the Environmental Clearance letter shall also lie on the licensee/licensees in whose name/names the license/CLU has been granted by the Town &amp; Country Planning Department, Haryana.</td>
<td></td>
</tr>
<tr>
<td>xvii.</td>
<td>The Proponent shall upload the status of the 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. The criteria pollutant levels namely PM$<em>{2.5}$, PM$</em>{10}$, SO$_x$, NO$_x$, Ozone, Lead, CO, Benzene, Ammonia, Benzopyrene, Arsenic and Nickel. (Ambient levels as well as stack emission) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</td>
<td></td>
</tr>
<tr>
<td>xviii.</td>
<td>The environmental statement for each financial year</td>
<td></td>
</tr>
<tr>
<td>Project: Group Housing Project “SPAZE PRIVY•THE ADDRESS”, Sector-93, Gurgaon (HR)</td>
<td><strong>Ending 31st March in Form V as is mandated to be submitted by the project proponent to the HSPCB Panchkula as prescribed under the Environmental Protection Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of the compliance of the EC Conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.</strong> on regular interval to the relevant authority by project proponent to assure that they are following the Environmental Protection Rules.</td>
<td></td>
</tr>
<tr>
<td>xix. The project proponent shall conduct environment audit at every three months interval and thereafter corrected measures shall be taken without any delay. Details of environmental audit and corrective measures shall be submitted in the monitoring report.</td>
<td>Regular environmental audit will be conducted at every three months time to keep the check on the implementation of the practices proposed in the EC.</td>
<td></td>
</tr>
</tbody>
</table>
3.0 Monitoring Snapshot: This report is prepared for the period of October 2015 to March 2016 as per EC conditions. Post Environmental Clearance Monitoring was carried out during March 2016. The samples were analyzed at NABL and MoEF & CC approved Environmental laboratory named Vardan Enviro Lab, Gurgaon. Following environmental components has been monitored and analyzed.

1. Ambient Air Quality
2. Noise Quality
3. Water Quality
4. Soil Quality

3.1 AMBIENT AIR QUALITY MONITORING

3.1.1 Ambient Air Quality Monitoring Stations

Ambient air quality monitoring has been carried out at 3 locations: Near main Gate, Centre of the Project and Near Backside of the Project. This will enable to have a comparative analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The locations of the ambient air quality monitoring stations are given in Table 3.1.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Location</th>
<th>Location Name/ Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>AAQ 1</td>
<td>Near Main Gate</td>
</tr>
<tr>
<td>2.</td>
<td>AAQ 2</td>
<td>Centre of the Project</td>
</tr>
<tr>
<td>3.</td>
<td>AAQ 3</td>
<td>Backside of the Project</td>
</tr>
</tbody>
</table>

AAQ-1: Near Main Gate
The sampler was placed near main gate and was free from any obstructions. Surroundings of the sampling site represent commercial environmental setting

AAQ-2: Centre of the Project
The sampler was placed at Centre of the Project. Vicinity represents commercial environmental setting.

AAQ-3: Backside of the Project
The sampler was placed at Backside of the Project. Vicinity represents commercial environmental setting.
3.1.2 Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Particulate Matter 2.5 (PM$_{2.5}$)
- Particulate Matter 10 (PM$_{10}$)
- Sulphur Dioxide (SO$_2$)
- Nitrogen Dioxide (NO$_2$)
- Carbon Monoxide (CO)
- Ammonia (NH$_3$)
- Lead (Pb)
- Benzene (C$_6$H$_6$)
- Benzo(a)pyrene
- Ozone (O$_3$)
- Arsenic (As)
- Nickel (Ni)

Installation of Respirable Dust sampler (RDS) & Fine Particulate Sampler (FPS) was done with the attachment for the 24 hourly ambient air quality monitoring as per Gazette Notification 16th November 2009.

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring and minimum detectable levels are given in table 3.2.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Technique</th>
<th>Technical Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Particulate Matter 2.5</td>
<td>Fine Particulate Sampler, Gravimetric Method</td>
<td>National Ambient Air Quality Series: NAAQMS/36/2012-13</td>
</tr>
<tr>
<td>2</td>
<td>Particulate Matter 10</td>
<td>Respirable Dust Sampler, with cyclone separator, Gravimetric Method</td>
<td>IS-5182 (Part-23)</td>
</tr>
<tr>
<td>3</td>
<td>Sulphur Dioxide</td>
<td>Modified West and Gaeke</td>
<td>IS-5182 (Part-II)</td>
</tr>
<tr>
<td>4</td>
<td>Nitrogen Dioxide</td>
<td>Jacob &amp; Hochheiser</td>
<td>IS-5182 (Part-VI)</td>
</tr>
<tr>
<td>5</td>
<td>Carbon Monoxide</td>
<td>Gas Chromatography</td>
<td>IS-5182 (Part-X)</td>
</tr>
<tr>
<td>6</td>
<td>Ammonia</td>
<td>Indo-Phenol Blue method</td>
<td>National Ambient Air Quality Series: NAAQMS/36/2012-13</td>
</tr>
<tr>
<td>7</td>
<td>Lead</td>
<td>Atomic Absorption Spectro-photometer</td>
<td>IS: 5182 (P-22), 2004</td>
</tr>
<tr>
<td>8</td>
<td>Benzene</td>
<td>Gas Chromatography</td>
<td>IS: 5182 (P-11), 2006</td>
</tr>
<tr>
<td>9</td>
<td>Benzo(a)pyrene</td>
<td>Gas Chromatography</td>
<td>National Ambient Air Quality Series: NAAQMS/36/2012-13</td>
</tr>
<tr>
<td>10</td>
<td>Ozone</td>
<td>Colorimetry</td>
<td>IS: 5182 (P-9), 1974</td>
</tr>
<tr>
<td>11</td>
<td>Arsenic</td>
<td>Atomic Absorption Spectro-photometer</td>
<td>IS: 5182 (P-22), 2004</td>
</tr>
<tr>
<td>12</td>
<td>Nickel</td>
<td>Atomic Absorption Spectro-photometer</td>
<td>IS: 5182 (P-22), 2004</td>
</tr>
</tbody>
</table>

Fine Particulate Sampler instruments have been used for monitoring Particulate Matter 2.5 (PM$_{2.5}$ i.e. <2.5 microns), and Respirable Dust Sampler was used for sampling Respirable Table fraction (<10 microns), gaseous pollutants like SO$_2$ and NO$_2$. Bladder and Aspirator bags were used for collection Carbon Monoxide samples. Gas Chromatography techniques have been used for the estimation of CO.
3.1.3 Ambient Air Quality Monitoring Results

The Detailed on-site monitoring results of PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_x$ and CO are presented in Table 3.3.

### Table 3.3 Ambient Air Quality Monitoring Results

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Test Result</th>
<th>Test Method</th>
<th>NAAQS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Particulate Matter (PM$_{2.5}$), µg/m$^3$</td>
<td>42.11</td>
<td>44.38</td>
<td>40.78</td>
</tr>
<tr>
<td>2.</td>
<td>Particulate Matter (PM$_{10}$), µg/m$^3$</td>
<td>72.64</td>
<td>85.70</td>
<td>74.96</td>
</tr>
<tr>
<td>3.</td>
<td>Nitrogen Dioxide (NO$_2$), µg/m$^3$</td>
<td>21.40</td>
<td>24.09</td>
<td>14.20</td>
</tr>
<tr>
<td>4.</td>
<td>Sulphur Dioxide (SO$_2$), µg/m$^3$</td>
<td>8.21</td>
<td>9.16</td>
<td>9.20</td>
</tr>
<tr>
<td>5.</td>
<td>Ammonia (NH$_3$), µg/m$^3$</td>
<td>0.90</td>
<td>1.25</td>
<td>1.52</td>
</tr>
<tr>
<td>6.</td>
<td>Lead (Pb), µg/m$^3$</td>
<td>&lt;0.02</td>
<td>&lt;0.02</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>7.</td>
<td>Carbon Monoxide (CO) mg/m$^3$</td>
<td>0.52</td>
<td>0.50</td>
<td>0.57</td>
</tr>
<tr>
<td>8.</td>
<td>Benzene(C$_6$H$_6$), µg/m$^3$</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>9.</td>
<td>Benzo(a)pyrene (C$<em>{20}$H$</em>{12}$), ng/m$^3$</td>
<td>ND*</td>
<td>ND*</td>
<td>ND*</td>
</tr>
<tr>
<td>10.</td>
<td>Ozone (O$_3$), µg/m$^3$</td>
<td>2.48</td>
<td>2.85</td>
<td>1.48</td>
</tr>
<tr>
<td>11.</td>
<td>Arsenic As, ng/ m$^3$</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
</tr>
<tr>
<td>12.</td>
<td>Nickel Ni, ng/ m$^3$</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
</tr>
</tbody>
</table>

*ND-Not Detectable

![Figure 3.1 Location-wise Variation of Ambient Air Quality (PM$_{2.5}$, PM$_{10}$, NO$_2$ & SO$_2$)](image-url)
Project: Group Housing Project “SPAZE PRIVY-THE ADDRESS”, Sector- 93, Gurgaon (HR)

Figure 3.2 Location-wise Variation of NH₃ & O₃ in Ambient Air Quality

Figure 3.3 Location-wise Variation of CO in Ambient Air Quality
3.1.4 Discussion on Ambient Air Quality in the Study Area

PM$_{10}$ and PM$_{2.5}$ levels at the project site are in the permissible limit of 100µg/m$^3$ and 60µg/m$^3$ respectively in all the areas (for commercial, rural and other areas as stipulated in the National Ambient Air Quality Standards). SO$_2$, NO$_x$ and CO was observed within the corresponding stipulated limits (Limit for SO$_2$ and NOx: 80 µg/m$^3$ and limit for CO: 4.0 mg/m$^3$) at all monitoring locations. NH$_3$ and O$_3$ were found within the permissible limit of 400 µg/m$^3$ and 180 µg/m$^3$ respectively. Remaining toxic parameters as per NAAQS are also under or below the detection level. Station wise variation of ambient air quality parameters has been pictorially shown in Figure 3.1, 3.2 & 3.3.
3.2 AMBIENT NOISE MONITORING

3.2.1 Ambient Noise Monitoring Locations

The main objective of noise monitoring in the study area is to assess the present ambient noise levels near Main gate, Centre of the Project, Near Backside of the Project due to various construction allied activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at three locations at the boundary of the project site as given in Table 3.4.

Table 3.4 Details of Ambient Noise Monitoring Stations

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Location Code</th>
<th>Location Name/ Description</th>
<th>Present Land use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>N1</td>
<td>Near Main Gate</td>
<td>Residential</td>
</tr>
<tr>
<td>2.</td>
<td>N2</td>
<td>Centre of the Project</td>
<td>Residential</td>
</tr>
<tr>
<td>3.</td>
<td>N3</td>
<td>Backside of the Project</td>
<td>Residential</td>
</tr>
</tbody>
</table>

3.2.2 Methodology of Noise Monitoring

Noise levels were measured using sound level meter. Noise level monitoring was carried out continuously for 24-hours with one hour interval starting at 06:00am to 06:00am next day. The noise levels were monitored on working days only. During each hour Leq were directly computed by the instrument based on the sound pressure levels. Monitoring was carried out at ‘A’ response and fast mode.

3.2.3 Ambient Noise Monitoring Results

The location wise ambient noise monitoring results is summarized in Table 3.5. The location-wise variation of noise levels are graphically presented in Figure 3.4.

Table 3.5 Ambient Noise Monitoring Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day Time</td>
<td>Night Time</td>
<td>Day Time</td>
</tr>
<tr>
<td>Lmax</td>
<td>60.30</td>
<td>52.20</td>
<td>58.10</td>
</tr>
<tr>
<td>Lmin</td>
<td>45.50</td>
<td>34.00</td>
<td>48.10</td>
</tr>
<tr>
<td>Leq</td>
<td>53.00</td>
<td>43.79</td>
<td>52.76</td>
</tr>
<tr>
<td>CPCB Limit (Leq in dB(A)</td>
<td>55.00</td>
<td>45.00</td>
<td>55.00</td>
</tr>
</tbody>
</table>
3.2.4 Discussion on Ambient Noise Levels in the Study Area

Day Time Noise Levels ($L_{\text{day}}$):
The day time noise level at all the locations were found to within limits prescribed for residential area i.e. 55 dB (A).

Night Time Noise Levels ($L_{\text{night}}$):
The night time noise level at all the locations were found to within limit prescribed for residential area i.e. 45 dB (A).
3.3 WATER QUALITY MONITORING

3.3.1 Drinking Water Quality Monitoring Locations

Sample of water was collected from the project site for the assessment of impacts of the project on the drinking water quality.

Water sample was collected from the project site. The sample was analyzed for various parameters as per IS: 10500. The details of water sampling locations are given in Table 3.6.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Location Code</th>
<th>Location Name/ Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>DW 1</td>
<td>Project Site</td>
</tr>
</tbody>
</table>

3.3.2 Methodology of Drinking Water Quality Monitoring

Sampling of water was carried out on March 2016. Samples were collected as grab sample and sampling forms are filled in as per the sampling plan. The preservative were properly added to preserve the sample as per standard operating procedures (SOP) and stored immediately in ice boxes, which were ensured for appropriate temperatures. Sample for chemical analysis was collected in polyethylene carboys. Sample collected for metal testing were acidified to <2 pH by adding 1 ml HNO₃. A sample for bacteriological analysis was collected in sterilized glass bottles.

Soon after the completion of sampling, chain of custody sheets for the samples are filled in and then they were transported by road to **Vardan Enviro Lab, Gurgaon** for further analysis. Proper care was taken during packing and transportation of samples. All the samples reached the laboratory within the holding times for different parameters. After ensuring the same the samples were forwarded immediately for analysis.

The samples were analyzed as per the standard procedures specified in 'Standard Methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA) and as per Indian standards. The analytical techniques and test methods adopted for testing of water are given in Table 3.7.
### 3.3.3 Drinking Water Quality Monitoring Results

The detailed drinking water quality monitoring results are presented in **Table 3.7**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Test Method</th>
<th>Result</th>
<th>Unit</th>
<th>Limits of IS:10500 -2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Desirable limit (Max.)</td>
</tr>
<tr>
<td>1.</td>
<td>pH (at 25 0C)</td>
<td>APHA 22nd Edition, 4500-H+ B</td>
<td>7.20</td>
<td>--</td>
<td>6.5 to 8.5</td>
</tr>
<tr>
<td>3.</td>
<td>Turbidity</td>
<td>APHA 22nd Edition, 2130 B</td>
<td>BDL (DL 1 NTU)</td>
<td>NTU</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Total Hardness as CaCO3</td>
<td>APHA 22nd Edition, 2340 C</td>
<td>60.10</td>
<td>mg/l</td>
<td>200</td>
</tr>
<tr>
<td>7.</td>
<td>Calcium as Ca</td>
<td>APHA 22nd Edition, 3500 Ca B</td>
<td>18.25</td>
<td>mg/l</td>
<td>75</td>
</tr>
<tr>
<td>8.</td>
<td>Alkalinity as CaCO3</td>
<td>APHA 22nd Edition, 2320 B</td>
<td>55.60</td>
<td>mg/l</td>
<td>200</td>
</tr>
<tr>
<td>9.</td>
<td>Chloride as CI</td>
<td>APHA 22nd Edition, 4500-Cl- B</td>
<td>22.94</td>
<td>mg/l</td>
<td>250</td>
</tr>
<tr>
<td>10.</td>
<td>Cyanide as CN</td>
<td>APHA 22nd Edition, 4500 CN- D</td>
<td>BDL(DL 0.02 mg/l)</td>
<td>mg/l</td>
<td>0.05</td>
</tr>
<tr>
<td>11.</td>
<td>Magnesium as Mg</td>
<td>APHA 22nd Edition, 2340 B</td>
<td>3.54</td>
<td>mg/l</td>
<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>Sulphate as SO4</td>
<td>APHA 22nd Edition, 4500 E</td>
<td>1.34</td>
<td>mg/l</td>
<td>200</td>
</tr>
<tr>
<td>14.</td>
<td>Fluoride as F</td>
<td>APHA 22nd Edition, 4500-F- D</td>
<td>0.15</td>
<td>mg/l</td>
<td>1.0</td>
</tr>
<tr>
<td>15.</td>
<td>Nitrate as NO3</td>
<td>IS 3025 (P-34) 1988</td>
<td>0.78</td>
<td>mg/l</td>
<td>45</td>
</tr>
<tr>
<td>16.</td>
<td>Iron as Fe</td>
<td>APHA 22nd Edition, 3500-Fe B</td>
<td>0.21</td>
<td>mg/l</td>
<td>0.3</td>
</tr>
<tr>
<td>17.</td>
<td>Alumimum as Al</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.02 mg/l)</td>
<td>mg/l</td>
<td>0.03</td>
</tr>
<tr>
<td>18.</td>
<td>Boron</td>
<td>APHA 22nd Edition, 4500B C</td>
<td>BDL(DL 0.1 mg/l)</td>
<td>mg/l</td>
<td>0.5</td>
</tr>
<tr>
<td>19.</td>
<td>Total Chromium as Cr</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.01 mg/l)</td>
<td>mg/l</td>
<td>0.05</td>
</tr>
<tr>
<td>20.</td>
<td>Phenolic Compounds</td>
<td>APHA 22nd Edition, 5530 C</td>
<td>BDL(DL 0.001 mg/l)</td>
<td>mg/l</td>
<td>0.01</td>
</tr>
<tr>
<td>21.</td>
<td>Mineral Oil</td>
<td>Clause 6 of IS:3025(Part 39)</td>
<td>BDL(DL 0.01mg/l)</td>
<td>mg/l</td>
<td>0.5</td>
</tr>
<tr>
<td>22.</td>
<td>Anionic Detergents as MBAS</td>
<td>APHA 22nd Edition, 5540 C</td>
<td>BDL(DL 0.02mg/l)</td>
<td>mg/l</td>
<td>0.2</td>
</tr>
<tr>
<td>23.</td>
<td>Zinc as Zn</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.02 mg/l)</td>
<td>mg/l</td>
<td>5</td>
</tr>
<tr>
<td>24.</td>
<td>Copper as Cu</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.02 mg/l)</td>
<td>mg/l</td>
<td>0.05</td>
</tr>
<tr>
<td>25.</td>
<td>Manganese as Mn</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.10 mg/l)</td>
<td>mg/l</td>
<td>0.1</td>
</tr>
<tr>
<td>26.</td>
<td>Cadmium as Cd</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.001 mg/l)</td>
<td>mg/l</td>
<td>0.003</td>
</tr>
<tr>
<td>27.</td>
<td>Lead as Pb</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.01mg/l)</td>
<td>mg/l</td>
<td>0.01</td>
</tr>
<tr>
<td>28.</td>
<td>Selenium as Se</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.01 mg/l)</td>
<td>mg/l</td>
<td>0.01</td>
</tr>
<tr>
<td>29.</td>
<td>Arsenic as As</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.01 mg/l)</td>
<td>mg/l</td>
<td>0.01</td>
</tr>
<tr>
<td>30.</td>
<td>Mercury as Hg</td>
<td>APHA 22nd Edition, 3111 B</td>
<td>BDL(DL 0.001 mg/l)</td>
<td>mg/l</td>
<td>0.001</td>
</tr>
<tr>
<td>31.</td>
<td>Total Coliform</td>
<td>IS 1622,1981(Reaffirmed 2003)</td>
<td>Absent</td>
<td>MPN/100ml</td>
<td>-</td>
</tr>
<tr>
<td>32.</td>
<td>E. Coli</td>
<td>IS 1622,1981(Reaffirmed 2003)</td>
<td>Absent</td>
<td>MPN/100ml</td>
<td>Absent</td>
</tr>
</tbody>
</table>
3.3.4 Discussion on Drinking Water Quality in the Study Area

The drinking water quality in the project is found fit for drinking purpose. Total alkalinity reaching up to 55.60 mg/L which is less than the desirable limit of 200 mg/L. Total dissolved solids in the drinking water is 85.00 mg/L which is also lower than prescribed limit of 500 mg/L. Remaining parameters are within the limits as prescribed by IS 10500:2012 for drinking water. Arsenic and mercury which are considered to be the very risky contaminants were found within the permissible limit too. The microbiological contaminants (E. Coli and Total Coliform) are absent in water sample taken from the project site.
3.4 SOIL MONITORING

3.4.1 Soil Monitoring Locations

The objective of the soil monitoring is to identify the impacts of ongoing project activities on soil quality and also predict impacts, which have arisen due to execution of various constructions allied activities. Accordingly, a study of assessment of the soil quality has been carried out.

To assess impacts of ongoing project activities on the soil in the area, the physico-chemical characteristics of soils were examined by obtaining soil samples from selected points and analysis of the same. A sample of soil was collected from the project site for studying soil characteristics, the location of which is listed in Table 3.8.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Location Code</th>
<th>Location Name/ Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>S1</td>
<td>Project Site</td>
</tr>
</tbody>
</table>

3.4.2 Methodology of Soil Monitoring

The sampling has been done in line with IS: 2720, Methods of Soil Analysis (Part-1), APHA & USDA. The homogenized samples were analyzed for physical and chemical characteristics (physical, chemical and heavy metal concentrations). The soil samples were collected in the month of March 2016.

The samples have been analyzed as per the established scientific methods for physico-chemical parameters. The heavy metals have been analyzed by using Atomic Absorption Spectrophotometer.
3.4.3 Soil Monitoring Results

A sample of soil is collected from the site to check the quality of soil of the study area. The physico-chemical characteristics of the soil, as obtained from the analysis of the soil sample, are presented in Table 3.9

Table 3.9 Physico-Chemical Characteristics of Soil in the Study Area

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Protocol</th>
<th>Result</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>pH (at 25 °C)</td>
<td>IS: 2720 (P-26,1987)</td>
<td>7.52</td>
<td>--</td>
</tr>
<tr>
<td>2.</td>
<td>Conductivity</td>
<td>IS:14767-2000 Reaffirmed 2006</td>
<td>0.201</td>
<td>mS/cm</td>
</tr>
<tr>
<td>5.</td>
<td>Water holding capacity</td>
<td>USDA Method, 1968</td>
<td>24.10</td>
<td>%</td>
</tr>
<tr>
<td>6.</td>
<td>Bulk density</td>
<td>USDA Method, 1968</td>
<td>1.20</td>
<td>gm/cc</td>
</tr>
<tr>
<td>7.</td>
<td>Chloride as Cl</td>
<td>USDA Method, 1968</td>
<td>69.10</td>
<td>mg/kg</td>
</tr>
<tr>
<td>8.</td>
<td>Calcium as Ca</td>
<td>USDA Method, 1968</td>
<td>60.12</td>
<td>mg/kg</td>
</tr>
<tr>
<td>9.</td>
<td>Sodium as Na</td>
<td>USDA Method, 1968</td>
<td>41.90</td>
<td>mg/kg</td>
</tr>
<tr>
<td>10.</td>
<td>Potassium as K</td>
<td>USDA Method, 1968</td>
<td>85.50</td>
<td>kg./hec.</td>
</tr>
<tr>
<td>11.</td>
<td>Organic Matter</td>
<td>IS:2720 (P-22, 1972)</td>
<td>0.56</td>
<td>%</td>
</tr>
<tr>
<td>12.</td>
<td>Magnesium as Mg</td>
<td>USDA Method, 1968</td>
<td>24.10</td>
<td>mg/kg</td>
</tr>
<tr>
<td>15.</td>
<td>Zinc as Zn</td>
<td>APHA-3030D, APHA-3111B</td>
<td>6.12</td>
<td>mg/kg</td>
</tr>
<tr>
<td>16.</td>
<td>Magnese as Mn</td>
<td>APHA-3030D, APHA-3111B</td>
<td>2.00</td>
<td>mg/kg</td>
</tr>
<tr>
<td>17.</td>
<td>Chromium as Cr</td>
<td>APHA-3030D, APHA-3111B</td>
<td>1.12</td>
<td>mg/kg</td>
</tr>
<tr>
<td>18.</td>
<td>Lead as Pb</td>
<td>APHA-3030D, APHA-3111B</td>
<td>0.90</td>
<td>mg/kg</td>
</tr>
<tr>
<td>19.</td>
<td>Cadmium as Cd</td>
<td>APHA-3030D, APHA-3111B</td>
<td>1.50</td>
<td>mg/kg</td>
</tr>
<tr>
<td>20.</td>
<td>Copper as Cu</td>
<td>APHA-3030D, APHA-3111B</td>
<td>3.02</td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

3.4.4 Discussion on Soil Characteristics in the Study Area

The soil in study area is characterized by moderate organic content. The soil quality in the project area has not been affected by the project activities.
4.0 Site Photographs

Ambient Air Quality Monitoring

Ambient Noise Monitoring
Project: Group Housing Project “SPAZE PRIVY-THE ADDRESS”, Sector- 93, Gurgaon (HR)

Drinking Water Sample

Soil Sample
Project: Group Housing Project “SPAZE PRIVY-THE ADDRESS”, Sector- 93, Gurgaon (HR)

Project Site

Project Site