

# **APPLICATION FOR ENVIRONMENTAL CLEARANCE**

**Residential Building Project**

**at**

**Proposed Residential high-rise building on plot bearing  
CTS. No. 837 to 840 of Village Poisar, Samta Nagar,  
Kandivali (East), Mumbai.**

**Developers**

**M/s. S. D. Corporation Pvt. Ltd.**

**(A Shapoorji Pallonji - Dilip Thacker Group Joint Venture)**

## **CONTENTS**

APPENDIX – I : FORM - I

APPENDIX – II : FORM - IA

ANNEXURES

PLATES

### **LIST OF ANNEXURES**

Annexure I : Solid Waste Management

Annexure II : Water Supply & Wastewater Management

Annexure III : Proposed Area Statement

Annexure IV : Environmental Management Plan

### **LIST OF PLATES**

Plate I : Map showing surrounding features within 5 Km.

Plate II : Map showing surrounding features within 500 m.

Plate III : Proposed site – Location Plan & Block Plan

# FORM 1

**APPENDIX – I**  
**FORM – 1**

**(I) Basic Information:**

Sr. No.	Item	Details
1.	Name of the Project/s	Proposed Residential high-rise building on plot bearing CTS. No. 837 to 840 of Village Poisar, Samata Nagar, Kandivali (East), Mumbai.
2.	S. No. in the Schedule	8(a)
3.	Proposed capacity/area/length/tonnage to be handles/command area/lease area/number of wells to be drilled	Plot Area – 55409.00 Sq. m. Built up Area:- 202939.64 Sq.m. Total Construction Area- 433800.70 Sq. m
4.	New/Expansion/Modernization	Redevelopment
5.	Existing Capacity/Area etc.	-
6.	Category of Project i.e. 'A' or 'B'	Category 'B'
7.	Does it attract the general condition? If yes, please specify	Not Applicable
8.	Does it attract the specific condition? If yes, please specify	Not Applicable
9.	Location	Kandivali (E).
	Plot/Survey/Khasra No.	CTS. No. 837 to 840 of Village Poisar, Samta Nagar, Kandivali (East), Mumbai.
	Village	Poisar
	Tehsil	Borivali
	District	Mumbai
	State	Maharashtra
10.	Nearest railway station/airport with distance in kms	Nearest Railway Station: Kandivali Railway Station at approx 3 km Borivali Railway Station at approx 4 km Nearest Airport: Chatrapati Shivaji Terminus Airport within 14 Km
11.	Nearest Town, city, District Headquarters along with distance in kms	Town: Borivali :- 4 Km. City : Mumbai:- 27 km (Lower Parel) District: Mumbai
12.	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	Municipal Corporation of Greater Mumbai (MCGM)
13.	Name of the applicant	M/s. S. D. Corporation Pvt. Ltd.
14.	Registered Address	M/s. S. D. Corporation Pvt. Ltd. (A Shapoorji Pallonji - Dilip Thacker Group Joint Venture) SP Centre, 41/44 Minoo Desai Marg, Colaba, Mumbai - 400 005.
15.	Address for Correspondence	Same as above
	Name	Mr Dinesh Dubey.

	Designation (Owner/Partner/CEO)	Vice President
	Address	M/s. S. D. Corporation Pvt. Ltd. (A Shapoorji Pallonji - Dilip Thacker Group Joint Venture) SP Centre, 41/44 Minoo Desai Marg, Colaba,
	Pin Code	Mumbai – 400 005
	Telephone no.	022-67872278
	Email	<a href="mailto:dinesh.dubey@shapoorji.com">dinesh.dubey@shapoorji.com</a>
	Phone	(022) 2267872289
	Mobile	09167110814
16.	Details of Alternative sites examined if any location of these sites should be shown on a toposheet	Not Applicable
17.	Interlinked Projects	Not Applicable
18.	Whether separate application of interlinked project has been submitted?	Not Applicable
19.	If yes, date of submission	Not Applicable
20.	If no, reason	Not Applicable
21.	Whether the proposal involves approval/clearance under: if yes, details of the same and their status to be given. a. The Forest (Conservation) Act, 1980? b. The Wildlife (Protection) Act, 1972? c. The C.R.Z Notification, 1991?	Not Applicable
22.	Whether there is any Government order/Policy relevant/relating to the site?	Not Applicable
23.	Forest land involved (hectares)	Not Applicable
24.	Whether there is any litigation pending against the project and /or land in which the project is propose to be set up? Name of the court Case No. Orders/directions of the court, if any and its relevance with the proposed project.	No

## (II) Activity

### 1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
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Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	The proposed redevelopment of residential building is in conformity with the Development Plan of Municipal Corporation of Greater Mumbai (MCGM).
1.2	Clearance of existing Land, vegetation and building?	Yes	<p><b>Building:</b> The land is having MHADA Building on site which would be demolished.</p> <p><b>Trees:</b> There are 182 trees on site that will be cut or transplanted as per Tree NOC obtained from MCGM (Tree Authority) at later stage.</p>
1.3	Creation of new land uses?	No	The proposal is in conformity with the land use of the area as per the Development Plan.
1.4	Pre-construction investigation e.g. borehole, soil testing?	Yes	Soil investigation Report done.
1.5	Construction works	Yes	<p>The proposed project pertains to construction of a residential building Three Buildings:-</p> <p><b>1) Building No 1: Rehab Building:-</b>            Combined 1 Basement (Pt) + Ground + 2 Podium</p> <p>1) Building No 1A:-            Wing A, B: - 32 Upper Floors.            Wing C: - 33 Upper Floors.</p> <p>2) Building No 1B:-            Wing D: - 33 Upper Floors.            Wing E: - 32 Upper Floors.</p> <p>3) Building 1C:-            Wing F: - 32 Upper Floors.            4) Building 1D: -            Wing G: - 30 Upper Floors.</p> <p><b>2) Building No 2: Sale Building:-</b>            2 Building:- Wing A&amp; B:- Basement + Ground+ 5Podium+R1+R2+R3+54 Upper floors.</p> <p><b>3) Building No 3 Epsilon comprising of 3 Wings.</b>  <b>Wing A:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p>

Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
			<p><b>Wing B:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p> <p><b>Wing C:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p>
1.6	<b>Demolition work</b>	Yes	Existing structures will be demolished.
1.7	<b>Temporary sites used for construction works or housing of construction workers?</b>	No	There will be no temporary housing facility for the construction workers. Temporary sheds will be used for storage of the construction goods or materials on site.
1.8	<b>Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations</b>	Yes	<p>The proposed project pertains to construction of a residential building Three Buildings:-</p> <p><b>1) Building No 1: Rehab Building:-</b> Combined 1 Basement (Pt) + Ground + 2 Podium</p> <p><b>1) Building No 1A:-</b> Wing A, B: - 32 Upper Floors. Wing C: - 33 Upper Floors.</p> <p><b>2) Building No 1B:-</b> Wing D: - 33 Upper Floors. Wing E: - 32 Upper Floors.</p> <p><b>3) Building 1C:-</b> Wing F: - 32 Upper Floors.</p> <p><b>4) Building 1D: -</b> Wing G: - 30 Upper Floors.</p> <p><b>2) Building No 2: Sale Building:-</b> 2 Building:- Wing A&amp; B:- Basement + Ground+ 5Podium+R1+R2+R3+54 Upper floors.</p> <p><b>3) Building No 3 Epsilon comprising of 3 Wings.</b></p> <p><b>Wing A:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p> <p><b>Wing B:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p> <p><b>Wing C:</b> - Part basement + Ground Floor +1st to 5<sup>th</sup> Level Podium + 6<sup>th</sup> E deck Floor + 1 FCF + 1st to 37th Upper Floor.</p>
1.9	<b>Underground works including mining or</b>	No	Not Applicable



Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	tunneling?		
1.10	Reclamation works?	No	Not Applicable
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	No	Not Applicable
1.14	Facilities for storage of goods or materials?	Yes	Temporary sheds will be constructed for storage of construction materials.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	<p><b>Construction Phase:</b></p> <ul style="list-style-type: none"> <li>• Temporary sanitation facility would be provided for construction workers which would be directly connected to the existing municipal sewer line for disposal of wastewater.</li> <li>• The biodegradable and non-biodegradable waste from construction workers would be handed over to the local garbage collecting vehicles would be disposed to existing municipal solid waste management system.</li> <li>• Substratum excavated for foundation will be used onsite as back fill as far as possible.</li> </ul> <p><b>Operation Phase:</b></p> <p>The site will have sewage treatment plant for treatment &amp; reuse of waste water generated on site. The solid waste generated will be segregated as inorganic and organic waste.</p> <p>The organic waste to be treated by mechanical-composting on site and inorganic waste will be disposed to existing municipal solid waste management system.</p> <p>Please refer <b>Annexure – I for Solid Waste Management.</b></p> <ul style="list-style-type: none"> <li>▪ Wastewater will be treated in Sewage Treatment Plant with MBBR (Moving Bed Bioreactor) Process.</li> <li>▪ Treated water will reused for flushing, &amp; gardening purpose.</li> </ul> <p>Please refer <b>Annexure II for Water Supply and Wastewater Management.</b></p>
1.16	Facilities for long term housing of operational workers?	No	Not Applicable
1.17	New road, rail or sea traffic	Yes	<b>Construction Phase</b>

Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	during construction or operation?		There will be temporary increase in traffic due to transportation of construction material. <b>Operation Phase</b> There will be minor increase in traffic due to residents /visitors commuting to the residential area from outside.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	Yes.	Approach road and internal road will be constructed as a part of the project plan.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not Applicable
1.20	New or diverted transmission lines or pipelines?	No	Not Applicable
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not Applicable
1.22	Stream crossing?	No	Not Applicable
1.23	Abstraction or transfers of water from ground or surface waters?	No	Not Applicable
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	Not Applicable
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	<b>Construction Phase:</b> Construction materials will be transported to the site. Transport of workers employed for construction. <b>Operation Phase:</b> The persons in residential building during operation phase will use public or private transportation facilities.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not Applicable
1.27	Ongoing activity during decommissioning which could have an impact on the	No	Not Applicable

Sr. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	environment?		
1.28	Influx of people to an area in either temporarily or permanently?	Yes	<b>Construction phase:</b> Temporary and minor influx of construction laborers due to employment opportunities generated during construction phase. <b>Operation Phase:</b> This is a residential building. There will be a permanent influx of the people.
1.29	Introduction of alien species?	No	Not Applicable
1.30	Loss of native species or genetic diversity?	No	Not Applicable
1.31	Any other actions?	No	Not Applicable

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

Sr. No.	Information/checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	Land is non agricultural land.
2.2	Water (expected source & competing users) unit: KLD	Yes	<b>Construction phase:</b> Source: Tanker water for construction activity and MCGM for drinking and domestic use.  Requirement: Total = 50 m <sup>3</sup> /day (For domestic & drinking purpose to construction workers = 10 m <sup>3</sup> /day For construction activity = 40 m <sup>3</sup> /day) <b>Operation phase:</b> Source: Municipal Corporation of Greater Mumbai (MCGM) for drinking and domestic use and recycled water from STP for flushing, and gardening purpose. Total Water Requirement: 2254.58 m <sup>3</sup> /day Fresh Water: 1392.76 m <sup>3</sup> /day Flushing Water: 707.60 m <sup>3</sup> /day Gardening Water: 131.60 m <sup>3</sup> /day Swimming Pool:- 16.00 m <sup>3</sup> /day Car wash:- 4.56 m <sup>3</sup> /day Other Maintenance :- 2.43 m <sup>3</sup> /day Please refer <b>Annexure II</b> for <b>Water Supply and Wastewater Management</b> .

2.3	Minerals (MT)	No	Not Applicable
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	General Construction Material required for construction consists of Steel, Cement, Stone Aggregate, Sand, Bricks, Glass, Fly - ash based products, etc. The construction material would be used in the project site and would be obtained from authorized local dealer.
2.5	Forests and timber (source – MT)	No	Not Applicable
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	<p>Source: - <b>Reliance Energy</b></p> <p>Power requirement :</p> <ul style="list-style-type: none"> <li>▪ Construction Phase: 250 KW</li> <li>▪ Operation Phase: -</li> <li>▪ Connected Load <ul style="list-style-type: none"> <li>For Rehab &amp; Alpine 1:- 29330 KW</li> <li>For Epsilon:- 962.34 KW</li> </ul> </li> <li>• Demand Load <ul style="list-style-type: none"> <li>For Rehab &amp; Alpine 1:- 11995 KW</li> <li>For Epsilon:- 578 KW</li> </ul> </li> <li>▪ D.G sets : - <ul style="list-style-type: none"> <li>For Rehab :- 2 Nos of 500 KVA.</li> <li>For Alpine 1 :- 2 Nos of 250 KVA</li> <li>For Epsilon :- 3 Nos of 275 KVA</li> </ul> </li> </ul>
2.7	Any other natural resources (use appropriate standard units)	No	Not Applicable

**3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**

Sr. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	Not Applicable
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not Applicable
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Proposed project will provide accommodation with amenities.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients,	No	Not Applicable

	<b>children, the elderly etc.,</b>		
<b>3.5</b>	<b>Any other causes</b>	No	Not Applicable

**4. Production of solid wastes during Construction or Operation or Decommissioning (MT/month)**

<b>Sr. No.</b>	<b>Information/Checklist confirmation</b>	<b>Yes/ No</b>	<b>Details thereof (with approximate quantities/ rates, wherever possible) with source of information data</b>
<b>4.1</b>	<b>Spoil, overburden or mine wastes</b>	No	Not Applicable
<b>4.2</b>	<b>Municipal waste (domestic and or commercial wastes)</b>	Yes	<b>Operation Phase:</b> Total Municipal Solid waste: 6527.13 Kg/Day Biodegradable waste: 4071.50 Kg/Day Non- Biodegradable waste: 2455.70 Kg/Day Organic: 60% & inorganic: 40% Please refer <b>Annexure – I for Solid Waste Management.</b>
<b>4.3</b>	<b>Hazardous wastes (as per Hazardous Waste Management Rules)</b>	No	Not Applicable
<b>4.56</b>	<b>Other industrial process wastes</b>	No	Not Applicable
<b>4.5</b>	<b>Surplus product</b>	No	Not Applicable
<b>4.6</b>	<b>Sewage sludge or other sludge from effluent treatment</b>	Yes	<b>Operation Phase:</b> About 50 kg/day of sludge will be generated during operation phase.
<b>4.7</b>	<b>Construction or demolition wastes</b>	Yes	All construction waste will be collected and segregation properly. Mostly of that will be recycled for the construction activity. Surplus will be disposed off at proper site as per the norms.
<b>4.8</b>	<b>Redundant machinery or equipment</b>	No	Not Applicable
<b>4.9</b>	<b>Contaminated soils or other materials</b>	No	Not Applicable
<b>4.10</b>	<b>Agricultural wastes</b>	No	Not Applicable
<b>4.11</b>	<b>Other solid wastes</b>	No	Not Applicable

**5. Release of pollutants or any hazardous, toxic or noxious substances to air (kg/hr)**

<b>Sr. No.</b>	<b>Information/Checklist confirmation</b>	<b>Yes/ No</b>	<b>Details thereof (with approximate quantities/ rates, wherever possible) with source of information data</b>
<b>5.1</b>	<b>Emissions from combustion of fossil fuels from stationary or mobile sources</b>	Yes.	Vehicular pollution during construction and operation phase. Use of DG sets as emergency power back-up will add to slight emission of air pollutants.

Sr. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
5.2	Emissions from production processes	No.	Not applicable.
5.3	Emissions from materials handling including storage or transport	Yes	During the construction phase, there will be some dust generation due to handling of raw material and movement of vehicles carrying raw material.
5.4	Emissions from construction activities including plant and equipment	Yes.	There will be minor emissions from construction equipment & dust generation during construction activity & raw material handling.
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	Yes.	During the construction phase, there will be some dust generation due to handling of raw material and movement of vehicles carrying raw material. During Operation Phase negligible gaseous emission due to vehicle movements will be generated.
5.6	Emissions from incineration of waste	No.	Not applicable.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No.	Not applicable.
5.8	Emissions from any other sources	No.	Not applicable.

## 6. Generation of Noise and Vibration, and Emissions of Light and Heat

Sr. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes.	<b>Construction phase:</b> Minor increase in noise is anticipated due to the ongoing construction activity. The construction activity will be restricted to day time only. <b>Operation phase:</b> Noise will be generated due to DG sets (only in case of power failures) and vehicular movement.
6.2	From industrial or similar processes	No.	Not applicable.
6.3	From construction or demolition	Yes.	Noise & dust will be generated from construction & demolition activity.
6.4	From blasting or piling	No.	Not applicable.
6.5	From construction or	Yes.	<b>Construction phase:</b>

	<b>operational traffic</b>		Noise will be generated due to transport of trucks carrying the raw material/debris. <b>Operation phase:</b> During operation phase, traffic noise will be generated due to vehicles. However; adequate measures like tree plantation at periphery will be taken to curb the noise pollution at the site.
<b>6.6</b>	<b>From lighting or cooling systems</b>	No.	Not applicable.
<b>6.7</b>	<b>From any other sources</b>	No	D.G. sets will be enclosed in acoustic enclosures as prescribed by CPCB to mitigate noise while in operation phase during power failure.

**7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:**

<b>Sr. No.</b>	<b>Information/Checklist confirmation</b>	<b>Yes/ No</b>	<b>Details thereof (with approximate quantities/rates, wherever possible) with source of information data</b>
<b>7.1</b>	<b>From handling, storage, use or spillage of hazardous materials</b>	No.	Not applicable.
<b>7.2</b>	<b>From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)</b>	No	<b>Construction Phase</b> Temporary Toilets would be constructed for construction workers and it would be directly connected to the existing Municipal sewer line for disposal. <b>Operation Phase</b> Wastewater will be treated in Sewage Treatment Plant with MBBR (Moving Bed Bioreactor) Process. Treated water will reuse for flushing and gardening purpose. Remaining treated water will be sent to municipal sewer line. Please Refer <b>Annexure – II for Water Supply and Wastewater Management.</b>
<b>7.3</b>	<b>By deposition of pollutants emitted to air into the land or into water</b>	Yes	<b>Construction Phase</b> Vehicle movement would lead to slight increase in Dust particles. Dust generated during construction will be settled continuously by spraying water.
<b>7.4</b>	<b>From any other sources</b>	No.	Not applicable.
<b>7.5</b>	<b>Is there a risk of long term build up of pollutants in the environment from these sources?</b>	No.	Not applicable.

**8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment:**

Sr. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No.	Not applicable.
8.2	From any other causes	No.	Not applicable.
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	N. A. Mumbai lies in Seismic Zone - III and the design and construction will be done as per Indian Standards for Zone-III Seismic category.

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

Sr. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting. facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: - Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) - Housing development - Extractive industries - Supply industries - Other	Yes	The proposed infrastructure is only for the proposed development: <ul style="list-style-type: none"> <li>▪ STP for treatment and recycling of waste water generated on site.</li> <li>▪ Organic waste generated will be treated in mechanical waste composting units on site.</li> <li>▪ Rain Water Harvesting</li> <li>▪ Adequate parking space</li> <li>▪ Common amenity areas, landscaping etc. for green belt development.</li> </ul>
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not applicable.
9.3	Set a precedent for later developments	Yes	Construction of High rise building will provide tenants latest amenities and facilities.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not applicable.



**(III) Environmental Sensitivity:**

Sr. No.	Areas	Name / Identity	Aerial distance (within 15 km.) Proposed project location boundary	
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	None	Not Applicable	
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	None	Not Applicable	
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	None	Not Applicable	
4	Inland, coastal, marine or underground waters	Yes	Not Applicable	
5	State/National boundaries	None	Not Applicable	
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	None	Not Applicable	
7	Defense installations	No	Not Applicable	
8	Densely populated or built-up area	Yes	The proposed project is located in Kandivali, Mumbai.	
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	No	Description	Distance
			Hospital (Dr Choksis fertility clinic)	0.4km
			School (Thakur School)	0.80km
			School (Municipal School)	0.45km
College (Thakur College of Engg & Tech.)	0.25km			
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	Not Applicable	
11	Areas already subjected to pollution or environmental damage. (Those where existing legal environmental standards are	None	Not Applicable	

	<b>exceeded)</b>		
<b>12</b>	<b>Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)</b>	No	Not Applicable Mumbai lies in Seismic Zone - III and the design and construction will be done as per Indian Standards for Zone-III Seismic category.

I hereby given undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

**Date:**

**Place:** Mumbai

**M/s S. D. Corporation Pvt. Ltd.**

**(A Shapoorji Pallonji - Dilip Thacker Group Joint Venture)**

(Authorised signatory)

# FORM 1A

**APPENDIX - II**

**FORM – 1A**

<b>1.</b>	<b>LAND ENVIRONMENT:</b>
<b>1.1</b>	<p><b>Will the existing land use get significantly altered from the project that is not consistent with the surroundings? (Proposed land use must conform to the approved Master Plan / Development Plan of the area. Change of land use if any and the statutory approval from the competent authority are submitted). Attach Maps of</b></p> <p>(i) Site location,  (ii) Surrounding features of the proposed site (within 500 meters)  (iii) Contour plan</p> <p>As per D. P. remarks for the proposed site the land is under Residential Zone area For Ground and the proposed development is residential.</p> <p>Please find attached herewith:  <b>Plate - I</b> : Map showing surrounding features within 5 Km  <b>Plate - II</b> : Map showing surrounding features within 500 m  <b>Plate - III</b>: Proposed site – Location Plan &amp; Block Plan</p>
<b>1.2</b>	<p><b>List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.</b></p> <p>❖ <b>AREA STATEMENT:</b></p> <p>Total Plot Area: 55409.00 Sq m.  Total Construction Area: 433800.00 Sq. m</p> <p>Please refer <b>Annexure III</b> for <b>Area Statement</b>.</p> <p>❖ <b>WATER CONSUMPTION:</b></p> <p>Source: Municipal Corporation of Greater Mumbai (MCGM) for drinking and domestic use and recycled water from STP for flushing, and gardening purpose.</p> <p>Total Water Requirement = 2254.58 m<sup>3</sup>/day  Fresh water: 1392.76 m<sup>3</sup>/day  Flushing water: 707.60 m<sup>3</sup>/day  Gardening water: 131.60 m<sup>3</sup>/day  Car wash:- 4.56 m<sup>3</sup>/day  Swimming Pool: 16 m<sup>3</sup>/day  Please refer <b>Annexure II</b> for <b>Water Supply and Wastewater Management</b>.</p>

	<p>❖ <b>POWER REQUIREMENT:</b>  Source: - <b>Reliance Energy</b></p> <ul style="list-style-type: none"> <li>▪ Construction Phase: 250 KW</li> <li>▪ Operation Phase: -</li> <li>▪ Connected Load  For Rehab &amp; Alpine 1:- 29330 KW  For Epsilon:- 962.34 KW</li> <li>• Demand Load  For Rehab &amp; Alpine 1:- 11995 KW  For Epsilon:- 578 KW</li> <li>▪ D.G sets : -  For Rehab :- 2 Nos of 500 KVA.  For Alpine 1 :- 2 Nos of 250 KVA  For Epsilon :- 3 Nos of 275 KVA</li> </ul> <p>❖ <b>CONNECTIVITY:</b>  Nearest Railway station: Kandivali Station at approx 3 km &amp; Nearest Airport: Mumbai International Airport within 14 km</p> <p>❖ <b>COMMUNITY FACILITIES:</b>  As a part of the proposed construction, the proponent will develop facilities like amenity open spaces &amp; green areas as per DCR. The proponent will provide approach roads, parking, and landscape area.</p> <p>❖ <b>PARKING FACILITIES :</b>  Parking will be provided on Ground, 1<sup>st</sup> to 5<sup>th</sup> Podium Floor.  Total Parking:- For all 3 Towers parking provided is 1583nos</p>
1.3	<p><b>What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing land use and disturbance to the local ecology).</b></p>
	<p>The proposed project is situated in the Municipal Corporation of Greater Mumbai jurisdiction. The proposed development will not cause any negative impact on surrounding public facilities such as open spaces, gardens and local ecology etc. The proposed site is well developed and is residential as per D. P. Remarks.</p>
1.4	<p><b>Will there be any significant land disturbance resulting in erosion, subsidence &amp; instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).</b></p>
	<p>No.</p>
1.5	<p><b>Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)</b></p>
	<p>No. The natural drainage system will not be altered as part of proposed development, SWD will be provided for drainage of storm water within plot.</p>

	<b>1.6</b>	<b>What are the quantities of earthwork involved in the construction activity cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)</b>
		Excavation will be carried out only for creation of foundation and basement. The total quantity of sub-stratum removed during excavation for building foundation is approx. 33,750.00 cum. The substratum removed will be used for back filling, leveling, and road construction as far as possible.
	<b>1.7</b>	<b>Give details regarding water supply, waste handling etc during the construction period.</b>
		During construction phase, water requirement for drinking & domestic purpose will be 10 m <sup>3</sup> /day. It will be sourced from MCGM and water requirement for construction activities is approx. 40 m <sup>3</sup> /day. It will be sourced from tanker water. Temporary toilets will be installed and it will be directly connected to the existing municipal sewer line. <b>Waste handling:</b> 1. Various types of construction debris such as bricks, blocks, steel, formwork, finishing materials, etc. will be generated. (Excavation quantity: approx. 33750.00 cum) 2. Bricks, metal chips, cut tiles will be used for internal paving. 3. The damaged/cut pieces of steel, glass etc. will be sold to scrap dealer. 4. Substratum removed during foundation and excavation will be used as far as possible for plot filling and for making pathways. 5. Balance construction wastes, if any, will be disposed to authorized MSW site.
	<b>1.8</b>	<b>Will the low-lying areas &amp; wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)</b>
		Not applicable as there is no low-lying area within the site.
	<b>1.9</b>	<b>Whether construction debris &amp; waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labor and the means of disposal)</b>
		Care will be taken so as to avoid health hazard due to debris and waste during construction. Construction labor will be provided with safety gear (shoes/helmets etc.) to protect them from various health hazards.
	<b>2.</b>	<b>WATER ENVIRONMENT:</b>
	<b>2.1</b>	<b>Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources &amp; quantities and furnish a water balance statement.</b>

	<p><b>Construction phase:</b>  Source: Tanker water for construction activity and MCGM for drinking and domestic use.  Total Requirement = 50 m<sup>3</sup>/day  (For domestic &amp; drinking purpose to construction workers = 10 m<sup>3</sup>/day &amp; for construction activity = 40 m<sup>3</sup>/day)</p> <p><b>Operation phase:</b>  Source: Municipal Corporation of Greater Mumbai (MCGM) for drinking and domestic use and recycled water from STP for flushing and gardening purpose.</p> <table border="1"> <thead> <tr> <th>Purpose</th> <th>Quantity (KLD)</th> </tr> </thead> <tbody> <tr> <td>Total water requirement</td> <td>2254.58</td> </tr> <tr> <td>Domestic water requirement</td> <td>1392.76</td> </tr> <tr> <td>Flushing water requirement</td> <td>707.60</td> </tr> <tr> <td>Landscape Water Requirement</td> <td>131.60</td> </tr> <tr> <td>Car Washing</td> <td>4.56</td> </tr> <tr> <td>Swimming Pool</td> <td>16</td> </tr> <tr> <td>Total Sewage generation</td> <td>1823</td> </tr> <tr> <td>Total Recycled Water</td> <td>1641</td> </tr> <tr> <td>Balance water to sewer line</td> <td>801.87</td> </tr> </tbody> </table> <p>Please refer <b>Annexure II</b> for <b>Water Supply and Wastewater Management</b>.</p>	Purpose	Quantity (KLD)	Total water requirement	2254.58	Domestic water requirement	1392.76	Flushing water requirement	707.60	Landscape Water Requirement	131.60	Car Washing	4.56	Swimming Pool	16	Total Sewage generation	1823	Total Recycled Water	1641	Balance water to sewer line	801.87
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2.2	<p><b>What is the capacity (dependable flow or yield) of the proposed source of water?</b></p> <p><b>Construction phase:</b>  Source: Tanker water for construction activity and MCGM for drinking and domestic use.  Requirement: Total = 50 m<sup>3</sup>/day  (For domestic &amp; drinking purpose to construction workers = 10 m<sup>3</sup>/day &amp; for construction activity = 40 m<sup>3</sup>/day)</p> <p><b>Operation phase:</b>  Source: Municipal Corporation of Greater Mumbai (MCGM) for drinking and domestic use and recycled water from STP for flushing and gardening purpose.  Total Water Requirement = 2254.58 m<sup>3</sup>/day  (Fresh Water: 1392.76 m<sup>3</sup>/day and Flushing Water: 707.60 m<sup>3</sup>/day)  Please refer <b>Annexure II</b> for <b>Water Supply and Wastewater Management</b></p>																				
2.3	<p><b>What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)</b></p>																				

	<p>Water for domestic use will be from MCGM water supply source. Treated water from STP is proposed to be used for flushing and gardening. Characteristics of treated sewage from proposed STPs are as follows:</p> <p style="text-align: center;"><b>Characteristics of treated sewage</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Treated Effluent</th> <th>Characteristics</th> </tr> </thead> <tbody> <tr> <td>BOD</td> <td>&lt; 5</td> </tr> <tr> <td>pH</td> <td>7.0-7.5</td> </tr> <tr> <td>COD</td> <td>&lt; 15</td> </tr> <tr> <td>Total Suspended Solids</td> <td>&lt; 5</td> </tr> <tr> <td>Oil &amp; Grease</td> <td>Traces</td> </tr> </tbody> </table>	Treated Effluent	Characteristics	BOD	< 5	pH	7.0-7.5	COD	< 15	Total Suspended Solids	< 5	Oil & Grease	Traces						
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<b>2.4</b>	<p><b>How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)</b></p> <p><b>Operation phase</b> Source: MCGM water supply for domestic purpose &amp; treated water from Sewage Treatment Plants (STP) for gardening and flushing purpose for total Project.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Purpose</th> <th>Quantity (KLD)</th> </tr> </thead> <tbody> <tr> <td>Total water requirement</td> <td>2254.58</td> </tr> <tr> <td>Domestic water requirement</td> <td>1392.76</td> </tr> <tr> <td>Flushing water requirement</td> <td>707.60</td> </tr> <tr> <td>Landscape Water Requirement</td> <td>131.60</td> </tr> <tr> <td>Car Washing</td> <td>4.56</td> </tr> <tr> <td>Total Sewage generation</td> <td>1823</td> </tr> <tr> <td>Total Recycled Water</td> <td>1641</td> </tr> <tr> <td>Balance water to sewer line</td> <td>801.87</td> </tr> </tbody> </table> <p>Balance water to be diverted for municipal sewer. Please refer <b>Annexure – II for Water Supply &amp; Wastewater Management.</b></p>	Purpose	Quantity (KLD)	Total water requirement	2254.58	Domestic water requirement	1392.76	Flushing water requirement	707.60	Landscape Water Requirement	131.60	Car Washing	4.56	Total Sewage generation	1823	Total Recycled Water	1641	Balance water to sewer line	801.87
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<b>2.5</b>	<p><b>Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)</b></p> <p>Not applicable.</p>																		
<b>2.6</b>	<p><b>What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)</b></p> <p>Total wastewater generation from the proposed activity is about 1823 cmd. Wastewater will be recycled in proposed 3 STPs of 1200 CMD ,260 CMD &amp; 453 CMD for Rehab, Alpine 1 &amp; Epsilon respectively. The recycled water will be reused for flushing and gardening on site. Balance recycled water will be</p>																		



	disposed into municipal sewers. <b>Characteristics of sewage at inlet of STP are as follows:</b>												
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<b>2.7</b>	<b>Give details of the water requirements met from water harvesting? Furnish details of the facilities created.</b>												
	<ul style="list-style-type: none"> <li>▪ Rainwater harvesting is proposed as a water conservation measure.</li> <li>▪ Roof drainpipes will be designed considering maximum intensity of rainfall.</li> <li>▪ Rain water will be collected by down take pipes, proper site grading, storm water drainage channels, catch basins/ pits and piped drainage system, as appropriate.</li> <li>▪ Storm water will be carried up to storm water tank.</li> </ul>												
<b>2.8</b>	<b>What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?</b>												
	There will be no major change in the run-off characteristics. The site will have a well-designed storm water drainage system, which will prevent any flooding.												
<b>2.9</b>	<b>What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)</b>												
	During operation phase, a well-designed rainwater harvesting system will be part of the project.												
<b>2.10</b>	<b>What precautions/measures are taken to prevent the run-off from construction activities polluting land &amp; aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)</b>												
	Construction area will be isolated & care will be taken to divert the run-off to storm water drainage, so possibility of pollution from construction run-off will be prevented.												
<b>2.11</b>	<b>How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)</b>												
	<ul style="list-style-type: none"> <li>▪ The site will have a well designed storm water drainage system which will prevent any flooding.</li> <li>▪ Roof drain pipes will be designed considering maximum intensity of rainfall.</li> <li>▪ Rain water will be collected by down take pipes, proper site grading, storm water drainage channels, catch basins/ pits and piped drainage system, as appropriate.</li> <li>▪ Storm water will be carried up to storm water tank.</li> </ul>												

2.12	<b>Will the deployment of construction laborers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)</b>	No. During <b>construction phase</b> , temporary sanitation facility would be provided for construction workers which would be directly connected to the existing municipal sewer line for disposal of wastewater. Also clean drinking water will be provided. It will also be ensured that no accumulation of water will take place.
2.13	<b>What on-site facilities are provided for the collection, treatment &amp; safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology &amp; facilities for recycling and disposal)</b>	During Operation Phase 1. Waste water will be conveyed to a sewage treatment plant (STP) by a well designed system. (MBBR technology). 2. The quantity of wastewater generated will be 1823 cmd respectively. 3. 3 STPs of 1200 CMD , 260 CMD & 453 CMD for Building No 1 (Rehab), Building No 2(Alpine 1) & Building No 3 (Epsilon) respectively. 4. Tertiary treated waste water from STP will be used for flushing, and gardening. 5. Balance treated water (801.87 cmd) will be disposed into municipal sewers. Please refer <b>Annexure II</b> for <b>Water supply and wastewater management</b> .
2.14	<b>Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.</b>	For Water distribution dual plumbing lines are proposed. One line to distribute MCGM water for domestic supply. Another line to distribute treated water from STP for flushing & gardening purpose. Broad material specifications:- a. Water from underground tank to respective overhead tanks: G.I. pipes of required grade. b. For distribution from OH tank: U-PVC pipes of required grade c. Valves will be of forged brass ball valves d. Where necessary air valves, pressure reduction valves, non-return valves will be used. e. Rising main and internal distribution system will be of CPVC SDR 11 pipes heavy class
<b>3. VEGETATION:</b>		
3.1	<b>Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any)</b>	No, Not applicable
3.2	<b>Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees &amp; vegetation affected by the project)</b>	No, Not applicable.

<b>3.3</b>	<b>What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)</b>	
		Adequate RG area of 21905.64 Sq. m is proposed as part of the proposal. Trees will be planted @5 trees per 100 Sq. m of R. G. area. Landscape areas will be created and tree plantation will be carried out at the site as a part of the development. 1162 Nos.
<b>4. FAUNA:</b>		
<b>4.1</b>	<b>Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.</b>	
		No. Not applicable
<b>4.2</b>	<b>Any direct or indirect impacts on the avifauna of the area? Provide details</b>	
		No.
<b>4.3</b>	<b>Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna</b>	
		Not applicable.
<b>5. AIR ENVIRONMENT:</b>		
<b>5.1</b>	<b>Will the project increase atmospheric concentration of gases &amp; result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)</b>	
		There will be temporary increase in air pollution (particularly dust levels) due to transport of materials, excavation and land development during the construction phase. During operation phase, there will be a minor increase in air pollution due to increase in vehicular exhausts generated due to traffic. Due to presence of open spaces and landscape gardens, there will be no heat island effects.
<b>5.2</b>	<b>What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.</b>	
		There will be slight increase in the SPM/ RSPM levels during construction phase, which will have a temporary impact. During operational phase, vehicular exhausts will be the only source of air pollution.
<b>5.3</b>	<b>Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry &amp; exit to the project site.</b>	
		No.

5.4	<b>Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.</b>	
		Adequate provisions have been made in the internal roads and approach road, for smooth vehicle entry and exit.
5.5	<b>Will there be significant increase in traffic noise &amp; vibrations? Give details of the sources and the measures proposed for mitigation of the above.</b>	
		No. The internal roads within the premises will be designed with adequate width to minimize traffic congestion inside the plot.
5.6	<b>What will be the impact of DG sets &amp; other equipment on noise levels &amp; vibration in &amp; ambient air quality around the project site? Provide details.</b>	
		3 DG sets For Building 1 (Rehab), Building No 2 (Alpine 1) & Building No 3 (Epsilon) (2 Nos of 500 KVA , 2 Nos of 250 KVA & 3 Nos of 275 KVA) respectively are proposed to supply power as the emergency supply system in case of shut down/ break down of main power supply. DG set will be housed in noise insulated enclosures designed to meet standards as laid under Environment (Protection) Act. Noise and vibrations from DG sets will be eliminated with vibration mounts and silencers.
<b>6. AESTHETICS:</b>		
6.1	<b>Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?</b>	
		There will be no obstructions in the landscape views due to the project.
6.2	<b>Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?</b>	
		Not applicable
6.3	<b>Whether there are any local considerations of urban form &amp; urban design influencing the design criteria? They may be explicitly spelt out.</b>	
		The entire project is in conformity with DCR of MCGM.
6.4	<b>Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.</b>	
		No, there are no historical or archeological monuments of significance in the surrounding of the project site.
<b>7. SOCIOECONOMIC IMPACT:</b>		
7.1	<b>Will the proposal result in any changes to the demographic structure of local population? Provide the details.</b>	
		There will be some change in the demographic structure with the proposed development. There will be temporary increase in the number of people during

		the construction phase and a marginal influx of people in the local area after completion of the project.
	<b>7.2</b>	<b>Give details of the existing social infrastructure around the proposed project.</b>
		The surrounding area is predominantly residential as well as commercial. Several schools, educational institutes, hospitals, bus facilities, telephones connections, water supply lines and street light, etc. are available in the vicinity. The theatres, municipal parks are preliminary recreational facilities available in the vicinity.
	<b>7.3</b>	<b>Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?</b>
		No. The project will not cause any adverse effects on the local communities or disturb sacred sites or cultural values.
<b>8. BUILDING MATERIAL:</b>		
	<b>8.1</b>	<b>May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)</b>
		Some of the conventional materials with high Embodied energy used in the construction are cement (Primary Energy Requirement 5-8 Gj/tonne), Plaster (8-10 Gj/tonne) & Lime (3-5 Gj/tonne). Materials with low embodied energy like fly ash(<0.5 Gj/tonne), Blast(<0.5 Gj/tonne) & furnace slag will be used as an alternative to the conventional materials.
	<b>8.2</b>	<b>Transport and handling of materials during construction may result in pollution, noise &amp; public nuisance. What measures are taken to minimize the impacts?</b>
		During construction phase, the noise level is expected to increase due to construction machinery and vehicles. Following measures will be taken to minimize the impacts caused by transportation & handling of materials during construction: 1. By replacing diesel operated machines by electrically-operated machinery for heavy-duty construction equipments 2. Transportation of raw material will be done in covered trucks 3. Water will be sprinkled on the site to prevent dust emission. 4. Barricades will be raised along the boundary of the plot to prevent noise pollution. 5. The movement of these vehicles will be restricted only during non-peak hours / day time only. 6. Sufficient parking space will be provided to transport vehicles during the construction phase.
	<b>8.3</b>	<b>Are recycled materials used in roads and structures? State the extent of savings achieved?</b>
		Yes, Recycled material will be used for concrete & building material

	<p>such as:</p> <ul style="list-style-type: none"> <li>▪ Fly ash bricks &amp; block will be used for construction of buildings.</li> <li>▪ Bricks, metal, chips, cut tiles will be used for internal paving.</li> <li>▪ Substratum removed during foundation and excavation will be used for plot filling and for making pathways.</li> </ul> <p>Recycled water from STP will be used for gardening &amp; flushing purpose during operation phase.</p>
<b>8.4</b>	<p><b>Give details of the methods of collection, segregation &amp; disposal of the garbage generated during the operation phases of the project.</b></p> <p>Operation Phase            Various forms of solid waste generated will be collected, handled and disposed off in a manner so as to cause minimal environmental impact. Municipal solid waste will be segregated as dry and wet waste. The biodegradable (wet) waste will be used for composting. The non-biodegradable waste will be disposed off to the municipal waste collection system.</p> <ul style="list-style-type: none"> <li>▪ The dried STP sludge will be used as manure for gardening to the extent possible. Rest will be disposed off through municipal contractor or would be sold to local vendors.</li> <li>▪ Spent activated carbon from the ACF will be given back to the supplier for regeneration and recycling.</li> <li>▪ Waste sand from the PSF will be disposed off within the site for ground leveling or as fill material for making pathways or for small construction work.</li> <li>▪ Spent ion exchange resins from the softening plant will be given back to the supplier</li> <li>▪ Waste oil generated from DG set / other machinery overhauling and transformer oil replacement will be sold off to CPCB / MPCB authorized vendors for waste oil.</li> </ul> <p>Please refer <b>Annexure I</b> for details on <b>Solid Waste Management</b>.</p>
<b>9. ENERGY CONSERVATION:</b>	
<b>9.1</b>	<p><b>Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?</b></p> <p>Source: - Reliance Energy            Power requirement :</p> <ul style="list-style-type: none"> <li>▪ Construction Phase: 250 KW</li> <li>▪ Operation Phase: -</li> <li>▪ Connected Load              For Rehab &amp; Alpine 1:- 29330 KW              For Epsilon:- 962.34 KW</li> <li>• Demand Load              For Rehab &amp; Alpine 1:- 11995 KW              For Epsilon:- 578 KW</li> <li>▪ D.G sets : -              For Rehab :- 2 Nos of 500 KVA.              For Alpine 1 :- 2 Nos of 250 KVA              For Epsilon :- 3 Nos of 275 KVA</li> </ul>

<b>9.2</b>	<b>What type of, and capacity of, power back-up to you plan to provide?</b>																
		For D. G. Sets: 2 x 500KVA , 2 x 250 KVA & 3 x 275 KVA (DG Backup)For Building No 1(Rehab), Building No 2(Alpine 1) & Building No 3 (Epsilon) respectively.															
<b>9.3</b>	<b>What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?</b>																
		The specifications including emissive & thermal characteristics are as follows: <b>Characteristics of Tinted Glass</b>															
		<table border="1"> <thead> <tr> <th>Frame Type</th> <th>Glazing Type</th> <th>U-factor</th> <th>SHGC</th> <th>VLT</th> </tr> </thead> <tbody> <tr> <td>All frame types</td> <td>Single Glazing</td> <td>7.1</td> <td>070</td> <td>0.56</td> </tr> <tr> <td>Metal and other frame type</td> <td>Double Glazing</td> <td>5.1</td> <td>0.50</td> <td>0.40</td> </tr> </tbody> </table>	Frame Type	Glazing Type	U-factor	SHGC	VLT	All frame types	Single Glazing	7.1	070	0.56	Metal and other frame type	Double Glazing	5.1	0.50	0.40
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<b>9.4</b>	<b>What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.</b>																
		Architectural features: <ul style="list-style-type: none"> <li>▪ Maximize the use of natural light through design.</li> <li>▪ Use of energy saving devices (CFL light and Patti light)</li> </ul>															
<b>9.5</b>	<b>Does the layout of streets &amp; buildings maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.</b>																
		Yes, Solar street lights (External lighting) will be installed.															
<b>9.6</b>	<b>Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?</b>																
		Optimum usage of shading shall be considered on the East and West. Principles, details and energy saving shall be worked out during detailed design. Architectural elements of façade and roof shall be designed to maximum shading.															
<b>9.7</b>	<b>Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.</b>																
		The structures will use energy efficient lighting & mechanical systems. Lighting Intensity will be as per NBC & ECBC Guidelines. In the proposed project considering following measures:- <ul style="list-style-type: none"> <li>• Proposed Solar Water Heating System to cater 15% of total hot water capacity.</li> <li>• Proposed LPG /NG system for water heater to cater100% of total hot water capacity. ( Considering one geyser for each flat)</li> </ul>															

	<ul style="list-style-type: none"> <li>Proposed Equipment which complied with IS 13129 for solar water heater for better efficiency.</li> <li>External lighting to be controlled by time switch.</li> <li>Considering LED fixtures against conventional Fluorescent light fittings can save upto 30% Energy .</li> <li>3% of Street lights will be on Renewable source.</li> <li>Lift motors, domestic water pumps will be energy efficient motors.</li> <li>Design APFC Panels to maintain power factor between 0.95 to unity.</li> <li>All utility panels and common area panel contain kWh meter for monitor energy.</li> </ul>																
<b>9.8</b>	<b>What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island &amp; inversion effects?</b>																
	The proposed layout plan includes landscapes and open spaces for proposed buildings as per requirement. The project proposes to utilize energy efficient materials in the construction of the buildings (that will emit less energy). All these factors will together check and offset any heat island effects and help in keeping the temperature cool and hence there will be no inversion effect.																
<b>9.9</b>	<b>What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.</b>																
	<p>(a) Roofs: Roofs shall comply with either maximum assembly U-Factor or the minimum insulation R-Value is for the insulation alone &amp; does not include building materials or air films. Assumption: 50mm over deck insulation extruded polystyrene.</p> <p>(b) Opaque Walls: Opaque Walls shall comply with either maximum assembly U-Factor or the minimum insulation R-Value. R-Value is for the insulation alone &amp; does not include building materials or air films Assumption: 150mm thick AAC Block (with plaster on both side) or 230 mm thick fly ash brick (19mm thick outside plaster &amp; 12 mm thick inside plastering).</p> <p>(c) Vertical Fenestration: Vertical Fenestration shall comply with the maximum area weighted U-Factor &amp; maximum area weighted SHGC requirement. Assumption: 10mm thick high penetrating single glass.</p> <p>As per Energy Conservation Building Code (ECBC) 2009 Norms, U-values considered are as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="3"></th> <th rowspan="3">CLIMATIC ZONE</th> <th colspan="2">24 –Hours Use buildings</th> </tr> <tr> <th colspan="2">Hospitals, Hotels, Call Centers etc.</th> </tr> <tr> <th>Maximum U-factor of the Overall assembly</th> <th>Minimum R-value of Insulation alone</th> </tr> </thead> <tbody> <tr> <td>Roofs</td> <td>Warm &amp; Humid</td> <td>(W/m<sup>2</sup>°C) U-0.261</td> <td>(m<sup>2</sup>°C/W) R-3.5</td> </tr> <tr> <td>Opaque Walls</td> <td>Warm &amp; Humid</td> <td>(W/m<sup>2</sup>°C) U-0.440</td> <td>(m<sup>2</sup>°C/W) R-2.10</td> </tr> </tbody> </table>		CLIMATIC ZONE	24 –Hours Use buildings		Hospitals, Hotels, Call Centers etc.		Maximum U-factor of the Overall assembly	Minimum R-value of Insulation alone	Roofs	Warm & Humid	(W/m <sup>2</sup> °C) U-0.261	(m <sup>2</sup> °C/W) R-3.5	Opaque Walls	Warm & Humid	(W/m <sup>2</sup> °C) U-0.440	(m <sup>2</sup> °C/W) R-2.10
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		Vertical Fenestration	Warm & Humid	WWR=40%		40% <WWR <=60%
				Maximum U-Factor	Maximum SHGC	Maximum SHGC
				3.30	0.25	0.20
	<b>9.10</b>	<b>What precautions &amp; safety measures are proposed against fire hazards? Furnish details of emergency plans.</b>				
		Fire Protection for the site is specified as per NBC norms and also as per CFO NOC.				
	<b>9.11</b>	<b>If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.</b>				
		The specifications including emissive & thermal characteristics are as follows: <b>Characteristics of Tinted Glass</b>				
		<b>Frame Type</b>	<b>Glazing Type</b>	<b>U-factor</b>	<b>SHGC</b>	<b>VLT</b>
		All frame types	Single Glazing	7.1	0.70	0.56
		Metal and other frame type	Double Glazing	5.1	0.50	0.40
	<b>9.12</b>	<b>What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.</b>				
		<ol style="list-style-type: none"> <li>The windows are provided with aluminum metal sliding windows.</li> <li>All ventilation &amp; exhaust systems will comprise of one fan each of 100% capacity for that specific area, either connected to galvanized sheet steel ducting or free flow.</li> </ol>				
	<b>9.13</b>	<b>To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.</b>				
		Non-conventional energy technologies to reduce the overall energy consumption will be adopted as follows: <ul style="list-style-type: none"> <li>Solar Lights are proposed or external lighting</li> <li>Solar lights with PV cells for staircase</li> </ul>				

<b>ENVIRONMENTAL MANAGEMENT PLAN</b>	
	<p><b>Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.</b></p> <p>Please refer <b>Annexure – IV</b> for the <b>Environment Management Plan</b> for the stage wise activities that may be potential sources of pollution and the mitigation measures for the same.</p>