1. INTRODUCTION

After recognizing the need of redevelopment on plot bearing C. S. No. 2L/738 of Malabar - Cumbala Hill Division, Cumbala Hill Estate, Plot No.16, At M. L. Dahanukar Marg, Mumbai, having Basement + Ground floor + 1 upper floor and out house structure, which is in very dangerous condition, is now being developed by M/s Indian City Properties Limited. The building had one tenement but the structure is presently vacant. This developer has proposed to develop a building with Basement + Ground floor + 1st to 8th level car parking floors + 17 residential floors + 1 separation floor + 2 mechanical floors + 1amenity floor + 1pool deck at terrace level + elevator mc rooms.

The existing structure is a Cessed 'A' category structure of Basement + Ground floor + 1 upper floor and out house. The land use of the Existing plot is Residential as per the existing plan of structure, as certified by MHADA. The same structure is now to be developed into a residential building of a Basement + ground floor + 1st to 8th level car parking floors + 17 residential floors + 1 separation floor + 2 mechanical floors + 1amenity floor + 1pool deck at terrace level + elevator mc rooms. The basement will be used for MEP services and ground floor will be used for meter room, security room, entrance foyer etc. The 1st – 8th floors will be used for car parking. 9th floor and 28th floor will be used as mechanical lower and mechanical upper floor respectively. 11th, 12th, 15th, 17th and 19th floors will have five 1 BHK flats on each floor. The 10th floor will have two 1RK and three 1BHK flats. The 13th & 18th floor will have one 1RK and four 1BHK flats. The 14th floor will have two 1RK flats and three 1BHK flats. The 20th floor will have one 2BHK and two 1BHK flats each. The 21st - 27th floor will have one 4BHK flats each. 28th floor will be used as mechanical upper and 29th will be used as amenities floor and 30th floor will be used as pool deck floor.

The site under reference is surrounded by many more authorized structures and is affected by CRZ-II zone. It is situated on the landward side of the existing Warden Road. Hence the development is permitted subject to the CRZ clearance.

The development site does not fall or contain the environmentally sensitive areas as specified in the Coastal Regulation Zone Notification.

The total cost of the project is Rs. 94, 93, 87,00 0/- (Ninety Four Crores Ninety Three Lakhs and Eighty Seven Thousand Only) as per the valuation report.

2. PURPOSE OF THE REPORT

Proposed redevelopment on plot bearing C. S. No. 2L/738 of Malabar - Cumbala Hill Division, Cumbala Hill Estate, Plot No. 16, At M. L. Dahanukar Marg, Mumbai as per clause 33(7) of DCR – 1991 in force as on 6th January 2011 and thereby obtain CRZ - Environmental Clearance as per S.O.19(E) dated 6th January 2011. The Plot is occupied by a Cessed 'A' category building, which is proposed to be redeveloped.

As per MoEF Notification dated 6/1/2011, redevelopment of dilapidated, cessed and unsafe buildings in CRZ areas are permitted with special advantages, in which the project is planned as per DCR's in force as on 6/1/2011 and staircase/ lobby/ lift area is claimed free of FSI, as per clause 35(2)c of DCR 1991. The proposal is submitted for prior CRZ clearance, as per the requirement of amended CRZ notification - 2011 and the check list finalised by MCZMA vide Office Memorandum dated 02/07/2011.

Current development thus will help the existing tenant to get permanent, safe structure. At present they are residing in unsafe building. Photos of the same are attached in Annexure I.

3. DESCRIPTION OF THE PROJECT

3.1 NATURE OF THE PROJECT

This is a proposal for redevelopment of residential building situated at M.L. Dahanukar Marg, Mumbai in CRZ-II belt, as the same is situated within 500 mtrs. from Arabian Sea. (Approximate distance 454 mtrs). The subject plot is situated on the landward side of existing Warden Road; which is in existence much prior to 19th Feb 1991.

The Plot is situated in Residential zone and not under any reservation as per 1967 DP as well as Revised 1993 DP. The FSI permitted on the plot under reference is 2.5, as per DCRs in force as on 6th Jan 2011. However, the FSI proposed to be consumed is 2.5 only.

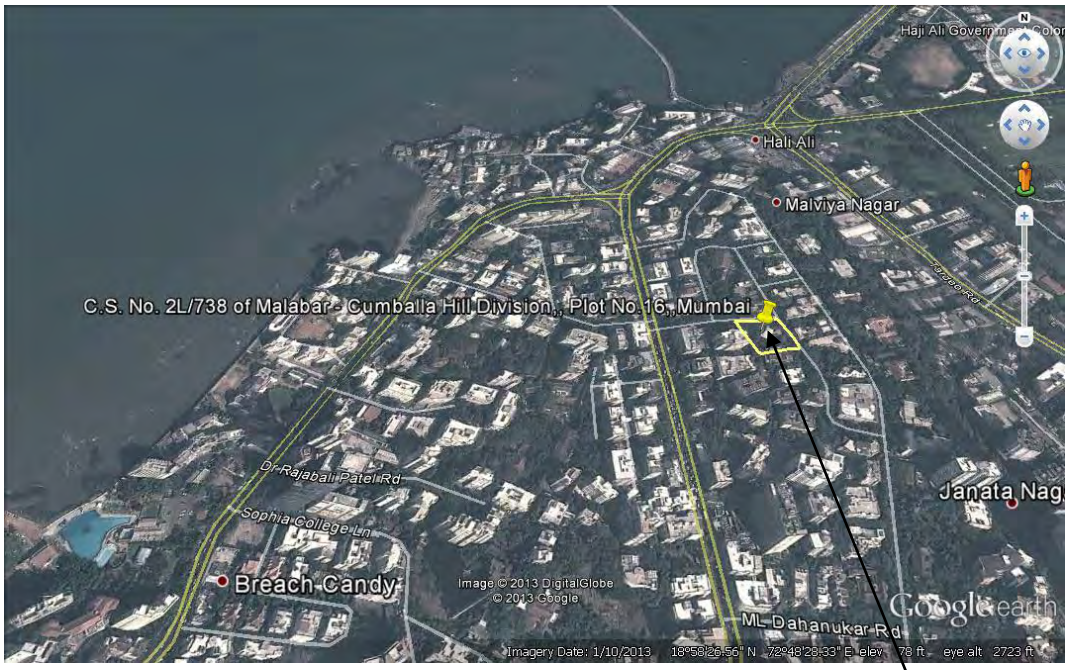
3.2 SIZE OF THE PROJECT

Area of the plot is 1791.82 sq. mtr., which has been proposed for FSI purpose. Out of 1791.82 sq mtrs area, 438.76 sq mtrs area falls under road setback. The cost of the Project is Rs. 94,93,87,000/- (Ninety Four Crores Ninety Three Lakhs and Eighty Seven Thousand Only).

3.3 LOCATION

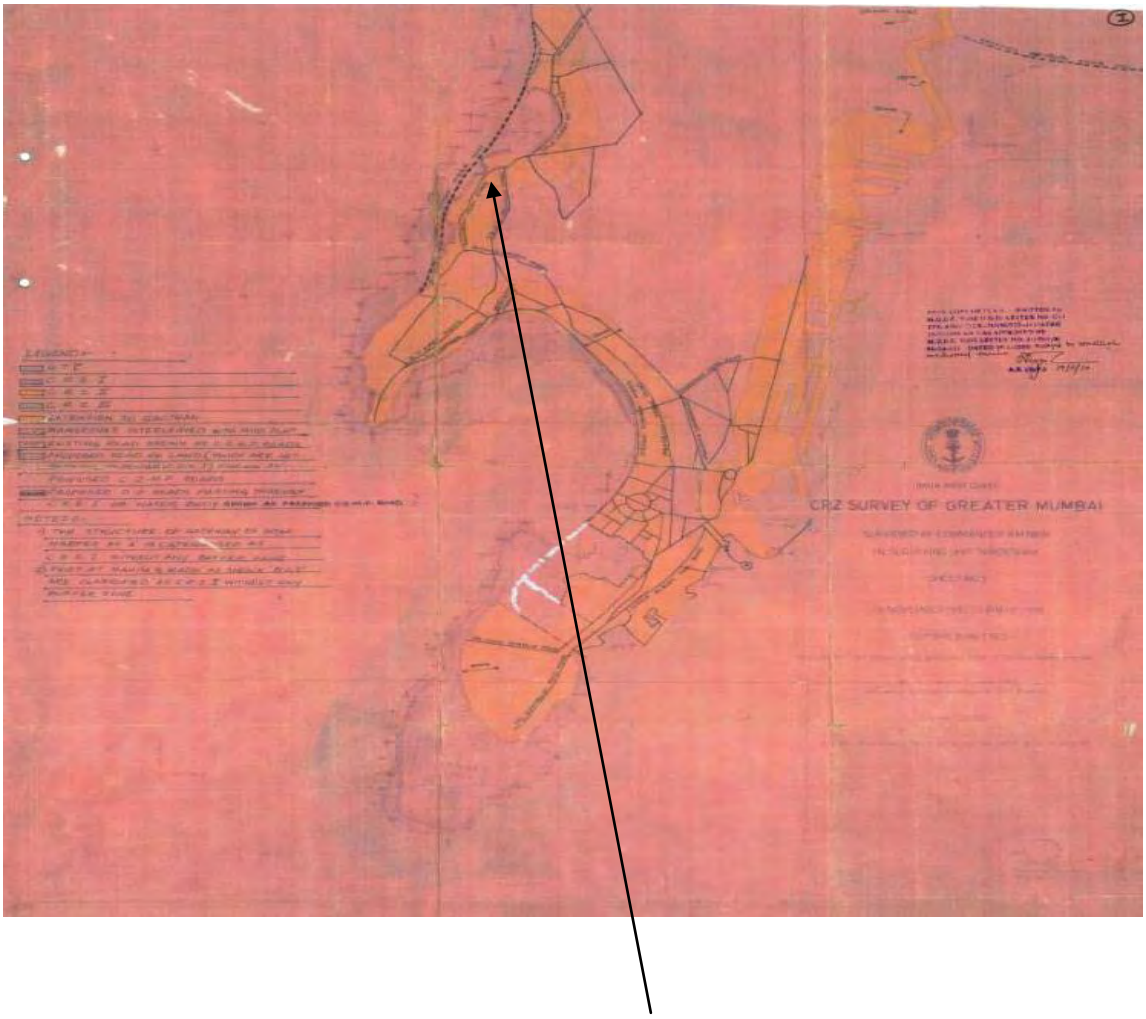
The C. S. No. 2L/738 of Malabar - Cumbala Hill Division, Cumbala Hill Estate, Plot No. 16, at M. L. Dahanukar Marg, Mumbai is in the heart of the city. The nearest railway station is Mahalaxmi Railway Station on the western line, which is approximately 2 KMs and Byculla Road railway station on central line, which is approximately 4 KMs from the subject site. The building is located around 454 meters away from the High Tide Line.

Google Earth Image of the site



SITE UNDER REFERENCE

CZMP Plan showing location of reference Plot



SITE UNDER REFERENCE

3.4 SITE DESCRIPTION

The site under reference is affected by CRZ-II zone and the property falls on the landward side of the existing Warden Road **in existance prior to 19/2/1991, as may be seen from CZMP of Mumbai as well as 1967 DP of Mumbai.** Thus property attracts the CRZ legislation as per CRZ 2011.

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification. Total plot Area in CRZ is 1791.82 sq mtrs

Town / Tehsil	:	Mumbai
District	:	Greater Mumbai
State	:	Maharashtra
Latitude	:	18^{o} 58’ 25.97” N
Longitude	:	72^{o} 48’ 37.48” E

3.5 PROPOSED DEVELOPMENT

3.5.1 AREA

Sr. No	Description	Details
1	Total Plot Area	1791.82 sq. mtrs.
2	Deductions for setback area	438.76 sq. mtrs.
3	Balance area of plot(1-2)	1353.06 sq. mtrs.
4	FSI Permissible	2.5
5	Permissible Built up area	4479.55 sq. mtrs.
6	Total Built up Area Proposed.	4450.63 sq. mtrs.
7	Total Construction Area	19600.00 sq. mtrs (Approximately)
8	Parking required by MCGM Rule	69
9	Parking provided	94

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Structure of Building	Basement + ground floor + 1st to 8th level car parking floors + 17 residential floors + 1 separation floor + 2 mechanical floors + 1amenity floor + 1pool deck at terrace level + elevator mc rooms.
2	Tenements proposed	55 nos**.**
3	Tenements existing	1 nos**.**
4	Height of Building from Ground level	149.75 mtrs
5	Emergency Power supply (D.G. Nos. x	1 No. 415V 1010kVA

	KVa	1 No. 415V 500kVA
6	Area required for D.G sets	230 sq. mtrs
7	Salient features of the project	
	• Earthquake Resistance Building structure. • Rain water Harvesting System in the complex. • Energy Conservation; Provision of Solar water heating system. • Eco-Friendly Measures. • Optimum use of Timber.	

3.5.2 UTILITIES

The Utilities required during the construction phase area water, power, fuel and Labour.

i) **WATER :** (Expected Consumption – total 35 cum/day)

For Construction activities: 30 cum/day & For Domestic use: 5 cum/day

Water Balance (Construction Phase)				
Sr. No.	Consumption	Input m^3/Day	Loss m^3/Day	Effluent m^3/Day
1.	Construction Activities	30	30 (Tanker consumption)	Nil
2.	Domestic (50 Site Workers)	5	1	4
	Total	**35**	**31**	**4**

OPERATIONAL PHASE WATER CONSUMPTION

S.NO.	DESCRIPTION	REQUIREMENT
1.0	DOMESTIC (FRESH) WATER REQUIREMENT	21 KLD
2.0	FLUSHING WATER REQUIREMENT	9 KLD
3.0	TOTAL WATER REQUIREMENT	30 KLD
4.0	FLOW TO SEWER	25 KLD
5.0	RE-USE OF TREATED WASTE WATER FROM STP	20 KLD
	PROCESS WATER	
1.0	FLUSHING WATER REQUIREMENT	9 KLD
2.0	HVAC	0 KLD
3.0	GARDENING AND LANDSCAPE (Assumed 200 Sqm)	3 KLD
	TOTAL	**12 KLD**
CONCLUSION		
	TOTAL WATER REQUIREMENT – 33 KLD **(Including Fresh water and recycled water)** **FRESH WATER REQUIREMENT – 21 KLD** **TREATED WASTE WATER USE - 12 KLD** **DISCHARGE INTO MUNICIPAL SEWER- 8 KLD**	**STP CAPACITY 25 KLD**
ZERO DISCHARGE		

1] Source: - Water will be available from Mumbai (MCGM) for domestic use and from Tanker for construction purpose

2] Storage: - Water for construction will be stored in open tank.

Drinking water will be stored in High Density Polyethylene (HDPE) tank.

ii) **POWER**

DURING CONSTRUCTION

(Expected Consumption- about 0.3 MW)

1] An Electricity supply of 0.3 MW will be available from BEST. It is mainly required for some construction equipments, general lighting etc.

2] All Fire & Safety measures will be taken as appropriate and will be supervised by the Authority.

DURING OPERATION PHASE

Total Energy consumption: 1.019 MW

The electricity supply will be available from BEST.

iii) FUEL

DURING CONSTRUCTION PHASE

Diesel (5 L/day during excavation & 10 L/ day post excavation).

All the equipment are electrically driven except JCB, poclain, and concrete mixers.

DURING OPERATION PHASE

Diesel will be required to run the D. G. Set in case of power failure. Hence the quantity of diesel consumed will vary depending upon the usage of D. G set.

1. Storage: Diesel and oil will be stored in drums / tins with proper identification mark/labels in identified areas only.
2. Fire and safety measures will be taken as per the guidelines from concerned authority.
3. All Safety and fire precautions will be followed.

iv) MANPOWER

DURING CONSTRUCTION PHASE

(Expected Manpower – about 75)

Approximately 75 persons will be working during the peak time of construction phase. These persons will be on the project site during 0900 hrs. Except Security Personnel, who will be on the field round the clock for twenty – four hours.

DURING OPERATION PHASE (POPULATION)

There will be about 275 persons residing in the building, out of these, 50 will be floating non residential staff including drivers, security.

4. CONSTRUCTION PHASE

The type of Construction Materials, Equipments used during the construction phase and persons involved in various activities on the field affect the status of environment to a great extent. The impact of construction Activities on various components of environment on the on the project site and surrounding area is predicated in this section.

4.1 LIST OF MATERIALS

The Construction material required for the proposed redevelopment is given below.

Sr. No.	Item	Unit	Quantity	Source	Process
1.	Sand	CUM	5773	River bed/ Creek	Nil
2.	Aggregate	CUM	12842	Quarry	Crushing
3.	Standard Bricks	M.T	4648	Red Soil	Heating, Moulding
4.	Timber	M.T	211	Forest	Cutting & Trimming
5.	Construction Waste	Kg/ Day	396	-	-

- The basic engineering materials like aggregate, cement, sand and bricks/blocks will be purchased locally. However, finishing materials will be purchased keeping in mind the energy conservation aspect.
- Fly ash generated from Thermal Power Plants will be used in concrete to the extent of about 20 to 30 %. Depending up on the grade of concrete specified.

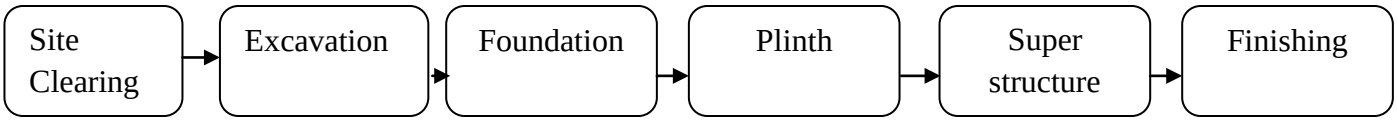
4.2 LIST OF EQUIPMENTS

The construction equipments required for the residential building is given below.

Sr. No.	Equipments	Numbers	Operation	Duration
1.	JSB, Poclain	1	Diesel	Short
2.	Dumpers	2	Diesel	Short
3.	Goods lifts / Personal lifts	1	Electric	Total
4.	Vibrators	4	Electric	Total
5.	Dewatering Pumps	1	Electric	Total
6.	Concrete Mixers	1	Electric	Total
7.	Wood Cutting Machine	1	Electric	Total
8.	Drill Machine	1	Electric	Total
9	Tower Crane	2	Electric	Total

4.3 CONSTRUCTION PROCEDURES

The outline of the construction procedure is described below schematically.



Note:

1] The project is expected to be completed within four years (Maximum) period Construction Parameters and Quality will be strictly adhered to as per the approved architectural design data/map. All the regulations of government authorities will be followed.

2] All the safely precaution will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities.

3] Site barricading by corrugated tin sheets up to height of 5.0 mtr will be done to protect the surrounding area of the project site from nuisance /dusting.

4] All electrical connections & cables will be checked by authorized persons to ensure the safety of workers on field.

5] Water sprinkling will be done, wherever required to reduce the dusting in atmosphere. Jute barricading along building / plot boundary shall be provided to minimize noise level from construction activities.

6] The safety and security officers shall supervise the site.

7] Safety helmets will be mandatory to all the persons present on the site during the construction activities.

8] Hand gloves and dust masks will be provided to persons handing construction materials during the operation.

9] Safety belts will be provided to the persons working at height during the operation.

10] Safety nets will be arranged at a height at about 5.0 mtr. when the structures get raised above the required height from the ground.

5. ENVIRONMENTAL CONCERNS

5.1 AIR POLLUTION

1] Source: - The source of Air Emissions is from the use of some equipment like concrete pumps, mixers, etc. These equipments consume Diesel as fuel during their operation. Carbon Monoxide, Hydrocarbons, Oxides of Nitrogen and Particulate Matter etc. will be the major pollutants.

Fugitive Emissions i.e. Emissions from construction activities will mainly consist of dust. Movement of Heavy & light vehicles, for loading and unloading of Construction Materials, transporting people, will also add on to source of emissions.

Parameter	Permissible Range	CPCB Limits	AVG Range Before Activity	During Activity
SPM ($\mu g/m^3$)	100 ~ 200	200	80-100	150-200
RSPM ($\mu g/m^3$)	50 ~ 100	100	20-30	50-100
SO2 ($\mu g/m^3$)	50 ~ 80	80	10-15	10-15
NOx ($\mu g/m^3$)	40 ~ 80	80	5-10	5-10

Ref: 24 Hourly values as per Central Pollution Control Board, National Ambient Air Quality Monitoring, Notification 11th April, 1994, Schedule 1.

5.2 AIR POLLUTION MITIGATION

Sr. No.	Source	Mitigation	
1.	Vehicle	i]	All the vehicles coming to the site will be ensured to be in good condition having PUC.
		ii]	Public awareness to use Green Fuel will be done.
2.	Solid Waste	i]	Proper segregation and collection of waste will be ensured.
		ii]	Location of loading and unloading will be fixed.
		Iii]	Good Housekeeping practices will be ensured at the premises.
3.	Construction Activities	i]	Noise / Dust nuisance preventions by barricading site up to 5.0 meter height by GI Sheets
		ii]	Water sprinkling on dry site, sand.
		Iii]	Maximum use of electrical driven construction equipments with regular maintenance.

5.3 WATER POLLUTION

1] **Use** : - The MCGM water will be used for domestic purpose i.e. drinking water for staff and laborers working on the field whereas bore well water/Tanker water will be used for various constructions activities like, Concreting, Plastering, Flooring & Finishing etc.

2] **Effluent** : - There will be no generation of effluent from construction activities as the water used for concreting; Plastering, Flooring and Finishing etc. will get evaporated during drying or curing

time. All the construction activities are physical in nature. The Domestic Effluent will be generated due to the persons working on the site who will require water for drinking, cleaning, bathing etc.

Sewage generated during operation phase will amount to 25.00 CMD will be treated in the Sewage Treatment Plant. The treated water will be used for non domestic purposes such as gardening, flushing etc.

3] **Treatment & Disposal**:-The Domestic Effluent generated in construction phase will be disposed off in existing MCGM Sewer.

4] **Rain Water Harvesting**: Separate and independent rain water drainage system shall be provided for collecting rain water from terrace. Rain water down takes of appropriate size and number shall be provided in shafts adjacent to the external/internal wall. The final drainage of rain water shall be routed to rain water storage water tank (Refer below calculation for Cap.) and thereafter overflow connection shall be fed to catch basin. Provision in catch basin shall be kept also for outside external areas (paved, lawn and roads)

For terrace rainwater calculation:

Total terrace area (A)	= 600 Sqm
Quantity of run off for (Q)	= C I A cum/hr
Where C is Coefficient of runoff	= 0.90 (Roof area)
I is Intensity of rainfall (Peak)	= 150 mm/hr
	= 0.150 m/hr
Q = 0.90 x 0.15 x 600	= 81 cum/hr
For 15min	= 81/4 cum/15min
	= 20.25 cum/15min

Say RW holding tank Capacity = 20 cum

The terrace rain water holding capacity shall be reused for domestic purpose after pass through sand filter and water treatment system.

1) Separate rain water drainage system shall be provided for collecting rain water from paved area, lawns and roads. Perforated pipe drainage system shall be provided for open-to-sky courtyard / lawn.

For Site rainwater calculation:

Total Site area (A)	= 580 Sqm (Excluding Building area)
Quantity of run off for (Q)	= C I A cum/hr
Where C is Coefficient of runoff	= 0.60 (Road/Paved area)
I is Intensity of rainfall (Peak)	= 150 mm/hr
	= 0.150 m/hr
Q = 0.60 x 0.15 x 580	= 52.2 cum/hr
For 15 min	= 52.2/4 cum/15min
	= 13.05 cum/15min
Say RW holding tank Capacity	= 13 cum

3) The storm water runoff from the basement ramp shall be separately collected and connected to sump at basement. It shall be ensured to have electrical supply for sump pump panel from electrical panel located at basement. Emergency supply shall also

be made available to the sump pump electrical panel. The final disposal shall be in existing rain water gutter, which is surrounding the building.

For rainwater disposal calculation through sump pump from basement.

Total open ramp area (A)	= 70 Sqm
Quantity of run off for (Q)	= C I A cum/hr
Where C is Coefficient of runoff	= 0.90 (Roof area)
I is Intensity of rainfall (Peak)	= 150 mm/hr
	= 0.150 m/hr
Q = 0.90 x 0.15 x 70	= 9.45 cum/hr
For 15min	= 9.45/4 cum/15min
	= 2.36 cum/15min
Say RW basement sump Capacity	= 2.5 cum
Sump pump capacity	= 2.5 /10min
	= 250 LPM
Provided (1w+1s) sump pump	= 250 LPM (each)

5.4 NOISE POLLUTION

Location	Range dB (A)
	Day Time
National Ambient Air Quality Standards (For Residential Zone)	55

5.5 NOISE LEVEL MITIGATION

Sr. No.	Source	Mitigation
1.	Near Residential Areas	i] Site Barricading by corrugated tin sheets will be done to protect the surrounding area. ii) Construction Activity will be carried out during daytime only.
2.	Nearby Traffic	i] All the vehicles coming to the site will be ensured in good condition, having Pollution Under Check (PUC). ii] Smooth Roads will be maintained in a project site.
3.	Construction Equipments	i] All the equipments will be run during daytime only. ii] Lubricants will be applied to all the equipments at proper interval. Iii] Acoustic Enclosure will be provided for all the Equipments

2] It is evident from the nature of operation (i.e. Construction) that the Concentration of suspended particulate matter would be higher than the other two parameters.

3] Control of Emission: - Proper precaution will be taken to reduce the particulate matter by water sprinkling on the dry site area, barricading the periphery by corrugated tin Sheets of 5.0 mtrs height to protect the surrounding area from dusting. The pollution generated will be controlled by, allowing vehicles that will comply to mass Emission Standard (Bharat Stage –II) stipulated by Central Pollution Control Board (CPCB)–Ministry of Environment & forest (MoEF), New Delhi. Also it will be ensured that the vehicles will carry PUC certificate. To minimize air pollution efforts shall be made by use of equipments, which area electric power driven.

5.6 SOLID WASTE

1] Normal debris, waste concrete, soil, broken bricks, waste plasters etc. will be collected properly and will be reused for land filling in the premises.

2] Total solid waste (Quantity about 80 kg per day) and organic waste (20 Kg/ day) will be segregated properly and stored in a separate bins and will be disposed off as per MCGM rules.

3] Metallic Waste and paper waste will be collected separately and will be salvaged or recycled or sold to authorized recyclers.

6. PROJECT SCHEDULE AND COST ESTIMATES

The Proposed Project is Redevelopment project and will be started as soon as all government NOC's and CRZ Clearance is received to start the work. The project is estimated to be completed by December 2017 if everything went as per planning.

7. TRAFFIC MANAGEMENT

CONSTRUCTION PHASE

- Storage and Godown area will be properly identified.
- There will be about adequate wider space for movements of vehicles and parking.
- The area for loading and unloading will be located at proper demarcated location in the premises.
- Thus the traffic management on the project site will be easily and smoothly monitored without any hindrance to the regular flow of traffic on the main road.

7.2 OPERATIONAL PHASE

- About 94 cars per day are expected to be accommodated in the premises. The parking space will be provided in 1st to 8th level floors.
- There will be 6.0 mtrs wide approach road to the building from municipal road for movements of vehicles and parking.
- Traffic Management Plan system will be approved from concern MCGM Authority.
- Thus the traffic management will be easily and smoothly monitored without any hindrance to the regular flow of traffic on the main road.

8. ENVIRONMENTAL, HEALTH AND SAFETY

All the safety and security measures shall be observed at constructions site. Safety precautions will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities. The project authorities will ensure use of safety equipments for workers during execution process. The safety and security officers shall supervise the site. Proper training will be given to workers and authorities to handle the hazard situation.

8.1 SAFETY MEASURES ON SITE

1] Parameters and Quality will be strictly adhered to as per the approved architectural design data/map. All the regulations of government authorities will be followed.

2] All the safely precaution will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities.

3] Site barricading by corrugated tin sheets up to height of 5.0 mtr will be done to protect the surrounding area of the project site from nuisance /dusting.

4] All electrical connections & cables will be checked by authorized persons to ensure the safety of workers on field.

5] Water sprinkling will be done, wherever required to reduce the dusting in atmosphere. Jute barricading along building / plot boundary shall be provided to minimize noise level from construction activities.

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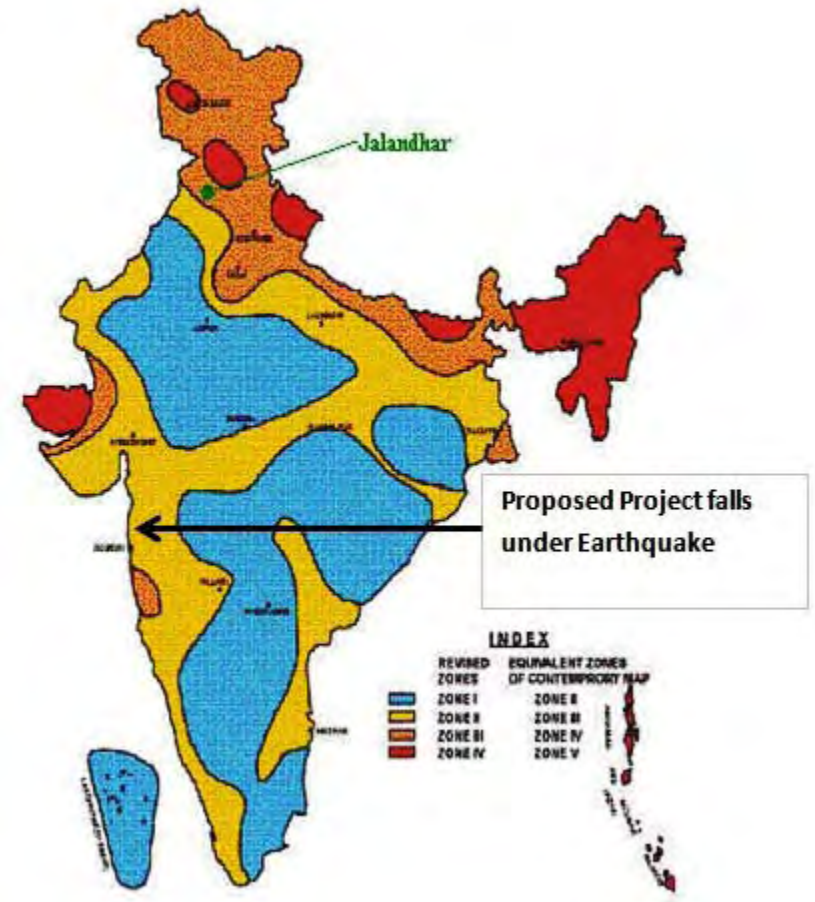
9] Safety belts will be provided to the persons working at height during the operation.

10] Safety nets will be arranged at a height at about 5.0 mtrs when the structures get raised above the required height from the ground.

9. BENEFITS OF THE PROJECT

- The proposed redevelopment will initiate redevelopment of surrounding old building.
- The surrounding area will also be developed from residential point of view.
- It will provide employment opportunities to the local people in terms of labour during construction and services personnel during operational phase.
- Modern sanitation and infrastructure facilities will have minimal impact on living condition of local people.
- The project will improve living standard and welfare of the area and local people.

SEISMIC ZONE MAP OF INDIA



ANNEXURE I

SITE PHOTOGRAPHS