EXECUTIVE SUMMARY

REDEVELOPMENT OF RESIDENTIAL PROJECT

AT

C.S. NO. 1557, GIRGAUM DIVISION, H. GOREGAONKAR ROAD, GAMDEVI, MUMBAI - 400 007

1. INTRODUCTION TO PROJECT

After recognizing the need of redevelopment of building having total six nos. of tenants on the plot bearing C.S. No. 1557, Girgaum Division & Street No.67/D of Damar Lane (Municipal Passage) at off H. Goregaonkar Road, Gamdevi, Mumbai -400007, is now being developed by Mr. Bipinchadra Shah. The developer is going to construct a new building of a Ground Floor + 1- 11 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 one CESSED structure on the plot under reference. The existing CESSED structure is of Ground Floor + 1 upper floor having 6 nos. of residential tenants consuming 257.63 sq mtrs of built up area as certified by Bombay Building Repair & Reconstruction Board. The land use of the existing plot is residential as per the list of tenants as certified by Bombay Building Repair & Reconstruction Board and CESSED "AR" category certificate as certified by Asstt. Assessor & Collectoe 'D' Ward of MCGM for the property situated in the Residential zone. The CESSED structure is affected by CRZ II area.

The ground floor in the proposed building will be used as parking floor. The first floor will have one 2BHK flat, along with gymnasium and society office. The 2^{nd}, 7^{th}, and 9^{th} – 11^{th} floors will have one 3BHK flat each. The 3^{rd} – 6^{th} floors will have 2 nos. of 1BHK flats each. The 8th floor will be used as refuge area. Thus the developer has proposed total 14 flats in the said building.

The site under reference is affected by **CRZ-II zone**. It abuts HTL of Arabian Sea. It is on the landward side of the existing Netaji Subhash Chandra Bose Road. 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. 4, 79,00,000/- (Rupees Four Crore Seventy Nine Lakhs Only) as per the valuation report carried by certified registered valuer.

1. PURPOSE OF THE REPORT

Proposed redevelopment of plot bearing C.S. No. 1557, Girgaum Division & Street No.67/D of Damar Lane (Municipal Passage) at off H. Goregaonkar Road, Gamdevi, Mumbai - 400007 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 A category structure. The said CESSED category structure is now proposed to be redeveloped on the plot. The present proposal envisage the development of CESSED structure, by availing 2.5 FSI as per DCR's in force as on 6th January 2011.

Current development thus will help the existing tenant to get permanent, safe structure. At present they are residing in unsafe building.

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. 1557, Girgaum Division & Street No.67/D of Damar Lane (Municipal Passage) at off H. Goregaonkar Road, Gamdevi, Mumbai -400007 in CRZ-II belt, as the same is situated within 500 mtr. from Arabian Sea. (Approx distance 330 m).

The proposal is for redevelopment of residential building, which is situated on the landward side of existing Netaji Subhash Chandra Bose Road, **in existance prior to 19/2/1991, as may be seen from CZMP of Mumbai.**

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 2.50, as per DCR's in force as on 6th January 2011.

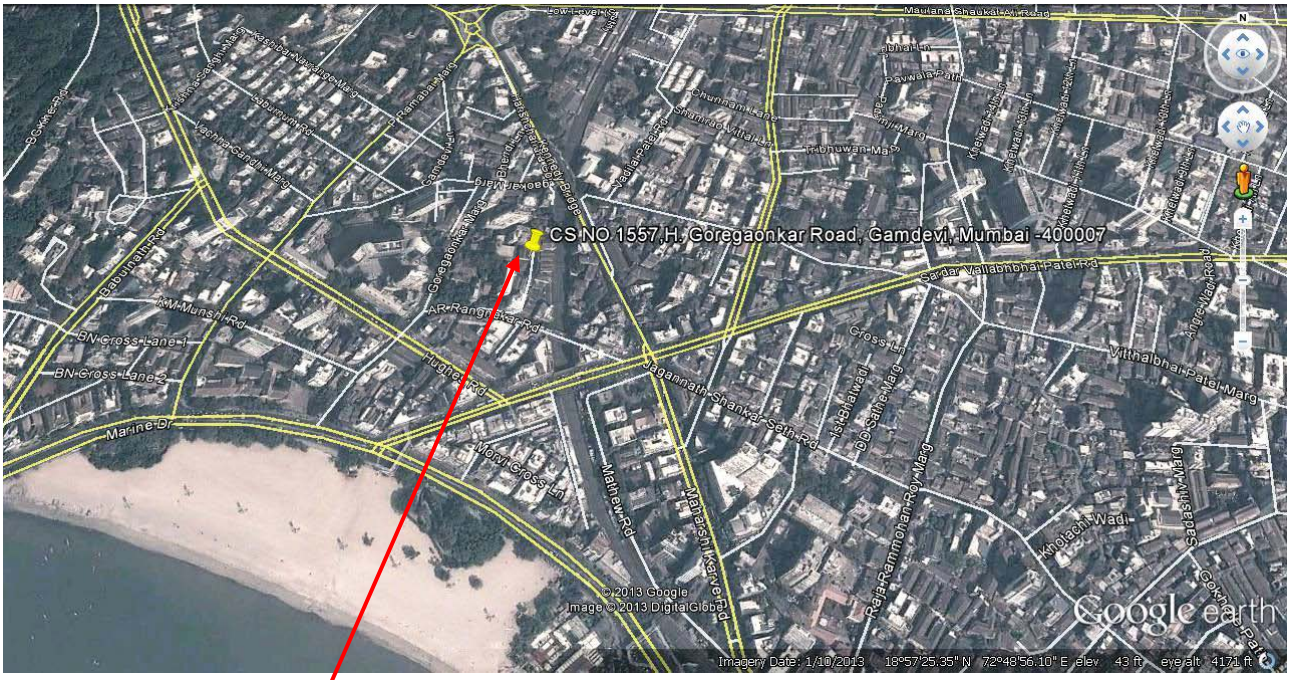
3.2 SIZE OF THE PROJECT

Total Area of the said plot is 247.96 sq. mtrs. Cost of the Project is Rs. 4,79,00,000/- (Rupees Four Crore Seventy Nine Lakhs Only).

3.3 LOCATION

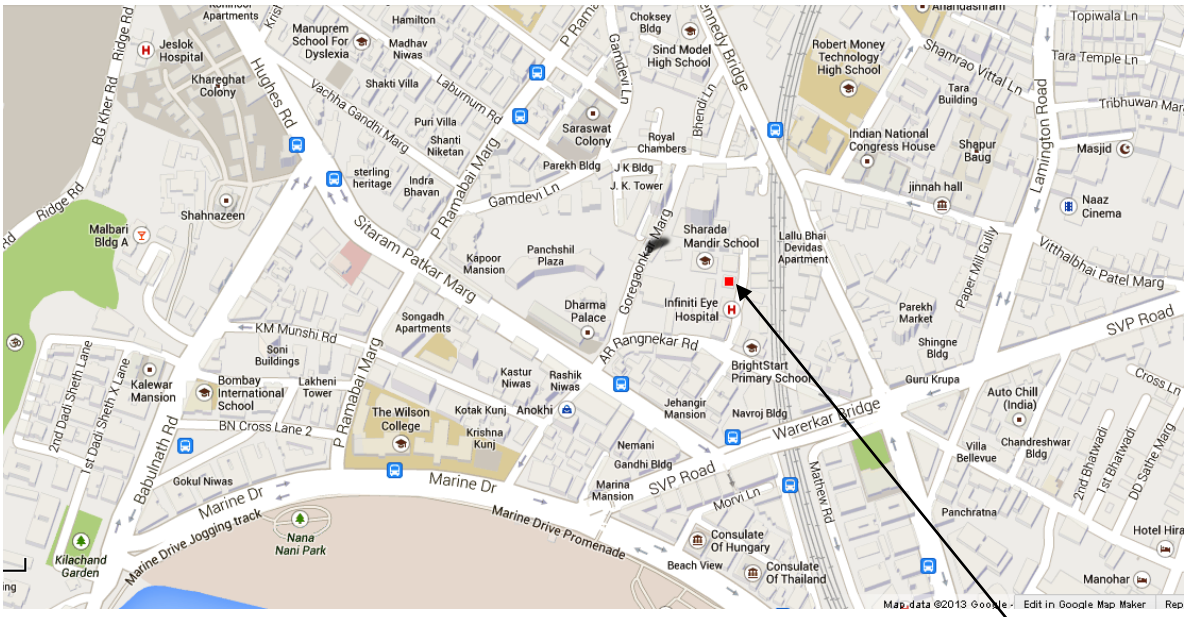
The C.S. No. 1557, Girgaum Division & Street No.67/D of Damar Lane (Municipal Passage) at off H. Goregaonkar Road, Gamdevi, Mumbai - 400007 is in the heart of the city. The nearest railway station is Charni road Railway Station, 1.00 KM on the western line.

Google Earth Image of the site

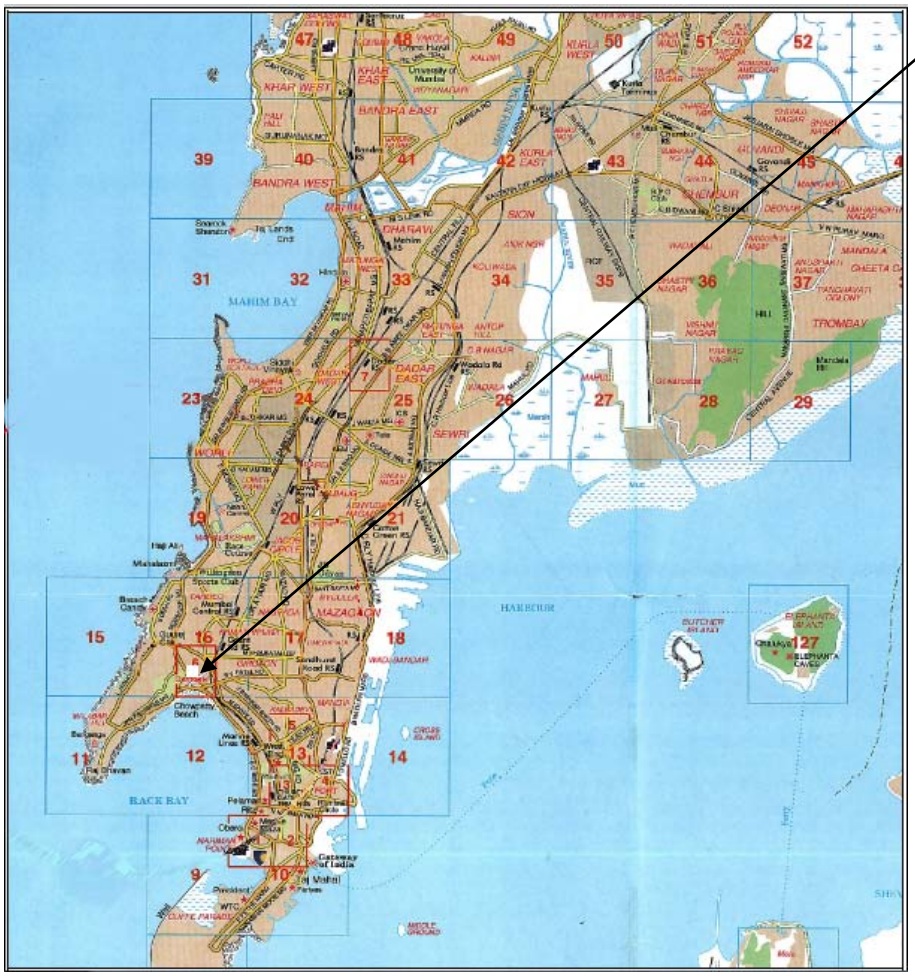


SITE UNDERREFERENCE

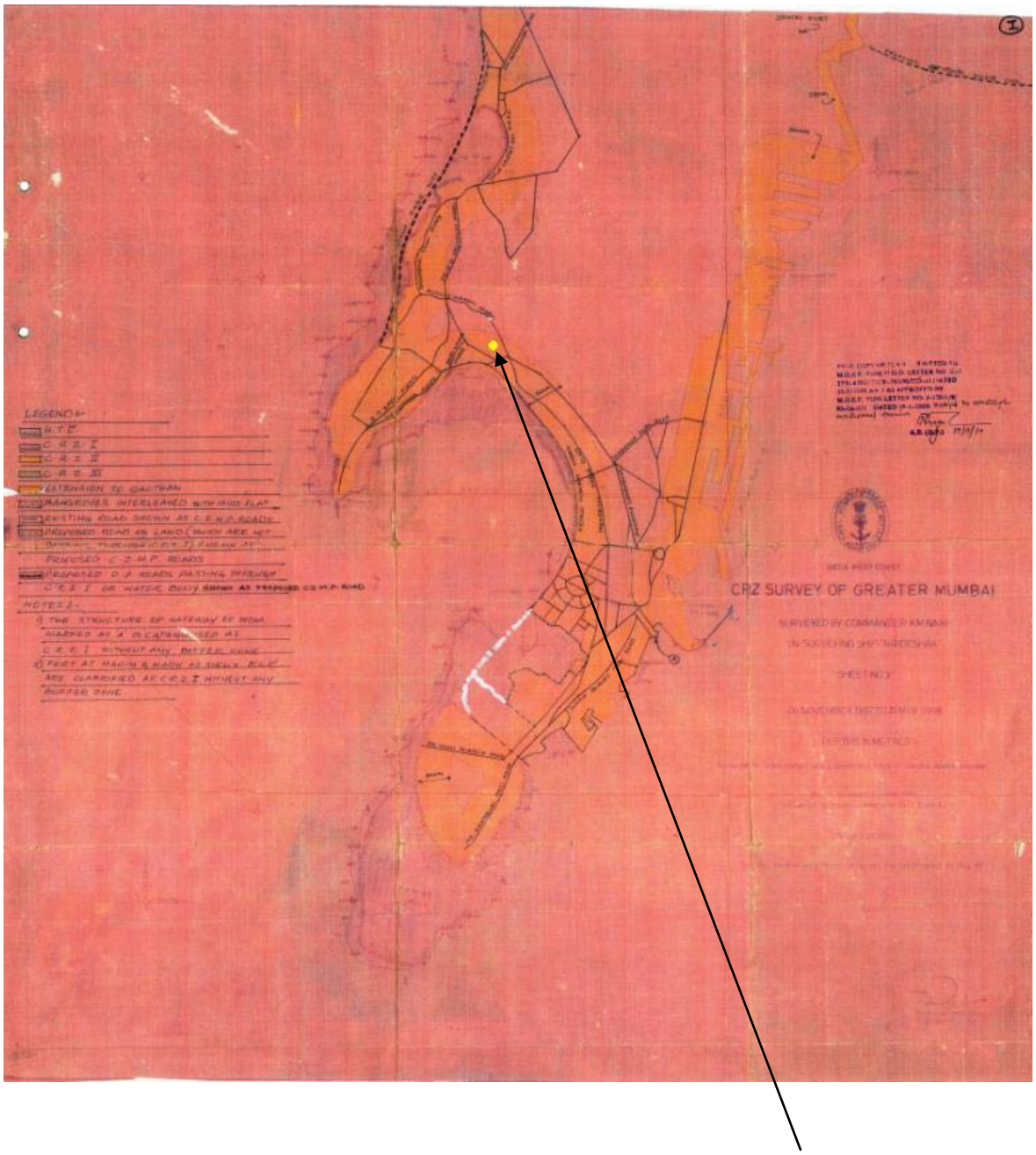
Location map of the site



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 Netaji Subhash Chandra Bose Road**,** 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. Total plot Area is 247.963 sq. mtr.

Town / Tehsil	:	Mumbai
District	**:**	Greater Mumbai
State	**:**	Maharashtra
Latitude	**:**	18^{o} 57’ 29.17” N
Longitude	**:**	72^{o} 48’ 50.84” E

3.5 PROPOSED DEVELOPMENT

3.5.1 AREA

Sr. No.	Description	Details
1	Total Plot Area	247.96 sq.mtrs.
2	Deductions for setback area	00.00 sq.mtrs.
3	Balance area of plot (1-2)	247.96 sq.mtrs.
4	Permissible Built up area – 2.5	619.90 sq.mtrs.
5	Total Built up Area Proposed.	618.87 sq.mtrs.
6	FSI Proposed	2.49
7	Total Construction Area	1300.00 sq mtrs (Approx.)
8	Parking required by MCGM Rule	4
9	Parking provided	10

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Structure of Building	Ground Floor + 1- 11 upper floors for residential use including upper parking floors, refuge areas
2	Tenements existing	6 Nos.
3	Tenements proposed	14 Nos.
4	Height of Building from Ground level	37.97 mtrs
5	Emergency Power supply (D.G. Nos. x KVa	1 no. 35 KVa
6	Area required for D.G sets	5 sq. mt
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**

Water Balance (Operation Phase)					
Sr. No.	Component/ Head	Occupants	Water Requirement		Remarks
			Domestic	Flushing	
1	Total residential population	80	7.2	3.6	@ 90/45 lpcd
2	Total non residential population	30	0.6	0.75	@ 20/25 lpcd
4	Car washing	0.05 CMD			10 cars (@5L per car)
5	Total Quantity of Water Required	12.15 CMD			For a total population of 110 persons
6	Grey Water generated	6.15 CMD			6.13 CMD to Treatment plant (capacity 8 CMD)
7	Sludge generated	0.12 CMD			-
8	Grey Water treated recycled water	6.13 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.

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

Total Energy consumption: 0.13 MW

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

iii) 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) MANPOWER

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 80 persons residing in the building, 30 persons will be non residential staff including drivers, security etc. in the building.

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	383	River bed	Nil
2.	Aggregate	CUM	852	Quarry	Crushing
3.	Standard Bricks	M.T.	308	Red Soil	Heating, Moulding
4.	Timber	M.T.	14	Forest	Cutting & Trimming
5.	Construction Waste	Kg/ Day	26	-	-

- 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.

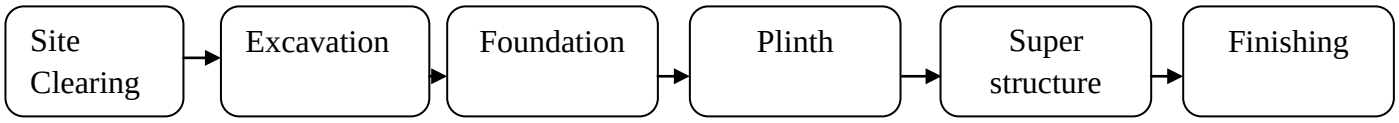
4.2 LIST OF EQUIPMENTS

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

4.3 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 5.0 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. 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 5.0mtr.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.

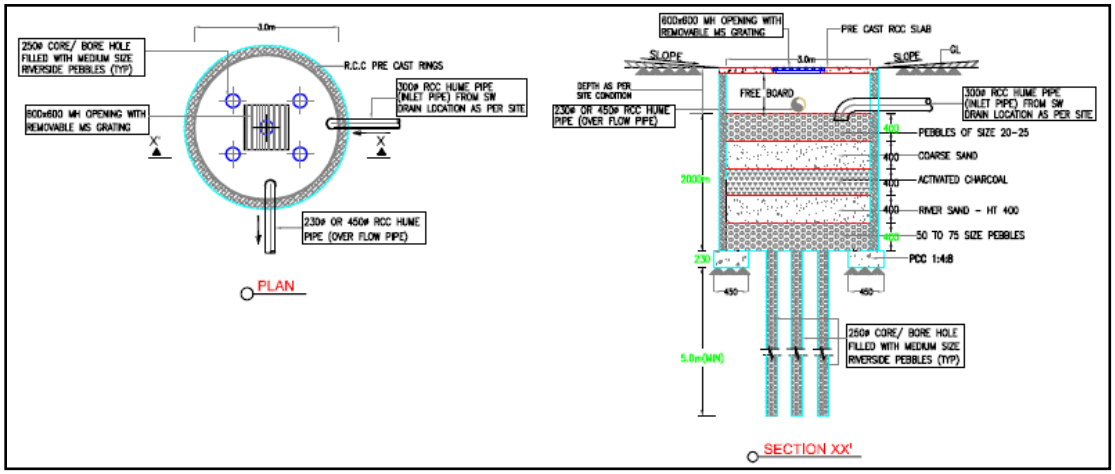
Sullage generated during operation phase will amount to 6.24 CMD of which 6.15 CMD will be treated in the Grey Water Treatment Plant. The treated water will be used for non domestic purposes such as gardening, flushing etc.

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

4] **Rain Water Harvesting**: - 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 Ground Floor + 1 upper floor buildings. The said CESSED category building is now proposed to be redeveloped in Ground + 1-11 Upper Floor building. The plot area considered for redevelopment of CESSED category building is 247.96 sq mtrs, which is very small. Hence roof rain water harvesting is proposed in the project. The permeable paver blocks are proposed along with 1 Recharge pits to increase the percolation of rain water into the soil rather than flowing to the drain.

*** (AS PER MOEF GUIDELINES)**

- **Percolation Pits: 1 nos. (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

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 55 kg per day) and organic waste (17 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 projected Date of Start is Jan 2014 while the date of completion will be June 2016 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 10 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.

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 5.0mtr will be done to protect the surrounding area of the project site from nuisance/ dusting.
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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