EXECUTIVE SUMMARY

REDEVELOPMENT OF RESIDENTIAL PROJECT

AT

C.S. NO. 92, 122 & 123 OF MALABAR CUMBALLA DIVISION, SITUATED AT WALKESHWAR ROAD, MUMBAI

BY

M/S. BELLISSIMO PROPERTIES DEVELOPMENT PRIVATE LTD.

1. INTRODUCTION TO PROJECT

After recognizing the need of redevelopment of building having total 21 nos. of tenants on the plot bearing C.S. No. 92, 122 & 123 of Malabar Cumballa Division, Situated at Walkeshwar Road, Mumbai, is now being developed by M/s. Bellissimo Properties Development Private Ltd. The developer is going to construct a new building of a Two Basement + Ground Floor + 1st to 21st upper floors for residential use. The surrounding of the existing plot is also of mixed use i.e. residential and commercial. The site is surrounded by many more authorized structures.

There exists CESSED structures on the plot bearing C.S. No. 92, 122 & 123 of Malabar Cumballa Division, Situated at Walkeshwar Road, Mumbai.

There exist total 06 CESS structures on this plot-

1.The structure numbered as Building No. 248C, Ward No. D-3125(2), Walkeshwar, Mumbai, on CS No. 122 of Malabar Cumballa Hill Division, Mumbai, has a ground floor + 1 Upper Floor structure with 03 no. of Non- Residential and Residential tenements consuming 146.67 sq mtrs of built up area.

2. The structure numbered as Building No., 246, Ward No. D-3125(1), Walkeshwar, Mumbai, on CS No. 122 of Malabar Cumballa Hill Division, Mumbai, has a ground floor + 1 Upper Floor with 03 no. of Non- Residential and Residential tenements consuming 396.59 sq mtrs of built up area.

3. The structure numbered as Building No. 248-248AB & 250, Ward No. D-3124, Walkeshwar, Mumbai, on CS No. 123 of Malabar Cumballa Hill Division, Mumbai, has a ground floor + 3 Upper Floor with 03 no. of Non- Residential and Residential tenements consuming 584.05 sq mtrs of built up area.

4. The structure numbered as Building No. 2 & 4, Ward No. D-3126(1 & 3), Walkeshwar, Mumbai, on CS No. 122 of Malabar Cumballa Hill Division, Mumbai, has a ground floor + 4 Upper Floor with 08 no. of Residential tenements consuming 1445.10 sq mtrs of built up area. There is an annex building on site, with ground floor + 2 Upper Floor with 01(Clubbed tenement) no. of Residential use consuming 397.01 sq mtrs of built up area.Thus the total built up areas is 1842.19 sq mtrs.

5. The structure numbered as Building No. 3, Ward No. D-3126(2), Walkeshwar, Mumbai, on CS No. 92 of Malabar Cumballa Hill Division, Mumbai, has a ground floor structure with 02 no. of Residential tenements consuming 52.16 sq mtrs of built up area.

6. The structure numbered as Building No. 11, Ward No. D-3114, Walkeshwar, Mumbai, on CS No. 92 of Malabar Cumballa Hill Division, Mumbai, has a ground floor + 2 Upper Floor with 02 no. of Residential (Clubbed) tenements consuming 155.22 sq mtrs of built up area.

Thus there are total 22 No. of CESS tenements on this plot with total built up area of 3176.88.

The CESSED structure is affected by CRZ II area and the proposal is for composite redevelopment of three plots. The proposal has received the MHADA NOC for FSI 3.00 or the FSI required for rehabilitation of existing occupier plus 60% incentive FSI, whichever is higher, in accordance with modified DC Regulations 33(7), as amended till date.

A new building on site under reference with Two Basement + Ground Floor + 1st to 21st upper floors for residential use is proposed, with 41 flats for the rehabilitation of the existing tenants and 25 flats to be used as sale flats, out of total 66 flats, in this proposal.

The site under reference is affected by **CRZ-II zone**. It is within 500 mtrs. from the HTL of Arabian

Sea. It is on the landward side of the existing Walkeshwar Road on east and the Banganga Cross Lane Road on the west side. Hence the work is permitted subject to the approval of CRZ clearance. Thus property attracts the CRZ legislation, which is reflected in CZMP plan.

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. 385, 08,00,000/- (Rupees Three Hundred and Eighty Five Crore Eight Lakh Only) as per the valuation report.

1. PURPOSE OF THE REPORT

Proposed redevelopment of plots bearing C.S. No. 92, 122 & 123 of Malabar Cumballa Division, Situated at Walkeshwar Road, Mumbai and thereby obtain CRZ Clearance as per clause 33(7) of DCR – 1991 in force as on 6th January 2011. The Plot is occupied by a CESSED category structures. The said CESSED category structures are now proposed to be redeveloped on the plot. The present proposal envisage the development of CESSED structure, by availing FSI 3.00 or the FSI required for rehabilitation of existing occupier plus 50% incentive FSI, whichever is higher as per DCR's in force as on today.

As the site under reference is affected by CRZ-II zone, it attracts the CRZ legislation as per 6th January 2011 notification for Coastal Regulation Zone (CRZ and the regulating activities in the CRZ).

2. DESCRIPTION OF THE PROJECT

3.1 NATURE OF THE PROJECT

This is a proposal for redevelopment of residential building situated at C .S. No. 92, 122 & 123 of Malabar Cumballa Division, Situated at Walkeshwar Road, Mumbai, in CRZ-II belt, as the same is situated within 500 mtr. from Arabian Sea. (Approx distance 130 m).

The proposal is for redevelopment of residential cum Non Residential buildings, which is situated on the landward side of existing Banganga Cross Lane Road on west and the Walkeshwar Road on the west side, in **existance prior to 19/2/1991, as may be seen from CZMP of Mumbai as well as from old 1967 DP of the area.**

The Plot is situated in Residential zone and not under any reservation as per 1967 DP as well as Revised 1993 DP. The FSI proposed is 3.00.

3.2 SIZE OF THE PROJECT

Total Area of the said plot is 1969.91 sq. mtrs. Cost of the Project is Rs. 385, 08, 00, 000/- (Rupees Three Hundred and Eighty Five Crore Eight Lakh Only).

3.3 LOCATION

The C.S. No. 92, 122 & 123 of Malabar Cumballa Division, Situated at Walkeshwar Road, Mumbai ,is in the heart of the city. The nearest railway station is Charni Road Railway Station, 3.7 kilometers on the Central line.

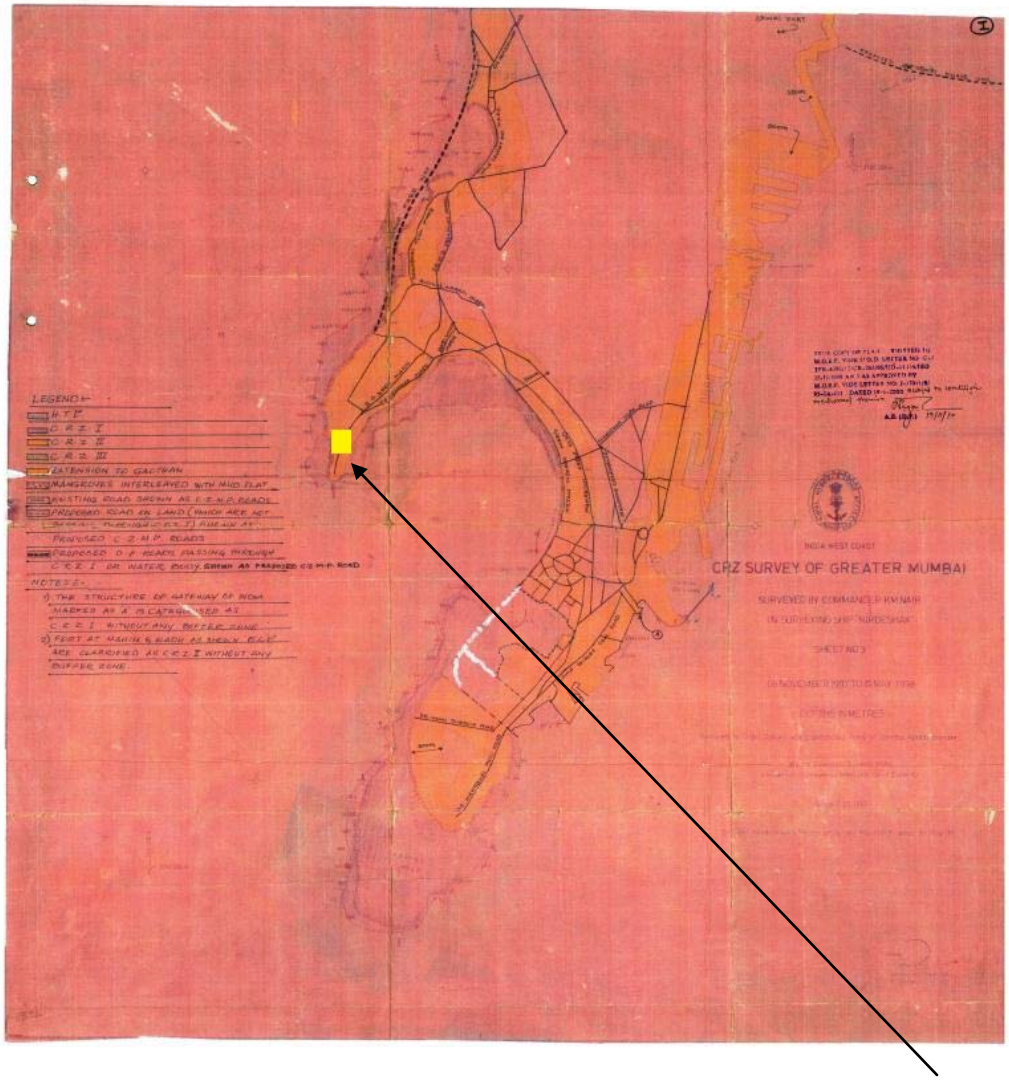
Google Earth Image of the site

SITE UNDERREFERENCE

Location map 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 partially affected by CRZ-II zone and the property falls on landward side of the existing Banganga Cross Lane Road on west and the Walkeshwar Road on the west side, which is reflected in CZMP 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.

Town / Tehsil	:	Mumbai
District	**:**	Greater Mumbai
State	**:**	Maharashtra
Latitude	**:**	**18°56'41.66"N**
Longitude	**:**	**72°47'41.01"E**

3.5 PROPOSED DEVELOPMENTS

3.5.1 AREA STATEMENT

Sr. No.	**Description**	**Details**
1	Area Of Plot	1969.91 m^2
2	Deductions for	
	a) Road set back area	1.92 m^2
	b) Proposed road	0.00 m^2
	d)Any reservation	0.00 m^2
	e) Not in possession Area	0.00 m^2
	Total (a+b+c)	1.92
3	Balance area of plot (1-2)	1967.99 m^2
4	Deduction for 15% Recreational Ground	0.00 m^2
5	Net Area of plot (3 minus 4)	1967.99 m^2
6	Additions for FSI	
	2a) 100%	1.92 m^2
	2b) 100%	0.00 m^2

	2c) A s per DCR (33) (24)	0.00 m^2
	2d) Other	0.00 m^2
7	Total Area (5 plus 6)	1,969.91 m^2
8	F.S.I Permissible	3.00
9	FSI Credit available as per DCR 33(24)	0.00 m^2
10	Permissible floor area	5909.73 m^2
11	Permissible Fungible BUA as per DCR 35(4) Available for Residential User 35% of (10 x 35%)	0.00 m^2
12	Permissible BUA with Fungible BUA (10+11)	0.00 m^2
13	Excess Balcony Area Taken in F.S.I	
14A	Purely Residential CESS Built up Area	2,883.26 m^2
14B	Remaining Non Residential CESS Built Up Area	303.52 m^2
14C	Residential SALE Built Up Area	2,722.95 m^2
14	Total built up area proposed	5,909.73 m^2
15	F.S.I. consumed on net holding	--
B	Details of FSI availed as per DCR 35(4)	
1A	Fungible Built up Area component proposed vide DCR 35(4) for purely residential (CESS) = or < (14A x 0.35)	1605.86 m^2
1B	Fungible built up area component proposed vide DCR for non residential (CESS)= or < (14 B x 0.20)	86.12 m^2
1C	Fungible BUA component proposed vide DCR 35(4) for residential (SALE) = or < (14C X 0.35)	311.88 m^2
2	Total Fungibel built up area (1A+ 1B+ 1C+ 1D+ 1E+1F)	2003.87 m^2
3	Total gross built up area proposed (14 + B2)	7913.60 m^2

	Parking Statement	
	Required Parking	140.00 Nos
	Provided Parking	140.00 Nos
	Building Structure	Two Basement + Ground Floor + 1st to 21st upper floors for residential use
	Height of Building	69.90 meters

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Structure of Building	Two Basement + Ground Floor + 1st to 22nd upper floors for residential use including upper parking floors, refuge areas.
2	Tenements existing	21 Nos.
3	Tenements proposed	66 Nos.
4	Height of Building from Ground level	69.90 mtrs
5	Emergency Power supply (D.G. Nos. x KVa	1 no. 500 KVa
6	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**

• **Water requirement during Operational Phase:**

Water Balance (Operation Phase)					
Sr. No.	Component/ Head	Occupants	Water Requirement		Remarks
			Domestic	Flushing	
1.	Total residential population	474	42.57	21.28	@ 90/45 lpcd
2.	Total non residential population	78	1.56	1.95	@ 20/25 lpcd
3.	Gardening Requirement	1.79 CMD			@7Litres/Sq.mtrs.
4.	Car washing	1.34 CMD			134 cars (@7L per car)
5.	Total Quantity of Water Required (Including RG and Car Washing requirements)	70.49 CMD			For a total population of 552 persons
6.	Sewage generation	52.88 CMD			-

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 HDPE tank.

The Water generated in operational phase will be let out in municipal sewers.

4.0 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

Total Energy consumption: 0.65 MW

The electricity supply will be available from BEST/ TATA/RELIANCE.

ENERGY SAVING MEASURES

The following Energy Conservation Methods are proposed in the project:

- Solar & LED Lights for common area use.
- Use of Solar System for Hot water Requirement.
- DG sets will be kept 6m or more away from Buildings.

i) FUEL

DURING CONSTRUCTION PHASE

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

All the equipment are electrically driven except JCB, porcelain, 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) POWER

DURING CONSTRUCTION PHASE

(Expected Manpower – about 50)

Approximately 50 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 473 persons residing in the building, 78 persons will be non residential staff including drivers, security etc. in the building.

4.1 DEMOLITION WASTE AND CONSTRUCTION WASTE MANAGEMENT

As per the G.S.R. 317(E), dated 29.03.2016, Construction and Demolition Waste Management Rules, 2016,

"*(4) Duties of the waste generator -*

(1) Every waste generator shall prima-facie be responsible for collection, segregation of concrete, soil and others and storage of construction and demolition waste generated, as directed or notified by the concerned local authority in consonance with these rules.

(4) Every waste generator shall keep the construction and demolition waste within the premise or get the waste deposited at collection centre so made by the local body or handover it to the authorized

processing facilities of construction and demolition waste; and ensure that there is no littering or deposition of construction and demolition waste so as to prevent obstruction to the traffic or the public or drains.

(5) Every waste generator shall pay relevant charges for collection, transportation, processing and disposal as notified by the concerned authorities;"

The project proponent will apply to the The Collector and District Magistrate Office, Mumbai City and the Solid Waste Management Department, M.C.G.M., for "Permission for handling, transportation & dumping" of debris and construction waste generated under "Debris Management Plan" for the project and dump the demolition and construction waste at said the permission letter given by MCGM.

The following care will be taken-

1. The developer will barricade along the boundary of the plot to sufficient height (i.e. Minimum 20 ft.) so as to avoid escape of dust particles, as well as deposit to spreas on street/ footpath, drains, etc
2. The developer will make arrangement to cover the vehicles deployed, to be covered by tarpaulin or other suitable material.
3. Desinated transport Contractor and designated vehicles with given numbers, on the permissions, with designated path will be followed.

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 approximate construction material required for the proposed redevelopment is given below.

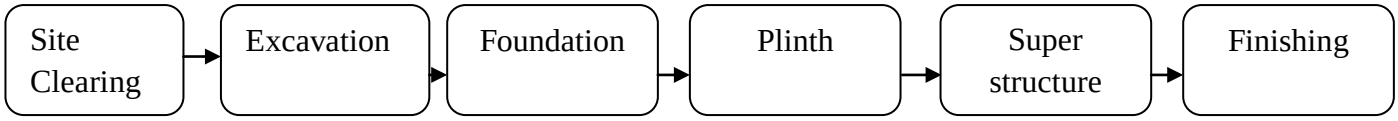
Sr. No.	Item	Unit	Quantity	Source	Process
1.	Sand	CUM	4654	River bed	Nil

2.	Aggregate	CUM	10352	Quarry	Crushing
3.	Standard Bricks	M.T.	3747	Red Soil	Heating, Moulding
4.	Timber	M.T.	170	Forest	Cutting & Trimming
5.	Construction Waste	Kg/ Day	319	-	-

- 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.

4.2 CONSTRUCTION PROCEDURES

The outline of the construction procedure is described below schematically.



Note:

1. The project is expected to be completed within three 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 6.5 mtrs 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. 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 5.0mtr.when the structures get raised above the required height from the ground.

4.4 SEISMICITY:

Seismic zone map was initially based on the amount of damage suffered by the different regions of India because of earthquakes. Following are the varied seismic zones of the nation,

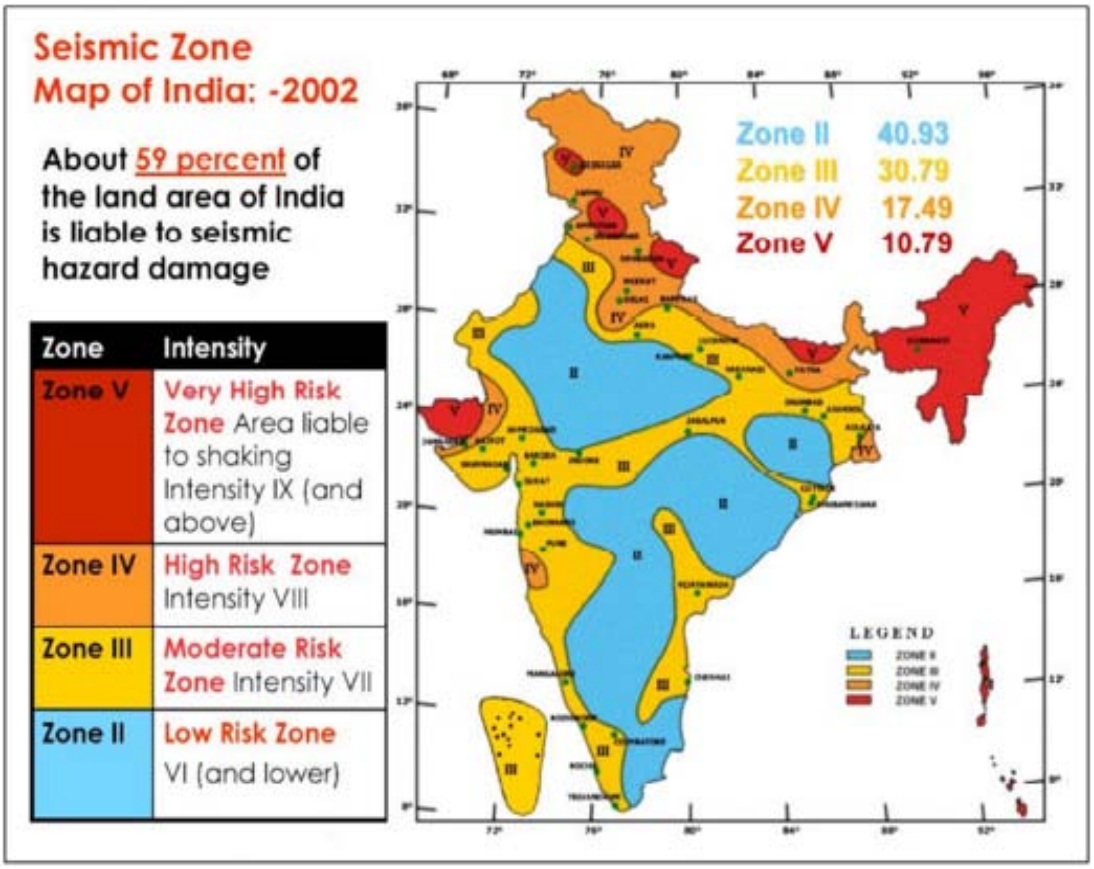
• Zone - II: This is said to be the least active seismic zone.

• Zone - III: It is included in the moderate seismic zone.

• Zone - IV: This is considered to be the high seismic zone.

• Zone - V: It is the highest seismic zone.

Proposed project and Study Area comes under Seismic Zone III.



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	Average Range at Colaba*	Permissible Range	CPCB Limits
SPM ($\mu g/m^3$)	159	100 ~ 200	200
RSPM ($\mu g/m^3$)	52	50 ~ 100	100
SO2 ($\mu g/m^3$)	5	50 ~ 80	80
NO_2 ($\mu g/m^3$)	18	40 ~ 80	80
NH_3($\mu g/m^3$)	47	40 ~ 80	80

Ref:

1. 24 Hourly values as per Central Pollution Control Board, National Ambient Air Quality Monitoring, Notification 11th April, 1994, Schedule 1.
2. *The 24 hourly average concentrations of SPM, RSPM, PM10 and gaseous pollutants at Colaba, Air Quality Assessment, Emissions Inventory &Source Apportionment Studies: Mumbai, November 2010.

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.

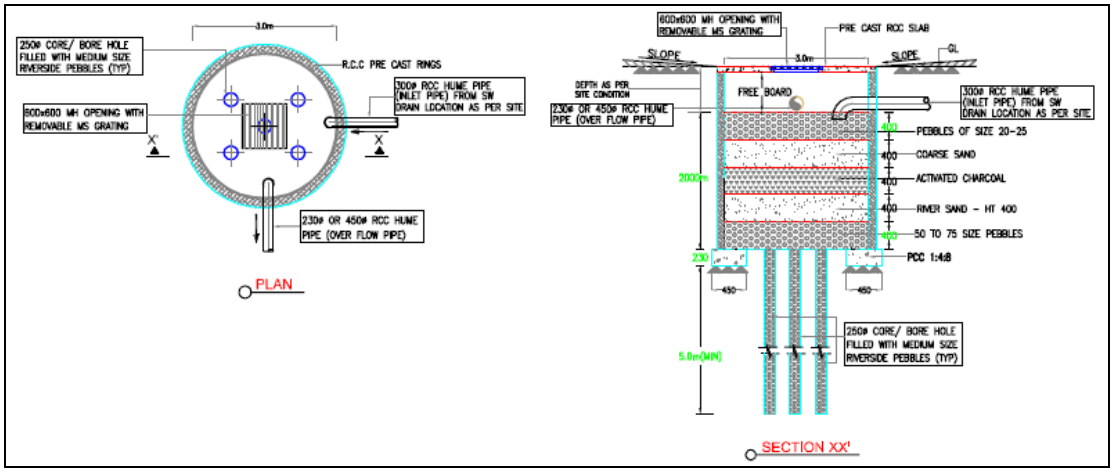
2] **Effluent**: - There will be no generation of effluent from construction activities as the water used for concreting; Plastering, Flooring and Finishing etc. will get evaporated during drying or curing time. All the construction activities are physical in nature. The Domestic Effluent will be generated due to the persons working on the site who will require water for drinking, cleaning, bathing etc.

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

4] **Rain Water Harvesting**: - The Plot is occupied by a CESSED A category building. The said CESSED category building is now proposed to be redeveloped. The plot is already covered with CESSED A category structures. The said CESSED category buildings are now proposed to be redeveloped in Two Basement + Ground Floor + 1st to 21st upper floors for residential use. Roof rain water harvesting is proposed in the project. The permeable paver blocks are proposed along with Recharge pits to increase the percolation of rain water into the soil rather than flowing to the drain.

*** (AS PER MOEF GUIDELINES)**

- **Percolation Pits: (0.5 * 0.5 * 2m)**



5] **Storm Water Discharge**:

Storm water drains will be constructed for proposed facility as per the norms. The recharge pits and Rain water recharge pits will help to reduce the run off and reduce the load on external storm water drain.

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 –III) 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 MANANGMENT DURING OPERATIONAL PHASE

1] The project proponents have proposed provision for segregation and collection of biodegradable & non-biodegradable waste within the premises.

2] Solid transfer stations have been proposed for collection, sorting, segregation, storage & transportation of biodegradable and non-biodegradable waste.

CALCULATION FOR QUANTUM OF SOLID WASTE TO BE GENERATED IN THE BUILDING DURING OPERTAIONAL PHASE:

- Total no of persons = 551 persons
- Generation of Total waste per person = 500 grams/day (as per Solid waste management study – Year - 2005 conducted by NEERI)
- Total solid waste generation will be 551 x 500 gms/person/day = 275.50 Kg
- Generation of organic waste = 30.84% of total waste (ref. Table 2 in next page)
- So total organic waste generated by the occupants = 275.50 x 0.3084 grams = 84.96 kg by all occupants of the building.
- We will provide one bins of each capacity 5 kg at every landing.
- Dry waste will be collected separately in wheeled bins as required as per MCGM guideline and transported to common collection area by MCGM.
- **E-waste** :Shall be stored separately and disposed of to the recyclers authorized by MPCB

Source: Municipal Solid Waste Management in India: Present Practices and Future Challenge, Sunil Kumar,

http://www.cd3wd.com/CD3WD_40/ASDB_SMARTSAN/Kumar.pdf

Table 1

Per Capita Quantity of Municipal Solid Waste in Indian Cities (NEERI, 1996)

Population Range (in million)	Average Per Capita Value kg/capita/per day
1.0 – 0.5	0.21
0.5 – 1.0	0.25
1.0 – 2.0	0.27
2.0 – 5.0	0.35
> 5.0	0.50

Table 2

Physico-chemical Characteristics of MSW in Indian Cities (NEERI, 1996)

Population range (in million)	Number of cities surveyed	Paper*	Rubber*, leather and synthetics	Glass*	Metals*	Total* compos-table matter	Inert* material	Nitrogen* as Total Nitrogen	Phosphorous* as P_2O_5	Potassium* as K_2O	C/N ratio	Calorific value in Kcal/kg
0.1 to 0.5	12	2.91	0.78	0.56	0.33	44.57	43.59	0.71	0.63	0.83	30.94	1009.89
0.5 to 1.0	15	2.95	0.73	0.35	0.32	40.04	48.38	0.66	0.56	0.69	21.13	900.61
1.0 to 2.0	9	4.71	0.71	0.46	0.49	38.95	44.73	0.64	0.82	0.72	23.68	980.05
2.0 to 5.0	3	3.18	0.48	0.48	0.59	56.67	49.07	0.56	0.69	0.78	22.45	907.18
>5	4	6.43	0.28	0.94	0.80	30.84	53.90	0.56	0.52	0.52	30.11	800.70

* All values are in percent, and are calculated on wet weight basis

+ All values are in percent, and are calculated on dry weight basis

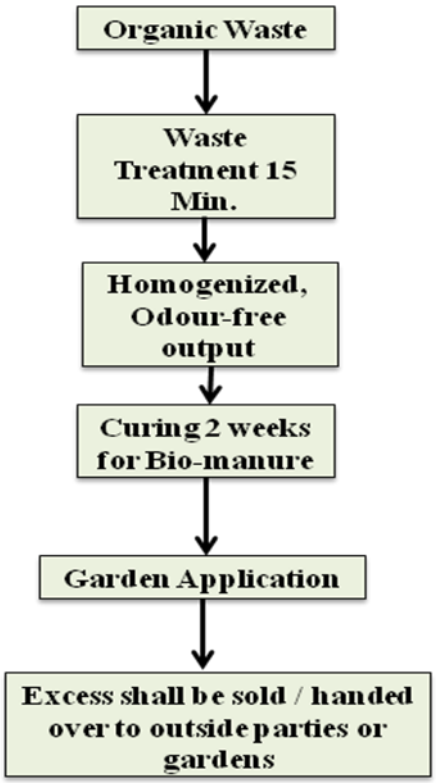
A sample waste collection bin to be Kept in lobby area

Wheeled bins with lid

120 ltr., 240 ltr., 360 ltr. capacity wheeled bins

Bins recommended by BMC to be used for shifting the waste from building to common area

We will be using organic waste converter to treat and create manure from the organic waste. Manure generated will used for plantation and gardening purpose.



ORGANIC WASTE CONVERTER COMPOSTING PROCESS

5.7 GREEN BELT DEVELOPMENT

- Net Plot area: 1969.91m^2
- Proposed RG Area: 256.05 m^2 (13% of Net plot area)
- No. of Existing Trees: 10

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 projected Date of Start is Jan 2018 while the date of completion will be June 2022 if everything went as per planning

7. TRAFFIC MANAGEMENT

7.1 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 140 cars per day are expected to be accommodated in the premises. The parking space will be provided in basement and under stilt / parking floors. There is ample car parking space in the building on all sides; there will be smooth movements of cars.
- 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 having width of 18.30 m.

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 6.50 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 handling 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 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.