1. PURPOSE OF THE REPORT

Proposed redevelopment of plot bearing C.T.S. No. C/1058, C/1062 and C/1063 of village Bandra, off Carter Road, Bandra (W), Mumbai – 400050 and thereby obtain Environmental Clearance as per clause 33(6) of DCR – 1991 in force as on 6th January 2011. The scheme for the same is approved by BMC under DCR 33(6). The structure was declared as dangerous by the office of Assistant Engineer A ward vide their notice under section 354 of MMC Act on 4/12/2003. 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.

2. DESCRIPTION OF THE PROJECT

2.1 NATURE OF THE PROJECT

This is a proposal for development of residential building situated at Bandra (W), in CRZ-II belt, as the same is situated within 500 mtr. from Arabian Sea.

The proposal is for redevelopment of residential building, which is situated on the landward side of **existing Carter 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 permitted on the plot under reference is 1.72. There are 3 plots in the instant case, out of which on one plot the structure is dillapidated prior to 6th Jan 2011, as declared by MCGM. Therefore, this single plot on which dillapidated structure exists, will be allowed benefits of DCRs as in force as on 6th jan 2011, in view of clause 8 V (c) of CRZ-2011. Accordigly, 100% TDR is proposed on this plot admeasuring 669.70 sq mtrs. TDR is not claimed on remaining 2 plots, as was not permissible as per DCRs in force as on 19/2/1991. Therefore, FSI consumed in this proposal is combination of FSI 2 (Including full TDR) on plot bearing CTS No.C/1058 and only 1 FSI on CTS Nos. C/1062 and C/1063, thereby giving total BU area of 1594.50 sq mtrs and FSI of 1.72 on cobined plot.

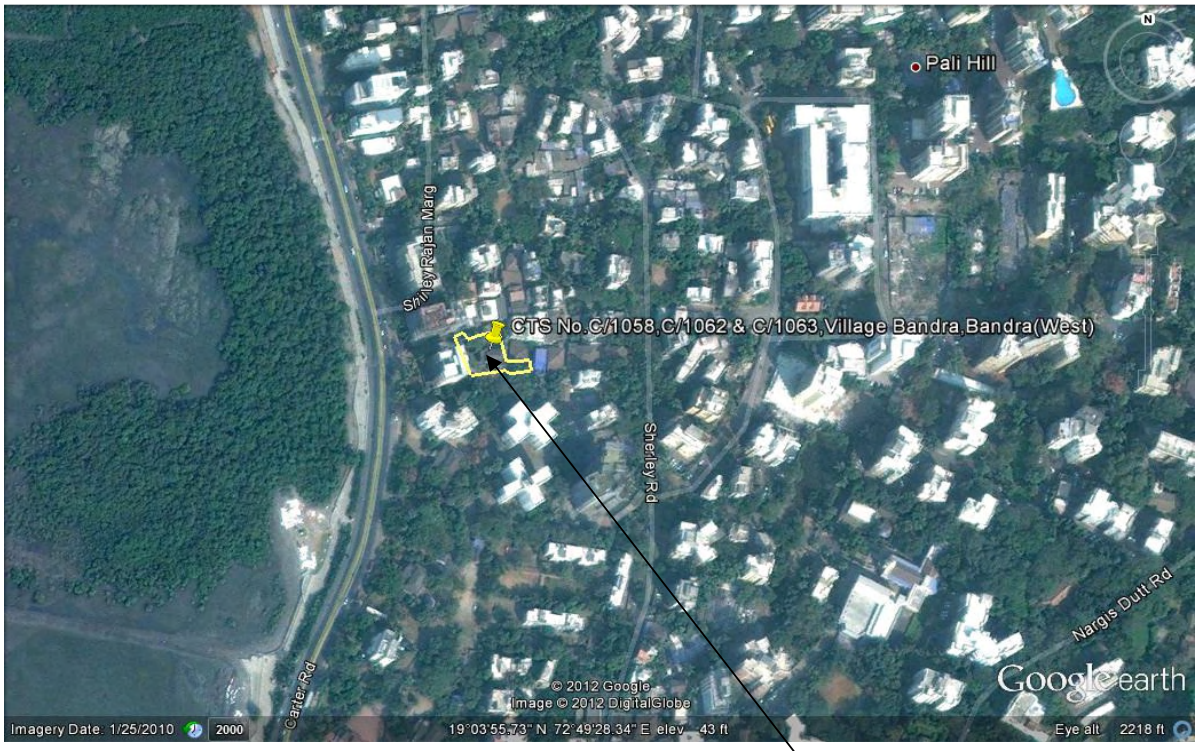
2.2 SIZE OF THE PROJECT

Area of the plot is 1057.70 sq mt. out of which 924.80 sq. mtr. area for FSI purpose by excluding encroachment and right of way area. Cost of the Project is Rs.43,08,08,400 /-(Rs. Forty Three Crores Eight Lakhs Eight Thousand and Four Hundred only).

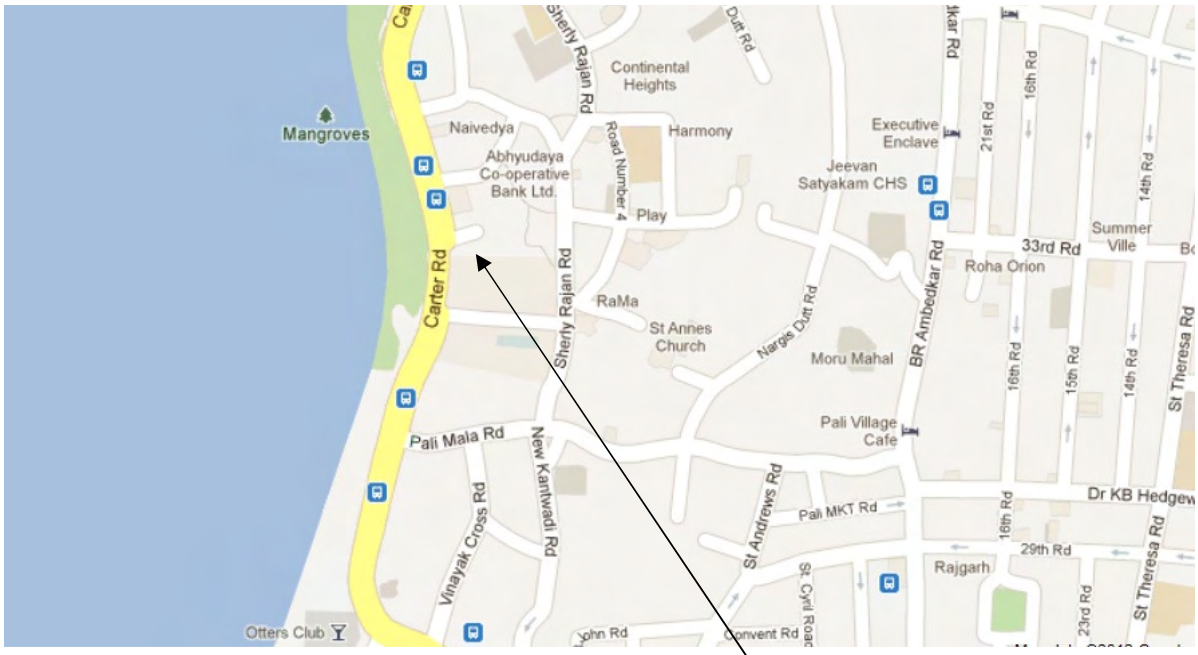
2.3 LOCATION

The C.T.S. No. C/1058, C/1062 and C/1063 of village Bandra, off Carter Road, Bandra (W), Mumbai-50 is situated in the heart of the city. The nearest railway station is Bandra terminus railway station located on western line at about 3 km from the site.

Google Earth Image of the site

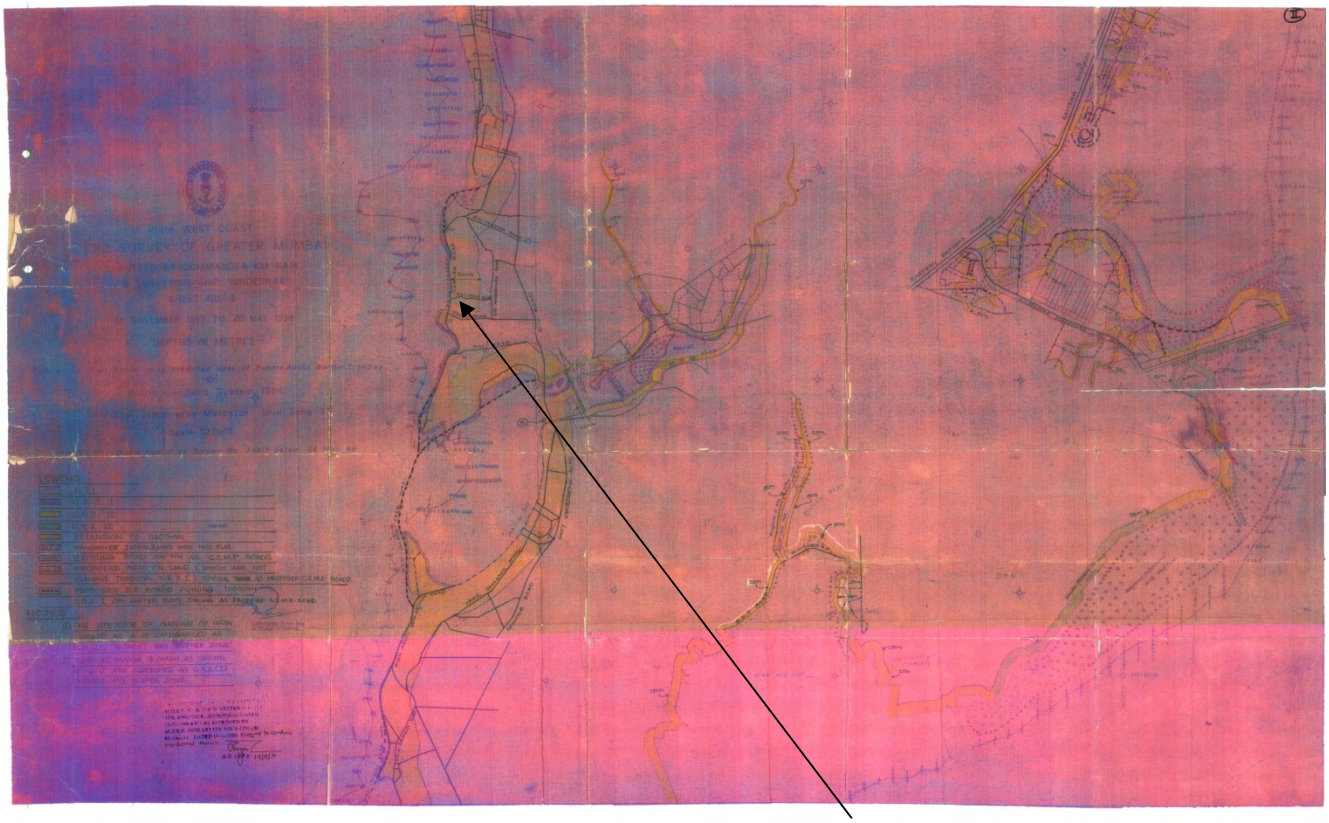


SITE UNDER REFERENCE



SITE UNDER REFERENCE

CZMP Plan showing location of reference Plot



SITE UNDER REFERENCE

2.4 SITE DESCRIPTION

The site is at higher level than the surrounding area. The site under reference is affected by CRZ-II zone and the property fall landward side of the existing Carter Road, which is reflected in CZMP plan. 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 1057.70 sq.mt out of that 4.09 sq.mt is road set back area being handed over to BMC. Balance plot area is 924.8 sq.mt and the same will be used for construction activity and will be proposed as ground RG area.

Town / Tehsil	:	Mumbai
District	:	Mumbai Suburban
State	:	Maharashtra
Latitude	:	19^{o} 03' 56.48" N
Longitude	:	72^{o} 49' 25.15 E

2.5 PROPOSED DEVELOPMENT

2.5.1 AREA

Sr. No.	Description	Details
1	Total Plot Area	1057.70 sq.m
2	Deductions for setback area	4.09 sq.m
3	Encroachment Area	128.81 sq.m
4	Balance area of plot(1-2 -3)	924.8 sq.m
5	Number of buildings	1
6	FSI Permissible	1.72
7	Permissible Built up area	1594.5 sq.m
8	Total Built up Area Proposed.	1591.39 sq.m
9	Total Construction Area	3000 sq. m
10	Parking required by MCGM Rule	20
11	Parking provided	28

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Structure of Building	Basement + Ground Floor + 9 upper floors
2	Tenements proposed	8 nos**.**
3	Height of Building from Ground level	30 sq.m
4	Parking required as per MCGM	20 sq.m
5	Parking provided	28 sq.m
6	Emergency Power supply (D.G. Nos. x KVa	1 no. 35 Kva
7	Area required for D.G sets	5.0
8	Salient features of the project	NA
	• 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	

2.5.2 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	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	41	3.690	1.845	@ 90/45 lpcd
2	Total non residential population	20	0.400	0.500	@ 20/25 lpcd
3	Car washing	-	0.18 CMD		36 cars (@5L per car)
4	Total Quantity of Water Required	-	6.435 CMD		For a total population of 61
5	Sewage & Grey Water generation	-	5.615 CMD		3.270 CMD Sullage(grey water) to Grey Water Treatment plant (capacity 4 CMD) after 1.5% evaporation losses
6	Sludge generated	-	0.01 CMD		
7	GTP treated recycled water	-	2.525 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.

i) **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: 0.168 MW
The electricity supply will be available from BEST.

ii) 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 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 61 persons residing in the building. Of these 20 will be non residential staff including drivers, security.

3. 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.

3.1 LIST OF MATERIALS

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

Sr. No.	Item	Unit	Quantity	Source	Process
01.	Sand	CUM	884	River bed	Nil
02.	Aggregate	CUM	1966	Quarry	Crushing
03.	Standard Bricks	M.T	711	Red Soil	Heating, Moulding
04.	Timber	M.T	32	Forest	Cutting & Trimming
05.	Construction Waste	Kg/ Day	61	-	-

- 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.

3.2 LIST OF EQUIPMENTS

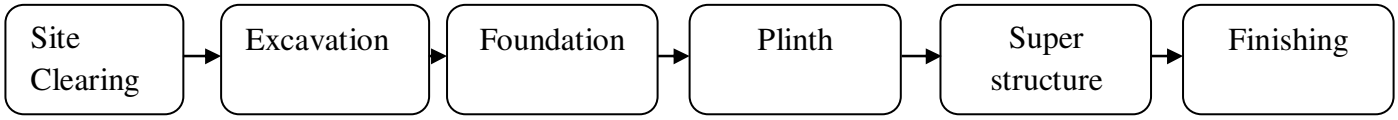
The construction equipments required for the residential building is given below.

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

3.3 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 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 5.0mtr.when the structures get raised above the required height from the ground.

4. ENVIRONMENTAL CONCERNS

4.1 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	During Activity

			Before Activity	
SPM (µg/m3)	100 ~ 200	200	80-100	150-200
RSPM (µg/m3)	50 ~ 100	100	20-30	50-100
SO2 (µg/m3)	50 ~ 80	80	10-15	10-15
NOx (µg/m3)	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.

4.2 AIR POLLUTION MITIGATION

Sr. No.	Source	Mitigation	
01	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.
02	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.
03	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.

4.3 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.

Grey Water generated during operation phase will amount to 5.617 CMD of which 5.53 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.

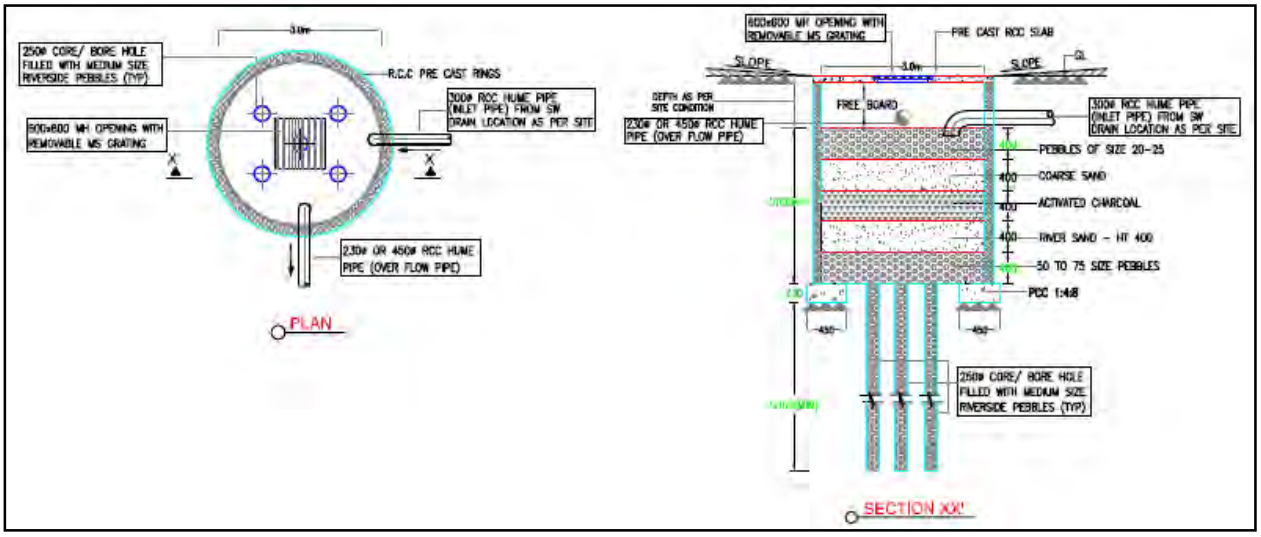
3] Treatment & Disposal :-The Domestic Effluent generated in construction phase will be disposed off in existing MCGM Sewer.

4] Rain Water Harvesting : The plot is already covered with dilapidated structure and same will be developed in G+17Floor building hence 0.0039 cum/sec is the previous run off of the plot while 0.0149 cum/sec will be the run off after development of the proposed building. Hence incremental run off will be very negligible ie.0.011 cum/sec.

The same will be drained into existing sewer line. The permeable paver blocks are proposed along with 2 Recharge pits to increase the percolation of rain water into the soil rather than flowing to the drain.

*** (AS PER MOEF GUIDELINES)**

- **Percolation Pits: 2 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.

4.4 NOISE POLLUTION

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

4.5 NOISE LEVEL MITIGATION

Sr. No.	Source	Mitigation
01	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.
02	Near bu Traffic	i] All the vehicles coming to the site will be ensured in good condition, having PUC. ii] Smooth Roads will be maintained in a project site.
03	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 –Ministry of Environment & forest, 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.

4.6 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 30.5 kg per day) and organic waste 12.2 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.

5. 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 January 2013 while the Date of completion will be Jan 2015 if everything went as per planning.

6. TRAFFIC MANAGEMENT

6.1 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.

6.2 OPERATIONAL PHASE

- About 28 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 sample care parking space in the building on all sides; there will be smooth movements of cars.
- There will be 6.0 mtr 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.

7. 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.

7.1 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.

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 mtr. when the structures get raised above the required height from the ground.

8. 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.