APPENDIX I

(See paragraph – 6)

FORM 1

I. Basic Information

S. No	Item		Details
1.	Name of the Project/s	:	The Grand "Mix Use Building" Promoter: Anukampa Awas Vikas, LLP
2.	S. No. in the schedule	:	8(a) {*Building and Construction projects ≥ 20,000 sq. m. and <1,50,000 sq. m. of built-up area* }
3.	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	:	As under:- Total Plot Area : 7000 sq. m. Built up area : 35,633.68 sq. m. The Proposed Project will involve the construction of mix use building comprising of 499 nos. of service apartments, 22nos. of Hotel Guest rooms, 2 nos. Restaurants, banquet hall, club house, showrooms etc The details are tabulated as under:

S. No	Particulars	Details
1.	Service Apartments	: 499 nos.
2.	Hotel Guest Rooms	: 22 nos.
3.	Restaurants	: 2 nos. (Seats: 30 nos. (15 each)
4.	Food Court	: 1 no. (Seats: 20 nos.)
5.	Banquet hall	: 1 no.(193.40 sq. m)
6.	Office Blocks	: 2 nos. (572.47 sq. m.)
7.	Board Room	: 1no.
8.	Showrooms	: 24 nos.
9.	Club House	: 1no. (352.90 sq. m.)

4.	New/Expansion/Modernization	:	New
5.	Existing capacity/area etc	:	Not Applicable
6.	Category of project i.e. 'A' or 'B'	:	Category- B2
7.	Does it attract the general condition? If yes, please specify.	:	General conditions are not applicable on projects listed under Item 8 of Schedule of EIA Notification, 2006 and its subsequent amendments thereof.
8.	Does it attract the specific condition? If yes, please specify.	:	Specific conditions are not applicable on projects listed under item 8 of the schedule- EIA notification, 2006 and its subsequent amendments thereof.
9.	Location		
	Plot/Survey/Khasra no.	:	Plot No. S-01
	Village	:	Near Shyam Nagar
	Tehsil	:	Jaipur
	District	:	Jaipur
	State	:	Rajasthan

The Geographical Location is as under :

1. Point 1 Latitude : 26°53'57.93"N Longitude : 75°46'5.62"E	**2. Point 2** Latitude : 26°54'0.78"N Longitude : 75°46'11.04"E
3. Point 3 Latitude : 26°54'0.33"N Longitude : 75°46'11.37"E	**4. Point 4** Latitude : 26°53'56.14"N Longitude : 75°46'6.93"E

10.	Nearest Railway station/ Airport along with distance in kms.	:	As under:

Nearest	**Name**	**Distance (aerial) & Direction**
Railway Station	Jaipur Junction	2.9 Km towards NNE
Airport	Bikaner Airport	8.8 km towards SE

11.	Nearest Town, City, District Headquarters along with distance in kms.	:	Nearest Town: – Sodala 0.7 Km towards NE District Head Quarters: Collectorate 3.6Km towards NE.

12.	Village Panchayat, Zilla Parishad, Municipal Corporation, Local body (Complete postal address with telephone no. to be given)	:	The proposed project site is under the jurisdiction of Jaipur Development Authority. Address: Jaipur Development Authority, Jaipur Indira Circle, Jawahar Lal Nehru Marg, Jaipur E-mail : info@jaipurjda.org
13.	Name of the applicant	:	Anukampa Awas Vikas, LLP
14.	Registered address	:	Anukampa Awas Vikas, LLP Anukampa Mansion Phase I, M.I. ROAD, Jaipur Rajasthan 302001
15.	Address for correspondence:		
	Name	:	Prashant Gupta
	Designation (Owner/Partner/CEO)	:	Partner
	Address	:	Anukampa Mansion Phase I, M.I. ROAD, Jaipur Rajasthan
	Pin Code	:	302001
	E-mail	:	anukampa.thegrand@gmail.com gaurangenviro@gmail.com
	Telephone no.	:	0141-4029115
	Fax No.	:	--
16.	Details of alternative sites examined, if any. Location of these sites should be shown on a Toposheet.	:	No alternative site was examined.
17.	Interlinked projects	:	No
18.	Whether separate application of interlinked project has been submitted?	:	Not applicable
19.	If yes, date of submission	:	Not applicable
20.	If no, reason	:	There is no interlinked project.

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?	:	No
22.	Whether there is any Government Order/ Policy relevant/ relating to the site	:	No
23.	Forest land involved (hectares)	:	No
24.	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? a. Name of the Court b. Case No. c. Orders/directions of the court, if any and its relevance with the proposed project.	:	No litigation is pending against the project in any court of law.

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.)

S. 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)	Yes Yes No	**Land-use:** The project is coming up on a land allotted for mix use building. Copy of land documents are enclosed as **Annexure.** **Land cover:** The project site is mostly vacant except for some minor vegetation which will be removed during the site preparation activities. The intensity of land cover will change from presently vacant land to mix use building project having ground coverage of about 28.57 % (2000 sq. m.) **Topography:** The topography of the site has flat terrain with slope.
1.2	Clearance of existing land, vegetation and buildings?	No Yes	**Land & Building:** There are exiting structures present at the site, which will be demolished during the site preparations. **Vegetation:** The site is situated in the urban area. Minor vegetation clearance is required for the project.
1.3	Creation of new land uses?	Yes	The proposed land has been land allotted for commercial complex. The internal land-use break-up (project) is given as under:

Land use breakup

S. No	Particulars	Permissible	Proposed
1.	Total Plot Area	7000 sq. m.	
2.	Gross Built-up Area	35,633.68 sq. m.	
3.	BAR	1.5 x 1.5 =2.25 (15,750 sq. m.)+0.5 (for EWS)	3.64 (25,487.73 sq. m.)

4.	Ground coverage	35 % (2450 sq. m.)	28.57 % (2000 sq. m.)
5.	Landscape Area	-	15 % (1050 sq.m.)
6.	Paved areas including Open Surface Parking		56.43 % (3950 sq.m.)

1.4	Pre-construction investigations e.g. bore houses, soil testing?	No	There will be no physical impacts on the locality due to the soil testing or other pre-construction investigations.
1.5	Construction works?	Yes	The project will envisage a gross built up area of 35,633.68 sq. m. Anticipated Environmental Impacts on physical environment: • Increase in fugitive emissions during construction phase • Increase in traffic levels (construction & post construction phase) • Drainage • Landscape & Visual considerations The impact on physical environment will be temporary in terms of fugitive emissions. Best construction practices will be adhered to minimize the impacts. The same is tabulated as under:

S. No.	Guidance on	Practices to reduce emission
1.	Water Application	Water will be applied to mitigate dust generation
2.	Storage Piles	• Storage pile activity will be conducted downwind • Enclosures/ coverings will be used for storage piles
3.	Vehicles & Equipments	• Speed of vehicles will be reduced to avoid blowing of dust • Proper lubrication of vehicles and machinery will be ensured to reduce emissions • Engines & exhaust systems will be properly maintained. • Low sulphur diesel (HSD) will be used. • Idling time will be eliminated/ reduced to the minimum
4.	Material Handling & Transfer systems	• Mud and dirt track-out and carryout will be controlled properly. • Material drop will be minimized at the transfer point and enclosure • PM emissions from spills will be prevented. • Material handling operations will be minimized.
5.	Road Surfaces	• On-site vehicle restrictions will be established. • Unpaved roads will be properly maintained.

1.6	Demolition works?	Yes	There are exiting structures present at the site, which will be demolished during the site preparations.
1.7	Temporary sites used for construction works or housing of construction workers?	No	Temporary store-rooms and site office will be built during construction phase, which will be removed later. The impact due to the same will be confined to the construction phase only and thus can be categorized as temporary. Provisions of temporary housing facility for construction workers have been provided. Adequate infrastructural facilities such as sanitation (including separate toilet (mobile) for male and female workers), drinking water, crèche, cooking fuel, cookers etc will be provided to construction labours.

<table>
<tr><td>1.8</td><td>Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations</td><td>Yes</td><td>The project will attain a maximum height of 40 m (up to terrace level). Heights of individual blocks are tabulated below:
<table><tr><th>Tower</th><th>No. of Floors</th><th>Height (in m.)
Up to Terrace Level</th></tr><tr><td>Block</td><td>LB+UB+LGF+UGF+11</td><td>40 m</td></tr></table>
Thus, there will be a visual impact (temporary) on physical environment, though there are no landscapes/ amenities.
The project will involve earthwork which will be reused for filling. The top soil will be stored at earmarked places and will be subjected to temporary stabilization (mulching), while the other excessive soil will be used in the form of earthen berms near the project boundary, which will also help to curtail the noise levels. The same will be later taken by the contractors.</td></tr>
<tr><td>1.9</td><td>Underground works including mining or tunnelling?</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>1.10</td><td>Reclamation works?</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>1.11</td><td>Dredging?</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>1.12</td><td>Offshore structures?</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>1.13</td><td>Production & manufacturing processes?</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>1.14</td><td>Facilities for storage of goods or materials?</td><td>Yes</td><td>Temporary store room for the storage of construction materials will be built at the site, which will be removed later. Thus, the impact on physical environment will be temporal.
During the operational phase, there will be well designated confined storage areas within the</td></tr>
</table>

			building, which will not have impact on the physical environment
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	**Construction Phase:** Waste generated during construction phase will be reutilized to the extent possible and will be disposed off through authorized vendors. About 27 kg/day of municipal solid waste will be generated which will be disposed off to the municipality disposal site. **Post Construction Phase:** The solid waste generated to the tune of 625 kg/day from the project considering full occupancy will be mainly municipal waste. The solid waste generated will be first segregated as plastic, glass, paper, and other waste separately and disposed off as per applicable rules.
1.16	Facilities for long term housing of operational workers?	No	There are no provisions of long term housing facilities for operational workers. Apart from residents there will be maintenance team along with security. The impact due to this will be negligible.
1.17	New road rail or sea traffic during construction or operation?	No	There will be no new road and rail. In the post construction phase, there will be increase in the traffic levels due to proposed project. The traffic load due to the proposed project will be **316 ECUs** including the traffic load contributed by visitors considering 100% occupancy. The parking details are as under: **Parking required : 316 ECUs** **Parking provided : 577 ECUs**
1.18	New road, rail, air waterborne or other transport infrastructure including new	No	There is no new rail, air-borne transport infrastructure required for the project.

	or altered routes and stations, ports, airports etc?		
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Due to the upcoming project, there will be no closure or diversion of existing transport routes or infrastructures leading to changes in traffic movements.
1.20	New or diverted transmission lines or pipelines?	No	There will be no diversion of transmission and pipelines, though the project involves construction of new internal pipelines for fresh water, recycled water, rain water harvesting, sewer lines and internal power distribution lines.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	The project will not involve any impoundment, damming, culverting or realignment or other changes to the hydrology of watercourses or aquifers.
1.22	Stream crossings?	No	None
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	The fresh water demand to the tune of about 94 KLD (34310 cu. m. / annum) will be met through ground water supply. The area is falling under Jhotwara Block which is notified Block for ground water use. However, rain water harvesting has been devised to recharge the ground water aquifer. Provisions of capturing the maximum surface runoff and providing recharge to the tune of **3158 cu**. m. per annum (maximum recharge) will be done through the 3 rain water harvesting pits.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No Yes	**Water body:** There is no water body in and around project premises. **Land Surface Run-off:** The land surface affecting

			the drainage will be altered (retaining the same direction - though slope will be made gentle), however the impact will be confined to the site. There will be increase of 241 % in total surface run-off during post construction phase, which will be capturing through well designed storm-water pipe network of rain-water harvesting and will be used for recharge of the aquifers. The details are tabulated as under:

Phase	Total discharge (m^3/ annum)	% increase in run-off
Pre-construction	**1306**	**+241%**
Post construction	**3158**	

1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	**Construction:** There will be movement of personnel, materials and machineries during the construction phase. The impact due to the movement of personnel will be negligible as local people will be deployed and temporary housing facility will be provided for outside workers. The construction material and machinery required will be mobilized from the local area. Thus, there will be contribution of marginal noise & vehicular emissions which will be mitigated by implementation of effective EMP. The same is elaborated at point 1.5 , Form 1 **Post Construction:** During commissioning, there will be transportation of personnel and materials in and out of the project regularly. There will be 577 ECU peak on road due to the project on completion of project with 100% occupancy.
1.26	Long-term dismantling or decommissioning or	No	Restoration works for the project on long-term will be an ongoing activity which will not have

	restoration works?		any impact on physical environment.
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	There will be no decommissioning activity related to the project.
1.28	Influx of people to an area in either temporarily or permanently?	Yes	During the construction phase, there will be inward and outward movement of local labour in the construction site, this will be an ongoing temporary activity and will not call for permanent influx of people. However, during the post construction phase, there will be permanent influx of persons. There will be regular movement of shopkeepers, visitors, staff related personals.
1.29	Introduction of alien species?	No	Only local plant species will be planted for the green belt /landscaping.
1.30	Loss of native species or genetic diversity?	No	No endangered, threatened or endemic species exists in the study area, so inconsequential impact is visualized on the flora and fauna of the project site.
1.31	Any other actions?	No	None

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):

<table>
<tr><th>S. No.</th><th>Information/checklist confirmation</th><th>Yes/ No</th><th>Details thereof (with approximate quantities /rates, wherever possible) with source of information data</th></tr>
<tr><td>2.1</td><td>Land especially undeveloped or agricultural land (ha)</td><td>Yes</td><td>The total plot area envisaged for the project is about 7000 sq. m. (0.70 Ha).</td></tr>
<tr><td>2.2</td><td>Water (expected source & competing users) unit:</td><td>Yes</td><td>As under:
<table>
<tr><th>Particular</th><th>Demand</th><th>Source</th></tr>
</table>
</td></tr>
</table>

			<table><tr><td>Fresh water</td><td>94 KLD</td><td>Ground water supply</td></tr><tr><td>Treated water</td><td>110 KLD</td><td>Treated water from STP</td></tr><tr><td>**Total**</td><td>**204 KLD**</td><td></td></tr></table> The competing users are varied.
2.3	Minerals (MT)	Yes	Bricks and stone (locally available in the market)
2.4	Construction material – stone, aggregates, sand/ soil (expected source – MT)	Yes	The approximate quantities of construction materials to be used. <table><tr><th>Material</th><th>Quantity</th><th>Source</th></tr><tr><td>Coarse aggregate</td><td>17460cu. m.</td><td rowspan="5">Nearest market</td></tr><tr><td>Fine aggregate</td><td>18530 cu. m.</td></tr><tr><td>Cement (PPC/ OPC)</td><td>256560 bags</td></tr><tr><td>Structural Steel</td><td>2140MT</td></tr><tr><td>Bricks</td><td>5416320 nos.</td></tr></table>
2.5	Forests and timber (source – MT)	Yes	The use of wood in the project has been planned to the minimum extent possible. Wood with recycled content such as MDF boards will be used to the extent possible.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	As under:

Source of supply	33 kV JVVNL GSS	
Electrical Load	Connected load : 2601.1 KW Maximum demand : 1794.1 KW	
Transformer	Number	2
	Capacity	2000 kVA: 2 nos.
DG Sets	Number	3
	Capacity	1010 kVA : 2 nos. 500kVA :1 no.
	Fuel Used	HSD (sulphur content: 0.05%)
	Fuel Consumption	161.6 l/hr /DG and 32 l/hr/DG

2.7	Any other natural resources (use appropriate standard units)	No	No other natural resources will be used.

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.

S. 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)	Yes	There will be storage of Low Sulphur Diesel (HSD) to the tune of 1.5 KL (approx) for the project. This will not call for any approval from CIF&B as it is less than prescribed threshold limit. The significant hazard due to the same will be negligible as the exposure level will be confined within a small area in the consequence of unforeseen hazard.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	There will be no release of any hazardous substance in the construction as well as post-construction phase. The waste water generated to the tune of 122 KLD will be treated in STP of capacity 150 KLD based on MBBR technology. Further, storm water network will be well designed to leave no stagnant water pockets. The biodegradable as well as non- biodegradable waste will be collected at earmarked places and will be sent to the Municipality disposal sites. Proper sanitization will be done to prevent any disease vector.
3.3	Affect the welfare of people	No	There will be proper treatment of the solid as well

	e.g. by changing living conditions?		as liquid waste generated and the waste will not be dumped in the nearby localities thereby, causing change in the living conditions. The solid waste will be suitably treated, while the liquid effluent will be treated in the sewage treatment plant.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	The project planning will be done to avoid any adverse impact by means of proper waste management during construction as well as operation phase.
3.5	Any other causes	No	None

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S. No	**Information/Checklist confirmation**	**Yes/ No**	**Details thereof (with approximate quantities/ rates, wherever possible) with source of information data**
4.1	Spoil, overburden or mine wastes	No	Not Applicable
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Municipal solid waste generated during the post construction phase is 625 kg/day. The details of the various activities generating solid waste, its classification, collection facilities, treatment and disposal is given in CP & EMP.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	**Construction Phase:** No hazardous waste as per HWMR will be generated. **Post Construction/ Operational Phase:** Spent oil (<2 KL / annum) will be generated which will be carefully stored in High Density Polythene (HDPE) drums in isolated covered facility and will be disposed off to the registered actual users. Suitable care will be taken so that spills/leaks of

			spent oil from storage could be avoided.
4.4	Other industrial process wastes.	No	There are no industrial process waste
4.5	Surplus product.	No	No surplus product is anticipated
4.6	Sewage sludge or other sludge from effluent treatment.	Yes	About 12 KLD sludge will be generated from STP.
4.7	Construction or demolition wastes.	Yes	About 2140 MT of the construction waste will be generated, which will be sold to the vendors for recycling and reuse at the best possible extent. Details are elaborated in CP & EMP.
4.8	Redundant machinery or equipment.	No	There will not be any redundant machinery or equipment at site.
4.9	Contaminated soils or other materials.	No	Proper care will be taken to avoid contaminated soil and if oil spilled soil will be found; the same will be scrapped off and stored at earmarked places and sent to disposal sites.
4.10	Agricultural wastes.	No	There will be no agriculture waste.
4.11	Other solid wastes.	No	There will be no other solid waste.

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

S. No	**Information/Checklist confirmation**	**Yes/ No**	**Details thereof (with approximate quantities/ rates, wherever possible) with source of information data**
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources.	Yes	There will be emissions from DG sets (used in the case of power cuts or failure only). The maximum predicted concentrations from the proposed project considering line (vehicular exhausts) as well as point source (DG set of cumulative capacity 2520 kVA) emissions are as under:- **Mitigation measures:** • Effective stack height of 50 m above roof of DG house will be provided to contain the emissions

<table>
<tr><td></td><td></td><td></td><td>within the permissible norms.
• Around 15 % (1050 sq. m.) will be under landscape which will help to contain the emissions within the permissible range.
• Effective traffic management plan including guided traffic ways and separate entry/ exits will help to avoid congestions during peak traffic hours.</td></tr>
<tr><td>5.2</td><td>Emissions form production process.</td><td>No</td><td>There is no production process in the project.</td></tr>
<tr><td>5.3</td><td>Emissions from materials handling including storage or transport</td><td>Yes</td><td>The emission expected from construction phase will be dust arising from material handling and vehicular emission from transport vehicles. These include the emissions due to idling of the vehicles during loading and unloading activities.
Management:
The same is explained at point no. 1.5 above, Form 1.</td></tr>
<tr><td>5.4</td><td>Emissions from construction activities including plant and equipment</td><td>Yes</td><td>The dust emission sources are:
• Excavation
• Haul-road movements
• Construction
• Material Handling
• Finishing
Emissions factors for construction equipment are given in table below:
<table>
<tr><th rowspan="2">Equipment</th><th colspan="5">Emissions Factors (g/hr)</th></tr>
<tr><th>CO</th><th>VOC</th><th>NO_X</th><th>SO_X</th><th>PM_{10}</th></tr>
<tr><td>Excavator</td><td>214.09</td><td>43.99</td><td>516.18</td><td>3.31</td><td>27.21</td></tr>
<tr><td>Backhoe/ Front end loader</td><td>190.05</td><td>56.69</td><td>370.13</td><td>1.58</td><td>37.64</td></tr>
<tr><td>Rubber tired crane</td><td>161.02</td><td>39.00</td><td>464.02</td><td>2.67</td><td>23.58</td></tr>
<tr><td>Hydraulic Crane</td><td>161.02</td><td>39.00</td><td>464.02</td><td>2.67</td><td>23.58</td></tr>
<tr><td>Concrete Vibrator</td><td>72.57</td><td>13.60</td><td>122.46</td><td>0</td><td>4.53</td></tr>
</table></td></tr>
</table>

			Paving Equipment | 186.42 | 48.53 | 412.31 | 1.95 | 29.93 Roller/ Compactor | 165.10 | 34.92 | 316.15 | 1.90 | 23.13 ***Source: SCAQMD CEQA Handbook*** **Mitigation Measures**: • Minimizing drop heights of debris, • Enclosures, • Covered transport, • Use of barriers, • Wetting of surfaces, • Plantation, • Avoiding idling of vehicles etc.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste.	Yes	The dust etc. emanating from various construction activities are described along with the impact & mitigation measures are given in CP & EMP.
5.6	Emissions from incineration of waste	No	There will be no incineration of waste.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No open burning of waste will be allowed. The civil contractor along with site manager will be responsible for the same.
5.8	Emissions from any other sources	No	None

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

S. 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	Noise may be generated from the construction equipment's and operation of DG set. Noise levels from the construction equipments will

<table>
<tr><td></td><td></td><td></td><td>be as:
<table><tr><th>Name of Source</th><th>Noise Level at 16 m (50 ft) from Source in db (A)</th><th>Noise level at 1 m from source in dB (A)</th></tr><tr><td>Back hoe/ Loader</td><td>81</td><td>105</td></tr><tr><td>Cranes mobile</td><td>81</td><td>105</td></tr><tr><td>Dump truck</td><td>83</td><td>107</td></tr><tr><td>Generator</td><td>Not considered</td><td>75 (as prescribed by CPCB)</td></tr></table>
The following measures will be taken:
• DG set (construction phase), conforming to the CPCB standards for noise will be used.
• Temporary noise barriers will be provided all around the project site.
• All construction equipment and machineries will be maintained in good conditions.
• Light pollution will be restricted using cut-off shield fixtures on site.
• Ensuring that all lights strike a surface directly and do not point at the sky or surrounds.
• An area of about (15 %) will be under landscape during post construction phase which will help to contain the noise.</td></tr>
<tr><td>6.2</td><td>From industrial or similar processes</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>6.3</td><td>From construction or demolition</td><td>Yes</td><td>During construction:
During construction/Demolition work D.G. Sets, Pumps, Trucks, vibrators, drilling machine, etc will be the tentative sources of noise. The same will be mitigated by effective EMP such as use of Ready mix concrete to reduce the noise & vibrations due to the operation of concrete mixer truck, etc.</td></tr>
<tr><td>6.4</td><td>From blasting or piling</td><td>No</td><td>Blasting operations are not envisaged in the proposed</td></tr>
</table>

			project. However, noise from piling activities shall be as follows: 100 dB (A) at 50 ft from source 124 dB (A) at 3.3 ft from source Temporary noise barrier will be provided all around the project site.
6.5	From construction or operational traffic	Yes	There may be increase in the noise levels due to constructional /operational traffic arising due to the project, which will be minimized by: • Effective traffic management including sufficient width of driveways to avoid traffic congestions especially during the peak hours. • Provisions of separate entry/ exits to avoid traffic congestions during peak traffic hours. • Provisions of internalized designated parking facilities to ensure smooth traffic movement. • Effective green belt (15%) will help in reducing the noise propagation.
6.6	From lighting or cooling systems	Yes	There will be change in the light pollution level of the project area. Use of focused lights to the active areas of construction is envisaged. Further, there will be no sky-lighting during the construction as well as post-construction phase. **Lighting Power Density (LPD)** for the external lighting system is calculated as given below and the same is under the allowable LPD as per ASHRAE 90.1: 2007. However, solar lighting will be used for streets.
6.7	From any other sources	No	None

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:

S. No	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	The project will not involve any handling and storage of hazardous material.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	There is risk of contamination of land and water due to discharge of untreated waste-water. However, no untreated sewage will be discharged into the open surfaces causing the contamination of ground water. The wastewater generated will be treated in STP with capacity of 150 KLD. The project will maintain zero discharge condition.
7.3	By deposition of pollutants emitted to air into the land or into water	No	During construction, there will be emissions generated from excavation, material transfer, construction operations, finishing operations, road construction, exhaust from vehicles, and stationary sources, etc. The management of the same has been described at relevant sections.
7.4	From any other sources	No	There will not be any other sources, which will contaminate land & water resources.
7.5	Is there a risk of long term build-up of pollutants in the environment from these sources?	No	No significant contribution of long-term built-up of pollutants is envisaged from this project.

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

S. 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	There will be no hazardous substance or chemical used in the proposed project. However, spent oil from DG set will be generated which will be stored in the spent oil tank prior to disposal to actual users at earmarked places. The fuel used in the DG sets will be stored in the inbuilt storage tanks which will be designed to meet out all safety norms. However, Adequate fire safety measures will be adopted at site : a. Good construction practises b. All Safe construction practices & precautionary measures will be adopted and use of PPE will be mandatory. c. Adequate fire-fighting arrangements will be as per National Building Code - 2016 & conditions laid in fire NOC. d. All applicable IS standards for electricity will be followed during construction phase. e. Indian Electricity Act of 1910 and rules issued there under revised up to date will be followed. f. Regulations for electrical equipment in building issued by The Bombay Regional Council of Insurance Association of India will be followed.

<table>
<tr><td>8.2</td><td>From any other causes</td><td>Yes</td><td>The major risks involved in the project would be working at different construction heights and mishaps due to human errors, bad construction practices and associated electric hazards.
All safety measures will be in place prior to commencement of operations so as to avoid any risk to human life and as per the prevailing local by laws. Sources of Construction & Post Construction Risks along with Impact & Mitigation of the same is given in CP & EMP.</td></tr>
<tr><td>8.3</td><td>Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?</td><td>Yes</td><td>As under:
<table>
<tr><th>Natural Disasters</th><th>Occurrence Probability</th><th>Management</th></tr>
<tr><td>Floods</td><td>As per the secondary data available no such precedents has been reported. However the possibility of such incidents cannot be ruled out.</td><td>• For effective functioning, pre-monsoon and post-monsoon checks of the drainage structures will be undertaken
• The project has planned storm water layout in regards to the peak intensity of the rainfall so far received as recorded by IMD.</td></tr>
<tr><td>Earth-quakes</td><td>The site is located in the Seismic Zone III, as per the seismic zoning map of India given in BIS code IS: 1893 (Part1)-2002, which is Moderate Damage Risk Zone.</td><td>• The building design will be made with earthquake resistant design structure.
• Structure with ductile detailing is considered as per IS: 13920-1993.</td></tr>
</table></td></tr>
</table>

				Landslides	No such precedent has been reported.	--
				Cloudburst	No such precedent has been reported.	--

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 activities in the locality.

S. 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 cities, 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	No	The project may lead to adjuvant development at the site. With coming up of the project supporting infrastructure such as sewerage lines (as a part of External development) will be developed.
9.2	Lead to after use of the site, which could have an impact on environment	No	No lead to after use of the site, which could have an impact on environment.
9.3	Set a precedent for later developments	No	There are no precedents as similar developments are proposed around.
9.4	Have cumulative effects due to proximity to other existing or	Yes	The cumulative effects of the other planned projects may have positive impacts such a better

	planned projects with similar effects.		drainage facilities, better recharge into the ground water aquifers by capturing the run-off, tree plantation in the area, etc.

III	**Environmental Sensitivity**		
S. 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	Nahargarh Sanctuary 6.4 km towards NE Nahargarh Eco Sensitive zone 5.4 km towards NNE	
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests.	**Forest**	
		Nahargarh R.F	6.4 km towards NE
		Jhalana Bani R.F	5.7 km towards ESE
		Ambagarh R.F	8.3 km towards E
		Kilangarh R.F	8.8 km towards ENE
		Papad R.F	9.0 km towards NNE
		Bhagawali Kalojar R.F	11.0 km towards NE
		R.F	8.6 km towards NW
		Muhana R.F	10.5 km towards SSW
		Bavri Ka Bir R.F	13.3 km towards E
		Nandhar P.F	12.1 km towards N
		Amer R.F	11.6 km towards NNE
		Ambagarh R.F	14.6 km towards NNE
		Water bodies	
		Amanisha Nala	0.4 km towards W
		Jahalana Nadi	10.6 km towards SE
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Nahargarh Sanctuary 6.4 km towards NE Nahargarh Eco Sensitive zone 5.4 km towards NNE	

<table>
<tr><td>4</td><td>Inland, coastal, marine or underground waters</td><td colspan="2">None within the study area</td></tr>
<tr><td>5</td><td>State, National boundaries</td><td colspan="2">None</td></tr>
<tr><td>6</td><td>Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas.</td><td colspan="2">As under:<table><tr><th>Name</th><th>Distance (aerial)</th><th>Direction</th></tr><tr><td>NH-11C</td><td>Nearby gate</td><td>towards N</td></tr><tr><td>NH -8</td><td>3.6 km</td><td>towards SW</td></tr></table></td></tr>
<tr><td>7</td><td>Defence installations</td><td colspan="2">None</td></tr>
<tr><td>8</td><td>Densely populated or built-up area</td><td colspan="2">Sodala 0.7 Km towards NE</td></tr>
<tr><td>9</td><td>Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)</td><td colspan="2">As under:<table><tr><th>Name</th><th>Distance with Direction</th></tr><tr><td colspan="2">Educational Facilities</td></tr><tr><td>Springdales Public School</td><td>1.3 km towards NE</td></tr><tr><td>Jayshree Periwal High School</td><td>3.2 km towards W</td></tr><tr><td colspan="2">Medical Facilities</td></tr><tr><td>Marudhar Hospital</td><td>3.6 km towards NNW</td></tr><tr><td>SR kalla Mermorial Hospital</td><td>3.4 km towards NE</td></tr><tr><td colspan="2">Places of Worship</td></tr><tr><td>Moti dungri Ganesh Temple</td><td>4.7 km towards E</td></tr><tr><td>Santoshi mata Mandir</td><td>1.6 km towards S</td></tr></table></td></tr>
<tr><td>10</td><td>Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)</td><td>Jhotwara</td><td>The entire block is categorized as notified for ground water use.</td></tr>
<tr><td>11</td><td>Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)</td><td>None</td><td>Not Applicable</td></tr>
<tr><td>12</td><td>Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or</td><td>Earthquake Zone II</td><td>The area is classified as Zone II (low Damage Risk Zone) as per the BIS classification. Suitable seismic coefficients in horizontal and vertical directions respectively will be adopted</td></tr>
</table>

	extreme or adverse climatic conditions)		while designing the structures.

***(As per secondary source available)**

"I hereby give an undertaking that the data and information given in the application and enclosure 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 given, if any, to the project will be revoked at our risk and cost."

Date: 06.06.2018

Place: Jaipur

Prashant Gupta

(Partner)

For Anukampa Awas Vikas, LLP

Anukampa Mansion Phase I,

M.I. ROAD, Jaipur Rajasthan

FORM-1A

(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. Land Environment

(Attach panoramic view of the project site and the vicinity)

1.1 Will the existing land use get significantly altered from the project that is not in 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 (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.

The proposed project is coming up on a land duly converted for Commercial complex. Copy of land documents are enclosed as **Annexure.**

The following are hereby enclosed:

1. Site Location Map : **Enclosed with CP&EMP**
2. Surrounding features of the proposed site (within 500 meters) : **Enclosed with CP&EMP**
3. Conceptual Plan & Environmental Management Plan : **Enclosed**

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.

As under:

A. Land area:

Total plot area : 7000 sq. m.

B. Built up area:

Gross Built up area : 35,633.68 sq. m.

BAR area : 3.64 (25,487.73 sq. m.)

Water consumption:

Total Water Demand : 204 KLD

Fresh water : 94 KLD

Treated water demand : 110 KLD

C. Power requirement:

Connected load : 2601.1 KW

Maximum demand : 1794.1 KW

D. Connectivity:

The project is coming up near NH-11. Jaipur Railway station 2.9 Km towards NNE direction and Jaipur Airport 8.8 km towards SE from the project site.

E. Community facilities:

There are number of community facilities within a distance of 2-3 km from the building entrance viz.:

- Bank/ ATM
- Bus Stop
- School
- Grocery store (s)
- Hardware shop
- Medical clinic/ Hospital
- Place of Worship
- Pharmacy
- Refueling station for automobiles (petrol pump)
- Stationary shop
- Restaurants

F. Parking needs:

Total ECU required : 316 ECU

Total ECU provided : 577 ECU

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).***

Existing Facilities & Impact-Mitigation:

Direction	Facilities	Impact	Mitigation
East	Habitation	• Increase in traffic load by addition of 577 ECU	• Sufficient width of driveways will be provided to ensure smooth traffic movements. • Provisions of fully internalized parking including the parking facilities for the visitors. • Speed humps will be installed for speed restrictions inside the project area.
North	Habitation		
South	Habitation		
West	Habitation		
		• Increase in noise levels due to construction activities	• Temporary noise barriers will be provided all around the project site. • PUC certified vehicles will be used. • All construction equipment and machineries will be maintained in good conditions. • DG set (construction phase), conforming to the CPCB standards for noise will be used.
		• Dust emissions due to construction activities	• Water spraying to prevent dust pollution from different sources of construction. • All transportation vehicles will be suitably covered & overloading of the vehicles will be avoided. • Covering of the construction site on all four sides to a considerable height to prevent dust emissions and other pollutants to the surrounding environment. • Ensuring vehicles stick to the access track to prevent mud and dirt being deposited on roads.
		• Disturbance to the local ecology	• Project site supports some common floral-faunal species which uses wide variety of habitats of the urban ecosystem. So, present project will not have any adverse

		impact on the ecological conditions. • About 15 % (1050 sq. m.) sq. m. area will be under landscaping/ green belt. Measures will be adopted during post construction phase to re-establish landform proficient of maintaining the ecological conditions and capacity of the project site to support similar habitats and species.

1.4 Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity, etc may be given).

There will be some land disturbance due to the upcoming project as the project will involve clearing, grading and construction of impervious surfaces.

Following mitigation measures will be used to mitigate the same:

- **Construction Sequencing:** Construction sequencing (involves disturbing only part of a site at a time to prevent erosion from dormant parts) will be done at site.
- **Compost Blankets**
- Perimeter protection
- Stabilize construction site entrance/Exit
- Dust control

Soil:

Soil Colour: Light Brown

Vulnerability to Subsidence:

There is no subsidence reported in the area. To avoid instability during excavation, piling will be done.

Seismicity:

The area is classified as Zone II (Low damage risk zone) as per the BIS classification. The building design will be made with earthquake resistant design structure. Structure with ductile detailing is considered as per IS: 13920-1993.

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)

No, there will be no change in the overall natural drainage system. However, the internal run-off will be channelized to the well connected network of storm water drains.

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?)

The project will involve earthwork. The excavated soil will be stored at earmarked places and will be reutilized for landscaping purposes (top soil), while the excessive soil will be taken by the contractor.

1.7 Give details regarding water supply, waste handling etc during the construction period.

Water supply:

The peak water demand during construction phase will be about 9 KLD (@45 lpcd/ person – 200 nos.) which will be met from tanker supply.

Waste handling:

Around 5 KLD effluent will be generated which will be treated in temporary septic tank followed by soak-pits.

Solid waste:

27 kg/day solid waste (peak) will be generated during construction phase which will be sent to municipality disposal site.

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)

There are no wetlands and low lying areas around the site.

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.)

Construction debris & waste will comprise of various domestic hazardous waste like paints, electrical fittings, plastics, varnishes, empty containers, adhesives, etc.

Detailed quantification & management of the same are given in CP & EMP.

2. WATER ENVIRONMENT:

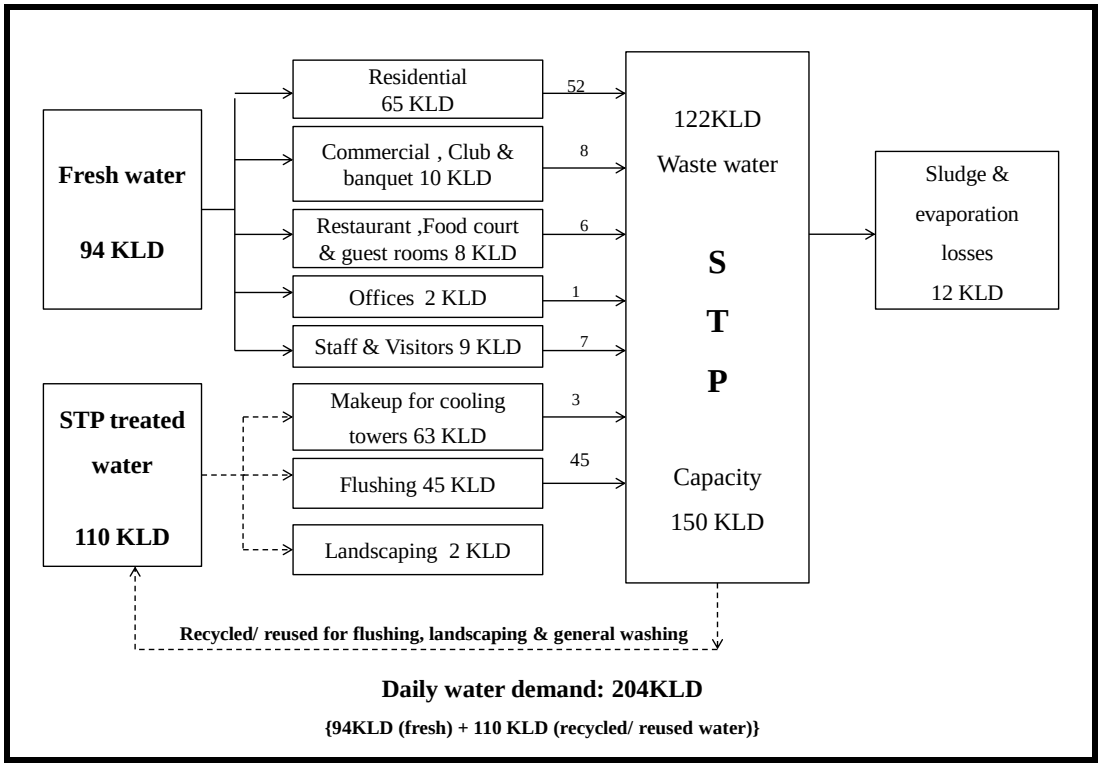
2.1 Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.

The same is tabulated as under:

Particulars	Water demand	Source
Fresh	94 KLD	Ground water supply
Recycled	110 KLD	Treated water from STP
Total	**204 KLD**	

The water balance chart showing break-up of requirements for various uses with quantities of fresh and recycled water is given as under:-

WATER BALANCE



Source:
Fresh Water: Ground Water Supply
Treated Waste water: STP Treated Water

2.2 What is the capacity (dependable flow or yield) of the proposed source of water?

The daily fresh water requirement will be approximately 94 KLD, which will be met from ground Water supply.

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)

The fresh water demand for the project will be met from ground Water supply. The ground water quality was analyzed and the results are summarized as under:

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)

About 110 KLD of the water demand will be met through recycling & reusing the treated waste water from STP for flushing (45KLD), landscaping (2 KLD) & makeup for cooling towers (63 KLD).

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)

No, there will be no diversion of water from the other users as the daily fresh water demand to the tune of 94 KLD will be met through ground water supply.

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.

The total pollution load from waste-water generated from the project is estimated around 122KLD. The waste-water generated will be treated in sewage treatment plant of capacity 150 KLD based on MBBR technology.

Anticipated stage-wise effluent characteristics are tabulated as under:

Parameters	**Unit**	**Inlet**	**Outlet**
PH	-	7.5 - 8.5	6.5-8.5
BOD	mg/ l	250-450	<20
COD	mg/ l	600-800	<60
O & G	mg/ l	50-100	<10
TSS	mg/ l	250-400	<20

2.7 Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

Run-off from the terraces, paved areas and landscaped areas will be channelized to well connected storm water network, which in turn will be harvested and used for ground water recharge.

The details are tabulated as under:

Design Parameters	
Average annual rainfall	622 mm*
Peak intensity of rainfall	60 mm/hr
Details of structures	
Number of structures	1
Capacity of each structure	27 cu. m.
Annual recharge (max)	3158 cu. m.

**Source: Water Resources Department, Rajasthan*

Design of rain water harvesting system is detailed at CP & EMP.

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?

The project will involve construction of roof-top & paved areas and hence, quantity of run-off will increase due to reduced infiltration & increased surface run-off coefficient in post-construction phase as compared to the pre-construction phase.

Quantitative Impact: The runoff will be increase by 241% during post construction phase, which will be capturing through well designed storm-water pipe network of rain-water harvesting and will be used for recharge of the aquifers. The details are tabulated as under:

Phase	Total discharge (m^3/ annum)	% increase in run-off
Pre-construction	**1306**	**+241%**
Post construction	**3158**	

The overflow during abnormally heavy rains will follow the run-off pattern. The proposed rain-water structures have been designed for accommodating peak rainfall intensity (60 mm/hr), which will not aggravate the problem of flooding in the project area. The storm-water drains will be cleaned in the pre-monsoon phase so that the water logging can be avoided.

Qualitative Impact:

Contamination from different sources may affect the quality of runoff water. Contaminants commonly found in storm water runoff and their likely sources are summarized below:

S. No.	Contaminant	Sources	Impact Mitigation
1.	Sediment Floatables	Streets, lawns, driveways, roads, construction activities,	During construction, sediment fencing or other erosion control devices will be used to mitigate the short-term adverse impacts of sedimentation.
2.	Oil & Grease	Roads, driveways, parking lots etc.	Oil & Grease trap will be provided to remove oil & grease, suspended matter, and ensure the quality of water.

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)

- The daily fresh water demand for the project is estimated as 94 KLD.
- The area falls under the Jhotwara Block, which is notified block as per CGWA classification.
- The annual average recharge anticipated from the project will be approx **3158** cu.m.

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)

There will be effective measures adapted to reduce the storm water run-off from the construction site such as-

- Spillage of construction material will not be allowed at site.
- Silt fencing will be done to check the unwanted materials entering into ground water aquifers.
- Oil & grease traps will be provided.

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)

The storm-water from roof-top, paved surfaces and landscaped surfaces will be properly channelized to the rain-water harvesting sumps through efficient storm water network. The storm water drain has been designed to cater to the flow during peak intensity of rain (60 mm/hr). The water recharge structure has also been designed for peak intensity and for maximum capture of surface run-off. The rain-water harvested will be used for ground water recharge.

The storm-water drains will be cleaned in the pre-monsoon phase so that the possibility of the groundwater pollution & water logging can be minimized / avoided. Mosaic plan is enclosed as **Annexure.**

2.12 Will the deployment of construction laborers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation.

The local people will be deployed during construction. There will be no stagnant water at site, as the run-off from the relevant areas will be systematically drained.

The civil contractor will be made responsible for site sanitation and will be bound by the management to adhere to healthy level of sanitation. All sanitary and hygienic measures will be provided and maintained throughout the construction phase such as:

- Provision of separate toilets for the construction workers.
- Temporary septic-tank followed by soak-pit will be provided for construction workers.
- The solid waste generated during the construction phase will be disposed off through Municipal Corporation authorized vendors.

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)

Details of onsite facilities provided for collection, treatment & safe disposal of sewage:

Quantity	122 KLD
Collection & Treatment	Will be treated in sewage treatment plant
Number	1 no.
STP Capacity	150 KLD
Technology	MBBR Technology
Recycling/ Disposal	Treated water will be used for • Flushing (94 KLD) • Landscaping(2 KLD) • Makeup for cooling towers (63 KLD)

2.14 Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

There will be separate pipelines for the supply of the fresh water and treated water from STP. Treated water will be used for the flushing, landscaping & general washing purposes, while the fresh water will be used for other domestic consumption.

3. VEGETATION

3.1 Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with it's unique features, if any)

No, the site is situated in the urban area which is dominated by some common floral-faunal species with ephemeral herbs and shrubs.

The surrounding habitat/ adjoining spaces of the site possess local/common floral species; and the site has the some common flora composition, some of which will be cleared during the construction phase.

No endangered or threatened species of flora and fauna have been reported during the survey, so there is no major threat to the biodiversity. 15 % (1050 sq. m.) area will be under landscaping/ green belt. Measures will be adopted during post construction phase to re-establish landform proficient of maintaining the ecological conditions and capacity to support the similar habitats and species.

3.2 Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)

Minor vegetation clearance required for the project.

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)

A total of 15 % (1050 sq. m.) area will be under landscape which will help in minimizing the impacts. Total 183 trees will be planted for the green belt development.

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.

Site is situated in the urban ecosystem which possesses faunal species which are well adapted to the human dominated areas. So this project will not be barrier for movement of any faunal species.

4.2 Any direct or indirect impacts on the avifauna of the area? Provide details.

There were no breeding or foraging grounds observed during the site visit, which indicates the temporary movements of avifauna in the project site. Therefore, there will be no direct impact on the avifauna. However, landscaping/green belt development in post construction phase will help to attract avifauna and provide the suitable habitats to them for daily activities.

4.3 Prescribe measures such as corridors, fish ladders, etc to mitigate adverse impacts on fauna.

No, All species are widely distributed and the site is not known to be an important area for these species. There are also no apparent reasons to expect that the species should be especially vulnerable to negative impacts associated with the proposed development and it is highly unlikely that the species would be significantly impacted by the development.

5. AIR ENVIRONMENT

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)

The source of heat islands from construction activities could be largely related to increase in the paved areas. Emissions from DG sets, construction equipments, & other non construction activities (Such as idling of vehicles, material transfer), line emissions during to increase in traffic levels also contribute largely to the increase in atmospheric concentration of gases resulting in heat island

effect. However, the same cannot be solely attributed to a single project and is also a cumulative impact due to cluster of similar projects.

The following measures will be adopted:

- Use of fuel efficient Construction equipment
- Avoiding idling of construction equipments/ vehicles
- Use of locally sourced or recycled materials for construction materials
- Use of RMC and other low energy embodied materials.

Impact on Air Quality

The impact on air quality is assessed based on emissions of the proposed DG sets and vehicular emissions. NO_x and CO will be the important pollutants emitting from these sources.

Mitigation measures:

- Encourage carpools, shuttle vans, transit passes.
- Effective stack height above the roof of DG house to contain the emissions within the permissible limits.
- Multiple entry and exit for smooth flow of vehicular movements.
- Provisions of separate visitors parking and fully internalized parking spaces.
- An area of about 15 % (1050 sq. m.) will be under landscape, which will help in containing the emissions.

5.2 What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

The impacts of dust and gaseous pollutants due to different construction activities will be localized. All necessary measures will be taken.

A. Dust:

Sources: Site preparation, excavation, construction, traffic.

Type: Area Source, Line Source

Extent: Localized

Mitigation:

- Minimise dust generating activities
- Water sprinkling on haul roads.

- Water or Dust suppressants will be applied judiciously.
- Covering the stockpiles to prevent wind whipping.
- Unpaved roads will be properly maintained.
- Minimizing the haul roads by construction of semi pucca roads during construction phase
- All transportation vehicles will be suitably covered to prevent dust from the trucks and overloading of the vehicles and vehicles will be PUC certified.

B. Smoke:

Sources: vehicular exhaust, DG Set

Type: Line sources, Point Sources

Extent: Localized

Mitigation:

- D.G. set will be provided with adequate stack-height to contain the emissions within the permissible norms.
- Low-sulphur-content fuel will be used which will help to contain the emissions within the permissible range.

C. Odorous fumes:

Sources: Unsanitized conditions, indoor finishing

Type: Gases, vapors, fumes, dusts, fibres, mists.

Extent: localized

Mitigation:

- Avoid unsanitized conditions
- VOC free paints will be used
- Properly ventilated work space

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.

No, there will no shortage of parking space.

Total ECU required : 316 ECU

Total ECU provided : 577 ECU

Present Level of Transportation : The project is coming up near NH 11 C.

Following measures will be adopted for smooth traffic movements:

- Sufficient width of driveways
- Dedicated parking lots
- Provisions of fully internalized parking including the parking facilities for the visitors.
- Guided traffic ways within the project site.
- Speed humps will be installed for speed restrictions inside the project area.

5.4 Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.

The movement pattern inside the project area will be guided traffic-ways. Separte entry and exit will be provided to avoid congestion during peak hours. Adequate road width will be provided for smooth traffic movements. Plan showing internal road network along with traffic movement is enclosed as **Annexure.**

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.

There will be no significant increase in noise and vibration. The noise and vibrations level will be well within the norms.

The following measures will be adopted to reduce the noise:

- Trees with heavy foliage will be planted at the periphery so as to restrict the noise levels within the permissible norms.
- Adequate road width will be provided for smooth traffic movements.
- Both entry and exit are manned with trained and efficient security.
- Road markings, stop lines, parking lanes are painted to guide the internal road user.

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.

Construction Phase:

The noise level due to construction activity and in operational phase will be localized to the source. During the construction phase, noise will be generated from the construction equipment's and the operation of DG set. DG sets will be provided with inbuilt acoustic enclosures.

Emission level due to vehicles carrying construction material along with its mitigation measure is given in Form 1 under point 1.5.

Post Construction phase:

The source of emission will be from D.G. set of cumulative capacity of 2520 kVA (1010 kVA 2nos. & 500 kVA 1 no) used in case of power cuts or failure). The DG sets will be housed in an inbuilt acoustic enclosure for maximum noise attenuation. The DG sets deployed will be EPA/CPCB certified for the permissible standards of noise & vibrations.

S. No	Capacity of DG set	Fuel	Fuel consumption	Stack height
1.	1010 kVA – 2 nos.	HSD	161.6 l/hr /DG	50 m
2.	500 kVA -1 no.	HSD	32 l/hr/DG	50 m

6. AESTHETICS

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?

There are no scenic amenities/ views in the study area, thus the project offers no obstruction of a view. About 15 % (1050 sq. m.) of the total plot area will be under landscape which includes tree plantation, which will add to the scenic beauty of the area.

6.2 Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

Design considerations to avoid impact on adjacent structures:

- Evaluation of foundation of adjacent properties and their tolerances
- Selection of type of retaining wall and design
- Selection of type of supporting system.

6.3 Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

Urban design criteria including passive solar features have been incorporated in the building design.

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.

There are no anthropological or archaeological sites or artifacts nearby as per the available secondary records.

7. SOCIO-ECONOMIC ASPECTS

7.1 Will the proposal result in any changes to the demographic structure of local population? Provide details.

The proposed project will result in changes in the demographic structure as the population projection is estimated to change with approx. **2452** persons.

7.2 Give details of the existing social infrastructure around the proposed project.

The proposed location is in the developing area of Shyam Nagar, Jaipur.

Name	**Distance with Direction**
Educational Facilities	
Springdales Public School	1.3 km towards NE
Jayshree Periwal High School	3.2 km towards W
Medical Facilities	
Marudhar Hospital	3.6 km towards NNW
SR kalla Mermorial Hospital	3.4 km towards NE
Places of Worship	

Moti dungri Ganesh Temple	4.7 km towards E
Santoshi mata Mandir	1.6 km towards S

7.3 Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

There is no significant impact anticipated.

8. BUILDING MATERIALS

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)

Every building is a complex combination of many processed materials, each of which contributes to the building's total embodied energy. Choices of materials and construction methods can significantly change the amount of energy embodied in the structure of a building. Embodied energy content varies enormously between products and materials. Embodied energy of common building materials is tabulated as under:

Name	**MJ/kg**	**MJ/m^3**
Aggregate	0.10	150
Stone (local)	0.79	2030
Concrete block	0.94	2350
Concrete (30 Mpa)	1.30	3180
Concrete precast	2.00	2780
Brick	2.79	5170
Steel (recycled)	8.90	37210
Steel	32.00	251200
Plywood	10.40	5720
Glass	15.90	37550
PVC	70.00	93620
Paint	93.30	117500
Polystyrene Insulation	117.00	3770
Aluminium (recycled)	8.10	21870
Aluminium	227.00	515700

Buildings will be designed and materials will be selected to balance embodied energy with factors such as climate, availability of materials and transport costs.

When selecting building materials, the embodied energy will be considered with respect to:

- The durability of building materials
- Use of locally sourced materials
- Use of recycled materials
- Specifying standard sizes of materials
- Avoiding waste
- Selecting materials that are manufactured using renewable energy sources

Low energy embodied materials will be given preference.

- Ready-Mix concrete will be used.
- Fly ash bricks will be used.
- Minimizing the transport of temporary structures, scaffolding, formwork, consumables and building product to the construction site.
- The energy consumption is summarized as under:

Name	**MJ/kg**
Steel (recycled)	8.90
Steel	32.00
Aluminium (recycled)	8.10
Aluminium	227.00

8.2 Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?

During the construction phase, the following measures will be taken to prevent pollution:

- Covering of the construction site from all four sides to a substantial height to prevent dust emissions and other pollutants into surrounding area.
- Covering loads to limit materials or litter blowing off and reducing smells.
- Ready-mix concrete will be used for concreting. This avoids cement and aggregate handling fugitive emissions and noises.
- Unloading of construction material will not be done during night.

- Speed restriction of all the vehicles approaching the site and within the site.
- All transportation vehicles will be suitably covered with tarpaulin & overloading of the vehicles will be avoided and must be pollution checked vehicle.
- Heavy earth-working will be avoided during night.

8.3 Are recycled materials used in roads and structures? State the extent of savings achieved?

Yes, the waste generated as PPC cement, reinforced steel, ceramic tiles, etc. will be used as a construction material.

Building Material	**Fly Ash content**
Portland Pozzolana Cement	17-20 %
Ready Mix Concrete	30 %
Fly ash bricks	35%

8.4 Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

All the wastes from different sections will be collected and treated as per the Municipal Handling rules.

The details of the various activities generating solid waste, classification, collection facilities, treatment and disposal are given in CP & EMP.

9. ENERGY CONSERVATION

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?

Energy:

Details of electrical load break up are given at CP & EMP along with the application. However, the summary of the electrical demand is given as under:

Source of supply	33 kV JVVNL GSS	
Electrical Load	Connected load : 2583.3 KW Maximum demand : 1780.8 KW	
Transformer	Number	2 no.

	Capacity	2000 kVA each
DG Sets	Number	3 nos.
	Capacity	1010 kVA each (2 nos.) 500 kVA (1 no)
	Fuel Used	HSD (sulphur content: 0.05%)

Energy conservation techniques:

- Total flat light load can be reduced by 40% by use of LED lamps in place of fluorescent/ incandescent lamps.
- Roof top solar plant of capacity 35 KW will be installed for meeting the energy requirements of common areas and essential services.
- Total landscape and street light load can be reduces by 20% by use of solar powered fixtures.
- Lift load can be reduced by 23% by use of VF drives.
- All capacitors will be provided with Harmonic Filters to avoid distortion in Voltage.
- Automatic Power Factor correction panel with capacitor will be used for Common Load & Fixed Capacitor for Transformer to minimize the losses.
- Insulation of exposed walls and roof will be done to minimize heat gains inside the building. This will help to reduce the air conditioning demand of the buildings.
- Use artificial lighting only when there is inadequate natural light in a space.

9.2 What type of, and capacity of, power back-up to you plan to provide?

There will be power back up to common areas and essential services through DG set of cumulative capacity 2520 kVA (2 nos. 1010 kVA & 500 kVA 1 no) used in the case of power cuts or failure.

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?

Plain glass will be used for fenestration purposes only. Characteristics are as under:

Parameters	5 mm clear	8 mm clear
Light transmission	90%	88%
Light reflectance	8%	8%
Solar factor	85%	81%

Shading coefficient	0.97	0.94
Solar energy:		
Transmission	82%	77%
Reflectance	8%	7%
Absorption	10%	16%
U –value	5.8 W/m^2K	5.7 W/m^2K

Source: www.sunguardglass.com

9.4 What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.

Building design and envelope may be optimized through selection of appropriate wall and roof construction and through adoption of solar passive measures after studying the sun path analysis to provide shading devices for windows and roof which would reduce energy demand.

Components of the solar architectural features in the proposed building:

- Adequate natural cross-ventilation.
- Sufficient day-lighting with direct heat gains
- Adequate shading devices

1. Natural cross ventilation: There will be adequate openable windows and doors in the living spaces, kitchens & bathrooms.
2. Window: The major expanse of windows in a passive solar energy structure will be south facing solar windows. Whole design planning includes following considerations: the impact of heat gain in the summer; views; natural lighting; and privacy requirements in determining the placement and size of windows in the structure. For the most part, window areas on East and West facing walls will be kept as small and as minimal as will be consistent with interior requirements.
3. Shading: South facing glass can be a source of overheating during summer months. The potential for overheating will be controlled by roof over carefully designed to shade the glass during the summer (sun higher in the sky) but not block sunlight during the winter (lower in the sky). The towers are aligned in a way that acts as 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.

Yes, solar stand alone features will be used.

Total roof area	: 2000 sq. m.
Usable area	: 800 sq. m.
	: 8608 sq. ft
Total capacity to be installed	: 35kW

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?

Walls:

North orientation receives solar radiation with minimum intensity and south orientation receives maximum solar radiation during winters, which is preferable.

However following measures are suggested**:**

East and West Elevations:

East and West facing walls will be well insulated as possible, to prevent summer heat gain. Use of PPC cement having fly-ash content and higher reflectance will be used.

Following additional measures are suggested to be used for maximizing the shading of walls on the East and the West:

- Shading by means of Verandah on East Facade on lower portion of the building.
- Very few Openings and high thermal mass to reject and store the Solar heat on South facing Façade.

Roof:

Roofs will be covered with reflective tiles having lower U valves for lesser heat gains inside the building.

- The solar panels will be provided on the roof which will help to reduce exposed area, thereby, reducing the heat gains inside the building.

- Energy efficient materials, heat reflecting terrace surface and roof (by using broken white china tiles & heat reflecting paint) will be provided to reduce heat gains.
- Broken bricks will be used for roof insulation

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

Yes, the project uses energy efficient space conditioning and lighting.

Transformers:

- Automatic power factor compensating multiple capacitor units are provided for maintaining of average power factor of 0.95 to have effective savings in energy cost.
- All cables shall be derated to avoid heating during use. This also indirectly reduces losses and improves reliability.
- The project envisages central air conditioning and use of chillers.

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?

Heat emission from the project can be from the following sources:

- Heat absorbed and radiated from the paved and concrete structures.
- Increased population for a particular stretch of land.

Heat Island Effect: Roof

- The roofs will be covered with solar panels which will reduce the exposed roof area.
- The other exposed roof can be covered with mosaic tiles/green roof to reduce the heat gains inside the building.
- Swimming pool will be provided on the roof.

Heat Island Effect: Non-roof:

- Hard paving onsite has been reduced to the best possible extent.
- The parking areas can be shaded with the tree plantation, which will help to contain the emissions from the vehicles within permissible possible.
- Grass pavers will be done in the paved areas.

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. (give for individual building types)

The building materials will be selected with characteristics that limit heat ingress into the inside of the building.

Climate Zone: Hot & Dry

Building Type: 24 hours used building

	U value (W/m^2-°C)	R value (m^2°C/W)
Roof	0.261	3.5
Wall	0.440	2.1

Source:ECBC CODE 2017

Vertical Fenestration:

Maximum U-factor	Maximum SHGC	Maximum VLT
3.30 W/m2-°C	0.25	0.27

Source:ECBC CODE 2017

9.10 What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.

Essential fire safety measures will be installed into the building to ensure the safety of the occupants within the building in the event of fire or other emergency. The entire building will be designed as per NBC-2016 of India pertaining to fire hazards.

Hazard classification as per the NBC-2016, Part IV-Fire & Life Safety:

- Group E (Business Building), above 30m and upto 30 m in height, minimum fire fighting requirement (as per NBC 2016 Part IV Table 7) will be provided in the project.

S. No.	Description	Minimum Fire Fighting Requirement
1.	Fire extinguisher	Required
2.	First Aid Hose reel	Required
3.	Wet riser	Required
4.	Down comer	Not Required
5.	Yard hydrant	Required
6.	Automatic sprinkler system	Required
7.	Manually operated fire alarm system	Required
8.	Automatic detection & alarm system	Required
9.	Underground water tank	1,00,000L
10.	Terrace water tank	10,000 L

Safety measures:-

- Proper fire exits and exit signage will be provided.
- Fire escape will be provided.
- Fire extinguishers of appropriate type will be placed on a readily accessible place and will be maintained accordingly.

9.11 If you are using glass as wall material provides details and specifications including emissive and thermal characteristics.

Glass will not be used as wall material.

9.12 What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.

Undesirable infiltration will be minimized through the following measures:

- Due care will be taken during the construction of towers; by sealing the voids in building envelope and by reducing drafts which can increase the comfort and reducing the amount of heating or cooling that escapes.
- Common air barrier materials include mechanically fastened sheet air/weather barrier materials, self-adhered sheet air/weather barrier materials and various fluid applied air/weather barrier materials.

- Exterior sheathing with taped joints, precast or cast-in-place concrete, spray foam insulation and roof membranes also will be used to create an air barrier.
- Covered balconies will help in mitigating the air infiltration effects.

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.

The solar energy will be utilized efficiently for-

- Solar light for external & landscape lighting load can be reduced by the use of Standalone Solar fixtures.
- Hot water requirement of top two floors will be met through solar hot water generators.

10. ENVIRONMENTAL MANAGEMENT PLAN

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. Environment Management Plan is enclosed**.**

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