BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH, PUNE

APPEAL NO. 09/2020

NOTARY
Miss. M.D. Patel
GR. Mumbai
Reg. No. 212
Exp. Date
24-3-2023
GOVT. OF MAHARASHTRA

Sayyed Mohammed Sabir Usman ... Appellant

V/s.

The Principal Secretary,

Department of Environment & Ors. ... Respondents

REPLY AFFIDAVIT BY RESPONDENT NO. 2,

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

I, Dattatray Suryakant Bhalerao, working as Scientist II & Under Secretary, Environment and Climate Change Department, Government of Maharashtra do hereby state on solemn affirmation as under –

I am well conversant with the facts of the present case and I am competent to swear this Affidavit based upon the records available with this office.

M.D. Patel

1. It is submitted that at the very outset this respondent denies each averment made in the present appeal, which is contrary to, and inconsistent with the averments made and facts states in the present reply. It is submitted that nothing stated in the appeal may deemed to have been admitted by this respondent unless and until the respondent has admitted the same.
2. The present case pertains to challenge to the grant of Amended Environment Clearance dated January 15, 2020, granted by this Respondent in favour of M/s. Nathani Parekh Constructions Pvt. Ltd. for their project at C S No. 1/332, Dr. D B Marg & Bellasis Road, D Ward, Tardeo Division, Mumbai Central, Mumbai – 400 008, for TBU of 79,151 m2.
3. Project has received earlier Environment Clearance on 2nd June, 2011 for total built up area of 78,727.08 m2. PP proposed to increase total built up area by 424.88. PP stated that there is no change in the total number of floors but Commercial Units & Flats numbers have changed from Commercial Units 108 nos.; Flats: 342 nos to Commercial Units: 260 nos.; Flats: 340 nos.

M. D. Patel

4. The proposal was considered by SEAC in 123rd Meeting dated 7th December, 2019 and asked PP was asked to submit the following information –

   a) PP to upload High Rise Committee (HRC) NOC ;

   b) PP to upload Chief Fire Officer (CFO) NOC ;

   c) PP to submit the copy of final approved layout plan ;

   d) PP to upload the result of working STP & continue to maintain the BOD less than 5 mg/lit ;

   e) PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary if the project site falls within 10 km radius from the said sanctuary boundary. The planning to ensure fulfilment of this condition before granting CC ;

   f) PP to submit CER prescribed by MoEF & CC as per circular dated 01-05-2018 relevant to the area and people around the project. Specific activities to be undertaken under the CER to be carried out in consultation with Municipal Corporation or Collector or Environment Department.

SEAC apprised the proposal and decided to recommend the proposal to SEIAA for granting EC subject to compliance of

M. D. Patel

the above information. Copy of SEAC Meeting Minutes dated 7th December, 2019 is annexed as **Annexure 1.**

5. PP submitted the above information vide their letter dated 28-11-2019. Copy of the letter is marked and annexed as **Annexure 2.**

6. The proposal was considered by SEIAA in 184th Meeting dated 30th December, 2019. The project proposal was deliberated based on presentation made and documents submitted by the proponent. All issues related to environment, including air, water, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under 8a (B2) category of EIA Notification, 2006. Consolidated statements, synopsis of compliances, form 1, 1A, presentation & plans submitted are taken on record and accordingly SEIAA decided to grant Environment Clearance. Copy of SEIAA Meeting Minutes are annexed as **Annexure 3.**

7. Further, PP has submitted the proposal for expansion of existing project. SEAC apprised the proposal in 185th meeting and decided to recommend the proposal to SEIAA for granting EC subject to Certain conditions. Copy of minutes of 185th meeting of SEAC is annexed as **Annexure**

M. D. Patel

4. The proposal was then considered by SEIAA in 256th Meeting dated 25th January, 2023. The project proposal was deliberated based on presentation made and documents submitted by the proponent and accordingly SEIAA decided to grant Environment Clearance. Copy of SEIAA Meeting Minutes are annexed as **Annexure 5.**

8. SEIAA has followed all due procedure, EIA Notification and the OMs issued by MoEF&CC therein, while granting the EC and therefore the present Appeal should be rejected with cost.

9. This respondent craves leave to file any additional reply as and when required. In light of the above submissions, it is respectfully prayed that Environment Department shall abide by any orders and directions issued by the Hon'ble Tribunal.

Whatever is stated above is true and correct to the best of my knowledge, ability and belief and I affirm it to be true.

Place: Mumbai
Date: 13/02/2023

(Dattatray Suryakant Bhalerao)
Scientist II & Under Secretary,
Environment & CC Department,
Government of Maharashtra

M.D. Patel

VERIFICATION

I, Dattatray Suryakant Bhalerao, Age- 39, working as Scientist II & Under Secretary, Environment and Climate Change Department, Government of Maharashtra, having my office address at 15th floor, New Administrative Building, Mantralaya, Mumbai-400 032, do hereby verify and declare that the statements made in the aforesaid Para's are true and correct to the best of my knowledge and information and I believe the same to be true and that nothing material has been concealed therefrom.

Solemnly affirmed on this day of the February, 2023 at Mumbai.

(Dattatray Suryakant Bhalerao)
Scientist II & Under Secretary,
Environment & CC Department,
Government of Maharashtra

Identified by me

BEFORE ME
M. D. Patel
13-2-2023
Sr. No. 59
Bk. No. 1

MISS M. D. PATEL
ADVOCATE & NOTARY
Kohiar House,
4, Dhuswadi, Dhobitalao,
MUMBAI - 400 002.

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

NOTARY GOVT. OF MAHARASHTRA
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Agenda of 123rd Meeting of State Expert Appraisal Committee-2 (SEAC-2)

SEAC Meeting number: 123 **Meeting Date** December 7, 2019

Subject: Environment Clearance for Seeking revised EC for Redevelopment project at Tardeo Division, Mumbai Central, Mumbai

Is a Violation Case: No

1.Name of Project	"NATHANI HEIGHTS"
2.Type of institution	Private
3.Name of Project Proponent	M/s. Nathani Parekh Constructions Pvt. Ltd.
4.Name of Consultant	M/s. Ultra Tech
5.Type of project	Redevelopment Project
6.New project/expansion in existing project/modernization/diversification in existing project	Amendment in EC
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Received Environmental Clearance (File No. SEAC-2010/CR.364/TC.2) dated 2nd June, 2011
8.Location of the project	C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai - 400008.
9.Taluka	Mumbai
10.Village	Mumbai
Correspondence Name:	M/s. Nathani Parekh Constructions Pvt. Ltd.
Room Number:	101
Floor:	2nd Floor, Commercial Arcade,
Building Name:	Nathani Heights
Road/Street Name:	Dr. D.B. Marg & Bellasis Road Junction
Locality:	Mumbai Central
City:	Mumbai – 400008.
11.Whether in Corporation / Municipal / other area	Municipal Corporation of Greater Mumbai (M.C.G.M.)
12.IOD/IOA/Concession/Plan Approval Number	Received Part Occupation certificate dated 30.10.2018
	IOD/IOA/Concession/Plan Approval Number: EB/5420/D/A
	Approved Built-up Area: 30620.60
13.Note on the initiated work (If applicable)	TTotal constructed work on site till date (FSI + Non FSI): 77,090.00 Sq.mt.
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	Received MHADA NOC dated 16.05.2008 and revised NOC dated 22.08.2012
15.Total Plot Area (sq. m.)	5,301.04 Sq. mt.
16.Deductions	590.29 Sq. mt.
17.Net Plot area	4,710.75 Sq. mt.
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**a) FSI area (sq. m.):** 30,658.14 Sq. mt.
	b) Non FSI area (sq. m.): 48,493.82 Sq. mt.
	c) Total BUA area (sq. m.): 79151.96
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 30,620.60
	Approved Non FSI area (sq. m.): 55,944.49
	Date of Approval: 30-10-2018
19.Total ground coverage (m2)	3,577.82
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	76%
21.Estimated cost of the project	3700000000

22.Number of buildings & its configuration

Serial number	Building Name & number	Number of floors	Height of the building (Mtrs)
1	1 Building	Basement + Ground to 2nd Floor (Shops/Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.	243.11

23.Number of tenants and shops	Flats: 340 Nos. Office and Shops: 260 Nos.
24.Number of expected residents / users	~ 2527 nos.
25.Tenant density per hectare	642 / hectors
26.Height of the building(s)	
27.Right of way (Width of the road from the nearest fire station to the proposed building(s)	It is connected by 29.26 mt. wide Belasis Road and 36.58 mt. wide Dr. Dadasaheb Bhadkamkar Marg.
28.Turning radius for easy access of fire tender movement from all around the building excluding the width for the plantation	9.00 mt.
29.Existing structure (s) if any	Part Construction completed on site as per EC received
30.Details of the demolition with disposal (If applicable)	There were four existing building on the plot which have been completely demolished. Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.

31.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

32.Total Water Requirement

Dry season:	**Source of water**	M.C.G.M/ Tanker water for Swimming pool make up
	Fresh water (CMD):	170 KLD
	Recycled water - Flushing (CMD):	98 KLD
	Recycled water - Gardening (CMD):	13 KLD
	Swimming pool make up (Cum):	3 KLD
	Total Water Requirement (CMD) :	284 KLD
	Fire fighting - Underground water tank(CMD):	3 tanks of total capacity 400 KL
	Fire fighting - Overhead water tank(CMD):	297 KL
	Excess treated water	100 KLD
Wet season:	**Source of water**	M.C.G.M/ Tanker water for Swimming pool make up/ Partly by RWH
	Fresh water (CMD):	From MCGM: 162 KLD From RWH: 8 KLD
	Recycled water - Flushing (CMD):	98 KLD
	Recycled water - Gardening (CMD):	NA
	Swimming pool make up (Cum):	3 KLD
	Total Water Requirement (CMD) :	271 KLD
	Fire fighting - Underground water tank(CMD):	3 tanks of total capacity 400 KL
	Fire fighting - Overhead water tank(CMD):	297 KL
	Excess treated water	113 KLD
Details of Swimming pool (If any)	2 nos. of swimming pool having volume 165 Cu.mt. & 71 Cu.mt. Volume of lotus pond – 13 Cu.m	

33.Details of Total water consumed									
Particulars	**Consumption (CMD)**			**Loss (CMD)**			**Effluent (CMD)**		
Water Requirement	**Existing**	**Proposed**	**Total**	**Existing**	**Proposed**	**Total**	**Existing**	**Proposed**	**Total**
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

34.Rain Water Harvesting (RWH)	**Level of the Ground water table:**	0.5 mt. to 0.75 mt. below ground level
	Size and no of RWH tank(s) and Quantity:	1 RWH tank of capacity 75 KL
	Location of the RWH tank(s):	Below ground
	Quantity of recharge pits:	--
	Size of recharge pits :	--
	Budgetary allocation (Capital cost) :	Rs. 10.50 Lacs
	Budgetary allocation (O & M cost) :	Rs. 0.44 Lacs/annum
	Details of UGT tanks if any :	Location of UG tanks: Basement
35.Storm water drainage	**Natural water drainage pattern:**	The storm water collected through the storm water drains of adequate capacity will be discharged into the external SWD.
	Quantity of storm water:	0.12 m3/sec
	Size of SWD:	SWD pipe size 300 mm
Sewage and Waste water	**Sewage generation in KLD:**	234 KLD
	STP technology:	Moving Bed Bio Reactor (MBBR)
	Capacity of STP (CMD):	1 STP of capacity 255 KL
	Location & area of the STP:	Basement
	Budgetary allocation (Capital cost):	Rs.48.54 Lacs
	Budgetary allocation (O & M cost):	Rs. 8.66 Lacs/annum

36.Solid waste Management

Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.
	Disposal of the construction waste debris:	Construction waste material shall be partly recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M.
Waste generation in the operation Phase:	**Dry waste:**	376 kg/day
	Wet waste:	598 kg/day
	Hazardous waste:	Not Applicable
	Biomedical waste (If applicable):	Not Applicable
	STP Sludge (Dry sludge):	35 kg/day
	Others if any:	Not Applicable
Mode of Disposal of waste:	**Dry waste:**	To Authorized recyclers
	Wet waste:	Treatment in OWC
	Hazardous waste:	Not Applicable
	Biomedical waste (If applicable):	Not Applicable
	STP Sludge (Dry sludge):	Use as manure
	Others if any:	Not Applicable
Area requirement:	**Location(s):**	7th Floor
	Area for the storage of waste & other material:	81.00 Sq. mt.
	Area for machinery:	12.00 Sq.mt.
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	Rs. 9.00 Lacs
	O & M cost:	Rs. 2.37 Lacs/annum

37.Effluent Charecterestics

Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	--	Mg/l	Not applicable	Not applicable	Not applicable

Amount of effluent generation (CMD):	Not applicable
Capacity of the ETP:	Not applicable
Amount of treated effluent recycled :	Not applicable
Amount of water send to the CETP:	Not applicable
Membership of CETP (if require):	Not applicable
Note on ETP technology to be used	Not applicable
Disposal of the ETP sludge	Not applicable

38.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

39.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	DG Set	--	--	--	--	--

40.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	HSD	--	--	--
41.Source of Fuel		--		
42.Mode of Transportation of fuel to site		--		

43.Green Belt Development	**Total RG area :**	RG area on ground: 442.05 Sq.mt.
	No of trees to be cut :	Nil
	Number of trees to be planted :	Trees already planted: 10 nos. Trees to be planted: 196 nos.
	List of proposed native trees :	As shown below
	Timeline for completion of plantation :	Before full occupation of project

44.Number and list of trees species to be planted in the ground

Serial Number	Name of the plant	Common Name	Quantity	Characteristics & ecological importance
1	Saraca asoca	Sita Ashok	12	Tree with medicinal properties.
2	Plumeria rubra	Red Frangipani	16	Deciduous branches with flowers at branch ends, appearing at the ends of branches over the summer. Often profuse and very prominent, they are strongly fragrant, and have five petals.
3	Bauhinia purpurea	Kanchan	12	Tree with delightfully fragrant, five-inch-wide blossoms, the narrow purple, pink, and lavender petals arranged to closely resemble an orchid.

4	Bauhinia blackeana	Orchid Tree	12	The large, orchid-like flowers are rich magenta purple with paler veins, and the uppermost petal is darker towards the base. Flowers appear from February to November, with the peak flowering time in September to October. This bauhinia is sterile and rarely produces the large flat seed pods seen on other species.
5	Cassia fistula	Bahava	06	Is widely grown as an ornamental plant. Growth for this tree is best in full sun on well-drained soil; it is relatively drought tolerant and slightly salt tolerant. It attracts bees and butterflies for pollination.
6	Caryota urens	Fishtail Palm	16	Solitary-trunked tall evergreen tree. Pulp of the fully grown up plant is cut, sun dried, powdered and is edible. Ornamental plant.
7	Chrysalidocarpus lutescens	Pencil areca Palms	30	Evergreen foliage of fine texture and yellow-green in color. Fruit is yellow to purple, 2 cm, oval in shape. This is one of the most useful Palms of the tropics, serves as a super, bamboo-like screening plant and is relatively pest-free.
8	Mangifera Indica	Mango	06	It is large evergreen and shady tree with medicinal properties.
9	Phoenix palm	Date Palm	30	Date fruits have many medicinal properties. Date palms are medium-sized, growing singly or forming a clump with several stems from a single root system.
10	Tabernaemontana coronaria	Tagar	16	It has white fragrant flowers. Planted as ornamental plants.
11	Areca catechu	Betel tree	05	Medium sized palm tree
12	Cocos nucifera	Coconut	30	Fruit is used in different ways for cooking. Its Fiber is used for coir production. Broom is made from its leaves.
13	Plumeria obtusa	Frangapani	15	It has medicinal properties. Planted as an ornamental plant
45.Total quantity of plants on ground				

46.Number and list of shrubs and bushes species to be planted in the podium RG:

Serial Number	Name	C/C Distance	Area m2
1	--	--	--

47.Energy

Power requirement:	**Source of power supply :**	Tata Power Company Limited
	During Construction Phase: (Demand Load)	300 KW
	DG set as Power back-up during construction phase	As per requirement
	During Operation phase (Connected load):	7910 KW
	During Operation phase (Demand load):	7517 KW
	Transformer:	--
	DG set as Power back-up during operation phase:	2 DG Sets of 1000 kVA each.
	Fuel used:	Diesel
	Details of high tension line passing through the plot if any:	--

48.Energy saving by non-conventional method:

Provision of LED tubes and lamps
Provision of Advanced BEE 5 Star Rated AC Equipments
Provision of Pumps & Motors with Premium Efficiency
Provision of Energy Efficient Lifts with VVVF Lift Drive
Provision of Solar System

49.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	--	--

50.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
Sewage	NA	--
Solid waste	NA	Organic Waste Convertor

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	--
	O & M cost:	--

51.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	Air Environment	Water for Dust Suppression	0.72

2	Air Environment	Air and Noise Monitoring: By outside laboratory	0.22
3	Water Environment	Drinking water analysis	0.03
4	Land Environment	Site Sanitation	5.00
5	Health & Hygiene	Disinfection at site-Pest Control	1.20
6	Health & Hygiene	Health Check-up of workers	2.70
7	Cost towards Disaster Management	--	421.11

b) Operation Phase (with Break-up):				
Serial Number	**Component**	**Description**	**Capital cost Rs. In Lacs**	**Operational and Maintenance cost (Rs. in Lacs/yr)**
1	AIR & NOISE ENVIRONMENT - Ambient Air quality & Noise Monitoring:	On site sensors	No set up cost is involved as already considered Construction Phase	0.50
2	AIR & NOISE ENVIRONMENT - Ambient Air quality & Noise Monitoring:	By outside MoEF & CC Approved Laboratory	No set up cost is involved	0.22
3	AIR & NOISE ENVIRONMENT - Cost for DG Stack Exhaust Monitoring	1 stack	No set up cost is involved	0.05
4	AIR & NOISE ENVIRONMENT - Cost for Plantation	Green area	19.90	1.20
5	WATER ENVIRONMENT - Waste water treatment	Cost for sewage Treatment Plant	30.54	7.63
6	WATER ENVIRONMENT - Cost for water & waste water Monitoring	On site sensors	18.00	1.00
7	WATER ENVIRONMENT - Cost for water & waste water Monitoring	By outside MoEF & CC Approved Laboratory	No set up cost is involved	0.03
8	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for RWH tank	7.50	0.38
9	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for treatment unit for Rain Water collected in tanks	3.00	0.01
10	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for Rainwater Monitoring	No set up cost is involved	0.05
11	LAND ENVIRONMENT - Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	9.00	2.29
12	LAND ENVIRONMENT - Solid Waste Management	Environmental Monitoring	No set up cost is involved	0.08
13	Cost towards disaster management	--	1645.13	106.74

51.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

52.Any Other Information

No Information Available

53.Traffic Management

	Nos. of the junction to the main road & design of confluence:	2 entry and exits
Parking details:	**Number and area of basement:**	1 Basement
	Number and area of podia:	Details as mentioned in Project proposal at Sr. no. 24
	Total Parking area:	18,424.35 Sq.mt.
	Area per car:	--
	Area per car:	--
	Number of 2-Wheelers as approved by competent authority:	Parking spaces provision: 43 nos.
	Number of 4-Wheelers as approved by competent authority:	Parking spaces provision : 567 nos.
	Public Transport:	Not Applicable
	Width of all Internal roads (m):	Minimum 6.00 mt.

	CRZ/ RRZ clearance obtain, if any:	Not Applicable
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	Not Applicable
	Category as per schedule of EIA Notification sheet	8(a) B2
	Court cases pending if any	Not Applicable
	Other Relevant Informations	--
	Have you previously submitted Application online on MOEF Website.	Yes
	Date of online submission	10-12-2018

SEAC DISCUSSION ON ENVIRONMENTAL ASPECTS

Summorised in brief information of Project as below.

Brief information of the project by SEAC

PP Mr. Nathani was present during the meeting along with environmental consultant M/s. Ultra Tech.

PP informed that, the project under consideration is redevelopment project. *PP further stated that, t*he total plot area of the project is 5,301.04 Sq.mt. having total construction area 79151.96 Sq.mt. (FSI -30,658.14Sq.mt. + NON FSI- 48,493.82 Sq.mt.) and the building configuration is as follow-

Building Name & number	Number of floors	Height (Mtrs)
1 Building	Basement + Ground to 2nd Floor(Shops/Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.	243.11

It is noted that, Project has received Environmental clearance vide letter dated 2nd June, 2011 for total built up area 78,727.08 sq.mt. PP further stated that now they have proposed to increase total built up area by 424.88. PP stated that there is no change in the total number of floor but Commercial Units & Flats number change from Commercial Units 108 nos.; Flats: 342 nos to Commercial Units: 260 nos.; Flats: 340 nos

The project proposal was deliberated on the basis of presentation made and documents submitted by the proponent. All issues related to environment, including air, water, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under 8a (B2) category of EIA Notification, 2006. Consolidated statements, synopsis of compliances, form 1, 1A, presentation & plans submitted are taken on the

DECISION OF SEAC

After detailed deliberations, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of below points.

Specific Conditions by SEAC:

1) PP to upload the HRC NoC.
2) PP to upload the CFO NoC.
3) PP to submit the copy of final approved layout plan.
4) PP to upload the result of working STP & continue to maintain the BoD less than 5 mg/lit.
5) The PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary if the project site falls within 10 Km radius from the said sanctuary boundary. The planning authority to ensure fulfilment of this condition before granting CC.
6) PP to submit CER prescribed by MoEF&CC circular dated 1.5.2018 relevant to the area and people around the project. The specific activities to be undertaken under CER to be carried out in consultation with Municipal Corporation or collector or Environment Department.

SEIAA DECISION

Proposal was recommended in 123rd meeting of SEAC-2 for the total plot area of 5,301.04 m2 and total construction area of 79151.96 m2 (FSI -30,658.14 m2 + NON FSI- 48,493.82 m2)

SEIAA decided to grant EC for –FSI: 30658.77 m2, Non-FSI: 48493.82 m2 and Total BUA:79151.96 m2 (Plan Approval no-EB/5420/D/A/337/3/Amed)

SEIAA decided to grant EC subject to following conditions-

1. PP to ensure that CER plan gets approved from Municipal Commissioner/District Collector.

2.PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.

Specific Conditions by SEIAA:

1) PP to upload the HRC NoC.
2) PP to upload the CFO NoC.
3) PP to submit the copy of final approved layout plan.
4) PP to upload the result of working STP & continue to maintain the BoD less than 5 mg/lit.
5) The PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary if the project site falls within 10 Km radius from the said sanctuary boundary. The planning authority to ensure fulfilment of this condition before granting CC.
6) PP to submit CER prescribed by MoEF&CC circular dated 1.5.2018 relevant to the area and people around the project. The specific activities to be undertaken under CER to be carried out in consultation with Municipal Corporation or collector or Environment Department.

FINAL RECOMMENDATION

SEAC-II have decided to recommend the proposal to SEIAA for Prior Environmental clearance subject to above conditions

NATHANI
GROUP OF COMPANIES

NATHANI PAREKH CONSTRUCTIONS PVT. LTD.
Nathani Heights, 101, 1st Floor, Junction of Dr. D.B. Marg & Bellasis Road, Opp. Mumbai Central Rly. Stn.,
Mumbai - 400008. INDIA. Tel.: +91-22-23013333 E-mail: infonc@nathanigroup.in * Web: www.nathanigroup.in

Date: 28th November 2019

To,
The Member Secretary.
State Environmental Impact Assessment Authority (SEIAA).
Mantralaya, Mumbai – 400032.

Subject : Request for grant of edit option to upload revised project details on MPCB portal for Redevelopment project at Tardeo Division, Mumbai Central, Mumbai.

Reference : Submission of Consolidated Statement, Form 1 & 1A - on ecMPCB portal dt. 10.12.2018 (Unique No. 0000001933).

Respected Sir,

With reference to above mentioned subject, as per procedure we have uploaded the Consolidated Statement (CS), Form 1 & 1A on ec-MPCB portal on 10.12.2018 and received the Unique No. 0000001933.

However, there are changes in the details submitted in the CS. Comparative of the project details uploaded on ec-MPCB Portal and revised details are as follows:

Item No.	Attributes	Details uploaded on the MPCB portal	Revised details
Item no. 18 (a)	FSI area	30,620.60 Sq.mt.	30,658.14 Sq.mt.
	Non FSI area	55,944.49 Sq.mt.	48,493.82 Sq.mt.
	Total BUA area	86,565.09 Sq.mt.	79,151.96 Sq.mt.
Item no. 22	Number of buildings & its configuration	**Number of floors:** Basement + Ground to 1st Floor (Shops) + 2nd Floor (Shops/ Parking) + 3rd to 7th Floor Parking + 8th (Stilt) + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st to 72nd Residential Floors.	**Number of floors:** Basement + Ground to 2nd Floor (Shops + Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st to 72nd Residential Floors.
Item no. 23	Number of tenants and shops	Flats: 340 Nos. Shops: 260 Nos.	Flats: 340 Nos. Shops: 260 Nos. Offices
Item no. 54	Traffic Management	Number of 4 Wheelers: 565 nos.	Number of 4 Wheelers: 567 nos.

Now, we have revised consolidated statement, Form 1 & 1A accordingly and submitting herewith the same for your ready reference.

In view of above, we request your good office to grant us edit option to update our consolidated statement on *ec-MPCB* portal.

Please do the needful and oblige.

For NATHANI PAREKH CONSTRUCTIONS PVT. LTD.

DIRECTOR

Encl.: As above

Mailbox of eia@ultratech.in

Subject: Request for Edit Option for "Redevelopment project" by M/s. Nathani Parekh Constructions Pvt. Ltd.(Unique No.0000001933)

From: eia eia<eia@ultratech.in> on Fri, 29 Nov 2019 17:09:51

To: "archanashirke "<archana.shirke@nic.in>

Cc: "rekha "<rekha@ultratech.in>

1 attachment(s) - Letter_for_EC_edit.pdf (75.08KB)

Respected Madam,

In reference to above mentioned subject, we are requesting you to kindly grant us the edit option for Consolidated Statement (CS) for the following project:-

Project name: "Redevelopment project at Tardeo Division, Mumbai Central, Mumbai" by M/s. Nathani Parekh Constructions Pvt. Ltd.

Unique No.: 0000001933

Please note till date this project is not presented in front of Committee and there are changes in the details submitted in the CS for the project.

Requesting you to kindly grant Edit Option

Thanks & Regards,
Devanshi Nirulkar
Environmental Engineer

ULTRA TECH, Environmental Consultancy & Laboratory,
(Lab. Gazetted by MoEFCC & Accredited by NABL - QCI)
QCI - NABET Accredited EIA Consulting Organization
ISO 9001:2015 Certified Organization
Address: Unit No. 224, 225, 206 Jai Commercial Complex, Eastern Express Highway,
Opp. Cadbury Factory, Khopat,Thane(w).400601
Phone NO:022/ 25342776/ 25380198 Fax No: 022 25429650
email: eia@ultratech.in
Visit @ www.ultratech.in

FORM –1 & 1A
(Revision 1)

“NATHANI HEIGHTS”
(Amendment in EC)

At

C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, ‘D’ Ward,
Tardeo Division, Mumbai Central, Mumbai - 400008,
State: Maharashtra.

By

M/S. Nathani Parekh Constructions Pvt. Ltd.
101, 1st Floor, Nathani Heights Building, Dr. D.B. Marg and
Bellasis Road, Mumbai Central Mumbai - 400 008.

FORM –1
(Revision 1)

“NATHANI HEIGHTS”
(Amendment in EC)

At

C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, ‘D’ Ward,
Tardeo Division, Mumbai Central, Mumbai - 400008,
State : Maharashtra.

By

M/S. Nathani Parekh Constructions Pvt. Ltd.
101, 1st Floor, Nathani Heights Building, Dr. D.B. Marg and
Bellasis Road, Mumbai Central Mumbai - 400 008.

APPENDIX - I
(See paragraph - 6)
FORM 1

(I) Basic Information

No.	Item	Details
1.	Name of the project/s	**"NATHANI HEIGHTS"** at C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai - 400008, State : Maharashtra.
2.	S. No. in the schedule	8 (a)
3.	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	**Total plot area:** 5,301.04 Sq.mt. **Deductions:** 590.29 Sq.mt **Net Plot Area:** 4,710.75 Sq.mt **Built-up area as per FSI:** 30,658.14 Sq.mt. **Total Construction Built-up area:** 79,151.96 Sq.mt. **Building details** **One Building**: Basement + Ground To 2nd Floor (Shops/Office) + 3rd To 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.
4.	New/ Expansion/ Modernization	Amendment in EC
5.	Existing Capacity/ Area etc.	• Received Environmental Clearance dated 02.06.2011, Refer attached **Enclosure.** • Total constructed work on site till date (FSI + Non FSI): 77,090.00 Sq.mt.
6.	Category of project i.e.' A' or 'B'	B2
7.	Does it attract the general condition? If yes, please specify.	Not Applicable
8.	Does it attract the specific condition? If yes, please specify.	Not Applicable
9.	Location	Dr. D.B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central
	Plot/ Survey/ Khasra No.	C.S. No. 1/332
	Village	Mumbai
	Tehsil	Mumbai
	District	Mumbai
	State	Maharashtra
10.	Nearest railway station Nearest airport	Mumbai Central Railway Station : Approx 0.05 Km (Road distance) Chhatrapati Shivaji Maharaj International Airport: Within 15 Km (Road distance)
11.	Nearest Town, city, District headquarters Along with distance in kms.	Mumbai Metropolitan Region (MMR)
12.	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal address with telephone nos. to be given)	Municipal Corporation of Greater Mumbai (M.C.G.M.)
13.	Name of the applicant	M/S. Nathani Parekh Constructions Pvt. Ltd.
14.	Registered Address	101, 1st Floor, Nathani Heights, Dr. D.B. Marg & Bellasis Road Junction, Mumbai Central, Mumbai – 400008
15.	Address for correspondence	101, 1st Floor, Nathani Heights, Dr. D.B. Marg & Bellasis

No.	Item	Details
		Road Junction, Mumbai Central, Mumbai – 400008
	Name	Mr. A. Hamid A. M. Nathani.
	Designation (Owner/Partner/CEO)	Managing Director
	Address	101, 1st Floor, Nathani Heights, Dr. D.B. Marg & Bellasis Road Junction, Mumbai Central, Mumbai.
	Pin Code	400008
	E-mail	architect@nathanigroup.in
	Telephone No.	(022) 2345 3333
	Fax No.	--
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo-sheet.	Not Applicable
17.	Interlinked Projects	No
18.	Whether separate application of interlinked project has been submitted?	Not applicable
19.	If yes, date of submission	Not applicable
20.	If no, reason	Not applicable
21.	Whether the proposal involves approval/ clearance under: if yes, details of the same and their status to be given. (a) The Forest (Conservation) Act, 1980? (b) The Wildlife (Protection) Act, 1972 (c) The C.R.Z Notification, 1991?	 Not Applicable Not Applicable Not Applicable
22.	Whether there is any Government Order/ Policy relevant/ relating to the site?	Received MHADA NOC dated 16.05.2008 and 22.08.2012. **Please refer Enclosure.**
23.	Forest land involved (hectares)	Not applicable
24.	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Order /directions of the Court, if any and its relevance with the proposed project.	No

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Project site is in residential zone as per DP remarks DP Remarks are attached as **Enclosure.**
1.2	Clearance of existing land, vegetation and building?	No	There were existing structures on the site which have been demolished.

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.3	Creation of new land uses?	No	--
1.4	Pre-construction investigation e.g. bore houses, soil testing?	Yes	Geotechnical Investigation has been carried out and extract of the report is attached as **Enclosure.**
1.5	Construction works?	Yes	Residential Development with shops/Office
1.6	Demolition works?	No	Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.
1.7	Temporary sites used for construction works or housing of construction workers?	No	--
1.8	Above ground building, structures or earthworks including linear structures, cut and fill or excavations	Yes	Excavation earth material has been partly reused for backfilling and remaining has been disposed to the authorized land fill site. Construction waste material shall be partly recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M.
1.9	Underground works including mining or Tunneling?	Yes	Construction of one basement only.
1.10	Reclamation works?	No	--
1.11	Dredging?	No	--
1.12	Offshore structures?	No	--
1.13	Production and manufacturing processes?	No	--
1.14	Facilities for storage of goods or materials?	Yes	Temporary storage facilities on site to store construction material.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	• STP for treatment of sewage • Segregation of solid waste into non-biodegradable and biodegradable garbage • Treatment of biodegradable waste in Organic Waste Converter • Non-biodegradable waste: To recyclers • Dried sludge from STP: as manure
1.16	Facilities for long term housing of operational workers?	No	--
1.17	New road, rail, or sea traffic during construction or operation?	No	--
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	--
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic Movements?	No	Received remarks from Mumbai Metro Rail Corporation Limited (MMRC) for corridor along Mumbai Metro Line – 3 (Colaba – Bandrs - SEEPZ). Copy of the same is attached as **Enclosure.**
1.20	New or diverted transmission lines or pipelines?	No	--
1.21	Impoundment, damming, culverting, realignment or other change to the hydrology of watercourses or aquifers?	No	--
1.22	Stream crossings?	No	--

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.23	Abstraction or transfers of water from ground or surface waters?	No	--
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	By considering the runoff prior to development and runoff after development there is some increment in runoff of storm water. Incremental Runoff = 0.03 m^3/sec
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transport of construction materials.
1.26	Long-term dismantling or decommissioning or restoration works?	No	--
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	--
1.28	Influx of people to an area in either temporarily or permanently?	Yes	There will be influx of about ~ 2527 persons (Including floating population)
1.29	Introduction of alien species?	No	--
1.30	Loss of native species or genetic diversity?	No	--
1.31	Any other actions?	No	--

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

Sr. No	Information/checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	The land is in developed infrastructure area.
2.2	Water (expected source & competing users) unit: KLD	Yes	**During Operational Phase –** For Workers : From M.C.G.M.: 12 KLD For Construction: From Water tankers: 10-20 KLD (Depending upon the activity) **During Operational Phase –** Fresh water from M.C.G.M.: 170 KLD (Domestic) Tanker water of potable quantity: 3 KLD (Swimming pool makeup)
2.3	Minerals (MT)	No	--
2.4	Construction material – stone, aggregates, and / soil (expected source – MT)	Yes	**Quantity :** As per requirement **Sources:** The material required for construction activities shall be procured from company's authorized / approved vendors/ open market.
2.5	Forests and timber (source – MT)	Yes	Timber required for doors sourced from local suppliers.

<table>
<tr><th>Sr. No</th><th>Information/checklist confirmation</th><th>Yes /No</th><th>Details thereof (with approximate quantities /rates, wherever possible) with source of information data</th></tr>
<tr><td>2.6</td><td>Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)</td><td>Yes</td><td>During Constructional Phase-
Source : Tata Power Company Limited
Load : 300 KW
D.G. Set: As per requirement

During Operational Phase -
Source: Tata Power Company Limited<table><tr><td>Connected load</td><td>7910 KW</td></tr><tr><td>Maximum demand</td><td>7517 KW</td></tr><tr><td>D.G sets (For emergency back up during power failure)</td><td>2 DG Sets of 1000 kVA each</td></tr></table></td></tr>
<tr><td>2.7</td><td>Any other natural resources (use appropriate standard units)</td><td>No</td><td>--</td></tr>
</table>

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

Sr. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	--
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	--
3.3	Affect the welfare of people e.g. by changing living conditions?	No	--
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	--
3.5	Any other causes	No	--

4.Production of solid wastes during construction or operation or decommissioning (MT/month):

Sr. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	---
4.2	Municipal waste (domestic and or commercial wastes)	Yes	**During Construction Phase:** Total quantity of solid waste : 15 Kg/day (Biodegradable and Non-biodegradable) **During Operation Phase:** Total quantity of solid waste: 974 Kg/day (Biodegradable and Non-biodegradable)
4.3	Hazardous wastes (as per Hazardous waste Management Rules)	Yes	Waste oil generated from D.G. shall be stored at separate location duly marked and will be sold to the authorized recyclers.
4.4	Other industrial process wastes	No	--

Sr. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
4.5	Surplus product	No	--
4.6	Sewage sludge or other sludge from effluent treatment.	Yes	Dried sludge from STP will be used as manure for plants within the premises.
4.7	Construction or demolition wastes.	Yes	Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M. Construction waste material shall be partly reused/ recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M.
4.8	Redundant machinery or equipment.	No	--
4.9	Contaminated soils or other materials.	No	--
4.10	Agriculture wastes.	No	--
4.11	Other solid wastes.	No	--

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/ hr) :

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	D.G. Sets with acoustic enclosures as per CPCB guidelines will be used during power failure.
5.2	Emissions from production processes	No	--
5.3	Emissions from materials handling including storage or transport	Yes	Fugitive dust emission due to handling and loading-unloading activities is envisaged during construction. Frequent water sprinkling to minimise the fugitive emissions.
5.4	Emissions from construction activities including plant and equipment	Yes / Marginal	The project may cause rise in dust levels during construction phase. Precautions are taken to reduce dust generation by water sprinkling at regular intervals.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust generation controlled as described above. For odour control: Provision of Proper ventilation around STP and solid waste management facilities
5.6	Emissions from incineration of waste	No	--
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	--
5.8	Emissions from any other sources	No	--

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant,	Yes but	Measures to control of noise : • Use of properly maintained equipment with

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	crushers.	negligible	mufflers • No noise generating construction activities during night time • Provision of ear muffs/ear plugs for workers
6.2	From industrial or similar processes.	No	--
6.3	From construction or demolition.	Yes	Noise levels may increase due to operation of machinery as well as transportation vehicles. This may cause nuisance to the nearby area. **Measures to control noise pollution**: • High noise generating construction activities to be carried out only during day time • Installation, use and maintenance of mufflers on equipment • Workers working near high noise construction machinery to be supplied with ear muffs/ear plugs • Provision of barricades along the periphery of the site • Plantation of trees • Acoustic enclosure for DG sets
6.4	From blasting or piling.	No	--
6.5	From construction or operational traffic.	Yes	**During Construction phase:** Transport of materials for construction work. Precautions to be taken to reduce the impact of the vehicular movement such as vehicular trips will not be at peak traffic hours. **Operation Phase :** The vehicular parking will be restricted only in the adequate parking area provided, which would help in reducing noise pollution due to traffic congestion Tree plantation will also help to reduce the noise level and also will enhance air quality.
6.6	From lighting or cooling systems.	No	--
6.7	From any other sources.	No	--

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea :

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials.	No	--

Sr. No.	Information/ Checklist confirmation	Yes / No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge).	No	**During Construction Phase:** Disposal of sewage to municipal sewer line. **During Operation Phase:** The treated sewage will be reused for flushing and gardening within the premises. Excess treated sewage will be disposed to the sewer line.
7.3	By deposition of pollutants emitted to air into the land or into water.	No	Dust will be generated during construction phase from earthworks and movement of vehicles. Appropriate fugitive dust control measures, including watering, water sprinkling of exposed areas and dust covers for trucks, are provided to minimize any impacts. Stack height of DG set shall be as per CPCB guidelines.
7.4	From any other sources.	No	--
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	--

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment :

Sr. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	--
8.2	From any other causes.	No	--
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, and cloudburst)?	--	Landslides are not expected in the area. Management plan for flood & earthquake is as follows **Floods:** • Minimizing the incremental runoff from the site with the help of rain water harvesting tank • Proper management of channelization of storm water from site by using proper internal SWD system and discharge points of adequate capacity • Use of screens and silt traps to SWD • Proper maintenance of storm water drainage to avoid choking of drains and flooding on site • Existing external drain of adequate capacity **Earthquake** : The structure of the building is designed as per IS code for earthquake resistant design of structure. Disaster Management Plan is attached as **Enclosure.**

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality:

Sr. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: •Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other	 No Yes	 Supporting Infrastructure is already in existence. Residential development with shops and office
9.2	Lead to after-use of the site, which could have an impact on the environment	No	--
9.3	Set a precedent for later developments	Yes	Will create job opportunities in construction and operation phase with support staff like security, maintenance, household workers, shop keepers etc. There would be addition in commercial development of the area, which will improve the economic growth at local and regional level.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	Yes	Impacts on water availability, sewage disposal, storm water drainage, availability of electricity, traffic congestion etc.

(III) Environmental Sensitivity

Sr. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) from Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Sion fort	Approx 10.00 Km
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Mithi River Mahim Creek Mahul Sewri Creek Arabian Sea Banganaga Talao	Approx 11.00 Km Approx 5.00 Km Approx 6.00 Km Approx 2.00 Km Approx 4.00 Km
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Maharashtra Nature Park Jijamata Udyan Malabar Hill Elephanta Caves	Approx 10.00 Km Approx 2.00 Km Approx 2.00 Km Approx 11.00 Km
4	Inland, coastal, marine or underground waters	Mithi River Mahim Creek Mahul Sewri Creek	Approx 11.00 Km Approx 5.40 Km Approx 6.00 Km

Sr. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) from Proposed project location boundary
		Arabian Sea Banganaga Talao Sion Talao	Approx 2.00 Km Approx 4.00 Km Approx 10.00 Km
5	State, National boundaries	None	--
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--	--
7	Defence installations	No	--
8	Densely populated or built-up area	Mumbai Metropolitan Region	--
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	Mumbai Metropolitan Region	--
10	Areas containing important, high quality or scarce resources *(Ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	No	--
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	No	--
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*Earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	No	--

(IV) Proposed Terms of Reference for EIA studies: Not Applicable

NATHANI
GROUP OF COMPANIES

NATHANI PAREKH CONSTRUCTIONS PVT. LTD.
Nathani Heights, 101, 1st Floor, Junction of Dr. D.B. Marg & Bellasis Road, Opp. Mumbai Central Rly. Stn.,
Mumbai - 400008. INDIA. •Tel.: +91-22-23013333 •E-mail: infonc@nathanigroup.in •Web: www.nathanigroup.in

"I hereby give undertaking that the data and information given in the application for Amendment in Environmental Clearance (EC) and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the proposal will be rejected and clearance given, if any to the project will be revoked at our risk and cost."

For NATHANI PAREKH CONSTRUCTIONS PVT. LTD.

ABDUL HAMID ABDUL MAJID NATHANI
(MANAGING DIRECTOR)
101, 1st Floor, Nathani Heights,
Dr. D.B. Marg & Bellasis Road,
Mumbai Central, Mumbai – 400008.

Date: 22/10/2018

Place: Mumbai

FORM –1A
(Revision 1)

“NATHANI HEIGHTS”
(Amendment in EC)

At

C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, ‘D’ Ward,
Tardeo Division, Mumbai Central, Mumbai - 400 008,
State : Maharashtra.

By

M/S. Nathani Parekh Constructions Pvt. Ltd.
101, 1st Floor, Nathani Heights Building, Dr. D.B. Marg and
Bellasis Road, Mumbai Central Mumbai - 400 008.

APPENDIX II

(See paragraph 6)

FORM-1 A (only for construction projects listed under item 8 of the Schedule)

CHECK LIST OF ENVIRONMENTAL IMPACTS

[Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme]

1	**LAND ENVIRONMENT [Attach panoramic view of the project site and the vicinity]**
1.1	**Will the existing land use get significantly altered from the project that is not consistent with the surroundings? (Proposed land use must conform to the approved Master Plan / Development Plan of the area. Change of land use if any and the statutory approval from the competent authority to be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) The site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.**

Site Location:

- Redevelopment project being developed by **M/s. Nathani Parekh Constructions Pvt. Ltd**.
- The project site is located at plot bearing C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, State: Maharashtra.
- The project site under reference is in the jurisdiction of Municipal Corporation of Greater Mumbai (M.C.G.M.)

Site History

- Received Environmental Clearance dated 02.06.2011. Refer attached **Enclosure.**
- Received Part Occupation certifícate dated 30.10.2018. Refer attached **Enclosure.**
- Received MHADA NOC dated 16.05.2008 and 22.08.2012. Refer attached **Enclosure.**

Land Use Pattern:

Project site is in residential zone as per DP remarks. DP Remarks are attached as **Enclosure.**

Site Levels:

The terrain of the project site is flat.

The following details are enclosed:

1.	Site Location Map	**Enclosure**
2.	Surrounding features of the proposed site (within 500 meters)	**Enclosure**
3.	Layout Plan	**Enclosure**

1.2	**List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.**

A. Connectivity and community facilities

The site is well connected by 29.26 mt. wide Belasis Road and 36.58 mt. wide Dr. Dadasaheb Bhadkamkar Marg. Basic amenities like shopping, schools hospitals etc. are nearby the project site. Nearest Railway Station is Mumbai Central Railway Station at Approx 0.05 Km

B. Building Details:

Table 1: Building details

Building Configuration	Details
One Building: Basement + Ground to 2nd Floor (Shops/Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.	Flats: 340 Nos. Shops: 260 Nos. Office

C. Area Statement:

Table 2: Area Statement

No.	Description		Area (Sq.mt.)
1.	Total plot area		5,301.04
2.	Deductions		590.29
3.	Net Plot Area		4,710.75
4.	Ground Coverage Area		3,577.82
5.	Recreational Ground Area	On ground	442.05
		Additional Green cover area on podium	3175.46
6.	**Built - up Area as per FSI**		**30,658.14**
7.	**Total Construction Built-Up area (FSI + Non FSI)**		**79,151.96**

D. Parking Statement:

Table 3: Parking Statement

Parking Requirement as per DCR of M.C.G.M. (Nos.)		Parking Spaces provision (Nos.)	
4 Wheeler	2 Wheeler	4 Wheeler	2 Wheeler
567	Nil	567	43

E. Occupancy load of the project:

Table 4: Occupancy Load

Component	Occupancy (Nos.)
Residential	1700
Shops	780
Office	47
Total	**2527**

***Reference**: National Building Code (NBC)*

F. Water requirement for the project:

1. **During Construction Phase:**

- From M.C.G.M..: 12 KLD (For workers)
- From Water Tankers: 10 – 20 KLD (Depending on construction activity)

2. **During Operational Phase:**

Table 5: **Water requirement (Domestic and flushing requirement)**

Building	Occupancy	Domestic & flushing Requirement (KLD)		
		Domestic	Flushing	Total
Residential	1700	153	77	230
Shops	780	16	20	36
Office	47	1	1	2
Total	**2527**	**170**	**98**	**268**

Considerations for water requirement as per National Building Code (NBC):

- **For Residential:** 90 LPCD for Domestic and 45 LPCD for Flushing
- **For Shops and Staff:** 20 LPCD for Domestic and 25 LPCD for Flushing
- **For Visitors:** 5 LPCD for Domestic and 10 LPCD for Flushing

The amount of water demand is calculated based on the occupancy of the building and the per capita consumption as given in MOEF Manual on norms and standards for EC of large construction projects i.e. Total quantity of water used (LPCD) = Occupancy x Quantity (LPCD).

Then Total quantity of water used for Domestic and Flushing in KLD is calculated.

- **Total water requirement for the project and source:**

Table 6: Total water requirement for the project and source :

No.	Description	Quantity of water required (KLD)	Source of water supply
1.	**Construction phase**		
a.	For Workers	12	Municipal Corporation of Greater Mumbai(M.C.G.M.)
b.	For Construction	10 - 20 (Depending upon the construction activity)	Water tankers
2.	**Operation phase**		
a.	Domestic	170	M.C.G.M.
b.	Flushing	98	Treated sewage from STP
c.	Gardening	13*	Treated sewage from STP
d.	Swimming pool make-up	3	Tanker water of portable quality

*Water requirement for gardening purpose is considered as 7 liters per square meter of gardening area on ground and 3 liters per square on Podium.

Total quantity of water used (LPCD) = Gardening Area (Sq.mt.) x Quantity (Lit /Sq.mt.)
Then Total quantity of water for gardening in KLD is calculated.

G. Sewage Generation

Table 7: Sewage Generation

No	Description	Quantity of Sewage generated (KLD)	Treatment/ Disposal
1.	Construction Phase	11	Disposal of sewage to municipal sewer line.
2.	Operation Phase	234	Treatment in STP and reuse of treated sewage (available for recycling – 211 KLD) for flushing – 98 KLD and gardening –13 KLD. Excess treated sewage will be disposed to sewer line. Dried sludge from STP will be used as manure

Reference: *Manual on norms and standards for EC of large construction projects MoEF.*

H. Solid Wastes Generation from the project:

1) During Construction Phase:

Table 8: Solid Wastes During Construction Phase

No. of workers	Solid Waste Generation Kg /day		
	Non-biodegradable	Biodegradable	Total
150	5	11	15

Considerations for solid waste generation:
For workers: 70 % wet garbage and 30 % dry garbage out of total 0.1 Kg/person /day
Disposal of segregated waste to Authorized recyclers

2) During Operation Phase:

Table 9: Solid Wastes During Operation Phase

Building	Occupancy	Solid Waste Generation (Kg/day)		
		Non-biodegradable	Biodegradable	Total
Residential	1700	230	536	766
Shops	780	137	59	196
Office	47	9	3	12
Total	**2527**	**376**	**598**	**974**

Considerations for solid waste generation:

- For Residential: 70 % wet garbage and 30 % dry garbage out of total 0.45 Kg/person /day
- For Shops and office: 30% wet garbage and 70 % dry garbage out of total 0.25 Kg/person/day

The total quantities of solid waste that will be generated in the project will be 974 kg/day. Out of which 376 kg/day will be non-biodegradable and 598 kg/day will be biodegradable.

- Segregation of non-biodegradable and biodegradable garbage on site.
- Bio degradable garbage: Treatment in OWC (Organic Waste Convertor)
- Non- biodegradable garbage: To authorized recyclers
- STP Sludge (Dry sludge): Use as manure

I. Power requirement:
During Construction Phase –
Source : Tata Power Company Limited
Load : 300 KW
D.G. Set: As per requirement

During Operational Phase -
Source: Tata Power Company Limited

Table 10: Power Requirement

Connected load	7910 KW
Maximum demand	7517 KW
D.G sets (For emergency back up during power failure)	2 DG Sets of 1000 kVA each

1.3	**What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing land use, disturbance to the local ecology).**
	There shall be some impacts on water, air environment, power requirement but it shall be mitigated by providing proper pollution control facilities. Sewage Treatment Plant (STP) shall be provided for treatment of recycling of sewage there by reducing fresh water demand. Power consumption shall be reduced by using energy saving practices. Impact on air quality shall be reduced by plantation of trees on green cover area. This project will generate employment during construction and operation phase and there by shall have positive impact on socio economy.
1.4	**Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc. may be given).**
	As per the Seismic Zoning Map of India the Mumbai region falls under Zone- III. The structure of the building is designed as per IS-codes for zone III.
1.5	**Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)**
	No.

1.6	**What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc)**
	Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.
1.7	**Give details regarding water supply, waste handling etc during the construction period.**
	Water Requirement during Construction Phase: From Water Tankers (For Construction): 10 - 20 KLD (Depending upon the construction activity). From M.C.G.M. (For Workers): 12 KLD Disposal of sewage (11 KLD) to sewer line.
1.8	**Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)**
	No.
1.9	**Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)**
	Solid Waste Generation during Construction Phase: Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M. Construction waste material shall be partly recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M. **From Construction labour** : Biodegradable garbage = 11 kg/day Non-biodegradable garbage = 5 kg/day Total = 15 kg/day Disposal of segregated waste to Authorized recyclers
2	**WATER ENVIRONMENT**
2.1	**Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement be met? State the sources & quantities and furnish a water balance statement.**

Water Requirement & Source:

<u>During Construction Phase –</u>

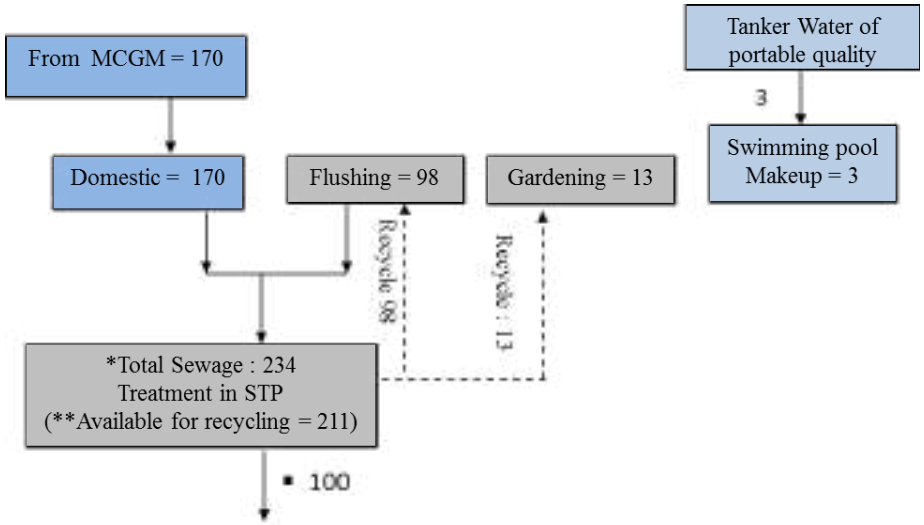
- For Workers : M.C.G.M.: 12 KLD
- For Construction : From Tankers : 10 – 20 KLD

<u>During Operational Phase</u>

Table 11: Total Water Requirement & Source- During Non-Monsoon Season

Use	Quantity in KLD	Source
Domestic	170	M.C.G.M.
Flushing	98	STP treated sewage
Gardening	13	STP treated sewage
Swimming pool make-up	3	Tanker water of portable quality

WATER BALANCE PER DAY BASIS – NON MONSOON SEASON



Please Note: All quantities are in KLD

*Considered 80 % sewage of total of domestic and 100 % of flushing requirement hence total sewage generation is 234 KLD

**Considered 10% less availability of sewage for recycling considering losses of sewage in evaporation and sludge formation hence sewage available for recycling is 211 KLD

- Excess treated sewage: 100 KLD to sewer line

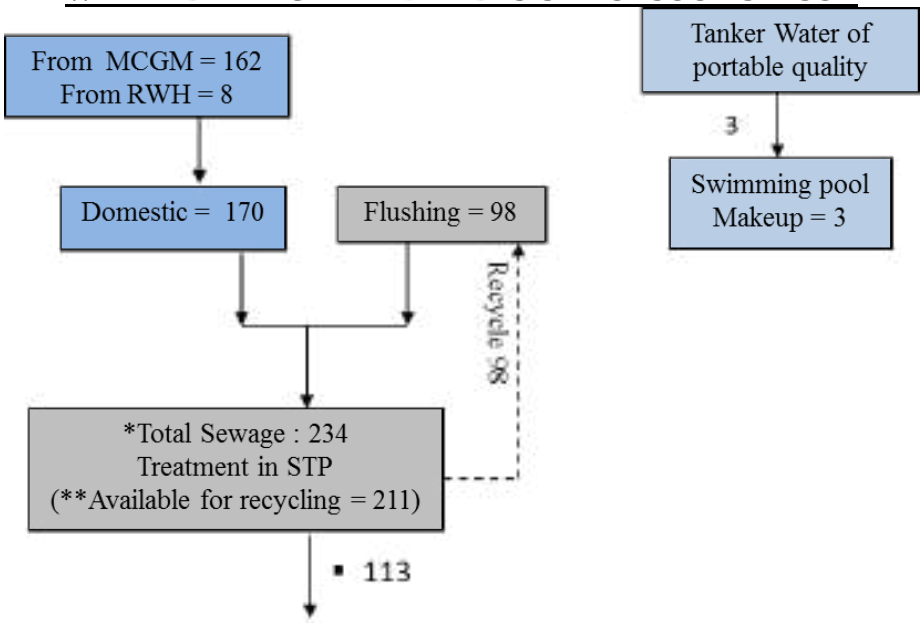
Total water requirement = 284 KLD

Recycling of treated Sewage (111 KLD) shall be done for gardening (13 KLD) and flushing (98 KLD)

Hence Net water requirement: 284 – 111 = 173 KLD [i.e. for Domestic purpose: 170 KLD (Source: M.C.G.M.) and Swimming pool make-up: 3 KLD]

Reduction in Net water demand = 39 %

WATER BALANCE PER DAY BASIS –MONSOON SEASON



Please Note: All quantities are in KLD

*Considered 80% sewage of total of domestic and 100 % of flushing requirement hence total sewage generation is 234 KLD

**Considered 10% less availability of sewage for recycling considering losses of sewage in evaporation and sludge formation hence sewage available for recycling is 211 KLD

- Excess treated sewage: 113 KLD to sewer line

Daily rain water availability is calculated as per Av. 20 mm rainfall/day considering only 50 rainy days (half of season)

Total water requirement: 271 KLD
Recycling of treated Sewage (98 KLD) shall be done for flushing
From RWH tank: 8 KLD (For Domestic purpose)
Hence Net water requirement: 271 – 98 – 8 = 165 KLD [i.e. for Domestic purpose: 162 KLD (Source: M.C.G.M.) and Swimming pool make-up: 3 KLD]
Reduction in Net water demand: 39 %

2.2	**What is the capacity (dependable flow or yield) of the proposed source of Water?**
	Domestic water supply from Municipal Corporation of Greater Mumbai (M.C.G.M.)
2.3	**What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)**
	Drinking water supply by M.C.G.M.
2.4	**How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)**
	All Secondary requirements like flushing (98 KLD) and gardening (13 KLD) would be fulfilled by treated sewage from STP. Disposal of excess treated sewage to sewer line.
2.5	**Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)**
	M.C.G.M. has common water supply.
2.6	**What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)**
	Sewage generation will be 234 KLD. Treated sewage will be reused for flushing (98 KLD) and gardening (13 KLD). Disposal of excess treated sewage to sewer line.

Table 12: Untreated & Treated Sewage Quality

No.	Details	Values		Units
		Untreated	Treated	
1.	pH	7.0 – 8.0	7.0 – 7.5	
2.	Total Suspended solids	250	<10	mg/lit
3.	Chemical Oxygen Demand	400	<30	mg/lit
4.	BOD, 3 day, 27 °C	250	<10	mg/lit
5.	Oil & Grease	50	<5	mg/lit

2.7	**Give details of the water requirements met from water harvesting? Furnish details of the facilities created.**
	Provision of Rain Water Harvesting tank of capacity 75 KL.
2.8	**What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?**

Runoff Details	m^3/sec
Run off before development from plot	0.09
Run off after development from plot	0.12
Incremental runoff	0.03

Precautions to avoid water logging on site:

- Minimizing the incremental runoff from the site with the help of rain water harvesting tank of capacity 75 KL
- Proper management of channelization of storm water from site by using proper SWD system and discharge points of adequate capacity
- Use of screens and silt traps to SWD
- Proper maintenance of storm water drainage to avoid choking of drains and flooding on site
- Existing external drain of adequate capacity.

2.9	**What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)**
	The ground water table at the project site is at a depth of 0.5 mt. to 0.75 mt. below ground surface hence ground water recharging is not proposed.
2.10	**What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts).**
	The runoff from the site during construction phase would be prevented as under: i. Use of water for dust suppression ii. Curing water shall be sprayed on concrete structures, free flow of water shall not be allowed for curing iii. Use of wet jute cloth/ gunny bags instead of water spray for curing activity.
2.11	**How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)**.
	Construction of Storm water drains in accordance to the governing authority regulations. **Peak runoff after development = 0.12 m^3/sec**
2.12	**Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)**
	• Disposal of sewage to sewer line • Disposal of segregated waste to Authorized recyclers • First aid and medical facilities • Proper housekeeping • Regular pest control • Site sanitation
2.13	**What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal).**

Design Basis of Treatment plant – MBBR (Moving Bed Bio Reactor)

Table 13: Untreated & Treated Sewage Quality

NO.	DETAILS	VALUES		UNITS
		UNTREATED	TREATED	
1.	pH	7.0 – 8.0	6.5 – 7.5	
2.	Total Suspended solids	250	<10	mg/lit
3.	Chemical Oxygen Demand	400	<30	mg/lit
4.	BOD, 3 day, 27 °C	250	<10	mg/lit
5.	Oil & Grease	50	<5	mg/lit

Design Basis of Treatment plant – MBBR (Moving Bed Bio Reactor)

- **Preliminary Treatment: The treatment will include the following unit / equipment;**
  - Screen Chamber
  - Oil & Grease Trap
  - Raw Sewage Collection Tank
  - Raw Sewage Transfer pumps

All the sewage generated will gravitate through Bar Screen. The Bar screen will take care of any floatable matter, which will be manually scraped out and collected in drums. Bar screen will comprise of SS plate type screen for removing floatable matter. From the bar screen it will then pass on to the Oil & Grease Trap for removal of free floating oil. The oil will be scrapped and collected in drums to be disposed as per statutory norms. The sewage will be collected in raw collection tank. Uniform mixing is achieved by providing aeration

grid (air sparing) in the collection tank. After completion of mixing, the sewage will be pumped at a uniform rate by sewage transfer pumps to Biological Treatment.

- **Biological Treatment (Secondary Treatment):** This will include the following;
  - MBBR Bioreactor
  - Secondary Clarifier
  - Sludge Dewatering System-(Filter press)

The process will be of activated sludge extended aeration biological process of Moving Bed Bio Reactor (MBBR) type. The MBBR process will be an aerobic system having two biological growth process- attached growth and suspended growth. The pretreated sewage from raw sewage collection tank will be pumped into MBBR where support media will provide more surface area for Biological growth. Oxygen will be added for biological growth through tubular diffusers.

The effluent will be uniformly pumped to MBBR Reactor to biologically degrade the organic matter. The oxygen required for the bacterial growth will be supplied through Diffuser systems. The system envisages better oxygen transfer because of fine bubbles and increased contact with the sewage.

The overflow from MBBR Reactor will gravitate to the Secondary clarifier. The arrested sludge will be pumped back to the Aeration tank to maintain the bacterial concentration in the tank and excess sludge will be sent to the Sludge collection pit and shall be dewatered using a Filter press. The filtrate will be taken to the Raw Sewage Collection Tank. The dried sludge will be used as manure for gardening.

- **Tertiary Treatment:** The treatment will include the following unit / equipment;
  - Filter feed tank
  - Pressure Sand Filter (PSF)
  - Activated Carbon Filter (ACF)
  - UV system

The clear supernatant from the Secondary clarifier will be collected in a Filter feed tank this tank will be provided with level switch for unmanned operations. The treated sewage will be pumped to PSF followed by ACF. After ACF treated sewage will be passed through UV filtration for disinfection. After UV filtration treated sewage will be collected in Treated Water Tank. Treated sewage from Treated Water Tank will be used for secondary requirement.

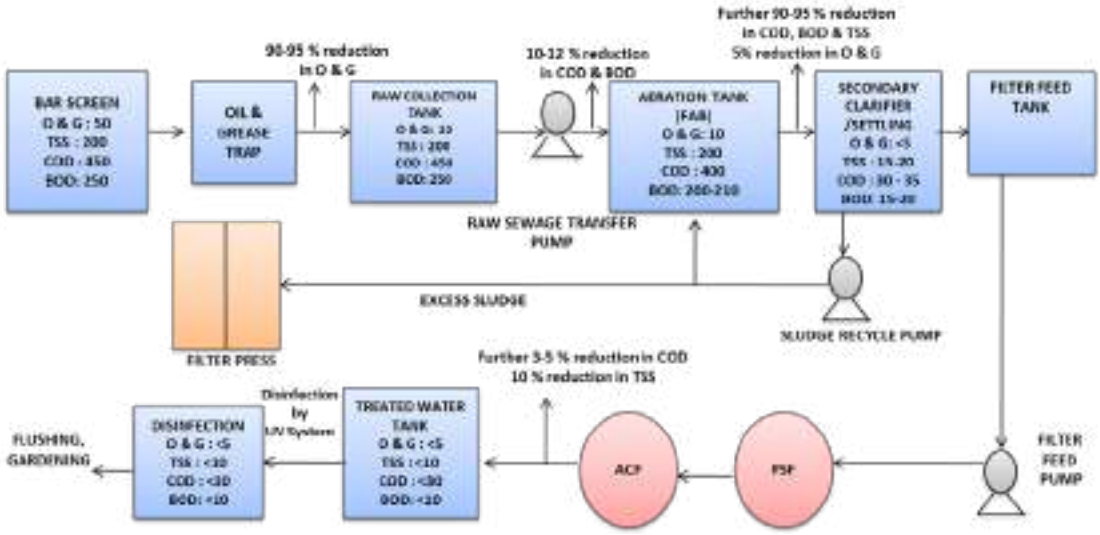


Fig.: STP Process diagram (MBBR)

2.14	**Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.**
	Recycling of treated sewage for flushing and gardening. Color coding for dual plumbing system as per standard practices.
3	**VEGETATION**
3.1	**Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any)**
	No
3.2	**Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project).**
	10 nos. of trees already planted on site and new plantation of 196 nos. of trees shall be done on site.
3.3	**What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)**
	10 nos. of trees already planted on site and new plantation of 196 nos. of trees shall be done on site.
4	**FAUNA**
4.1	**Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.**
	No
4.2	**Any direct or indirect impacts on the avifauna of the area? Provide details.**
	No
4.3	**Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna.**
	Not applicable.
5	**AIR ENVIRONMENT**
5.1	**Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)**
	The average values of $PM_{10,}$ $PM_{2.5}$, SO_2, NO_x and CO at project site are within the permissible standards specified by CPCB
5.2	**What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.**
	During construction phase, Dust, Particulate Matter is the main pollutant, which may be generated during construction activities. Other emission sources are intermittent and include emissions of $SO_{2,}$ NOx and CO from materials transport of heavy vehicles on site etc. Proper upkeep and maintenance of vehicles, sprinkling of water on roads and construction site are some of the measures that would reduce the impact during construction phase. **Sources of Air pollution During Operational phase :** • The gaseous emissions from vehicles • Emissions from DG sets while in operation only during power failure **Mitigation Measures**: • The traffic congestion will be avoided by proper parking arrangement and maintaining smooth traffic flow • Regular PUC checkup for vehicles • Use of DG sets as per CPCB guidelines. • Proper maintenance of DG sets shall be done and Low sulphur fuel shall be used. • Plantation of trees which will act as noise and dust buffer

AVERAGE/ MAXIMUM AND MINIMUM METEOROLOGICAL DATA
Period: Year 2018

Table No.15: Average/ Maximum and Minimum Meteorological Data

Study period	Temp (0C)		Predominant wind direction	Wind speed (Km/hr)		Relative Humidity (%)	
	Max.	Min.		Max.	Min	Max.	Min.
January	35.6	15.6	NW	22	0	92	15
February	36.8	17	NW	18	0	93	0
March	38.4	20.6	NW	22	0	91	11
April	35.8	23.2	NW	22	0	95	0
May	35	25.6	W	22	0	89	52
June	35.2	23	SW	22	0	97	58
July	32.6	23.4	SW	25	0	98	63
August	31.4	24.8	SWW	24	0	96	68
September	35	24.2	W	14	0	95	48
October	38	21.6	NEE	14	0	93	18
November	36.6	20.8	NW	14	0	91	24
December	34.2	14.4	NNE	18	0	90	17

Source: Meteorological data for the year 2018 has been collected from Indian Meteorological Department (IMD), Santacruz, Mumbai

The proposed project will not have any direct impact on air environment after completion.

5.3	**Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.**
	The project proponents have proposed to provide well organized arrangement.
5.4	**Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.**
	• The project proponents have proposed to provide adequate well organized parking arrangement • This project has two entry and exits
5.5	**Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.**
	The source of noise is mainly vehicular noise. The project proponents have proposed to provide well organized parking arrangement and maintaining smooth traffic flow which would help in reducing traffic congestion and noise levels. Trees would act as noise barrier and will reduce the noise level.
5.6	**What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.**
	D.G. Set will be operated only in case of power failures during operational phase. The Pollutants like PM_{10}, $PM_{2.5}$, SO_2 that may arise from emissions from D.G. Sets will be discharged through vent of proper height. D.G. sets are with inbuilt acoustic enclosures to reduce the noise of D.G. sets while in operation. Plantation of trees would act as noise barrier and will reduce the noise level.
6	**AESTHETICS**
6.1	**Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?**
	No.
6.2	**Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?**
	All precautions will be taken to mitigate the impact due to water, air and noise pollution during construction and operation phase. Environmental Management plan is prepared and shall be implemented along with Environmental Monitoring Programme.

6.3	**Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.**
	No
6.4	**Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.**
	Not applicable
7	**SOCIO-ECONOMIC ASPECTS:**
7.1	**Will the proposal result in any changes to the demographic structure of local population? Provide the details.**
	There will be influx of about ~ 2527 persons (including floating population)
7.2	**Give details of the existing social infrastructure around the proposed project.**
	It is a well-developed City of India, having all modern amenities. Civil structures, School, Colleges, Hospitals, Recreation facilities, Markets, etc. are available in the area to a reasonable degree.
7.3	**Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?**
	As this is a redevelopment project, it will not cause adverse effects on local communities, disturbance to sacred sites or other cultural values.
8	**BUILDING MATERIALS**
8.1	**May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)**
	Use of Cement containing fly ash. Construction materials from nearest source are chosen to minimize fuel consumption for transportation
8.2	**Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?**
	• The construction material to be carried in properly covered vehicles • All the contractors/ Vendors to be instructed to use vehicles having PUC certificates • Loading and unloading of material at site to be done under supervision of Security staff • Construction material to be stored at identified site/ temporary godowns at site
8.3	**Are recycled materials used in roads and structures? State the extent of savings achieved?**
	Use of cement containing fly. Construction materials from nearest source are chosen to minimize energy consumption for transportation.
8.4	**Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.**
	• Segregation of non-biodegradable and biodegradable garbage on site. • Bio degradable garbage: Treatment in OWC (Organic Waste Convertor) • Non- biodegradable garbage: To authorized recyclers • STP Sludge (Dry sludge): Use as manure
9	**ENERGY CONSERVATION**
9.1	**Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?**
	Power Requirement **During Construction Phase –** Source : Tata Power Company Limited Load : 300 KW D.G. Set: As per requirement

	During Operational Phase - Source: Tata Power Company Limited **Table No.18: Power Requirement** Connected load: 7910 KW Maximum demand: 7517 KW D.G sets (For emergency back up during power failure): 2 DG Sets of 1000 kVA each. **Following Energy conservation measures are proposed for Energy Saving :** ➢ Provision of LED tubes and lamps ➢ Provision of Advanced BEE 5 Star Rated AC Equipments ➢ Provision of Pumps & Motors with Premium Efficiency ➢ Provision of Energy Efficient Lifts with VVVF Lift Drive ➢ Provision of Solar PV System
9.2	**What type of, and capacity of, power back-up to you plan to provide?**
	2 DG Sets of 1000 kVA each for emergency backup during power failure only.
9.3	**What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?**
	Shall be submitted
9.4	**What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.**
	Shall be submitted
9.5	**Does the layout of streets & buildings maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.**
	➢ Provision of LED tubes and lamps ➢ Provision of Advanced BEE 5 Star Rated AC Equipments ➢ Provision of Pumps & Motors with Premium Efficiency ➢ Provision of Energy Efficient Lifts with VVVF Lift Drive ➢ Provision of Solar PV System
9.6	**Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?**
	Shall be submitted
9.7	**Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.**
	➢ Provision of LED tubes and lamps ➢ Provision of Advanced BEE 5 Star Rated AC Equipments ➢ Provision of Pumps & Motors with Premium Efficiency ➢ Provision of Energy Efficient Lifts with VVVF Lift Drive ➢ Provision of Solar PV System
9.8	**What are the likely effects of the building activity in altering the micro-climates? Provide a self-assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?**
	Shall be submitted
9.9	**What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.**
	Shall be submitted

9.10	**What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.**
	Fire-fighting measures as per CFO NOC: ➢ Underground and Overhead water storage tank of adequate capacity ➢ Provision of External hydrant ➢ Provision of Wet Riser ➢ Manually operated fire alarm system. ➢ Provision of fire pumps, booster pump, sprinkler pump and jockey pump ➢ Fire Brigade Connection for Static Water tank and for Hydrant System ➢ Portable Fire extinguisher ➢ Fire lifts ➢ Provision of refuge areas ➢ Provision of automatic sprinklers and smoke detection system ➢ Water spray projector system Disaster Management plan enclosed.
9.11	**If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.**
	Shall be submitted
9.12	**What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.**
	Shall be submitted
9.13	**To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.**
	➢ Provision of LED tubes and lamps ➢ Provision of Advanced BEE 5 Star Rated AC Equipments ➢ Provision of Pumps & Motors with Premium Efficiency ➢ Provision of Energy Efficient Lifts with VVVF Lift Drive ➢ Provision of Solar PV System
10	**Environment Management Plan**

No	Environmental Issues/Impacts	Mitigation measures	Responsibility of the Staff / Consultants appointed by Project Proponents	Legal / Other Compliances OR Compliance to guidelines from various Committees	Timelines for implementation
		CONSTRUCTION PHASE			
1.	Increase in water demand due to water usage for construction, dust suppression and for domestic purpose of workers	• Frequent water sprinkling to minimize the fugitive emissions. • Curing water shall be sprayed on concrete structures, free flow of water should not be allowed for curing • Use of wet jute	1. Construction Contractors 2. Supervisor (Environmental Cell)	--	1.For Workers : Throughout the construction phase (approximately 1 years) 2. For construction: 1 years 3. For Dust Suppression: Approximately 1 years

			cloth/ gunny bags instead of water spray for curing activity			
	2.	Sewage generation (11 KLD) and disposal	• Disposal of sewage to existing sewer line. • Site Sanitation & good housekeeping	1. Construction Contractors 2. Supervisor (Environmental Cell)	--	Throughout the construction phase (approximately 1 years)
	3.	Municipal solid waste generation (15 kg/ day) by workers	• Segregation of biodegradable (11 kg/day) and dry garbage (5 kg/ day) • Disposal of segregated waste to Authorized recyclers	1. Supervisor (Environmental Cell)	--	Throughout the construction phase (approximately 1 years)
	4.	Construction activity		1. Site Engineer, Site Architect, Excavation Contractors/ **2. Supervisor (Environmental Cell):** Reporting for the status of Pollution prevention and control measures to Manager (Environmental Cell) **3. Manager (Environmental Cell)** Coordination with MoEF/ NABL approved External Laboratory for monitoring and Overall documentation and record	--	
	a.	Dust generation	• Water sprinkling for dust suppression • New tree plantation • Provision of Barricades of adequate height along the periphery of the site • Use of Plastic/tarpaulin covering sheets while transporting the material • Wheel washing of the vehicles • Sand, murram, loose soil, cement, or Construction Waste or any construction material stored on site shall be covered adequately • Provision of dust masks, goggles, health checkup for		--	Construction phase: 1years

				workers • Separate storage space for Construction material and waste and road side storage of construction material and waste shall be prohibited • No uncovered /overloaded vehicles carrying construction material and waste shall be permitted	keeping for the statutory approvals		
		b.	Noise & Vibration	• Provision of barricades of adequate height along the periphery of the site • Noise monitoring to ascertain the noise levels are within limits • Provision of ear plugs for construction labour and staff • No noise polluting work in night shifts • In-built acoustic enclosure for DG sets		--	Throughout the construction phase (approximately 1 years)
		c.	Oil leaks	• Regular maintenance of machineries to prevent and repair leaks • Contaminated soil to authorized CHWTSDF		--	Throughout the construction phase (approximately 1 years)
		d.	Generation of construction waste -	• Separate storage for construction waste • Proper segregation of construction waste and		NOC for Solid Waste Management/ Excavation permission from M.C.G.M.	Construction phase : 1 years

				preparation of item wise quantification and management plan • Disposal of hazardous waste (if any)to CHWTSDF • Excavation earth material has been partly reused for backfilling and remaining has been disposed to the authorized land fill site. • Construction waste material shall be partly recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M. • Construction waste (Empty Cement Bags, Paint container, other Barrels & Scrap metal) will be handed over/sold to Authorized recyclers • Use of covering sheets for trucks carrying construction material to prevent air borne dust. • Collection, segregation and storage of concrete and other waste as per Construction and Demolition Waste Management				

			Rules, 2016			
	5.	Vehicular movement leads to • Increase in traffic • Air emissions & Noise • Oil leaks	• Proper traffic management • Entry to vehicles with valid PUC certificate • Provision of oil and grease traps to the Storm water drains • Regular maintenance of vehicles with suitable enclosures and intake silencers • Planning and ensuring effective implementation of the waste movement plan for loading and offsite movement in non-traffic hours	1. Site Architect 2. Site Engineer 3. Construction Contractors And 4. Documentation check by Manager (Environmental Cell)	--	Throughout the construction phase (approximately 1 years)	
	6.	Use of DG sets	• DG sets with inbuilt acoustic enclosures • Site barricading • Regular maintenance	1. Site Architect 2.Site Engineer 3. Construction Contractors 4. Overall check by Manager (Environmental Cell)		Throughout the construction phase (approximately 1 years)	
	7.	Impact on health of workers Accidents, Hazards, injuries to workers	• Adequate drinking water, toilet facilities. • First aid facility • Regular health checkup of workers • Risk assessment and preparation of disaster management plan • Provision of temporary water tank for firefighting and appropriate fire	Safety officer	--	Throughout the construction phase (approximately 1 years)	

		suppression measures. • Safety awareness programme • Proper security arrangements.			

No.	Environmental Issues/Impacts	Mitigation measures	Responsibility of the Staff/ Consultants appointed by Project Proponents or Society	Legal/ Other Compliances OR Compliance to guidelines from various Committees
OPERATION PHASE				
1.	Water demand	• Use of treated sewage for gardening (13 KLD) and flushing (98 KLD) • Rain water collection from terrace into 1 RWH tank of capacity 75 KL. • Use of harvested rain water for domestic purpose and its reuse thereby reducing the fresh water demand	Overall Environmental cell	Water supply NOC from MCGM
2.	Sewage generation (234 KLD) and disposal of sewage	• Provision of one Sewage Treatment Plant of capacity 255 KL for treatment of sewage by MBBR technology • Proper operation and maintenance of STP and Daily analysis of general parameters like pH, BOD, COD and TSS & O & G of the STP outlet to ensure good treatment of waste water with the help of onsite sensors • Use of treated sewage for flushing and gardening • Provision of adequate ventilation around the STP • Proper arrangements for sludge handling units and its reuse as manure	Overall Environmental cell	--
3.	Increment in Runoff from site	• Minimizing the incremental runoff from the site with the help of rain water harvesting tank of 75 KL. • Proper management of channelization of storm water from site by using proper SWD	Facility Management system	--

			system and discharge point of having adequate capacity • Use of screens and silt traps to SWD • Proper maintenance of storm water drainage to avoid choking of drains and flooding on site • External drain of adequate capacity		
	4.	Use of DG sets may leads to air and noise pollution	• Stack height as per CPCB norms • DG sets with inbuilt acoustic enclosures • Tree Plantation (206 nos.)	1. Landscape /Horticulture Consultants 2. Supervisor & Manager (Environmental cell)	CPCB specification
	5.	Vehicular movement, • Increase in traffic • Air emissions & Noise • Contamination of soil due to Oil leaks	• Provision of parking arrangement for the vehicles • Provision of adequate traffic signs and signages to notify residents • Installation of safety mirrors to aid visibility in conflict points • Prevention of parking near the Entry and Exit Gate • Provision of speed humps to regulate speed of vehicles • Provision of pedestrian crossings and dedicated footpath to cater to the walking population • Assigining traffic wardens to regulate flow of project traffic during peak hours • Provision of adequate width of internal driveway • Plantation of new trees to mitigate dust and noise • Provision of oil and grease traps to the Storm water drains	1. Supervisor & Manager Environmental cell: For coordination with external MoEF approved Lab for Air pollution monitoring 2. Watchmen/ Supervisors/ Traffic wardens specially appointed for Traffic management	--
	6.	Odour and unsanitary conditions due to STP and Composting of biodegradable garbage	• Proper ventilation around STP and Garbage room • Proper housekeeping and maintenance	1. Facility Management Team for SWM 2. Overall frequent checks by Manager (Environmental cell)	Air act 1981, Amended 1987
	7.	Municipal waste & other solid waste generation	• Informing and educating occupants for solid waste management	1. Facility Management Team for SWM	--

			• Provision of adequate space (93 Sq.mt.) for solid waste management • Proper segregation on site to biodegradable and non-biodegradable. • Non-biodegradable waste (376 Kg/day): to be handed over to Authorized Recyclers. • Biodegradable waste (598 kg/day) for treatment in Organic Waste Converter.	2. Manager (Environmental Cell): For coordination with external lab. for quality checks and overall guidance if any		
	8.	Disasters like Fire, Earthquake etc.	• Preparation of Disaster Management Plan • Provision of Safety officer, Security and First aid team • Regular review of DMP and mock drill • Effective implementation of DMP	Manager, CHS	--	

LIST OF ENCLOSURES

No.	Name
1.	Environmental Clearance dt. 02.06.2011
2.	IOD dated 11.06.2010
3.	IOD dated 30.10.2018
4.	MHADA NOC dated 16.05.2008
5.	MHADA NOC dated 22.08.2012.
6.	DP Remarks
7.	Extract of Geotechnical Investigation Report
8.	Disaster Management Plan
9.	Site Location Map
10.	Surrounding features of the proposed site (within 500 meters)
11.	Layout Plan
12.	MRC NOC

Government of Maharashtra

File No.: SEAC- 2010/CR.364/TC.2
Environment department,
Room No. 217, 2nd floor,
Mantralaya Annexe,
Mumbai 400 032
Date: 2nd June, 2011

To,
M/s Nathani Parekh Constructions Pvt. Ltd.
1st Floor, Rangoonwala Building,
91 Mohammedali Road,
Mumbai - 400003
Maharashtra

Subject: Proposed "Nathani Heights" – Rehabilitation scheme on Dr DB Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central by M/s Nathani Parekh Constructions Pvt. Ltd. - Environmental clearance regarding.

Sir,

This has reference to your communication dated 10th August, 2010 on the above mentioned subject. The proposal was considered as per the EIA Notification - 2006, by the State Level Expert Appraisal Committee, Maharashtra in its 38th & 40th meeting and decided to recommend the project for prior environmental clearance to SEIAA. Information submitted by you has been considered by State Level Environment Impact Assessment Authority in its 36th meeting held on 28th March, 2011.

2. It is noted that the proposal is for grant of Environmental Clearance for Proposed "Nathani Heights" – Rehabilitation scheme on Dr DB Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central by M/s Nathani Parekh Constructions Pvt. Ltd. SEAC considered the project under screening category 8(a) as per EIA Notification 2006.

Brief Information of the project is summarized as below-

Name of the Project	:	"Nathani Heights" – Rehabilitation scheme
Project Proponent	:	M/s Nathani Parekh Constructions Pvt. Ltd.
Location of the project	:	C .S. No. 1/332, Dr DB Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central
Type of Project	:	Construction Project
Total Plot Area	:	5,301.04 sq. m.
Proposed Total built up area	:	As per FSI area: 29,621.68 sq. m. Non FSI area : 49,105.40 sq. m. Total construction area: 78,727.08 sq. m.
Estimated cost of the project	:	₹ 196 Crores
No. of Buildings	:	Existing : 4 buildings : 20 wings Proposed : one (B+G+72 floors) with 342 flats and 108 commercial units

Water Requirement:
Fresh water: 161 m^3/day.; recycled water: 193 m^3/day
Source: MCGM / Recycled water

Wastewater generated: 214 m^3/day. Waste water generated form the proposed project will be treated in sewage treatment plant.

Capacity of STP: 235 m^3/day (SAFF Technology)
Treated water 98 m^3/ day will be used for flushing & gardening. 95 CMD water will be used for cooling tower make up.

Rain water Harvesting:
- Rainwater harvesting tank of 100 m^3 capacity will be provided.
- Ground Water Authority shall be consulted for finalization of appropriate rainwater harvesting technology.

Solid Waste Generation:
- Debris: This material shall be used for back filling and leveling of the plot and remaining will be disposed to authorized sites.
- Top soil shall be preserved and reused with in the site for landscaping.

Operation Phase:
- Dry quantity : 288 kg/day
- Wet quantity : 563 Kg/day
- STP Sludge: 32 Kg/day

Disposal:
- Wet garbage will be treated in Organic Waste Converter (OWC).
- Dry garbage will be handed over to authorized recyclers
- Waste oil which is generated due to usage of DG sets shall be stored and subsequently given to the authorized hazardous waste management agencies recognized by MPCB
- Dried sludge from STP will be used as manure.
- E waste will be disposed through authorized agency.

Energy:
- Power requirement: 3896 KW; Source of Power: local authority
- 2 nos. of DG set of total capacity 200 kVA. will be provided.

Energy Conservation measures:
- Energy efficient fluorescent tube lights which give approx. 30% more light output for the same watts consumed and therefore require less nos. of fixtures and corresponding lower point wiring costs for common areas.
- All fluorescent light fixtures will be specified to incorporate electronic chokes which have less watt-loss compared to electro-magnetic chokes and result in superior operating power factor. This indirectly saves energy. Electronic chokes also improve life of the fluorescent lamps.
- Compact fluorescent lamps will be incorporated in corridors, toilets and all circulation areas.
- Solar operated standalone street lights are proposed at strategic locations.
- Busbars in all distribution panels will be specified as copper busbars to reduce losses and improve reliability.

- Copper conductor cables are specified for sizes of 16 sq.mm and below, this will reduce losses and improve reliability.
- All cables are de-rated to avoid heating during use. This also indirectly reduces losses and improves reliability.
- Wherever techno-commercially appropriate, variable frequency drives have been incorporated on motor feeders which will save considerable energy.
- Power factor of the complete electrical system is being maintained close to unity. This will reduce electrical power distribution losses in the installation.
- Elevators shall be with new energy efficient VVVF drive.
- Elevators shall have modern group control, infrared door detector, auto rescue device, fire man's switch & other features.
- 10 % energy shall be saved overall by using all energy saving methods.

Green Belt Development: Area for green belt: 3601.01 sq. m., 206 Nos. of new trees will be planted.

Traffic Management: 568 nos. of car parking and 40 nos. of scooter parking will be provided.

Environmental Management Plan: construction phase: ₹ 10.0 lakhs Operation Phase: Total capital cost for EMP shall be ₹ 99.46 Lakhs and O & M for EMP shall be ₹ 24.80 lakhs

Project proponent shall operate and maintain EMF for 3 years after giving possession and shall also generate corpus fund during 3 years for O & M of **₹ 73.20 lacs** (i.e. 24.40 lacs x 3 years)

Corpus fund shall be handed over to the society. While handing over Environmental Management Facilities M.O.U. shall be made with society to accept responsibility of further O & M of EMF.

3. The proposal has been considered by SEIAA in its 36th meeting & decided to accord environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions :-

(i) This environmental clearance is issued subject to land use verification. Local authority / planning authority should ensure this with request to Rules, Regulations, Notifications, Government Resolutions, Circulars, etc. issued if any. This environmental clearance issued with respect to the environmental consideration and it does not mean that State Level Impact Assessment Authority (SEIAA) approved the proposed land use.

(ii) Project proponent shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. No physical occupation or allotment will be given unless all above said environmental infrastructure is installed and made functional including water requirement in Para 2. Prior certification from appropriate authority shall be obtained.

(iii) Local body should ensure that no occupation certificate will be issued prior to operation of STP/MSW site with due permission of MPCB. Physical possession should be given only after completion of environmental & other infrastructure for which development charges are being collected by local body.

(iv) The height, Construction built up area of proposed construction shall be in accordance with the existing FSI/FAR norms of the urban local body & it should ensure the same along with survey number before approving layout plan & before according commencement certificate to proposed work. ULB should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.

(v) "Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and a copy shall be submitted to the Environment department before start of any construction work at the site.

(vi) Wet garbage should be treated by Organic waste converter and treated waste (manure) should be utilized in the existing premises for gardening. And, no wet garbage will be disposed outside the premises. Local authority should ensure this.

(vii) All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

(viii) A First Aid Room will be provided in the project both during construction and operation of the project.

(ix) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water , medical health care, crèche etc.

(x) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.

(xi) Arrangement shall be made that waste water and storm water do not get mixed.

(xii) All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.

(xiii) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.

(xiv) Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.

(xv) Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

(xvi) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.

(xvii) Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate watercourses and the dumpsites for such material must be secured so that they should not leach into the ground water.

(xviii) Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Maharashtra Pollution Control Board.

(xix) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environments (Protection) Rules prescribed for air and noise emission standards.

(xx) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from concern authority shall be taken.

(xxi) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

(xxii) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/MPCB.

(xxiii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September 1999 and amended as on 27th August, 2003. (The above condition is applicable only if the project site is located within the 100Km of Thermal Power Stations).

(xxiv) Ready mixed concrete must be used in building construction.

(xxv) The approval of competent authority shall be obtained for structural safety of the buildings due to any possible earthquake, adequacy of fire fighting equipments etc. as per National Building Code including measures from lighting.

(xxvi) Storm water control and its re-use as per CGWB and BIS standards for various applications.

(xxvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

(xxviii) The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.

(xxix) The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the Ministry before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled/refused to the maximum extent possible. Treatment of 100% gray water by decentralized treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards of the Maharashtra Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.

(xxx) Project proponent shall ensure completion of STP, MSW disposal facility prior to occupation of the buildings and should obtain completion certification for these systems/aspects from MPCB.

(xxxi) Local body should ensure that no occupation certification is issued prior to operation of STP/MSW site etc. with due permission of MPCB.

(xxxii) Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.

(xxxiii) Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.

(xxxiv) Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.

(xxxv) The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material

(xxxvi) Use of glass may be reduced up to 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

(xxxvii) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement

(xxxviii) Energy conservation measures like installation of CFLs /TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible like installing solar street lights, common solar water heaters system. Project proponent should install, after checking feasibility, solar plus hybrid non conventional energy source as source of energy.

(xxxix) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of

stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.

(xl) Noise should be controlled to ensure that it does not exceed the prescribed standards. During nighttime the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

(xli) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.

(xlii) Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code, which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.

(xliii) The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation

(xliv) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

(xlv) Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.

(xlvi) Six monthly monitoring reports should be submitted to the Department and MPCB.

(xlvii) A complete set of all the documents submitted to Department should be forwarded to the MPCB

(xlviii) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Department.

(xlix) No land development / construction work preliminary or otherwise relating to the project shall be taken up without obtaining due clearance from respective authorities.

(l) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

(li) Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department.

(lii) The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at http://envis.maharashtra.gov.in.

(liii) Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.

(liv) A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

(lv) The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely:

SPM, RSPM. SO_2, NOx (ambient levels as well as stack emissions) or critical sectorai parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

(lvi) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

(lvii) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

(lviii) The environmental clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.

4. This environmental clearance is issued as per EIA Notification, 2006. If any part of the plot is affected by CRZ then project proponent should obtain NOC from MCZMA as per FSI applicability. If there is change in building plan accordingly, project proponent should approach SEIAA with corrected plans.

5. Project proponent should submit exactly same documents for approval of building plans to the concern authorities as per the documents submitted to the SEIAA for prior Environmental Clearance. If there is any change stipulated by HRC any other concern authorities then recast plan should be submitted to the Authority for approval.

6. If there is any change in local town planning rules including FSI, Non FSI, parking area, RG area etc which changes building plans, then Project Proponent should approach SEIAA again. It is the sole responsibility of the Project Proponent to submit the same building plans otherwise liable to initiate due action under E P Act.

7. Project proponent shall not make any change in Layout Plan/ Master Plan submitted to the Authority without its prior permission and shall submit approved layout plan to Department before commencement of construction work.

8. In case of submission of false document and non compliance of stipulated conditions, Authority/ Environment Department will revoke or suspend the Environmental Clearance without any intimation and initiate appropriate legal action under Environmental Protection Act, 1986.

9. The Environment department reserves the right to add any stringent condition or to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.

10. **Validity of Environment Clearance**: The environmental clearance accorded shall be valid for a period of 5 years.

11. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.

12. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.

13. Any appeal against this environmental clearance shall lie with the National Environmental Appellate Authority, if preferred, within 30days as prescribed under Section 11 of the National Environmental Appellate Act, 1997.

(Valsa R Nair Singh)
Secretary, Environment
department & MS, SEIAA

Copy to:

1. Shri. Ashok Basak, IAS (Retd.), Chairman, SEIAA, 502, Charleville, 'A' Road, Church gate, Mumbai- 400 020, Maharashtra.
2. Shri. P.M.A Hakeem, IAS (Retd.), Chairman, SEAC, 'Jugnu' Kottaram Road, Calicut- 673 006 Kerla.
3. Additional Secretary, MOEF, 'Paryavaran Bhawan' CGO Complex, Lodhi Road, New Delhi – 110510
4. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
5. The CCF, Regional Office, Ministry of Environment and Forest (Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No- 3, E-5, Ravi-Shankar Nagar, Bhopal- 462 016). (MP).
6. Regional Office, MPCB, Mumbai.
7. Collector, Mumbai.
8. Commissioner, Brihan Mumbai Municipal Corporation.
9. IA- Division, Monitoring Cell, MoEF, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi-110003.
10. Director (TC-1), Dy. Secretary (TC-2), Scientist-1, Environment Department.
11. Select file (TC-3).

BC-48

BMPP-1494-2004-15,000 Forms.

Form 346 / 88

in replying please quote No. and date of this letter.

Ex. Eng. Bldg. Proposal (City) - I
'E' Ward, Municipal Office, 3rd Floor,
10, S. K. Hafizuddin Marg, Byculla,
Mumbai - 400 008.

Intimation of Disapproval under Section 346 of the Mumbai Municipal Corporation Act, as amended up to date.

No. E.B./CE/ EB/5420/D/A BS/A of 200 - 200

Municipal Office,
Mumbai 11/06/2010

MEMORANDUM

M/s.Nathani Parekh Construction Pvt.Ltd.
1st floor, Rangoonwala Building,
91, Mohd Ali Road,
Mumbai 400 003

With reference to your Notice, letter No. 3219 dated 7.1.2010 200 and delivered on 14.1.2010 200 and the plans, Sections Specifications and Description and further particulars and details of your buildings at C.S.No.1/332 of Tardeo Divn.situated at D.B.Marg & Bellasis Road in D Ward,Mumbai 400 008 furnished to me under your letter, dated 01.02.2010 200 I have to inform you that I cannot approve of the building or work proposed to be erected or executed, and I therefore hereby formally intimate to you, under Section 346 of the Bombay Municipal Corporation Act as amended upto date, my disapproval by thereof reasons :-

A) THAT THE FOLLOWING CONDITIONS TO BE COMPLIED WITH BEFORE COMMENCEMENT OF THE WORK UPTO PLINTH LEVEL.

1. That the commencement certificate under Section 44/69(1)(a) of the M.R.T.P. Act will not be obtained before starting the proposed work.

2. That the builder / developer / owner shall not prepare a "debris management plan" showing the prospective quantum of debris likely to be generated, arrangements for its proper storage at the site, transportation plan of the agency appointed for the same, with numbers and registration numbers of vehicles to be deployed and the final destination where the debris would be unloaded by them and submit the same to the Zonal Executive Engineer of S.W.M. Department and the same shall not be got approved before demolition of existing building or commencing any construction activity.

3. That the compound wall is not constructed on all sides of the plot clear of the road widening line with foundation below level of bottom of road side drain without obstructing the flow of rain water from the adjoining holding to prove possession of holding before starting the work as per D.C. Regulation No.38(27).

( ) That proper gutters and down pipes are not intended to be put to prevent water dropping from the leaves of the roof on the public street.

( ) That the drainage work generally is not intended to be executed in accordance with the Municipal requirements.

Subject to your so modifying your intention as to obviate the before mentioned objections and meet by requirements, but not otherwise you will be at liberty to proceed with the said building or work at anytime before the ....10th... day of ..JUNE 2011.. 200 , but not so as to contravance any of the provision of the said Act, as amended as aforesaid or any rule, regulations or bye-law made under that Act at the time In force.

Your attention is drawn to the Special Instructions and Note accompanying this Intimation of Disapproval.

11-6-2010
Executive Engineer, Building Proposals,
Zone, City I Words.

SPECIAL INSTRUCTIONS

(1) THIS INTIMATION GIVES NO RIGHT TO BUILD UPON GROUND WHICH IS NOT YOUR PROPERTY.

(2) Under Section 68 of the Bombay Municipal Corporation Act, as amended, the Municipal Commissioneer for Greater Mumbai has empowred the City Engineer to exercise, perform and discharge the powers, duties and functions conferred and imposed upon and vested in the Commissioner by Section 346 of the said Act.

[illegible]

[illegible]

"(a) [illegible]

"(b) [illegible]

[illegible]

(4) Your attention is invited to the provision of Section 152 of the Act whereby the person liable to pay property taxes is required to give notice of erection of a new building or occupation of building which has been vacant, to the Commissioner, within fifteen days of the completion or of the occupation whichever first occurs. Thus compliance with this provision is punishable under Section 471 of the Act irrespective of the fact that the valuation of the premises will be liable to be revised under Section 167 of the Act, from the earliest possible date in the current year in which the completion on occupation is detected by the Assessor and Collector's Department.

(5) Your attention if further drawn to the provision of Section 353-A about the necessary of submitting occupation certificate with a view to enable the Municipal Commissioner for Greater Mumbai to inspect your permises and to grant a permission before occupation and to leavy penalty for non-compliance under Section 471 if necessary.

(6) Proposed date of commencement of work should be communicated as per requirements of Section 347 (1) (*aa*) of the Bombay Municipal Corporation Act.

(7) One more copy of the block plan should be submitted for the Collector, Mumbai Suburbs District.

(8) Necessary permission for Non-agricultural use of the land shall be obtained from the Collector Mumbai Suburban District before the work is started. The Non-agricaltural assessment shall be paid at the site that may be fixed by the Collector, under the Land Revenue Code and Rules thereunder.

Attention is drawn to the notes Accompanying this Intimation of Disapproval.

Contd... (A).

4. That the low lying plot will not be filled up to a reduced level of at least 92 T.H.D. or 6" above adjoining road level whichever is higher with murum, earth, boulders,etc. and will not be leveled, rolled, consolidated and sloped towards road side, before starting the work.

5. That the specifications for layout/ D.O./or access roads/ development of setback land will not be obtained from E.E. Road (Construction) (City) before starting construction work and the access and setback land will not be developed accordingly including providing street lights and S.W.D., the completion certificate will not be obtained from E.E.(R.C.)/ E.E.(S.W.D.) of City before submitting building completion certificate.

6 That the structural engineer will not be appointed Supervision memo as per Appendix-XI [Regulation 5(3) (ix)] will not be submitted by him.

7. That the structural design and calculations for the proposed work accounting for seismic analysis as per relevant I.S. Code and for existing building showing adequacy thereof to take up additional load alongwith bearing capacity of the soil strata will not be submitted before C.C.

8. That the regular/sanctioned/proposed lines and reservation will not be got demarcated at site through A,E.(Survey)/ E.E.(T&C)/ E.E.(D.P.)/ D.I.L.R. before applying for C.C.

9 That the sanitary arrangements shall not be carried out as per Municipal Specifications, and drainage layout will not be submitted before C.C.

10 That the Registered Undertaking and additional copy of plan shall not be submitted for agreeing to hand over the setback land free of compensation and that the setback handing over certificate will not be obtained from Ward officer before demanding C.C. and that the ownership of the setback land will not be transferred in the name of M.C.G.M. before C.C.

11. That the Indemnity Bond indemnifying the Corporation for damages, risks, accidents, to the occupiers and an Undertaking regarding no nuisance will not be submitted before C.C./starting the work.

12. That the existing structure proposed to be demolished will not be demolished or necessary Phase Programme with agreement will not be submitted and got approved before C.C.

13. That the requirements of N.O.C. of MHADA / B.E.S.T will not be obtained & the requisitions, if any, will not be complied with before occupation certificate / B.C.C.

14 That the basement will not comply with the Basement Rules and Regulation and Registered Undertaking for not misusing the basement will not be submitted before C.C.

15. That the Registered Undertaking for Fitness Centre mentioning that

(a) Fitness Center shall not be used for any purpose other than Fitness Center activities

(b) Fitness Center activities shall be exclusively for the Members of the concerned Housing Society This condition will be incorporated in the agreement of prospective flat purchasers.

(c) Ownership of Fitness Center shall vest with the concerned Society or an Association of Flat Owners.

16. That the qualified/Registered Site supervisor through Architect/Structural Engineer will not be appointed before applying for C.C.

17. That the Condition No.6 of M.B.R.& R. Board N.O.C. under No. R/NOC/F-1555/1978/MBRRB-08 dated 16.5.2008 shall not be complied with.

18 That the premium/deposits as follows will not be paid -

a. Condonation of deficient open spaces.
b. Internal Staircase for duplex flats.
c. Deposit for basement
d. Premium for passages beyond 2.00 M.
e. Development charges as per M.R.& T.P.(Amendment) Act,1992
f. Balcony enclosure fees.
g. Insecticide charges.
h. Payment of advance for providing treatment of construction site to prevent epidemic like dengue malaria etc. to insecticide charges 'D' Ward
i Additional cess of Rs.5,000/- Sq.Mt. as Notification

19. That the N.O.C. from M.O.E.F. (Environment) Central Govt. will not be submitted.

20. That the registered undertaking in prescribed proforma agreeing to demolish the excess area if constructed beyond permissible F.S.I. shall not be submitted before asking for C.C.

21. That the work will not be carried out strictly as per approved plan and in conformity with the D.C.Regulations in force.

22 That the N.O.C. from Tree authority shall not be submitted before asking for plinth C.C.

23 That the Registered Undertaking shall not be submitted for agreeing to pay the difference in premium paid and calculated as per revised land rates.

24. That the Janata Insurance policy or policy to cover the compensation claims arising out of Workmen's Compensation Act,1923 will not be taken out and a copy of the same will not be submitted before asking C.C. and renewed during the construction of work.

Contd... (A)

25. That the N.O.C. from High Rise Committee shall not be submitted.

26. That the N.O.C. from B.E.S.T. for sub station shall not be submitted.

27. That the fresh Tax Clearance Certificate from A.A. & C 'D' Ward shall not be submitted.

28. That the letter from MHADA stating all stating all tenants have given their irrevocable consent shall not be submitted.

29. That letter from M.B.R.& R. Board confirming the exact surplus area to be surrendered to M.B.R.& R. Board shall not be submitted and amended plans shall not be submitted and got approved accordingly.

30. That the Regd. U/T against misuse of pocket terrace / part terrace / stilt shall not be submitted.

31. That the footpath in front of plot shall not be repaired / restored once in a year or before occupation whichever is earlier.

32. That the Indemnity Bond indemnifying M.C.G.M. against disputes, litigations, claims, arising out of ownership of plot shall not be submitted.

33 That the registered Power of Attorney shall not be submitted.

34. That the remarks from H.E. Department shall not be submitted.

35. That the debris shall not be dumped on the Municipal ground only.

36. That the board displaying the details of development of the work shall not be displayed at site.

37 That the necessary remarks for training of nalla / construction of SWD will not be obtained from Dy.Ch.Eng.(S.W.D.) City and Central Cell before asking for plinth C.C. .

38 That the N.O.C. from Dy.Ch.E.(S.P.) P&D for proposed sewer line shall not be submitted before C.C.

39. That the Regd. U/T for not misusing basement, electric meter room shall not be submitted before C.C.

40. That the plot boundary shall not be got demarcated from C.S.L.R. and demarcation certificate shall not be submitted to this office.

41 That the copy of PAN card of the applicant shall not be submitted before C.C.

42. That the precautionary measures to avoid dust nuisance such as erection of G.I. sheet screens at plot boundaries upto reasonable height shall not be provided before demolition of existing structures at site.

43. That the fresh P.R.Card in the name of owner shall not be submitted before C.C.

44. That the construction activity for work of necessary piling shall not be carried out by employing modern techniques such as rotary drilling, micropiling etc. instead of conventional jack and hammer to avoid nuisance damage to adjoining buildings.

45. That the N.O.C. from MHADA shall not be submitted before C.C.

46. That the N.O.C. from E.E.T & C. shall not be obtained for the parking before C.C.

47. That Regd. U/T for minimum Nuisance during construction activity shall not be submitted before C.C.

48. That the work shall not be carried out between 7.00 A.M. to 7.00 P.M. only.

49. That the G.I.Sheet screens at plot boundaries upto adequate height to avoid dust nuisance shall not be provided before demolition of existing building.

50. That the precautionary measures to avoid nuisance duct to dust, such as providing G.I. Sheets at plot boundaries up to reasonable height shall not be taken.

51. That remarks from E.E.(M.& E.) for ventilation shall not be submitted.

52. No main beam in a R.C.C. framed structure shall not be less than 230 mm wide The size of the columns shall also not be governed as per the applicable I.S. codes.

53. All the cantilevers (Projections) shall not be designed for five times the load as per IS Code 1993-2002 including the columns projecting beyond the terrace and carrying the overhead water storage tank, etc.

54. In R.C.C. framed structures, the external walls shall not be less than 230 mm if in brick masonry or 150 mm. autoclaved cellular concrete block excluding plaster thickness as circulated under No. CE/PD/11945/I of 2.2.2006.

55. That the facilities for physically handicapped persons shall not be provided as per the accompaniment in Govt. in U.D. Department notification No.TPB 432001/1829/CR-216/2001/UD-11 dated.2nd December.2003.

56. That the remarks regarding formation level from Road Department shall not be submitted.

57. That Regd. U/T for handing over setback area for the balance portion of the plot not covered under this proposal as & when required by M.C.G.M. shall not be submitted.

Contd... (A).

58. That the specification & design of Rain Water Harvesting scheme as per the State Govt.'s directives u/No.TPB-4307/396/CR-124/2007/UD-11 dated 6th June 2007 shall not be submitted.

59. That the feasibility of providing the basement from Geologist on the plot under reference shall not be submitted.

60 That the justification for electric meter rooms shall not be submitted

61 That the Registered Undertaking mentioning that there is no non cessed structure existing on site shall not be submitted.

(B) THE FOLLOWING CONDITIONS TO BE COMPLIED WITH BEFORE FURTHER C.C. OF SUPER STRUCTURE :

1. That N.O.C. from Civil Aviation Department will not be obtained for the proposed height of the building.

2. That the plinth dimensions shall not be got checked from this office before asking for further C.C. beyond plinth.

3. That the Structural stability certificate through Regd. Structural Engineer regarding stability of constructed plinth shall not be submitted before asking for C.C. beyond plinth.

4. That the compliance of necessary remarks for training of nalla / construction of SWD will not be submitted before granting full C.C. for the said building.

(C) THE FOLLOWING GENERAL CONDITIONS TO BE COMPLIED WITH BEFORE GRANTING O.C.C. TO ANY PART OF THE PROPOSED BUILDING :

1. That the separate vertical drain pipe, soil pipe with a separate gully trap, water main, O.H. Tank, etc. for Maternity Home/Nursing Home, user will not be provided and the drainage system or the residential part of the building will not be affected.

2. That some of the drains will not be laid internally with C.I. Pipes

3. That the dust-bin will not be provided as per C.E.'s circular No.CE/9297/II of 26-6-1978.

4. That the surface drainage arrangement will not be made in consultation with E.E.(SWD) or as per his remarks and a completion certificate will not be obtained and submitted before applying for occupation certificate/B.C.C.

5. That 10'-0" wide paved pathway upto staircase will not be provided.

6. That the surrounding open spaces, parking spaces and terrace will not be kept open and un-built upon and will not be leveled and developed before

requesting to grant permission to occupy the building or submitting the B.C.C. whichever is earlier.

7. That the name plate/Board showing Plot No. name of the building etc. will not be displayed at a prominent place.

8. That carriage entrance shall not be provided.

9. That the parking spaces shall not be provided as per D.C. Regulation No.36.

10. That B.C.C. will not be obtained and I.O.D. and debris deposit etc. will not be claimed for refund within a period of 6 years from the date of its payment.

11. That the N.O.C. from Inspector of Lifts, P.W.D., Maharashtra, will not be obtained and submitted to this office.

12 That the Drainage completion certificate from (S.P.)(P&D)City for provision of Septic Tank/Soak pit will not be submitted.

13 That the Drainage completion Certificate from A.E.(B.P.) City for House drain will not be submitted & got accepted.

14. That every part of the building construction and more particularly overhead tank will not be provided as with the proper access for the staff of Insecticide Officer with a provision of temporary but safe and stable ladder etc.

15. That final N.O.C from MHADA/ C.F.O / Tree Authority/ M.H.C.C. shall not be submitted before asking for occupation permission.

16 That the compliance of N.O.C. from H.E will not be made and certificate to that effect will not be submitted.

17. That the Fresh property card in the name of the owner shall not be submitted.

18. That the vermiculture bins for the disposal of wet waste as per design and specifications of organization or companies specialized in this field as per list furnished by Solid waste Management of M.C.G.M. shall not be provided.

19. That the installation of Rain Water Harvesting scheme as per the State Govt.'s directives U/No. TPB-4307/396/CR-124/2007/UD-11 dated 6th June 2007 shall not be provided before applying for occupation permission.

(D) THE FOLLOWING CONDITIONS TO BE COMPLIED WITH BEFORE B.C.C.:

1. That certificate under Section 270-A Of M.M.C. Act will not be obtained from H.E.'s Department regarding adequacy of water supply.

2. That society shall not be got registered and society office shall not handed over to society.

11-6-2010

Executive Engineer
Building Proposals (City)-I

No. EB/CE/ EP/5420/D/A/BS dt 11/6/2010

NOTES

(1) The work should not be started unless objections are complied with

(2) A certified set of latest approved plans shall be displyed on site at the time of commencement the work and during the progress of the construction work.

(3) Temporary permission on payment of deposite should be obtained any shed to house and store for constructional purposes, Residence of workmen shall not be allowed on site. The temporary structures for storing constructional material shall be demolished before submission of building completion certificate and a certificate signed by Architect submitted along with the building completion certificate.

(4) Temporary sanitary accommodation on full flusing system with necessary drainage arrangement should be provided on site workers, before starting the work.

(5) Water connection for constructional purpose will not be given until the hoarding is constructed and application made to the Ward Officer with the required deposite for the construction of carriage entrance, over the road side drain.

(6) The owners shall intimate the Hydraulic Engineer or his representative in Wards atleast 15 days prior to the date of which the proposed construction work is taken in hand that the water existing in the compound will be utilised for their construction works and they will not use any Municipal Water for construction purposes. Failing this, it will be presume tha t Municipal tap water has been consumed on the construction works and bills preferred against them accordingly.

(7) The hoarding or screen wall for supporting the depots of building materials shall be constructed before starting any work even though no materials may be expected to be stabled in front of the property. The scaffoldings, bricks metal, sand preps debrics, etc. should not be deposited over footpaths or public street by the owner/ architect/their contractors, etc. without obtaining prior permission from the Ward Officer of the area.

(8) The work should not be started unless the manner in obviating all the objection is approved by this department.

(9) No work should be started unless the structural design is approved.

(10) The work above plinth should not be started before the same is shown to this office Sub-Engineer concerned and acknowledgement obtained from him regarding correctness of the open spaces & dimension.

(11) The application for sewer street connections, if necessary, should be made simultaneously with commencement of the work as the Municipal Corporation will require time to consider alternative site to avoid the excavation of the road an footpath.

(12) All the terms and conditions of the approved layout/sub-division under No. of should be adhered to and complied with.

(13) No Building/Drainage Completion Certificate will be accepted non water connection granted (except for the construction purposes) unless road is constructed to the satisfaction of the Municipal Commissioner as per the provision of Section 345 of the Bombay Municipal Corporation Act and as per the terms and conditions for sanction to the layout.

(14) Recreation ground or amenity open space should be developed before submission of Building Completion Certificate.

(15) The acces road to the full width shall be constructed in water bound macadam before commencing work and should be complete to the satisfaction of Municipal Commissioner including asphalting lighting and drainage before submition of the Building Completion Certificate.

(16) Flow of water through adjoining holding or culvert, if any should be maintained unobstructed.

(17) The surrounding open spaces around the building should be consolidated in Concrete having broke glass pieces at the rate of 125 cubic meters per 10 sq. meters below payment.

(18) The compound wall or fencing should be constructed clear of the road widening line with foundation below level of bottom of road side drain without obstructing flow of rain water from abjoining holding before starting the work to prove the owner's holding.

(19) No work should be started unless the existing structures proposed to be demolished are demolished.

(20) This Intimation of Disapproval is given exclusively for the purpose of enabling you to proceed further with the arrangements of obtaining No Objection Certificate from the Housing commissioner under Section 13 (*h*) (i-i) of the Rent Act and in the event of your proceeding with the work either without an inimation about commencing the work under Section 347 (1) (*aa*) or your starting the work without removing the structures proposed to be removed the act shall be taken as a severe breach of the conditions under which this Intimation of Disapproval is issued and the sanctioned will be revoked and the commencement certificate granted under Section 45 of the Maharashtra Regional and Town Planning Act, 1966, (12 of the Town Planning Act), will be with drawn.

(21) If it is proposed to demolish the existing structures by negotiations with the tenants, under the circumstances, the work as per approved plans should not be taken up in hand unless the City Engineer is satisfied with the following :-

(*i*) Specific plans in respect of eviciting or rehousing the existing tenants on hour stating their number and the area in occupation of each.

(*ii*) Specifically signed agreement between you and the existing tenants that they are willing to avail or the alternative accommodation in the proposed structure at standard rent.

(*iii*) Plans showing the phased programme of construction has to be duly approved by this office before starting the work so as not to contravene at any stage of construction, the Development control Rules regarding open spaces, light and ventilation of existing structure.

(22) In case of extension to existing building, blocking of existing windows of rooms deriving light and its from other sides should be done first before starting the work.

(23) In case of additional floor no work should be start or during monsoon which will same arise water leakage and consequent nuisance to the tenants staying on the floor below.

(24) the bottom of the over hand storage work above the finished level of the terrace shall not be more than 1 metre.

(25) The work should not be started above first floor level unless the No Objection Certificate from the Civil Aviation Authorities, where necessary is obtained.

(26) It is to be understood that the foundations must be excavated down to hard soil.

(27) The positions of the nahanis and other appurtenances in the building should be so arranged as not to necessitate the laying of drains inside the building.

(28) The water arrangement must be carried out in strict accordance with the Municipal requirements.

(29) No new well, tank, pond, cistern or fountain shall be dug or constructed without the previous permission in writing of the Municipal Commissioner for Greater Mumbai, as required in Section 381-A of the Municipal Corporation Act.

(30) All gully traps and open channel drains shall be provided with right fiting mosquito proof covers made of wrought iron plates or hinges. The manholes of all jisterns shall be covered with a properly fitting mosquito proof hinged cast iron cap over in one piece, with locking arrangement provided with a bolt and huge screwed on hightly serving the purpose of a lock and the warning pripes of the ribbet pretessed with screw or dome shape pieces (like a garden mari rose) with copper pipes with perfictions each not exceeding 1.5 mm. in diameter. the cistern shall be made easily, safely and permanently a ceasible by providing a firmly fixed iron ladder, the upper ends of the ladder should be earmarked and extended 40 cms. above the top where they are to be fixed an its lower ends in cement concrete blocks.

(31) No broken bottles should be fixed over boundary walls. This prohibition refers only to broken bottles to not to the use of plane glass for coping over compound wall.

(32) (a) ~~[illegible]~~

(b) ~~[illegible]~~

(c) ~~[illegible]~~

(d) ~~[illegible]~~

(33) If the proposed aditional is intended to be carried out on old foundations and structures, you will do so at your own risk.

11-6-2010

Executive Engineer, Building Proposals
Zones City I *Wards.*

MUNICIPAL CORPORATION OF GREATER MUMBAI
APPENDIX XXII
PART OCCUPANCY CERTIFICATE
[EB/5420/D/A of 30 October 2018]

To,
M/s. Nathani Parekh Constructions Pvt. Ltd. (Pvt ltd Company)
1st floor, Rangoonwala Building, 91, Mohd. Ali Road, Mumbai 400003..

Dear Applicant/Owners,

The **Part 3** development work of **Resi+comm** building comprising of **3rd to 7th and 9th to 38th Upper Residential Floors for rehabilitation of existing tenants only** on plot bearing C.S.No./CTS No. **1/332** of Division **Tardeo** at **D.B. Marg and Belasis Road** is completed under the supervision of Shri. **SUBODH KRISHNA TARI** , **Architect** , Lic. No. **CA/84/8658** , Shri. **Anjana S. Kadakia** , RCC Consultant, Lic. No. **STR/K/191** and Shri. **Zainuddin Tole** , Site supervisor, Lic.No. **T/158/SS-I** and as per development completion certificate submitted by architect and as per completion certificate issued by Chief Fire Officer u/no. **FB/HRC/R-I/23** dated **26 November 2017**.

It can be occupied with the following condition/s.

1) That all the balance conditions of I.O.D / amended plan approval letters/part OC letters shall be complied with before asking further OC.
2) That the remaining work shall be carried out as per approved amended plans.
3) That all the safety and precautionary measures to safeguard the occupants and neighborhood shall be taken while executing the remaining construction works.

Copy To :

1. Asstt. Commissioner, D Ward
2. A.A. & C. , D Ward
3. EE (V), City
4. M.I. , D Ward
5. A.E.W.W. , D Ward
6. Architect, SUBODH KRISHNA TARI, 102, GUNDECHA CHAMBERS, NAGINDAS MASTER ROAD, FORT

For information please

Name : Satish Bhaskar Gite
Designation : Executive Engineer
Organization : Municipal Corporation of Greater Mumbai
Date : 30-Oct-2018 13: 53:49

Yours faithfully
Executive Engineer (Building Proposals)
Municipal Corporation of Greater Mumbai
D Ward

मुंबई इमारत दुरुस्ती व पुनर्रचना मंडळ
(म्हाडाचा घटक)
MUMBAI BUILDING REPAIRS AND
RECONSTRUCTION BOARD
(A MHADA UNIT)

म्हाडा
MHADA

No.R/NOC/F-1555/ 1978 /MBRRB-08
Dated:-
16 MAY 2008

To,
M/s Nathani Parekh Construction Pvt. Ltd.,
1st Floor, Rangoonwala Building,
91 Mohd. Ali Road,
Mumbai – 400 003.

Sub :- Redevelopment of property bearing C.S.No.1/332 of Tardeo Divn, Dalal Estate, Belasis Road & D.B. Marg, Mumbai.

Ref :- Your Architect M/s I.A. Parekh's letter dated 22.02.2008 addressed to the Executive Engineer "D-2" Divn/MBRRB.

With reference to the above subject matter and letter under reference "No Objection Certificate" is hereby granted for redevelopment of captioned property with FSI 2.5 or the FSI required for rehabilitation of existing occupiers plus 50% incentive FSI, whichever is higher, in accordance with the modified D.C. Regulation 33(7) and Appendix – III to this Regulation sanctioned by the Govt. in Urban Development Department Mantralaya vide Notification published in Govt. Gazette dated 25th January 1999 – and in accordance with the interim order dated 06.02.2007 passed by Hon'ble Supreme Court of India in CIVIL APPEAL No. 2970 to 2979 of 2006 on the following terms and conditions:

C.O./RR

1) All the occupants of the old building shall be reaccommodated in the redeveloped building. Each occupant shall be rehabilitated and given the equivalent carpet area as occupied by him for residential purpose in the old building subject to the minimum carpet area of 20.90 sq.mt. (225 sq.ft.) and/or maximum carpet area 70 sq.mt. (753 sq.ft.) as provided in the MH&AD Act, 1976. In case of non-residential occupier, the area to be given in the reconstructed building will be equivalent to the area occupied in the old building. Accordingly the plans be got approved from M.C.G.M.

2) After completion of the new building, the new tenements constructed for rehabilitation of the tenants/occupants of the old cessed building as certified by the Executive Engineer, "D-2" Divn/MBRRB, shall be handed over to the Executive Engineer, "D-2" Divn/MBRRB & Estate Manager(RT), MBRRB for allotment to respective tenants/occupants.

3) In the new building to be constructed, inrespect of rehab tenements, area of individual tenement shall not be exceeded 70.00 sq.mtrs. under any

गृहनिर्माण भवन, वांद्रे (पूर्व), मुंबई-४०००५१.
दूरध्वनी क्रमांक : २६५९०४७२, ५६४०५३१८
फॅक्स : (०२२) २६५९ १३९७ / २०५८, पत्रपेटी क्रमांक : ८१३५

Griha Nirman Bhavan, Bandra (East), Mumbai 400 051.
Phone : 26590472, 56405318, Fax : (022) 2659 1397 / 2058
Post Box : 8135

circumstances. If any rehab occupier request for more than 70.00 sq.mtrs, area he may be allotted adjoining tenement to met out the additional area required by such occupier at mutually agreed market rate, terms & conditions. There is no discrimination in providing rehab area to all occupant. The minimum & maximum area shall be as per rules & no clubbing of areas is allowed.

4) After issue of this NOC & till giving possession of tenements to the original occupiers in the new building, sale/transfer of tenancy rights by any of the original occupiers to any one shall not be allowed under any circumstances. Rehab tenement shall not be transferred for a period of Ten years from the date of occupation.

5) The NOC holder will have to pay an expenditure, amounting to Rs. 1,09,44,646/- incurred by the Board towards structural repairs/propping / demolition, processing of reconstruction scheme/land acquisition etc. at the office of the Asstt. Accounts Officer (South) /MBRRB & produce certified xerox copy of receipt of payment to this office within one month from the date of intimation by this office. In future, if additional expenditure over & above Rs. 1,09,44,646/- found incurred by the Board, the same will also have to repaid to the Board as & when Board demands.

6) The plans of the proposed building shall be submitted to MCGM within six months from the date of issue of this NOC positively for its approval, failing which the NOC will stand cancelled. As far as possible provision of tenements of 225.00 sq.ft. carpet area shall be made in the proposed building plans for handing over to this office on account of surplus Built Up Area to be surrendered to the Board as per condition No. 11 of this NOC.

C.O. IRR.

After issue of IOD and approval to plans by MCGM.

i) Plans showing the tenements to be surrendered to MBRRB shall be shown prominently and copy of the same shall be submitted to MBRRB.

ii) The tenements to be surrendered shall be mortgaged in the name of MBRRB by way of registered deed within 15 days from issue of IOD by MCGM.

This shall be clearly shown in the proposed / approved building plans, otherwise permission for obtaining occupation certificate will not be granted.

7) The NOC holder will have to communicate the actual date of commencement of work and to submit progress report of the redevelopment scheme in a prescribed proforma by every month till completion of scheme to the Executive Engineer, "D-2" Divn/ MBRRB under intimation to this office. The Executive Engineer, "D-2" Divn./MBRRB shall supervise the construction work for rehab portion of existing tenants & surplus tenement made available to the Board as per the norms of building bye laws & DCR 33(7). He shall also ensure that the condition No. 6 should be strictly adhered to.

8) The NOC holder will have to furnish the certificate from the concerned Officer of MCGM to the effect that the repair cess is paid up-to-date, before demanding occupation certificate to the newly constructed building.

9) During the period of reconstruction, the NOC holder have to provide temporary transit accommodation to the occupiers of old building. Such Transit Camps if constructed on the same plot should be demolished within one month from the date of Occupation Certificate granted by M.C.G.M. for the reconstructed building.

10) If NOC holder fails to start the redevelopment work within 12 months from the date of issue of NOC, the right is reserved to cancel the NOC by this office.

11) The NOC holder has to surrender a surplus built up area as per III rd Schedule of MHAD Act-1976.

The exact surplus built up area if any as provided in the III[rd] Schedule of MHAD Act-1976, shall be communicated to you after you submit to this office the plans of proposed buildings with permissible FSI, duly approved by MCGM. The surplus area, if any required to be surrendered to the Board will have to be made available to the Board at an amount as may be decided by the Board.

12) The reconstruction of new building for the rehabilitation of old occupiers shall be completed within a period of 30 months from the date of issue of this NOC. In case you fail to do so, extension to the above time limit may be granted depending on the merits of the case and on payment of an extension fee of Rs 5000/- or an amount as decided by the office.

C.O.TRR.

13) After issue of NOC, during course of demolition of old buildings & during course of redevelopment work if any mishap/collapse occurs, the entire responsibility of the same will lie with NOC holder. However all the necessary precautionary measures shall be taken to avoid mishap/collapse and the work of demolition & redevelopment shall be carried out under strict supervision of Architect and R.C.C. Consultant.

It shall be your sole responsibility hence forth to carry out repairs to the old cess building at your risk and cost, whenever such repairs are deemed to be necessary as decided by the M.B.R.& R. Board.

14) The proposal of issue of NOC for obtaining occupation certificate from MCGM to the newly constructed building will have to be submitted in the office of the Executive Engineer, "D-2" Divn/MBRRB alongwith the following documents / information.

a) Copy of approved plan alongwith copy of IOD & C.C. from M.C.G.M. The name of the occupiers against concerned tenements proposed to be allotted in new building should be clearly shown in the plan

alongwith carpet area to be given. Matching statement i.e. Name of occupant, Room No., existing area & proposed allotted area.

b) The concerned Architect & NOC Holder/Developer should give certificate that the newly constructed building is in accordance with the plans approved by MCGM & the tenements constructed for rehabilitation of the occupiers of cessed building are as per the areas and amenities as prescribed in the agreement executed with the occupiers.

c) Certified copies of agreements executed between the occupiers & NOC Holder/Developer.

d) Photographs of the newly constructed building taken from various angles.

15) NOC for full and final Occupation Certificate for any free sale building/component will be given only after all the old occupants, as certified by the Executive Engineer, "D-2" Divn/MBRRB including those who may be staying in the Board's transit camps, have been re-housed in the newly constructed building (s) by complying with the requirements as stated in Sr. No. 14 (a) to (d) above and only after surrendering surplus built- up area as per IIIrd Schedule of MH&AD Act, 1976, if any.

16) If it is subsequently found that the documents/information submitted with your application for NOC are incorrect or forged, mis-leading then this NOC will be cancelled and NOC holder will be held responsible for the consequences/losses, if any thereof if arises in future. If authenticity of no. of occupants prior to 13.06.1996 as per list found fake or bogus the surplus area will be worked out accordingly & the same will be binding on NOC holder. In such cases the NOC holder have to make good the losses if any to the Board.

C.O./RR

17) The Board will not be responsible for certifying the correct area of non-cessed structures if any on the said property, as certified by your licensed architect, as this does not fall within the purview of the Board.

18) Necessary trial pits/trial bores shall be taken at the captioned property to ascertain the bearing capacity of the soil and foundation shall be designed accordingly. R.C.C. design of the new proposed building shall be prepared taking into account the aspect of Mumbai Seismic Zone and same should be got approved from , R.C.C. consultant/structural Engineer, registered with MCGM.

19) As far as possible separate building for rehabilitation of existing tenants & for the purpose of free sale, taking into account the plot area of the captioned property shall be constructed. The NOC holder have to form the independent Co.Op.Hsg. Society for rehab building of tenants as well as for free sale component after giving possession to the existing tenants & prospective buyers.

20) It is made clear that the grant of the NOC would not entitle the NOC holder or any other person claiming through him, any equities on the

basis of this NOC, or in respect of any construction made. No third party rights are to be granted without the leave of the Honorable Supreme Court of India, as mentioned in the proceedings referred here in above.

21) It is lastly made clear that the grant of this NOC would be subject to any further or final orders that may be passed by the Honorable Supreme Court of India in the proceedings referred to herein above.

22) If any tenant/occupant of existing building is staying in MBRR Board's Transit Camp then it shall be binding on the NOC holder to shift them from Transit Camp and provide them suitable alternate accommodation from the date of issue of NOC till rehabilitating them in newly constructed building at his risk and cost.

23) Block No. C, D & E: One tenant of C block named Haji Suleman Basar on ground floor, room No. 2 is considered as (NR). Also room no. 1 on ground floor & room no. 3 on first floor of C Block and room no. 1 & 2 on ground and room no.2A on first floor of D Block (total 05 tenements) are considered as (R).

24) Block No. F & G : In the F block 02 tenants on ground floor are considered as (R). And one tenant on Ground floor of F block room No. 1 by the name of Deepak Tyagi is considered as (R).

25) Block No. H: Tenant of room No. 1 is considered as (R).

26) Block No. N & O : One tenant of room No. 2 of N Wing is considered as (R). 02 tenants of room No. 1 & 2 in O Wing are also considered as (R).

27) Block No. R : One tenant of room No. 1 on ground floor is accepted as (R).

28) Block No. S : 02 tenants in room No. 1& 2 on ground floor are considered as (R).

29) Block No. T : 02 tenants in room No. 2 & 3A and one tenant of room No. 2 are considered as (R).

30) Block No.V : One tenant named Mistry Abdul Gafoor on ground floor is considered as (NR). One tenant on 1st floor room no. 2 is considered as (R).

31) Construction up to 4.00 FSI only is allowed if the permissible FSI exceeds 4.00.

Encl.: List of certified tenants.

Chief Officer,
M.B.R.& R.Board, Mumbai.

मुंबई इमारत दुरुस्ती व पुनर्रचना मंडळ
(म्हाडाचा घटक)
MUMBAI BUILDING REPAIRS AND
RECONSTRUCTION BOARD
(A MHADA UNIT)

म्हाडा
MHADA

REVISED NO OBJECTION CERTIFICATE

No./Revised NOC/F-1555/4619 /MBRRB-12
Dated:- 22 AUG 2012

To,
M/s Nathani Parekh Construction Pvt. Ltd.,
1st Floor, Rangoonwala Building,
91 Mohd. Ali Road,
Mumbai – 400 003.

Sub :- Redevelopment of property bearing C.S.No.1/332 of Tardeo Divn, Dalal Estate, Befasis Road & D.B. Marg, Mumbai.

Ref :- 1) This office letter No. R./NOC/F-1555/1978/ MBRRB-08 dated 16.05.2008.
2) This office letter NOC No.R/NOC/F-1555/1756/ MBRRB-09 dated 22.04.2009.
3) Your letter dated 20.06.2011.
4) Government in Housing Department vide letter No.142 dated 02.05.2012.

This office vide its letter dated 16.05.2011under reference No.1 above has granted you NOC for redevelopment of subject property as per the provisions of Modified DCR 33(7) dated 25th January 1999 and subsequently corrigendum letter issued vide No.R/NOC/F-1555/1756/ MBRRB-09 dated 22.04.2009.

Now Govt. in Urban Development Department vide Notification No.TPB 4308/ 3224/CR-268/2008/A/UD-11 dated 21st May 2011 has modified the provisions of DCR 33(7) wherein permissible FSI has been enhanced from 2.5 to 3.00.

You vide letter under reference No.3 above has requested this office for granting of NOC with FSI 3.00 in accordance to modified DCR 33(7) dated 21st May 2011. The Government in Housing Department vide letter at reference No.4 above has directed that in case of Commencement Certificate above plinth has not been issued by MCGM the further action in respect of granting Revised NOC with permissible FSI 3.00 shall be taken by MBRRB.

Accordingly **"Revised No Objection Certificate"** is hereby granted for redevelopment of captioned property with FSI 3.00 or the FSI required for rehabilitation of existing occupiers plus 50% incentive FSI, whichever is higher, in accordance with the modified D.C. Regulation 33(7) and Appendix – III of this Regulation sanctioned by the Govt. in Urban Development Department Mantralaya vide Notification published in Govt. Gazette dated 25th January 1999 & Notification No. TPB 4308/ 3224/ CR-268/08/UD-11 dated 02nd March 2009 and Notification No.TPB 4308/ 3224/CR-268/ 2008/ A/UD-11 dated 21 May 2011, on the following terms and conditions :

Condition Nos.1, 4, 5, 6 & 11 are now modified and should be read as follows:

1) All the occupants of the old building shall be reaccommodated in the redeveloped building. Each occupant shall be rehabilitated and given the equivalent carpet area as occupied by him for residential purpose in the old building subject to the

minimum carpet area of 27.88 sq.mt. (300 sq.ft. fixed) and/or maximum carpet area 70 sq.mt. (753 sq.ft.) as provided in the MH&AD Act, 1976. In case of non-residential occupier, the area to be given in the reconstructed building will be equivalent to the area occupied in the old building. Provided that if carpet area for residential purpose exceeds 70.00 sq.mt. (753 sq.ft.) the cost of construction shall be paid by tenant/occupant to the developer. The cost of construction shall be as per Ready Reckoner rate of that year. However, the carpet area exceeding 70.00 sq.mt. (753 sq.ft.) shall be considered for rehab FSI but shall not be considered for incentive FSI. Accordingly the plans be got approved from M.C.G.M. as per the clause 16 of Appendix-III of the Notification dated 02nd March 2009 and 21.05.2011.

4) After issue of this NOC & till giving possession of tenements to the original occupiers in the new building, sale/transfer of tenancy rights by any of the original occupiers to any one shall not be allowed under any circumstances. Rehab tenements shall not be transferred for a period of Ten years from the date of occupation. Restriction on transfer of tenements shall be governed by provision of Rent Control Act till Co-op. Society is formed and after that the same shall be governed by the provision of Maharashtra Co-op. Society's Act.

5) The NOC holder will have to pay an expenditure, amounting to ₹1,09,44,646/- incurred by the Board towards structural repairs/propping / demolition, processing of reconstruction scheme/land acquisition etc. at the office of the Asstt. Accounts Officer (Zone-II) /MBRRB & produce certified xerox copy of receipt of payment to this office before issue of Commencement Certificate above plinth by MCGM. In future, if additional expenditure over & above ₹1,09,44,646/- found incurred by the Board, the same will also have to repaid to the Board as & when Board demands.

6) The plans of the proposed building shall be submitted to MCGM within six months from the date of issue of this NOC positively for its approval, failing which the NOC will stand cancelled. As far as possible provision of tenements of 300.00 sq.ft. to 350.00 sq.ft. carpet area shall be made in the proposed building plans for handing over to this office on account of surplus Built Up Area to be surrendered to the Board as per condition No.11 of this NOC.

After issue of IOD and approval to plans by MCGM.

i) Plans showing the tenements to be surrendered to MBRRB shall be shown prominently and copy of the same shall be submitted to MBRRB.

ii) The tenements to be surrendered shall be mortgaged in the name of MBRRB by way of registered deed within 15 days from issue of IOD by MCGM.

This shall be clearly shown in the proposed / approved building plans, otherwise permission for obtaining occupation certificate will not be granted.

11) The NOC holder has to surrender a surplus built up area as per III rd Schedule of MHAD Act-1976.

The exact surplus built up area if any as provided in the IIIrd Schedule of MHAD Act-1976, shall be communicated to you after you submit to this office the plans of proposed buildings with permissible FSI, duly approved by MCGM. The surplus area required to be surrendered to the Board will have to be made available to the Board at an amount as may be decided by the Board.

Also the Condition Nos.20, 21 and 31 of letter at reference No.1 are already deleted vide this office letter dated 22.04.2009 cited under reference No.2 above in view of the Judgment of the Hon. Supreme Court dated 04.09.2008 in Civil Appeal No.2970/2006 and others.

The Condition Nos.22, 23, 24, 25, 26, 27, 28, 29 & 30 of the NOC remains unchanged and shall be read as condition Nos.20, 21, 22, 23, 24, 25, 26, 27 & 28 since the original Condition Nos.20, 21 and 31 are deleted.

The following conditions are added after condition No.28.

29) The NOC holder will have to execute Agreement with MHADA/ MBRRB in respect of surrendering surplus Built up Area in accordance to the provisions of DCR 33(7), as per 3rd schedule of MHAD Act 1976 within 30 days after approval of IOD/ plans by MCGM and prior to issue of Commencement Certificate by MCGM on ₹100/- Stamp Paper. The MCGM shall not grant Commencement Certificate or any further permission unless the Agreement is duly executed between NOC holder and MHADA/ MBRRB and letter to that effect is issued by MBRRB

30) In case of mix of the structures i.e. cessed & non cessed structures and if the area of non cessed structures existing prior to 30.09.1969, area of land component under non-cessed structure works out upto a limit of 25% of plot area, then FSI shall be considered on total plot area. If this area exceeds 25% of the total area, then area above 25% shall be deducted from plot area. FSI for deducted area shall be as per regulation 32 and the remaining plot area shall be as per 33(7).

31) The Board will not be responsible for certifying the correct area of non-cessed structures if any on the said property, as certified by your licensed architect, as this does not fall within the purview of the Board. The Board will not be responsible for certifying the Built up area of non-cessed structures if any on the said property. The same shall be certified by your licensed architect, as this does not fall within the purview of the Board. The Built up area of non-cessed structures on the captioned property, if any shall be verified by MCGM prior to issue of IOD.

32) The NOC holder shall execute Agreement with all the tenants / occupants stating therein the rehabilitation area agreed to be provided apart from other terms & conditions. The copy of such agreement shall be submitted to MHADA / MCGM before issue of Commencement Certificate by MCGM.

33) If the NOC holder proposes to construct separate buildings for rehab and free sale, then the Commencement Certificate for free sale buildings shall be issued only after the work of all rehab buildings reached above plinth.

34) A corpus fund will have to be created by the developer which will take care of the maintenance of the new building for a period of 10 years.

The other contents of the said letter dated 16.05.2008 and 22.04.2009 remain unchanged.

Chief Officer,
M.B.R.& R.Board, Mumbai.

MUNICIPAL CORPORATION OF GREATER MUMBAI

Office of the Chief Engineer (Development Plan)
Municipal Head Office, 5th Floor, Extn. Building,
Mahapalika Marg, Fort,
Mumbai 400 001

To,
Mr./Mrs. : Prasad Balaram Dhanke
101,1st floor, Nathani Heights, D.B.Road, Bellasis Road, Near Mumbai Central Rly

No CHE. : SRDP201705111135173

Report Date : 20/05/2017

Sub : Sanctioned Revised Development Plan remarks for the land bearing C.S. No(s) 1/332 of TARDEO Division

Ref : Your Application u/no. DPD111135178 and payment of certifying charges made under Receipt no. 20160645388 dated 20/05/2017

Gentleman/Madam,

Sanctioned Revised Development Plan Remarks for the land shown bounded in blue on the accompanying plan are as under:

Description of the land: C.S.No(s) 1/332 of TARDEO

Sanctioned Revised Development Plan referred to ward: D

Reservations affecting the land[as shown on plan]: NO

Reservations abutting the land[as shown on plan]: PUBLIC HOUSING / HIGH DENSITY HOUSING

Designations affecting the land[as shown on plan]: NO

Designations abutting the land[as shown on plan]: MUNICIPAL PRIMARY SCHOOL and MUNICIPAL HOUSING

D.P. Roads affecting the land[as shown on plan]: NO

Existing Road: Present

Widening of the existing road to be confirmed from the office of the Executive Engineer (Traffic and Co-ordination)/Assistant Engineer (Survey).

Zones [as shown on plan]: RESIDENTIAL ZONE

Remarks from other Departments/Offices:

Demarcation: The boundaries of the reservations are subject to the actual Demarcation on site by this office staff along with the representative of A.E. Survey

Remarks from M.M.R.D.A. shall be obtained separately for the proposed METRO III before carrying out any development. The remarks for the widening of the roads for Metro, if any, and the demarcation thereof, shall be obtained from the M.M.R.D.A. before carrying out any development

The MMRDA Authorities under No. T&C/MMLine-3/SO/2012/550 dtd. 29/01/2013 have conveyed that, it is necessary to insist NOC from MMRDA/MMRC for the development of the lands situated within a distance not exceeding 50.00 mt. on either sides of the center line of the tentative proposed alignment of the Metro Line-3 (Colaba-Bandra). As the land u/r. falls within the stipulated distance, NOC from MMRDA/MMRC shall be obtain before any development.

Note:

If the land under reference is a part of amalgamation/sub division/layout, then specific remarks shall be obtained from the concerned Building Proposal office and development thereof shall be as per the terms and conditions of the approved amalgamation/sub division/layout.Remarks are offered only from the zoning point of view without reference to ownership and without carrying out actual site inspection and without verification of the status of the structures if any on the land under reference.

Remarks are offered only from the zoning point of view without reference to ownership and without carrying out actual site inspection and without verification of the status of the structures if any on the land under reference. Status of the existing road, if any, shall be confirmed from the concerned Ward Office.

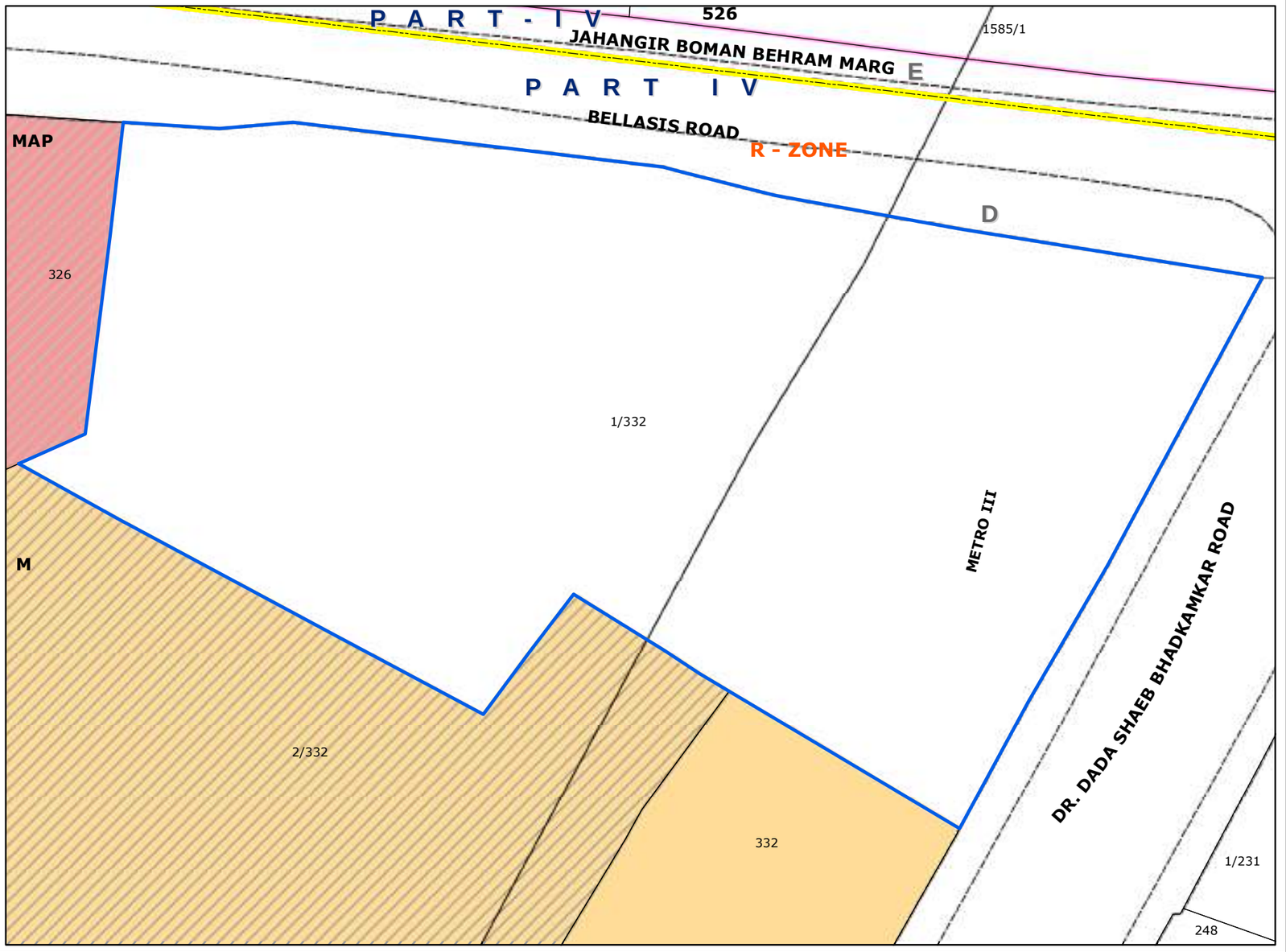
The boundaries shown in the accompanying plan are as per the available records with this office. However the boundaries shown in the records of City Survey Office shall supersede those shown in the D. P. Remarks Plan.

The separate remarks as per Draft Development Plan (2034) shall be obtained from the office of Town Planning Officer, 6th Floor, Annexe Building, Municipal Head Office, Mahapalika Marg, Fort, MUMBAI - 400 001.

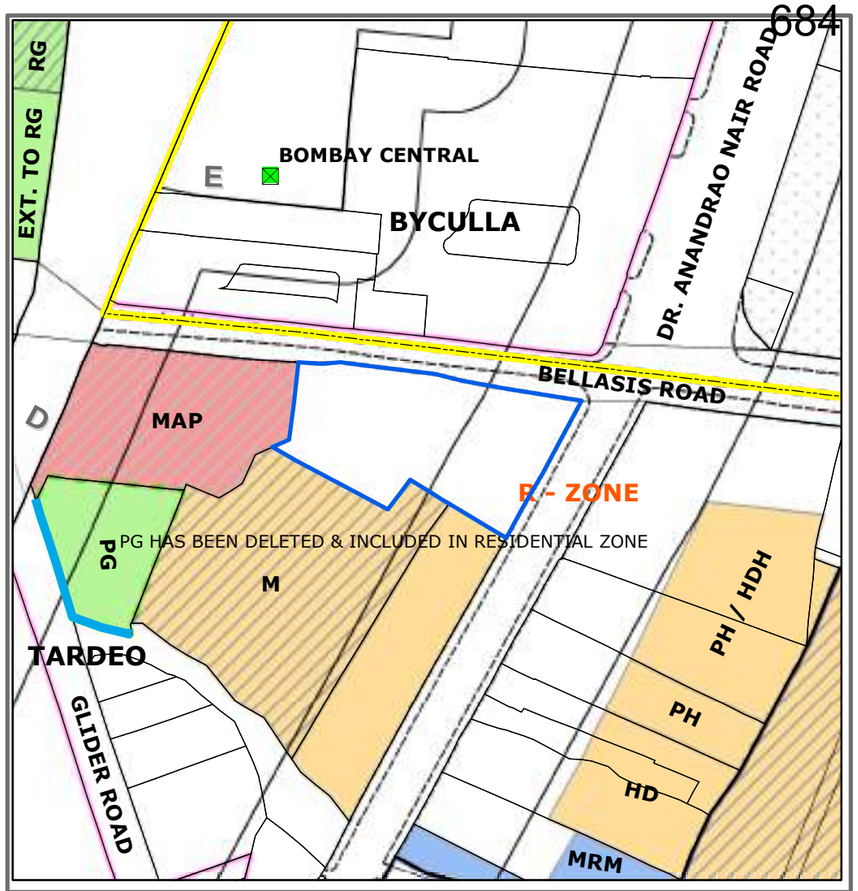
Validity of this Report is for One Year starting from the report generation date: 20/05/2017

No CHE. : SRDP201705111135173

Note: This is electronically generated report. Hence personal signature is not required. Development Plan,Department D Ward.



N	BLOCK PLAN
	Scale 1:500 — Land Bearing C.S.No(s) 1/332 of TARDEO Division in D Ward



N	LOCATION PLAN
	Scale 1:2500

Note:

DP Remarks have been offered only from Zoning point of view without any reference to the existing and status of the structures on the land under reference etc.
This plan is to be read with letter under

CHE/SRDP201705111135173/DP/City/D

This is an electronically generated document. Hence NO signature required. Assistant Engineer (DP), D Ward. Dated: 20/05/2017

MUNICIPAL CORPORATION OF GREATER MUMBAI
(Development Plan Department)

Office of the Chief Engineer (Development Plan),
5th Floor, Annexe Building,
Municipal Head Office,
Mahapalika Marg, Fort, MUMBAI - 400 001.

GEOTEK
CONSORTIUM

Off. No. 3, Joybelle Apts., Mori Road,
Mahim (W), Mumbai - 400 016.
Phone : 24448985
Fax : 24445370

GEOTECHNICAL INVESTIGATION REPORT (SEPTEMBER 2008)
PROPOSED HIGH RISE BUILDING
ON PLOT BEARING CTS NO. 1/332
TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI
FOR NATHANI PAREKH CONSTRUCTION PVT. LTD.

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FOR NATHANI PAREKH CONSTRUCTION PVT. LTD.

1.0 INTRODUCTION

Nathani Parekh Construction Pvt. Ltd. plans construction of a High Rise building in Mumbai Central, Mumbai. The proposed main tower will consist of a single basement, ground, 2 shopping floors, 3 parking floors and up to 60 additional floors. M/s. Mahimtura Consultants Pvt. Ltd. is Structural Consultant for the project. The work of detailed geotechnical investigation was awarded to Safe Cores and Tests. The field work and laboratory tests for the detailed geotechnical investigation were completed by Safe Cores in August 2008. This report prepared by Geotek Consortium presents results of the geotechnical investigation along with foundation recommendations for proposed building

2.0 EXPLORATION PROGRAM

2.1 Exploration Scope

Ten boreholes (BH-1 to BH-10) and Five Pressuremeter Tests were completed for the project. Borehole locations are illustrated on the Borehole Location Plan in the Annexure.

2.2 Geological Description

As per IS1893-1984; the area of the site has been classified as Volcanic rocks and minor basic Intrusives. The general area of the project consists mostly of nearly horizontal dispersed lava flows of Deccan Trap Basaltic Formation of Cretaceous to Eocene age. Layers of Volcanic Breccia overlying the Basaltic Formations are also commonly encountered in the area. The Breccia Bedrock was formed by sub-aqueous volcanic eruptions through fissures, in Basalt Bedrock, and generally consists of hard angular pebbles and gravels encapsulated in fine grained cementing material consisting mostly of volcanic ash. The thickness of the Breccia Bedrock is anticipated to be less than 50m. The Igneous rocks are generally of horizontal deposition. However, the inclination of the rock layers near the Mumbai region range between 5 degrees to 15 degrees with the horizontal.

As per IS 1893, the site falls under Seismic Zone III, which corresponds to a Modified Mercalli Intensity of VII. No fault lines are known to occur in close proximity of the site.

2.3 Subsurface Conditions

Subsurface profile at this site consists of fill soils overlying residual soils underlain by bedrock. Encountered soil/rock layers are described below;

LAYER I: FILL

Fill, consisting mostly of black sandy gravel, was encountered from the ground surface in the boreholes. The thickness of this layer ranged between 1.5m and 2.5m.

LAYER II: RESIDUAL SOILS

Residual soils, consisting mostly of blackish brown or yellowish brown clay, were encountered below the fill layer in the boreholes. This layer is formed by the complete in-place disintegration of parent bedrock material to texture of soil. Based on Standard Penetration Tests (SPT), consistencies of the predominantly cohesive soils ranged between medium stiff and very stiff. The lower boundary of this layer was encountered at depths between 4.5m and 8.0m below ground surface.

LAYER III: BRECCIA BEDROCK

Yellowish brown or Blackish Gray Breccia bedrock was encountered at depths typically between 4.5m and 5.5m below ground surface, but at slightly deeper depths between 7.0m and 8.0m in boreholes BH—5, BH-6 and BH-7. The bedrock was highly weathered to sound, generally improving with depth. Core Recoveries ranged between 9 and 95 percent, while Rock Quality Designation (RQD) ranged between 0 and 94 percent. The boreholes were terminated in this layer at depths between 20.0 and 27.0m below ground surface.

2.4 Ground water Levels

Groundwater accumulation in boreholes was monitored during and after completion of drilling activities. Groundwater was observed at depths between 1.0m and 1.5m below ground surface in the boreholes. Seasonal and annual fluctuations in ground water levels can be expected.

2.5 Pressuremeter Tests:

Pressuremeter tests were conducted in the boreholes. Pressuremeter test observations and results are enclosed in the Annexure. Results are briefly summarized below:

TABLE A
SUMMARY OF PRESSUREMETER TEST RESULTS

Bore hole	Test Depth Below Ground	Layer Description	P_L kg/cm^2	E_p kg/cm^2	E kg/cm^2
BH-2	7.0m	Slightly weathered Breccia	90	14847	22,270
BH-6	10.0m	Highly weathered Breccia	165	4582	6,873
BH-7	7.0m	Clay	30	812	1,216
BH-9	7.5m	Completely weathered Breccia	115	2572	3,858
BH-10	9.5m	Slightly weathered Breccia	185	46359	69,538

Note:

1) E_p = Pressuremeter Modulus
2) E = Deformation Modulus = $1.5E_p$ for bedrock (Reference No. 3)
3) P_L = Limit Pressure from Pressuremeter Test

3.0 FOUNDATION RECOMMENDATIONS

Weathered bedrock was encountered at depths typically between 4.5m and 5.5m below ground surface, but at slightly deeper depths between 7.0m and 8.0m in boreholes BH—5 to BH-7. The proposed tower with basement should be supported on a raft foundation installed on this bedrock. PCC will have to be placed beneath the raft near boreholes BH-5 to BH-7.

Raft foundation for proposed tower installed as described above can be designed for a maximum net allowable bearing capacity of 120 t/m^2.

Based on our finite element analysis modeling using software Plaxis, maximum settlement of raft foundation will be less than 30mm. Software outputs are included in this report. A modulus of subgrade reaction of 4,000 t/m^3 can be utilized for design of raft foundation.

Relatively lighter buildings (G+6 storied) can be supported on spread foundations installed on the bedrock. Spread foundations can then be designed for a maximum net allowable bearing capacity of 50 t/m2. Maximum settlement will be less than 12mm.

3.1 Basement Construction

Excavation sides should be sloped at a maximum slope of 1:1 (horizontal:vertical) or flatter within the top 5.5m thick overburden soils. If adequate space is not available for this side sloping, then excavation side shoring with bored piles should be utilized.

Basement floors and walls should be adequately water-proofed. Adequate uplift resistance in the form of dead weight should be provided on basement floor slabs/rafts.

Hard bedrock was encountered at depths between 4.5m and 5.5m below ground surface in the boreholes. Rock breakers will be required to complete basement excavations in this bedrock.

3.2 Lateral Earth Pressures

Basement walls and pile shoring walls, if any, will be subjected to lateral earth pressures. A soil submerged unit weight (r_{sub}) and coefficient of at-rest lateral earth pressure (k_o) of 0.8 t/m^3 and 0.33, respectively, should be utilized for design of basement walls. For design of pile shoring walls, a soil total unit weight (r_t) and coefficient of at-rest lateral earth pressure (k_o) of 1.8 t/m^3 and 0.33, respectively, should be utilized for design of shoring walls. Hydrostatic pressures and surcharge pressures, if any, should also be considered

3.3 Foundation Protection

Results of chemical analysis on groundwater samples will indicate that the site falls under Class 1 for sulphate and chloride concentrations (As per IS456 and as per CIRIA Sp. Publication No. 31). A 'moderate' Exposure Condition was assigned to this site. Therefore only following normal precautions are recommended to protect subsurface concrete and reinforcement.

Type of Cement:	OPC or PPC
Minimum Grade of Reinforced Concrete:	M25
Minimum Cement Content for spread footings:	300 kg/m^3
Maximum Water Cement Ratio:	0.50
Minimum Cover to Reinforcement:	50mm

4.0 FIELD EXPLORATION PROCEDURES

The sub-surface investigation was completed generally as per IS: 1892-1979. The field investigation was carried out using a rotary machine. Casing was used to support sides of borehole until sufficiently stiff strata was encountered. Standard Penetration Tests (i.e. SPT) were carried out in soil in accordance with IS 2131-1981. Using this procedure, a 2" outside diameter split-barrel sampler is driven into the soil by 63.5 kg. weight falling through 75 cm height. After an initial set of 15cm, the number of blows required to drive the sampler an additional 30 cm, is known as the "penetration resistance" or "N value".

When SPT refusal was obtained in hard strata, rock coring was done using diamond bit and double tube core barrel to obtain rock samples. Percent Rock Core Recovery and Rock Quality Designation (%RQD) were determined. % RQD = 100 x Sum of length of rock pieces in cms, each having lengths greater than 10cms/Total length of core run.

Pressuremeter tests (PMT) were conducted in select boreholes at select depths. This test involves expanding a rubber/steel probe against the sides of a borehole. The test is done by drilling a borehole down to the test level. The PMT probe is then inserted in the borehole to the test level, and is then inflated with water in increments. The applied pressure v/s. deformation of the probe is recorded. The slope of the pressure v/s. deformation curve provides the Youngs Modulus (E) of the soil/rock. The pressure at

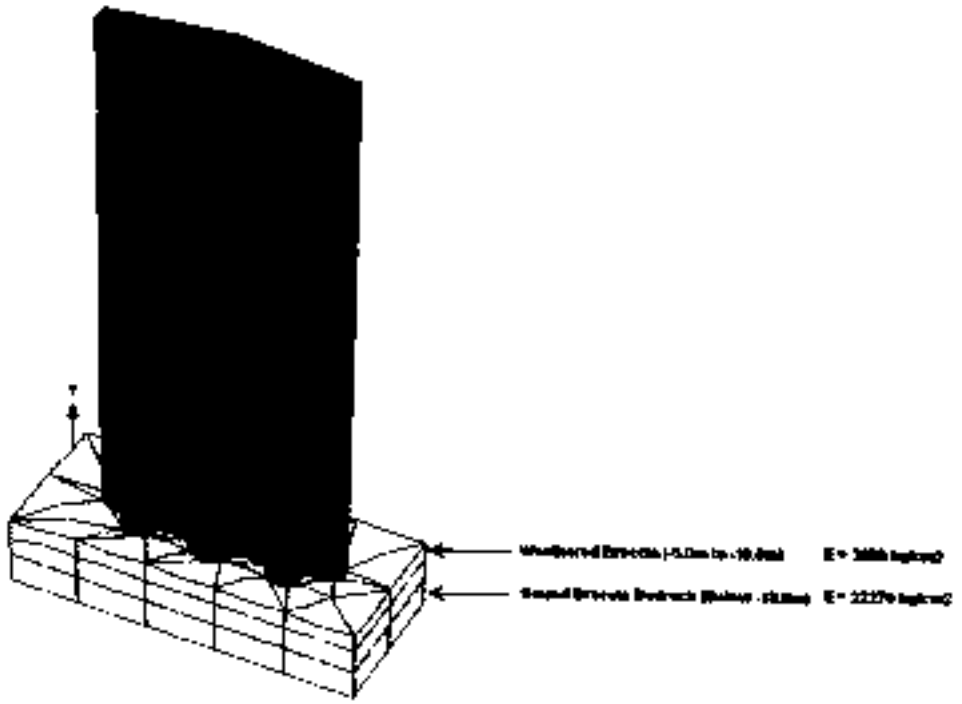
which failure occurs is called as limit pressure (P_L). The E value and P_L are then utilized to determine ground bearing capacity.

Sincerely,

GEOTEK CONSORTIUM

Jaydeep Wagh
B.E., M.S., P.E. (Geotechnical)

FIGURE : 1
FINITE ELEMENT ANALYSIS MODEL



Note: Rail levelled at -6.0m and exerting pressure of 150 tf/m2.

FIGURE : 2
SETTLEMENT CONTOURS

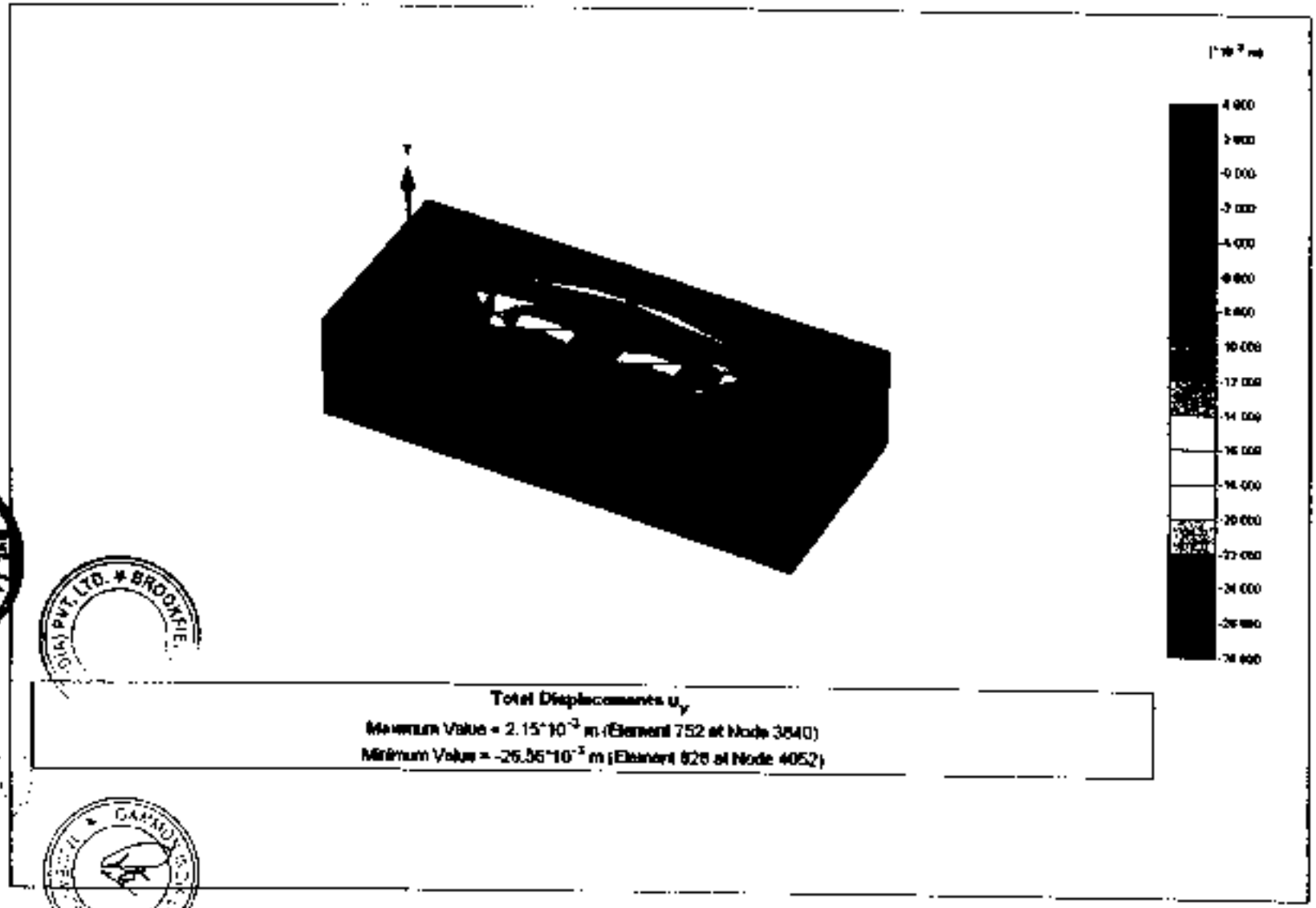
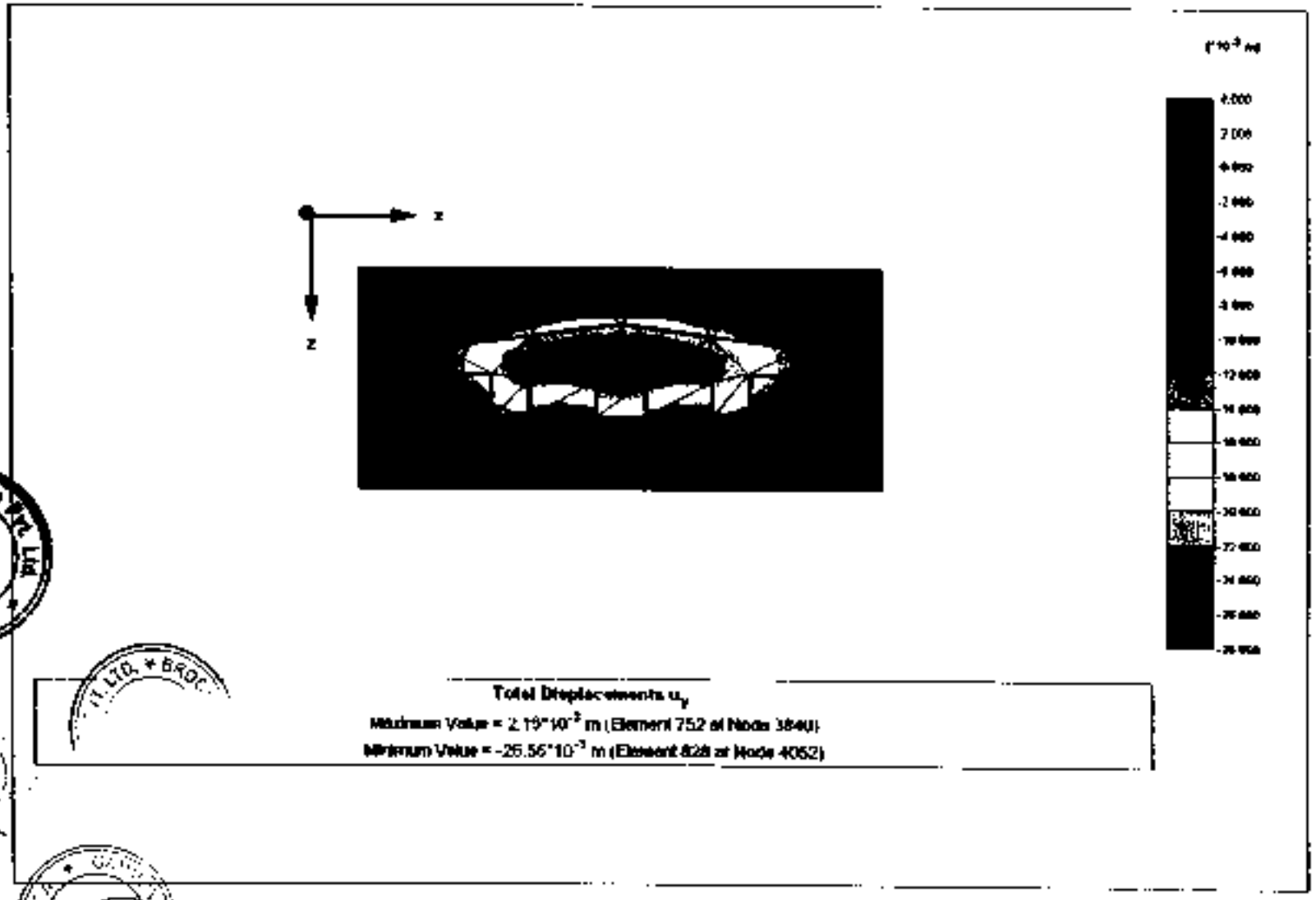


FIGURE : 3
SETTLEMENT CONTOURS (TOP VIEW)



REFERENCES

1) Foundation Analysis and Design, J.E. Bowles, McGraw Hill Publication, 5th Edition, 1996.

2) Canadian Foundation Engineering Manual.

3) Geotechnical Engineering and Evaluation, R. F. Hunt.

4) Foundation Design Manual, N. V. Nayak, 5th Edition, 1996.

5) IS:6403-1981, Code of Practice for Design and Construction of Shallow Foundations on Soils.

6) IS:12070-1982, Code of Practice for Design and Construction of Shallow Foundations on Rocks.

SAMPLE CALCULATION OF ALLOWABLE BEARING CAPACITY FOR TOWER RAFT FOUNDATION ON WEATHERED BEDROCK

GL +0.0m

Layer I, Fill

-2.5m

Layer II, Residual Soils

-4.5m to -8.0m

Layer III, Highly Weathered Breccia Bedrock

-18.0m

Layer III, Slightly Weathered Breccia Bedrock

A) SHEAR FAILURE CRITERIA

(Assuming weathered Bedrock to be a very dense granular soil.)

Net Ultimate Bearing Capacity = $q_u = cNc + q\,(N_q - 1) + 0.5\,B\,\gamma N\gamma\,s\gamma$ (Refn. 5, Table 4-1)

Where,

q = Overburden Pressure (i.e. submerged unit weight x depth of foundation)
c = Cohesion
B = Minimum Width of Raft = 10m
γ = unit weight of soil = 0.80
N_c, N_q, N_γ = Terzaghi's Bearing capacity factors
Sc, sq, s_γ = Shape factors = Conservatively assumed as 1, 1, and 0.8, respectively
D = Minimum Depth of Raft = 5.0m

Minimum SPT N value obtained in boreholes = 50
Corresponding friction angle = 40° (Reference No. 5)
Corresponding Nc=75, Nq=64, N_γ=109 (Reference 5, IS:6403-1981);

Substituting these values in the above equation;
q ultimate $=q_u$ =[0x75x1]+[5.0x0.8x(64-1)x1]+[0.5x10x0.8x109x0.6]= 0+250+250 = 500 t/m^2
q safe = q_u/F.S. = 500/3 = 160 t/m2

Restricted to 120 t/m2 to limit settlements as shown below.

CALCULATION OF SETTLEMENTS OF FOUNDATIONS (25M X 50M) EXERTING PRESSURE OF 120 T/M2:

A) SETTLEMENT OF HIGHLY WEATHERED BEDROCK FROM -5.0m TO -18m:

From Reference No. 1:

$$\text{Settlement} = S = q_0 B' \frac{1-\mu^2}{E_s} m I_s I_f$$

Where,
q_0 = Footing Pressure = 120 t/m2
B' = B/2 (Where B is the width of pressure distribution
μ = Poisson's ratio = 0.3
E = Modulus of Elasticity
I_s = Influence Factor (Obtained from Table 5-2, Reference No 1)
I_f = Depth Factor (Obtained from Figure 5-7, Reference No. 1)
m = 4 for center of footing

E value from pressuremeter tests = 38580 t/m2

L' = 50/2 =25.0, B' = 25/2 = 12.5, H=13m, and D=5.0m
Therefore, M=L/B=2; and N=H/B'=1.04 and D/B=0.2
Corresponding, I_s = 0.18, Conservative I_f = 1.0 (From Table 5-2, Reference 1)

Settlement of Layer = $S_1 = 120 x 12.5 x \frac{1-0.3^2}{38580} x 4 x 0.18 x 1.0$ = 0.027m = 27mm

B) SETTLEMENT OF HARD BRECCIA BEDROCK BELOW –18M

$$\text{Settlement} = S = q_0 B' \frac{1-\mu^2}{E_s} m I_f I_f$$

E value for Breccia Bedrock = 2,20,270 t/m2 (Reference No. 3)

Assuming a 30 degree pressure dissipation,
Width of pressure distribution at top of layer = B = 25m + 8m = 33m
Length of pressure distribution at top of layer = L = 50m + 8m = 58m

L' = 58/2 =29.0, B' = 33/2 = 16.5, H=66m, and D=18.0m
Therefore, M=L/B=1.75; and N=H/B'=4.0 and D/B=0.6
Corresponding, I_s = 0.4, Conservative I_f = 1.0 (From Table 5-2, Reference 1)

Settlement of Layer = $S_2 = 120 \times 16.5 \times \frac{1-0.2^2}{2,20,000} \times 4 \times 0.4 \times 1.0 = 0.014\text{m} = \mathbf{14mm}$

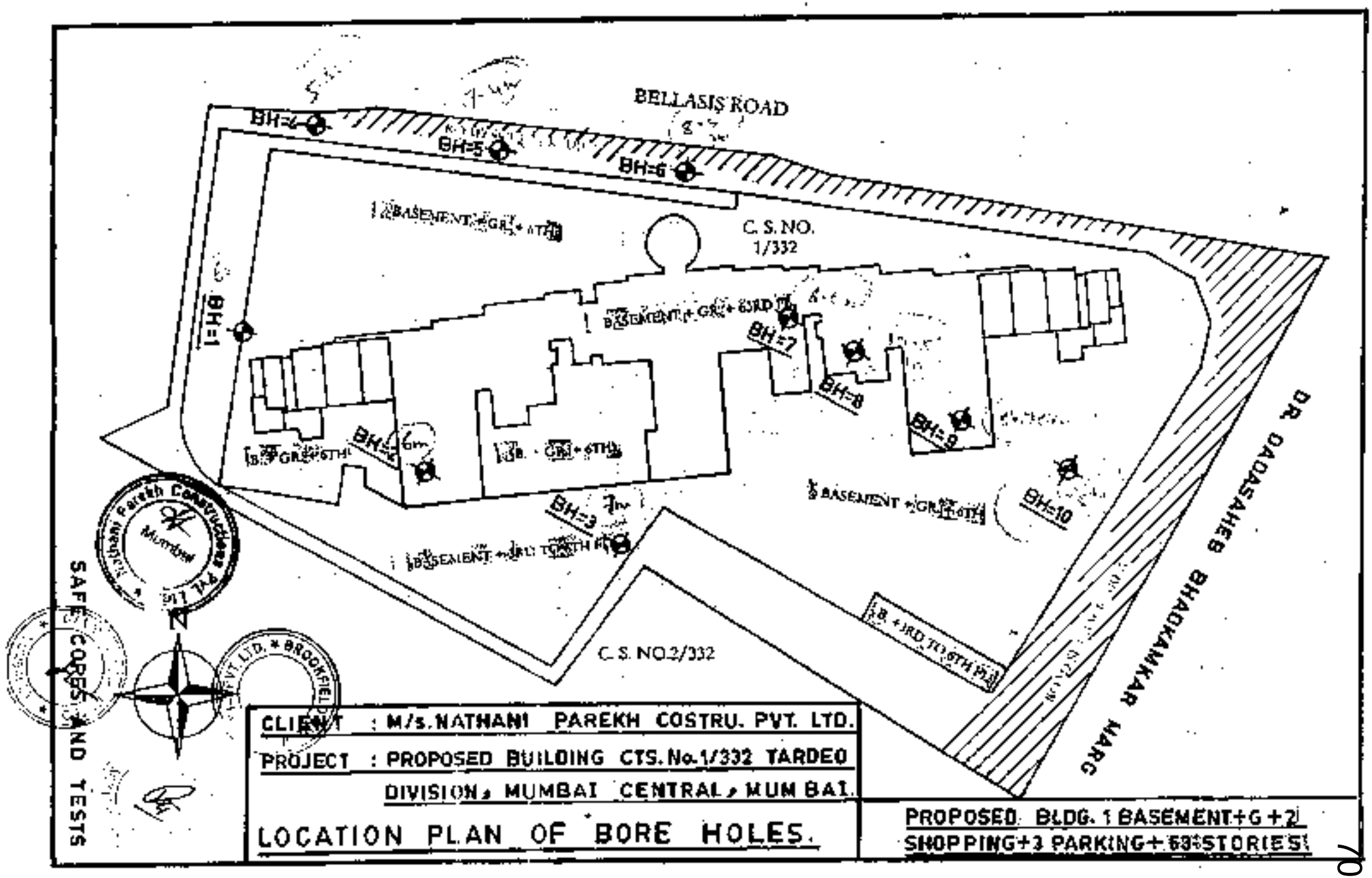
THEREFORE, TOTAL SETTLEMENT = 27mm + 14mm = **41mm**

From IS8009,
Due to Footing Rigidity Factor, Settlement = 0.8 x 41mm = 33mm

Therefore, Total Settlement = 33mm

ANNEXURE

LOCATION PLAN OF BOREHOLES


BELLASIS ROAD
BH=4
BH=5
BH=6
BH=1
BH=2
BH=3
BH=7
BH=8
BH=9
BH=10
C.S.NO. 1/332
C.S.NO.2/332
DR DADASAHEB BHADKAMKAR MARG
SAFETY CORES AND TESTS
CLIENT : M/s. NATHANI PAREKH COSTRU. PVT. LTD.
PROJECT : PROPOSED BUILDING CTS. No. 1/332 TARDEO
DIVISION, MUMBAI CENTRAL, MUMBAI.
LOCATION PLAN OF BORE HOLES.
PROPOSED BLDG. 1 BASEMENT+G+2 SHOPPING+3 PARKING+ 6 STORIES

BOREHOLE LOGS

SAFE

BORE LOG

(As per IS : 1892 - 1979, 4453 - 1980, & 4464 - 1967)

Job No. : SCAT-658
Date : 19-Aug-08
Page No. : 1 of 2

Project : Proposed Building CTS No.1/332, Pardeo Division, Mumbai Central, Mumbai.
Client : M/S. NATHANI PAREKH CONSTRUCTION PVT. LTD.

Co-Ordinate : -
R.L. : G.L.
Location :
Dia. of Borehole : 150 / NX m
Depth of GWT : 1.50 m

Bore Hole No. : BH-1
Depth of Bore Hole : 22.50 m
Depth of Casing : 4.50 m
Date of Commencement : 25-Jul-08
Date of Completion : 29-Jul-08

Scale m	Depth m	R.L. m	Log	Description	Sample No.	Type	Depth (m) From	Depth (m) To	SPT 'N' Value 15	15	15	15	N	CR %	RQD %	P.R. m/hr	Remarks / Other Tests
1				Filling of Blackish Gravelly Soil													
2	2.10			(2.1m)	1	SPT-1	1.50	2.10	2	3	5	7	8				GWT
3				Blackish Brown Medium Stiff Clay													
4	4.50			(2.4m)	2	SPT-2	3.00	3.60	3	5	6	8	11				
5	5.50			Yellowish Stiff Clay (1m)	3	SPT-3	4.50	5.10	4	6	7	9	13				
6				Yellowish Highly Weathered Breccia Rock	1	DR1	5.50	6.00						32	0		
7					2	DR2	6.00	7.00						34	0		
8					3	DR3	7.00	8.50						37	27		
9					4	DR4	8.50	9.5[illegible]						60	25		
10					5	DR5	9.50	10.5[illegible]						70	29		
11	11.50			(6m)	5	DR5	10.50	11.50						75	36		
12				Grey Breccia Rock	7	DR7	11.50	12.5[illegible]						75	[illegible]		
13					8	DR8	12.50	13.50						38	[illegible]		
14					9	DR9	13.50	14.5[illegible]						50	29		
15	15.00			(3.5m)	10	DR10	14.50	15[illegible]						46	27		

DS: Disturbed Sample
UDS: Undisturbed Sample
SPT: Standard Penetration Test
WS: Wash Sample

CR : Core Recovery
RQD : Rock Quality Desig[illegible]
PR : Rate of Penetration in Rock
VST : Vane Shear Test

K : Permeability of Soil / Rock
PT : Packer Permeability Test
DR : Drill Run
GWT : Ground Water Table

Site Engr.	Drawn By	Chkd. By	Client Rept.

SAFE CORES AND TESTS
6,Citizen Apartments,30 Prof. Bamb[illegible] Tel. No. 3642111

PRESSURE METER TEST RESULTS

[illegible]ct:	Geotechnical Investigation Work at Mumbai Central		
[illegible]nt	Nathani Group	Date	28-08-2008
Bore No	BH-2	Test Depth	7.0m
Ground R.L:		Casing	NX
Ground W.T :		Type of Strata	Slightly weathered Rock

S.No	Pressure P	Pressure P'	Displacement display value Rn	Inner Radius Display Value Ri = Rn + 23.5	Thickness correction voulme PG = P' /K	Reference inner radius Ra = Ri - PG	Test Pocket Radius R = Ra2 +S/n
	(Mpa)	(Kg/cm²)	(mm)	(mm)		(mm)	(mm)
1	0.00	0.00	0.09	23.59	-0.02	23.61	36.836
2	0.50	5.00	5.61	29.11	-0.01	29.12	40.589
3	1.00	10.00	6.21	29.71	0.00	29.71	41.016
4	1.50	15.00	6.35	29.88	0.01	29.87	41.133
5	2.00	20.00	6.47	29.97	0.02	29.95	41.192
6	2.50	25.00	6.54	30.04	0.03	30.01	41.237
7	3.00	30.00	6.59	30.09	0.03	30.06	41.267
8	3.50	35.00	6.62	30.12	0.04	30.08	41.283
9	4.00	40.00	6.66	30.16	0.05	30.11	41.306
10	4.50	45.00	6.68	30.18	0.06	30.12	41.314
11	5.00	50.00	6.7	30.20	0.07	30.13	41.322
12	5.50	55.00	6.72	30.22	0.08	30.14	41.331
13	6.00	60.00	6.74	30.24	0.08	30.16	41.339
14	6.50	65.00	6.78	30.28	0.09	30.17	41.348
15	7.00	70.00	6.79	30.29	0.10	30.19	41.363
16	7.50	75.00	6.81	30.31	0.11	30.20	41.372
17	8.00	80.00	6.83	30.33	0.12	30.21	41.380
18	8.50	85.00	6.85	30.35	0.13	30.23	41.396
19	9.00	90.00	6.88	30.38	0.14	30.24	41.404
	Probe brust at 6.88						

Caculation Notes: **Type of Probe : D**

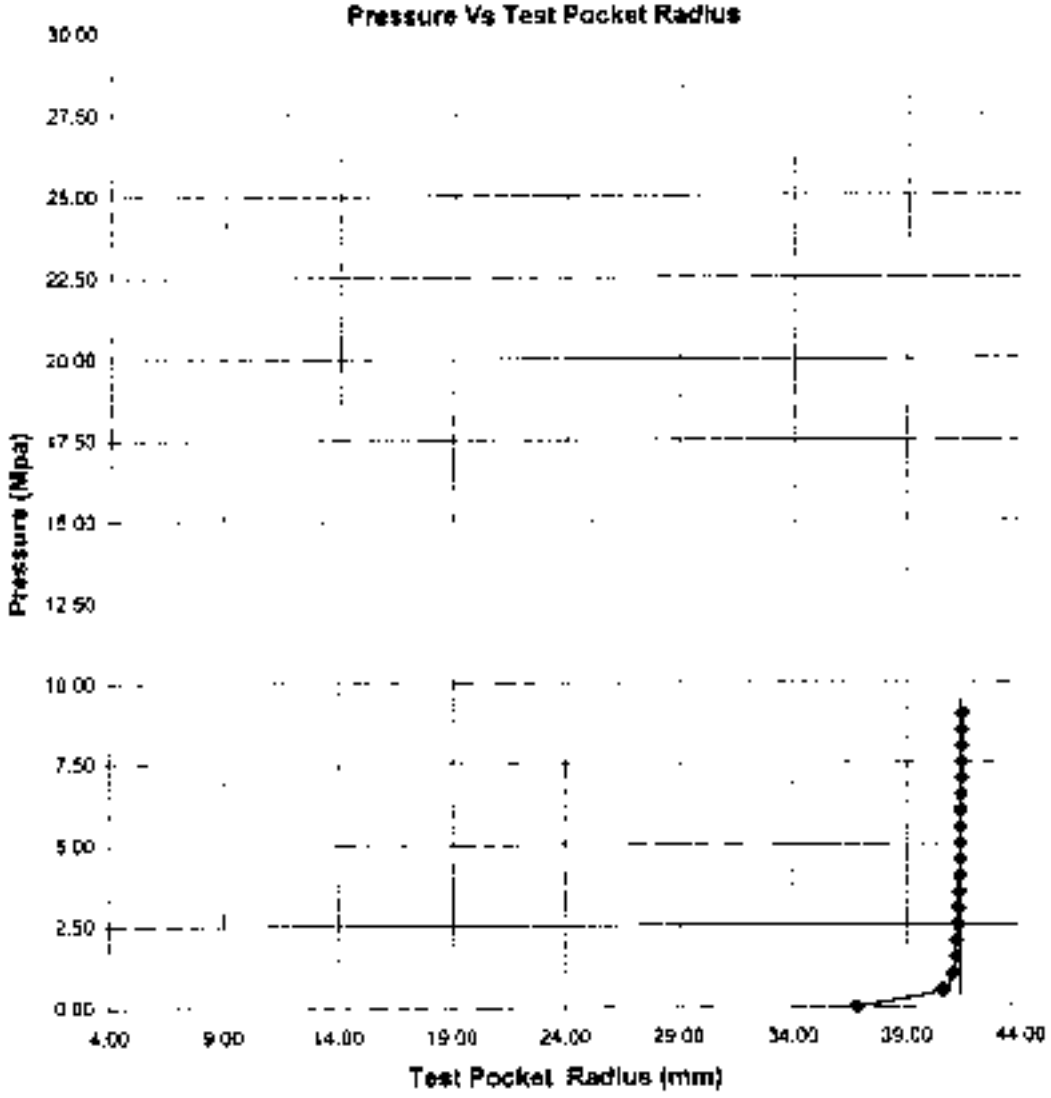
Membrane calibration Constants Thickness Correction K (MN/m2/m[illegible]) = [illegible]59

Expantion Correction, S (mm²) = 251[illegible]

[illegible] No	
Prepared by	

Project:	Geotechnical Investigation Work at Mumbai Central		
Client	Nathani Group	Date	28-08-2008
Bore No	BH-2	Test Depth	7.0m
Ground R.L:		Casing	NX
Ground W.T :		Type of Strata	Slightly weathered Rock

Pressure Vs Test Pocket Radius



Initial Pressure P_1 (Mpa)	1.5	Initial Radius (mm)	41.133		
Final Pressure P_2 (Mpa)	9	Final Radius (mm)	41.404	r (mm)	41.2685
ΔP	7.5	ΔR (mm)	0.271		
Calculations					
$K = \Delta P/\Delta R$	27.68	v	0.30		
$E = (1+v)r\,K$ (Mpa)	1434.75				
$G = E/2(1+v)$ (Mpa)	965.09				

Nathani Parekh Consultants Mumbai

GAMMON INDIA LTD. * BROOKFIELD MUMBAI

Project:	Geotechnical Investigation Works at Mumbai Central		
Client	Nathani Group		26-06-2008
Bore No	BH-6	Test Depth	10.0m
Ground R.L:		Casing	NX
Ground W.T:		Type of Strata	Highly Weathered Rock

S No	Pressure P	Pressure P'	Displacement display value Rs	Inner Radius Display Value Ri = Rs + 25.8	Thickness correction volume PC = P' /K	Reference inner radius Ro = Ri - PC	Test Pocket Radius R = Ro2 +δ/π
	(Mpa)	(Kg/cm^2)	(mm)	(mm)		(mm)	(mm)
1	0.00	0.00	-2.22	21.28	-0.22	21.50	35.400
2	0.50	5.00	1.19	24.69	-0.01	24.70	37.645
3	1.00	10.00	4.27	27.77	0.00	27.77	38.833
4	1.50	15.00	5.41	28.91	0.01	28.90	40.434
5	2.00	20.00	6.06	29.56	0.02	29.54	40.895
6	2.50	25.00	6.38	29.89	0.03	29.86	41.128
7	3.00	30.00	6.87	30.17	0.03	30.14	41.325
8	3.50	35.00	6.81	30.41	0.04	30.37	41.494
9	4.00	40.00	7.31	30.81	0.06	30.76	41.782
10	4.50	45.00	7.39	30.89	0.06	30.83	41.834
11	5.00	50.00	7.44	30.94	0.07	30.87	41.863
12	5.50	55.00	7.49	30.99	0.08	30.91	41.886
13	6.00	60.00	7.54	31.04	0.08	30.96	41.926
14	6.50	65.00	7.58	31.08	0.09	30.99	41.950
15	7.00	70.00	7.83	31.13	0.10	31.03	41.980
16	7.50	75.00	7.71	31.21	0.11	31.10	42.033
17	8.00	80.00	7.8	31.30	0.12	31.18	42.094
18	8.50	85.00	7.87	31.37	0.13	31.24	42.139
19	9.00	90.00	7.93	31.43	0.14	31.29	42.177
20	9.50	95.00	7.99	31.49	0.14	31.35	42.216
21	10.00	100.00	8.06	31.56	0.15	31.41	42.261
22	10.50	105.00	8.13	31.63	0.16	31.47	42.307
23	11.00	110.00	8.21	31.71	0.17	31.54	42.360
24	11.50	115.00	8.25	31.73	0.18	31.55	42.369
25	12.00	120.00	8.25	31.75	0.19	31.56	42.376
26	12.50	125.00	8.27	31.77	0.19	31.58	42.388
27	13.00	130.00	8.29	31.79	0.20	31.59	42.395
28	13.50	135.00	8.31	31.81	0.21	31.60	42.403
29	14.00	140.00	8.32	31.82	0.22	31.60	42.404
30	14.50	145.00	8.35	31.85	0.23	31.62	42.420
31	15.00	150.00	8.37	31.87	0.24	31.63	42.429
32	15.50	155.00	8.39	31.89	0.25	31.64	42.436
33	16.00	160.00	8.40	31.90	0.25	31.65	42.439
34	16.50	165.00	8.40	31.90	0.26	31.64	42.432

Calculation Notes: Type of Probe : D

Membrane calibration Constants: Thickness Correction K (MN/m2/mm) = 5

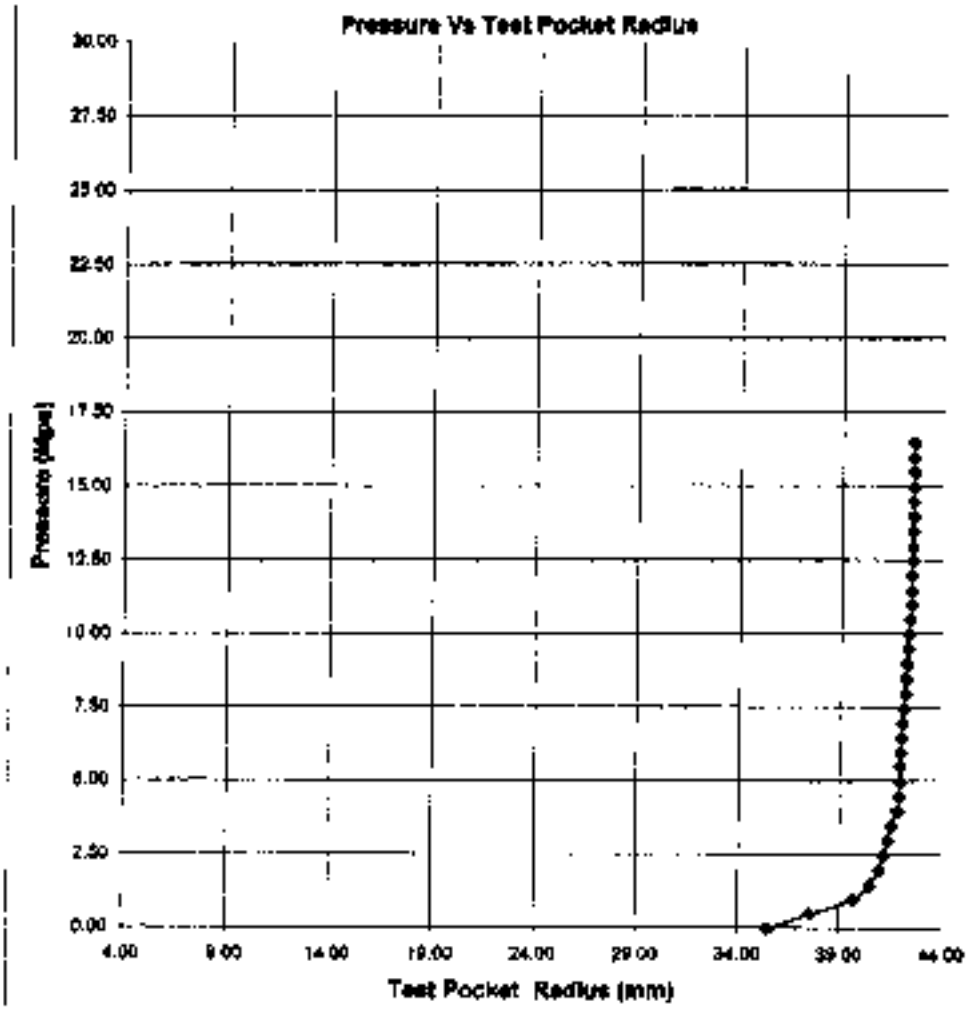
Expansion Correction, δ (mm^2) = 2512

Tab No

Prepared by

Project:	Geotechnical Investigation Works at Mumbai Central		
Client	Nathani Group	Date	26-06-2008

Bore No	BH-6	Test Depth	10.0m
Ground R.L:		Casing	NIL



Initial Pressure P_1 (Mpa)	1.5	Initial Radius (mm)	40.434		
Final Pressure P_2 (Mpa)	13.5	Final Radius (mm)	42.432	r (mm)	41.433
ΔP	12	ΔR (mm)	1.999		
Calculations					
$K = \Delta P/\Delta R$	6.01	v	0.30		
$E = (1+v) r K$ (Mpa)	458.29				
$G = E/2(1+v)$ (Mpa)	287.89				

Project: Geotechnical Investigation Works at Mumbai Central
Client: Nathani Group
Bore No: BH-7
Ground R.L:
Ground W.T :
Date: 26-6-08
Test Depth: 15.0m.
Casing: NX
Type of Strata: Clay

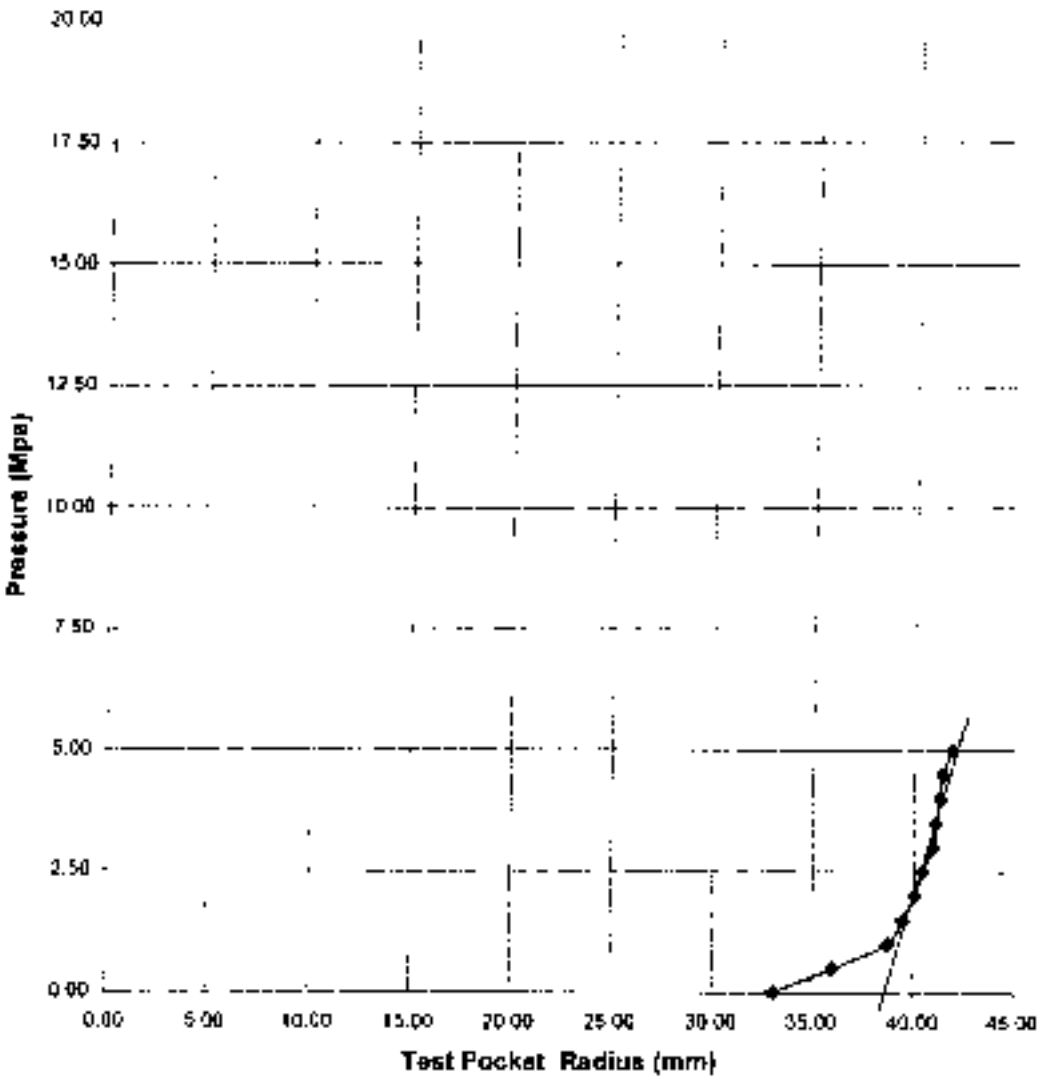
S.No	Pressure P	Pressure P'	Displacement display value Rn	Inner Radius Display Value Ri = Rn + 23.6	Thickness correction voulme PG = P'' /K	Reference Inner radius Rs = Ri- PG	Test Pocket Radius R = Ra2 +S/π
	(Mpa)	(Kg/cm^2)	(mm)	(mm)		(mm)	(mm)
1	0.00	0.00	-1.58	21.92	-0.02	21.94	33.088
2	0.50	5.00	2.64	26.14	-0.01	26.15	35.998
3	1.00	10.00	6.26	29.76	0.00	29.76	38.701
4	1.50	15.00	7.24	30.74	0.01	30.73	39.453
5	2.00	20.00	7.97	31.47	0.02	31.45	40.016
6	2.50	25.00	8.51	32.01	0.03	31.98	40.437
7	3.00	30.00	9.12	32.62	0.03	32.59	40.914
8	3.50	35.00	9.36	32.86	0.04	32.82	41.099
9	4.00	40.00	9.58	33.08	0.05	33.03	41.268
10	4.50	45.00	9.74	33.24	0.05	33.18	41.389
11	5.00	50.00	10.30	33.80	0.07	33.73	41.833

Caculation Notes:
Membrane calibration Constants: Thickness Correction K (MN/m2/mm) = 59
Expanion Correction, S (mm^2) = 25

Prepared by

Project: Geotechnical Investigation Works at Mumbai Central
Client: National Group
Bore No: BH-7
Date: 28-8-08
Test Depth: 15.0m.
Casing: NX
Ground W.T :
Type of Strata

Pressure Vs Test Pocket Radius



Initial Pressure P_1 (Mpa)	1.5	Initial Radius (mm)	39.450		
Final Pressure P_2 (Mpa)	4.5	Final Radius (mm)	41.390	r (mm)	40.42
ΔP	3	ΔR (mm)	1.940		
Calculations					
$K = \Delta P/\Delta R$	1.55	v	0.30		
$E = (1+v) \times K$ (Mpa)	81.26				
$G = E/2(1+v)$ (Mpa)	52.82				

Job
Prepared

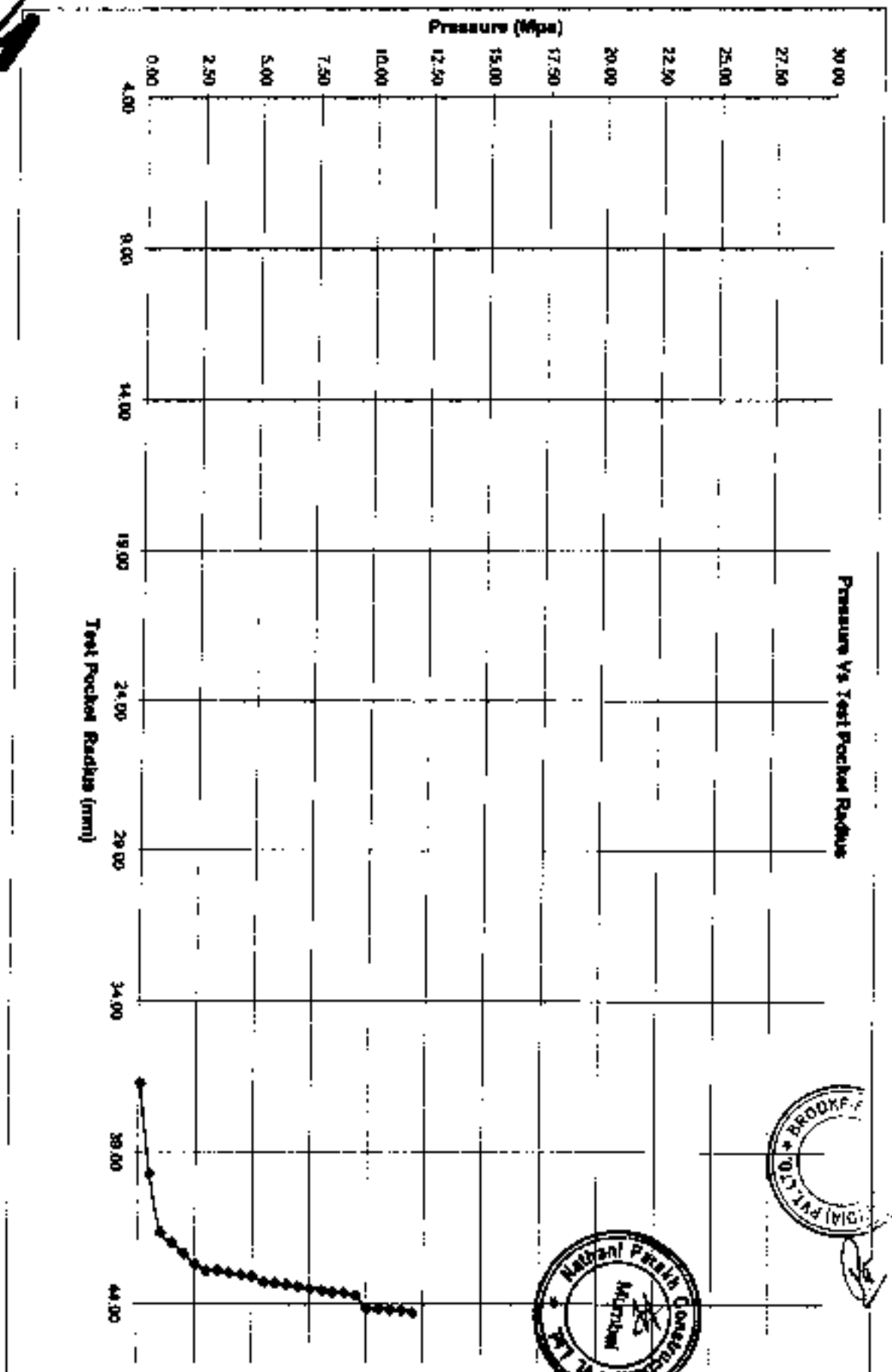
Project: Geotechnical Investigation Works at Mumbai Central
Client: Nathani Group
Bore No: BH-9
Ground R.L:
Ground W.T:
Date: 26-8-08
Test Depth: 7.5m
Casing: NX
Type of Strata: Completely weathered rock

S.No	Pressure P	Pressure P'	Displacement display value Rn	Inner Radius Display Value Ri = Rn + 23.8	Thickness correction voulme PC = P'' /K	Reference Inner radius Rs = Ri- PC	Test Pocket Radius R = Rs2 +S/π
	(Mpa)	(Kg/cm²)	(mm)	(mm)		(mm)	(mm)
1	0.06	0.60	-0.1	23.40	-0.02	23.42	36.714
2	0.50	5.00	4.37	27.87	-0.01	27.88	39.709
3	1.00	10.00	7.07	30.57	0.00	30.57	41.643
4	1.50	15.00	7.51	31.01	0.01	31.00	41.961
5	2.00	20.00	8	31.50	0.02	31.48	42.318
6	2.50	25.00	8.5	32.00	0.03	31.97	42.685
7	3.00	30.00	8.79	32.29	0.03	32.26	42.896
8	3.50	35.00	8.8	32.30	0.04	32.26	42.897
9	4.00	40.00	8.91	32.41	0.05	32.36	42.973
10	4.50	45.00	8.98	32.48	0.06	32.42	43.020
11	5.00	50.00	9.06	32.56	0.07	32.49	43.074
12	5.50	55.00	9.3	32.80	0.08	32.72	43.249
13	6.00	60.00	9.36	32.86	0.08	32.78	43.288
14	6.50	65.00	9.45	32.95	0.09	32.86	43.349
15	7.00	70.00	9.56	33.06	0.10	32.95	43.419
16	7.50	75.00	9.62	33.12	0.11	33.01	43.465
17	8.00	80.00	9.71	33.21	0.12	33.09	43.527
18	8.50	85.00	9.79	33.29	0.13	33.16	43.582
19	9.00	90.00	9.84	33.34	0.14	33.20	43.613
20	9.50	95.00	9.98	33.48	0.14	33.34	43.691
21	10.00	100.00	10.04	33.54	0.15	33.39	44.136
22	10.50	105.00	10.08	33.58	0.16	33.42	44.144
23	11.00	110.00	10.08	33.58	0.17	33.41	44.163
24	11.50	115.00	10.01	33.51	0.18	33.33	44.170
25	12.00	120.00	10.72	34.22	0.19	34.03	44.246

Calculation Notes:
Membrane calibration Constants

Type of Probe : D
Thickness Correction K (MN/m2/mm) = 59
Expansion Correction, S (mm²) = 2512

Job
Prepa


Pressure (Mpa)
0.00
2.50
5.00
7.50
10.00
12.50
15.00
17.50
20.00
22.50
25.00
27.50
30.00
Test Pocket Radius (mm)
4.00
9.00
14.00
19.00
24.00
29.00
34.00
39.00
44.00
Pressure Vs Test Pocket Radius

Project:	Geotechnical Investigation Works at Mumbai Central		
Client	Nathani Group	Date	28-8-08
Bore No	BH-10	Test Depth	9.5m
Ground R.L:		Casing	NX
Ground W.T :		Type of Strata	Slightly weathered rock

S.No	Pressure P	Pressure P'	Displacement display value Rn	Inner Radius Display Value Ri = Rn + 23.5	Thickness correction voulme PG = P' /K	Reference inner radius Ra = Ri- PG	Test Pocket Radius R = Ra2 +S/π
	(Mpa)	(Kg/cm^2)	(mm)	(mm)		(mm)	(mm)
1	0.00	0.00	-0.93	22.57	-0.02	22.59	36.191
2	0.50	5.00	1.69	25.19	-0.01	25.20	37.875
3	1.00	10.00	2	25.50	0.00	25.50	38.077
4	1.50	15.00	2.02	25.52	0.01	25.51	38.080
5	2.00	20.00	2.03	25.53	0.02	25.51	38.080
6	2.50	25.00	2.04	25.54	0.03	25.51	38.087
7	3.00	30.00	2.05	25.55	0.03	25.52	38.088
8	3.50	35.00	2.06	25.56	0.04	25.52	38.089
9	4.00	40.00	2.07	25.57	0.05	25.52	38.090
10	4.50	45.00	2.07	25.57	0.06	25.51	38.084
11	5.00	50.00	2.08	25.58	0.07	25.51	38.085
12	5.50	55.00	2.09	25.59	0.08	25.51	38.086
13	6.00	60.00	2.1	25.60	0.08	25.52	38.087
14	6.50	65.00	2.11	25.61	0.09	25.52	38.088
15	7.00	70.00	2.12	25.62	0.10	25.52	38.088
16	7.50	75.00	2.12	25.62	0.11	25.51	38.083
17	8.00	80.00	2.13	25.63	0.12	25.51	38.084
18	8.50	85.00	2.14	25.64	0.13	25.51	38.086
19	9.00	90.00	2.15	25.65	0.14	25.51	38.086
20	9.50	95.00	2.16	25.66	0.14	25.52	38.087
21	10.00	100.00	2.16	25.66	0.15	25.51	38.082
22	10.50	105.00	2.17	25.67	0.16	25.51	38.083
23	11.00	110.00	2.18	25.68	0.17	25.51	38.084
24	11.50	115.00	2.18	25.68	0.18	25.50	38.078
25	12.00	120.00	2.19	25.69	0.19	25.50	38.079
26	12.50	125.00	2.20	25.70	0.19	25.51	38.080
27	13.00	130.00	2.21	25.71	0.20	25.51	38.081
28	13.50	135.00	2.22	25.72	0.21	25.51	38.082
29	14.00	140.00	2.22	25.72	0.22	25.50	38.077
30	14.50	145.00	2.23	25.73	0.23	25.50	38.078
31	15.00	150.00	2.24	25.74	0.24	25.50	38.079
32	15.50	155.00	2.25	25.75	0.25	25.50	38.080
33	16.00	160.00	2.25	25.75	0.25	25.50	38.074
34	16.50	165.00	2.26	25.76	0.26	25.50	38.075
35	17.00	170.00	2.27	25.77	0.27	25.50	38.076
36	17.50	175.00	2.28	25.78	0.28	25.50	38.077
37	18.00	180.00	2.29	25.79	0.29	25.50	38.078
38	18.50	185.00	2.29	25.79	0.30	25.49	38.072
39	19.00	190.00	2.30	25.80	0.31	25.49	38.073

Caculation Notes: Type of Probe : D

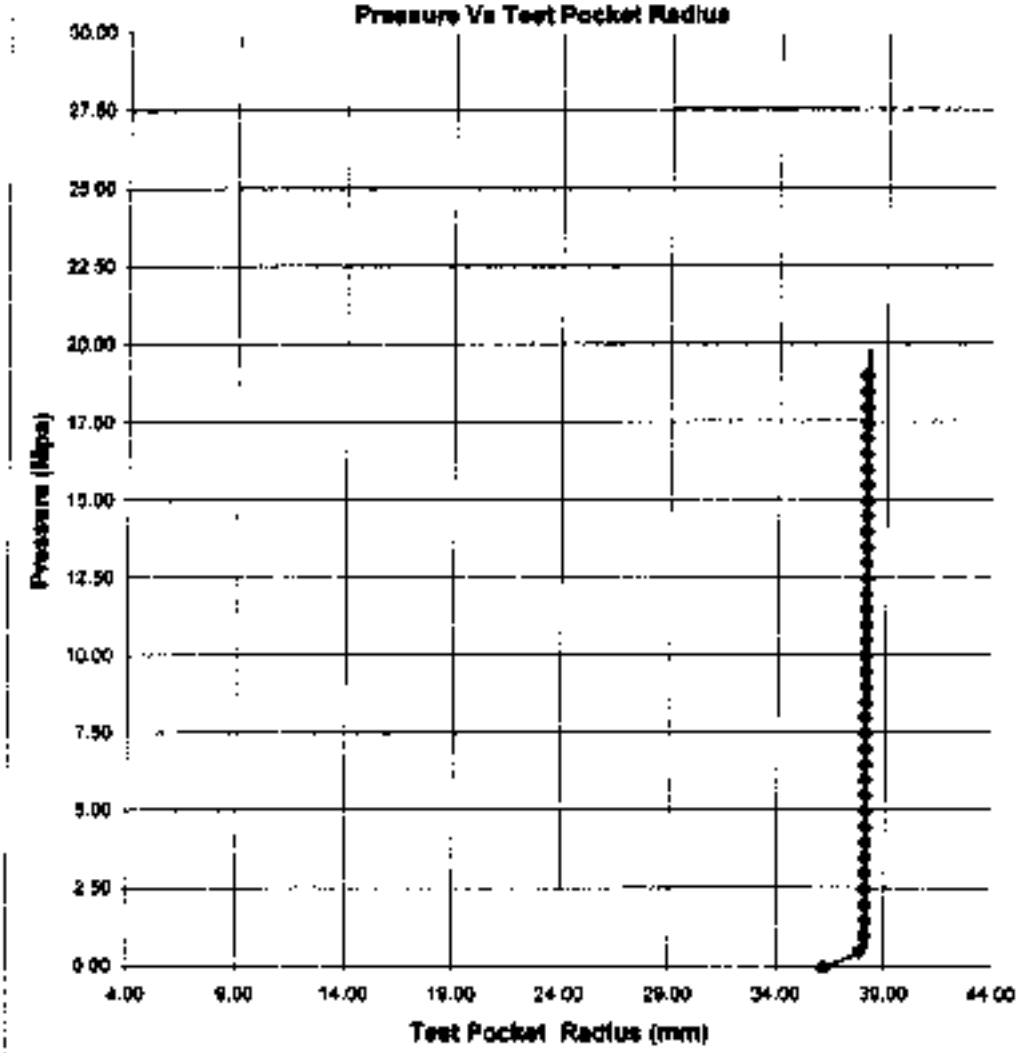
Membrane calibration Constants: Thickness Correction K (MNm2/mm) =

Expansion Correction, S (mm^2) = 2512

Prepared by	

Project:	Geotechnical Investigation Works at Mumbai Central		
Client	Nathani Group	Date	25-8-06
Bore No	BH-10	Test Depth	9.6m
Ground R.L:		Casing	NX
Ground W.T :		Type of Strata	Slightly weathered rock

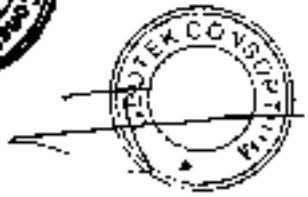
Pressure Vs Test Pocket Radius



Initial Pressure P_1 (Mpa)	0.5	Initial Radius (mm)	37.876		
Final Pressure P_2 (Mpa)	19	Final Radius (mm)	38.073	r (mm)	37.9745
ΔP	18.5	ΔR (mm)	0.197		
Calculations					
$K = \Delta P/\Delta R$	93.91	v	0.30		
$E = (1+v) r K$ (Mpa)	4535.87				
$G = E/2(1+v)$ (Mpa)	3813.38				







LABORATORY TEST RESULTS

ROCK TEST DATA SHEET

CLIENT ; M/s. NATHANI PAREKH CONSTRUCTION PVT. LTD.
SITE : PROPOSED BUILDING CTS NO. 1/332, TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI.

B.H NO.	Core Piece No.	Depth	Density		Water Content	Porosity	Water Absorption	Sp. Gravity	Unconfined Compressive Strength					Point Load Strength				
			Bulk	Dry					Dia.	Length	Length To Diameter Ratio L / D	Unconfined Compressive Strength Corrected for L / D = 2.0	Condition of Test	Dia.	Length	Corr. Strength Index $I_s(50)$	Unconfined Compressive Strength From Point Load Strength Index	Condition of Test
		M	gm/cc	gm/cc	%	%	%		cm	cm		Kg/cm²		mm	mm	Mpa	Kg/cm²	
1	20	8.50-9.50	-	2.07	-	22.3	10.8	2.67	5.40	11.6	2.13	175	S		-	-	-	-
1	38	11.50-12.50	-	2.04	-	25.8	12.6	2.75	5.50	6.5	1.18	118	S		-	-	-	-
1	93	20.50-21.50	-	2.04	-	26.4	12.9	2.77	5.40	11.2	2.07	186	S	-	-	-	-	-
2	5	5.00-6.00	-	2.07	-	20.2	9.8	2.60	5.40	10.9	2.02	193	S	-	-	-	-	-
2	22	8.00-9.00	-	1.91	-	26.9	14.1	2.61	5.50	10.4	1.89	116	S	-	-	-	-	-
2	62	14.00-15.00	-	2.03	-	26.6	13.1	2.77	5.40	12.5	2.31	127	S	-	-	-	-	-
3	25	6.00-7.00	-	-	-	-	-	-	-	-	-	-	-	5.5	3.4	-	▲	S
3	61	9.50-11.00	-	1.81	-	31.0	17.1	2.59	5.30	7.0	1.32	150	S	-	-	-	-	-
3	160	19.00-20.20	-	2.02	-	26.6	13.2	2.76	5.60	6.0	1.07	159	S	-	-	-	-	-

NOTES:
- INDICATES THE SAMPLE FAILED ALONG JOINTS
- ▲ INDICATES THE SAMPLE CRUMBLED IN WATER
- # INDICATES THE NEAR VALUE OF THE SAMPLE

S = SOAKED (FOR 24 Hrs. in water)
U = UNSOAKED

SAFE CORES AND TESTS
SOIL MECHANICS LABORATORY
MUMBAI - 93

DATE:

JOB NO. : 963

ROCK TEST DATA SHEET

CLIENT : M/s. NATHANI PAREKH CONSTRUCTION PVT. LTD.
SITE : PROPOSED BUILDING CTS NO. 1/332, TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI.

B.H NO.	Core Piece No.	Depth	Density		Water Content	Porosity	Water Absorption	Sp. Gravity	Unconfined Compressive Strength					Point Load Strength				
			Bulk	Dry					Dia.	Length	Length To Diameter Ratio L / D	Unconfined Compressive Strength Corrected for L / D = 2.0	Condition of Test	Dia	Length	Corr Strength Index $I_s(50)$	Unconfined Compressive Strength From Point Load Strength Index	Condition of Test
		M	gm/cc	gm/cc	%	%	%		cm	cm		Kg/cm²		mm	mm	Mpa	Kg/cm²	
4	6	5.90-6.80	-	1.84	-	29.2	15.9	2.60	5.30	11.9	2.25	127	S	-	-	-	-	-
4	57	12.00-13.00	-	1.92	-	29.3	15.2	2.72	5.50	8.5	1.55	143	S	-	-	-	-	-
4	86	15.00-16.00	-	2.07	-	29.1	12.8	2.60	-	-	-	-	-	54	2.8	0.072	16	S
4	116	19.00-20.50	-	2.18	-	18.1	8.3	2.66	5.50	10.7	1.95	239	S	-	-	-	-	-
5	13	8.00-9.00	-	1.94	-	28.6	13.8	2.65	5.50	8.8	1.60	80	S	-	-	-	-	-
5	50	15.00-16.00	-	1.96	-	26.0	14.4	2.71	5.30	7.2	1.36	139	S	-	-	-	-	-
5	104	22.00-23.00	-	2.21	-	19.6	8.8	2.75	5.60	5.8	1.04	164	S	-	-	-	-	-
6	11	9.00-10.00	-	1.81	-	29.9	16.5	2.58	5.50	11.1	2.02	60	S	-	-	-	-	-
6	[illegible]	[illegible]-19.00	-	1.84	-	28.7	14.8	2.72	5.30	6.3	1.19	174	S	-	-	-	-	-
6	66	[illegible]-00	-	1.89	-	28.3	13.9	2.67	5.30	12.8	2.41	164	S	-	-	-	-	-

NOTE :

* INDICATES THE SAMPLE FAILED ALONG JOINTS
▲ INDICATES THE SAMPLE CRUMBLED IN WATER
# INDICATES THE NEAR VALUE OF THE SAMPLE

S = SOAKED (FOR 24 Hrs. in water)
U = UNSOAKED

DATE:

JOB NO.: 963

SAFE CORES AND TESTS
SOIL MECHANICS LABORATORY
MUMBAI – 93

721

ROCK TEST DATA SHEET

CLIENT : M/s. NATHANI PAREKH CONSTRUCTION PVT. LTD.
SITE : PROPOSED BUILDING CTS NO. 1/332, TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI.

B.H NO.	Core Piece No.	Depth	Density		Water Content	Porosity	Water Absorption	Sp. Gravity	Unconfined Compressive Strength					Point Load Strength				
			Bulk	Dry					Dia.	Length	Length To Diameter Ratio L / D	Unconfined Compressive Strength Corrected for L / D = 2.0	Condition of Test	Dia.	Length	Corr. Strength Index Is(50)	Unconfined Compressive Strength From Point Load Strength Index	Condition of Test
		M	gm/cc	gm/cc	%	%	%		cm	cm		Kg/cm²		mm	mm	M pa	Kg/cm² #	
7	10	8.50-9.50	-	1.82	-	28.9	15.9	2.56	5.50	6.7	1.22	64	S	-	-		-	-
7	60	16.00-17.50	-	1.92	-	29.9	15.6	2.75	5.30	7.2	1.36	119	S	-	-		-	-
7	87	19.00-20.50	-	1.99	-	26.4	13.3	2.70	5.30	12.8	2.41	186	S	-	-		-	-
8	7	9.00-10.00	-	1.80	-	35.2	20.2	2.82	-	-	-	-	-	5.3	6.0	0.11	25	S
8	20	14.00-15.00	-	1.93	-	27.6	14.4	2.67	5.30	6.3	1.19	143	S	-	-		-	-
8	75	23.50-25.70	-	1.92	-	29.6	15.4	2.72	5.10	10.1	1.98	130	S	-	-		-	-
9	7	5.00-8.00	-	1.88	-	28.0	14.9	2.61	5.30	9.3	1.75	101	S	-	-		-	-
9	21	10.25-11.25	-	2.10	-	24.8	11.8	2.79	5.30	12.5	2.36	196	S	-	-		-	-
		17.30-18.30	-	2.11	-	24.8	11.7	2.80	5.40	13.7	2.54	128	S	-	-		-	-

NOTES :-

* INDICATES THE SAMPLE FAILED ALONG JOINTS
A INDICATES THE SAMPLE CRUMBLED IN WATER
# INDICATES THE NEAR VALUE OF THE SAMPLE

S = SOAKED (FOR 24 Hrs. in water)
U = UNSOAKED

SAFE CORES AND TESTS
SOIL MECHANICS LABORATORY
MUMBAI - 93

DATE:

JOB NO.: 963

722

ROCK TEST DATA SHEET

CLIENT : M/s. NATHANI PAREKH CONSTRUCTION PVT. LTD.
SITE : PROPOSED BUILDING CTS NO. 1/332, TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI.

B.H NO.	Core Piece No.	Depth	Density		Water Content	Porosity	Water Absorption	Sp. Gravity	Unconfined Compressive Strength					Point Load Strength				
			Bulk	Dry					Dia.	Length	Length To Diameter Ratio L / D	Unconfined Compressive Strength Corrected for L / D = 2.0	Condition of Test	Dia.	Length	Corr. Strength Index ($I_{s(50)}$)	Unconfined Compressive Strength From Point Load Strength Index	Condition of test
		M	gm/cc	gm/cc	%	%	%		cm	cm		Kg/cm^2		mm	mm	Mpa	Kg/cm^2	
10	3	6.00-7.00	-	1.94	-	29.3	14.6	2.70	5.40	13.8	2.58	251	S	-	-		-	-
10	36	11.00-12.50	-	2.24	-	18.4	8.2	2.75	5.40	6.6	1.22	154	S	-	-		-	-
10	116	23.00-24.00	-	2.10	-	20.7	9.9	2.85	5.30	11.3	2.13	205	S	-	-		-	-

NOTES:

* INDICATES THE SAMPLE FAILED ALONG JOINTS
▲ INDICATES THE SAMPLE CRUMBLED IN WATER
# INDICATES THE NEAR VALUE OF THE SAMPLE

S = SOAKED (FOR 24 Hrs. in water)
U = UNSOAKED

SAFE CORES AND TESTS
SOIL MECHANICS LABORATORY
MUMBAI – 93

DATE:

JOB NO.: 983

723

CHEMICAL ANALYSIS OF WATER

CLIENT : M/s. NATHANI PAREKH CONSTRUCTION PVT. LTD.
SITE : PROPOSED BUILDING CTS NO. 1/332, TARDEO DIVISION, MUMBAI CENTRAL, MUMBAI.

SR.NO.	B.H. No.	DEPTH in (METER)	TYPE OF SAMPLE	P^H ELECTRO METRICALLY	SULPHATE As So_3 (ppm)	CHLORIDE As cl (ppm)	REMARKS
1	2	1.00	WATER	9.77	75	20	-
2	3	1.50	WATER	10.21	75	20	-
3	5	0.90	WATER	8.95	100	20	-
4	8	1.60	WATER	10.96	75	40	-
5	10	1.50	WATER	11.21	75	50	-

SAFE CORES AND TESTS
SOIL MECHANICS LABORATORY
MUMBAI - 93

DATE : 26/9/08

JOB No.: 963

DISASTER MANAGEMENT PLAN

1. INTRODUCTION

This chapter covers Risk Assessment Studies for the construction and operation phase, the safety precautions that have to be taken during construction phase and the Disaster Management Plan and Emergency Preparedness Plan Onsite and Offsite.

2. DISASTER MANAGEMENT PLAN

Disaster management is defined as the discipline of avoiding and dealing with natural risks. The whole process involves a preparation plan for the impending disaster, action in response to a disaster, and support and strength to rebuild a community after the occurrence of a disaster. Disaster management is very important for any building. It makes the occupant aware of the various disasters possible in a building, prevention & procedures, training in disaster management, and after-disaster procedures for building objects.
In general, disaster management is a continuous process that aims to manage and minimize hazards. Under disaster response, there are a variety of actions to take like evacuation quarantine, mass decontamination, and the like. Disaster management has its own advantages. Some of these are:

- Reduces the effects of a disaster's aftermath
- Gives the chance to survive, no matter what kind of a disaster occurs and irrespective of when it occurs
- Gives you peace of mind from the uncertainties of close encounters to unexpected and dangerous natural events
- Minimize the effects of the accident on people and property
- Initiate the rescue and medical treatment of casualties;
- Bring the incident under control
- Preserve relevant records and equipment for the subsequent enquiry into the cause and circumstances of the emergency
- Investigate and take steps to prevent recurrence of similar incidents
- Inform and collaborate with statutory local and state authorities

DMP follows the Basic structure as shown in Figure 1

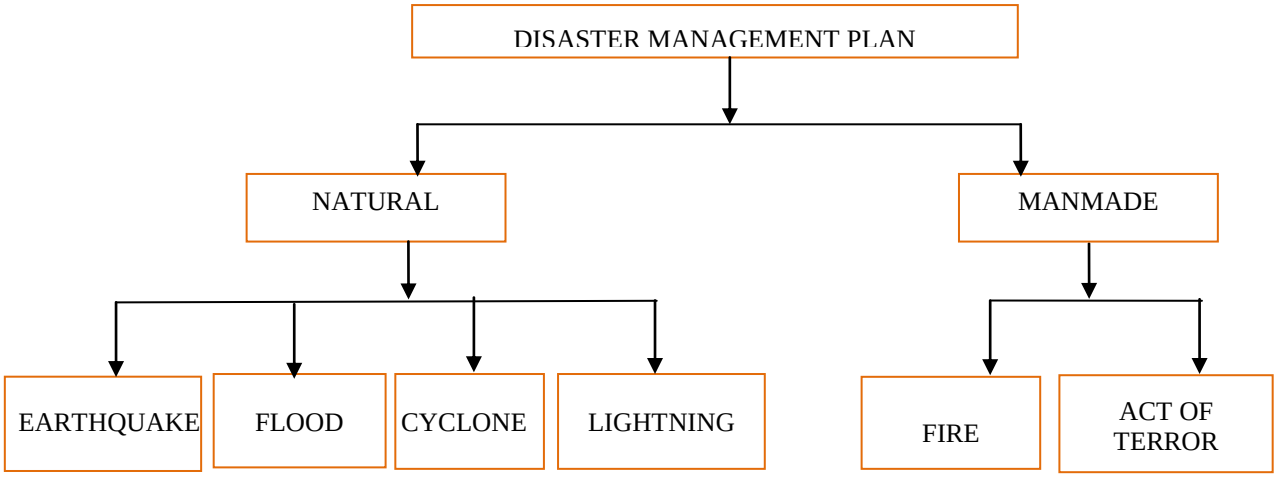


Figure 1: Basic Structures of DMP

3. CONSTRUCTION PHASE

i. Risk assessment and Vulnerability Analysis of Possible Disasters

Risk assessment study deals with identifying and evaluating the magnitude of impending risks to which the neighboring population is exposed due to occurrence of accidents involved in the project construction and development.

Hazard Identification: Physical, Chemical, Mechanical, Electrical, Vibration & Occupational health hazards during construction phase

Risk of body injury, Injury to eyes, fatal accident, Fire and explosion, Hearing loss etc.

- ***Are you using (Tick Boxes)***

[√] Plant/Equipment
[√] Portable electrical equipment
[√] Hazardous substances
[√] Scaffolding
[√] Ladders
[√] Lifts/Hoists/Cranes/Load shifting machinery

- ***Does the project/task involve (Tick boxes)***

[√] Using tools/equipment with moving part(s)
[√] Using tools/equipment that vibrate
[x] Working with x-rays or lasers
[√] Electrical wiring
[√]Asbestos removal
[√] Welding
[√] Hazardous waste
[√] Excavation / Trenches (>1.5m)
[√] Working around electrical installations
[x] Working near traffic
[√] Working at a height (>3m)
[√] Working in isolation
[x] Working in a confined space
[√] Manual handling
[√] Repetitive or Awkward movements
[√] Lifting or Moving awkward or Heavy objects
[√]Demolition work

- ***Is there (Tick boxes)***

[√] Noise
[√] Dust/Fumes/Vapours/Gases
[√] Extreme températures
[√] Risk of fire/explosion
[√] Slippery surfaces/Trip hazards
[x] Poor ventilation/Air quality
[x] A poorly designed work area for the project/task

- **Risk Assessment:**

The details are explained below:

The calculation involves following 4 steps to complete the assessment:
Step-1 Consider how likely a risk is encountered and what might happen (Likelihood-L)
Step-2 Use the risk level calculator to determine the likely risk level to persons who may be exposed to the hazards.
Step-3 Determination of Risk level outcome.
Step-4 Identify & develop effective control measures.

1. ***Livelihood of event occurring***

Livelihood of event occurring	
Almost certain	**Event is expected to occur in most circumstances**
Likely	**Event will probably occur in most circumstances**
Possible	**Event might occur at some time**
Unlikely	**Event could occur at some time**
Rare	**Event may occur only in exceptional circumstances**

2. Consequences level of Event occurring

Level of consequences	
Catastrophic (C)	**Fatality or permanent disability: toxic releases of chemicals, long term environmental impact; loss of facilities: very high financial loss**
High	**Long–term illness or serious injury; serious medium –term environmental effects; major property damage; loss of production; high financial loss**
Moderate (M)	**Medical treatment requiring up to several days off works; spillage contained with outside assistance; significant property damage; med-high financial loss.**
Low (L)	**Minor injury requiring First-Aid; spillage contained on site; moderate property damage; low- mined financial loss.**
Insignificant (I)	**No injuries; minor property or environmental damage; very low financial loss**

3. Determination of Risk level Outcomes.

Livelihood / *Consequences*	*Almost certain*	*Likely*	*Possible*	*Unlikely*	*Rare*
Catastrophic (I)	**E**	**L**	**E**	**E**	**H**
High(H)	**E**	**E**	**E**	**H**	**M**
Moderate(M)	**E**	**H**	**M**	**M**	**L**
Low (L)	**H**	**H**	**M**	**M**	**L**
Insignificant (I)	**H**	**M**	**L**	**L**	**L**

Where
E-Extreme
H-High
M-Medium
L-Low

4. Determination of Risk Control Actions

No.	Risk level Outcome	Action Required
1.	Extreme-E	URGENT- Immediate action required to control risk
2.	High-H	Highest management decision required urgently
3.	Medium-M	Follow management instructions regarding risk
4.	Low-L	These risks may not require immediate attention- monitor

Table 1: Risk Assessment during Construction Phase

Assessment / *Disaster*	*Livelihood of event occurring*	*Level of consequences*	*Risk level Outcomes.*	*Risk Control Actions*
Earthquake	*Unlikely*	*Moderate*	*Medium*	*Follow management instruction/Follow SOP*
Flood	*Possible*	*High*	*Extreme*	*These risks may require immediate attention monitor/Follow SOP*
Fire	*Possible*	*High*	*Extreme*	*Follow management instructions /Follow SOP*

Lightning	***Unlikely***	***Moderate***	***Medium***	***These risks may require immediate attention monitor/Follow SOP***
Power Failure	***Rare***	***Low***	***Low***	***These risks may require immediate attention monitor/Follow SOP***
Fall from Height	***Almost Certain***	***High***	***Extreme***	***Follow management instructions regarding risk/Follow SOP***

Table 2: Vulnerability Analysis

	Air Pollution	**Water Pollution**	**Noise Pollution**	**Soil Pollution**	**Occupational Hazard**
A. Material Handling:					
Cement	**+M**	**+L**	**-**	**+M**	**+M**
Steel	**-**	**-**	**+**	**-**	**+M**
Sand	**+L**	**-**	**-**	**-**	**+M**
Stone	**-**	**-**	**+M**	**-**	**+L**
Plywood dust	**-**	**-**	**+M**	**-**	**+L**
Glass	**-**	**-**	**-**	**-**	**+M**
Hardware	**-**	**-**	**-**	**-**	**+L**
Paint /Varnish Color	**-**	**+H**	**-**	**+M**	**+M**
B. Construction Machinery					
Excavation	**+M**	**-**	**+H**	**-**	**+L**
Tower crane	**+L**	**-**	**+L**	**-**	**+H**
Material Lift	**-**	**-**	**+L**	**-**	**+H**

Risk Factor:

+ : Positive
- : Negative
L : Low
M : Medium
H : High

ii. Mitigation Measures & preparedness

For any projects/tasks that present a high or extreme risk, a Safe Work Method statement must be completed.

- ***Note how you will control the risk following the priorities listed to the right. This may include controls like redesigning the workplace, using guards or barriers, ventilation, using lifting equipment or personal safety equipment.***

1. Eliminate the hazard
2. Installing Safety net for height fall
3. Keep the people away from the hazard
4. Change work methods
5. Conducting induction training, safety training & mock drills.
6. Use of Personal protective equipment at work.

- ***Note any specific risk assessments required for high-risk hazards. Check whether any hazards noted in step 2 require further assessment or action***

[√] Hazardous substance risk assessment **[x]** Confined spaces risk assessment
[x **]** Test and Tag electrical equipment **[x]** Sound level test
[√] Inspection of scaffolding

- ***Note Permits/Licenses/Registration required***

[√] Demolition work
[x] Friable asbestos removal
[√] Electrical wiring
[x] Ionizing radiation sources
[√] RMC pumps
[√] Registers for Personal protective equipment, training, ladders, lifting gear etc

- ***Note certificates of competency/licenses for operators***

[√] Scaffolding
[x] Pesticide application
[√] Rigging
[√] Crane operation
[√] Load shifting machinery operation
[√] Hoist operation

- ***Note emergency systems required***

[√] First aid kit
[√] Fire control
[√] Extended first aid kit
[x] Remote communication mechanism
[√] Emergency stop button
[x **]** BMS System
[√] Additional emergency procedures

Table 3: Risk and Mitigation Measures

Sr. No.	Operations	Risk	Mitigation Measures
1.	Tower Crane 02 nos.	➢ Injury ➢ Fatal Accident ➢ Contact with high voltage live wires	➢ Inspected by Competent person. ➢ Operated by Trained & Certified person. ➢ Use of work permit system ➢ Use of PPA/PPE and Safe Operating Procedures (SOP).
2.	Construction/material Hoists 01 Nos.	➢ Personal Injury ➢ Accidents	➢ Only approved hoist to be used by trained employees with safe area demarcation ➢ Inspection by competent person. ➢ Safe work instruction ➢ Testing before use for SWL ➢ Use of PPE/PPA and Fencing
3.	Passenger lift 02 Nos.	➢ Fatal /Major acciden	➢ Certified/approved passenger lifts to be used by trained employeeswith safe area demarcation. ➢ Use of PPA/PPE
4.	Portable electrical equipment	➢ Burns/Fatal	➢ To be checked before use by approved electrical safety official. ➢ Use of PPA/PPE
5.	Rock breaking machine	➢ Permanent disability ➢ Respiratory diseases ➢ Twists and sprains ➢ Electrocution	➢ Wear proper PPE ➢ Place the compressor as far as possible from the work area to reduce the level of noise. ➢ Use water suppression and/or respiratory equipment to limit exposure levels. ➢ Proper inspection
6.	Pressure Vessels	➢ Blast effects ➢ Suffocation ➢ Fire explosion ➢ Chemical Burns	➢ Operating at threshold pressure ➢ Inspection by Authorized and Competent persons ➢ Providing safety training for

Sr. No.	Operations	Risk	Mitigation Measures
		➢ Permanent injuries	employees
7.	Hazardous substances	➢ Fire explosion ➢ Toxic release ➢ Unhygienic dust	➢ Always review the Material Safety Data Sheet (MSDS) before using. ➢ Store as per HAZMAT Rules. ➢ Use of PPA/PPE. ➢ Avoid direct contact with hazardo substances.
8.	Scaffolding	➢ Fall from Height ➢ Fatal accident	➢ Only Trained and Skilled person should be allowed. ➢ Check the straightness of wood ➢ Ensure all rope joints are properly tightened. ➢ Scaffolds must use full body harness and should be properly hooked where possible.
9.	Ladders	➢ Accident. ➢ Lifting Injury ➢ Unstable base ➢ Fall from ladder	➢ Training on Ladder selection and setup. ➢ Inspection program. ➢ Require 3 Points of contact. ➢ Basket/Belt for tools and materials.
10.	Material Lifts 02 nos.	➢ Accidental ➢ Injury even fatal	➢ Inspection by competent person ➢ Ergonomic training ➢ Use of PPE/PPA and Safety guards
11.	Using tools/equipment with moving part(s)	➢ Nipping ➢ Injury to Hand ➢ Electrical Shocks ➢ Leg Injury	➢ Proper selection of Hand tool ➢ Periodic Inspection ➢ Use of PPE/PPA ➢ Safety guard in case of Grinder
12.	Using tools/equipment that vibrate ➢ Electrical wiring ➢ Welding	➢ Vibration hazard ➢ Electrical shocks ➢ Asbestosis ➢ Eye and Body burns ➢ Toxic gases inhalatio	➢ Work permit only to authorized person. ➢ Remove all flammable material, such as cotton, oil, gasoline, etc. from the vicinity. ➢ Wear Safety Goggles ➢ Use of PPE ➢ Keep a suitable fire extinguisher nearby at all times.
13.	Working around electrical installation / working at a height (>3m) / Working in isolation. Working in a confined space/ demolition work	➢ Electrical shocks ➢ Injury ➢ Fatal accident ➢ Hazard of toxic gases inhalation	➢ Work permit only to authorized person. ➢ Uses of work permit system. ➢ Use of PPE/PPA ➢ Indian electrical safety rules to be followed
14.	Work environment ➢ Noise ➢ Dust/Fumes/Vapours/ Gases ➢ Extreme températures ➢ Slippery surfaces/ trip	➢ Accidental injury ➢ Occupational hazards ➢ Burn and Rashes ➢ Skin diseases	➢ Enclose noise source ➢ Lubrication ➢ Min time exposure ➢ Use of PPE/PPA ➢ Good Housekeeping ➢ Illumination survey

Sr. No.	Operations	Risk	Mitigation Measures
	hazards ➢ Poor ventilation/ air quality ➢ A poorly designed work area for the project/ task		➢ Trainings

a) Prepare SOP's for each disaster and for evacuation when necessary: All SOP's are attached to DMP.

❖ **EXCAVATION ACTIVITY**

➢ **Excavation Risks:**

- The most common hazard at any work site is the threat of cave-in. A cave-in occurs when walls of an excavation collapse
- Accidental contact with utility lines
- Crushing and striking hazards posed by mechanized equipment
- Materials/Equipment falling into excavation site
- Dust inhalation
- Asphyxiation
- Faulty equipment
- Explosion
- Fall Hazard

➢ **Mitigation:**

- Re-route traffic whenever possible, and keeping only the heavy; Construction equipment needed near the excavation
- All excavations shall be inspected daily by the Competent Person
- Spoil piles will be placed a minimum of 2 feet away from the edge of the excavation/trench
- All excavations shall be properly sloped, benched, or shielded.
- If the excavation is 2m or more deep, provide substantial barriers, e.g. guard rails etc
- Emergency evacuation drill will be carried before monsoon
- Workers shall not enter excavations, if water has accumulated.
- Fence off all excavations in public places to prevent pedestrians and vehicles falling into them
- An emergency rescue plan should be in place before work begins inside an excavation.
- All excavations must be suitably lighted during the hours of darkness
- Trenches 4 m or more feet deep need a safe means of egress
    - Stairway
    - Ladder
    - Ramps
- Metal ladders may not be used, if they may come in contact with electrical lines.
- No worker is allowed underneath loads handled by lifting or digging equipment.
- Means of egress shall kept fixed and secure
- High visibility vest/waistcoat including protective boots, Ear protection and Protective helmets must be worn while working in the excavation.
- Means of egress shall kept fixed and secure

❖ **OTHER CONSTRUCTION ACTIVITIES**

➢ **Other Risk & Hazard area during construction activities:**

- Tower crane lifting
- Gas cutting & welding

- Bar Bending & Bar cutting
- Plywood cutting & drilling
- Height working
- Material storage

➢ **Mitigation for other risk & hazard area:**

- After safety officer inspection tower crane shall be operated under the direction of EHS engineer. Electrical cables &its condition & working shall be examined by competent person periodically. Fork and sling will be examined by engineer and worker before operating. Certified employee will be appointed for job
- Trained & experienced employee will be appointed for gas cutting & welding activities. Appropriate safety measures will be taken for cylinder storage and its equipments. Pressure regulator valve, nozzles, blow pipe, flexible hose and flash back arrester shall be checked by safety officer before workers operating. Appropriate PPE's shall be given to employee & also will ensure its use. Hand held helmet with filter lens shall be provided to welding/cutting operator to prevent his eye vision
- Trained & experienced employee will be appointed for bar bending & cutting activities. Sufficient space will be provided for job. Appropriate PPE's shall be given to employee & also will ensure its use
- Trained & experienced employee will be appointed for Ply cutting & drilling. Sufficient space will be provided for job. Appropriate PPE's shall be given to employee & also will ensure its use
- Safety belt, harness and lifeline with PPE's shall be provided to workers working at height. Such activities will be carried out under safety supervisor's supervision
- All noise creating machines shall be installed with insulation & rubber padding
- All the materials should be stacked on the leveled ground, all the materials should be stacked, providing good aisles between them for receiving the materials
- Diesel & Petrol above 1000 litres or 32 litres shall be stored as per The Petroleum Act
- Additional measures taken around batching plant by proper barricading also proper measures & procedures will be followed for the reduction of dust emission. Everyone working in the control room and the job site will be given knowledge that where the emergency shut off switch is, even people who won't be operating the batching plant. So when unfortunately, accidents can happens at that time everyone on location will be prepared to shut off the equipment immediately. Daily PPE's checking will be done for workers safety. Plant will be operated under site engineer's direction & supervision.

Initially with first preference Safety team had been formed to control & reduce the possible hazards and risk which may occur. A detail of safety committee is been described below:

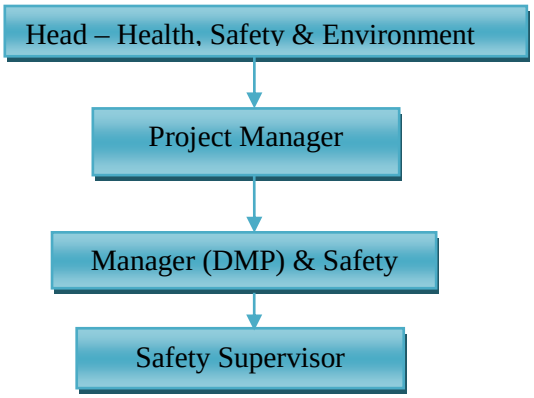


Figure 2: Organization Chart of Safety Committee

- **Roles & Responsibilities:**

Position: Project Manager
The responsibilities and duties shall include the following:

- Responsible for completion of the project with the relevant statutory rules and regulations.
- Responsible to ensure that all staff & workmen are competent to perform their tasks safely in Disaster
- Ensuring that workmen is effectively implemented engineers solutions during evacuation process
- Establishing adequate control measures for the employee's fitness in order to avoid fatigue, stress, extended working etc.
- Make arrangement and ensure that required inventory resources are available or not to tackle disaster
- Make arrangement of fund from the management to purchase required equipment for tacking any disaster.

Position: Manager (DMP) & Safety
The responsibilities and duties shall include the following:

- Take necessary actions and decisions during an excavation
- Allotting an certified contractors for an job
- Ensure the quality and durability of all necessary equipment and aids required for construction
- Ensure the quality and durability of all necessary equipment required to tackle any disaster
- Should contact outer bodies, police, fire brigade & emergency rescue team for evacuation during any disaster
- Should prepare a team and allot the roles & responsibilities to team members for an evacuation during any Disaster
- Go through the checklist filled by an HSE Engineer to maintain the safe working

Position: Safety Supervisor
The responsibilities and duties shall include the following:

- Disseminate and Communicate HSE Policy, HSE Management System requirements to site personnel.
- Provide necessary advice, information and support in the effective implementation of the HSE Management System requirements and this HSE plan.
- Updating the HSE Plan to the requirements of the activities being carried out when there is a revision.
- Plan and conduct Internal HSE training programs, initiate drive to promote HSE awareness and performance
- Dangerous occurrences & recommend appropriate corrective measures.
- Convene HSE Committee meeting & minute the proceedings for circulation & follow-up action
- Advice & co-ordinate for implementation of Work Permit System
- Plan procurement of PPE & safety devices and inspect before use as per laid down norms.
- Facilitate screening of workmen and conduct HSE induction
- Monitoring administration of First Aid.
- Conduct Fire Drill, Procure, inspect and arrange to maintain Fire Extinguishers.
- Organize campaigns, competitions & other special emphasis programs to promote HSE in the workplace
- Record, First Aid Cases, Near Miss Cases & Accidents to all project personnel
- Maintain all HSE related documents
- Update HSE training records

Position: Section / Area In-charges

- Ensure that all the workmen engaged under him are selected through the screening system & have undergone site HSE Induction before assigning any task at site
- Ensuring compliance of basic HSE rules and applicable specifications by
    - Taking prompt action of site inspection and hazard findings
    - Closing all the points identified in inspection reports
    - Ensure HSE Risk Assessment is done for all the jobs under him

All Employees

The responsibilities and duties shall include the following:

- Report all unsafe acts and condition to the immediate supervisor
- Start work only when conditions are safe and stop work when it is unsafe
- Operate equipment only when authorized and prescribed manner.(If applicable)
- Report any injury or accident immediately

Sub-Contractors

All Subcontractors/Vendor/Supplier/Third Party performing services at the Project site shall be subject to this plan requirement

- Shall understand the HSE code of conduct for subcontractors and sign the same as a token of acceptance before starting the activity
- Subcontractor, his Supervisor and his workmen shall adhere all the laid down HSE rules & Regulations while working at site, follow the instruction / advice of Safety Supervisor & Manager (DMP) & Safety from time to time

b) Prepare Inventory of Resources (Rescue equipment, medical equipment for emergencies, ambulances, hospitals, NGOs and disaster management related material and personnel)

- Rescue equipment's / Safety Equipment's
    - Fall arrestor system
    - Safety belts
    - Safety Helmets
    - Safety shoes
    - Safety Net
    - Agro Safety Net –Green Colored
    - Barricading tape
    - Fire Extinguishers
    - Sand Buckets
    - Fire Jackets
    - Reflective Jackets

- Emergency Contact Numbers

Fire brigade (Control Room) –.101, BMC (G North Office) - +91 22 2439 7800,

- Kupar Hospital: - 097029 43721,
- Bhatia Hospital: - 022 6666 0000
- Jaslok Hospital: - 022 6657 3014
- Wockhardt Hospitals: - 022 6178 4444

c) Maintenance of systems/equipment necessary for tackling disasters

- Maintenance of systems/ equipment necessary for tackling disaster will be done periodically by an competent person after getting checked during mock drill

d) Warning System

- Security will do the announcement by fan horn or reflex horn speaker in the guidance of Manager (DMP) & Safety.

e) Organize extensive training for disaster managers and assistants

- In every three months training will be arranged by Mr. Damji Shah for disaster managers & assistants, also for all the workers. Disaster manager such as Manager DMP & Safety, Safety Supervisors and Section In-charge.

iii. Response Plan

❖ **Emergency Preparedness and response plan for construction phase**

An emergency having medium risk (cautionary risk) to high risk (critical risk) associated with it needs to be treated as **non-tolerable** or **unacceptable**. Projects use *Periodic Management Attention* and *Continuous Management Attention* as a strategic tool to manage cautionary risk and critical risk respectively.

Accordingly, Project Specific Emergency Response Plan is evolved incorporating five components;

- Prevention
- Preparedness
- Response
- Recovery
- Mitigation

Table 4 : Components of Emergency Preparedness and Response Plan

Components	Explanation/Associated Elements
Prevention	Prevention may not be always practical in case of natural disasters. But certain planning consideration help to minimize the impacts during emergency situation. Contrary, towards man-made emergency, prevention can be quite effective. Example- incidents and occupational diseases can be prevented by applying various controls; elimination, substitution, engineering, administrative & personal
Preparedness	It involves developing mechanism towards emergency preparedness a. Defining EPR team structure at project level b. Demarcation of roles, responsibility & authority c. Determining line of command and control d. Allocation of resources including training e. Developing & maintaining inventory of emergency management equipment's Preparedness also involves periodical testing through planned **Mock Drill& Table Top exercises**
Response	Response is execution of preparedness plans and typically involves, a. Put preparedness plan in execution b. Evaluate its effectiveness i.e. determine the gap between the plan and the execution c. Revisit plan and improve it in view of gap analysis (as part of Mitigation) d. Incorporate the learning's for continual improvement
Recover	Response is followed by **recovery** wherein projects need to take steps to bring back normalcy as soon as possible. The focus should be to maintain **continuity of business** by minimizing / eliminating disruptions and delays. Typically recovery involves the following (but not limited to) a. Clear up from the incident or help the people involved overcome their mental trauma b. Consultation and coordination with contractors, suppliers and internal functions to streamline the work and the supply c. Repair/renovate offices, Labour camps, stores, work fronts, machinery/equipment d. Sanitization of entire area including canteen and utilities- water supply, wash rooms, & toilets/urinals e. Pest Control

	f. Preventive Health Check-up & consultation g. Reorganizing workforce and re-inducting them
Mitigation	Mitigation involves taking steps to ensure no re-occurrence if possible, or putting additional plans in place to ensure less damage is done next time. This should feedback in to the preparedness stage, with updated plans in place to deal with future emergencies.

Emergency Preparedness &Response Plan (EPRP)

In consideration with components of EPRP, project specific EPRP is developed by the project team in a particular format as given in **Table 4**.

Tips for preparing plan:

- Have one plan sheet for one emergency scenario. Every emergency having cautionary or critical risk need to be covered
- Emergency Preparedness & Response Team can be the same for all emergency situations. Project should take a call to have one or more team for emergency situation management.

<table>
<tr><th>Plan Components</th><th><u>Incident</u></th></tr>
<tr><td>Prevention</td><td>• PPE shall be mandatory on site for all. Edge barricading to all openings on the floor, ducts and excavated places.
• Safety and warning signage shall be placed at hazardous areas. Safety induction and TBT (Tool-Box Talks) shall be carried out on site for all workforces.</td></tr>
<tr><td>Preparedness</td><td>• Continuous supervision of safe working environment.
• Special training shall be conducted on site to deal with any type of incident.
• Sufficient stretcher shall be kept on site for immediate response during incident. Availability of first aider, first aid box and medical health center.
• Preparedness for mention incident types as per below table:
<table>
<tr><th>Type of Incident</th><th>Mock Drill</th><th>Table Top Exercise</th><th>Audit</th></tr>
<tr><td>Fall of person from height.</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Structure collapse.</td><td>Yes</td><td>NA</td><td>NA</td></tr>
<tr><td>Fall of any material from height.</td><td>No</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Excessive bleeding.</td><td>NA</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Failure material hoist or any lifting equipment.</td><td>NA</td><td>NA</td><td>Yes</td></tr>
<tr><td>Electrical shock / Electrocution.</td><td>NA</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Unconscious victim within a confined space.</td><td>Yes</td><td>NA</td><td>NA</td></tr>
</table>
Mock Drill (Frequency & methodology):
Incident evacuation drill shall be carried out quarterly.
Line of Method :-
• Emergency siren will be blown.
• Head Count
• Rescue the victims.
• First Aid for minor injury.
• Victim will be moved to hospital.
• Emergency stopped up siren will be blown.</td></tr>
<tr><td>Response</td><td>• As to see the effectiveness of the Preparedness plan for an Incident it shall be executed at site as per the plan.</td></tr>
</table>

	• Its effectiveness shall be evaluated to understand the gap between the plan and the execution on the basis of timelines, roles and responsibilities given to EPRP team members.
Recovery	• The sufferer of the incident shall be provided with adequate medical facilities to recuperate from the incident.
Mitigation	• Additional plans will be put up in place to avoid any kind of incidents on site during work.
Identify site disaster manager for handling disasters with clearly enumerated functions	• Safety Manager will handle disaster with his safety team with clearly enumerated functions during construction phase • Safety Manager will be appointed for handling disaster by keeping in view of his knowledge, fire safety exposure, communication skill and his contact with public & local NGO's

Plan Components	**Fire**
Prevention	• All the flammable material shall be kept at a designated place. • Fire extinguishers, buckets etc. Shall be put up all across the site. • Operational Training for fire extinguishers will be given to all.
Preparedness	• Fire prevention accessories shall be maintained at site. • Installation of Fire hydrant, smoke detector & sprinkler systems on site. • Assembly point and fire exit shall be notified at a specific place for all to gather whenever the fire takes place on site. • Fire exit shall be away from debris. Contact nos. of local Fire brigade and Fire Marshalls as well as nearest hospitals shall be displayed all over the site. • The site shall be having its own First Aid Center and ambulance.
	Mock Drill (Frequency & methodology) for Class A, B and C Emergency evacuation drill shall be carried out quarterly. • Emergency siren will be blown. • All workers will be gathered at Assembly point. • Head Counting • Rescue the victims. • Fire will be put out by fire Marshalls or fire brigade. • Emergency stopped up siren will be blown.
Response	• As to see the effectiveness of the Preparedness plan for Fire it will be executed at site as per the plan. • Its effectiveness shall be evaluated to understand the gap between the plan and the execution on the basis of timelines, roles and responsibilities given to EPRP team members.
Recovery	• To recover from the Fire; Immediate renovation shall be done for offices, Labor camps, stores, work fronts, machinery/equipment, also all this will be recovered with the help of insurance. • Immediate reorganizing of work force will be done to maintain continuity of business without any delay.
Mitigation	• Additional plans will be put up in place to ensure less destruction and losses should occur during fire. • And for this additional insurance plan will be introduced. Fire Drill will be reorganized time to time to compact with future emergencies.
Plan Components	**Earthquake**
Prevention	• Inspect every item that could fall, spill, break or move during an earthquake. • Follow safety codes & building codes for building earthquake resistance structure when constructing a project. Project should be inspected by structural engineer.

	• Heavy items shall be moved away from where people work. • Fixed equipment and heavy machinery shall be secured to the floor.
Preparedness	• Disaster management accessories shall be maintained at site. • Assembly point shall be notified at an open specific place for all to gather whenever the earth quake takes place on site. • Emergency contact nos. shall be displayed all over the site. • All workforces shall follow the EPRT member's instruction.
	Mock Drill (Frequency & methodology): Emergency evacuation drill shall be carried out quarterly. Line of Method :- • Emergency siren will be blown. • All workers will be gathered at Assembly point. • Head Counting • Rescue the victims. • Emergency stopped up siren will be blown.
Response	• Preparedness plan effectiveness shall be evaluated to understand the gap between the plan and the execution on the basis of timelines, roles and responsibilities given to EPRT members.
Recovery	• To recover from the Earthquake incident Check with insurance bodies for life & property damages and Immediate Repair/renovation shall be done for offices, Labor camps, stores, work fronts, machinery/equipment. • Immediate reorganizing of work force shall be done to maintain continuity of business without any delay. • Moral support shall be given to workmen to come out from the Confrontation.
Mitigation	• Additional plans shall be put up in place to ensure less damage and losses should occur during earthquake. • Earthquake and other EPRP shall be updated time to time to deal with future emergencies.

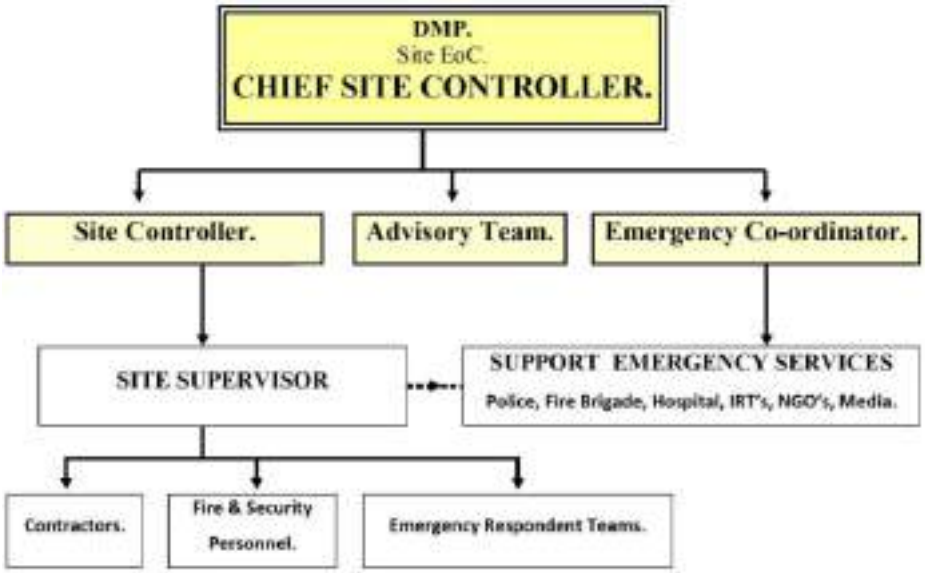
Plan Components	**Monsoon (Flood conditions)**
Prevention	• Proper dewatering and drainage system shall be implemented on site to avoid flooding. • Site is under flood area or not, this shall be confirmed through the local emergency management office. • To avoid electrical hazard during monsoon ELCB system shall be used. In addition to this, all the electrical cable joints shall be properly insulated.
Preparedness	• Monsoon preparedness checklist shall be circulating to all concern contractor & internal site team • Dewatering pumps shall be purchased and placed all over the site during monsoon. • Drainage system shall be specially designed for flooding so that water log jam is avoided. • All construction equipment/machinery/official documental records shall be ready to shift at a safe place where flood could damage the same. • All Electrical Distribution equipment shall keep under weather proof shade on proper elevated platform. • Emergency lighting arrangement shall be in place.
	Mock Drill (Frequency & methodology): Emergency evacuation drill will be carried before monsoon. Line of Method :- • Emergency siren will be blown.

	• All workers will be gathered at Assembly point. • Head Counting • Rescue the victims. • Emergency stopped up siren will be blown
Response	• As to see the effectiveness of the Preparedness plan for monsoon it shall be executed at site as per the plan. • Its effectiveness shall be evaluated to understand the gap between the plan and the execution on the basis of response timelines, roles and responsibilities given to EPRP team members.
Recovery	• To recover from the monsoon disaster Immediate Repair/renovation shall be done for offices, Labor camps, stores, work fronts, machinery/equipment. • Pesticides shall be used all over the flooded or water logged area to avoid any health contamination on site. • Medical check-up for all workforces shall be done to ensure and control epidemic situation on site.
Mitigation	• Additional plans (as per observation during mock drill) shall be put up in place to ensure less damage and losses should occur during monsoon. • Monsoon prevention plans shall be updated time to time to deal with future emergencies.

Plan Components	**Occupational Diseases**
Prevention	• Respiratory PPEs, hand gloves, face shield, ear plug etc. and other safety precautions shall be taken care of to avoid the occupational diseases. • Adequate information shall be given to all workers regarding occupational hazards and its prevention. • Educate workers to understand the importance of PPE's • Special training sessions shall be conducted on site to ensure that occupational hazards are eliminated through use of proper means of safety.
Preparedness	• Adequate information shall be given to all workers regarding occupational hazards and its prevention. • Special training sessions shall be conducted on site to ensure that occupational hazards are eliminated through use of proper means of safety.
	Mock Drill (Frequency & methodology): NA
Response	• As to see the effectiveness of the EPRP for Occupational Diseases it shall be executed at site as per the plan. • Its effectiveness shall be evaluated to understand the gap between the plan and the execution on the basis of timelines, roles and responsibilities given to EPRP team members.
Recovery	• To recover from the occupational diseases continuous improvement on site safety conditions shall be observed. • Periodical health checkup shall be done for specialized worker who are exposed to hazards material on daily basis.
Mitigation	• Awareness programme will be placed time to time to reduce the effect of occupational diseases.

❖ DISASTER MANAGEMENT ORGANIZATION

HIERARCHY OF LEVELS



❖ ROLES AND RESPONSIBILITIES

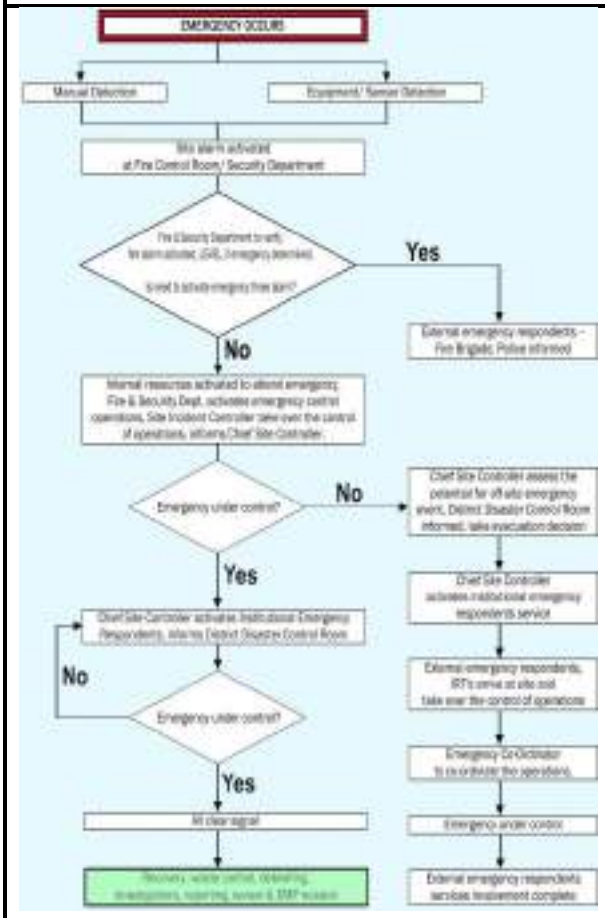
Roles and responsibilities for all the emergency respondents are detailed in respective SOP's of this report.

❖ EMERGENCY RESPONSE GUIDE

EMERGENCY RESPONSE GUIDE TABLE

Sr. No.	Emergency Respondent → / ↓ Hazards	Chief Site Controller	Site Incident Controller.	Emergency Co-Ordinator	Supervisor	Emergency Response Teams	All Other Site Personnel
1.	FALL OF STRUCTURE.	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.
2.	TRAPPED IN LIFT.	Task 3,8,16,17,20.	Task 1,2,19,21.	Task 7,18.	Task 11.	Task 10.	-
3.	FIRE/ EXPLOSION.	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.
4.	BOMB THREAT.	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.
5.	FLOODING.	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.
6.	CYCLONE.	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.
7.	EARTHQUAKE.*	Task 3,8,16,17,20.	Task 1,2,4,13,14,15,19,21	Task 5,6,7,9,18.	Task 11.	Task 10.	Task 12.

- **Where the numerical indicate task number detailed in the following table.**

DMP FLOW CHART	S.N	Task
	1	Raising the site emergency alarm.
	2	Inform police, Fire brigade and Mobilizing site emergency services.
	3	Determination of level of emergency, help from Advisory team, if required.
	4	Mobilizing ECC and AP.
	5	Mobilizing Emergency Respondent teams, IRT's, NGO's.
	6	Mobilize resources for emergency response teams
	7	Ensure Co -ordination between site emergency services.
	8	Review situation, assess the emergency level, consult advisory team, take external help if required, inform district disaster control cell, and declare off site emergency.
	9	Evacuation
	10	Ensure operations as per SOP

	11	Ensure proper coordination between all IRTs
	12	Head count at assembly point
	13	Feedback of head count to SAR
	14	Ensure traffic , law & Order and crowd control
	15	Withdraw the staff if the human life is in peril.
	16	Ensure any conflict resolved at the earliest
	17	Authorize release of information to the media
	18	Release of authorized information to the media.
	19	Emergency under control , inform to CSC
	20	Authorize to raise 'All Clear ' alarm
	21	Raise 'All Clear ' alarm

❖ DISASTER MANAGEMENT ORGANIZATION FOR CONSTRUCTION PHASE:

Sr. No.	Designation for DMP	Construction Phase Designation /Agency /Group
1	**Site Main Controller**	Head-Health & Safety Environment
2	**Site Incident Controller**	**Project Manager**
3	**Emergency Coordinator**	Safety Manager
4	**Supervisor**	Site & Safety Supervisor Contractor supervisor
5.1	**SAR Team**	Security guards, First aiders , Fire fighters, staff & workmen, External IRTS
5.2	**Engineering Team**	Electricians , operators
5.3	**Advisory Team**	Architect , Consultants
6	**All others at site**	Contractors, Staff, Workers, Visitors, Drivers, construction workers colony

iv. Control Room

a) Earmark a specific area to function as control room for disaster management

- Security Control Room during Construction phase is at the main entry gate:
- The traffic in the area comprises
  - Regular workers
  - Vendors

Table 5: Details of Entries

i)	Regular workers	•	Recognition
		•	Distinct ID Card
		•	ID through card reader
ii)	Vendors	•	Temporary pass with time validity (with the consent of Resident)

b. Display proper maps-Telephone nos. of disaster controlling authorities showing firefighting equipment's

- Fire Brigade contact number is given above and all contact nos. will be displayed during construction by safety committee

c) Prepare & disseminate pamphlets on each disaster for occupants covering Do's and Don'ts for each type of disaster

- Do's and don'ts for each type of disaster is been provided in SOP's which is attached to DMP.

v. On-Site Disaster during Construction Phase

a) Site disaster manager to take charge and give guidance over public address system

- Project manager will take charge and give guidance over public address system
- Assembly point shall be identified and marked. Mega phone shall be used to address the emergency to employees.

b) Call for outside assistance of fire brigade, Hospital, ambulance

- Manager (DMP) & Safety will call for outside assistance of fire brigade, Hospital, ambulance.
- In absence of Manager (DMP) & Safety, project manager will call outside for assistance.

c) Network with State, district and ward level control rooms

- Ward level details are provided below in operation Phase. Contact shall be done to Ward control room during emergency

d) Ensure adequate warning before switching off power

- All announcements will be done with good quality equipment's
- Manager (DMP) & Safety will ensure with Safety Supervisor that all workers are stopped working and shut downed the machines &equipment's before switching off emergency control switch.
- The main electrical switch during construction Phase will be placed at the site office.

e) Assure workers of continuous communication and take all measures to keep up their morale

- Project manager will do continuous announcements by various methods to keep up workers morale

f) Guide workers on the steps being taken for evacuation in a systematic manner

- This requirement will be handled by dedicated trained staff/volunteers.

g) Take steps to reduce/ eliminate panic

- Periodical training to internal Volunteers &Officers.
- Periodical mock drills to all Workers, Officers, volunteers and staff in every three months.

h) Liaise with Law & order Machinery

- Project manager will liaise with police Fire Brigade, Civil Defense, BEST etc.

vi. Preventive Maintenance

a) Regular maintenance of Equipment's& Systems

- Periodical maintenance will be carried by certified, competent and skilled employed contractors at regular intervals.

4 .OPERATION PHASE

i. Risk Assessment & Vulnerability Analysis of Possible Disaster

❖ **Hazard Identification And Safety Assessment**

➢ **Identification of potential structural hazards existing in the area**

- Structural safety of the building needs to be assessed with regards to its safety from hazards like earthquakes, floods and fire.

➢ **Identification of potential non-structural hazards existing in the area**

- DMC plan should be in that position to identify the potential hazards that frequently occur in that area. It is therefore necessary for us to identify potential hazards to which the building might be exposed. For this a hazard assessment shall be conducted by taking into account the history of disasters that have occurred in that area for the last 20 - 25 years. Based on the hazard assessment, the members of the DMC will prepare the Disaster Management Plan.
  Source:- http://www.karmayog.com
  (For identification of history of any disaster during the last 20-25 years.)

➢ **Points to remember while coordinating a survey**

- Check low lying area, Nallah, pitch hill, chocking site or any municipal tank etc. nearby or surrounding of the site
- The areas which would cause problems in an earthquake, flood, and fire are identified.

❖ **Possible disasters**: Fire/ Flooding/ Earthquake/ Bomb Explosion/ Terror Attack/ Structural Problems/ Lightening/ Power Failure/ Fire – Smoke/Electrical Fires/ Manmade Emergency.

Table 6 : Risk Assessment during Operation Phase

Assessment / **Disasters**	***Livelihood of event occurring***	***Level of consequence***	***Risk level Outcomes.***	***Risk Control Actions***
Earthquake	***Unlikely***	***Moderate***	***Medium***	***Follow management instructions /Follow SOP***
Flood	***Possible***	***High***	***Extreme***	***These risks may require immediate attention monitor/Follow SOP***
Fire	***Possible***	***High***	***Extreme***	***Follow management instructions /Follow SOP***
Terror Attack	***Unlikely***	***Moderate***	***Medium***	***These risks may require immediate attention***

				monitor/Follow SOP
Lightning	***Rare***	***Low***	***Low***	***These risks may require immediate attention monitor/Follow SOP***
Power Failure	***Possible***	***Insignificant***	***Low***	***Follow management instructions regarding risk/Follow SOP***
Structural Problem	***Unlikely***	***Low***	***Medium***	***These risks may require immediate attention monitor/Follow SOP***

❖ **Disaster Response Team**

Initially the Disaster Management Committee will be formed by the developer/society members. The Facility Manager/Security In-charge will be competent enough to handle various disasters, and will be In-charge to look after the complete process of DMC (Disaster Management Committee). DMC will be divided into three groups namely: Co-ordination group, Disaster Awareness group, and Disaster Response group. The roles and responsibilities of various groups are defined in subsequent paragraphs.

The building will have one Security In-charge/Facility Manager (and alternate), one assistant Security guard (and alternate) who will direct the evacuation of persons from their respective areas as quickly as possible in a safe and controlled manner. The list of building evacuation team members is maintained by Disaster management committee.

The given figure 3 demonstrates the structure of organization structure of the Disaster Management Committee

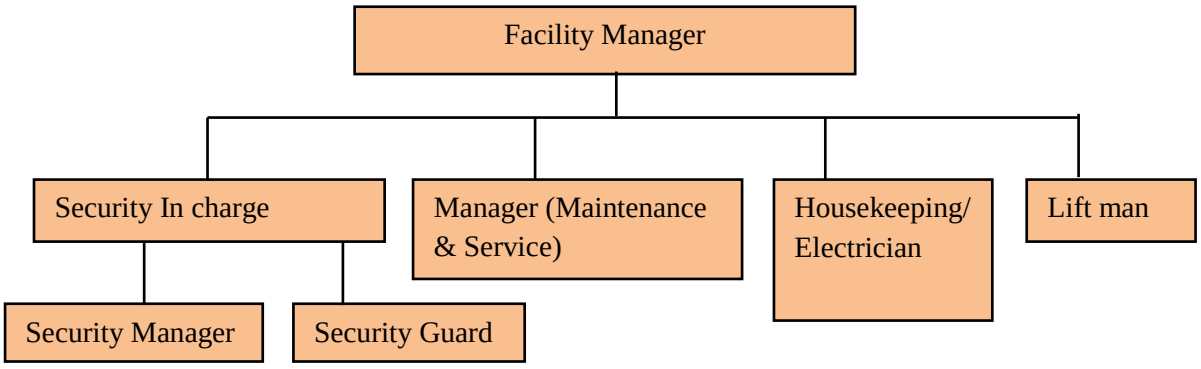


Figure 3 : Organization Chart of Disaster Management Committee

Roles and Responsibilities of Disaster Management Committee

- Look into the structural safety requirements of the building for various hazards (earthquake, fire, floods, etc.) Get the buildings assessed for the hazards identified and take prompt remedial measures, as required
- The members of the DMC shall have an understanding of the disaster management policy and planning principles
- Evaluation of the Disaster Management plan
- Carrying out the mock drill twice a year
- Updating of the plans at regular intervals (at least once a year, and after any significant disaster) to ensure that the plan is workable
- Earmark fund arrangements for carrying out preparedness and mitigation measures in the building
- Declaring emergencies and implementing the emergency plan

- Implementing evacuation procedures
- Contacting emergency services (fire, police, ambulance) and utilities
- Establishing a command post, chain-of-command and reporting procedures
- Assessing and obtaining emergency services, supplies and equipment
- Arranging for off-site storage and work facilities
- Arranging the transfer of collections to a safe site
- Recording the movement of collections
- Implementing and supervising salvage procedures for collections
- Contacting, training and supervising volunteers
- Documenting all aspects of the response / recovery procedures
- Meeting with the press
- Preparing post-emergency reports

➢ **Facility Manager**

- Ensures that the appropriate outside emergency agencies have been notified
- Coordinates all occupant notification and makes sure that any necessary evacuation or relocation begins
- Ensures adequate monitoring and control of all building life safety systems and equipment
- Confirms that any investigation of the fire or source of the fire alarm, or initial suppression of a fire, is performed
- Arranges for responding emergency personnel to be met at the designated entrance of the building and give an up-to-date report on the incident (including its location and any reported injuries), the status of security and building fire life safety systems and the location and status of all evacuees addressing the incident (building information forms, notification of specific hazards, floor plans, essential keys and access cards, etc., also should be readily available)
- Ensures that every incident is thoroughly documented and that required notifications and reports to the appropriate authorities are carried out

Table 7: Responsibility Matrix

Goal: To keep the disaster management plan up to date 24X7		
Objectives: To safeguard the occupants and neighbors in the event of disaster		
Scenario	**Who is responsible**	**When to contact and how**
Lift failure	Facility Manager/Security In-charge/lift man	When trapped inside a lift, Press the alarm button. If outside use phone (internal) or reverse alarm system (not running on electricity or battery backup
Fire in building (limited area)	Security In-charge, Facility Manager	Press the nearby fire alarm or call to control room
Fire in large area (floor)	Security In-charge, Facility Manager	Press the on floor and down floor fire alarm or call to control room
Fire in utility areas	Security In-charge	Press the utility area fire alarm or call to control room
Electrical failure	Electrician	If power goes off only of your floor then call to the control room for electrician
Water supply interruptions	Security In-charge, Maintenance & Service manager	If water don't come to only your home then contact control room
Building damage (minor)	Security In-charge, Maintenance & Service manager	If any leakages to your floor or home then contact control room and note complaint and also raise the point in general society meeting
Building damage (major)	Facility Manager	If any fall of plaster to your floor or outside home, major cracks then contact control room and note complaint and also raise the point in

		general society meeting
Audible and Visible Alarms	Facility Manager	If alarm doesn't work during periodical checkup then call control room and note complaint
Emergency Staff	Security In-charge	If any disaster occurs then call control room for help

ii. Mitigation Measures & Preparedness

a) Prepare SOP's for each disaster and for evacuation when necessary
All SOP's for each Disaster and for evacuation is been prepared, attached to DMP.

I. NATURAL DISASTER:

❖ **Earthquake: Seismic Environment & Precautions**

Mitigation Measure:
As per the Seismic Zoning Map of India, Mumbai region falls under Seismic Zone-III. The structural design is based on following Indian Standard Codes of practice and shall render the buildings safe and stable.

1. IS – 456 – 2000 – Code of Practice for Plain & Reinforced Concrete Structure.
2. IS – 875 – 1987 – Code of Practice for Design Loads.
3. IS –1893 – 2002 – Criteria for Earthquake Resistant Design of Structure.

❖ **Floods:**

Particularly in Mumbai, areas having poor drainage characteristic get flooded by accumulation of water from heavy rainfall.

Mitigation measures would be taken by Proponents to manage flood disasters:

- Storm water system would be checked and cleaned periodically
- Vulnerability of basement should be mapped
- Dewatering sump pumps shall be installed at four different locations
- Provision of Storm water drainage system with adequate capacity. These drains shall have silt and oil and grease traps to avoid pollution of water in drains outside the plot.
- SWD system shall construct as per the SWD & Nallah remark.

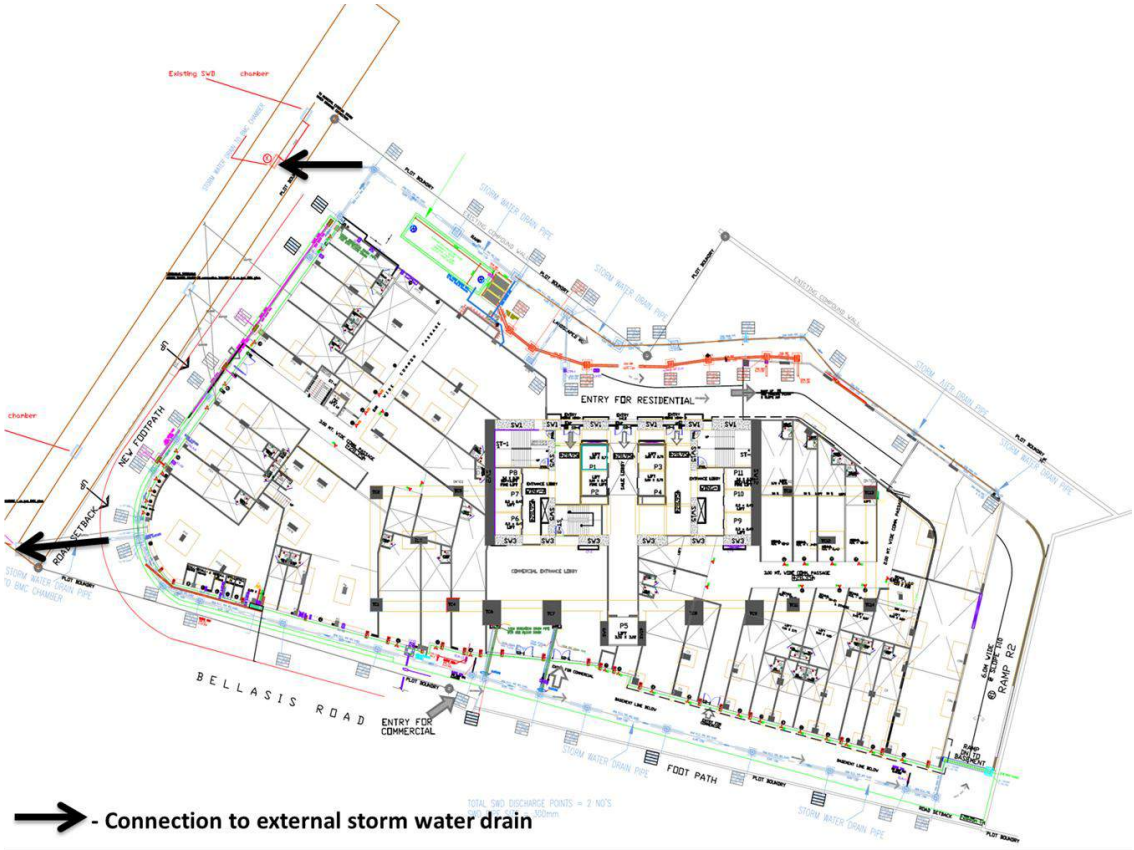


Figure 4 : SWD layout

❖ **Cyclones:**

Cyclones are caused by atmospheric disturbances around a low-pressure area distinguished by swift and often destructive air circulation. They are usually accompanied by violent storms and bad weather.

There is no history of any cyclone in this area. However in such an instance the occupants should be advised to stay in the shelter in tightly secured windows and doors. The glass of windows etc. should be covered with paper/cardboards to avoid glass breaking due to flying objects outside.

❖ **Lightning:**

Lightning is an atmospheric electrostatic discharge accompanied by thunder which typically occurs during thunderstorms and sometimes during volcanic eruptions or dust storms. It often leads to physical damage to the building and occupants. It can also lead to short circuits, failure of power supply and fire.

Mitigation measure:

- Lightning arrestor systems shall be provided for entire project to abate the impact of lightning hazard.

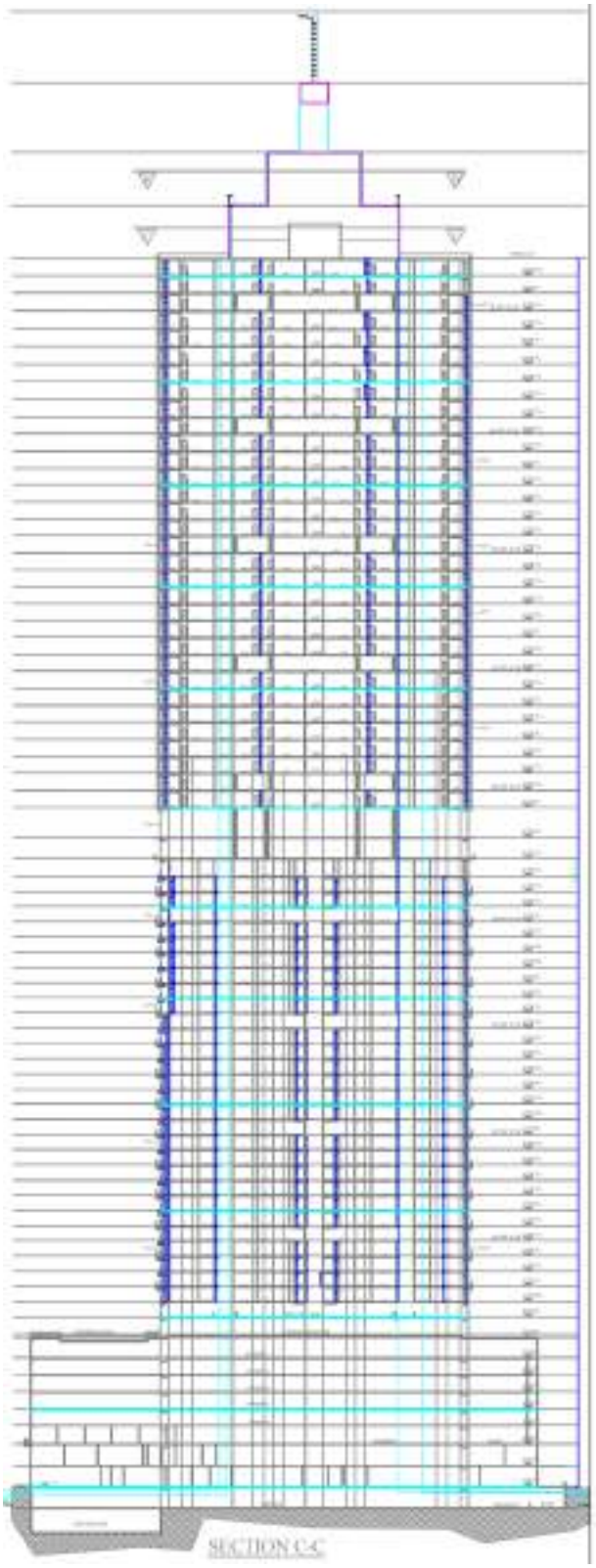


Figure 5: Lightning Arrestor Layout

II. Man Made Disaster

❖ Bombs & Other Terrorist Activities

Bombs can be constructed to look like almost anything and can be placed or delivered in any number of ways. The probability of finding a stereotypical- looking bomb is almost nonexistent. The only common denominator among bombs is that they are designed to explode. Most bombs are homemade. Only the imagination of and the resources available to the bomber limit their design. When searching for a bomb, suspect anything that looks unusual. Let the trained technician determine what is or is not a bomb. Follow the checklist given below:

- Addressee unfamiliar with name and address of sender
- Improper or incorrect title, address, or spelling of name of addressee
- Handwritten or poorly typed address
- Return address and postmark are not from same area
- Excessive postage or unusual stamps used versus metered postage
- Special handling instructions on package (special delivery, to be opened by addressee only, foreign mail, and air mail, etc)
- Restrictive markings (personal, confidential, etc)
- Excessive securing material such as wrapping, tape, or string
- Oddly shaped or unevenly weighted packages
- Bulky, lumpy, or rigid envelopes
- Protruding wires or metal, strange odors
- Mail arrives before or after a telephone call from an unknown person who asks whether the recipient has opened it or who requests that he or she opens it

This is only a general checklist. When an item is in question, the best protection is to make personal contact with the sender of the package or letter but not to open it.

Mitigation Plan

➢ Safety Procedure

To cope with a bomb incident, it is necessary to develop two separate but interdependent plans. The bomb incident plan provides the detailed procedures to be implemented when a bombing attack is threatened or executed. A physical security plan, which is covered in detail in the next section, provides protection of property, personnel, facilities, and material against unauthorized entry, traces pass, damage, or other illegal or criminal acts.

To carry out these plans, a definite chain of command must be established to instill confidence and avoid panic. This is easy if there is a simple structure, or one business, in the building. However, in a multiple-tenant building a representative from each tenant should attend a planning conference. A leader—the Facility Manager, Security In-charge—should be appointed and a clear line of succession delineated. This chain of command should be printed and circulated to all concerned parties. There should also be a command center to act as a focal point for telephone or radio communications. The management personnel assigned to operate the center should have the authority to decide what action is to be taken during the threat. Only those with assigned duties should be permitted in the center, and alternates need to be appointed in case some-one is absent when a threat is received. In addition, an updated blueprint or floor plan of the building should be obtained and kept in the command center.

Contact the police department, fire department, or local government agencies to determine if any assistance is available for developing a physical security plan or bomb incident plan. If possible, have police or fire department representatives and building and tenant staff inspect the building for areas where explosives are likely to be concealed; make a checklist of these areas for inclusion in command center materials.

- **Other Security Mitigation Measures to Reduce the Threat of Bombs**

Controls should be established to positively identify personnel who have authorized access to critical areas and to deny access to unauthorized personnel. These controls should include inspection of all packages and materials being taken into critical areas, as well as the following:

- Security and maintenance personnel should be alert for people who act in a suspicious manner, as well as objects, items or parcels that look out of place or suspicious. Surveillance should be established to include potential hiding places (e.g., stairwells, restrooms, and any vacant space) for unwanted individuals. Designated patrols of such areas will assist in this endeavor.
- Doors or access ways to certain areas—mechanical rooms, switchboards and elevator control rooms— should remain locked when not in use. It is important to establish a procedure to keep track of keys. If keys cannot be accounted for, locks should be changed.
- Good housekeeping also is vital. Trash or dumpster areas should remain free of debris. A bomb or device can easily be concealed in the trash. Combustible materials should be properly disposed of, or protected if further use is anticipated.
- Detection devices may be installed at entrances to high-risk tenant areas, and CCTV should be used in areas identified as likely places where a bomb may be placed. This, coupled with posting signs indicating that such measures are in place, is a good deterrent.

- **Responding to Bomb Threats**

Instruct all personnel, especially those at telephone switchboards, on what to do if a bomb threat call is received. It is always best if more than one person listens in on the call. To do this, a covert signaling system should be implemented, perhaps by using a predetermined signal to a second reception point.

A calm response to the bomb threat caller could result in obtaining additional information. This is especially true if the caller wishes to avoid injuries or deaths. If told that the building is occupied or cannot be evacuated in time, the bomber may be willing to give more specific information on the bomb's location, components, or method of initiation.

- **Vital Actions**

The person making the threat is the best source of information about the bomb. When a bomb threat is called in, the person taking the call should do the following:

- Keep the caller on the line as long as possible. Ask him or her to repeat the message. Record every word spoken by the person. (Some building managers and individual tenants may provide audio recorders for this purpose; others by policy do not)
- Pay particular attention to background noises such as motors running, music playing, and any other noise that may give a clue as to the location of the caller
- Listen closely to the voice (male or female), voice quality (calm or excited), accent, and any speech impediment. Immediately after the caller hangs up, report the threat to the person(s) designated by management to receive such information
- Report the information immediately to the police department, fire department, and other appropriate agencies. The sequence of notification should be established in the bomb incident plan
- When a written threat is received, save all materials, including any envelope or container. Once the message is recognized as a bomb threat, further unnecessary handling should be avoided. Every possible effort must be made to retain evidence such as fingerprints, handwriting or typewriting, paper, and postal marks. These will prove essential in tracing the threat and identifying the writer. Although written messages usually are associated with generalized threats and extortion attempts, a written warning about a specific device may occasionally be received. It should never be ignored.

❖ **Aircraft Collisions: Manmade disaster**

A building is vulnerable to the remote possibility that an aircraft flying off-course could collide with it or aircraft collide chances may occur. Obviously, the additional height, as compared with other structures, makes them more susceptible. To prevent such collide aircraft warning light shall be installed.

➢ **Aircraft Warning Lights**

- Aircraft warning lights are high-intensity lighting devices that are attached to tall structures that are used as collision avoidance measures. Such devices make structures more visible to passing aircraft and are usually used at night, although they may be used during the day as well. These lights need to be of sufficient brightness in order to be visible for miles around the structure.

➢ **The lights generally come in two forms:**

- Red lamps that are either constantly illuminated or turn on and off slowly in a cycle of a few seconds.
- The luminaries will have an effective intensity of required candelas
- All luminaries will be supplied with minimum capacity required Volt A.C. powers connected to the emergency maintained system.

b) Prepare Inventory of Resources (Rescue equipment, medical equipment for emergencies, ambulances, hospitals, NGOs and disaster management related material and personnel

- All the resources available in the building need to be listed out like: Fire Control System, Sensors.

Table 8-List of Inventory of Resources- Operation Phase

Sr. No.	Description	Resource	Location
1.	Rescue Equipment	Steel ropes, ropes, chains, harness, torches, radium signal & symbol sign boards, Walky talky, dust masks, tyres, Hammer, shovel, spade, mud pan etc.	At Society Office shall be provided.
2.	Medical Equipment's for emergencies	Wheel chairs, Stretchers, First aid box containing general medicines and equipment's	At Society Office room 1 of Residential building First aid box also provided in Security room.
3.	Other emergency tools	Spare Fire extinguishers, hydraulic jacks, crab winch, pulleys	At Fire control room at Stilt floor level.
4.	Other basic utilities and needs	Plastic bucket, plastic glass, plastic plates, blankets, some utensils and required food grains	At Fire control room and Society office room
5.	Other details of the building configuration	Total number of floors in the building The total number of rooms in the building Open areas where evacuation is possible Stairs and lifts locations and uses Open verandas and roof tops	Appropriate info will be displayed at each floor and same sheets will also be kept in Fire control room &Society office for use during emergency. Appropriate signs and symbols will be displayed on each floor for evacuation & exit

- **Document Inventory:**
  1) Safe work manual for electrical repairs 2) SOP for inspection of Gas pipe line 3)Periodic checks of Active fire protection systems 4) Ambulance and Hospitals contacts nos. will be maintained in register

c) Maintenance of systems/ equipment necessary for tackling disaster

- All the lifesaving appliances such as Fire extinguishers, Alarm & Public address system to be maintained properly and effectiveness of these should be checked during Mock Drill.

d) Warning Systems

- Facility Manager will announce audio warning in case of fire, lightning or likely flood situation. Each Office/occupants will be informed by Security section for preparation by telephone.
- Sirens would be tested at noon on the first Saturday of each month. If you hear the sirens at any other time, than following steps should be taken:

Shelter	Go to nearest shelter to avoid exposure
Shut	Shut doors and windows. Building ventilation systems should be shut off if possible
Listen	Go to near the information source for building emergency information

- **Fire, Warning system & Mitigation measures**

- Fire shall be caused mainly due to negligence, short circuits and malfunctioning of gas regulator, tube and such related products. Hence, all the electrical works and material of the building would adhere to the standards. Fire extinguisher equipment would be evaluated periodically to ensure that it is in working conditions by security manager. If any faulty equipment is observed then it would be repaired or replaced by Society. The map for the evacuation plan would be provided to all the occupants.

- **Fire Alarm & Detection System (For each wing)**
  - The Building shall be provided with intelligent analog addressable fire alarm system with microprocessor based main control panel at ground floor and addressable call points and hooters at each floor level. The design of fire alarm system shall be in accordance to relevant I.S. specification and based on NFPA 72 guidelines.
  - The addressable fire alarm system shall be equipped with the latest evacuation features such as Digital voice evacuation capabilities, firefighting telephone system, directories etc.

e) Devise system for two-way communication with the affected persons in the building especially in lifts and rooms

- The entire building shall be provided with the public address system asper the rules.
- Internal Phone in Lift will be available.

f) Organize extensive training for disaster managers and assistants

- **Training Program:** Regular mock drill will be conducted and same will be reported to Disaster Management Committee

Table 9 : Safety Drills and Maintenance Needs updates

Sr. No.	Types of Drills	Frequency of drill	Who must attend	Date of drill and any issues : Log book
1	Earthquake safety	6 months	All occupiers	Log book
2	Fire safety	3 months	All occupiers	Log book
3	Fire and any other equipment maintenance	3 months	Security	Must report to Security In-charge and maintain a log book

4	Lift security	3 months	Security, Maintenance & Service manager	Must report to Security In-charge and maintain a log book
5	Water management	3 months	Security, Maintenance & Service manager	Must report to Security In-charge and maintain a log book
6	Safety kit check	6 months	Security, Maintenance & Service manager and Members.	Maintain Log book

Mock drills are conducted to train building occupant and to test the various elements of your response plan in order to evaluate and revise it. During a disaster, life-protecting actions must be taken immediately. There will not be time to decide what to do next; everyone must already know how to react appropriately. After a disaster, further life protecting actions such as emergency evacuation or first aid administration may be necessary. Drills and exercises are an extremely important part of the preparedness plan because they

- Teach the occupants of a building how to respond to the complications of an actual disaster
- Helps to evaluate how well all parts of the emergency plan work together and how well the occupants have been trained

➢ **Earthquake**
- Follow the mitigation plan as given in Earthquake section of this DMP
- Practice drop, cover, and hold
- Evacuate building in less than 4 minutes using different exits
- Look out for colleagues, friends, etc.
- Stay away from weak areas
- Help those who need assistance

➢ **Fire / Chemical Accident / Drill**
- Follow the mitigation plan as given in Fire & Fire Alarm section of this DMP
- The need to prepare for sudden accidents needs awareness and sufficient knowledge
- To know Why and how to handle an accident is important
- Information
- Practice mock drills every month

➢ **Flood Drill**
- Follow the mitigation plan as given in Flood section of this DMP
- Listen to flood warning and recognize changes in weather
- Make announcements about precautionary measures
- Provide food, water, sheets, and beds in the place where people will assemble
- Explain how to remain safe outdoors
- Shift money and other valuables
- Put off electricity
- Remove or close down gas connections

iii. Response Plan

a) Identify site disaster manager for handling disaster with clearly enumerated functions
- Facility Manager will operate building with clearly enumerated functions during operation phase form Society office room located at stilt floor level

M/s. Nathani Parekh Constructions Pvt. Ltd. will select a Site disaster manager for handling disasters with clearly enumerated functions by keeping in view the following qualification

Qualification required for Disaster Manager (Facility Manager) to be selected and appointed

- Must be trained in civil defense
- Should have knowledge about human management
- Should have Technical knowledge about Fire Fighting
- He should know local language to contact mutual help from Fire, MSEDCL. Police Hospital, Nearby NGO, Industries etc Officials

Sr. No	Designation for DMP	Operation Phase
		Designation /Agency /Group
1	Site Main Controller	Facility Manager
2	Site Incident Controller	Security In charge
3	Emergency Coordinator	Security Manager
4	Supervisor	Fire & Safety staff
5.1	SAR Team	watch & ward personnel, Police, fire brigade; Agencies sent by district disaster control room such as Civil defence, NDRF, medical team, home guard etc.
5.2	Engineering Team	Manger (Maintenance & Services) Pump operators Electricians
5.3	Advisory Team	Active past committee members
6	All Others At Site	Residents shops Occupants Visitors

iv. Control Room

a) Earmark a specific area to function as control room for disaster management

- Provision Fire control room at at stilt floor level of residential building.
- Provision of Society Office room shall be provided.
- Provision of Security room at entry/exit gate of residential building.

Surveillance Security System (SSS):

At project site CCTV at common areas & lobby with 24 hour DVR backup, will be provided. The controlling & processing of CCTV in common areas should be performed through a web based management system on a separate Ethernet network in the building. Main operation work space shall be in the back building Society office room.

b) Display proper maps Telephone nos. of disaster controlling authorities showing firefightingequipment's, refuge floors, sprinklers system etc.

➢ **Safeguard Requirements for Natural and Manmade Disasters:**

- List of nearest clinics and hospitals shall be maintained for medical emergency as also any other eventuality. The table below will be ready and will be distributed to all members within

the building and later for off-site plan to neighborhood. These information need to be updated every six months before safety drills. The information thus updated should also be shared with occupants.

Table 10: Emergency Number Surrounding Project Site

Hospital		
Kupar Hospital	Approx 0.10 km	097029 43721
Bhatia Hospital	Approx 1.00 km	022 6666 0000
Jaslok Hospital	Approx 2.40 km	022 6657 3014
Topiwala National Medical College & BYL Nair Charitable Hospital	Approx 0.55 km	022 2302 7000
Wockhardt Hospitals	Approx 0.85 km	022 6178 4444
Police Station		
Mumbai Central Police Chowky	Approx 0.15 Km	--
Fire Station		
Byculla Fire Station	Approx 1.81 Km	022 2308 5991
Railway station		
Mumbai Central Railway Station	Approx 0.05 Km	--
BEST (Transport)		
Mumbai Central Bus Depot	Approx 0.15 Km	022 2307 4272
MTNL		
Cumballa Hill MTNL Tele Exchange	Approx 2.80 km	--

- **Firefighting equipment's, fire extinguishers, sprinklers system etc.**

Hazard occurrence may result in on-site implications like:

- Fire and/or explosion through electric fire;
- Leakage of flammable material and leading to fire;

The following are the types of fire protection system proposed for all building premises as per NBC 2005 - Part IV Fire and Life Safety &Local Fire Authority Norms.

- Trained Security staff& fire staff shall be posted on duty at strategic location around the clock.
- Security / fire staff shall be trained in evacuation procedure & use of firefighting equipment.
- An alternative source of L.V/H.V supply from separate substation as well as diesel generator with change over switch shall be provided for fire pumps, fire lifts , staircase, corridor lighten circuits, sprinkler pump, jockey pump, fire alarm& fire detection system, integrated system, voice evacuation system , public address system. It shall be housed in a separate cabin.
- The entire building shall be provided with proper standard signage.
- Appropriate fire detection system shall be installed lift lobby and common corridor.
- Access control system, close circuit cameras shall be installed in the entire building & connected to CCTV & security control at ground.
- L.P.G/P.N.G detector system shall be installed in every kitchen area flat of each wing.

- **Type of Systems Proposed:**

Following are the various Fire Protection systems proposed:

- **Fire Fighting Tank:**
  - 297 KL Overhead firefighting tank has been provided at 14th, 28th, 42nd, 43rd, 56th and terrace level of the building. The tank shall be connected to wet risers through a booster pump through a non -return valve & gate valve.
  - 3 tanks of total capacity 400 KL Underground water storage tank are provided as per the design specified in the rules with baffle wall and fire brigade collecting breaching
  - Break pressure tank of capacity 300 KL shall be provided on alternate refuge floor i.e. 14th, 28th, 42nd, 56th and 70th floor levels.

- **Wet riser cum Down comer**
  - Wet riser cum down comer of internal diameter of 15 cms. of G.I. "C" class pipe shall be provided in the duct adjoining the lift lobby at each wing with double hydrant outlet & hose reel at each floor in a such a way as not to reduce the width of the common corridor/ staircase. Pressure reducing discs or orifice shall be provided at lower level , so as not to exceed the pressure of 5.5 kgs per sq. cms.
  - Wet riser outlet and hose reel shall be provided at a distance of 100 ft in the basement and on all podium floors.

- **Fire Fighting Installation:**
  - All the firefighting installations e.g. wet riser, sprinklers, fire alarm system, etc. shall be extended form basement upto terrace floor level

- **Smoke detector**
  - Automatic smoke detection system shall be provided in electric meter room& lift machine room , control /BMS room and in electric shaft at every floor level with response indicator: same should be connected to main consol panel on ground floor level in BMS Room , as per IS specifications.

- **Fire Drills/ Evacuation Drills**
  - Fire Drills and evacuation drills shall be connected regularly in accordance with fire safety plan of building at least once in a three month in consultation with Mumbai Fire Brigade and log of the same shall be maintained.

- **Portable Fire Extinguishers**

  Portable fire extinguishers are intended as a first line of defense to cope with fires of a limited size. They are needed even if the property is equipped with automatic sprinklers, standpipe and hose, or other fixed protection equipment. The fire protection guidelines are general in nature and are not intended to abrogate specific requirements of other codes and/or policies and procedures. The following general rules apply to most facilities:
  - A dry chemical powder (ABC) type fire extinguisher of 6 kgs capacity having I.S.I certification mark and two buckets filled with dry, clean sand shall be kept in electric meter room and each lift machine room of each wing.
  - A dry chemical powder (ABC) type fire extinguisher of 6 kgs capacity having I.S.I certification mark and two buckets filled with dry, clean sand shall be kept on floor of each wing as well as in each shop on ground, 1st & 2nd floor.
  - One dry chemical powder fire extinguisher ABC type of 6 kgs capacity each shall be kept for every 100 Sq.mt. area of each podium and basement.

- **Emergency escape route plan**
  - Emergency exit route plan framed in glass shall be displayed in the common corridor, cross passages, staircase/lift lobbies of each floor level.
  - A set of all floor plans shall be kept in the Fire control rooms.

Figure 6: Ground floor evacuation layout

- **Staircase & Fire escape lifts**

Floor	Staircase	Staircase width	Fire Escape Lifts
Basement	05 nos.	2.55 m	3
Ground to 2nd floor	04 nos.	3.36 m	
3rd to 72nd floor	02 nos.	4.15 m	

- **Leakage of LPG without fire:**
  Cordon off the area around 30 meters radius so that no vehicle or source of ignition approaches the area. Attempt must be made to close the control/ manual valve.
  - Open all windows to increase ventilation and hence prevent buildup of vapor cloud. Avoid getting entrapped in the cloud vapor
  - Water sprays should be used to disperse the vapor cloud
  - Warn the surrounding areas to put off all naked flames

➢ **Power Failures**

Failure of electrical power to building will have a serious impact on its operations, particularly if the failure occurs during normal operating hours when the building is fully occupied. A power failure may be a brownout (a partial reduction in service) or a total blackout.

Power failure can be caused either by man-made or natural events. Man- made causes may include drivers who collide with utility poles or power transformers, human error in operating equipment within the building or outside it (such as at the utility company supplying the power), or malicious tampering. Natural events include storms, floods, and earthquakes.

Power failures also can cause computer memory loss and equipment damage. If the power loss is anticipated, computers and computer systems can be shut down before it occurs. If no prior notice is received, the equipment should still be turned off as quickly as possible to avoid potential serious damage to the electrical system from the sudden surge of power when it is first restored. Computer systems, particularly mainframes, often are equipped with an uninterruptible power

supply (UPS); and personal computers often are equipped with surge protectors to reduce the chance of damage when power fluctuates, surges, or is lost.

Buildings have emergency and standby power systems to provide safety and comfort to building occupants during interruptions in their normal power supply. These systems also provide power to operate building communication systems and to provide a minimum number of elevator functions. Both functions are critical to buildings during power failures.

- **Power failure backup**
  Emergency power systems are a type of system, which may include lighting, generators, fuel cells and other apparatus, to provide backup power resources in a crisis or when regular systems fail. Emergency power systems can rely on generators, deep cycle batteries, and flywheel energy storage or hydrogen fuel cells.

- **Emergency Power Backup:**
  2 nos. of diesel generator sets of capacities 600 kVA has been proposed at site. The diesel generator will backup common area lighting, lobbies, staircase & lifts etc. Emergency backup for the (Common loads, Environmental management facilities) essential load will be provided.
  The generating capacity to be installed will provide Essential power requirements of all systems/services. Auto Mains Failure (AMF) scheme is proposed for DG Sets.

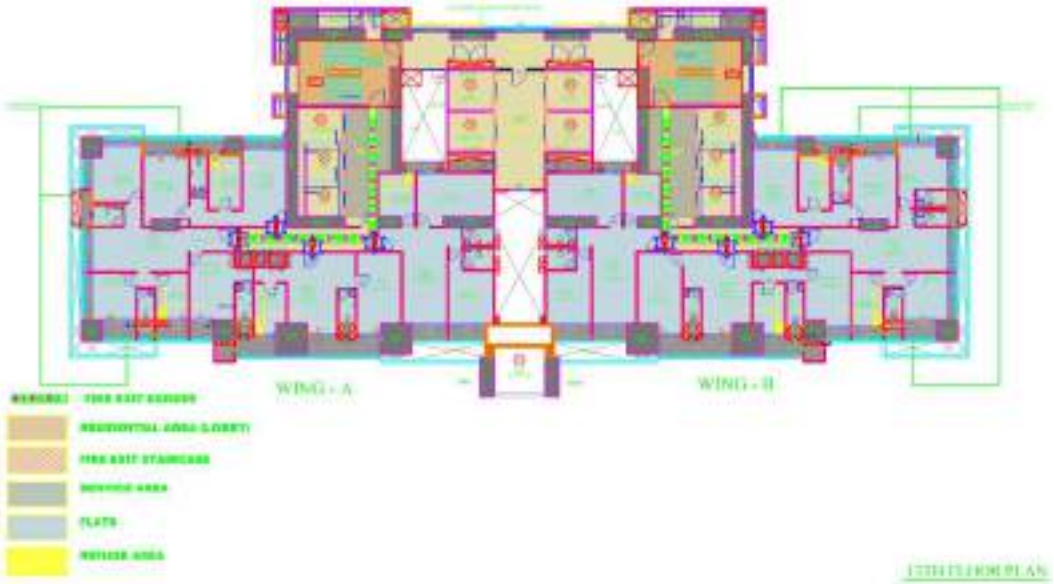
- **Notes:**
  Ratings of D.G. sets will be reviewed after finalization of all designs and before inviting tenders.
  It is proposed to install emergency backup only for Essential loads using Diesel Generating Sets for supply of power when mains power is not available.

- **Maintenance of the DG:**
  The vendor will provide the AMC for 3-5 Years as a part of contract. On expiration, the AMC will be renewed on annual basis.

- **Uninterruptible power supply (UPS)**
  An uninterruptible power supply, also uninterruptible power source, UPS or battery/flywheel backup is an electrical apparatus that provides emergency power to a load when the input power source, typically the utility mains, fails. A UPS differs from an auxiliary or emergency power system or standby generator in that it will provide instantaneous or near-instantaneous protection from input. This will be used to backup important server and computer system.

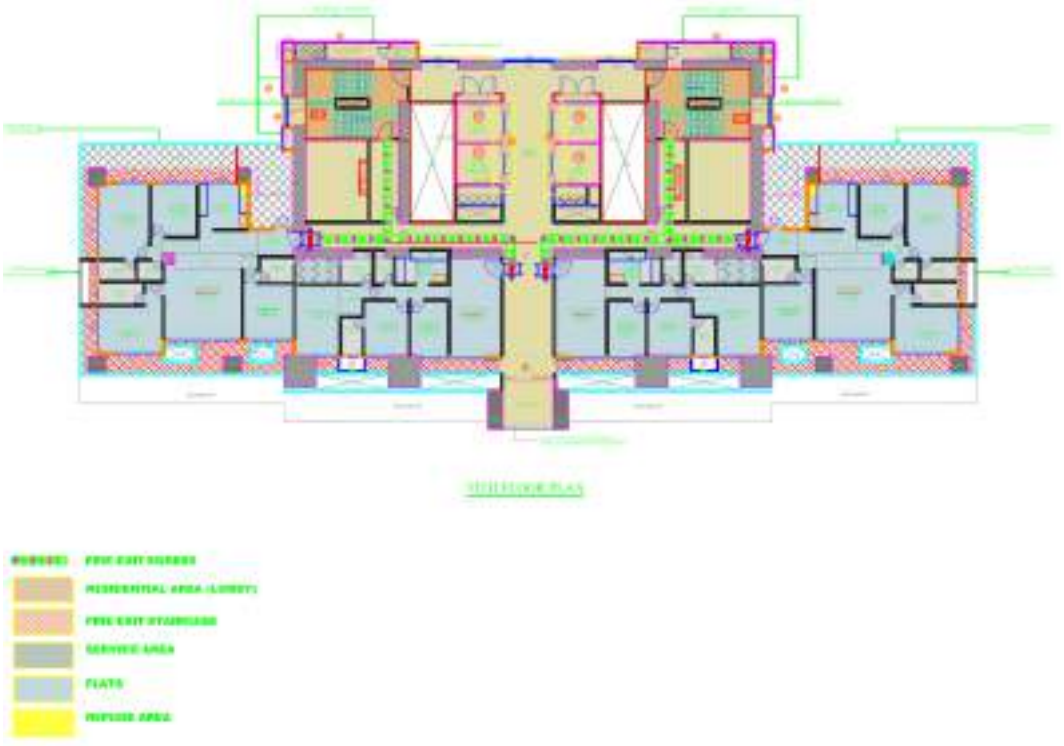
c) Display evacuation plan in times of disaster

Ground Floor Evacuation Plan

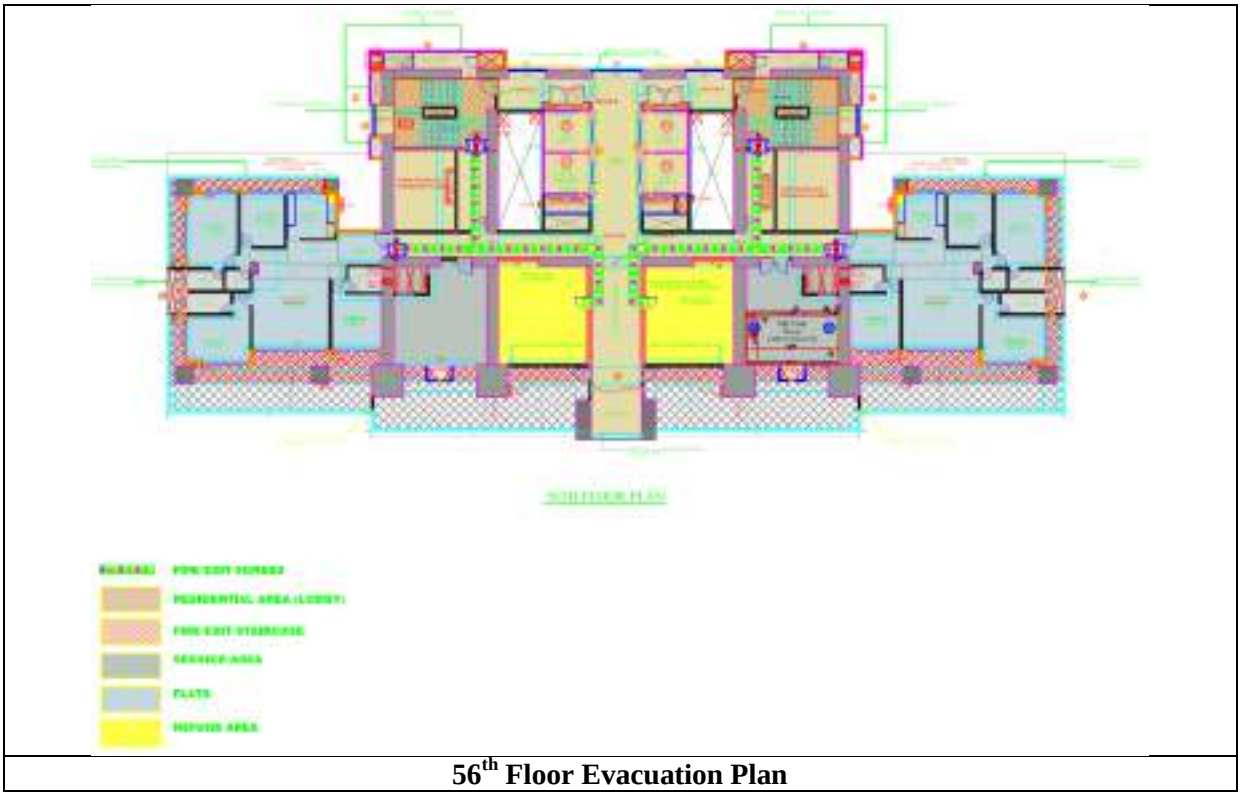


13th Floor Evacuation Plan

14th Floor Evacuation Plan



55th Floor Evacuation Plan



56th Floor Evacuation Plan

Figure 7: Evacuation layout

- **Evacuation**
  - Stay calm; do not rush or panic
  - Safely stop your work
  - If safe, gather your personal belongings; take prescribed medications with you
  - If safe, close doors and window but do not lock them
  - If in parking lot, immediately park your car so that the access to other vehicles as well as people are not hampered and proceed to the nearest exit by staircase or as guided.
  - Location of all exit corridors, exit stairs and exit serving the building would be marked and provided during commissioning stage.
  - An evacuation team consisting of building management, the building Facility Manager, security, Security In-charge, and floor response personnel should be organized and trained. This should be coordinated with all building tenants and designed in conjunction with developing the bomb incident plan. The team will be trained in how to evacuate the building during a bomb threat. The order in which to evacuate—for instance, by floor level should be established.
  - Evacuate the floor levels above and below the danger area to remove occupants from danger as quickly as possible. Training in such an evacuation usually is made available by building management, with advice supplied by local law enforcement and the fire department.
  - The evacuation team also may be trained in search techniques, or there may be a separate search team. Volunteers should be sought for this function; however, Security In-charge, search monitors, and the like could be assigned to the task. To be proficient in searching the building, search personnel must be thoroughly familiar with all hallways, restrooms, false ceiling areas, and other locations in the building where an explosive or incendiary device could be concealed. Thus it is extremely important for the evacuation or search team to be thoroughly trained and familiar with both the inside of the building and immediate outside areas. When a room or particular area has been searched, it should be marked or sealed with a piece of tape and reported as clear to the appropriate supervisor.

- The team will be trained only in evacuation and search techniques and not in the techniques of neutralizing, removing, or otherwise having contact with the device. If a device is located, it should not be disturbed. However, its location should be well marked and the route to it noted

Table 11: Refuge Floor

Location of refuge floor	14th, 21st, 28th, 35th, 42nf, 49th, 56th, 63rd and 70th.

- **Fire Engine Access Movement**

  The site layout & Fire Engine Movement has been shown, for the site.

  An adequate space has been provided to escape and access for fire-fighting equipment and vehicle.

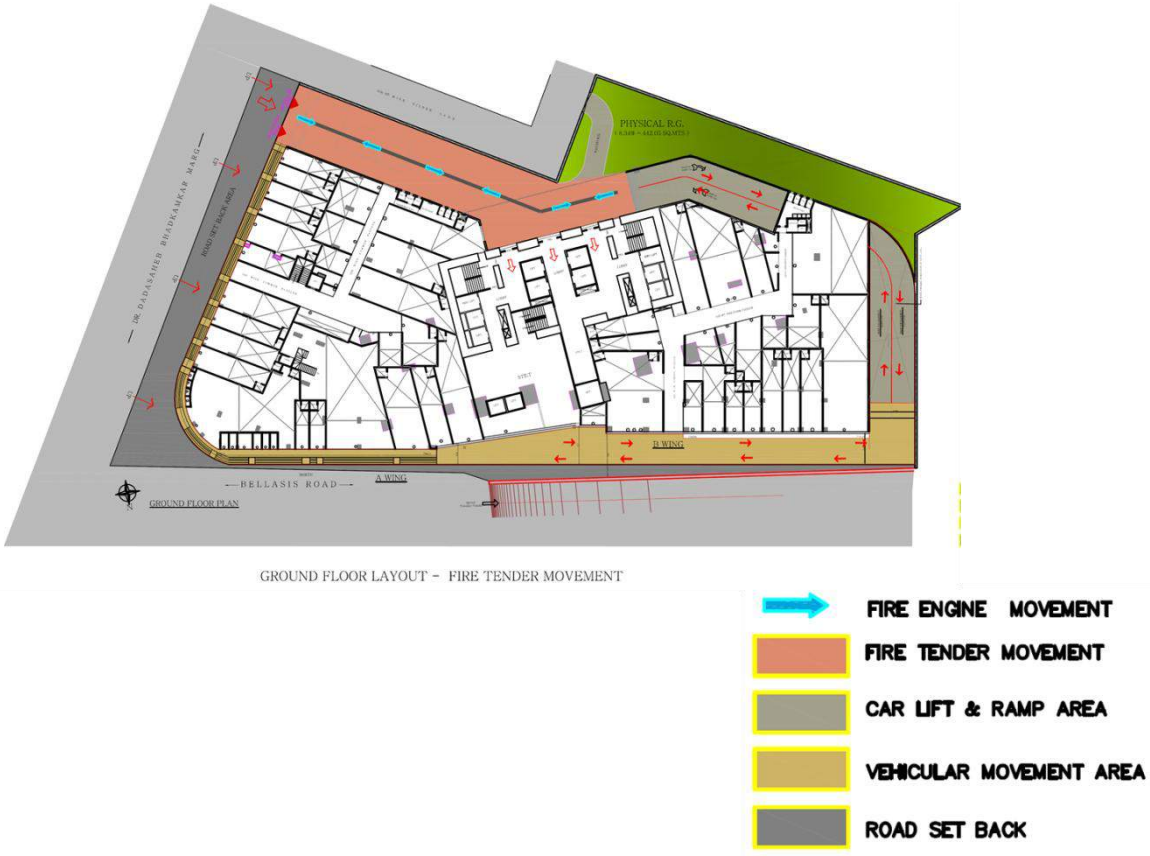


Figure 8: Fire Engine Movement Plan

- **Demonstration/ Civil Disturbance Procedures**

  Most demonstrations are peaceful and if one is conducted near or in your building, carry on work as usual. Avoid provoking or obstructing demonstrators. Should a disturbance occur, call Police for assistance.

  If protestors enter your building, let them. Try to carry on work as usual. If the noise becomes too loud, or the crowd too large, feel free to close and lock your podium gate– this decision needs to be taken by society manager or managing committee of society in conjunction with local police authority only. Proceed to the EAA and wait for additional instructions.

d)Prepare and disseminate pamphlets on each disaster for occupants covering Do's and Dot's for each type of disaster

- Do's &don't in Flood/earthquake /fire are given in Standard Operation Procedure attached to DMP.

c) On-SiteDisaster during Operation Phase

a) Site disaster manager to take charge and give guidance over public address system

- Facility Manager will take charge and give guidance over public address system during operation phase from Fire control room.

d) Call for outside assistance of fire brigade, Hospitals, ambulances

Table 12: Emergency number of Hospital, Fire station & Ambulances

Hospital		
Kupar Hospital	Approx 0.10 km	097029 43721
Bhatia Hospital	Approx 1.00 km	022 6666 0000
Jaslok Hospital	Approx 2.40 km	022 6657 3014
Topiwala National Medical College & BYL Nair Charitable Hospital	Approx 0.55 km	022 2302 7000
Wockhardt Hospitals	Approx 0.85 km	022 6178 4444
Fire Station		
Byculla Fire Station	Approx 1.81 Km	022 2308 5991
Ambulance		
Vijay Ambulance service	Approx 1.00 km	098205 68338
The Muslim Ambulance Mat & Nsg Home	Approx 0.70 km	022 2300 8305
Konkan Ambulance Society	Approx 1.30 km	022 2432 6226

e) Networks with state, district and ward level control rooms

- The response structure given in the ward plan essentially limits itself to micro-level intervention. When more than one ward are affected, M.C.G.M. control room which is the co-ordinating authority, would expect the ward officers to co-ordinate the activities at the ward level with the line agencies such as Fire Brigade, Police etc. The responsibilities for all the ward level functionaries have been identified by M.C.G.M.

➢ **Details of 'D' ward officer's responsibilities are given on M.C.G.M website: -** http://www.karmayog.com/floods/mumbai_d_ward_plan.htm

f) Ensure adequate warning before switching off power

- All announcements will be done with good quality equipment's.
- Switching off power will be done only after having current status of the all building facilities from concern In-charge.
- With the help of CCTV camera will confirm that if any trapped in basement & lift during the disaster
- Parking In-Charge and lift man will ensure that no occupants is trapped inside the building and Security In-charge will confirm with Parking In-Charge and lift man
- Emergency Electrical switch is at the meter room will be operated by only authorized person under instruction of Security In-charge

g) Assure occupants of continuous communication and take all, measures to keep up their morale

- Periodical mock drill will be arranged by the Facility Manager / Security In-charge
- Through training & info will be given to occupants about the available rescue sources, rescue plans

- Assurance will be given to occupants that evacuation will be done by trained volunteers, so occupants will be trained that how to co-operate with volunteer during disaster

h) Guide occupants on the steps being taken for evacuation in systematic manner

- This requirement will be handled by dedicated trained volunteers
- In case lift power supply is shutdown all the lifts will stop at floor level and door will automatically open.

Procedures for people during emergencies:

- By law building occupant may be required to evacuate when the fire alarm is raised
- For floors beyond 10, evacuation has to be done to the nearest refuge area through staircase exit only
- The floor diagram will be provided to every floor which can show the entry and exit during evacuation
- Proper sign showing the exit route, Primary evacuation routes leading to the designated assembly point (solid lines) would be provided
- Use the nearest stairs and proceed to the nearest exit. Do not use the elevator
- If in parking lot, immediately park your car so that the access to other vehicles as well as people are not hampered and proceed to the nearest exit by staircase or as guided
- Duck under the nearest sturdy object and hold onto it until tremors stops. If you are not near a sturdy object, make yourself as small as possible and cover your head and neck when earthquakes occurs
- In case of fire, move away from fire and smoke. Close doors and windows if time permits. Touch closed doors. Do not open them if they are hot

Procedures for people with disabilities during emergencies:

In all emergencies, after an evacuation has been ordered:

- Evacuate people with disabilities if possible
- Do not use elevators, unless authorized to do so by police or fire personnel. Elevators could fail during a fire or a major earthquake
- Check on people with special needs during an evacuation. A "buddy system", where people with disabilities arrange for volunteers (neighbors) to alert them and assist them in an emergency, is a good method
- Attempt a rescue evacuation ONLY if you have had rescue training or the person is in immediate danger and cannot wait for professional assistance
- Always ask someone with a disability how you can help BEFORE attempting any rescue technique or giving assistance. Ask how he or she can best be assisted or moved, and whether there are any special considerations or items that need to come with the person

i) Take steps to reduce/ eliminate panic

- Periodical training to internal volunteers & members.
- Periodical mock drills to all occupants, members, volunteers
- Evacuation assurance to occupants by trained personals or external force volunteers during emergency

j) Liaise with law and order machinery

- Facility Manager after occupancy of project will liaise with police Fire Brigade, Civil Defense, BEST etc.

d) Preventive Measure

- Arrangement of periodical training for each disaster & equipment
- Provided Fire detection & fighting systems

- Automation will be there for warning system
- 24x7 fully trained Security staff
- One Copy of SOP to all Occupants
- Do's & Don'ts template at designated location of each buildings
- Preventive maintenance to all machineries &equipments
- Tagging of date for last preventive maintenance on every emergency equipments
- Video & evacuation training to volunteers for emergency

a) Regular inspection of equipment and systems mandated by Chief Fire Officer in the NOC granted

- Regular inspection will be carried out by competent and dedicated engineer of O&M employed contractors at regular intervals for all kinds of equipments& system
- Preventive maintenance will also be carried out after checking equipments during a mock drill.

b) Scrupulous adherence to approved plan of building and protection of system put in place to handle disaster

- No violation or changes will be done
- In Operation stage at the time of entry, emergency preparedness plan's training shall be conducted and reoriented after every drill conducted

c) Regular maintenances of equipment and systems

- Periodical maintenance will be carried by certified, competent and skilled employed contractors at regular intervals.
- Maintenance of lift will be done at regular intervals by the lift company who will install the lift.

Cost towards Disaster management Plan:
During Construction Phase: Set up cost – Rs. 421.11 Lakh
During Operation Phase: Set up cost: Rs. 1645.13 Lakh &
O&M cost: Rs. 106.74 Lakh/yr

Summary:
Prepare occupants in your building ahead of time for emergency evacuations. Know your building occupants. Awareness of the needs of people with disabilities and to know how to offer assistance. Hold evacuation drills in which occupants participate, and evaluate drills to identify areas that need improvement. Plans must cover regular working hours, after hours, and weekends. Everyone needs to take responsibility for preparing for emergencies. People with disabilities should consider what they would do and whether they need to take additional steps to prepare. "Emergency Guidelines for People with Disabilities" may be available from your Building Coordinator.

Conclusion
M/s. Nathani Parekh Constructions Pvt. Ltd. will appoint the certified contractor who will periodically review and update the Disaster Management Plan and will take the initiative to institutionalize the relationship between all Emergency Security and Rescue Forces (e.g. Police, Municipality, Fire Brigade, Medi-Care Centres etc.)

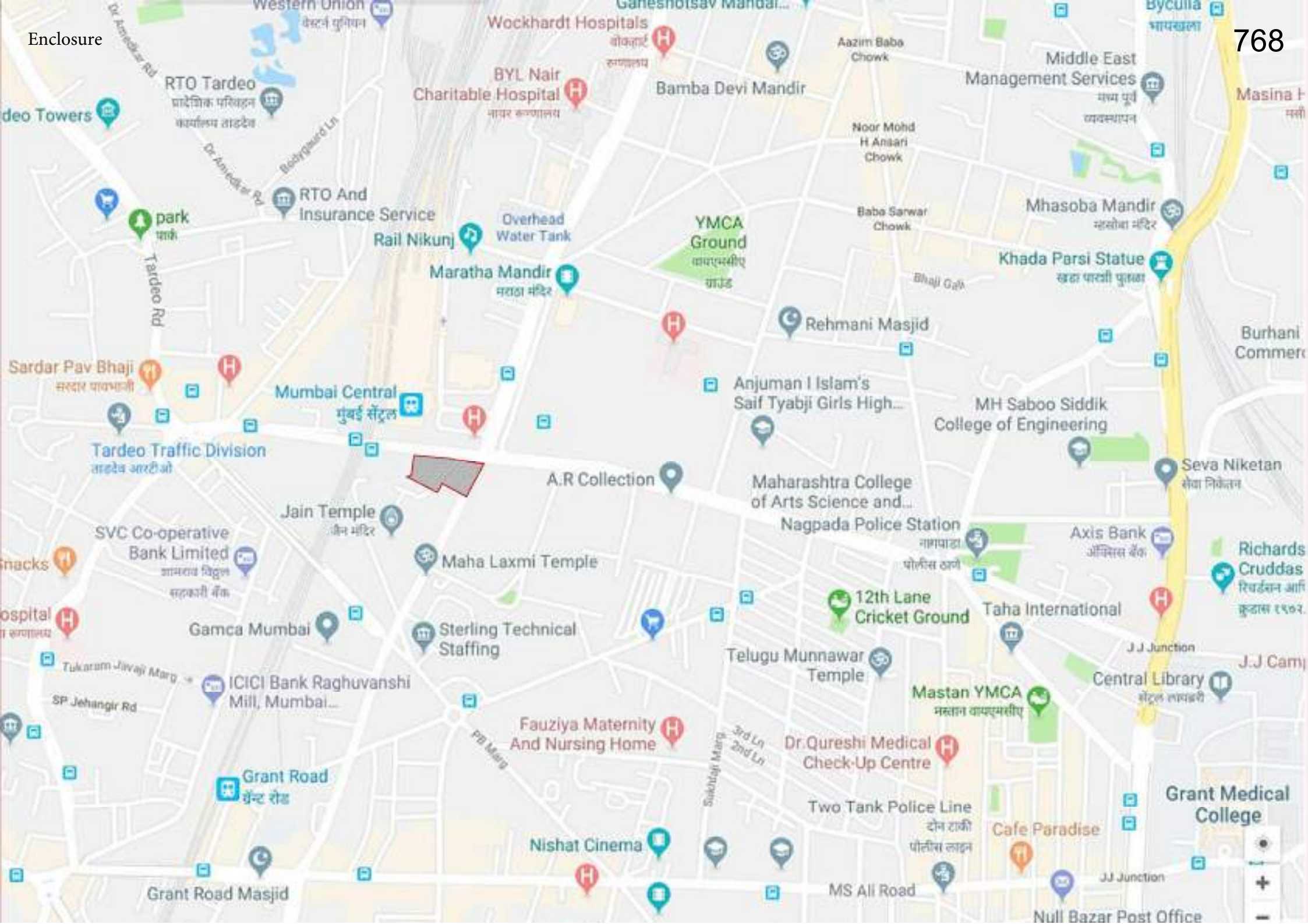
Annexure:

Table 13 : Cost during Construction Phase

No.	Disaster	Mitigation measures during construction phase	Amount Rs. In Lacs
1.	Site Health & Safety	Safety Shoe, Cover All, Goggles, Gloves - Cotton, Gloves - Rigger, Safety Jacket, Safety Helmet, Safety Harness, First Aid (Staffs & Workers), Safety Training, Safety Signboard, Warning Tapes & Paints, Fire Extinguisher DCP 5 kg, Fire Extinguisher CO2 5 kg, Safety nets for Podium and tower, Outside green net, Life Line Rope & Clamp, 8 mm Wire Rope	61.65
2.	Tower crane (2 No.)	Periodic check & 3rd party certification, Preventive maintenance, Audit & Certified by Competent person, Operated by trained & Certified person.	269.05
3.	Man and Material Hoist (3 Nos.)	Certified/approved hoist to be used by trained employees for access and evacuation.	90.40
Total cost			**421.11**

Table 14 : Cost during Operation Phase

Sr.No	Disaster	Mitigation Measures During Operation Phase	Cost (Rs.)			O & M Cost/Year
			Already incurred	To be incurred	Total	
1.	Flood	Dewatering pump system (Transfer Pumps) (11 Working and 10 Standby Pump)	45.50	--	45.50	3.19
		Suction pump (Booster Pumps) (2 Working and 2 Standby Pump)	2.05	--	2.50	0.14
		SWD system with oil and grease traps (Storm Water Disposal Pumps) (5 working and 4 standby)	3.89	--	3.89	0.27
2.	Lightening	Lightening Arrester	--	15.76	15.76	1.10
3.	Fire	D.G. Sets (1000 KVA 2 Nos)	--	148.00	148.00	1.90
4.		Fire Fighting System with (With All pumps), Wet Risers, External Hydrant System, Sprinkler System, Drenchers @ Fire break Floor & Podiums) Fire Extinguishers, Fire Buckets, Signages & FHC doors	470.31	482.85	953.16	66.72
		Earth Pits for D.G. Set, Fire Elevator & Lightening Arrester	13.90	3.76	17.66	1.24
		Fire Alarm System	8.23	93.92	102.15	7.19
5.	Ventilation	Mechanical Ventilation System and Staircase & Lift Lobby Pressurization System	63.21	223.35	286.56	20.06
6.	Other Tools	CCTV camera	10.39	28.22	38.61	2.70
		Sewage Treatment Plant	16.88	13.66	30.54	2.14
		Rain water harvesting Pump (2 working + 1 Standby)	1.25	--	1.25	0.09
TOTAL			**635.61**	**1009.52**	**1645.13**	**106.74**


Western Union
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Byculla
Aazim Baba Chowk
Middle East Management Services
Masina H
RTO Tardeo
BYL Nair Charitable Hospital
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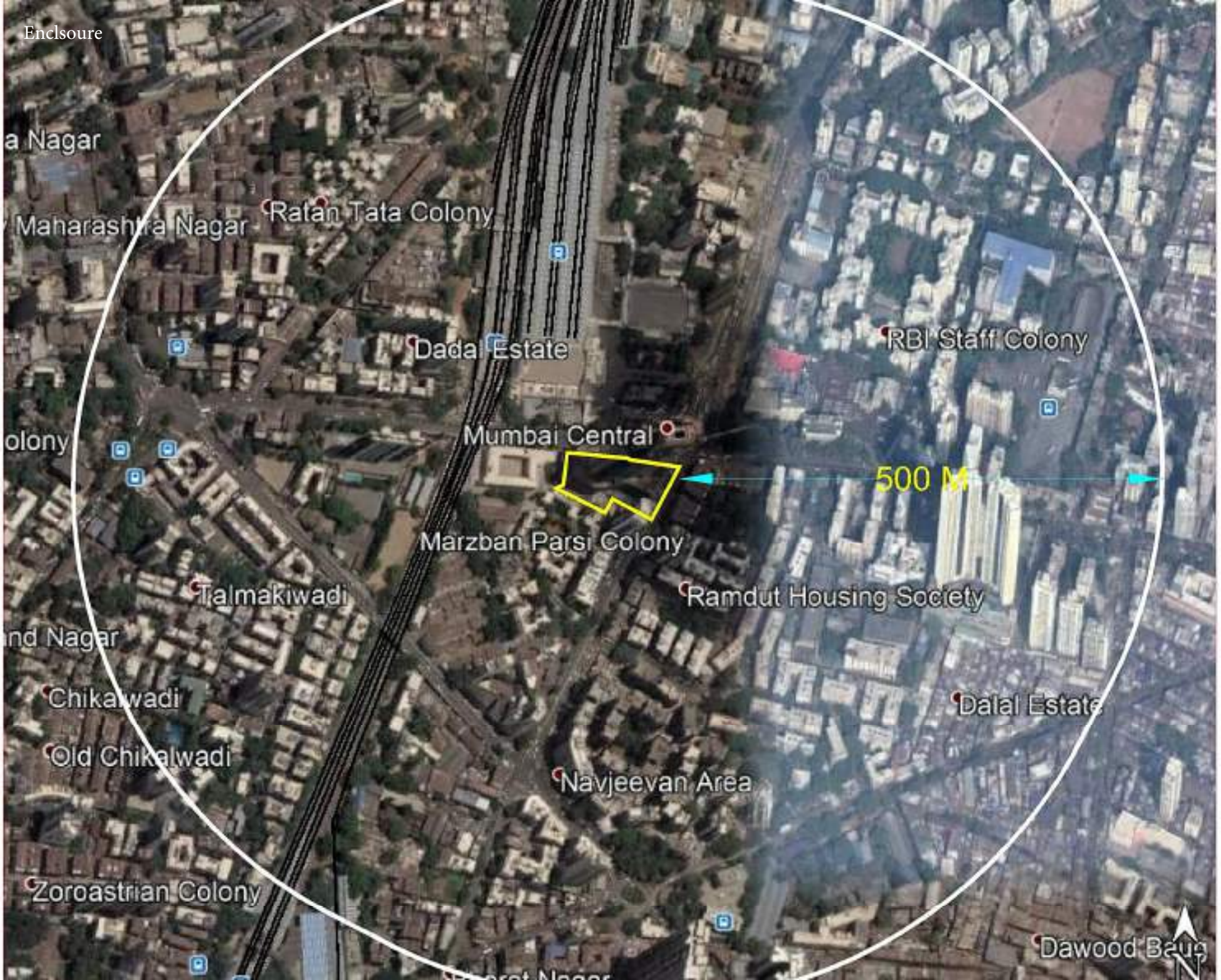
deo Towers
Noor Mohd H Ansari Chowk
RTO And Insurance Service
park
Overhead Water Tank
Rail Nikunj
YMCA Ground
Baba Sarwar Chowk
Mhasoba Mandir
Khada Parsi Statue
Maratha Mandir
Tardeo Rd
Rehmani Masjid
Burhani Commerc
Sardar Pav Bhaji
Mumbai Central
Anjuman I Islam's Saif Tyabji Girls High...
MH Saboo Siddik College of Engineering
Tardeo Traffic Division
A.R Collection
Seva Niketan
Maharashtra College of Arts Science and...
Jain Temple
SVC Co-operative Bank Limited
Nagpada Police Station
Axis Bank
Richards Cruddas
Maha Laxmi Temple
12th Lane Cricket Ground
Taha International
Gamca Mumbai
Sterling Technical Staffing
Telugu Munnawar Temple
J.J Junction
Central Library
Tukaram Jivaji Marg
ICICI Bank Raghuvanshi Mill, Mumbai...
Mastan YMCA
SP Jehangir Rd
Fauziya Maternity And Nursing Home
Dr.Qureshi Medical Check-Up Centre
Grant Road
Two Tank Police Line
Grant Medical College
Cafe Paradise
Nishat Cinema
Grant Road Masjid
MS Ali Road
JJ Junction
Null Bazar Post Office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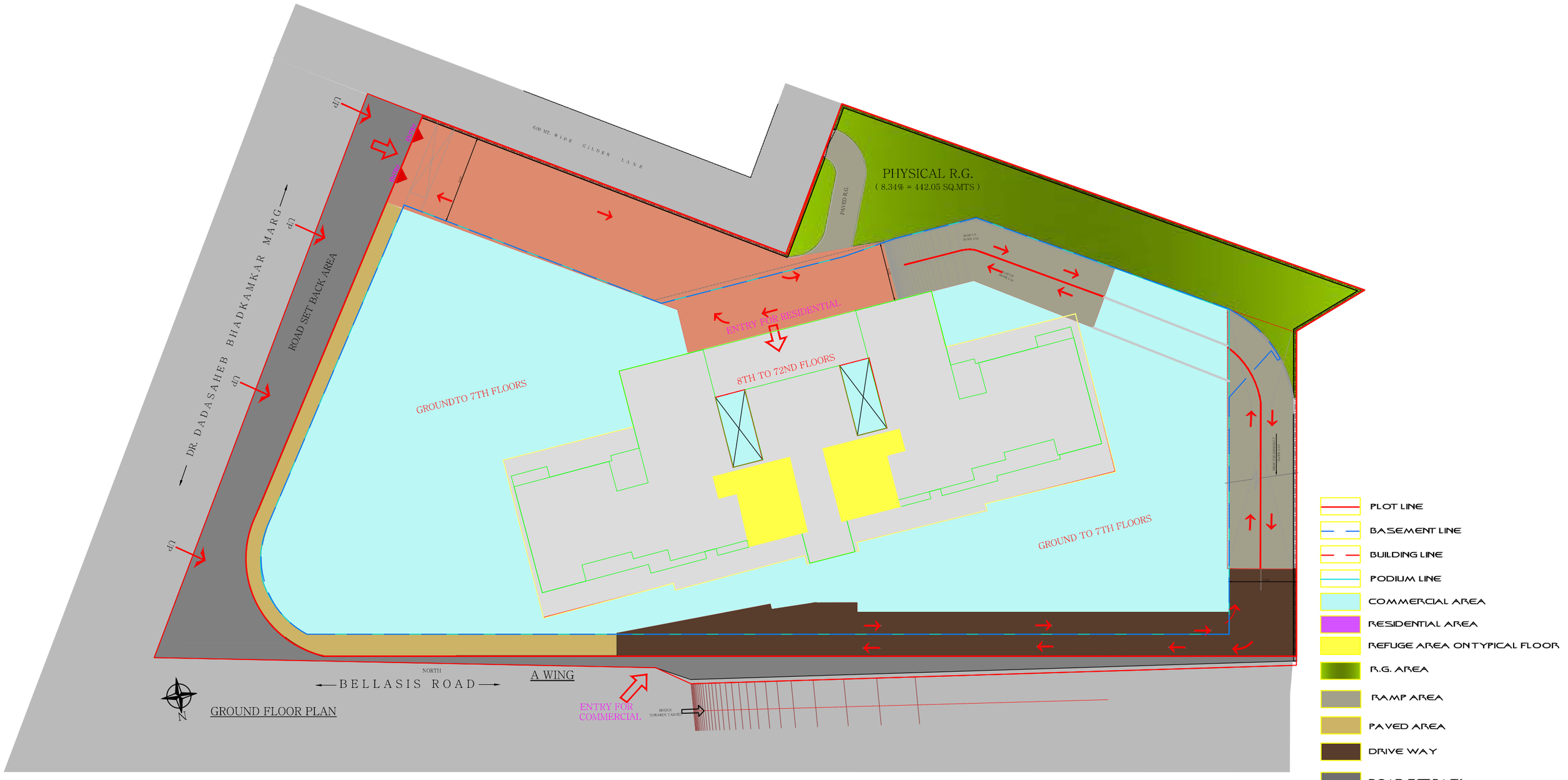
Dalal Estate
Old Chikalwadi
Navjeevan Area
Zoroastrian Colony
Dawood Baug



LAYOUT PLAN (NEW)

MMRC

No.MMRC/TP Unit/CBS/NOC/47/ 123 Date – 07/04/2015

To
The Chief Engineer,
Development Plan, MCGM
5th Floor, Annexe building
Municipal Head Office,
Mahapalika Marg, Fort,
Mumbai - 400 001.

Sub:- MRTS along Mumbai Metro Line-3 (Colaba – Bandra - SEEPZ) corridor- Regulation of development activities: Issue of remarks for the proposed redevelopment on property bearing C.S. No. 1/332 of Tardeo Division, situated at Dr. D. B. Marg & Belasis Road, Mumbai Central, Mumbai-400008.

Ref: - 1) GOI's Notification dated 19/09/2013 for implementation of Metro Line-3 Project.
2) GOM's Resolution No. MRD-3311/Pra.Kra.149/NaVi-7, dated 03/03/2014.
3) MMRDA's letter no. T&C/MMLine-3/SO/2012/550, dated 29/01/2013.
4) Architect's letter dated 04/10/2014.
5) D. P. remarks issued by MCGM vide letter dated 17/09/2014.
6) Regular Line remarks issued by MCGM vide letter dated 29/11/2011.
7) Undertaking dated 30/03/2015 submitted by Director, M/s. Nathani Parekh Construction Pvt. Ltd.

Sir,

Vide Notification and Resolution referred at (1) and (2) above, Government has sanctioned the implementation of underground Metro line-3 (Colaba – Bandra Corridor) Alignment, Stations and Car Depot at Aarey Colony. Vide letter referred at (3) above, MMRDA has informed MCGM that, MMRC has finalized revised corridor as fully underground. Also, the objective of this provision is to regulate / control the development / redevelopment of the land or building along the Metrorail alignment within a distance of 50 m on either side of the center line of the Metro Rail System.

2. The architect by his letter referred at (4) above has requested MMRDA to issue remarks for the property under reference from MRTS Line-3 point of view. As per the documents and drawings submitted by the architect, the said property is located at west side of Dr. Dadasaheb Bhadkamkar Marg form which underground alignment of Metro Line-3 is passing. The plot area of said property is 5301.04 sq. mt. The plot under reference consists of a proposed multi-storied Residential building having 01 Basement + Ground and 1st (Rehab shops + parking floor) + 2nd to 8th parking floors + 9th to 72nd Residential floors. Total height of building from ground level to the top of terrace slab level of 72nd floor is 243.15 mt.

From MRTS point of view, property under reference is affected by the influence zone of Metro Line-3 (i.e. 50 m from centre line of alignment) and located near the proposed underground Mumbai Central Metro station. The minimum distance of building line from Dadasaheb Bhadkamkar Marg is 1.5 m and from Bellasis Road is 1.50 mt.

The proposed building is located at a distance of about 14.4 m from the centre line of up line Metro tunnel (i.e. closest tunnel). The piles supporting the central tower (rising to 72nd floors) are located at a minimum clear distance of 25 m from Metro tunnel extrados.

3. The developer / owner have submitted an undertaking referred at (7) above, agreeing to the stipulations to be considered during construction of Metro line-3 project. The NOC from MRTS Line-3 point of view for the proposed residential building on the property under reference is issued subject to following conditions that:-

i) ***MCGM being the planning authority shall examine the ownership documents, FSI calculations floor plans, marginal open spaces, height of the building etc. before issuing further development permission.***

ii) ***The applicant / owner shall comply the requirement in respect to the regular line of Bellasis Road and Dr. Dadasaheb Bhadkamkar Marg (from MRTS point of view) affecting the property u/r as per the Regular Line remarks issued by MCGM vide letter dated 29/11/2011***

iii) ***The architect shall also obtain all necessary permissions / NOCs / clearances etc. as required from other statutory institutions before further carrying out with the development work.***

iv) ***If any modifications are proposed horizontally and vertically in the plans submitted by the architect along with his letter dated 04/10/2014 then for those modifications revised NOC shall be obtained from MMRC.***

v) ***This NOC is valid for a period of one year from the date of issue of this letter and will be renewed till the completion of construction of MRTS project or will be renewed till the occupancy certificate of the building under reference is issued whichever is earlier.***

vi) ***This NOC shall be deemed as cancelled immediately once the documents submitted by the architect found to be false.***

vii) ***The applicant / owner shall bind to the conditions as accepted by him by undertaking dated 30/03/2015.***

Yours faithfully,

(R. Ramana)
Executive Director (Planning)

Encl: - i) 3 Drawings.
ii) Copy of Undertaking dated 12/03/2015 submitted by Director, M/s. Nathani Parekh Construction Pvt. Ltd.

C.C to:-

1. **Deputy Chief Engineer** (Building Proposal) City, Municipal Corporation New Building, CS No. 355 B, Bhagwan Valmiki Chowk, Opp. Hanuman Mandir, Vidyalankar Marg, Salt Pan Road, Antop Hill, Wadala (E), Mumbai – 400 037.	2. **The Designers, Architects** 11,5th floor, Karim Chambers, Ambalal Doshi Marg, Fort, Mumbai – 400 001. Tel. – 6124 3800 to 899.

LEGEND L3 - 47 NOC Applicant - M/s. The Designers Architects

Property bearing C.S. No. 1/332 of Tardeo Division, situated at Dr. D. B. Marg & Belasis Road, Mumbai Central, Mumbai- 400008.

Underground Tunnel of MRTS Line - III alignment (i.e. Colaba - Bandra - Seepz Corridor).

Center line of underground MRTS tunnels of MRTS Line - III alignment.

Influence zone of MRTS Line - III Alignment (i.e. 50 m. from center line of MRTS Alignment).

Influence zone line of MRTS Line - III alignment.

Sanctioned regular line of 120 ft. and 95 ft. wide Dr. Dadasaheb Bhadkamkar Marg and Jahangir Boman Behram Marg (Belasis Road) as per the demarcation plan issued vide MCGM's letter dated 29/11/2011.

TWO WHEELER PARKING

Underground Tunnels of MRTS Line - III Alignment.

To SEEPZ

Center Line of underground MRTS tunnels of MRTS Line - III Alignment.

Influence Zone Line of MRTS Line - III Alignment (i.e. Colaba - Bandra - SEEPZ Corridor).

Dr. Dadasaheb Bhadkamkar Road

ULC-22

DLC-23

Jahangir Boman Mehram Road

50 m.

A

A

6.66 m.

4.01 m.

0.9 m.

14.40 m.

Center Line of MRTS Line - III Alignment.

Property under reference Land bearing C.S. No. 1/332 of Tardeo Division.

Sanctioned regular line of 120 ft. wide Dr. Dadasaheb Bhadkamkar Marg as per the demarcation plan issued vide MCGM's letter dated 29 - 11 - 2011.

CITY MALL

To Colaba

N

1:500

MMRDA MRTS Remarks	
Read With (1) Government of India Notification dt. 19/09/2013 for implementation of Metro Line - III Project. (2) Letter No - MMEC/TP Unit/CBS/MRL/A/7443 Date - 07/04/2015	
Prepared By	Checked By
Place: Mumbai	Asst. General Manager Town Planning MMRC

MMRC

Mumbai Metro Rail Corporation Limited
(JV of Govt. of India and Govt. of Maharashtra)

No.MMRC/CBS/Planning/NOC/47A/813/2018 Date: 19/03/2018

To,
The Designers, Architects
11,5th floor, Karim Chambers,
Ambalal Doshi Marg,
Fort, Mumbai – 400 001.
Tel. – 6124 3800 to 899.

Sub:- MRTS along Mumbai Metro Line-3 (Colaba - Bandra - SEEPZ) corridor-Regulation of development activities: Issue of remarks for the proposed redevelopment on property bearing C.S. No. 1/332 of Tardeo Division, situated at Dr. D. B. Marg & Belasis Road, Mumbai Central, Mumbai- 400008 for M/s. Nathani Parekh Construction Pvt. Ltd.

Ref: - 1) MMRC's NOC No. MMRC/TPUnit/CBS/NOC/47/123 dated 07/04/2015
2) MMRC's re-validated NOC dated 29/11/2016.
3) Undertaking dated 30/03/2015 & 23/11/2016 submitted by Director, M/s Nathani Parekh Construction Pvt. Ltd.
4) Your letter dated 14/12/2017, 27/12/2017 and mail dated 25/01/2018.

Sir,

Please refer to your letter cited at (4) above, by which you have submitted your application to revalidate MMRC's NOC dated 07/04/2015 (referred at (1) above) for the proposed development on subject property, as per one of the condition [Condition No. 3 (v)] mentioned therein.

In this regard, you are hereby informed that, MMRC has considered your request and the period of NOC dated 07/04/2015 is hereby extended further for one year from the date of issue of this letter subject to the conditions mentioned therein and in the undertakings dated 30/03/2015, 23/11/2016.

Yours faithfully,

(R. Ramana)
Executive Director (Planning)

CIN:U60100MH2008GOI183707

Office Address: NaMTTRI Building, Plot no. R-13, E Block, BKC, Bandra (E), Mumbai - 400 051
T +91 22 2659 4602 **F** +91 22 2659 2005 **E** mumbaimetro3@mmrcl.com **www.mmrcl.com**
Registered Office: MMRDA Building, BKC, Bandra (E), Mumbai - 400 051

184 th Meeting of SEIAA (DAY-1)

SEIAA Meeting number: 184 **Meeting Date** December 30, 2019

Subject: Environment Clearance for Seeking revised EC for Redevelopment project at Tardeo Division, Mumbai Central, Mumbai

Is a Violation Case: No

1.Name of Project	"NATHANI HEIGHTS"
2.Type of institution	Private
3.Name of Project Proponent	M/s. Nathani Parekh Constructions Pvt. Ltd.
4.Name of Consultant	M/s. Ultra Tech
5.Type of project	Redevelopment Project
6.New project/expansion in existing project/modernization/diversification in existing project	Amendment in EC
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Received Environmental Clearance (File No. SEAC-2010/CR.364/TC.2) dated 2nd June, 2011
8.Location of the project	C.S. No. 1/332, Dr. D.B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai - 400008.
9.Taluka	Mumbai
10.Village	Mumbai
Correspondence Name:	M/s. Nathani Parekh Constructions Pvt. Ltd.
Room Number:	101
Floor:	2nd Floor, Commercial Arcade,
Building Name:	Nathani Heights
Road/Street Name:	Dr. D.B. Marg & Bellasis Road Junction
Locality:	Mumbai Central
City:	Mumbai – 400008.
11.Whether in Corporation / Municipal / other area	Municipal Corporation of Greater Mumbai (M.C.G.M.)
12.IOD/IOA/Concession/Plan Approval Number	Received Part Occupation certificate dated 30.10.2018
	IOD/IOA/Concession/Plan Approval Number: EB/5420/D/A
	Approved Built-up Area: 30620.60
13.Note on the initiated work (If applicable)	TTotal constructed work on site till date (FSI + Non FSI): 77,090.00 Sq.mt.
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	Received MHADA NOC dated 16.05.2008 and revised NOC dated 22.08.2012
15.Total Plot Area (sq. m.)	5,301.04 Sq. mt.
16.Deductions	590.29 Sq. mt.
17.Net Plot area	4,710.75 Sq. mt.
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**a) FSI area (sq. m.):** 30,658.14 Sq. mt.
	b) Non FSI area (sq. m.): 48,493.82 Sq. mt.
	c) Total BUA area (sq. m.): 79151.96
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 30,620.60
	Approved Non FSI area (sq. m.): 55,944.49
	Date of Approval: 30-10-2018
19.Total ground coverage (m2)	3,577.82
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	76%
21.Estimated cost of the project	3700000000

22.Number of buildings & its configuration

Serial number	Building Name & number	Number of floors	Height of the building (Mtrs)
1	1 Building	Basement + Ground to 2nd Floor (Shops/Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.	243.11

23.Number of tenants and shops	Flats: 340 Nos. Office and Shops: 260 Nos.
24.Number of expected residents / users	~ 2527 nos.
25.Tenant density per hectare	642 / hectors
26.Height of the building(s)	
27.Right of way (Width of the road from the nearest fire station to the proposed building(s)	It is connected by 29.26 mt. wide Belasis Road and 36.58 mt. wide Dr. Dadasaheb Bhadkamkar Marg.
28.Turning radius for easy access of fire tender movement from all around the building excluding the width for the plantation	9.00 mt.
29.Existing structure (s) if any	Part Construction completed on site as per EC received
30.Details of the demolition with disposal (If applicable)	There were four existing building on the plot which have been completely demolished. Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.

31.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

32.Total Water Requirement

Dry season:	**Source of water**	M.C.G.M/ Tanker water for Swimming pool make up
	Fresh water (CMD):	170 KLD
	Recycled water - Flushing (CMD):	98 KLD
	Recycled water - Gardening (CMD):	13 KLD
	Swimming pool make up (Cum):	3 KLD
	Total Water Requirement (CMD) :	284 KLD
	Fire fighting - Underground water tank(CMD):	3 tanks of total capacity 400 KL
	Fire fighting - Overhead water tank(CMD):	297 KL
	Excess treated water	100 KLD
Wet season:	**Source of water**	M.C.G.M/ Tanker water for Swimming pool make up/ Partly by RWH
	Fresh water (CMD):	From MCGM: 162 KLD From RWH: 8 KLD
	Recycled water - Flushing (CMD):	98 KLD
	Recycled water - Gardening (CMD):	NA
	Swimming pool make up (Cum):	3 KLD
	Total Water Requirement (CMD) :	271 KLD
	Fire fighting - Underground water tank(CMD):	3 tanks of total capacity 400 KL
	Fire fighting - Overhead water tank(CMD):	297 KL
	Excess treated water	113 KLD
Details of Swimming pool (If any)	2 nos. of swimming pool having volume 165 Cu.mt. & 71 Cu.mt. Volume of lotus pond – 13 Cu.m	

33.Details of Total water consumed									
Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

34.Rain Water Harvesting (RWH)	**Level of the Ground water table:**	0.5 mt. to 0.75 mt. below ground level
	Size and no of RWH tank(s) and Quantity:	1 RWH tank of capacity 75 KL
	Location of the RWH tank(s):	Below ground
	Quantity of recharge pits:	--
	Size of recharge pits :	--
	Budgetary allocation (Capital cost) :	Rs. 10.50 Lacs
	Budgetary allocation (O & M cost) :	Rs. 0.44 Lacs/annum
	Details of UGT tanks if any :	Location of UG tanks: Basement
35.Storm water drainage	**Natural water drainage pattern:**	The storm water collected through the storm water drains of adequate capacity will be discharged into the external SWD.
	Quantity of storm water:	0.12 m3/sec
	Size of SWD:	SWD pipe size 300 mm
Sewage and Waste water	**Sewage generation in KLD:**	234 KLD
	STP technology:	Moving Bed Bio Reactor (MBBR)
	Capacity of STP (CMD):	1 STP of capacity 255 KL
	Location & area of the STP:	Basement
	Budgetary allocation (Capital cost):	Rs.48.54 Lacs
	Budgetary allocation (O & M cost):	Rs. 8.66 Lacs/annum

36.Solid waste Management

Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	Demolition debris has been partly reused/ recycled and remaining has been disposed to the authorized land fill site as per permission received from M.C.G.M.
	Disposal of the construction waste debris:	Construction waste material shall be partly recycled and remaining shall be disposed to the authorized land fill site with permission of M.C.G.M.
Waste generation in the operation Phase:	**Dry waste:**	376 kg/day
	Wet waste:	598 kg/day
	Hazardous waste:	Not Applicable
	Biomedical waste (If applicable):	Not Applicable
	STP Sludge (Dry sludge):	35 kg/day
	Others if any:	Not Applicable
Mode of Disposal of waste:	**Dry waste:**	To Authorized recyclers
	Wet waste:	Treatment in OWC
	Hazardous waste:	Not Applicable
	Biomedical waste (If applicable):	Not Applicable
	STP Sludge (Dry sludge):	Use as manure
	Others if any:	Not Applicable
Area requirement:	**Location(s):**	7th Floor
	Area for the storage of waste & other material:	81.00 Sq. mt.
	Area for machinery:	12.00 Sq.mt.
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	Rs. 9.00 Lacs
	O & M cost:	Rs. 2.37 Lacs/annum

37.Effluent Charecterestics

Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	--	Mg/l	Not applicable	Not applicable	Not applicable

Amount of effluent generation (CMD):	Not applicable
Capacity of the ETP:	Not applicable
Amount of treated effluent recycled :	Not applicable
Amount of water send to the CETP:	Not applicable
Membership of CETP (if require):	Not applicable
Note on ETP technology to be used	Not applicable
Disposal of the ETP sludge	Not applicable

38.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

39.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	DG Set	--	--	--	--	--

40.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	HSD	--	--	--
41.Source of Fuel		--		
42.Mode of Transportation of fuel to site		--		

43.Green Belt Development	**Total RG area :**	RG area on ground: 442.05 Sq.mt.
	No of trees to be cut :	Nil
	Number of trees to be planted :	Trees already planted: 10 nos. Trees to be planted: 196 nos.
	List of proposed native trees :	As shown below
	Timeline for completion of plantation :	Before full occupation of project

44.Number and list of trees species to be planted in the ground

Serial Number	Name of the plant	Common Name	Quantity	Characteristics & ecological importance
1	Saraca asoca	Sita Ashok	12	Tree with medicinal properties.
2	Plumeria rubra	Red Frangipani	16	Deciduous branches with flowers at branch ends, appearing at the ends of branches over the summer. Often profuse and very prominent, they are strongly fragrant, and have five petals.
3	Bauhinia purpurea	Kanchan	12	Tree with delightfully fragrant, five-inch-wide blossoms, the narrow purple, pink, and lavender petals arranged to closely resemble an orchid.

4	Bauhinia blackeana	Orchid Tree	12	The large, orchid-like flowers are rich magenta purple with paler veins, and the uppermost petal is darker towards the base. Flowers appear from February to November, with the peak flowering time in September to October. This bauhinia is sterile and rarely produces the large flat seed pods seen on other species.
5	Cassia fistula	Bahava	06	Is widely grown as an ornamental plant. Growth for this tree is best in full sun on well-drained soil; it is relatively drought tolerant and slightly salt tolerant. It attracts bees and butterflies for pollination.
6	Caryota urens	Fishtail Palm	16	Solitary-trunked tall evergreen tree. Pulp of the fully grown up plant is cut, sun dried, powdered and is edible. Ornamental plant.
7	Chrysalidocarpus lutescens	Pencil areca Palms	30	Evergreen foliage of fine texture and yellow-green in color. Fruit is yellow to purple, 2 cm, oval in shape. This is one of the most useful Palms of the tropics, serves as a super, bamboo-like screening plant and is relatively pest-free.
8	Mangifera Indica	Mango	06	It is large evergreen and shady tree with medicinal properties.
9	Phoenix palm	Date Palm	30	Date fruits have many medicinal properties. Date palms are medium-sized, growing singly or forming a clump with several stems from a single root system.
10	Tabernaemontana coronaria	Tagar	16	It has white fragrant flowers. Planted as ornamental plants.
11	Areca catechu	Betel tree	05	Medium sized palm tree
12	Cocos nucifera	Coconut	30	Fruit is used in different ways for cooking. Its Fiber is used for coir production. Broom is made from its leaves.
13	Plumeria obtusa	Frangapani	15	It has medicinal properties. Planted as an ornamental plant
45.Total quantity of plants on ground				

46.Number and list of shrubs and bushes species to be planted in the podium RG:

Serial Number	Name	C/C Distance	Area m2
1	--	--	--

47.Energy

Power requirement:	**Source of power supply :**	Tata Power Company Limited
	During Construction Phase: (Demand Load)	300 KW
	DG set as Power back-up during construction phase	As per requirement
	During Operation phase (Connected load):	7910 KW
	During Operation phase (Demand load):	7517 KW
	Transformer:	--
	DG set as Power back-up during operation phase:	2 DG Sets of 1000 kVA each.
	Fuel used:	Diesel
	Details of high tension line passing through the plot if any:	--

48.Energy saving by non-conventional method:

Provision of LED tubes and lamps
Provision of Advanced BEE 5 Star Rated AC Equipments
Provision of Pumps & Motors with Premium Efficiency
Provision of Energy Efficient Lifts with VVVF Lift Drive
Provision of Solar System

49.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	--	--

50.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
Sewage	NA	--
Solid waste	NA	Organic Waste Convertor

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	--
	O & M cost:	--

51.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	Air Environment	Water for Dust Suppression	0.72

2	Air Environment	Air and Noise Monitoring: By outside laboratory	0.22
3	Water Environment	Drinking water analysis	0.03
4	Land Environment	Site Sanitation	5.00
5	Health & Hygiene	Disinfection at site-Pest Control	1.20
6	Health & Hygiene	Health Check-up of workers	2.70
7	Cost towards Disaster Management	--	421.11

b) Operation Phase (with Break-up):				
Serial Number	**Component**	**Description**	**Capital cost Rs. In Lacs**	**Operational and Maintenance cost (Rs. in Lacs/yr)**
1	AIR & NOISE ENVIRONMENT - Ambient Air quality & Noise Monitoring:	On site sensors	No set up cost is involved as already considered Construction Phase	0.50
2	AIR & NOISE ENVIRONMENT - Ambient Air quality & Noise Monitoring:	By outside MoEF & CC Approved Laboratory	No set up cost is involved	0.22
3	AIR & NOISE ENVIRONMENT - Cost for DG Stack Exhaust Monitoring	1 stack	No set up cost is involved	0.05
4	AIR & NOISE ENVIRONMENT - Cost for Plantation	Green area	19.90	1.20
5	WATER ENVIRONMENT - Waste water treatment	Cost for sewage Treatment Plant	30.54	7.63
6	WATER ENVIRONMENT - Cost for water & waste water Monitoring	On site sensors	18.00	1.00
7	WATER ENVIRONMENT - Cost for water & waste water Monitoring	By outside MoEF & CC Approved Laboratory	No set up cost is involved	0.03
8	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for RWH tank	7.50	0.38
9	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for treatment unit for Rain Water collected in tanks	3.00	0.01
10	WATER ENVIRONMENT - Water Conservation (Rain Water Harvesting System)	Cost for Rainwater Monitoring	No set up cost is involved	0.05
11	LAND ENVIRONMENT - Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	9.00	2.29
12	LAND ENVIRONMENT - Solid Waste Management	Environmental Monitoring	No set up cost is involved	0.08
13	Cost towards disaster management	--	1645.13	106.74

51.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

52.Any Other Information

No Information Available

53.Traffic Management

	Nos. of the junction to the main road & design of confluence:	2 entry and exits
Parking details:	**Number and area of basement:**	1 Basement
	Number and area of podia:	Details as mentioned in Project proposal at Sr. no. 24
	Total Parking area:	18,424.35 Sq.mt.
	Area per car:	--
	Area per car:	--
	Number of 2-Wheelers as approved by competent authority:	Parking spaces provision: 43 nos.
	Number of 4-Wheelers as approved by competent authority:	Parking spaces provision : 567 nos.
	Public Transport:	Not Applicable
	Width of all Internal roads (m):	Minimum 6.00 mt.

	CRZ/ RRZ clearance obtain, if any:	Not Applicable
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	Not Applicable
	Category as per schedule of EIA Notification sheet	8(a) B2
	Court cases pending if any	Not Applicable
	Other Relevant Informations	--
	Have you previously submitted Application online on MOEF Website.	Yes
	Date of online submission	10-12-2018

SEAC DISCUSSION ON ENVIRONMENTAL ASPECTS

Summorised in brief information of Project as below.

Brief information of the project by SEAC

PP Mr. Nathani was present during the meeting along with environmental consultant M/s. Ultra Tech.

PP informed that, the project under consideration is redevelopment project. *PP further stated that, t*he total plot area of the project is 5,301.04 Sq.mt. having total construction area 79151.96 Sq.mt. (FSI -30,658.14Sq.mt. + NON FSI- 48,493.82 Sq.mt.) and the building configuration is as follow-

Building Name & number	Number of floors	Height (Mtrs)
1 Building	Basement + Ground to 2nd Floor(Shops/Office) + 3rd to 7th Floor Parking + 8th (Stilt) floor + 9th Service Floor + 10th to 38th Residential Floor + 39th Service Floor & 40th Stilt Floor + 41st To 72nd Residential Floors.	243.11

It is noted that, Project has received Environmental clearance vide letter dated 2nd June, 2011 for total built up area 78,727.08 sq.mt. PP further stated that now they have proposed to increase total built up area by 424.88. PP stated that there is no change in the total number of floor but Commercial Units & Flats number change from Commercial Units 108 nos.; Flats: 342 nos to Commercial Units: 260 nos.; Flats: 340 nos

The project proposal was deliberated on the basis of presentation made and documents submitted by the proponent. All issues related to environment, including air, water, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under 8a (B2) category of EIA Notification, 2006. Consolidated statements, synopsis of compliances, form 1, 1A, presentation & plans submitted are taken on the

DECISION OF SEAC

After detailed deliberations, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of below points.

Specific Conditions by SEAC:

1) PP to ensure that CER plan gets approved from Municipal Commissioner/District Collector.
2) PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.
3) SEIAA decided to grant EC for –FSI: 30658.77 m2, Non-FSI: 48493.82 m2 and Total BUA:79151.96 m2 (Plan Approval no-EB/5420/D/A/337/3/Amed)

SEIAA DECISION

Proposal was recommended in 123rd meeting of SEAC-2 for the total plot area of 5,301.04 m2 and total construction area of 79151.96 m2 (FSI -30,658.14 m2 + NON FSI- 48,493.82 m2)

SEIAA decided to grant EC for –FSI: 30658.77 m2, Non-FSI: 48493.82 m2 and Total BUA:79151.96 m2 (Plan Approval no-EB/5420/D/A/337/3/Amed)

SEIAA decided to grant EC subject to following conditions-

1. PP to ensure that CER plan gets approved from Municipal Commissioner/District Collector.

2.PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.

Specific Conditions by SEIAA:

1) PP to ensure that CER plan gets approved from Municipal Commissioner/District Collector.
2) PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.
3) SEIAA decided to grant EC for –FSI: 30658.77 m2, Non-FSI: 48493.82 m2 and Total BUA:79151.96 m2 (Plan Approval no-EB/5420/D/A/337/3/Amed)

FINAL RECOMMENDATION

SEIAA have decided to grant the proposal for Prior Environmental Clearance subject to above conditions

Item No.60: M/s. Nathani Parekh Constructions Private Limited.
(SIA/MH/MIS/287462/2022)

Environment Clearance for proposed Redevelopment project "Nathani Heights" at C.S. No. 1/332, Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai by M/s. Nathani Parekh Constructions Private Limited.

Introduction: -

PP submitted the application for environmental clearance to their proposed Redevelopment project having total plot area of 5,301.04 Sq. Mtrs., Total construction area of 79,476.29 Sq. Mtrs. and FSI area of 40,156.08 Sq. Mtrs. PP proposes to construct a Residential Tower and Parking Tower having maximum height of 243.11 Mtrs. as mentioned at Sr.no 20 of the project details.

Representative of PP was present during the meeting along with Environmental Consultant Ultra-Tech. The details of project are as mentioned below:

Sr. No.	Description	Details	
1	Proposal Number	**SIA/MH/MIS/287462/2022**	
2	Name of Project	**Redevelopment project "Nathani Heights"** at C. S. No. 1/332, Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai, State: Maharashtra, India.	
3	Project category	8 (a)	
4	Type of Institution	Private	
5	Project Proponent	Name	**Mr. Abdul Hamid Abdul Majid Nathani (For M/s. Nathani Parekh Constructions Private Limited)**
		Regd. Office address	Nathani Heights, 101, 1st floor, Junction of Dr. D. B. Marg & Bellasis Road, Opp. Mumbai Central Railway Station, Mumbai- 400008.
		Contact number	9821038786
		e-mail	hamid@nathanigroup.in

6	Consultant	**ULTRA TECH** Certificate No: NABET/EIA/2023/RA 0194 Validity: 9th March 2023
7	Applied for	Expansion in EC
8	Location of the project	CTS No. 1/332 at Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai.
9	Latitude and Longitude	Latitude: 18°58'6.85"N; Longitude: 72°49'12.06"E
10	Plot Area (sq.m.)	5,301.04 Sq. mt.
11	Deductions (sq.m.)	590.29 Sq.mt.
12	Net Plot area (sq.m.)	4,710.75 Sq.mt.
13	Ground coverage (m^2) & %	3,798.82 Sq.mt. (80.64%)
14	FSI Area (sq.m.)	40,156.08 Sq.mt.
15	Non-FSI (sq.m.)	39,320.21Sq.mt.
16	Proposed built-up area (FSI + Non FSI) (sq. m.)	79,476.29 Sq.mt.
17	TBUA (m^2) approved by Planning Authority till date	--
18	Earlier EC details with Total Construction area, if any.	Received Amendment in Environmental Clearance (EC) dated 15.01.2020 from SEIAA, Maharashtra for total construction built up area 79,151.96 Sq.mt
19	Construction completed as per earlier EC (FSI + Non FSI) (sq.m.)	The total Constructed Area (FSI + Non FSI) on site till date is 79,151.96 Sq.mt.

20	**Previous EC / Existing Building**			**Proposed Configuration**			**Reason for Modification / Change**
	Building Name	**Configuration**	**Height (m)**	**Building Name**	**Configuration**	**Height (m)**	
	One Residential Tower	Basement + Ground to 2nd floor (shops/offices) + 3rd to 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 38th residential Floors + 39th service floor + 40th stilt floor + 41st to 72nd residential Floors	243.11	**One Residential Tower:**	Basement (Parking) + Ground to 5th floor (shops/office) + 6th & 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 39th residential Floors + 40th Amenity Floor + 41st to 72nd residential Floors	243.11 mt	Increase in commercial spaces and increase in 2 flats as per internal changes in planning.
	--	--	--	Parking tower	25 levels (280 parking spaces)	70.00 mt.	Parking tower proposed now.
21	No. of Tenements & Shops			Flats: 342 Nos., Shops & Office			
22	Total Population			4255 numbers			
23	Total Water Requirements CMD			294 CMD			
24	Under Ground Tank (UGT) location			Basement			
25	Source of water			MCGM			
26	STP Capacity & Technology			Provision of 1 STP of capacity 375 KL **Technology:** Moving Bed Bio Reactor (MBBR)			
27	STP Location			Basement			
28	Sewage Generation CMD & % of sewage discharge in sewer line			Sewage Generation: 244 CMD Sewage discharge in sewer line: 35%			

Member Secretary

Chairman

29	Solid Waste Management during Construction Phase	**Type**	**Quantity (Kg/d)**	**Treatment / disposal**
		Dry waste	3	To Authorized recyclers
		Wet waste	2	Treatment in OWC
		Excavation earth	566 cum	Shall be partly reused for backfilling and remaining shall be disposed to the authorized land fill site as per permission received from M.C.G.M.
		Construction waste	--	Part reuse /recycle and disposal of remaining waste to Authorized landfill site.
30	Total Solid Waste Quantities with type during Operation Phase & Capacity of OWC to be installed	**Type**	**Quantity (Kg/d)**	**Treatment / disposal**
		Dry waste	614	To Authorized recyclers
		Wet waste	410	Treatment in OWC
		E-Waste	4 Kg/ month	Shall be stored separately at a common designated location and handed over to Authorized agency for further disposal as per E-waste (Management) Rules, 2016 and as amended in 2018
		STP Sludge (dry)	--	Use as manure
31	R.G. Area in sq.m.	RG required: 424.08 Sq. mt. RG provided on mother earth: 404.40 Sq.mt. RG provided on paved Ground: 37.65 Sq. mt RG provided on podium: 0.00 sq.mt **Total: 442.05 Sq.mt.**		
		Existing trees on plot: Nil		
		Number of trees to be planted: 0 nos. a) In RG area: 64 nos. (already planted)		

		b) In Miyawaki Plantation (with area): Not proposed
		Number of trees to be cut: 0 Nos.
		Number of trees to be transplanted: 0 Nos.
33	Power requirement	During Operation Phase: Connected load (KW): 8389 kW Maximum demand (KW): 6000 kW
34	Energy Efficiency	a) Total Energy saving (%): 25.64% b) Solar energy (%): 5.06%
35	D.G. set capacity	2 DG sets of 1000 kVA each
36	No. of 4-W & 2-W Parking with 25% EV	4-Wheeler: 565 Nos. 2-Wheeler: 142 Nos. Provision of 25% of E-charging points.
37	No. & capacity of Rain water harvesting tanks /Pits	Provision of one rain water harvesting tank of capacity 75 KL.
38	Project Cost in (Cr.)	Rs. 414.50 Cr.
39	EMP Cost	**Construction Phase:** Rs. 57.57 Lacs **Operation Phase:** Capital cost: Rs. 272.39 Lacs Operational and Maintenance cost: Rs. 30.94 Lacs/annum
40	CER Details with justification if any....as per MoEF & CC circular dated 01/05/2018	--
41	Details of Court Cases/litigations w.r.t the project and project location, if any.	No litigation is pending against the project or land

Deliberation:

PP informed that the project is redevelopment project comes under the purview of Municipal Corporation of Greater Mumbai (MCGM) and is in Residential zone as per DP remarks received from MCGM. PP also informed that there were existing structures on the site which have been demolished. PP further submitted that the project had received earlier EC vide letter dated: 02.06.2011 and amendment in EC vide letter No. SEIAA-EC-0000002296, dated: 15.01.2020 for the plot area 5,301.04 Sq. Mtrs., FSI area of 30,658.14 Sq. Mtrs. & Total Construction area of 79,151.96 Sq. Mtrs. Accordingly, they have completed construction for total construction area of 79,151.96 Mtrs. and submitted Architect certificate dated: 15.09.2022 to that effect.

PP submitted that due to increase in commercial spaces, increase in 2 flats as per internal changes in planning and addition of Parking Tower; they are seeking expansion in earlier EC

dated: 15.01.2020. The comparative statement showing the details of project as per the earlier EC and the proposed project is as below:

COMPARATIVE STATEMENT – AREA DETAILS			
Description	**Received EC Dt. 15.01.2020**	**Expansion in EC**	**Remarks**
Total Plot Area (Sq.mt.)	5,301.04	5,301.04	No change
Deductions - Road set back area (Sq.mt.)	590.29	590.29	No change
Net plot Area (Sq.mt.)	4,710.75	4,710.75	No change
Provision of RG Area (Sq. mt.)	442.05	442.05	No change
Additional Green cover area (Sq.mt.)	3,175.46	3,175.46	No change
Permissible Built -up area Including Fungible Area (Sq.mt)	30,658.77	40,630.76	Proposed increase by 9,971.99 sq.mt. as per revised MHADA NOC dt. 17.09.2021 (Increase in incentive FSI from 50 % to 80 %
Proposed Built-up Area as per FSI Including Fungible Area (Sq.mt)	30,658.14	40,156.08	Proposed increase by 9,497.94 sq.mt. as per permissible built-up area. Changes due to filling of voids i.e. above 42nd floor onwards, and area conversion for shops. On 2nd floor, 3rd to 5th floor converted into commercial and separate parking tower proposed for parking spaces, 39th floor to be converted in residential floor.
Built up Area as per Non FSI (Sq.mt)	48,493.82	39,320.21	Proposed decrease by 9,173.61 sq.mt. due to conversion of Non FSI into FSI on 1st, 2nd, 3rd to 5th and 39th floor.
Total Construction Built up Area (Sq.mt)	79,151.96	79,476.29	Proposed increase by 324.33 sq.mt. due to filling of Internal Staircase voids on sale floors i.e. above 42nd floors onwards and Void Filling on 2nd floor.

COMPARATIVE STATEMENT – PROJECT PROPOSAL		
Received EC dt. 15.01.2020	**Expansion in EC**	**Remarks**
Building No. and Configuration		
One Residential Tower: Basement + Ground to 2nd floor (shops/offices) + 3rd to 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 38th residential Floors + 39th service floor + 40th stilt floor + 41st to 72nd residential Floors	**One Residential Tower:** Basement (Parking) + Ground to 5th floor (shops/office) + 6th & 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 39th residential Floors + 40th Amenity Floor + 41st to 72nd residential Floors	• No change in building footprint • 3rd to 5th floor parking floor are converted into commercial floors which lead to reduction in 3 parking floors • 39th service floor converted into residential floor. • Occupied up to 38th floor as per part OC received dt. 30.10.2018
--	Parking tower: 25 levels (280 parking spaces)	Provision of separate parking tower to accommodate parking spaces
No. of Flats/shops/Offices		
Flats: 340 nos.	Flats: 342 nos.	Proposed increase by 2 nos. Earlier 39 floors were service floor which proposed to be converted into residential.
Shops: 260 nos.	Shops: 1002 nos.	Proposed increase by 742 nos. On 1st and 2nd floor common area/ Meter room are converted into shops and on 3rd to 5th floor parking floor are converted into commercial floors.
Office: 1 no.	Office: 1 no.	No change
Building Height		
Tower: 243.11 mt.	Tower: 243.11 mt.	No Change
--	Parking Tower: 70.00 mt.	Proposed now

COMPARATIVE STATEMENT - ENVIRONMENTAL PARAMETERS			
Description	**Received EC 15.01.2020**	**Expansion in EC**	**Remarks**
Occupancy (Nos.)	2527	4255	Proposed increase by 1728 nos. due to increase in commercial spaces and increase in 2 nos. of flats
Total Water Requirement (KLD)	284	294	Proposed increase by 10 KLD due to increase in occupancy.

Sewage Generation (KLD)	234	244	Proposed increase by 10 KLD due to increase in water requirement.
Solid Waste Generation (kg/day)	974	1024	Proposed increase by 50 kg/day due to increase in occupancy.

PP submitted that the project site is accessible by 36.58 Mtr. wide existing Dr Dadasaheb Bhadkamkar Marg on East side and 29.26 Mtr. wide existing Bellasis road on North side.

The project proposal was discussed on the basis of presentation made and documents submitted by the proponent along with environmental consultant Ultra-Tech. All issues related to environment, including air, water, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under 8(a) B2 category of EIA Notification, 2006. Consolidated Statements, Form- 1, 1/1A, presentation & plans submitted are taken on the record.

During discussion following points emerged:

1.PP to submit IOD/IOA/Concession Document/Plan Approval or any other form of documents as applicable clarifying its conformity with local planning rules and provisions as per the Circular dated 30.01.2014 issued by the Environment Department, Govt. of Maharashtra.

2.PP to obtain following updated NOCs & remarks as per amended plan:
a) Water supply; b) Sewer connection; c) SWD NOC; d) Civil Aviation NOC.

3.PP to provide more separate entry/exit for fire tender movement. PP to provide extra emergency entry / exit to the project.

4.PP to reduce discharge of treated water up to 35%.

5.PP to include cost of mechanical ventilation & DMP in EMP; Accordingly, revise EMP of Operation phase.

6.PP to submit certificate from Structural Engineer stating internal changes in the design for which design of building is made initially without compromising safety of the structure.

7. PP to submit revise RG area calculation with dimensions providing adequate RG on mother earth as per prevailing norms.

8.PP to submit certified six-monthly compliance report of earlier EC from Regional Office, MOEF&CC, Nagpur.

Decision: -

In view of above discussion and subject to compliance of above points the proposal is recommended to SEIAA for grant of Environmental Clearance.

Member Secretary

Chairman

Minutes of 253rd Day – 1 (Part B) meeting of SEIAA held on 08th November, 2022.

Item no. 19

Proposal No.:- SIA/MH/MIS/287462/2022 **Type of Project: EC**

Subject- Environment Clearance for proposed Redevelopment project "Nathani Heights" at C.S. No. 1/332, Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai by M/s. Nathani Parekh Constructions Private Limited.

Project Details-

PP submitted the application for environmental clearance to their proposed Redevelopment project having total plot area of 5,301.04 Sq. Mtrs., Total construction area of 79,476.29 Sq. Mtrs. and FSI area of 40,156.08 Sq. Mtrs. PP proposes to construct a Residential Tower and Parking Tower having maximum height of 243.11 Mtrs. as mentioned at Sr.no 20 of the project details.

Representative of PP was present during the meeting along with Environmental Consultant Ultra-Tech. The details of project are as mentioned below:

Sr. No.	Description	Details	
1	Proposal Number	**SIA/MH/MIS/287462/2022**	
2	Name of Project	**Redevelopment project "Nathani Heights"** at C. S. No. 1/332, Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai, State: Maharashtra, India.	
3	Project category	8 (a)	
4	Type of Institution	Private	
5	Project Proponent	Name	**Mr. Abdul Hamid Abdul Majid Nathani (For M/s. Nathani Parekh Constructions Private Limited)**
		Regd. Office address	Nathani Heights, 101, 1st floor, Junction of Dr. D. B. Marg & Bellasis Road, Opp. Mumbai Central Railway Station, Mumbai-400008.
		Contact number	9821038786
		e-mail	hamid@nathanigroup.in
6	Consultant	**ULTRA TECH** Certificate No: NABET/EIA/2023/RA 0194 Validity: 9th March 2023	
7	Applied for	Expansion in EC	
8	Location of the project	CTS No. 1/332 at Dr. D. B. Marg & Bellasis Road, 'D' Ward, Tardeo Division, Mumbai Central, Mumbai.	
9	Latitude and Longitude	Latitude: 18°58'6.85"N; Longitude: 72°49'12.06"E	
10	Plot Area (sq.m.)	5,301.04 Sq. mt.	
11	Deductions (sq.m.)	590.29 Sq.mt.	
12	Net Plot area (sq.m.)	4,710.75 Sq.mt.	

Member Secretary

Chairman

13	Ground coverage (m^2) & %			3,798.82 Sq.mt. (80.64%)			
14	FSI Area (sq.m.)			40,156.08 Sq.mt.			
15	Non-FSI (sq.m.)			39,320.21Sq.mt.			
16	Proposed built-up area (FSI + Non FSI) (sq. m.)			79,476.29 Sq.mt.			
17	TBUA (m^2) approved by Planning Authority till date			--			
18	Earlier EC details with Total Construction area, if any.			Received Amendment in Environmental Clearance (EC) dated 15.01.2020 from SEIAA, Maharashtra for total construction built up area 79,151.96 Sq.mt			
19	Construction completed as per earlier EC (FSI + Non FSI) (sq.m.)			The total Constructed Area (FSI + Non FSI) on site till date is 79,151.96 Sq.mt.			
20	**Previous EC / Existing Building**			**Proposed Configuration**			**Reason for Modification / Change**
	Building Name	**Configuration**	**Height (m)**	**Building Name**	**Configuration**	**Height (m)**	
	One Residential Tower	Basement + Ground to 2nd floor (shops/offices) + 3rd to 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 38th residential Floors + 39th service floor + 40th stilt floor + 41st to 72nd residential Floors	243.11	**One Residential Tower:**	Basement (Parking) + Ground to 5th floor (shops/office) + 6th & 7th floors (parking) + 8th stilt Floor + 9th service Floor + 10th to 39th residential Floors + 40th Amenity Floor + 41st to 72nd residential Floors	243.11 mt	Increase in commercial spaces and increase in 2 flats as per internal changes in planning.
	--	--	--	Parking tower	25 levels (280 parking spaces)	70.00 mt.	Parking tower proposed now.
21	No. of Tenements & Shops			Flats: 342 Nos., Shops & Office			
22	Total Population			4255 numbers			
23	Total Water Requirements CMD			294 CMD			
24	Under Ground Tank (UGT) location			Basement			
25	Source of water			MCGM			
26	STP Capacity & Technology			Provision of 1 STP of capacity 375 KL **Technology:** Moving Bed Bio Reactor (MBBR)			
27	STP Location			Basement			
28	Sewage Generation CMD & % of sewage discharge in sewer line			Sewage Generation: 244 CMD Sewage discharge in sewer line: 35%			
29	Solid Waste Management during			**Type**	**Quantity**	**Treatment / disposal**	

Member Secretary

Chairman

	Construction Phase		**(Kg/d)**	
		Dry waste	3	To Authorized recyclers
		Wet waste	2	Treatment in OWC
		Excavation earth	566 cum	Shall be partly reused for backfilling and remaining shall be disposed to the authorized land fill site as per permission received from M.C.G.M.
		Construction waste	--	Part reuse /recycle and disposal of remaining waste to Authorized landfill site.
30	Total Solid Waste Quantities with type during Operation Phase & Capacity of OWC to be installed	**Type**	**Quantity (Kg/d)**	**Treatment / disposal**
		Dry waste	614	To Authorized recyclers
		Wet waste	410	Treatment in OWC
		E-Waste	4 Kg/ month	Shall be stored separately at a common designated location and handed over to Authorized agency for further disposal as per E-waste (Management) Rules, 2016 and as amended in 2018
		STP Sludge (dry)	--	Use as manure
31	R.G. Area in sq.m.	RG required: 424.08 Sq. mt. RG provided on mother earth: 404.40 Sq.mt. RG provided on paved Ground: 37.65 Sq. mt RG provided on podium: 0.00 sq.mt **Total: 442.05 Sq.mt.**		
		Existing trees on plot: Nil		
		Number of trees to be planted: 0 nos. a) In RG area: 64 nos. (already planted) b) In Miyawaki Plantation (with area): Not proposed		
		Number of trees to be cut: 0 Nos.		
		Number of trees to be transplanted: 0 Nos.		
33	Power requirement	During Operation Phase: Connected load (KW): 8389 kW Maximum demand (KW): 6000 kW		
34	Energy Efficiency	a) Total Energy saving (%): 25.64% b) Solar energy (%): 5.06%		
35	D.G. set capacity	2 DG sets of 1000 kVA each		
36	No. of 4-W & 2-W Parking with 25% EV	4-Wheeler: 565 Nos. 2-Wheeler: 142 Nos. Provision of 25% of E-charging points.		
37	No. & capacity of Rain water harvesting tanks /Pits	Provision of one rain water harvesting tank of capacity 75 KL.		

Member Secretary

Chairman

38	Project Cost in (Cr.)	Rs. 414.50 Cr.
39	EMP Cost	**Construction Phase:** Rs. 57.57 Lacs **Operation Phase:** Capital cost: Rs. 272.39 Lacs Operational and Maintenance cost: Rs. 30.94 Lacs/annum
40	CER Details with justification if any....as per MoEF & CC circular dated 01/05/2018	--
41	Details of Court Cases/litigations w.r.t the project and project location, if any.	No litigation is pending against the project or land

SEAC Deliberation –

PP informed that the project is redevelopment project comes under the purview of Municipal Corporation of Greater Mumbai (MCGM) and is in Residential zone as per DP remarks received from MCGM. PP also informed that there were existing structures on the site which have been demolished. PP further submitted that the project had received earlier EC vide letter dated: 02.06.2011 and amendment in EC vide letter No. SEIAA-EC-0000002296, dated: 15.01.2020 for the plot area 5,301.04 Sq. Mtrs., FSI area of 30,658.14 Sq. Mtrs. & Total Construction area of 79,151.96 Sq. Mtrs. Accordingly, they have completed construction for total construction area of 79,151.96 Mtrs. and submitted Architect certificate dated: 15.09.2022 to that effect.

PP submitted that due to increase in commercial spaces, increase in 2 flats as per internal changes in planning and addition of Parking Tower; they are seeking expansion in earlier EC dated: 15.01.2020. The comparative statement showing the details of project as per the earlier EC and the proposed project is as below:

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Proposed Built-up Area as	30,658.14	40,156.08	Proposed increase by 9,497.94 sq.mt.

Member Secretary

Chairman

per FSI Including Fungible Area (Sq.mt)			as per permissible built-up area. Changes due to filling of voids i.e. above 42nd floor onwards, and area conversion for shops. On 2nd floor, 3rd to 5th floor converted into commercial and separate parking tower proposed for parking spaces, 39th floor to be converted in residential floor.
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COMPARATIVE STATEMENT – PROJECT PROPOSAL		
Received EC dt. 15.01.2020	**Expansion in EC**	**Remarks**
Building No. and Configuration		
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Office: 1 no.	Office: 1 no.	No change
Building Height		
Tower: 243.11 mt.	Tower: 243.11 mt.	No Change
--	Parking Tower: 70.00 mt.	Proposed now

COMPARATIVE STATEMENT - ENVIRONMENTAL PARAMETERS			
Description	**Received EC**	**Expansion in EC**	**Remarks**

Member Secretary

Chairman

	15.01.2020		
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The project proposal was discussed on the basis of presentation made and documents submitted by the proponent along with environmental consultant Ultra-Tech. All issues related to environment, including air, water, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under 8(a) B2 category of EIA Notification, 2006. Consolidated Statements, Form- 1, 1/1A, presentation & plans submitted are taken on the record.

During discussion following points emerged:

1.PP to submit IOD/IOA/Concession Document/Plan Approval or any other form of documents as applicable clarifying its conformity with local planning rules and provisions as per the Circular dated 30.01.2014 issued by the Environment Department, Govt. of Maharashtra.

2.PP to obtain following updated NOCs & remarks as per amended plan:

a) Water supply; b) Sewer connection; c) SWD NOC; d) Civil Aviation NOC.

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5.PP to include cost of mechanical ventilation & DMP in EMP; Accordingly, revise EMP of Operation phase.

6.PP to submit certificate from Structural Engineer stating internal changes in the design for which design of building is made initially without compromising safety of the structure.

7. PP to submit revise RG area calculation with dimensions providing adequate RG on mother earth as per prevailing norms.

8.PP to submit certified six-monthly compliance report of earlier EC from Regional Office, MOEF&CC, Nagpur.

Recommendations of SEAC-

In view of above discussion and subject to compliance of above points the proposal is recommended to SEIAA for grant of Environmental Clearance.

Member Secretary

Chairman

Deliberation in SEIAA-

Proposal is an expansion of an existing construction project. Proposal is recommended by SEAC-2 in its 185th meeting for grant of Environment Clearance for total plot area of 5,301.04 Sq. Mtrs., Total construction area of 79,476.29 Sq. Mtrs. and FSI area of 40,156.08 Sq. Mtrs.

PP has obtained earlier EC vide letter dated: 02.06.2011 and amendment in EC vide letter No. SEIAA-EC-0000002296, dated: 15.01.2020 for the plot area 5,301.04 Sq. Mtrs., FSI area of 30,658.14 Sq. Mtrs. & Total Construction area of 79,151.96 Sq. Mtrs.

SEIAA asked PP to submit Certified Compliance Report (CCR) as mandated by MoEF&CC Office Memorandum dated 26.09.2022. SEIAA after deliberation decided to defer the proposal for compliance of above point.

SEIAA Decision-

SEIAA after deliberation decided to defer the proposal.