

FORM 1

(I) Basic Information

S. No.	Item	Details
1.	Name of the project/s	Expansion of "DLF Cyber Park" in Udyog Vihar, Sector 20, Gurgaon, Haryana
2.	S. No. in the Schedule	S. No. 8 (a): Building and Construction Project
3.	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled:	
	Type of project	IT & Commercial Building
	Plot area	Licensed plot area = 47,817.58 m ² (11.816 acres)
	Built-up area	359,310.28 m ²
	Number of floors	G+ 12 floors + 4 level basements
	Area utilization	Ground floor: Office + Commercial F&B Outlets 1st floor to 12 th floor: Office; Basements: parking & services
	Project Cost	Rs. 1439.11 Crores
4.	New Expansion/ Modernization	Expansion (Vertical expansion by adding floors)
5.	Existing capacity/ area etc.	Existing built-up area: 273,307.5
6.	Category of project i.e. 'A' or 'B'	Category 'B'
7.	Does it attract the general condition? If yes, please specify.	No
8.	Does it attract the specific condition? If yes, please specify.	No
9.	Location	Plot No. 405-B, Udyog Vihar, Phase-III, Sector 20 Gurgaon, Haryana
	Plot/ survey/ khasra no.	Plot No. 405-B
	Village	Udyog Vihar, Phase-III, Sector-20, Gurgaon
	Tehsil	Gurgaon
	District	Gurgaon
	State	Haryana
10.	Nearest railway station/ airport along with distance in kms	Rly station: Gurgaon Rly Stn at 7.5 km WNW Airport: IGI Airport, Delhi at 6.5 km NNE
11.	Nearest town, city, district headquarters along with distance in kms	The project is located within the Gurgaon city limit.
12.	Village panchayats, zilla parishad, municipal corporation, local body (complete postal addresses with telephone nos. to be given)	Municipal Corporation Gurgaon
13.	Name of the applicant	M/s DLF Cyber City Developers Limited
14.	Registered address	Gateway Tower (10th Floor), DLF City, Phase-III, Gurgaon- 122002, Haryana
15.	Address for correspondence:	
	Name	Mr. Giri Raj Shah
	Designation (Owner/ partner/ CEO)	Authorized Signatory
	Address	Gateway Tower (2nd Floor), DLF City, Phase-III, Gurgaon- 122002, Haryana
	Pin Code	122002
	E-mail	dutta-abhijit@dlf.in
	Telephone no.	0124-4769038

S. No.	Item	Details
	Fax no.	
	Address for correspondence (2):	Environment Consultant Dr. R.L MEENA (AVP & EIA Coordinator) J. M. EnviroNet (P) Ltd. 1st & 2nd Floor, S.C.O. 16, Sector 10-A, Gurgaon (Haryana) Tel. 0124-3206559 Mobile No. +91-9887404521 Email: jmgurgaon@hotmail.com
16.	Details of alternative sites examined, if any. Location of these sites should be shown on a topo sheet.	Not Applicable
17.	Interlinked projects	Not Applicable
18.	Whether separate application of interlinked project has been submitted?	Not Applicable
19.	If yes, date of submission	Not Applicable
20.	If no, reason	Not Applicable
21.	Whether the proposal involves approval/ clearance under: if yes, details of the same and their status to be given. (a) The Forest (Conservation) Act, 1980? (b) The Wildlife (Protection) Act, 1972? (c) The C.R.Z. Notification, 1991?	No No No
22.	Whether there is any government order/ policy relevant/ relating to the site?	No
23.	Forest land involved (hectares)	Nil
24.	Whether there is any litigation pending against the project and/ or land in which the project is propose to be set up?	No
	(a) Name of the Court	Not Applicable
	(b) Case No.	Not Applicable
	(c) Orders/directions of the court, if any and its relevance with the proposed project.	Not Applicable

(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 landuse, land cover or topography including increase in intensity of land use (with respect to local landuse plan)	No	The proposed project is construction of a Commercial Building on vacant land. The site is ear-marked for commercial development as per Gurgaon-Manesar Master plan 2021 AD; hence no change in land-use is envisaged.
1.2	Clearance of existing land, vegetation and buildings?	No	This was a vacant piece of land. No clearance of vegetation and structure was required.

S. No.	Information / Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.3	Creation of new land uses?	No	The project site is earmarked for commercial development as per the local development plan and will be developed as per the local building by-laws. Hence, no new land use will be created.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Soil testing conducted during detailed engineering study.
1.5	Construction works?	Yes	All construction activities will be confined within the project premises; there will be no physical changes outside the project boundary.
1.6	Demolition works?	No	Project site was vacant land. Demolition was not required.
1.7	Temporary sites used for construction works or housing of construction workers?	No	The construction activities including storing of raw materials are being confined within the project site only. No temporary labour camp is constructed at site. Construction workers are being transported from labour camp of the contractor located at a distance.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	Excavation was carried out for foundation and construction of basements. The total excavated quantity of earth material is approx. 568,959 m ³ . The excavated soil will be used in backfilling and area development activity.
1.9	Underground works including mining or tunneling?	No	No underground works including mining/ tunneling is required except excavation of earth for the construction of basements.
1.10	Reclamation works?	No	No reclamation work required.
1.11	Dredging?	No	No dredging required.
1.12	Offshore structures?	No	No offshore structures required.
1.13	Production and manufacturing processes?	No	Since, it is a construction of commercial building, no production / manufacturing process is involved.
1.14	Facilities for storage of goods or materials?	Yes	Raw materials will be stored at the nearby batching plant site. Cement will be stored in covered space. Sand will be stacked under tarpaulin cover.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	<p><u>Solid Waste:</u> During operation phase, the solid waste generated from project (for staff working in various offices) will be 4,531 kg/day which will be domestic in nature. Solid wastes generated will be segregated into biodegradable (waste vegetables and foods etc.) and non-biodegradable (papers, cartons, thermocol, plastics, glass etc.) components and collected in separate bins. The biodegradable wastes will be composted in an on-site composting unit and the manure will be used for landscaping. The non-biodegradable/ recyclable wastes will be disposed at HUDA designated site through authorized vendors.</p> <p><u>Liquid Effluent:</u> In operation phase, the sewage (1150.4 kld) will be treated up to tertiary level in an on-site STP of 1300 kld capacity and the entire (100%) treated sewage will be used for cooling, toilet flushing and horticulture. Therefore, during normal operations, there will be zero discharge, as the entire treated sewage will be recycled.</p>

S. No.	Information / Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.16	Facilities for long term housing of operational workers?	No	There will be no facilities for long-term housing of operational workers.
1.17	New road, rail or sea traffic during construction or operation?	No	In construction stage some vehicles are operated at the site for construction work and transport of construction materials. During operation traffic will increase to some extent for office staff. But there will be no rail or sea traffic.
1.18	New road, rail, air water born or other transport infrastructure including new or altered routes and stations, ports, airports etc.?	No	The project site has access through the 30 m wide sector road connecting the NH8. The project site is well connected to network of roads leading to various parts of NCR. So no new road will be laid during construction or operation of the project except for internal roads & pavements.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not applicable.
1.20	New or diverted transmission lines or pipelines?	No	There will be no shifting of electrical transmission lines.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	No impoundment, damming, culverting, realignment or other changes to the hydrology of surface water-courses is proposed.
1.22	Stream crossings?	No	Not applicable
1.23	Abstraction or transfers of water from ground or surface waters?	No	In operation stage, total water requirement will be 1872.6 kld, out of which 779.7 kld (41.6%) will be fresh water met from the Municipal/HUDA Supply, and the balance 1092.9 kld (58.4%) will be met from recycle of treated sewage from the on-site STP. No groundwater will be used.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	Surface drainage will not be affected.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transport of personnel/ material during construction and operation phase are envisaged. Adequate parking space (4,425 ECS) will be provided for operational phase.
1.26	Long-term dismantling or decommissioning or restoration works	No	Not applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not applicable.
1.28	Influx of people to an area in either temporarily or permanently?	No	Construction workers are being transported from labour camp of the contractor located at a distance. The proposed project is a commercial/office building. Thus, no influx of residential people is envisaged.
1.29	Introduction of alien species?	No	Not applicable.
1.30	Loss of native species or genetic diversity?	No	Not applicable.
1.31	Any other actions?	No	Not anticipated.

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):

S. No.	Information/ Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data																
2.1	Land especially undeveloped or agricultural land (ha)	No	Project site is vacant land, earmarked for commercial development by the local development authority .																
2.2	Water (expected source & competing users) unit: kld	Yes	In operation stage, total water requirement will be 18726 kld, out of which 779.7 kld (41.6%) will be fresh water met from the Municipal/HUDA Supply, and the balance 1092.9 kld (58.4%) will be met from recycle of treated sewage from the on-site STP. No groundwater will be used.																
2.3	Minerals (MT)	No	Not applicable.																
2.4	Construction material-stone, aggregates, sand/ soil (expected source-MT)	Yes	<div>Construction materials required:<table><tr><th>S. No.</th><th>Material</th></tr><tr><td>1.</td><td>Steel (MT)</td></tr><tr><td>2.</td><td>Cement (Bags)</td></tr><tr><td>3.</td><td>Stone Aggregate (m³)</td></tr><tr><td>4.</td><td>Sand (m³)</td></tr><tr><td>5.</td><td>Bricks (m³)</td></tr><tr><td>6.</td><td>Glass (m²)</td></tr><tr><td>7.</td><td>Fly ash based products (m³)</td></tr></table></div> <div>Source: Steel and cement will be procured by the contractor from authorized vendors. Sand & aggregate will be procured by the contractor from local material suppliers.</div>	S. No.	Material	1.	Steel (MT)	2.	Cement (Bags)	3.	Stone Aggregate (m ³)	4.	Sand (m ³)	5.	Bricks (m ³)	6.	Glass (m ²)	7.	Fly ash based products (m ³)
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7.	Fly ash based products (m ³)																		
2.5	Forests and timber (source - MT)	No	None																
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Power requirement is 16,427 kW that will be met from Grid supply of Dakshin Haryana Biji Vitaran Nigam (DHBVN). DG sets of total capacity 25,000 kVA will be provided as 100% backup power supply during power failure. Ultra low sulphur diesel (ULSD) will be used as fuel for DG sets.																
2.7	Any other natural resources (use appropriate standard units)	No	None																

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)	No	The proposed project is a office building and hence, no storage of hazardous chemicals (as per MSIHC rules) will be done, except HSD required to run backup DG sets, for which the quantity stored will be below the threshold limit specified in the MSIHC rules. Necessary permission will be obtained from the Explosives Dept.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Suitable drainage and waste management measures will be adopted in both construction and operational phase, which will restrict stagnation of water or

S. No.	Information/ Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
3.3	Affect the welfare of people e.g. by changing living conditions?	No	accumulation of waste. This will effectively restrict the reproduction and growth of disease vectors. No use, storage, transport, handling or production of any harmful product is envisaged from the proposed project. Thus, no major adverse impacts on the human health/ environment are envisaged. Moreover, this project will provide employment to local labours in the construction phase and workers during the operation phase. Thus, the project will have beneficial impacts.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	Not applicable.
3.5	Any other causes	No	Not anticipated.

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	No such spoil, overburden or mine wastes will be generated.						
4.2	Municipal waste (domestic and or commercial wastes)	Yes	<div>Solid wastes to be generated in project will be of domestic municipal in nature. Composition & quantity of solid wastes during operation phase will be:</div> <table><tr><td>Biodegradable</td><td>1,812 kg/ day (Waste vegetables and foods etc.)</td></tr><tr><td>Non-biodegradable</td><td>2,719 kg/ day (Papers, cartons, thermocol, plastics etc.)</td></tr><tr><td>Total:</td><td>4,531 kg/ day</td></tr></table>	Biodegradable	1,812 kg/ day (Waste vegetables and foods etc.)	Non-biodegradable	2,719 kg/ day (Papers, cartons, thermocol, plastics etc.)	Total:	4,531 kg/ day
Biodegradable	1,812 kg/ day (Waste vegetables and foods etc.)								
Non-biodegradable	2,719 kg/ day (Papers, cartons, thermocol, plastics etc.)								
Total:	4,531 kg/ day								
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	<div>The only hazardous wastes in the project will be used /spent oil from backup DG sets, which is classified as Hazardous Waste Category 5.1 as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.</div> <div>Spent Oil from backup DG sets will be carefully stored in HDPE drums in isolated covered facility. This spent oil will be sold to authorized recyclers. Suitable care will be taken so that spills/ leaks of spent oil from storage could be avoided.</div>						
4.4	Other industrial process wastes	No	Not applicable						
4.5	Surplus product	No	Not applicable						
4.6	Sewage sludge or other sludge from effluent treatment	Yes	The sludge generated from STP will be dewatered/ dried and used as manure.						
4.7	Construction or demolition wastes	Yes	<div>The construction waste will consist of excess earth and construction debris along with cement bags, steel in bits and pieces, insulating and packaging materials etc.</div> <div>Recyclable waste construction materials will be sold to recyclers. Unusable and excess construction</div>						

S. No.	Information / Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			debris will be disposed at designated places in tune with the local norms.
4.8	Redundant machinery or equipment	No	Not applicable
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	-

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	The proposed project does not envisage any major air pollution sources except operation of back-up DG sets during power failure and vehicular traffic.
5.2	Emissions from production processes	No	Not applicable
5.3	Emissions from materials handling including storage or transport	Yes	Dust may arise due to the materials handling during the construction phase which will be restricted to the construction phase and construction site only.
5.4	Emissions from construction activities including plant and equipment	Yes	This will be restricted to the construction phase and to the construction site only.
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	Yes	Dust, which will be generated during construction, will be water sprinkled. Tarpaulin cover will be provided on stored raw material to reduce the dust emission.
5.6	Emissions from incineration of waste	No	Not applicable
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Open burning of biomass/ other material will be avoided.
5.8	Emissions from any other sources	No	Not applicable

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	Source of noise in the operational phase will be from backup DG sets (which will be in operation only during power failure) and pumps & motors. All the machinery will be of highest standard of reputed make and will comply with national/ international standards that take care of air and noise pollution control/ vibration control. Therefore, no significant impact due to operation of machinery is anticipated.
6.2	From industrial or similar processes	No	Not applicable
6.3	From construction or demolition	Yes	Due to various construction activities, there will be short-term noise impacts in the immediate vicinity of the project site. The construction activities will include the following noise generating activities: • Concreting, mixing & operation of DG sets

S. No.	Information / Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			• Movement of heavy machines & vehicles
6.4	From blasting or piling	No	No blasting or mechanized piling will be used in the construction phase.
6.5	From construction or operational traffic	Yes	Some noise will be generated from vehicular movement in the construction and operational phase.
6.6	From lighting or cooling systems	Yes	Coding towers will be noise efficient & of latest technology.
6.7	From any other sources	No	Not applicable.

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 only hazardous wastes in the project will be used / spent oil from backup DG sets. The spent oil will be carefully stored in HDPE drums under isolated storage, and periodically sold to authorized recyclers. All precautions will be taken to avoid spillage from storage.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	There will be no discharge of untreated sewage on water or land, as entire wastewater after treatment will be reused for cooling, toilet flushing and horticulture. Hence no adverse effect is envisaged.
7.3	By deposition of pollutants emitted to air into the land or into water	No	There will be no deposition of pollutants in to air and water
7.4	From any other sources	No	Not applicable.
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	Not applicable.

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	This is a construction project and does not involve major hazardous construction activity. No industrial or process activity is involved in this project. Hence, chances of explosions, spillages, fires are minimal. During construction, all construction workers will be provided with personal protective equipment (PPE) by the contractors as required under the health & safety norms. Training and awareness about the safety norms will be provided to all involved in construction activities. Suitable fire-fighting measures will be provided.
8.2	From any other causes	No	Not applicable.

8.3	Could the project be affected by natural disasters causing environmental damage (e.g floods, earth quakes landslides, cloudburst etc)?	Yes	The study area falls in Zone-IV, as per the Indian Standard Seismic Zoning Map. Suitable seismic consideration will be adopted while designing the structures to mitigate the seismic impacts as per NBC/ IS Code. There are no chances of floods and landslide.
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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, facilities, ancillary development stimulated by the project which could have impact on the environment e.g.:	Yes	The proposed project will lead to development of the area by providing employment of the local people during construction and operation phase.
	• Supporting infrastructure (roads, power supply, waste or waste water treatment etc.)		The project will have positive impact on the ancillary infrastructure like roads, markets, public health, amenities, and communication facilities in the area.
	• Housing development	No	Not applicable
	• Extractive industries	No	Not applicable
	• Supply industries	No	Not applicable
	• Other	No	Not applicable
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not applicable
9.3	Set a precedent for later developments	No	Not applicable
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not applicable

(III) Environmental Sensitivity

S. No.	Areas	Name/ Identity	Aerial distance (within 15 km) from proposed project location boundary
1.	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	Not located within 15 km of the proposed project location.
2	Areas which are important or sensitive forecological reasons- Wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests.	No	Not located within 15 km of the proposed project location.
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	Not located within 15 km of the proposed project location.
4	Inland, coastal, marine or underground waters	No	Not located within 15 km of the proposed project location.
5	State, National boundaries	Delhi	Approx. 800 m North of project site.

S. No.	Areas	Name/ Identity State boundary	Aerial distance (within 15 km) from proposed project location boundary
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	NH-8	The project site is adjacent to NH-8 at SE.
7	Defence installations	Yes	Ajanganh Air Force Station: 3.9 km SE Ammunition Depot: 5.1 km SW
8	Densely populated or built-up area	Yes	The project site is located in Udyog Vihar, Gurgaon city which is an industrial cum commercial area. The site is surrounded by moderately populated built-up area.
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	St. Stephen's Hospital, Shri Ram School	There are number of major hospitals, schools and numerous places of worship and community facilities within 15 km. The nearest places are: St. Stephen's Hospital: 2.4 km in SE Shri Ram School: 1.2 km in E Ambience Mall: 0.6 km NE
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Yes	Ground water resources in Gurgaon are depleting at very fast rate and are declared as scare resource.
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	No	Not located within 15 km of the proposed project location.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	Yes	The area under study falls in Zone-IV, according to the Indian Standard Seismic Zoning Map. Suitable seismic coefficients will be adopted as per NBC/ IS Code while designing the structures to mitigate the seismic impacts.

(IV) Proposed Terms of Reference for EIA studies

Proposed Terms of Reference (TOR) for EIA study is enclosed.

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

Date: 29.05.2017

Place: Gurgaon

Signature:

Name: Giri Raj Shah
(Authorized Signatory)

Address: Gateway Tower (5th Floor), DLF City,
Phase-III, Gurgaon- 122002

Signature of the Applicant with Name and Full Address
(Project Proponent/Authorized Signatory)

NOTE:

1. The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z. map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z. (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Simultaneous action shall also be taken to obtain the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the C.R.Z.
2. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC).
3. All correspondence with the Ministry of Environment & Forests including submission of application for TOR/ Environment Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC Meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project.

APPENDIX II
(See paragraph 6)

FORM-1 A
(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 consistent with the surroundings? (Proposed land use must confirm 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.**

Location of the Project Site

The proposed project "DLF Cyber Park" is a Commercial Building in Plot No. 405-B, Udyog Vihar, Phase-III, Sector 20 Gurgaon (Haryana). The total plot area of the project is 11.816 acres. The site is earmarked for development of IT/ITES and commercial establishments as per the local development/zoning plan. Map showing the project location and the project vicinity is shown in **Annex 1(a)**. The project site & 15 km surrounding area is covered by Survey of India toposheet no. H43X2 & H43X3. Key plan showing location of the project site is enclosed as **Annex 1(a)**.

Proposed Landuse:

The project site is earmarked for commercial development as per the master plan of Gurgaon-Manesar (enclosed as **Annex 1(b)**) and as per the approved local development plan/ zoning plan (the license of the project is enclosed as **Annex 20**). The proposed project is planned and designed as per the regulations and procedures laid down by the Haryana Urban Development Authority (HUDA) and Director of Town & Country Planning (DTCP).

Features of the Project Site:

The project site is vacant land. The terrain of the project site and its surrounding area is plain. Contour plan is enclosed as **Annex 1(c)**. The site is devoid of any rocky outcrops and is not covered by any notified forests. The photographs of the site are enclosed as **Annex 1(d)**.

Surrounding Features:

The map and Google image showing location of the project site and the area surrounding 500 m of the project site are enclosed as **Annex 1(a)**. Distances of nearest environmental sensitive areas are given in **Annex 1(e)**.

Surrounding Features within 500 m of the Project Site

S. No.	Surrounding Feature	Distance from Project Site	Direction w.r.t. Project Site
1.	National Highway (NH8)	Adjacent	East
2.	Others plots & buildings	Adjacent	West
3.	Vacant plot for development	Adjacent	North
4.	30 m wide Sector Road	Adjacent	South

Connectivity to the Project Site:

The project has access through the 30 m wide Sector road connecting the NH-8 and Udyog Vihar. It is also accessible through the service road parallel to NH8. The project site is well connected to network of roads leading to various parts of NCR.

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.

Earlier Environmental Clearance (EC) for this project as "Revised EC for DLF IT Park at Sector-20, Gurgaon" had been taken from SEIAA Haryana on 05.01.2015. After obtaining the EC, construction has been started at the project site. At on date the construction of basements is completed. Since FAR has been increased in the Transit Oriented Development (TOD) policy notification of Govt. of Haryana, it is proposed to expand the building vertically to accommodate the extra floor area. Therefore, this application is submitted to the SEIAA for the Environmental Clearance for Expansion according to the revised plan and built-up area.

Salient Features of the Project

Items	Details
Project name	Expansion of "DLF Cyber Park" in Udyog Vihar, Sector-20, Gurgaon
Location	Plot No. 405-B, Udyog Vihar, Phase-III, Sector 20 Gurgaon (Haryana)
Type of project	IT & Commercial Building
Plot area	Licensed plot area = 47,817.58 m ² (11.816 acres) Plot area for FAR calculation = 46,852.81 m ² (11.5776 acres) Available plot area with project boundary after excluding area under HUDA green belt = 41,601.62 m ² (10.28 acres)
Built up area	359,310.28 m ² (including basements & other built up area)
Ground coverage	18,625.5 m ² (39.75%)
Floor & basement area	Floor area: 182,661.34 m ² , Area of basement: 132,280.87 m ² , Other built-up area: 44,368.07 m ²
Number of floors & basements	Ground Floor + 12 Floors + 4 level basements
Building height	58.025 m (terrace of topmost livable floor)
Area utilization	Ground floor: Office + Commercial F&B Outlets 1st floor to 12 th floor: Office; Basements: parking & services
Parking facilities	Total 4,425 ECS (Surface 629 + Basement: 3,796)
Power requirement & source	16,427 kW from grid supply
Power backup	100% Back-up DG sets of total capacity 25,000 kVA (equivalent to 17,000 kW with 85% loading)
Water requirement & source	Fresh water requirement : 779.7 KLD (from Municipal supply) Recycled treated effluent : 1092.9 KLD (from on-site STP) Total water requirement : 1872.6 KLD
Sewage generation, treatment & disposal	Sewage generation: 1150.4 kld Sewage treatment facility : STP of 1300 KLD capacity Sewage Discharge : Zero discharge, 100% recycle of treated sewage
Solid wastes generation	4,531 kg/ day
Estimated population	Total: 39,085 persons (Working : 35,532, Visiting : 3,553) (on the basis of 2 shifts operation)
Green area	Total green area = 8,392.95 m ² (20.17 % of available plot area)
Estimated project cost	Rs. 1439.11 Crores

Details of Floor Area and Ground Coverage

Plot area for FAR and ground coverage calculation = 11.5776 acres (46,852.811 sq m)

Particulars	Permissible	Proposed
a) Floor area (sq. m)	182,725.96	182,661.34
b) FAR (Ratio)	3.9	3.898
c) Ground coverage (sq. m)	18,741.12	18,625.5
d) Ground coverage (%)	40%	39.75%

Comparison of Salient Features as Per Earlier EC vis-à-vis This EC Application

Items	As per Earlier EC	Revised Proposal (3.9 FAR)	Variation	
Plot area (acre)	47,817.58 m ² (11.816 acres)	47,817.58 m ² (11.816 acres)	Nil	No Change
Built up area (m ²)	273,307.5	359,310.28	86,002.78	Increase
Ground coverage (m ²)	18,631.61	18,625.5	Nil	No Change
Number of floors	G+8 floors	G+12 floors	4	Increase
No. of level of basements	4	4	Nil	No Change
No. of parking (ECS)	3,542	4,425	883	Increase
Power requirement (kW)	13,152	16,427	3,275	Increase
Source of power	Nearby Energy Centre in DLF Cyber City	Grid supply of DHBVN		Change
Capacity of backup DG sets (kVA)	1,500	25,000	23,500	Increase
Total water requirement (kld)	1,325.9	1,872.6	546.7	Increase
Sewage treatment & disposal:				
a) Sewage generation (kld)	743.6	1,150.4	406.8	Increase
b) STP capacity (kld)	900	1300	400	Increase
c) Sewage discharge (kld)	Nil (zero discharge)	Nil (zero discharge)	Nil	No Change
No. and capacity of rain water harvesting pits	12 nos. (single bore) x 14.1 m ³ = 267.2 m ³	6 nos. (twin bore) x 54.4 m ³ = 326.4 m ³	59.2 m ³	Capacity Increase
Solid wastes generation (kg/day)	2,240	4,531	2,291	Increase
Green area (m ²)	10,799.32	8,392.95	-2,406.37	Decrease
Estimated population	13,286	39,085	25,799	Increase
Estimated Project cost (Rs. Crore)	412.67	1,439.11	1,026.44	Increase

The master site layout plan of the project showing plot boundary, location of various building blocks, internal & external roads and other features is enclosed as **Annex 2** Perspective view of the building is enclosed as **Annex 1(g)**. Tower wise Elevation & Sections are shown in **Annex 4(a)**.

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).

The proposed site was a vacant land with negligible vegetation in the form of scanty bushes; but now been excavated and construction is under progress. The building will be constructed as per Gurgaon Master Plan and as per the defined building by-laws. The area adjacent to the project is already developed as evident from the Google image. The project activities will be confined in the site only and the likely impacts on surrounding land-use will be negligible. Instead, the development of proposed commercial project in this area will increase office space, employment opportunities and development activities. The project being a well planned activity will result in organized open spaces and green areas. The biodiversity in the area will increase due to the proposed green areas. The project will have an overall positive impact on the existing land use and will not cause any disturbance to the local ecology. Proposed activity shall have no impact on surroundings.

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).

The proposed activity will not affect any significant land disturbance resulting in soil erosion, subsidence and instability. The area is not susceptible to erosion.

Soil Type:

In order to get the physico-chemical characteristics of soil of the project area, soil analysis will be carried out and the detailed environmental monitoring report containing analysis results of soil, water, air and noise will be submitted along with the EIA report.

Gurgaon region is occupied by quaternary alluvium and precambrian meta-sediments of Delhi System. Delhi super group is represented by Alwar quartzite, and pegmatite intrusives of the Alwar series and slates of phyllites and quartzite of the sub-recent alluvium and sand dunes. The soils in the region are sand to loamy sand in sandy plain areas; sandy loam to clay loam / silty clay loam in alluvial plains; loam sand to loam, calcareous in salt affected plains; silty loam to loam in low lands and loamy sand to loam, calcareous in hills. Taxonomically these soils may be classified as Typic Ustipsamments, Typic Ustorthents, Typic / Udic/ Aquic Ustochrepts, Typic Haplaquepts and skeletal/ Lithic Ustorthents

Slope Analysis:

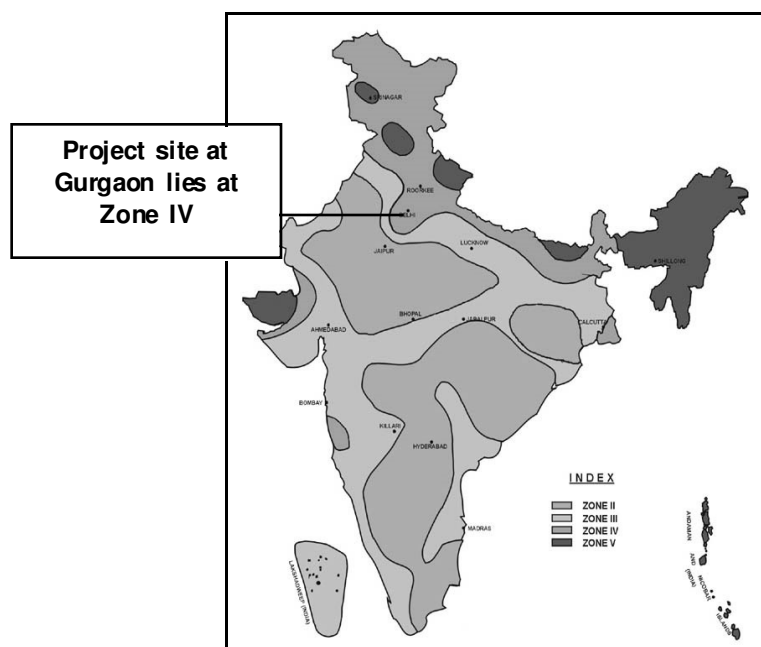
The project area possesses flat terrain. The earlier Contour plan of the project site is enclosed as **Annex 1(c)**. Highest contour level is 235.94 m & the lowest level is 243.90 m. Difference between the highest & lowest level is 7.96 m. The average site elevation is 238 m AMSL.

Erosion/ Subsidence:

The proposed activity will not result in any significant land disturbance causing soil erosion, subsidence and instability. The area is not susceptible to erosion. There was no existing buildings or structures at the site, so no demolition work was required. Land/soil environment may be temporarily affected due to activities like site preparation, excavation, material handling & storage etc. during construction phase. Proper drainage system shall be provided to deal with the storm water in case of rain. Proper greening & paving at completion of the project will resist soil erosion.

Seismicity:

The area under study falls in Zone-IV (according to the Indian Standard Seismic Zoning Map), which is of high seismic risk. Therefore, suitable design will be made to mitigate the seismic impacts.



Source: BIS 2002

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)

There is no natural watercourse passing through the project site. Hence the proposal does not involve alteration of natural drainage systems. The surroundings comprise an urbanized stretch and well planned storm water drainage has been designed for internal storm water drainage. In operation phase, proper rain water drainage facility will be provided and the run-off generated will be used for recharging the groundwater level. Thus, no impact on the natural drainage system is anticipated.

1.6 What are the quantities of earthwork involved in the construction activity-cutting, filling, redamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc?)

The quantity of excavated earth is about 557,641 m³ which is stored in nearby vacant plot of DLF with adequate protection. Later on, part of the excavated soil will be used for backfilling and leveling of project site. The excess excavated earth will be used for backfilling of other DLF sites and development of road embankments. The topsoil is preserved separately with adequate protection and will be reused for landscaping purpose. Waste construction materials and debris is being recycled and excess is being disposed at MCG designated dumping site through authorized vendor.

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

During construction stage, the requirement and source of various types of water at construction site is given below. No ground water at the site is being utilized for the construction.

SN	Water Use	Quantity (kld)	Water Source	Mode of Supply
1	Drinking at construction site	10 kld	HUDA water supply at Sector-16, Gurgaon	Through water tanker authorised by HUDA
2	Construction (Mixing concrete) and sanitation of workers	300-375 kld	HUDA canal water from Chandu Budhera Water Treatment Plant	Through water tanker authorized by HUDA
3	Sprinkling for dust suppression at construction site	30-45 kld	Treated water from HUDA STP at Behrampur, Gurgaon	Through tanker authorized by HUDA

The details of collection, recycle and disposal of solid wastes during construction stage are given in the below.

SN	Nature & Source of Waste	Disposal Site	Mode of Disposal
1	Municipal solid wastes (Waste foods, papers, packets, plastics at Construction site)	HUDA designated site at Bandwari Treatment Plant, Faridabad Road	Through vendor authorised by MCG
2	Construction and demolition wastes at construction site	Municipal Corporation of Gurgaon (MCG) designated site	Through authorised vendor by covered trucks
3	Sewage from mobile toilets at site	HUDA STP at Behrampur, Gurgaon	Through tanker

Conclusively, it can be stated that impacts may be confined to small area (mainly to project site) and for short duration. Proposed mitigation plan suggests maximum reuse of construction waste on site, removal of non-reusable waste from the site and its proper disposal, which would reduce the impact significantly.

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 or low-lying area present in and around the project site. So, there will be no impact.

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).

During the construction phase, there will be no waste generated which can cause health hazard. Construction debris is being collected and stored at earmarked place for reuse and disposal at MCG designated dumping site through authorized vendors. Construction debris is being collected and stored at earmarked place for reuse and disposal at MCG designated dumping site through authorized vendors. Municipal solid wastes generated at the construction site is being disposed into HUDA designated site at Bandwari through authorized vendors.

No labour camp is built at the site; however on-site toilets and other sanitation facilities are provided for construction workers. Sewage from the construction site is being disposed into HUDA STP through tankers.

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.

In operation stage, total water requirement for the project will be 1872.6 kld. The details of water requirement and its breakup, source of water and water balance are given in Table below. Out of the total water requirement, 779.7 kld (41.6%) will be fresh water met from the Municipal/HUDA Supply, and the balance 1092.9 kld (58.4%) will be met from recycle of treated sewage from the on-site STP. No groundwater will be used.

The sewage generated during the operation phase (1150.4 kld) will be treated up to the tertiary level in the proposed on-site Sewage Treatment Plant (STP) of 1300 kld capacity. The entire (100%) treated sewage will be recycled/ reused for coding, toilet flushing and horticulture in the project site. Therefore, during normal operations, there will be zero discharge. The water balance diagram is depicted below.

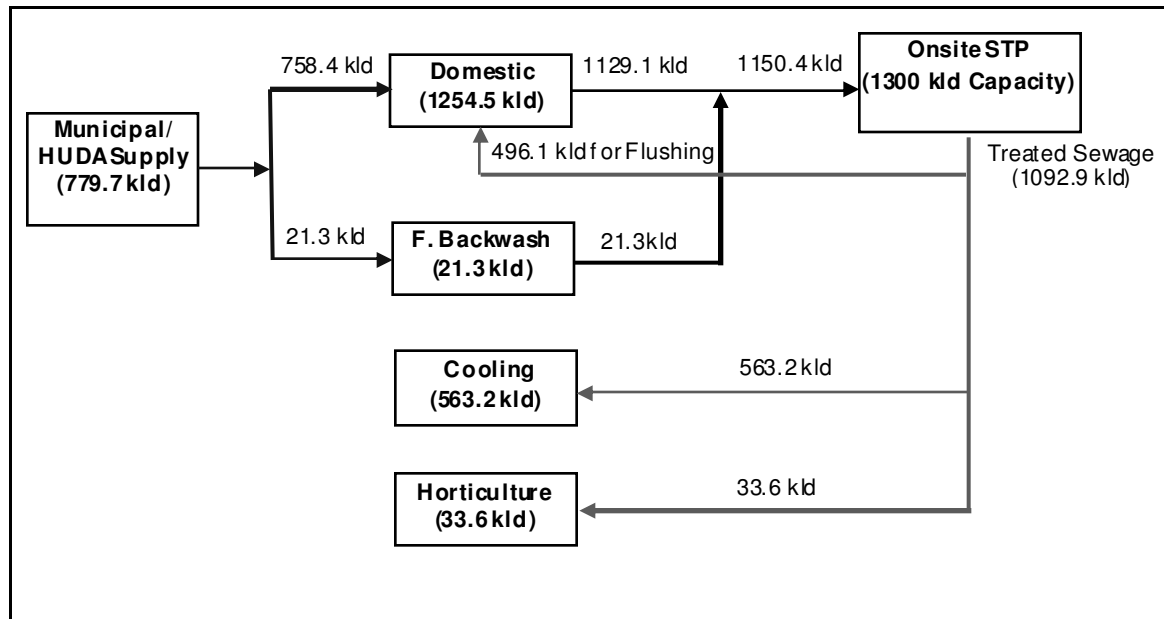
Water Requirement

S. No.	Purpose	Population	Unit Demand (lpcd)			Domestic Water Demand (KLD)		Total Water Demand (kld)
			NF	F	Total	Non-Flushing	Flushing	
1	Domestic demand							
	a) Office occupants	35,532	17.5	14.0	31.5	621.8	497.4	1,119.2
	b) Visitors	3,553	3.5	7.0	10.5	12.4	24.9	37.3
	c) Restaurants (2000 seats)		38.5	10.5	49.0	77.0	21.0	98.0
	d) Subtotal (domestic)					711.2	543.3	1,254.5
2	Filter backwash	-			L.S.			21.3
3	HVAC & coding				L.S.			563.2
4	Horticulture	-			L.S.			33.6
	Total water requirement	-			-			1,872.6

Note: Population is estimated on the basis of 1 person per 10 sq. m as per NBC, 2016 and for operation of the building in two shifts. Water demand is calculated on the basis of per capita demand of 45 lpcd for office building and 15 lpcd for visitors as per NBC, 2016. The per capita demand is then reduced by 70% due to use of low flow fixtures.

Water Source

S.N.	Source	Quantity (kld)	% of Total Requirement
1	Fresh water from municipal supply	779.7	41.6%
2	Recycle of treated effluent from STP	1,092.9	58.4%
	Total water source	1,872.6	100.0%



Water Balance Diagram

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

The main source of fresh water will be municipal water supply (from HUDA) and it is dependable. The total water requirement of the project will be 1872.6 kld. The fresh water requirement will be 779.7 kld and recycled treated effluent requirement will be 1092.9 kld which will be available from the on-site STP.

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 source of water is municipal/ HUDA supply and the quality will be potable water. Necessary filtration and other treatments will be made in the on-site Water Treatment Plant (WTP) to make it fit for drinking water as per drinking water quality requirements.

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).

Out of 1872.6 kld of total water requirement, 1092.9 kld (about 58.4%) will be met from the recycling of treated sewage. The entire (100%) treated sewage generated from the project will be recycled/ reused. Out of the total 1092.9 kld reuse of treated sewage, 563.2 kld will be used for HVAC & cooling system, 496.1 kld for toilet flushing and 33.6 kld for horticulture in the project site. During normal operations, there will be zero discharge, as the entire (100%) treated sewage will be reused and recycled for cooling, horticulture and toilet flushing.

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 not be any diversion of water from other users. Rise in water demand is a local phenomenon but the project would have limited regional impact on water reserves.

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 sewage generated from the project during the operation phase is 1150.4 kld, which will be treated up to the tertiary level in the on-site Sewage Treatment Plant (STP). The treated sewage generated from the project will be recycled/ reused for HVAC & cooling, toilet flushing and horticulture in the project site. During normal operations, there will be zero discharge, as the entire (100%) treated sewage will be recycled. The sewage will be domestic sewage.

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

The rainwater collected from the rooftop and other paved areas within the project area will be conveyed into the rainwater harvesting system consisting of Desilting-cum-filter chamber, Oil & grease separator and Recharge pit with bore well for recharge into the groundwater.

The site plan showing drainage and location of RWH pits is enclosed as **Annex 7(a)**. Rainwater harvesting plan is as per the design approved in the manual issued by the GOI. The plan & section of RWH pits is enclosed in **Annex 7(b)**. Details of rainwater harvesting calculation are given below:

Rain Water Harvesting Calculation

Type of Catchment Area	Area (m ²)	Runoff Coefficient (C)	Rainfall Intensity (I) (mm/h)	Runoff (Q=CIA) (m ³ /h)
Roof/Terrace area	18,625.50	0.8	45	670.5
Other Paved Area	14,583.17	0.6	45	393.7
Unpaved area	8,392.95	0.2	45	75.5
Total Area under development	41,601.62			1,139.7

Volume of rainwater to be retained (m ³) in 15 min	284.93
Volume of one pit (m ³) of size 4.0 m (L) x 3.4 m (W) x 4.0 m (D)	54.4
No. of pits - required	5.3
No. of pits – proposed	6
No. of recharge wells proposed (2 wells per pit)	12

Therefore, 6 number of twin-well rainwater harvest pits with total 12 number of recharge wells will be provided for recharge of groundwater.

The rainwater will be collected through piped drains and conveyed into rainwater harvesting system. All storm water drains have been designed for adequate size and slope such that there shall not be any flooding in the site. It shall be ensured that no wastewater shall enter into storm water drainage system.

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?

No adverse impacts are envisaged due to proposed project on the runoff characteristics of the area as adequate arrangements will be made to trap the rainwater and suitable storm water drainage system will be provided. During the post-construction phase, runoff from the project shall not be allowed to stand or enter into the roadside or nearby drain. Adequate measures shall be taken to collect such run off and either shall be reused or recharged through pits. Suitable landscaping drain as per the existing contours of the plot will be developed. No problem of flooding and water logging is envisaged as excess run-off will be drained to groundwater.

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

Water demand will be met from public water supply. Water requirement will be reduced by recycling of treated sewage. Moreover, rainwater harvesting for recharge of groundwater aquifer will be done in the project. This will have beneficial impact on groundwater.

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).

To prevent degradation and maintain the quality of the water source, adequate control measure has been proposed to check the surface run-off. Following management measures are suggested to protect the water quality during the construction phase:

- Avoid excavation during monsoon season.
- Care would be taken to avoid soil erosion.
- Community toilets shall be constructed on the site during construction phase and the wastewater will be channelized to the collection sump in order to prevent wastewater from entering the water bodies
- To prevent surface and ground water contamination by oil/grease, leak proof containers would be used for storage and transportation of oil/grease. The floors of oil/ grease handling area will have dyke walls and would be kept effectively impervious.
- Collection and settling of storm water, prohibition of equipment wash downs, and prevention of soil loss and toxic release from the construction site will be adhered to minimize water pollution.

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).

Most of the storm water produced on site will be harvested for ground water recharge. Thus proper management of this resource is a must to ensure that it is free of contamination. A detailed Storm Water Management Plan will be developed which will consider the sources of storm water. The plan will incorporate best management practices which will include the following:

- Regular inspection and cleaning of storm drains.
- Installation of oil/ water separators system of adequate capacity in RWH pits.
- Cover waste storage areas.
- Avoid application of pesticides and herbicides before wet season.
- Conducting routine inspections to ensure cleanliness.
- Preparation of spill response plans, particularly for fuel and oil storage areas.
- Provision of silt traps in rain water harvesting system.
- Good housekeeping in the above areas.
- Rain water outlets will be provided in terrace for taking out rainwater.
- The rainwater collected through pipes, channels and catch basins will be disposed off into rain water harvesting pits.

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).

There is no labour camp at project site for construction labours. The labours are housed at the labour camp provided by the contractor at Sec-14 Gurgaon and are being transported to construction site and back by vehicle arranged by the contractor. Rest shelters, toilets and drinking water are provided to labourers at the project site. The sewage from the toilets of construction site is collected in a sump and finally disposed regularly to HUDA STP through 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).

The details of quantity of sewage and sewage collection, treatment, reuse and disposal in operation stage are given in the Table below. The design parameters, process description and schematic flow diagram of the STP is given in **Annex 8(a)**. Scheme of STP showing hydraulic design and sizing of various units of STP is given in **Annex 8(b)**.

Sewage Quantity, Treatment, Reuse & Disposal

Quantity of sewage	1150.4 kld
Collection of sewage	Sewage generated during the operation phase will be collected through underground sewerage system (pipe drain) for treatment in STP. Separate storm water drainage system will be provided for rain water.
Treatment of sewage	Sewage will be treated up to the tertiary level in the on-site Sewage Treatment Plant (1300 kld capacity) based on MBR technology. All parameters of the STP treated effluent shall be maintained as per EP Rules, 1986/ CPCB standards.
Reuse/recycle and Disposal of treated sewage	During normal operations, there will be zero discharge, as the entire (100%) treated sewage will be reused and recycled for coding, horticulture and toilet flushing
Location of the STP	Underground within project site

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

The entire (100%) treated effluent from STP will be reused for flushing, HVAC & cooling and for horticultural purposes. The drawing showing the dual plumbing plan is attached as **Annex 4(c)**.

Dual pipe plumbing:

There will be a dual pipe plumbing system for using recycled treated sewage, which will save the consumption of fresh water. There will be two pipe lines, one supplying freshwater for drinking, wash basins & pantries and other for supply of recycled treated sewage for flushing, landscape irrigation and cooling.

Water savings fixtures:

a) Low flow flushing systems: Water consumption is more for flushing applications in any building. Use of more efficient water saving toilets having dual flush system can result in a saving of more than 50% of water. Dual flush systems will be installed in order to allow different volume of water for flushing liquids and solids to save water. There will be low flush cisterns working on 3 & 6 litres/flush instead of conventional 12.5 litres.

b) Low flow taps: Aerators will be installed in taps which reduce the flow rate by 50-60%, e.g. from 15 l/min to 6 l/min. Since it is high rise building, pressure reducing valves will be installed to reduce the water pressure and water flow

c) Sensor Based Fixtures: Various types of sensor based technologies along with low flow devices (solenoid self-operating valves) will be used for urinals, taps in wash basins

3. VEGETATION

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).

No threatened, rare, endangered or endemic species were observed during the survey in project site. No other reserve forest/ wildlife sanctuary is located within 15 km radius of the project boundary (as evident for the Key plan). The project site is part of the Gurgaon Development Area. There will not be any threat to biodiversity of the area due to proposed project. All the project activities during construction will be confined within the project site. Nearest eco-sensitive areas are Sultanpur National Park (approx 20 km west) & Asola Wildlife Sanctuary (approx 16 km east) from the project site.

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

The land for proposed project is a private land & will be used for the development of commercial project. There is no major vegetation within the project site; so, there will be no modification or clearing due to proposed 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 combination of evergreen and ornamental flowering trees, palms, shrubs and ground covers, mostly indigenous/ local plants, will be planted along the sides of the roads and in open spaces & along the boundary wall within the complex under the landscape plan. The landscape plan showing green area, trees and table of tree species is enclosed as **Annex 3(a)**. Total green area will be 8,392.95 sq m (20.17% of plot area available within project boundary).

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.

No threatened, rare, endangered or endemic faunal species were observed during the survey in core zone. No displacement of fauna is envisaged due to this project. The proposed site and its surrounding urban set up do not support any habitat for any group of wild animals except a few small animals which are well adapted to urban areas.

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

No direct or indirect impact on avifauna is envisaged. However, after commissioning of the project, better environmental conditions may provide a better habitat to the avifauna of the area.

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

Measures such as corridors, fish ladders are not applicable for this project.

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).

Background Air Quality:

For drawing up the baseline status of ambient air quality in the study area, ambient air quality monitoring in respect of PM₁₀, PM_{2.5}, SO₂, NO_x and CO will be in the study area adopting a 24-hours schedule. The detailed environmental monitoring report containing analysis results of soil, water, air and noise will be submitted along with the EIA report. Laboratory test results of ambient air quality monitoring of the project site will be enclosed as **Annex 9**.

Air Quality Modeling:

The main source of emissions from the project is the operation of the backup generators during grid power failure. Detailed air quality modeling will be carried out for predicting the concentration of different pollutants contributed by the project during operation of the backup generators. The wind rose diagram is depicted in **Annex 10**.

There will be the provision of adequate stack height above ground level (30 m) as per the CPCB guidelines to dilute the effect of DG emissions.

The marginal increase in traffic due to project is not going to cause any significant increase in atmospheric concentration of gases.

Since the DG sets power backup and will be operated during power failure, vehicles will comply with latest emission norms and there will be large green area, effect of heat island will be negligible.

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.

There will be burning of fuel through generator sets, traffic movements and operation of construction machines/ equipment at site. Construction activities will lead to dust generation, emission of NOx & SOx.

The impacts on the ambient air quality during construction phase will be temporarily and reversible in nature (for short duration) and will be restricted to only a small area. During operation phase, generator set will be having adequate stack height, there will be development of green area and maintenance of vehicles, all these efforts will reduce the impact.

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.

Proposed Parking Facilities:

The project is proposed to have parking space of 4,425 ECS as against the mandatory requirement of 4,183 ECS. The details of parking facilities proposed within the complex are given in the Table below. Traffic circulation plan & surface car parking is enclosed as **Annex 3(b)**. The basement plans showing parking & services are enclosed as **Annex 6**.

Details of Parking Facilities

Level of Parking	No. of Car Parking (ECS)		Parking Area (m ²)	Space Standard (m ² /ECS)
	Proposed	Required		
Surface (Open)	629	418 (10% of total required)	14,489.32	23
Basements	3,796		121,452.12	32
Total parking	4,425	4,183 (1 ECS/40 m² FAR for IT & 1 ECS/50 m² Carpet Area for Commercial)	-	-

Additional parking provided = 4,425 ECS (proposed) – 4,183 ECS (required) = 242 ECS.

Transport Infrastructure:

The project has access through the 30 m wide Sector road connecting the NH-8 and Udyog Vihar. It is also accessible through the service road parallel to NH8. The project site is well connected to network of roads leading to various parts of NCR.

Internal roads of optimum width will be provided for smooth and one-way movement of traffic. Separate entries and exits will be provided for segregation of the incoming and outgoing traffic. Adequate measures have been proposed to manage the traffic within and outside the site.

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

In the traffic circulation plan of the project, there will be proper entry and exit points for systematic control of the vehicular movement within the project. Wide internal road will be provided for the smooth traffic movement. The project has roads running on the periphery that will facilitate the movement of traffic. Internal roads, footpaths, ramps for basement with suitable width have also been provided. Adequate lighting arrangement has been provided covering all corners.

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 a marginal increase in the ambient noise due to traffic movement within the project area. The traffic movement will be only in daytime during the construction phase. In operational phase, only workers and visitors to the proposed project will come and vehicular movement due to them only will be occurring. The pollution will be in very small quantity and it will be further minimized by plantation on the road sides and around the periphery of whole project.

Proper internal road network has been designed as per the prevailing guidelines for smooth operation of traffic; impact on noise level due to the operational traffic will be negligible.

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.

DG sets will be used for power back-up. So, DG sets will be the main source of air and noise pollution. Gaseous pollutants like NO₂, SO₂, CO, Particulates shall be generated from activities like burning of fuel through DG sets. HSD with low sulphur will be used. The DG sets will not be operational continuously and moreover these will be placed in suitable enclosures, hence no or minimal impact will be anticipated.

During operation, vehicular movement and operation of DG sets are the major sources of noise pollution. But both these activities- DG sets and vehicular movement will not have any significant impact on the people residing in the area.

Mitigation Measures for Impacts of DG Sets on Noise Quality:

- All the DG sets will be as per the E (P) Rule and noise level from the DG sets will be as per the prevailing standards.
- DG sets will be installed in the DG room to minimize the impact on ambient noise.
- DG room will be provided with acoustic lining/ treatment to insure 25 dB (A) insertion loss as per the regulations.
- Adequate exhaust mufflers will be provided as per norms to limit the noise.
- The DG sets will be built in damper for anti-vibration.
- The DG sets will be used during event of power failure only.

Impacts on Air Quality

Impacts on ambient air quality during operation due to emissions from the stacks attached to standby DG sets would be very less. However suitable mitigation measures will be adopted.

Mitigation Measures for Impacts of DG Sets on Ambient Air Quality:

- DG sets will be used only during power failure
- DG sets will comply with the applicable emission norms.
- Adequate stack height for DG sets will be provided as per CPCB norms.
- During operation stage, monitoring of emissions from DG sets and ambient air quality will be carried out as per norms.

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?

As the proposed site is vacant land and does not have any scenic amenity or landscaping in its surroundings so there is no possibility of obstruction of above-mentioned conditions. Moreover the approval of the architectural plan of the building has been taken from local development authority.

The present project itself is planned with provisions of landscaping and green area development. This will surely enhance the aesthetic 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?

In the project site, there will be entirely new construction and will not have any adverse impact on the existing structures. There is adequate space to provide landscaping; the view from the Sector road will be very attractive and pleasing with the form and appearance of the project.

The development of the project area is as per the approved Master plan (2021 AD) of Gurgaon city. Hence, no adverse impacts are anticipated from new constructions on the existing structures in this area.

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

There are no local considerations of urban forms & urban design influencing the design criteria. The proposed site falls under the area of approved final development plan of Gurgaon City (2021 AD). The proposed commercial project will be constructed within the designed site as per the defined building bye-laws of Haryana Urban Development Authority (HUDA).

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 is not any anthropological or archaeological site or artifacts or any other significant features in the vicinity of the proposed site.

7. SOCIO-ECONOMIC ASPECTS

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

The proposed project shall provide value addition to the existing infrastructure, as due to development of this project facility such as public transport, water supply, telex-communications, power lines, road maintenance etc. shall be upgraded in and around the project premises.

The project is situated in the commercial zone and hence there will be no change in demographic structure.

The details regarding the demographic structure of Gurgaon city is given in the table below:

Demographic Details of District – Gurgaon (Haryana)

S.No.	Particulars	Details
1	State	Haryana
2	District	Gurgaon
3	Total population:	Persons: 1514085
		Male: 817274
		Female: 696811
4	Growth Rate (Total Pop) 2001-2011	73.9
5	Sex Ratio	853
6	Percent 0-6 pop	13.1
7	Sex Ratio 0-6 pop	826
8	Literacy Rate (Persons)	84.4
9	Literacy Rate (Males)	90.3
10	Literacy Rate (Females)	77.6

Source: Census Data of India, 2011.

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

The project site is located in the development area under the Master Plan of Gurgaon. The ancillary infrastructure like roads, markets, public health, amenities, conveyance facilities already exist in the project influenced area.

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

The proposed project will be constructed within the designated site as per the defined building by-laws of Haryana Urban Development Authority (HUDA), and Department of Town & Country Planning, Chandigarh, Haryana. There is no sacred site or cultural heritage site in nearby vicinity of proposed project. Hence no adverse impacts are envisaged. So, the proposed project will not cause any adverse effects on local communities or disturbance to sacred sites or other cultural values.

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)

Though most of the construction materials to be used are conventional, energy efficient building materials, if available locally, will be used as specified in the Energy Conservation Building Code. The major materials required for construction of the proposed project will be steel, cement, bricks, metal, flooring tiles/ stones, sanitary and hardware items, electrical fittings, water, etc.

Following low-energy/ recycled material based finishes/products will be used in the exteriors (paving etc.) and interiors (flooring, doors/ windows, frames, interior wood finishes, paneling, false ceiling etc.), which use low-energy materials and products and industrial waste/ recycled products and minimize the use of wood as a natural resource.

- Use of ready mix concrete containing fly ash or PPC which contains fly ash
- Use of PPC (which contains minimum 15% of fly ash) in mortar and plaster
- Use of PPC or fly ash based paving blocks/ tiles and pre-cast elements
- Composite wood products such as hardboards, block-boards, ply wood etc. made from recycled wood scrap & dusts.
- Fibrous gypsum plaster boards made from industrial wastes
- Finished concrete flooring, ceiling tiles, ceramic tiles etc. which are made from low embodied energy products & recycled materials or from resource efficient finishes

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 air quality will have adverse impact. Construction activities especially related to handling of loose material likely to cause generation of fugitive dust that adversely impacts the air quality of the surrounding area of the project site. To minimize the impact, loose material will be either stacked or transported with proper covering.

During construction phase the expected noise levels will be between 70 – 85 dB (A), which will decrease with increase in distance. Administrative as well as engineering control of noise will be implemented.

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

Waste from construction like excavated earth, iron rods etc. will be recycled and reused as far as possible.

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

The details of collection, recycle and disposal of solid wastes during operation stage are given in the Table below.

Solid Wastes Collection, Recycle & Disposal

Quantity	Total 4531 kg/day (Biodegradable:1812 kg/day + Non-biodegradable:2719 kg/day)
Nature	Biodegradable: Waste vegetables and foods Non-biodegradable: Papers, cartons, thermocool, plastics, glass etc.
Collection and disposal	Solid wastes generated will be segregated into biodegradable and non-biodegradable components and collected in separate bins. The biodegradable wastes will be composted in an on-site composting unit and the manure will be used for landscaping. The non-biodegradable/ recyclable wastes will be disposed at HUDA designated site through authorized vendors. Dewatered/ dried sludge from STP will be used as manure in horticulture.
Recycling	Recyclable wastes comprising paper, plastic, glass etc., will be disposed at HUDA designated site through to authorized vendors.

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?

The details of power requirement, source, backup power arrangement (i.e. generators) are given in the Table below

Power Requirement, Source and Backup Arrangement

Power requirement	16,427 KW
Sources of power	Grid supply of Dakshin Haryana Bijli Vitaran Nigam Limited (DHBVNL)
Back-up power supply arrangement	Back-up DG sets of total capacity 25,000 kVA which is equivalent to 17,000 kW with 85% loading will be provided for 100% power backup in case of power failure. Ultra low sulphur diesel (ULSD) will be used as fuel.

Adequate measures have been proposed to minimize the energy consumption. Energy conservation measures are given in **Annex 11**.

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

During non-availability of gas supply power supply will be provided by backup DG sets. Details are given in Table above.

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?

Double glazing glass of suitable thickness will be used depending upon the panel size to keep the U value as per the requirement of ECBC.

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

Efforts will be taken for energy conservation using passive solar architecture wherever it is possible.

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, the layout of streets & buildings has been designed to maximize the potential for solar energy devices. This is an office building and there will be minimum requirement of hot water. Hence, use of solar hot water systems is a not techno-economically viable option.

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?

Shading options wherever feasible will be used for energy saving.

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.

The project will be a LEED Certified Green Building ensuring energy conservation through energy efficient building envelope, lighting and HVAC system, use of renewable energy (Solar Energy), conservation of water through rain water harvesting system, and recycling of 100% wastewater treated up to tertiary level and other prescribed energy conservation initiatives required for certification.

The design of the building will be such that maximum use of natural lighting can be achieved. The walls, roofs and opening will be designed to achieve minimum influx of heat.

Energy Efficient Features:

- Maximum utilization of natural light
- Energy efficient LED Lighting for entire development
- Use of solar lights in common areas
- Appropriate design to reduce heat gain and loss
- Roof-top thermal insulation.
- Low U-value and low solar heat gain co-efficient value (SHGC) for glazing glass
- Vertical fenestration area shall be maximum 60% of gross wall area as per ECBC
- Energy efficient high COP (Low I KW / TR) water cooled chillers for HVAC system with CFC free refrigerant
- Energy efficient motors for AHUs, ventilation fans and cooling towers
- Secondary variable speed pumping system for chilled water distribution system
- Selection of high efficiency fans for air handling units and ventilation system
- Variable speed drive on AHU's and large ventilation fans with large motor rating
- Cooling tower selection for minimum drift and noise level; energy efficient motors
- Heat recovery wheels for pre cooling outdoor air by using the waste exhaust air from toilet & pantry etc to ensure reduced energy consumption despite higher outdoor air intake.
- Power factor shall be maintained 0.95 or higher to reduce electrical power distribution losses in the installation.
- Use of timers and photo-electric sensors to switch ON/ OFF external landscape and facade lighting
- Transformers shall have minimum no load losses as compared to conventional transformers
- Pumps & equipment selected for energy efficient operation.

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?

The building will use energy efficient and environmental friendly designs that will control formulation of heat island effect. There will be also green cover at the site to reduce formation of heat island. Passive design concepts have been used to minimize energy consumption and maximize the energy efficiency.

Heat emission from the proposed project and associated operations can be from the sources like: Heat absorbed and radiated from the paved and concrete structures, heat generated from equipments/ appliances. However, the heat generated will not be significant and will be dissipated by the lush green provided within the project. Hence, it can be concluded that the heat island effect shall not be a concern for the proposed project and will have an overall positive effect on the microclimate of the area.

Due to the proposed project there would be insignificant emission of air pollutants by vehicular movements and occasional use of DG sets, hence no heat island effect is envisaged; the AQIP report enclosed shows the impact and the mitigating features.

To reduce the heat load reflective insulated glass shall be used in fenestrations to cut on heat loads and subsequently capital & operating cost of air conditioning.

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.

The U-values of the roof, external wall and glazing of the building will meet the requirements as specified in the Energy Conservation Building Code (ECBC). Details are given in **Annex 11**.

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

Adequate fire protection facilities will be installed including fire detectors, fire alarm and fire fighting system to guard the building against fires. All fire protection facilities are designed as per the latest National Building Code and local fire norms. The approvals in this regard will be obtained prior to installation of the fire protection equipments. Layout plan showing location of yard hydrants is enclosed as **Annex 4(b)**. Fire fighting plan is enclosed.

Fire extinguishing system shall include the following:

- Fire extinguishers
- Hose reel and Wet riser
- Yard hydrants
- Automatic sprinkler system in the building
- Manually operated electric fire alarm system
- Automatic detection and alarm system
- Underground and terrace level fire water storage tanks
- Electric and diesel driven fire pumps

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

Glass will not be used as a 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.

Reduced air infiltration combined with proper ventilation can not only reduce energy consumption but it can also improve the quality of indoor air. The ventilation system will be designed as per NBC.

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.

Solar energy will be used; no other technologies are viable in this case. Solar energy will be used to meet various energy requirements of the project such as:

- Solar lights for streets, landscape area and common areas
- Solar photovoltaic power panels of minimum 493 kW (i.e. 3% of sanctioned load) will be provided as per HAREDA norms
- Solar water heating system is not required as per latest HAREDA norms.

10. ENVIRONMENT 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.

The Environmental Management Plan is enclosed in as **Annex 12**.

PRE-FEASIBILITY REPORT (PFR) / CONCEPTUAL PLAN OF THE PROJECT

Expansion of “DLF Cyber Park” in Udyog Vihar, Sector 20, Gurgaon

Salient Features of the Project

Items	Details
Project name	Expansion of “DLF Cyber Park” in Udyog Vihar, Sector-20, Gurgaon
Location	Plot No. 405-B, Udyog Vihar, Phase-III, Sector 20 Gurgaon (Haryana)
Type of project	IT & Commercial Building
Plot area	Licensed plot area = 47,817.58 m ² (11.816 acres) Plot area for FAR calculation = 46,852.81 m ² (11.5776 acres) Available plot area with project boundary after excluding area under HUDA green belt = 41,601.62 m ² (10.28 acres)
Built up area	359,310.28 m ² (including basements & other built up area)
Ground coverage	18,625.5 m ² (39.75%)
Floor & basement area	Floor area: 182,661.34 m ² , Area of basement: 132,280.87 m ² , Other built-up area: 44,368.07 m ²
Number of floors & basements	Ground Floor + 12 Floors + 4 level basements
Building height	58.025 m (terrace of topmost livable floor)
Area utilization	Ground floor: Office + Commercial F&B Outlets 1st floor to 12 th floor: Office; Basements: parking & services
Parking facilities	Total 4,425 ECS (Surface 629 + Basement: 3,796)
Power requirement & source	16,427 kW from grid supply
Power backup	100% Back-up DG sets of total capacity 25,000 kVA (equivalent to 17,000 kW with 85% loading)
Water requirement & source	Fresh water requirement : 779.7 KLD (from Municipal supply) Recycled treated effluent : 1092.9 KLD (from on-site STP) Total water requirement : 1872.6 KLD
Sewage generation, treatment & disposal	Sewage generation: 1150.4 kld Sewage treatment facility : STP of 1300 KLD capacity Sewage Discharge : Zero discharge, 100% recycle of treated sewage
Solid wastes generation	4,531 kg/ day
Estimated population	Total: 39,085 persons (Working : 35,532, Visiting : 3,553) (on the basis of 2 shifts operation)
Green area	Total green area = 8,392.95 m ² (20.17 % of available plot area)
Estimated project cost	Rs. 1439.11 Crores

Details of Parking Facilities

Level of Parking	No. of Car Parking (ECS)		Parking Area (m ²)	Space Standard (m ² /ECS)
	Proposed	Required		
Surface (Open)	629	418 (10% of total required)	14,489.32	23
Basements	3,796		121,452.12	32
Total parking	4,425	4,183 (1 ECS/40 m² FAR for IT & 1 ECS/50 m² Carpet Area for Commercial)	-	-

Additional parking provided = 4,425 ECS (proposed) – 4,183 ECS (required) = 242 ECS.

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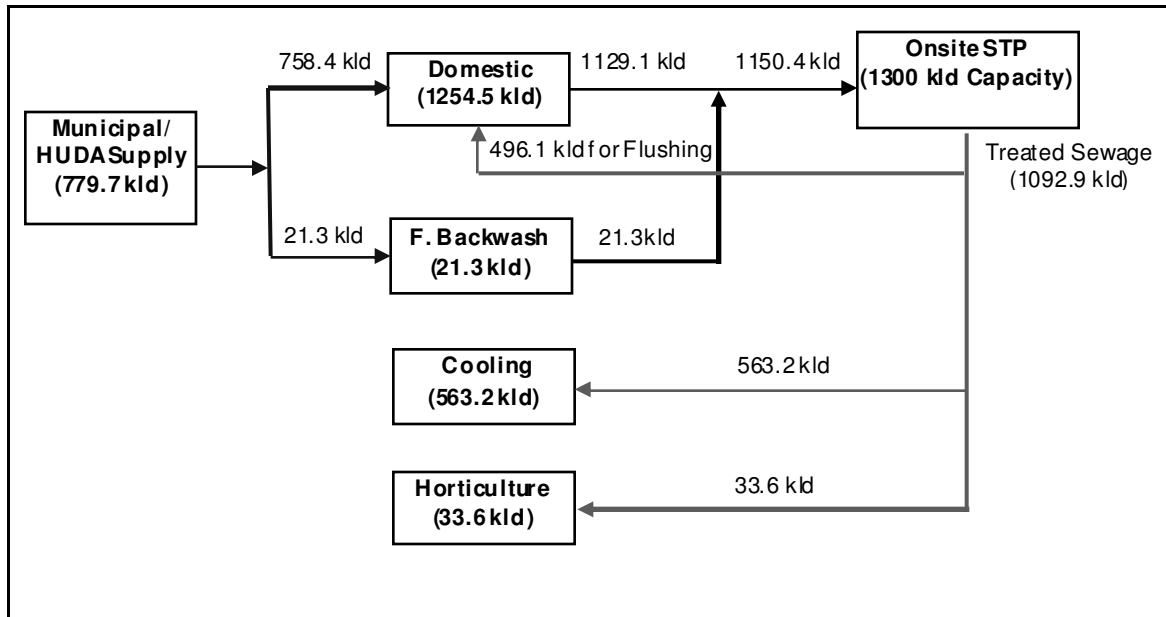
Water Requirement

S. No.	Purpose	Population	Unit Demand (lpcd)			Domestic Water Demand (KLD)		Total Water Demand (kld)
			NF	F	Total	Non-Flushing	Flushing	
1	Domestic demand							
	a) Office occupants	35,532	17.5	14.0	31.5	621.8	497.4	1,119.2
	b) Visitors	3,553	3.5	7.0	10.5	12.4	24.9	37.3
	c) Restaurants (2000 seats)		38.5	10.5	49.0	77.0	21.0	98.0
	d) Subtotal (domestic)					711.2	543.3	1,254.5
2	Filter backwash	-			L.S.			21.3
3	HVAC & coding				L.S.			563.2
4	Horticulture	-			L.S.			33.6
	Total water requirement	-			-			1,872.6

Note: Population is estimated on the basis of 1 person per 10 sq. m as per NBC, 2016 and for operation of the building in two shifts. Water demand is calculated on the basis of per capita demand of 45 lpcd for office building and 15 lpcd for visitors as per NBC, 2016. The per capita demand is then reduced by 70% due to use of low-flow fixtures.

Water Source

S.N.	Source	Quantity (kld)	% of Total Requirement
1	Fresh water from municipal supply	779.7	41.6%
2	Recycle of treated effluent from STP	1,092.9	58.4%
	Total water source	1,872.6	100.0%



Water Balance Diagram

Rain Water Harvesting Calculation

Type of Catchment Area	Area (m ²)	Runoff Coefficient (C)	Rainfall Intensity (I) (mm/h)	Runoff (Q=CIA) (m ³ /h)
Roof/Terrace area	18,625.50	0.8	45	670.5
Other Paved Area	14,583.17	0.6	45	393.7
Unpaved area	8,392.95	0.2	45	75.5
Total Area under development	41,601.62			1,139.7

Volume of rainwater to be retained (m ³) in 15 min	284.93
Volume of one pit (m ³) of size 4.0 m (L) x 3.4 m (W) x 4.0 m (D)	54.4
No. of pits - required	5.3
No. of pits – proposed	6
No. of recharge wells proposed (2 wells per pit)	12

Sewage Quantity, Treatment, Reuse & Disposal

Quantity of sewage	1150.4 kld
Collection of sewage	Sewage generated during the operation phase will be collected through underground sewerage system (pipe drain) for treatment in STP. Separate storm water drainage system will be provided for rain water.
Treatment of sewage	Sewage will be treated up to the tertiary level in the on-site Sewage Treatment Plant (1300 kld capacity) based on MBR technology. All parameters of the STP treated effluent shall be maintained as per EP Rules, 1986/ CPCB standards.
Reuse/recycle and Disposal of treated sewage	During normal operations, there will be zero discharge, as the entire (100%) treated sewage will be reused and recycled for coding, horticulture and toilet flushing
Location of the STP	Underground within project site

Solid Wastes Collection, Recycle & Disposal

Quantity	Total 4531 kg/day (Biodegradable: 1812 kg/day + Non-biodegradable: 2719 kg/day)
Nature	Biodegradable: Waste vegetables and foods Non-biodegradable: Papers, cartons, thermocol, plastics, glass etc.
Collection and disposal	Solid wastes generated will be segregated into biodegradable and non-biodegradable components and collected in separate bins. The biodegradable wastes will be composted in an on-site composting unit and the manure will be used for landscaping. The non-biodegradable/ recyclable wastes will be disposed at HUDA designated site through authorized vendors. Dewatered/ dried sludge from STP will be used as manure in horticulture.
Recycling	Recyclable wastes comprising paper, plastic, glass etc., will be disposed at HUDA designated site through to authorized vendors.

Energy Efficient Features:

- Maximum utilization of natural light
- Energy efficient LED Lighting for entire development
- Use of solar lights in common areas
- Appropriate design to reduce heat gain and loss
- Roof-top thermal insulation.
- Low U-value and low solar heat gain co-efficient value (SHGC) for glazing glass
- Vertical fenestration area shall be maximum 60% of gross wall area as per ECBC
- Energy efficient high COP (Low IKW / TR) water cooled chillers for HVAC system with CFC free refrigerant
- Energy efficient motors for AHUs, ventilation fans and cooling towers
- Secondary variable speed pumping system for chilled water distribution system
- Selection of high efficiency fans for air handling units and ventilation system
- Variable speed drive on AHU's and large ventilation fans with large motor rating
- Cooling tower selection for minimum drift and noise level; energy efficient motors
- Heat recovery wheels for pre cooling outdoor air by using the waste exhaust air from toilet & pantry etc to ensure reduced energy consumption despite higher outdoor air intake.
- Power factor shall be maintained 0.95 or higher to reduce electrical power distribution losses in the installation.
- Use of timers and photo-electric sensors to switch ON/ OFF external landscape and facade lighting
- Transformers shall have minimum no load losses as compared to conventional transformers
- Pumps & equipment selected for energy efficient operation.

Energy Efficient Building Materials:

- Use of ready mix concrete containing fly ash or PPC which contains fly ash
- Use of PPC (which contains minimum 15% of fly ash) in mortar and plaster
- Use of PPC or fly ash based paving blocks/ tiles and pre-cast elements
- Composite wood products such as hardboards, block-boards, plywood etc. made from recycled wood scrap & dusts.
- Fibrous gypsum plaster boards made from industrial wastes
- Finished concrete flooring, ceiling tiles, ceramic tiles etc. which are made from low embodied energy products & recycled materials or from resource efficient finishes

Fire fighting system:

- Fire extinguishers
- Hose reel and Wet riser
- Yard hydrants
- Automatic sprinkler system in the building
- Manually operated electric fire alarm system
- Automatic detection and alarm system
- Underground and terrace level fire water storage tanks
- Electric and diesel driven fire pumps

Proposed Environmental Pollution Mitigation Measures

Area	Mitigation Measures
	Construction Stage:
Water quality	<ul style="list-style-type: none"> • Toilet and drinking water facilities for construction workers are provided by the contractor at the construction site to avoid unhygienic condition at site. • Sewage from toilets at construction site is collected in a sump and disposed HUDA STP through authorized tankers.
Air quality	<ul style="list-style-type: none"> • Barricades of sufficient height all along the project boundary are erected to prevent dispersion of dust and noise • Regular sprinkling of water on roads and vulnerable areas of the construction site is carried out for dust suppression. • Properly tuned construction machinery & vehicles in good working condition with low noise & emission is used and engines are turned off when not in use. DG sets to comply with emission norms & stack height regulations. • Construction materials are properly stored at the storage yard with proper shades and covers located at the off-site batching plant. • Trucks carrying construction materials and debris are suitably covered by tarpaulin and plastic sheets. • Use of mask by construction workers.
Noise level	<ul style="list-style-type: none"> • Enclosed/ canopy type DG sets are used. • Protective gears such as ear muffers etc. have been provided to construction personnel exposed to high noise levels.
Solid wastes	<ul style="list-style-type: none"> • Construction wastes are recycled and excess construction debris is disposed at designated places in tune with the local norms. • Municipal solid wastes from construction site are disposed at HUDA designated site dumping site through authorized vendors.
Safety	<ul style="list-style-type: none"> • Personal protective equipments (PPE) and other safety measures are provided to the construction workers as per occupational safety norms to prevent accidents/ hazards. • First aid and health checkup facility is provided at the construction site.
	Operation Stage:
Water quality	<ul style="list-style-type: none"> • Sewage will be treated up to the tertiary level in the on-site STP. • Entire treated sewage will be reused for cooling, toilet flushing and horticulture. • Regular monitoring of STP effluent quality will be carried out as per norms.

Area	Mitigation Measures
Air quality	<ul style="list-style-type: none"> • Back up DG sets will comply with the applicable emission norms. • Adequate stack height for DG sets will be provided as per norms. • Back up DG sets will be used only during power failure. • Regular monitoring of emissions from DG sets and ambient air quality will be carried out as per norms.
Noise level	<ul style="list-style-type: none"> • DG sets will be installed on AVM pads to minimize the vibration. • DG sets will have acoustic enclosure as per norms to control the noise from DG sets. • Pumps, Compressors, DG sets etc. will be properly maintained for fuel efficiency and noise control. • Personal protective equipment will be provided to the maintenance staff working in high noise areas.
Solid wastes	<ul style="list-style-type: none"> • Solid wastes will be segregated into biodegradable & non-biodegradable components. • Biodegradable wastes will be composted in an on-site composting unit and the manure will be used for landscaping. • Non-biodegradable/ recyclable wastes will be disposed at HUDA designated site through authorized vendors.
Hazardous waste	<ul style="list-style-type: none"> • Used/ spent oil from DG sets will be temporarily stored in an isolated area with proper marking & restriction and finally sold to registered recyclers as per HW rules.
Rainwater harvesting	<ul style="list-style-type: none"> • Adequate rainwater harvesting pits will be provided for collection of rainwater and recharge into the groundwater.
Fire protection	<ul style="list-style-type: none"> • Adequate fire protection facilities will be installed including fire detectors, fire alarm and fire fighting system as per National Building Code of India.
Landscape	<ul style="list-style-type: none"> • Proper maintenance of landscape round the year including replacement of the decayed plants.
Safety	<ul style="list-style-type: none"> • Adequate safety measures complying to the occupational safety manuals to prevent accidents/ hazards to the maintenance workers.
Others	<ul style="list-style-type: none"> • The building will be provided with disabled-friendly design, timber-free construction, energy efficient lighting & ventilation, and control of indoor environment. • Undertaking all necessary pollution control measures to maintain the emissions and discharges within the prescribed/stipulated limits.

Annex-20
Licence and Land Papers of the Project

Table of Contents

1.	List of License, Khasra Numbers and Area	Table 1
2.	List of licensee and Validity of Licences	Table 2
3.	Relationship between Licensee and Project Proponent	Chart enclosed
4.	Licences & renewals	Enclosed
5.	Conveyance deed between previous and present owners	Available

Note:

Haryana Urban Development Authority (HUDA) acquired the entire land in Udyog Vihar, Gurgaon, demarcated the land into plots and then allotted to various agencies for development. The project site (Industrial Plot No. 405-B) in Udyog Vihar, Phase-III, Sector-20, Gurgaon was allotted by HUDA. Therefore, Khasra numbers, Jamabandi and Aks-Sajra maps are not available.

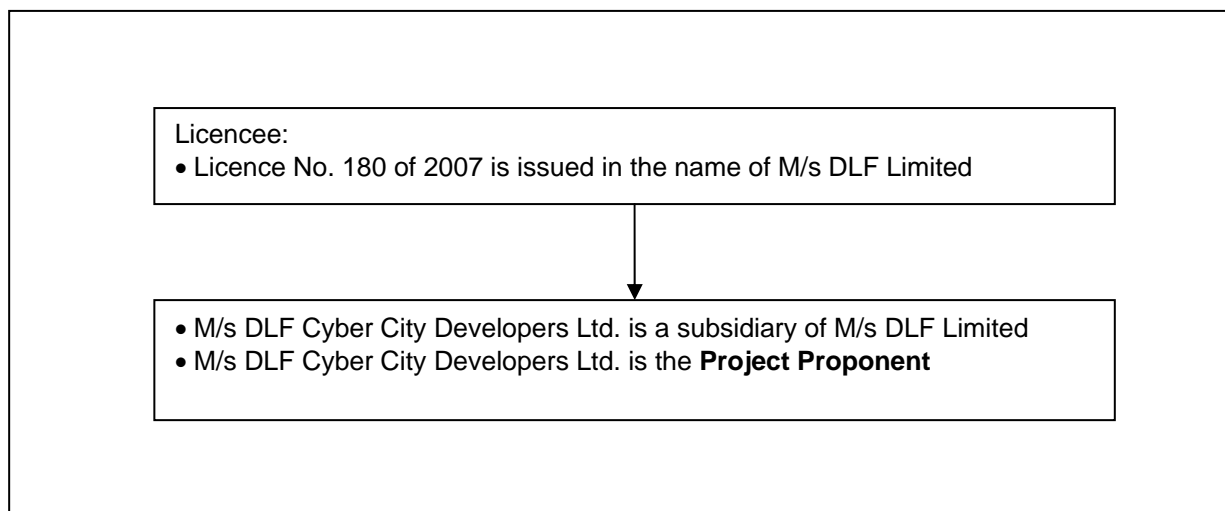
Table 1: List of License, Khasra Numbers and Area

S. No.	Licence No.	Village	Khasra No	Area (acres)
1	180 of 2007	Udyog Vihar	Industrial Plot No. 405-B in Udyog Vihar, Phase-III, Gurgaon	11.816
	Total			11.816

Note: The plot of project site was allotted by HUDA. Therefore, Khasra numbers are not available.

Table 2: List of licensee and Validity of Licences

S. No.	Licence No.	Licensee	Licence Valid Upto	Renewal Applied Upto
1.	180 of 2007	DLF Limited	01.05.2017	Not Applicable

Chart: Relationship between Licensee and Project Proponent


Note: Conveyance deed executed between previous owner M/s GE India Industrial Pvt. Ltd. (erstwhile GE Plastics India Ltd.) and present owner M/s DLF Limited (erstwhile DLF Universal Ltd.), is available.

Directorate of Town & Country Planning, Haryana

SCO-71-75, 2nd Floor, Sector-17-C, Chandigarh, Phone: 0172-2549349

Web site tcpharyana.gov.in - e-mail: tcphry@gmail.com

Regd.

To

✓ DLF Ltd.,
DLF Centre, Sansad Marg,
New Delhi-110001.
Email ID – bhandari-deepak@dlf.in

Memo. No. LC-372-JE (S)-2015/

6714

Dated:

28/4/15

Subject: - Renewal of licence Nos. 180 of 2007 dated 02.5.2007 granted for setting up of Cyber City over an area measuring 11.816 acre, Sector-20, Gurgaon-Manesar Urban Complex - DLF Ltd.

Please refer to your application dated 09.02.2015 and memo dated 08.04.2015 on the subject cited above.

License No. 180 of 2007 dated 02.5.2007 granted to DLF Ltd. for setting up of Cyber City over an area measuring 11.816 acre, Sector-20, Gurgaon-Manesar Urban Complex is hereby renewed for a further period of two years i.e. up to **01.05.2017** on the following terms & conditions :-

1. This renewal will not tantamount to certification of our satisfactory performance entitling you for further renewal of licence.
2. You shall complete atleast 60% of the permitted FAR as covered on all floor and obtain occupation certificate within a period of four years from issuance of instructions dated 30.05.2014 and also apply for grant of completion certificate under Rule 16, failing which the licence shall be considered to have lapsed.
3. The Bank Guarantee against IDW is valid upto 29.05.2016. You shall deposit the revalidated Bank Guarantee at least one month before the expiry date.
4. You will get the licence renewed till the final completion of the colony is granted.
 - The original license is returned herewith.

(Arun Kumar Gupta)

Director General, Town & Country Planning,
Haryana, Chandigarh.

Endst. No. LC-372-JE (S)-2015/

Dated

A copy is forwarded to the following for information and necessary action.

- ✓ Chief Administrator, HUDA, Sector 6, Panchkula
2. Chief Engineer, HUDA, Sector 6, Panchkula
3. Senior Town Planner, Gurgaon.
4. Sh. P.P. Singh DTP (HQ) with a request to update the status on website.
5. District Town Planner, Gurgaon.
6. Chief Accounts Officer of this Directorate.

(Rajesh Kaushik)

Assistant Town Planner (HQ)
For Director General, Town and Country Planning
Haryana, Chandigarh.

FORMS LC-V
(See Rule 12)
HARYANA GOVERNMENT
TOWN AND COUNTRY PLANNING DEPARTMENT

Licence No. 180 of 2007.

1. This licence has been granted under the Haryana Development & Regulation of Urban area Act, 1975 & the Rules made thereunder to M/s DLF Limited, DLF Centre, Sansad Marg, New Delhi - 110 001 for setting up a Cyber Park Colony in Sector-20, Udyog Vihar, Phase-III, District Gurgaon.
2. The aforesaid Cyber Park Colony is to be set up on the Industrial Plot No 405-B measuring 11.816 acres in Sector-20, Udyog Vihar, Phase-III, Gurgaon.
3. The licence is granted subject to the following conditions:-
 - a) That the Cyber Park is laid out to conform to the approved layout plan and development works are executed according to the designs and specifications shown in the approved plan.
 - b) That the conditions of the agreement already executed are duly fulfilled and the provision of Haryana Development and Regulation of Urban Areas Act, 1975 and the Rules, 1976 made thereunder are duly complied with.
 - c) That the demarcation plan of the Cyber Park area is submitted before starting the development works in the colony and for the approval of zoning plan.
 - d) The commercial / shopping area shall not exceed 4% with 150 FAR.

In case of misuse of space/violation of area restriction, penalty may be imposed on the licensee for the entire area sold/leased out by the licensee to the entrepreneur in the form of licence fee, conversion charges at the commercial rate along with any other penalty to be decided by the Government which would be in the form of additional conversion charges at commercial rates on the portion of the FAR between 150 to 250 of the entire misused area of sold / leased out by the licensee to the defaulting entrepreneur.

- e) The licensee shall complete at least 30% of the IT area within the initial period of two years, failing which he will have to deposit the conversion charges and licence fee at commercial rate for the entire IT area.

In case of licensee has already paid license fee and conversion charges at the commercial rates on the entire IT area due to non-completion of the project in the stipulated period then in case of misuse of sold / leased premises, the license fee and conversion charges would not be charged again.

The licensee may also take sufficient precautions by incorporating suitable clauses in the lease / sale deed to prevent misuse of the sold / leased plots.


- f) That the licensee will not be allowed any manufacturing or polluting units in the project.
 - g) Policy decisions taken by the Government regarding provision of Fire Protection measures in the buildings shall be abided by.


D.T.C.P.

Mr. C.D.

- h) That the licensee shall not give any advertisement for sale of IT area, shops / offices in commercial area before the approval of layout / building plans.
4. That the licensee will construct the portion of the service road forming part of the licensed area at his own cost.
5. That you shall obtain approval / NOC from competent authority to fulfil the requirement of notification dated 14.9.2006 of Ministry of Environment and Forest, Govt of India before starting the development works of the colony.
6. The license is valid up to 1-5-2009.

Place: Chandigarh
Dated: 2-5-2007.



(S.S. DHILLON)
Director,
Town & Country Planning,
Haryana, Chandigarh.

Endst No: SDP-2007/ 12000

Dated: 4-5-07

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action:-

- ✓ 1. M/s. DLF Limited, DLF-Centre, Sansad Marg, New Delhi - 110 001 alongwith a copy of agreements LC-IV and Bilateral agreement;
2. Chief Administrator, HUDA, Panchkula;
3. MD, HVPN, Planning Director, Shakti Bhawan, Sector-6, Panchkula;
4. MD, HSIIDC, Panchkula;
5. Additional Director Urban Estates, Haryana, Panchkula;
6. Administrator, HUDA, Gurgaon;
7. Engineer-In-Chief, HUDA, Panchkula;
8. Superintending Engineer, HUDA, Gurgaon along with a copy of agreement;
9. Land Acquisition officer, Gurgaon;
10. Senior Town Planner, Gurgaon to ensure that coloniser obtains approval / NOC as per clause 5 above before starting the development works of the colony;
11. District Town Planner, Gurgaon along with a copy of agreement;
12. District Town Planner, Enforcement, Gurgaon;
13. Accounts Officer, O/o Director, Town & Country Planning, Haryana, Chandigarh along with a copy of agreement.


District Town Planner (HQ) JS;
For Director, Town and Country Planning;
Haryana, Chandigarh.