



PIMPRI CHINCHWAD MUNICIPAL CORPORATION

An ISO 9001:2008 Certified Organization

FORM – IA

[Vide M.o.E.F & C.C Notification dated 14th September, 2006 & Government of Maharashtra, Urban Development Department Directives u/s 37(1AA) (c) No. TPS-1816/CR-443/16/DP/Pune and Kokan /UD-13 dated 28/06/2017]

For Proposed Building Construction Project

“ _____ ”

At

S. No. _____, C.T.S. No. _____,

Gat No. _____, PLOT No. _____,

Village Name - _____, Tal. _____,

Dist. Pune, Maharashtra, Pin code - _____

Of

M/s. _____

Having Estimated Cost: Rs. _____ crores

Number of Tenements: _____ nos.

Number of Occupants: _____ nos.

Under Screening Category: Category 1 /2 /3

Name of Project Proponent: Mr/Ms/Mrs _____

Address: _____

Contact email address:

Contact Number:

(ONLY FOR CONSTRUCTION PROJECTS LISTED UNDER ITEM 8 OF THE SCHEDULE)

Check List of Environmental Impacts

(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed Environmental Management Plan & Monitoring Programme)

1	<u>LAND ENVIRONMENT</u>	
1.1	Will the existing land use get significantly altered from the project that is not consistent with the surroundings? (Proposed land use must conform to the approved Master Plan / Development Plan of the area. Change of land use if any and the statutory approval from the competent authority to be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.	
Ans.	<ul style="list-style-type: none"> • Attach Google Image of site location – Annexure 1 • Village Map – Annexure 2 • R.P. Zoning map – Annexure 3 	
1.2	List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.	
Ans	Conceptual Layout is attached herewith as Annexure 4 Licensed Architect certificate regarding B.U.A is attached herewith as Annexure 5 Major requirements of the project are listed below as:	
Sr. No.	Particular	Details
A	LAND AREA	
1.	Total plot area	
2.	Proposed F.S.I.	
3.	Proposed Non FSI	
4.	Total construction built up area	
4.	Parking area	
5.	R.G. area (area for landscape)	
B	WATER	
I	During Construction Phase	
1	For Workers	Drinking: _____ m ³ /day Domestic: _____ m ³ /day
2	Construction purposes	_____ m ³ /day
3	Total (1+2)	_____ m ³ /day

II During Operation Phase																				
1	Total Water Requirement	_____ m ³ /day																		
2	Fresh water requirement	_____ m ³ /day																		
3	Flushing water requirement	_____ m ³ /day																		
4	Landscaping water requirement	_____ m ³ /day																		
5	Waste water generation	_____ m ³ /day																		
6	Wastewater to municipal drain/Agriculture	_____ m ³ /day																		
C POWER																				
1	During Construction Phase	Source: MSEDCL Power requirement: _____ KW																		
2	During Operation Phase	Source : MSEDCL Max. Demand Load: _____ KVA Connected load: _____ KVA																		
3	DG set back-up	Construction phase: _____ no. x _____ KVA Operation phase: _____ nos. x _____ KVA + _____ nos. x _____ KVA + _____ nos. x _____ KVA																		
D PARKING																				
<table border="1"> <thead> <tr> <th>Vehicles</th> <th>Required Parking as per Norms</th> <th>Parking Provided</th> </tr> </thead> <tbody> <tr> <td>Cars</td> <td></td> <td></td> </tr> <tr> <td>Scoters</td> <td></td> <td></td> </tr> <tr> <td>Cycles</td> <td></td> <td></td> </tr> <tr> <td>Loading Unloading</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> </tr> </tbody> </table>			Vehicles	Required Parking as per Norms	Parking Provided	Cars			Scoters			Cycles			Loading Unloading			Total		
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1.3	What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing land use, disturbance to the local ecology).																			
Ans.	Major Impact: Yes / No If Yes: Give details																			
1.4	Will there any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).																			
Ans.	<ul style="list-style-type: none"> • Soil Type • Contour map & details of SUDS (if needed) is attached as Annexure 6 																			

	<ul style="list-style-type: none"> • Slope across the site • Seismic Zone
1.5	Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)
Ans:	Is existing natural drain being altered: Yes/ No If Yes: Give details of check dams, bio-swale, and other SUDS for maintaining drainage pattern.
1.6	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?)
Ans.	<ul style="list-style-type: none"> • Total quantity of excavation: • Quantity of backfill from excavated earth: • Quantity of earthwork used in site leveling/reclamation: • Quantity of excess earthwork to be disposed off outside site:
1.7	Give details regarding water supply, waste handling etc during the construction period.
Ans.:	Details of water supply and waste management during construction phase is given below: <u>Water:</u> Total water requirement : _____ m ³ /day Domestic/ Drinking requirement : _____ m ³ /day Construction activity requirement : _____ m ³ /day <u>Wastewater Treatment & Disposal:</u> Generated sewage from construction: _____ m ³ /day Disposal through: Septic Tank with soak pit/ Sewage treatment plant/Other (specify)
	<u>SOLID WASTE</u> <u>Quantity:</u> _____ Kg/day. <u>Disposal:</u> Authorized recyclers/ site leveling/ other (specify)
1.8	Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)
Ans.:	Yes/ No If Yes: Provide details of alteration.
1.9	Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)
Ans.:	Yes / No Number of workers: _____ Nos. Safety Measures: <ul style="list-style-type: none"> • Barricading the site with at least 3 m height • Sprinkling of water for dust suppression • Face masks

	<ul style="list-style-type: none"> • Personal protective equipment for workers <p>Source: Construction debris: Construction waste will be generated from the building will be channelized through debris chutes. It includes waste concrete, excavated soil, broken bricks, waste plaster, metallic scrap etc. Construction debris will be used for base course preparation. Domestic Solid Waste: ___Kg/day from labour use. It includes food waste, rubbish & other biodegradable waste. DISPOSAL: Construction Debris: It will be used for leveling the site. Domestic solid waste: The domestic solid waste from labours will be collected and disposed off through authorized recyclers. The entire construction waste will be used within the site for leveling purposes and base course preparation of internal approach roads. Provisions of Construction & Demolition Waste Rules, 2016 will be followed: Yes / No</p>																		
2.	WATER ENVIRONMENT																		
2.1	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 & quantities and furnish a water balance statement.																		
Ans.:	<p>A] CONSTRUCTION PHASE:</p> <table border="1" data-bbox="285 994 1453 1133"> <tr> <td>Drinking Demand</td> <td>_____ m³/day</td> </tr> <tr> <td>Domestic</td> <td>_____ m³/day</td> </tr> <tr> <td>Construction purpose</td> <td>_____ m³/day</td> </tr> </table> <p>B] OPERATION PHASE:</p> <table border="1" data-bbox="304 1249 1434 1574"> <tr> <td>Total Water Requirement</td> <td>_____ m³/day</td> </tr> <tr> <td>Fresh water requirement</td> <td>_____ m³/day</td> </tr> <tr> <td>Flushing water requirement</td> <td>_____ m³/day</td> </tr> <tr> <td>Landscaping & Road Washing requirement</td> <td>_____ m³/day</td> </tr> <tr> <td>Waste water generation</td> <td>_____ m³/day</td> </tr> <tr> <td>Excess disposal of waste water to drain/agriculture</td> <td>_____ m³/day</td> </tr> </table> <p>The details are enclosed in Water Balance Chart as Annexure 7 .</p>	Drinking Demand	_____ m ³ /day	Domestic	_____ m ³ /day	Construction purpose	_____ m ³ /day	Total Water Requirement	_____ m ³ /day	Fresh water requirement	_____ m ³ /day	Flushing water requirement	_____ m ³ /day	Landscaping & Road Washing requirement	_____ m ³ /day	Waste water generation	_____ m ³ /day	Excess disposal of waste water to drain/agriculture	_____ m ³ /day
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2.2	What is the capacity (dependable flow or yield) of the proposed source of water?																		
Ans.:	Yield: _____ m ³ /day Or Water NoC Yield certificate/ Water NoC is attached as Annexure 8																		

2.3	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)						
Ans.:	Total domestic water requirement: _____ m ³ /day Working hours: _____ Water Softener/Filtration plant capacity: _____ m ³ / hr Input hardness: _____ ppm Output hardness: _____ ppm Total drinking water requirement: _____ m ³ /day Working hours: _____ Reverse Osmosis plant capacity: _____ m ³ / hr Input T.D.S: _____ ppm Output T.D.S: _____ ppm Flow diagram of water treatment process is attached as Annexure 9 Low flow fixtures / aerators will be used for all C.P. fittings in the project: Yes/ No						
2.4	How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)						
Ans.:	<table border="1" data-bbox="236 981 1326 1077"> <tr> <td data-bbox="236 981 979 1025">Flushing water requirement</td> <td data-bbox="979 981 1326 1025">_____ m³/day</td> </tr> <tr> <td data-bbox="236 1025 979 1077">Landscaping requirement</td> <td data-bbox="979 1025 1326 1077">_____ m³/day</td> </tr> </table>	Flushing water requirement	_____ m ³ /day	Landscaping requirement	_____ m ³ /day		
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Landscaping requirement	_____ m ³ /day						
2.5	Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)						
Ans.:	Yes/No. If yes: Give details						
2.6	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)						
Ans.:	<table border="1" data-bbox="236 1503 1326 1653"> <tr> <td data-bbox="236 1503 979 1554">Waste water generated</td> <td data-bbox="979 1503 1326 1554">_____ m³/day</td> </tr> <tr> <td data-bbox="236 1554 979 1599">Treated waste water recycled for flushing / landscaping</td> <td data-bbox="979 1554 1326 1599">_____ m³/day</td> </tr> <tr> <td data-bbox="236 1599 979 1653">Excess treated waste water to drain/agriculture</td> <td data-bbox="979 1599 1326 1653">_____ m³/day</td> </tr> </table>	Waste water generated	_____ m ³ /day	Treated waste water recycled for flushing / landscaping	_____ m ³ /day	Excess treated waste water to drain/agriculture	_____ m ³ /day
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Excess treated waste water to drain/agriculture	_____ m ³ /day						
2.7	Give details of the water requirements met from water harvesting? Furnish details of the facilities created.						
Ans.:	Quantity of roof top rain water: _____ m ³ /day Size of recharge pits with bores: _____ m x _____ m x _____ m Recharging potential of 1 recharge pit: _____ m ³ /day Number of recharge pits proposed @ (at least 1 bore per 5,000 sqm): _____ nos. Rain water harvesting tank: _____ m ³						

	<p>Hydro geological report is attached as Annexure 10</p> <p>Rain Water Harvesting Plan is attached as Annexure 11</p> <p>Recharge of rain water will be limited to shallow aquifer: Yes / No</p>
2.8	What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?
Ans.:	<p>Major Impact: Yes / No</p> <p>If Yes: Give details</p>
2.9	What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity and approvals obtained from competent authority, if any)
Ans.:	<p>Ground water bores proposed: _____ nos.</p> <p>Average yield of bore: _____ m³/day</p> <p>Annual yield: _____ m³/year</p> <p>Recharging capacity of aquifer: _____ m³/year</p>
2.10	What precautions / measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)
Ans.:	<p>Following measures are proposed in project to control run off from construction site:</p> <ul style="list-style-type: none"> • Proper storm water drainage system comprising of lined drains is proposed. • Filtration media and grease trap will be fixed to rainwater harvesting bores • Boundary wall will be constructed around the site. • Soak pits are proposed for safe disposal of domestic waste water during construction phase. • Prevent the mixing of storm water runoff and sewage from labour camps. • Use of leak proof containers for storage oil to avoid contamination of runoff. • Additional measures (To be detailed)
2.11	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)
Ans.:	<p>Max. storm water runoff: _____ m³/hr</p> <p>Max. Diameter of Storm water drain: _____ mm</p> <p>Disposal point: As per storm water layout.</p> <p>Area of Open Space: _____ m²</p> <p>Pervious area (grass pavers etc) @ 20% : _____ m²</p> <p>Storm water layout is attached as Annexure 12</p>
2.12	Will the deployment of construction labours particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)
Ans.:	<p>Yes/ No</p> <p>Precautions taken:</p> <ul style="list-style-type: none"> • Proper built toilets with septic tank & soak pit/ mobile toilets

	<ul style="list-style-type: none"> • Waste segregation bin & dedicated housekeeping team • Regular fumigation and pesticide control
2.13	What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)
Ans.:	STP 1: _____ m ³ /day STP 2: _____ m ³ /day Sewage treatment technology: _____ Input BoD 3days @ 27 deg C: _____ ppm Output BoD 3days @ 27 deg C: _____ ppm Details of Sewage Treatment plan are attached as Annexure 13 Excess treated sewage will be disposed off as per C.P.C.B norms: Yes / No Sewage Disposal Plan is attached herewith as Annexure 14
2.14.	Give details of dual plumbing system if treated waste water is used for flushing of toilets or any other use.
Ans.:	Dual plumbing system used: Yes/No If Yes: Discharge: _____ m ³ / day Head: _____ m Working hours: _____ Capacity of pumps: _____ m ³ / hr Working + standby: Type of pipes used: uPVC/ HDPE/Other Dual plumbing system showing separation of grey and black water is attached as Annexure 15
	<u>VEGETATION</u>
3.1.	Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any)
Ans.:	Yes/ No. If Yes: Give details
3.2.	Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project).
Ans.:	Number of existing trees: _____ nos. Number of trees to be cut: _____ nos. Number of trees proposed to transplant: _____ nos. Compensatory plantation @ 1:3: _____ nos. Total number of trees to be planted @ 1 tree per 80 sq.m + compensatory: _____ nos. Top Soil preservation and reuse: Yes / No If No: Give reasons
3.3.	What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water

	bodies etc along with a layout plan to an appropriate scale).																				
Ans.:	Compensatory plantation @ 1:3: _____ nos. Total number of trees to be planted @ 1 tree per 80 sq.m + compensatory: _____ nos. Details of tree plantation is attached as Annexure 16 Preference to native trees will be given: Yes / No Allergy causing trees will be avoided: Yes / No																				
4.	FAUNA																				
4.1.	Is there likely to be any displacement of fauna-both terrestrial and aquatic or creation of barriers for their movement? Provide the details.																				
Ans.:	Yes/ No. If Yes: Give details																				
4.2.	Any direct or indirect impacts on the avifauna of the area? Provide details.																				
Ans.:	Yes/ No. If Yes: Give details																				
4.3.	Prescribe measures such as corridors, fish ladders etc. to mitigate adverse impacts on fauna.																				
Ans.:	Applicable/ Not Applicable If Applicable: Give details																				
5.	<u>AIR ENVIRONMENT</u>																				
5.1.	Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)																				
Ans.:	This project will not result in any kind of heat islands due to vehicular emissions. To reduce the gaseous emission from vehicle, proper entry/exit is proposed in the project with adequate wide internal road. The baseline ambient air quality at and around the site is monitored and is shown in table below. Since the baseline ambient air quality is well within the permissible limits, the resultant increment in gases concentration will also be within the limits.																				
	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Ambient Air Parameter</th> <th>Existing Levels</th> <th>Proposed Levels</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Sr. No.	Ambient Air Parameter	Existing Levels	Proposed Levels																
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5.2.	What are the impacts on generation of dust, smoke, odours fumes or other hazardous gases? Give details in relation to all the meteorological parameters.																				
Ans.:	Mitigation measures proposed: <ul style="list-style-type: none"> • Barricading of at least 3 m height • Water Sprinkling • Dust mask • Covering of trucks with tarpaulin sheets 																				

5.3.	Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.																																												
Ans.:	<table border="1"> <thead> <tr> <th rowspan="2">Sr. No.</th> <th rowspan="2">Vehicle</th> <th colspan="2">Required parking as per D.C. norms</th> <th colspan="2">Provided</th> </tr> <tr> <th>(in nos.)</th> <th>(in sq.m)</th> <th>(in nos.)</th> <th>(in sq.m)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Car</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Scooter</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>Cycle</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>Loading Unloading</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>Total</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Vehicular movement & Parking Plan is attached herewith as Annexure 17</p>					Sr. No.	Vehicle	Required parking as per D.C. norms		Provided		(in nos.)	(in sq.m)	(in nos.)	(in sq.m)	1	Car					2	Scooter					3	Cycle					4	Loading Unloading					5	Total				
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5.4.	Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.																																												
Ans.:	Area under internal driveways: _____ m ² Area under pedestrian pathway: _____ m ²																																												
5.5.	Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.																																												
Ans.:	Yes/ No If yes: Give details																																												
5.6.	What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details																																												
Ans.:	Type of DG set used: Noise reduction device used: Yes/ No Stack emission parameters: Noise levels within 10 m from D.G. set: Exhaust pipe height will be as per CPCB Emission Regulations Part IV: Yes / No Master services plan is attached herewith as Annexure 18																																												
6.	<u>AESTHETICS</u>																																												
6.1.	Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?																																												
Ans.:	Give details																																												
6.2.	Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?																																												

Ans.:	Yes/ No If yes: Mitigation measures are as detailed with respect to: <ul style="list-style-type: none"> • Noise • Construction/ consumer access • Dust and smoke • Working hours 																																										
6.3.	Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.																																										
Ans.:	Max building height: _____ m Min. building set back margin: _____ m Min. distance between two building: _____ m Min. turning radius: _____ m Typical cross section of the site is attached as Annexure 19																																										
6.4.	Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.																																										
Ans.:	Yes/ No If yes: Give details																																										
7.	<u>SOCIO-ECONOMIC ASPECTS</u>																																										
7.1.	Will the proposal result in any changes to the demographic structure of local population? Provide the details.																																										
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7.2.	Give details of the existing social infrastructure around the proposed project.																																										
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7.3.	Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?																																										
Ans.:	Yes/ No : If yes: Give details																																										
8.	<u>BUILDING MATERIALS</u>																																										

8.1.	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)
Ans.	Fly ash/ GGBS consumption: : <ul style="list-style-type: none"> • R.C.C: _____ % • Blocks: _____ % • Plaster: _____ % Recycled content in aluminum windows: _____ % Type of reinforcement steel used: Type of door: Type of flooring material: Type of dado: Type of glass:
8.2.	Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?
Ans.	Following measures will be taken to avoiding such pollution: <ul style="list-style-type: none"> • Barricading the periphery by corrugated tin sheet for at least 3 m height. • Sprinkling of water to avoiding dust pollution. • Vehicle carrying materials to be transported must have PUC certificate. • Tarpaulin sheets will be used to cover the trucks carrying loose materials.
8.3.	Are recycled materials used in roads and structures? State the extent of savings achieved?
Ans.	Quantity of embankment from excavated earth: _____ m ³ Quantity of embankment from construction debris: _____ m ³ Quantity of fly ash/recycled material to be used in roadwork : _____ m ³ Proposed savings in CO ₂ emission : _____%
8.4.	Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.
Ans.	Waste generation in the operation Phase: <ul style="list-style-type: none"> • Dry waste : _____ kg/day • Wet waste @ 0.3kg/person/day : _____ kg/day • STP sludge : _____ kg/day • Hazardous waste: _____ kg/day • E-waste: _____ kg/day • Biomedical waste : _____ kg/day Mode of Disposal of waste: <ul style="list-style-type: none"> • Separate dry and wet waste bins for each unit and ground level provided: Yes / No • Dry waste : Handed over to authorized recycler for further handling & disposal purpose • Wet waste: Through Organic Waste Convertor. Generated manure will be used for gardening • STP Sludge : Will be used as manure for gardening purpose or will be disposed off as per CPHEEO manual on sewerage & sewage treatment system, 2013 • Hazardous waste: • E- waste : Handed over to authorized Vendor

	<ul style="list-style-type: none"> • Biomedical waste : Handed over to authorized Vendor • Provisions of Solid Waste (Management) Rules, 2016, E- Waste (Management) Rules, 2016 & Plastic Waste (Management) Rules, 2016 will be complied: Yes / No 																	
9.	<u>ENERGY CONSERVATION</u>																	
9.1.	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?																	
Ans.:	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th colspan="2">Power Requirement</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td colspan="2">Source of power supply: _____</td> </tr> <tr> <td>2.</td> <td>During Construction Phase a) Total Connected Load</td> <td>_____ KW</td> </tr> <tr> <td>3.</td> <td>During Operation Phase a) Total Max. Demand Load b) Total Connected Load</td> <td>_____ KVA _____ KVA</td> </tr> <tr> <td>4.</td> <td>Transformers</td> <td>_____ nos. x _____ KVA + _____ nos. x _____ KVA</td> </tr> </tbody> </table> <p>Special Energy Conservation Methods:</p> <ul style="list-style-type: none"> • Common area lighting with LED bulbs: _____ KW • Solar Water heating system: _____ lit • Energy efficient pumps. • Timer for Staircase lighting, Lift Lobby, Parking area and street lights. 			Sr. No.	Power Requirement		1.	Source of power supply: _____		2.	During Construction Phase a) Total Connected Load	_____ KW	3.	During Operation Phase a) Total Max. Demand Load b) Total Connected Load	_____ KVA _____ KVA	4.	Transformers	_____ nos. x _____ KVA + _____ nos. x _____ KVA
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3.	During Operation Phase a) Total Max. Demand Load b) Total Connected Load	_____ KVA _____ KVA																
4.	Transformers	_____ nos. x _____ KVA + _____ nos. x _____ KVA																
9.2.	What type of, and capacity of power back-up do you plan to provide?																	
Ans.:	DG Sets are provided for power back up.																	
	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>DG sets</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>DG set as Power Back-up a) During Construction phase b) During Operation phase</td> <td>_____ nos. x _____ KVA+ _____ nos. x _____ KVA _____ nos. x _____ KVA + _____ nos. x _____ KVA</td> </tr> </tbody> </table>			Sr. No.	DG sets	Capacity	1.	DG set as Power Back-up a) During Construction phase b) During Operation phase	_____ nos. x _____ KVA+ _____ nos. x _____ KVA _____ nos. x _____ KVA + _____ nos. x _____ KVA									
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9.3.	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?																	
Ans.:	Glass type: clear/ reflective/ low e Solar factor: S.H.G.C: U Value : Transmittance:																	
9.4.	What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.																	

Ans.:	Details on passive solar features are attached as Annexure 20 Details on shading devices:																			
9.5.	Does the layout of streets & buildings maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.																			
Ans.	Street lighting load on LED: _____ KW Solar photovoltaic generation @ 1% connected load: _____ KW Solar water heating system @ 20% hot water demand: _____ lit																			
9.6.	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?																			
Ans.	Type of roof top shading/coating: U value of walls on east and west side: Total energy saved:																			
9.7.	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.																			
Ans.	Compliance to ECBC: Yes / No If yes: State efficiency of: Transformers: Air conditioners: Water pumps/motors: Details of E.C.B.C compliance are attached as Annexure 21																			
9.8.	What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?																			
Ans.	Adverse effect: Yes / No If Yes: Give details																			
9.9.	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.																			
Ans.:	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Part of building envelope</th> <th>Material Used</th> <th>U-Value/ R-Value</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Roof</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>External walls</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>Fenestration</td> <td></td> <td></td> </tr> </tbody> </table>				Sr. No.	Part of building envelope	Material Used	U-Value/ R-Value	1	Roof			2	External walls			3	Fenestration		
Sr. No.	Part of building envelope	Material Used	U-Value/ R-Value																	
1	Roof																			
2	External walls																			
3	Fenestration																			
9.10.	What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.																			

Ans.:	<ul style="list-style-type: none"> • Fire fighting system will be provided as per Fire NoC: Yes / No • Sand buckets shall be placed at adequate locations during construction: Yes / No • Fire alarm and extinguishers will be provided at strategic locations: Yes / No • Separate fire fighting underground and over head water tank will be provided: Yes / No • Proper signage for emergency evacuation will be displayed: Yes / No. • Fire fighting & emergency evacuation plan is attached herewith as Annexure 22. 			
9.11.	If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.			
Ans.:	Is glass being used entirely as a wall material like structural glazing: Yes / No If Yes: Emissivity: Thermal transmission:			
9.12.	What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.			
Ans.	<ul style="list-style-type: none"> • Air Infiltration rate: <ul style="list-style-type: none"> ○ Windows: ○ Doors: • Mitigation measures: <ul style="list-style-type: none"> ○ Combined capacity of exhaust fans: ○ Ventilation slit on bottom of door: Yes / No. 			
9.13.	To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.			
Ans.	Renewable energy capacity @ 1% connected load: _____ KW Type of technology: Wind/Solar/Hybrid Renewable energy plan and usage details are attached as Annexure 23			
10.	<u>ENVIRONMENT MANAGEMENT PLAN</u>			
	The 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.			
Ans.:	Sr. No.	Pollution Control & Other Environment Infrastructure	Capital Cost In Rs. Lakhs	Annual O & M Cost in Rs. Lakhs
	A}	During Construction Phase:		
	1	Water for Dust Suppression		
	2	Site Sanitation & Safety		
	3	Environmental Monitoring		
	4	Disinfection		
	5	Health Check up		
		Total (A)		
	B}	During Operation Phase:		

Form IA

1.	Rain Water Harvesting		
2.	Sewage Treatment Plant		
3.	Organic Waste Composting		
4.	Tree Plantation		
5.	Energy saving		
6.	Environment Monitoring		
7.	Laying of Storm & Sewer line upto final disposal point		
8.	Basement Ventilation		
	Total (B)		
	Total (A+B)		

Digitally Signed by

Project Proponent

LIST OF ANNEXURES

Annexure Number	Description
1	Google Image of project site
2	Village Map
3	R.P/ D.P. Zoning Map
4	Conceptual Layout
5	Architect certificate for B.U. Area
6	Contour Map & details on SUDS
7	Water Balance Chart
8	Yield Certificate / Water NOC
9	Water Treatment Process
10	Hydro-geological report
11	Rain Water Harvesting Plan
12	Storm water layout
13	Details of Sewage Treatment Plant
14	Sewage disposal plan
15	Dual Plumbing Layout
16	Tree Plantation Layout
17	Vehicular Movement & Parking Plan
18	Master Services showing U.G.T , S.T.P , O.W.C , D.G , Transformer room, R.W.H tank
19	Typical Cross Section of Site
20	Passive solar features
21	E.C.B.C Compliance sheet
22	Fire Fighting & Emergency Evacuation Plan
23	Renewable Energy Plan