EXECUTIVE SUMMARY

for

Redevelopment of Existing Residential Bungalow known as “Baitul Sadan”

At

Plot bearing C.S. No 4/701 of Malbar Cumballa Hill division, Ward No. D-3520(2), Building no 61-J, Bhulabhai Desai Road, Mumbai-400026.

Developer

M/S EUPHROSYNE INFRASTRUCTURE (OPC) PVT LTD

Mumbai, the capital of Maharashtra is also the financial capital and the most populated city of India. Mumbai has grown in recent decades for many residential and commercial developments. Diminishing of Industrial zones and development of corporate offices, mall culture in very short period is one of the features of today's Mumbai. Mumbai has many old, dilapidated structures. They are very unsafe to retain. Many of them are in CRZ zones. Development of those by rehabilitant those tenants along with development of new flats to compensate the development charges will not be possible if Extra FSI is not used. Because of CRZ conditions the FSI restriction makes those structures unattended.

1.1 PREAMBLE

We are aware that there are constraints on the availability of open land within the city limits coupled with fast growing demand for houses and shortage of housing stock. On the other hand, that there are thousands of ageing buildings which are dilapidated and have reached a stage where it is not possible to carry out structural repairs and rehabilitation as the same are not economically viable. The redevelopment of CESS dilapidated building has become a necessity since the problem of old and dilapidated buildings in the city of Mumbai grows more acute with each passing year and with each passing monsoon more and more building become dangerous and unfit for habitation. Hence, Mr. Rishab P. Jain has identified business possibility in this field to provide space for accommodation.

1.2 NEED OF PROJECT

Many buildings collapse each year, killing or injuring people. Many of these buildings are so run down that they are unrepairable, and the only solution is to put them down totally and to reconstruct them. Government has floated various schemes wherein they have allowed incentive FSI for carrying out redevelopment schemes. Proposed redevelopment thus will help the existing tenants to get permanent, safe structure. At present they are residing in old building.

As per Brihanmumbai Mahanagarpalika Category Certificate vide letter No. A.A & C/D/545/2017-18 dated – 23rd February 2018. The site property falls under Cess Category 'A'(R) bearing Ward No. D-3520(2). Project Proponent has also obtained "No Objection Certificate" regarding redevelopment of the plot u/r from MHADA vide letter no. R/NOC/LOI-33(7)/1526/MBRRB-19 dated: 21st Feb 2019. Therefore redevelopment of such building is proposed to provide safe structure to the tenants.

The photographs of the existing building are given in Figure 1.1 below.

Figure 1.1: Photographs of Existing Buildings at Proposed Site

1.3 APPLICABILITY OF CRZ NOTIFICATION

As per DP Remarks & Plan (Vide Letter No. CHE/DP34201901111197122 D.P. Rev dated – 30.01.2019) the land under reference falls within CRZ-II zone, as per the Coastal Zone Regulation Notification 6th January 2011. According to Para 4 (d) of CRZ Notification 2011, the proposal for the construction in the areas falling in CRZ-II shall be approved by the concerned State or Union territory Planning authorities. In accordance with this notification one can obtain recommendations from the concerned CZMA and subsequently CRZ clearance accord on the basis of requisite documents like Form I, CZMP map, DP plan etc.

1.4 IDENTIFICATION OF PROJECT PROPONENT

M/S EUPHROSYNE INFRASTRUCTURE (OPC) PVT LTD has proposed redevelopment of a residential bunglow on subjected land. The details of the project proponent are given in Table1.1.

Table-1.1: Details of Contact Person

Sr. No.	Particular	Details
1	Name of Developer	M/S EUPHROSYNE INFRASTRUCTURE (OPC) PVT LTD
2	Name of Contact person	Rishab P. Jain
3.	Designation of Contact person	Director
4.	Contact No	9820611499
5.	Email	rishab@livingstones.in
6.	Address	801, Arcadia, NCPA Road, Nariman Point, Mumbai: 400021.

1.5 LOCATION OF THE PROJECT

The proposed project admeasuring about 521.72 Sq. m. is located on Plot bearing C.S. No 4/701 of Malbar Cumballa Hill division, Ward No.D-3520(2), Building no 61-J, Bhulabhai Desai Road, Mumbai-400026. The Google image of the proposed site is given in Figure 1.2 and Location of Proposed Project on Old CZMP is given in Figure 1.3 & Location of proposed project in Approved CZMP as per CRZ Notification 2011 is given in figure 1.4.

Figure 1.2: Location of Proposed Project on Google Image

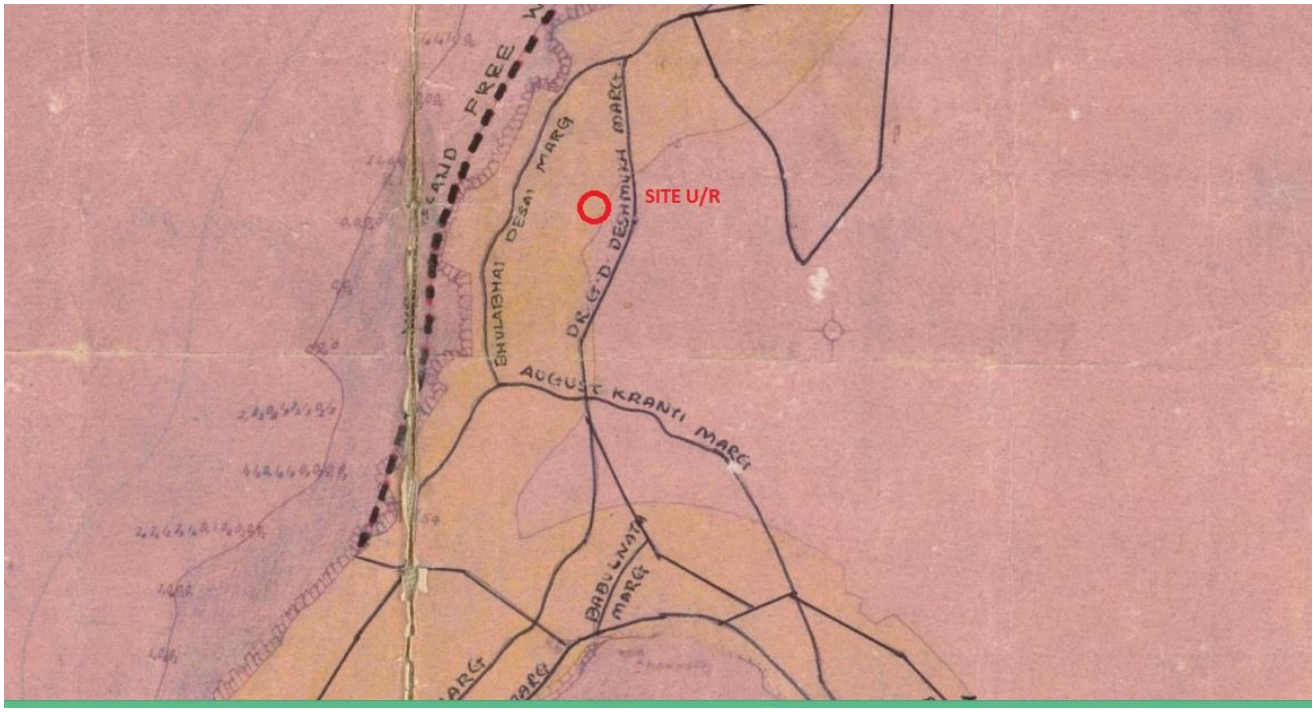

Figure 1.3: Location of Project site on CZMP

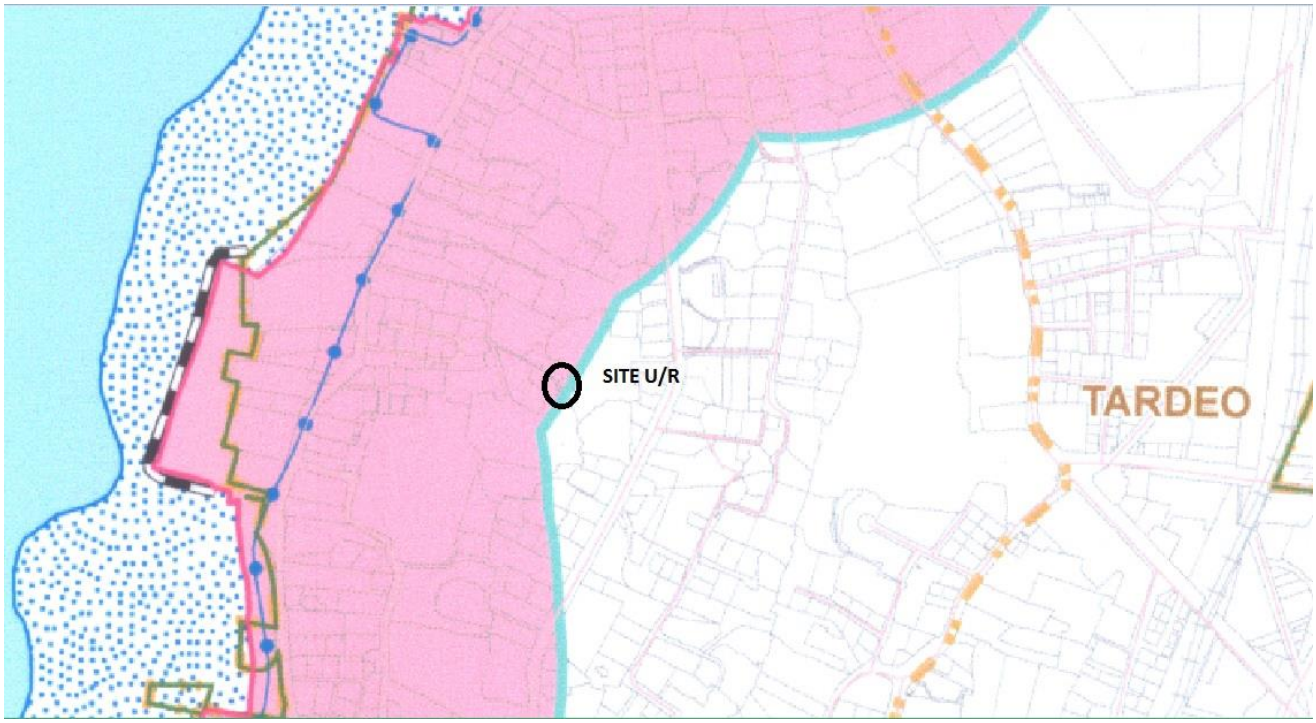

Figure 2.4: Location of Proposed Site on Approved CZMP as per CRZ Notification 2011.

1.6 DESCRIPTION OF PROJECT SITE

The proposed project has existing access road from Vivek Singh road and Dr. Gopalrao Deshmukh lane. The environmental features are illustrated in given Table 1.2 given below.

Table-1.2: Environmental Setting of Proposed Project

Sr. No.	Particulars	Details
1	Latitude	18°58'13.36"N
2	Longitude	72°48'27.85"E
3	Elevation above MSL	6.585 m
4	Climatic Conditions	Maximum Temperature :34.4 °C Minimum Temperature :17.5 °C Annual Rainfall :2567.5 mm
5	Present land use at the proposed site	Residential zone as per D.P Remarks
6	Transport Connectivity	
A	Nearest Highway	Western Express Highway (Worli Sea link) - 4.7km-N
B	Nearest Railway Station	Grant Road Railway Station – 1.2 Km- SE Mumbai Central Railway Station- 1.1 km-NE
C	Nearest Road	Vivek Singh Lane-Adjoining to the site- S
7	Social Aspect	

Sr. No.	Particulars	Details
A	Nearest School/College	• Greenlawn High School-0.4km-SW • German School-0.4km-SW • Sophia College-0.03km-S • Bhau Saheb College-0.6km-NE
B	Nearest Hospital	Jaslok Hospital- 0.25 km-NE
C	Nearest Fire Station	Fire Station – 1.1km - SE
D	Nearest Police Station	Tardeo Police Station- 0.7 km-E
8	Hills/Valleys	Nil
9	Ecologically sensitive zones within 15-km distance	CRZ - II
10	Seismic Zone	Zone – III

1.7 PROJECT LAYOUT

The proposed project is a redevelopment project which comprises 1 building, configurations of the building is; Stilt floor + 1st to 6th Podium floor + 7th To 18th Upper Floor. The block plan of the proposed project is shown in Figure 1.4.

Figure 1.4: Block Plan of the Proposed Site

1.8 BRIEF DESCRIPTION OF PROJECT

The brief description of the proposed project is given Table 1.3.

Table 1.3: Brief description of the project

#	Particular	Details
1	Project Type	Residential
2	Location	
	CTS No	Plot bearing C.S. No 4/701 of Malbar Cumballa Hill division
	Village	Malbar Hill & Cumballa hill division
	Tehsil	Mumbai
	District	Mumbai
	State	Maharashtra
3	Site fall under CRZ I/II/III	CRZ - II
4	Distance of proposed building from HTL	470m From HTL of Arabian Sea
5	Proposed Plot Area	521.72 Sq. m.
6	Permissible FSI	3.78
7	FSI consumed	3.78
8	Proposed BUA	➢ FSI Area - 1973.33 Sq.m. ➢ Non FSI Area - 1084.08 Sq.m. ➢ Total Construction Area – 3057.35 Sq.m.
9	No. of Building	1 Building (Residential)
10	Configuration of proposed Buildings	Stilt floor + 1st to 6th Podium Floor + 7th to 18th Upper floor
11	Population	104 no.
12	Water	
a.	Source	MCGM
b.	Total water requirement	11.18 KLD
c.	Total sewage generation	9.75 KLD
d.	Mode of Disposal	Wastewater generated on site will be connected to the existing Municipal Sewer line.
13	Solid Waste Generation	38.40 kg/day
a.	Mode of Disposal	Solid waste will be handed over to the MCGM waste collecting vehicles.
14	Power	
a.	Requirement	Maximum Demand: 150 KW
b.	Source	B.E.S.T.
c.	Project cost	14.50 cr.
20	Parking Details	Parking Required: 16 Nos. Parking Provided: 16 Nos.

2.0 DESCRIPTION OF THE ENVIRONMENT

2.1 METEOROLOGICAL

Relative Humidity	***Temperature***	***Rainfall***
Climate of district Mumbai can	Annual Mean Maximum	Total Mean Annual

be generally classified as warm and moderately humid. Relative humidity ranges from 32 % in April to 82 % in July.	Temperature: 34.4 °C Annual Mean Minimum Temperature: 17.5 °C	Rainfall: 2567.5 mm

2.2 AMBIENT AIR QUALITY

The range of average values of the pollutants is as below.

Parameters	Range of Pollutants Present	Unit
SO_2	19.0 – 29.0	µg/m^3
NO_x	26.5 – 42.0	µg/m^3
RSPM	78.0 – 168.0	µg/m^3

2.3 NOISE LEVEL

Day Time Noise Levels [(L_{day})]

The noise levels ranged between 48.20 dB (A) to 74.60 dB (A).

Night Time Noise Levels (L_{night})

The noise levels ranged between 25.99 dB (A) to 51.15 dB (A).

2.5 WATER QUALITY

Ground Water Quality:

Parameters	Units
pH	7.8
Suspended Solids	40.0 mg/L
TDS	280 mg/L
Conductivity	300 µs/cm
Chloride	302 mg/L
Hardness	200 mg/L

2.5 DEMOGRAPHY AND SOCIO –ECONOMIC PROFILE

Ward	Area	Land Area	Households	Population	Density/Km^2
D	Grant Road, Malbar Hill Division	6.63 Sq. Km	2108 Approx.	3.78 Lakhs Approx. (Census 2001)	57119 Approx.

Source: http://www.mcgm.gov.in/irj/portal/anonymous/qlwardkw

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

3.1 WATER SUPPLY AND WASTE WATER MANAGEMENT

<u>Construction Phase:</u>

Water Supply:

During construction phase, water will be supplied by MCGM for drinking and other domestic purposes of the construction labors and by tankers to be used for construction. Total water requirement during the construction phase is about 50 CMD. Water will be utilized for domestic use of construction laborers and for construction activity.

Waste water generation:

Waste water during the construction phase will be sewage generation, estimated as 8 CMD (80% of water supplied). The details of Water Requirement and Waste generation during Construction Phase are given in Table 1.4.

Table 1.4: Water Requirement and Waste generation during Construction Phase

Sr. No.	Purpose	Source	Quantity (m^3/day)	Waste water generated (m^3/day)
1.	Domestic use of construction workers	MCGM	0.5	0.4 (@80% of water supply)
2.	Construction activity	Tanker water	10	--
	Total		**10.5**	**0.4**

Management:

1. Temporary toilets would be made available for construction workers. It would be directly connected to the existing municipal sewer line for disposal of wastewater.
2. Care will be taken to ensure that the water used for construction purposes does not accumulate on the site to prevent breeding of mosquitoes.

Operation Phase:

The average water consumption for residential buildings has been calculated as 135 liters per capita per day (as prescribed by the National Building Code of India 2005, Part 9, Section 1, Page No. 19). During operation phase, water supplied by MCGM would be used for domestic purpose and for other purposes like flushing.

Table 1.5: Water Requirement during Operation Phase

Type	Population	Domestic		Flushing	
		Standard (CMD)	Quantity (CMD)	Standard (CMD)	Quantity (CMD)
Residential	72	90	6.5	45	3.2
Drivers	12	20	0.24	25	0.3

Visitors	8	20	0.17	25	0.21
Servants	12	20	0.24	25	0.3
Total	104	11.18			

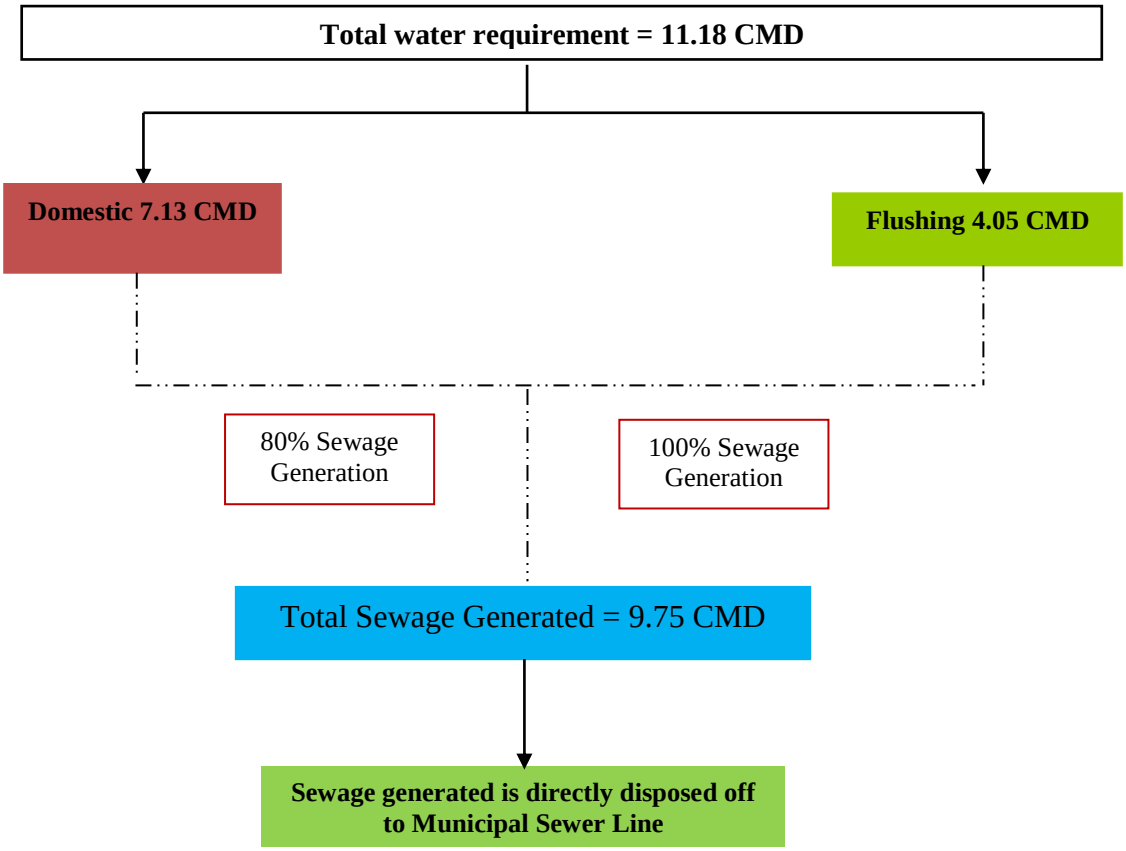

Figure 1.5: Water Balance

Sewage line will be collected to existing municipal sewer line.

3.2 SOLID WASTE GENERATION AND MITIGATION MEASURES

Construction stage

During the construction stage, construction waste would be generated which would include debris, concrete, steel and other metals, bricks, pallets, packaging and paper products, railings, door and window casings, fixtures, tiles, furnishings etc.

Operation stage

During operation phase, solid waste will be generated @ 0.45 Kg/day for residential purposes. The details of solid waste generated during operation phase are given in Table 1.6.

The main solid waste generated from the proposed project is due to consumption of food materials, plastic, packing material and paper. The solid waste will be disposed off into the garbage collecting vehicles of the local authorities.

Table 1.6. Solid Waste Calculation during operation phase

Type	Population	Standard (kg/day/person)	Quantity (kg/day)	Solid Waste Generation (Kg/day)	
				Biodegradable waste (40 %)	Non-biodegradable waste (60%)
Residential	72	0.45	32.4	12.96	19.44
Drivers	12	0.1	1.2	0.48	0.72
Visitors	8	0.1	0.8	0.32	0.48
Servants	12	0.1	1.2	0.48	0.72
Total	**50**		**35.60**	14.24	21.36

3.3 POWER REQUIREMENT

During Construction Phase:

Power required for the general purpose will be approx. 100 KW & shall be taken from Local Authority from the existing connection.

During Operational Phase:

Source of Power – BEST /Tata Power

Maximum Demand – 150 KW

The same will be operated for essential power requirements such as fire lifts, water pumps and passage lighting etc. As in Mumbai there is hardly any power failure is observed.

The building will have following energy saving measures

- External lighting is proposed on Renewable energy.
- LED lights will be used with energy saving CFL & T5 fluorescent tube with electronic chocks.
- Selection of Energy efficient equipment (5 STAR RATED).
- All vertical fenestration will be as per ECBC.

3.4 AIR & NOISE POLLUTION & CONTROL MEASURES

The sources of air & noise pollution are D. G. sets and vehicular movement and honking. By implementing appropriate mitigation measures these effects are expected to become insignificant.

3.5 FIRE FIGHTING MEASURES

For protection of the facility against fire, all the units will be equipped with any one or a combination of the following fire fighting systems:

- Hydrant system;
- Smoke detector, and smoke alarm system
- Fire Detection and alarm system; and
- Different types of fire extinguishers.
- Provision of refuge area
- Precautions will be taken as per NBC & C.F.O NOC

For storage of water for fire fighting in case of emergency, a firewater underground tank will be provided. This will serve the fire fighting needs of the project.

4.0 ENVIRONMENTAL MONITORING PROGRAMME

4.1 Environmental Monitoring

The Post Project Monitoring to be carried out at the project site will be as mentioned below:

- **Air Pollution and Meteorological Aspects**

  Both ambient air quality and stack emissions shall be monitored. The ambient air quality shall be monitored once in three months by engaging the services of the laboratory approved by SPCB/MoEF.

- **Wastewater Quality**

  The wastewater generated from sanitation shall be monitored once in a month for physio-chemical characteristics and results reported to SPCB. The treated water from STP shall be monitored once in a month for physico-chemical characteristics and results.

- **Noise Levels**

  Noise levels shall be monitored once in three months.

Environmental Monitoring Plan

During Construction Phase				
	Item	**Parameters**	**Frequency**	**Location**
1.	Ambient Air Quality	SPM, RSPM, SO_2 NOX, HC & CO	Quarterly	At major construction area. (total 1 station)
2.	Noise Level	Equivalent noise Level dB (A)	Quarterly	At major construction area. (total 1 station)

3.	Drinking Water	Analysis of water for physical, chemical, biological parameters.	Quarterly	Municipal supply
During Operation Phase				
	Item	**Parameters**	**Frequency**	**Location**
1.	Ambient Air Quality	SPM, RSPM, SO_2 NOX, HC & CO	Quarterly	Total 1 station
2.	Noise Level	Equivalent noise Level dB (A)	Quarterly	Total 1 station
3.	Drinking Water	Analysis of water for physical, chemical, biological parameters	Quarterly	Municipal supply

5.0 Environment 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.

Safety Measures Onsite

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 m 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.

6.0 Additional Studies

Disaster Management Plan

This provision is applicable in the present case only to safety and fire hazard because it is a small residential unit. The only hazards envisaged here are from fire either due to short circuit or gas cylinder in the kitchen of individual houses. There are no other manmade disasters expected. We have not considered here the natural disasters like flooding, earthquake etc.

Normal safety plans and precautions are expected to be in place as per CFO and MCGM guidelines. To maintain the ecological balance and check any probable harmful effect, proper EMP, good housekeeping around project site, have been suggested.

The fire safety measures followed will be:

- Underground and overhead water storage tank for fire fighting.
- Exit sign & Emergency escape route sign shall be provided
- Fire pumps, Sprinkler pumps with jockey pumps to be provided
- Pressurized wet risers at mid-landing in the duct adjoining each staircase with hydrant outlet and hose reel on each floor
- Portable extinguisher and bucket filled with sand shall be kept in Electric meter room, Lift machine room and entire parking.
- Automatic smoke detection & Fire alarm system
- Provision of Refuge Area
- Fire escape staircases, fire lift & fire safety doors as per DC Regulations and in the line with NBC 2005

The Disaster Management Plan studies include:

- Identification of the major hazards to people and the environment;
- Assessment of the risks
- Develop warning system wherever possible
- Develop manpower and measures to prevent / control the risks
- Make advance preparations to face the disaster, minimize the losses, provide help to affected people
- Planning to recover from the effects of the hazard.

7.0 LANDSCAPING AND GREENBELT DEVELOPMENT

Adequate land will be available for open spaces and other non-building purposes area will be taken for green cover / lawn development in the proposed facility. Suitable plant species of local varieties will be planted with adequate spacing and density for their fast growth and survival.

8.0 PROJECT BENEFITS

The project proponent seems to be safety conscious and alert about good housekeeping and is environment friendly. We may conclude as under:

- Proposed Redevelopment project is in Juhu, Santacruz area of Mumbai. The site under reference is affected by CRZ-II zone. Thus property attracts the CRZ legislation, which is reflected in CZMP plan.
- The proponents are following all the Firefighting safety rules and regulations as prescribed by M.C.G.M. and CFO regulations.
- Building will be designed to meet requirements of seismic zone III - Earthquake resistant.
- Ambient Air Quality of the project site will be within the permissible limit as prescribed by National Ambient Air Quality Standards.
- The solid waste will be disposed off into the garbage collecting vehicles of the local authorities.
- Air, water, Noise, soil parameters will be studied during construction as well as after construction to minimize the environmental impact by taking proper precautionary measures.
- No significant impact is seen on flora and fauna.
- Fly-ash will be used in concrete work.

- The project will generate employment opportunities during construction stage and also at operational phase.
- Proposed buildings have considered energy efficient lighting.