

MUNICIPAL CORPORATION OF GREATER MUMBAI
MUMBAI FIRE BRIGADE

No. **FB/HRC/R-II/03**

Date: **21/05/2019**

Office of the Dy. Chief Fire Officer (Region-2)
Mumbai Fire Brigade
Wadala Command Center Building,
1st Floor, Shaikh Mista Darga Road,
Antop Hill, Mumbai - 400 037

Sub: Revised N.O.C. stipulating fire protection & fire-fighting requirements for the proposed construction of high rise residential building comprising of two building i. e. rehab building & sale building; Rehab building comprising of three Wings designated as Rehab Wing-A, B & C and Sale building comprising of four towers designated as Tower-1, Tower-2, Tower-3, Tower-4 under S.R. Scheme on plot bearing C.S. No. 6 (pt), 16 (pt) to 21 (pt) of Salt Pan division & 12 (pt) of Sion Division at Raoli Camp, Kokari Agar, Sardar Nagar No.4, Sion-Koliwada, Mumbai 400 037 for "Nirmal Nagar SRA CHS (prop)".

- Ref:** 1) Letter dtd. 24.04.2019 from M/s DOT Architect, Mumbai.
2) M.F.B. No: HRC/R-II/23 dated 03/10/2018.

Chief Eng. (D.P.)

In this case please refer to this office NOC issued u/no. FB/HRC/R-II/09 dated 28.06.2018 for the proposed construction of High Rise sale Residential **Building** comprising of three towers: designated as Tower-1, Tower-2 & Tower-3. All towers have two level common basement (ground level as shown on the plan) proposed for horizontal car parking by way of 06.00 mtr wide two way ramps + ground floor partly for party hall and other commercial use & partly for horizontal car parking + 1st floor partly for services (below tower 1) and partly for horizontal car parking by way of 06.00 mtr wide two way ramps + 2nd (podium) floor partly for residential and partly for 04 no. of open terraces and gymnasium. Thereafter building is divided into 03 separate towers designated as **sale Tower no. 1, 2 & 3**. All three Sale towers are having (from 2nd floor) from 2nd to 3rd + 32nd part to 40th part upper residential floors with total height 129.925 mtrs. measured from general ground level to terrace level.

In this case, please refer to this office NOC issued u/no. FB/HRC/R-II/10 dated 28.06.2018 for the proposed construction of High Rise Rehab Residential **building no. 1, 2 & 3**. **Rehab Building no. 1** having Lower ground partly for services and partly for scooter parking + ground floor partly for residential & partly for puzzle car parking + 1st to 40th upper residential floors with a total height 122.80 mtr. **Rehab Building no. 2** having Lower ground partly for services and partly for scooter parking + ground floor + 1st to 40th upper residential floors with a total height 128.00 mtr. & **Rehab Building no. 3** having Lower ground partly for services and partly for scooter parking + ground floor partly for residential & partly for rehab shops + 1st to 40th (40th part) upper residential floors with a total height 128.00 mtr. measured from general (upper) ground level to terrace level. Architect has proposed **02 no. of automated mechanical car parking towers** having 0.90 mtr wide M.S. staircase with 0.90 mtr. wide landing on alternate floor with total height of 69.90 mtrs. from ground floor between east side of building no. 2 and north side of building no. 3 as shown on the plan. North side of car parking tower proposed two no. of flour mills as shown on plan.

In this case, please refer to this office NOC issued u/no. FB/HRC/R-II/23 dated 20.10.2018 for the proposed construction of high rise composite sale & rehab buildings, whereas sale building comprising 03 towers of Sale tower-1, Sale tower-2 & Sale tower-3. All sale Towers having common 02 level basements (-06.85 mtrs.) for horizontal, stack & scooter parking by way of 6.0 mtr. wide 04 no. of ramps + ground floor partly for amenities & party for horizontal, stack & scooter parking + 1st floor party for amenities, residential & part for horizontal, stack & scooter parking + 2nd floor party for amenities, residential & part for terraces + 3rd to 39th upper residential floors with a total height of 126.85 mtre. measured from ground level to terrace level along with fire check floor between 21st & 22nd floor at the height of 69.78 mtrs. and rehab building comprising of

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03 building i.e. Rehab building-1, Rehab building-2 & Rehab building-3. All rehab building are having single basement for STP + common ground floor partly for puzzle car parking & partly for horizontal car parking + 1st floor partly for rehab shops & pit type puzzle car parking + 2nd floor partly for rehab amenities & partly for residential + 3rd to 41st upper residential floors with a total height of 122.80 metre. measured from ground level to terrace level along with fire check floor between 24th & 25th floor at the height of 68.55 mtrs. from ground floor.

Now, Architect has proposed revised building planning as follows:

1. Now, Architect has cancelled/deleted earlier planning and proposed revised planning as high rise sale & rehab buildings. **Sale building** comprising of Sale towers-1, 2, 3 & 4. Each Tower having common 03 level basements (-09.60 mtrs.) for horizontal, stack & scooter parking by way of 6.0 mtr. wide 03 no. of ramps + ground floor partly for amenities & party for horizontal, stack & scooter parking and thereafter sale building is divided into 04 separate towers; designated as tower-1, tower-2, tower-3 & tower-4. Tower-1 having ground & 1st floor for horizontal, stack & scooter parking + 2nd floor for horizontal, stack & scooter parking + 3rd floor party for amenities, residential & part for terraces + 4th to 40th upper residential floors with a total height of 125.00 mtrs. Tower-2 & Tower-3 are having ground & 1st floor partly for show room & partly for stilt car parking + 2nd floor party for offices & part for horizontal, stack & scooter parking + 3rd floor party for amenities, residential & part for terraces + 4th to 40th upper residential floors with a total height of 125.00 mtrs. And Tower-4 having ground floor for banquet hall & stilt car parking + 1st floor partly for transformer & part for horizontal, stack & scooter parking + 2nd floor party for amenities, residential & part for terraces + 3rd to 40th upper residential floors with a total height of 125.00 mtrs. measured from ground level to terrace level and **Rehab building** comprising of Rehab Wing-A, B & C. Each rehab Wing are having three level common basement out of which third basement (-09.60 mtrs) proposed for STP + fire & domestic tanks + horizontal car parking by way of 02 no. of one way ramp. + 2nd basement proposed for horizontal car parking by way of 02 no. of one way ramp + 1st basement proposed for horizontal car parking by way of 02 no. of one way ramp and meter room + common ground floor proposed for rehab shops, temples & partly for car parking thereafter building is divided into three Wings; designated as rehab Wing-A, B & C. Rehab Wing-A & C are having 1st to 40th (from ground floor) upper residential floors with a total height of 117.0 mtrs. measured from ground level to terrace level and Wing-C is having 1st to 41st (41st part) upper residential floors (from ground floor) with a total height of 119.85 metre. measured from ground level to terrace level. 05 level car parking proposed as shown on the plan.

Basement 03rd: (for Sale towers) (-09.60 mtr.):

3rd Basement proposed beyond the building line for horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 3rd basement to 2nd basement for entry and exit as shown on plan. Also proposed additional 02 no. of enclosed type staircases having leading from 3rd basement upto ground floor with smoke check lobby in the basement. Basement is naturally ventilated as shown on the enclosed plan.

Basement 02nd (-06.35 mtr.):

02nd Basement proposed beyond the building line for horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 2nd basement to 1st basement for entry and exit as shown on plan. Basement is naturally ventilated as shown on the enclosed plan.

Basement 01st (-03.10 mtr.):

Basement proposed beyond the building line for horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 1st basement to ground floor for entry and exit as shown on plan & various tanks i.e. 02 fire tank, 03 domestic tank, flush tanks & pump room. In addition, STP proposed (at west side of plot up to 1st floor) for sale towers. For rehab building STP proposed in 1st basement as shown in plan.

The plot is having different contour level due to which the plot abuts to 27.41 mtrs. wide road at ground & 1st floor level as shown on the plan.

H.T. Lines:

Now the Architect has shown on ground floor plan that the overhead high tension lines (HT lines) passing through the plot on east side of the plot which are existing & party now obtained realigned HT line approval u/no. TLJ/ LM-G4/212 25th June 2018 from TATA power authority (approval letter enclosed) & same HT lines realigned as u/s. 45(D) of DCPR 2034. However, the Architect HT lines proposed to realign in a such way that the buffer zone is away from more than 9.00 mtrs. from the sale Tower-3 & more than 13.0 mtrs. away from Rehab Wing-A which is shown on the enclosed plan. The construction of the proposed high rise building shall not be commenced unless & until the existing HT line not discarded & realigned at safety distance as per Indian electricity act

Floor wise users of the building is as under. (Sale Building)

Floors (1)	Users (2)			
	Sale Tower No. 1 (A)	Sale Tower No. 2 (B)	Sale Tower No. 3 (C)	Sale Tower No. 2 (D)
3 rd Level. Basement (-09.60 mtr. from level 29 mtrs.)	horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 3 rd basement to ground floor for entry and exit			
2 nd Basement No. 1(-06.35 mtr. from level 29 mtrs.).	horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 2 nd basement to ground floor for entry and exit			
1 st Basement No. 1(-03.10 mtr. from level 29 mtrs.).	horizontal car parking & two wheeler parking by way of 03 no. of 6.00 mtr wide two way ramps leading from 1 st basement to ground floor for entry and exit + 03 domestic tank + 02 fire tank + STP + 02 flushing tank.			

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(1)	(2)			
	(A)	(B)	(C)	(D)
Stilt /Ground floor @ 29.50 mtrs..	horizontal Car & two wheeler parking	02 no. of show rooms (01 having internal staircase) + entrance lobby + fir control room + electrical meter room + electrical room + horizontal Car & two wheeler parking	05 no. of show rooms (01 having internal staircase) + entrance lobby + fir control room + electrical room + horizontal Car & two wheeler parking .	01 banquet hall with kitchen & pre function area + entrance lobby + out door kitchen.
1 st floor. @ 33.50 mtrs.	Double height entrance lobby below + fire contro room + electric room + meter room + stack car parking	06 no. of show rooms (02 having internal staircases) + entrance lobby + stack Car parking	06 no. of show rooms (01 having internal staircase) + entrance lobby + stack Car parking	01 meter room + electrical room + fire control room + space for transformer + OWC room
2 nd floor	horizontal & stack car parking	12 no. of offices with 1.20 mtr. wide staircase + service room + meter room + horizontal & stack car parking		horizontal & stack car parking
3 rd floor	06 no. residential flats + toddlers + admin room + cheche + business.	06. no. residential tenements on games room + coffee shop + hobby visual	06. no. residential tenements + 02 bath houses + squash courts.	06. no. residential tenements + Gymnasium
		Part terrace		Swimming pool + lawn
4 th floor	06 no. residential flats + pantry + lounge + mini theatre	06 no. residential flats + store + library	07 no. residential flats + multipurpose room + squash room	06 no. residential flats + double height gymnasium + party hall.
5 th floor	08 no. residential flats + open terrace	08 no. residential flats + open terrace	08 no. residential flats	08 no. residential flats + open terrace
6 th , 8 th to 13 th , 15 th to 20 th , 22 nd to 27 th , 29 th to 34 th . & 36 th to 40 th floor	08. no. residential tenements on each floor.	08. no. residential tenements on each floor	-----	-----

(1)	(2)			
	A	B	C	D
7 th to 12 th , 14 th to 19 th , 21 st to 26 th , 28 th to 33 rd & 36 th floor	-----	-----	08 no. residential tenements + Refuge area on each floor.	08 no. residential tenements + Refuge area on each floor.
7 th , 14 th , 21 st , 28 th & 35 th	06. no. residential tenements + refuge area on each floor	06. no. residential tenements + refuge area on each floor	-----	-----
6 th , 13 th , 20 th , 27 th & 34 th	-----	-----	06. no. residential tenements + refuge area on each floor	06. no. residential tenements + refuge area on each floor
Terrace/roof floor	Open to sky with lawn	Open to sky with lawn	Open to sky with lawn	Open to sky with lawn.

Refuge area has been proposed as under; (For Sale Tower no.1 & 2)

Refuge floor	Refuge area in sq. mtrs.				Height from floor to each refuge floor.
	Tower No. 1		Tower No.2		
	Required	Proposed	Required	Proposed	
7 th	184.21	188.57	192.57	202.68	25.30
14 th	184.21	188.57	192.57	202.68	46.65
21 st	184.21	188.57	192.57	202.68	68.00
28 th	184.21	188.57	192.57	202.68	89.35
35 th	184.21	188.57	192.57	202.68	110.07
In addition to above, terrace floor of the building will be treated as refuge area.					
Excess Refuge area (more than 4%) shall be counted in F.S.I.					

Refuge area has been proposed as under; (For Sale Tower no.3 & 4)

Refuge floor	Refuge area in sq. mtrs.				Height from floor to each refuge floor.
	Tower No. 3		Tower No.4		
	Required	Proposed	Required	Proposed	
6 th	188.14	190.73	182.67	187.75	22.25
13 th	188.14	190.73	182.67	187.75	43.06
20 th	188.14	190.73	182.67	187.75	64.95
27 th	188.14	190.73	182.67	187.75	86.03
34 th	188.14	190.73	182.67	187.75	107.63
In addition to above, terrace floor of the building will be treated as refuge area.					
Excess Refuge area (more than 4%) shall be counted in F.S.I.					

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The site abutting 27.41 mtrs. wide existing road accessible at ground & 1st floor due to contour shape of the plot for the proposed building.

The open spaces around the building are as under@1st floor level;

Side (1)	Bldg. line to plot boundary (2)			
	Tower No. 1 (A)	Tower No.2 (B)	Tower No.3 (C)	Tower No.4 (D)
North	Attached to tower-2 with terrace at 3 rd floor level.	06.00 mtr. to 06.02 mtrs. + 27.45 mtrs. wide road.	06.03 mtr. to 06.04 mtrs. + 27.45 mtrs. wide road.	Attached to tower-3 with swimming pool.
South	09.00 mtr.(including 9.0 mtr. driveway)	Attach to Tower-01	Attach to Tower-04	09.00 mtr.(including 9.0 mtr. driveway)
East	Attach to Tower-04	Attach to Tower-03	09.54 mtr. to 10.15 mtrs. (including 9.0 mtr. driveway)	09.00 mtr. to 09.02 mtrs. (including 9.0 mtr. driveway)
West	11.74 mtr. to 14.84 mtrs. (including 9.0 mtr. driveway)	12.70 mtr. to 14.65 mtrs. (including 9.0 mtr. driveway)	Attach to Tower-02	Attach to Tower-01

The details of staircases:

Staircase	Width		Nos. of staircases.
	A	B	
Tower-1	Leading from 3 rd basement to terrace floor	2.00 mtrs.	1 No. (enclosed type) with smoke check lobby in all basement
	Leading from 1 st floor to terrace floor	2.00 mtrs.	1 No. (enclosed type)
Tower 2	Leading from 3 rd basement to terrace floor	2.00 mtrs.	1 No. (enclosed type) with smoke check lobby in all basement
	Leading from 1 st floor to terrace floor	2.00 mtrs.	1 No. (enclosed type)
Tower-03	Leading from 3 rd basement to terrace floor	2.00 mtrs.	1 No. (enclosed type) with smoke check lobby in all basement
	Leading from ground floor to terrace floor	2.00 mtrs.	1 No. (enclosed type)
Tower-04	Leading from 3 rd basement to terrace floor	2.00 mtrs.	1 No. (enclosed type) with smoke check lobby in all basement
	Leading from ground floor to terrace floor	2.00 mtrs.	1 No. (enclosed type)
Additional staircases	Leading from 2 nd basement floor to ground floor.	1.20 mtrs.	2 No. (enclosed type) with smoke check lobby in both basement

staircase	A	B	C
Additional staircases	Leading from ground floor to 2 nd floor show room & office	1.50 mtrs.	3No. (enclosed type)
Additional staircase	Leading from ground floor to 1 st floor show room	1.50 mtrs.	1No. (enclosed type)

The proposed staircase as shown in plans are externally located & adequately ventilated to outside air.

The details of lifts: for Tower-1, Tower-2, Tower-3 & Tower-3,

Lift type		Profile	Nos.
Tower-1	Passenger lift	Passenger lifts are leading from 3 rd basement to top floor (with smoke check lobby in all basement)	06 Nos. (for each tower)
	Passenger lift	Fire lifts are leading from 3 rd basement to top floor (with smoke check lobby in all basement)	02 Nos. (for each tower)
	Fire man lift	Fire man lift is leading from ground floor to top floor (accessible from staircase only)	01 Nos. (for each tower)

The lift lobby/common corridor at each floor level is directly ventilated to outside air as shown in the plan.

REHAB BUILDING (Rehab Wing-A, Wing-B & Rehab Wing-C)

Floor wise users of the building is as under. For Rehab Wing-A, Wing-B & Rehab Wing-C

Floors (1)	Users (2)		
	Rehab Wing-A (A)	Rehab Wing-B (B)	Rehab Wing-C (C)
Basement-3 (-10.10 mtrs)	STP plant + domestic tank + fire tank & flush tank + two wheeler parking by way of 02 no. of 2.0 mtr. wide one way ramp.		
Basement-2 (-06.25 mtrs)	STP plant + domestic tank + fire tank & flush tank + pump room +two wheeler parking by way of 02 no. of 2.0 mtr. wide one way ramp.		
Basement-1 (-03.85 mtrs)	11 no. of meter room + cut out for STP plant + fire control room + L.V. Room + two wheeler parking by way of 02 no. of 2.0 mtr. wide one way ramp.		
Ground floor	13 no. of rehab shop + stack car parking.	24 no. of rehab shop + stack car parking.	15 no. of rehab shop + stack car parking.

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(1)	(2)		
	(A)		(A)
1 st floor.	07 no. of society office + Stack car parking	09 no. of society office + 03 welfare center + Stack car parking	10 rehab shops + stack car parking
2 nd floor	07 no. of rehab tenement + 04 Welfare center + 02 Yuva kendra.	02 no. of women entrepreneurship + 02 Yuva Kendra + 04 library + 01 communication centre + 04 skill development.	02 no. of balwadi + 01 society office + 09 shop
3 rd to 7 th , 9 th to 14 th , 16 th to 21 st , 23 rd to 28 th , 30 th to 35 th & 37 th to 40 th floor	13 no. of rehab tenement on each floor.	18 no. of rehab tenement on each floor.	13 no. of rehab tenement on each floor.
8 th , 15 th , 22 nd , 29 th	09 no. of rehab tenements + refuge area on each floor	14 no. of rehab tenement + refuge area on each floor	09 no. of rehab tenements + refuge area on each floor
36 th floor	11 no. of rehab tenements + refuge area	15 no. of rehab tenement + refuge area	11 no. of rehab tenements + refuge area
41 st floor	Open to sky (treated as refuge area)	04 no. of rehab tenements + terrace.	Open to sky (treated as refuge area)
Terrace/roof floor	-----	Open to sky (treated as refuge area)	-----

Refuge area has been proposed as under; (For Wing-A, B & C)

Refuge floor	Refuge area in sq. mtrs.						At the height of refuge floor from ground level in mtrs.
	Wing-A		Wing-B		Wing-C		
	Required	Proposed	Required	Proposed	Required	Proposed	
8 th floor	121.42	129.01	169.69	180.29	121.25	128.38	23.10
15 th floor	121.42	129.01	169.69	180.29	121.25	128.38	43.05
22 nd floor	121.42	129.01	169.69	180.29	121.25	128.38	63.00
29 th floor	121.42	129.01	169.69	180.29	121.25	128.38	82.95
36 th floor	87.81	93.30	126.71	134.83	87.89	93.39	102.90

In addition to above, terrace floor of the building will be treated as refuge area.
Excess Refuge area (more than 4%) shall be counted in F.S.I.

The site abutting 27.41 mtrs. wide existing road accessible at ground & 1st floor due to contour shape of the plot for the proposed building.

The open spaces around the building are as under;

Side	Bldg. line to plot boundary		
	Wing-A	Wing-B	Wing-C
North	06.00 mtrs.	Attached to wing-A & C	06.00 mtrs. (including 9.00 mtr drive way.)
South	Attached to wing-B	09.00 mtrs.	Attached to wing-B
East	09.00 mtrs.	09.00 mtrs.	06.0 mtr. to 26.53 mtrs. (joint open space up to rehab wing-C)
West	06.0 mtr. to 26.53 mtrs. (joint open space up to rehab wing-C)	07.84 mtrs. to 10.27 mtrs.	07.87 mtrs. to 09.07 mtrs.

The details of staircases:

Rehab Building	No of Staircases	Width	From- To	Type of Staircases
1	2	3	4	5
Wing-A	01 Nos.	2.00 Mtrs.	Leading from 3 rd basement to terrace floor	Enclosed
Wing-B	01 Nos.	2.00 Mtrs.	Leading from 3 rd basement to terrace floor	Enclosed
Wing-C	01 Nos.	2.00 Mtrs.	Leading from 3 rd basement to terrace floor	Enclosed
	01 Nos.	1.50 Mtrs.	Leading from 3 rd basement to terrace floor	Open type

The proposed main staircases are externally located and adequately ventilated to outside air. All staircases are interconnected at each floor with 2.0 mtr. wide passage.

The details of lifts:

Rehab Building	No of Lifts (A)	Type of Lifts (B)	From- To (C)
Wing-A	02 Nos.	Passenger lifts (01 no. lifts shall be converted into fire lift	Leading from ground floor to terrace floor level.
	01 Nos.	Fire evacuation lift	Leading from ground floor to terrace floor level
Wing-B	08 Nos.	Passenger lifts (01 no. lift from each lift bank) shall be converted into fire lift	Leading from ground floor to terrace floor level.
	01 Nos.	Fire evacuation lift	Leading from ground floor to terrace floor level

	A	B	C
Wing-C	02 Nos.	Passenger lifts (01 no. lifts shall be converted into fire lift	Leading from ground floor to terrace floor level.
	01 Nos.	Fire evacuation lift	Leading from ground floor to terrace floor level

Except aforesaid no change proposed & shall not be allowed unless permitted by this departments.

The proposal is considered favorably in view of the facts that:

- i) The proposal falls under the scheme S.R.A. 33(10).
- ii) This office has issued NOC u/No. FB/HRC/R-II/09 dated 28.06.2018 for sale building & FB/HRC/R-II/10 dated 28.06.2018 for rehab building and FB/HRC/R-II/23 dated 20.10.2018
- iii) The sale & rehab building are accessible from 09.00 mtr. wide fire tender drive ways on all side of sale plot which are connected to 27.41 mtr. wide D.P. Road on north side. of sale plot. In addition, 10.00 mtr. wide road also abuts to the building on West side. In this proposal Architect has proposed buildings planning such a way that, the fire appliances will maneuver around each tower partially on ground floor on east side and partially on 1st floor on west side.
- iv) The Architect has also agreed to make provision for standby pumps and alternate source of power supply through D.G. set.
- v) The construction of the proposed high rise building shall not be commenced unless & until the existing HT line not discarded.
- vi) The building will be protected with advance in built fire-fighting system.
- vii) In electrical shafts, Architect has agreed to install Bus Bar System and electrical cables of low smoke hazard type & fire resistant.
- viii) All the basement shall be segregated with Fire curtain at each level. The court yard hydrant shall be extended in each basement with landing valve at the distance of 30. Mtrs..
- ix) Efficient P.A. system is recommended for entire building with standard Building Management System.
- x) The Automatic sprinkler system shall be provided in each tower including both basements, in Party hall + coffee shop and toddler, hobby, meter room & banquet hall & car parking area at ground floor, Gymnasium + lounge + Ladies spa + Gents spa + Admin at 2nd floor, 1st floor car parking area and in each flat, in lift lobby & common corridor at each floor level of each tower.
- xi) Automatic Drencher system shall be provided on periphery of 1st floor.
- xii) Automatic smoke detection system shall be provided in provided in each building including both basements smoke check lobby & each electric duct with response indicator, in each meter room, each lift machine room, show rooms, shop and kitchens, toddler, hobby & banquet hall, Gymnasium + lounge + Ladies spa + Gents spa, in lift lobby & common corridor at each floor level of each tower.
- xiii) During construction stage and before the final occupation party agreed to comply additional requirement stipulated by Mumbai Fire Brigade Officer, as may be feasible.

In view of above, as far as this department is concerned, there is no objection for the proposed construction of high rise sale & rehab buildings. **Sale building** comprising of Sale towers-1, 2, 3 & 4. Each Tower having common 03 level basements (-09.60 mtrs.) for horizontal, stack & scooter parking by way of 6.0 mtr. wide 03 no. of ramps + ground floor partly for amenities & party for horizontal, stack &

scooter parking and thereafter sale building is divided into 04 separate towers; designated as tower-1, tower-2, tower-3 & tower-4. Tower-1 having ground & 1st floor for horizontal, stack & scooter parking + 2nd floor for horizontal, stack & scooter parking + 3rd floor party for amenities, residential & part for terraces + 4th to 40th upper residential floors with a total height of 125.00 mtrs. Tower-2 & Tower-3 are having ground & 1st floor partly for show room & partly for stilt car parking + 2nd floor party for offices & part for horizontal, stack & scooter parking + 3rd floor party for amenities, residential & part for terraces + 4th to 40th upper residential floors with a total height of 125.00 mtrs. And Tower-4 having ground floor for banquet hall & stilt car parking + 1st floor partly for transformer & part for horizontal, stack & scooter parking + 2nd floor party for amenities, residential & part for terraces + 3rd to 40th upper residential floors with a total height of 125.00 mtrs. measured from ground level to terrace level and **Rehab building** comprising of Rehab Wing-A, B & C. Each rehab Wing are having three level common basement out of which third basement (-09.60 mtrs) proposed for STP + fire & domestic tanks + horizontal car parking by way of 02 no. of one way ramp. + 2nd basement proposed for horizontal car parking by way of 02 no. of one way ramp + 1st basement proposed for horizontal car parking by way of 02 no. of one way ramp and meter room + common ground floor proposed for rehab shops, temples & partly for car parking thereafter building is divided into three Wings; designated as rehab Wing-A, B & C. Rehab Wing-A & C are having 1st to 40th (from ground floor) upper residential floors with a total height of 117.0 mtrs. measured from ground level to terrace level and Wing-C is having 1st to 41st (41st part) upper residential floors (from ground floor) with a total height of 119.85 mtre. measured from ground level to terrace level. 05 level car parking proposed as shown on the plan, signed in token of approval, subject to compliance of the following revised requirements:

1. ACCESS: (For each sale tower & each rehab Wing)

There shall be no compound wall on road side, in joint or side open space & court yard shall be flushed with road level. However, chain link may be permitted.

2. PROTECTION TO STRUCTURAL STEEL: (For each sale tower & each rehab Wing)

- i) All the structural steel members i.e. columns, beams etc., shall be protected with 02 hours fire resisting materials and methods as stipulated under IS 1942-1960, applicable for residential buildings shall be followed.
- ii) A certificate to the effect that the fire resistance protection has been provided as above shall be furnished from the Structural Engineer at the time of applying for occupation of the building.

3. COURTYARDS : (For each sale tower & each rehab Wing)

- a) The available courtyards/ open spaces on all the sides of the building (basement & 1st floor top slab) shall be paved suitably to bear the load of fire engines with 48 MT with point load of 10 kg/cm².
- b) All the courtyards shall be in one plane and mandatory open space shall be clear of all obstructions including trees for the maneuvering of fire appliances.

4. CAR PARKING : (For each sale tower & each rehab Wing)

- i) Car parking shall be permitted in the designated area.
- ii) The drainage of the car parking areas shall be separate from that of the building and shall be provided with catch pit with fire trap before connecting to Municipal sewer.
- iii) Repairing / servicing of cars, use of naked light shall not be permitted in the car parking areas.
- iv) Dwelling, use of naked light / flame, repairing / maintenance of vehicles shall be strictly prohibited in the parking area.

- v) The drive way shall be properly marked & maintained unobstructed.
- vi) Automatic sprinkler system to the entire horizontal stack car parking (covering each car parking level) shall be provided at each podium floor.

5. TWO TIER STACK CAR PARKING: (For each sale tower & each rehab Wing)

- i) Structural design: The SA-FAMCP shall be constructed of structural steel construction.
- ii) Vertical deck separation For SA-FAMCP having multi-car parking level, vertical separation between the upper & lower decks by using the non-perforated and non-combustible materials (Structural steel plate) shall be provided. This is to minimize direct impingement of flame to the car in the upper deck and also to prevent dripping of any possible leaking fuel to the lower deck.
- iii) Elements of the staked car parking structure shall have 1 hr. fire resistance.
- iv) Each car parking deck shall have 1 hr. fire resistance.
- v) Parking area shall be accessible by trained staff when carrying out the maintenance work.
- vi) The parking system is to be ceased during the maintenance operation.
- vii) Stack car parking shall be protected with water spray projector system.

6. ELECTRIC SUB-STATIONS/ ELECTRIC TRANSFORMER:

- a. Only dry type sub-station/transformers shall be installed.
- b. Entire installation of sub-station including switchgear room, capacitors, transformer etc. shall be confirmed to the Indian Electric Act/Rules in practice.
- c. Cables in the cable trenches shall be coated with fire retardant material.
- d. Automatic built-in circuit breakers shall be provided in the substation/transformer.
- e. Transformer shall be suitable insulated and shall be designed for continuous operation at rated KVA at the secondary terminal under the prevailing service condition at a higher rated voltage.
- f. The design, treatment and construction of the transformer and breaking of the windings shall be such as to withstand the heavy mechanical and thermal stresses, which may be experience under condition of daily cycle of heating and pulling due to fluctuation in load of dead short circuit or either side of the transformer.
- g. The door of the sub-station shall be of two hours fire resistance.
- h. Adequate heating ventilation of witch room is essential to prevent condensation of moistures.
- i. All parts of switch gear and transformer are to be examined frequently and carefully for signs of overheating, tracking etc.
- j. The sub-station/transformer area shall be kept prohibited and no unauthorized person shall be allowed to enter in the area.
- k. Ventilation shall be provided at the ceiling level.
- l. H.V./L.V. cable ducts shall be as per Indian Electricity Rules.
- m. The danger signage on the sub- station fencing along with the electric voltage load shall be displayed.
- n. Side open spaces shall be maintained free from encroachment and encumbrances
- o. Two dry chemical power type (ABC stored pressure type) fire extinguishers each of 9 kgs. Capacity with BIS certification mark four buckets filled with dry clean sand and shall be kept on the sub-station.

7. STAIRCASES (Main staircase of the building) (For each sale tower & each rehab Wing)

- i) The flight width of staircases of each tower having 02.00 mtrs. flight width & 1.20 mtr. of each basement staircases shall be maintained as shown in the enclosed plans.
- ii) The layout of staircases shall be enclosed type throughout its height and shall be approached (gained) at each floor level by at least two hours fire resistant self-

closing door as shown in the plan. The staircases which are leading upto basement shall have smoke check lobby for each.

- iii) Permanent vent at the top equal to 5% of the cross sectional area of the staircase shall be provided.
- iv) Open able sashes or R.C.C. grills with clear opening of not less than 0.5 sq. meter per landing on the external wall of the staircase shall be provided.
- v) No combustibles shall be kept or stored in staircase / passages.
- vi) Lift lobby shall not be encroached by shoe-racks, decorative items, earthen pots etc.
- vii) The staircases from ground level to basements shall be pressurized as per NBC.

TERRACE DOORS: (For each sale tower & each rehab Wing)

The terrace door shall be provided in the following manners :

- i) The top portion of the door shall be provided with louvers.
- ii) The latch-lock shall be installed from the terrace side at the height of not more than 1 mtrs.
- iii) The glass front of 6 inch diameter with the breakable glass shall be provided just above the latch-lock, so as to open the latch in case of an emergency by breaking glass.
- iv) The door shall either be fitted with magnetic lock connected to console and detected system or shall be synchronized with fire detection and alarm system.

8. CORRIDOR / LIFT LOBBY:- (For each sale tower & each rehab Wing)

- i) Corridor / lift lobby at each floor level shall be naturally ventilated as shown in plan for the upper floors and pressurized for basement levels.
- ii) The common corridor / lift lobby at each floor level shall be kept free from obstructions at all times.
- iii) Self glowing/fluorescent exit signs in green color shall be provided showing the means of escape at each floor of building.
- iv) Portable lights / insta lights shall be provided at strategic locations in the staircase and lift lobby.

9. STAIRCASE AND CORRIDOR LIGHTING: (For each sale tower & each rehab Wing)

- i) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that they could be operated by one switch installation on the ground floor easily accessible to fire-fighting staff at any time irrespective of the position of the individual control of the light points, if any.
- ii) Staircase and corridor lighting shall also be connected to alternate supply.
- iii) Double throw switches shall be installed to ensure that lighting in the staircase and the corridor do not get connected to two sources of supply simultaneously. A double throw switch shall be installed in the service room to terminate the stand-by-supply.
- iv) Emergency lights shall be provided in the staircases/corridors.

10. FLAT ENTRANCE, KITCHEN DOORS & EXIT / ENTRANCE STAIRCASE : (For each sale tower & each rehab Wing)

- i) Flat entrance and kitchen doors (if provided) shall be of solid core having fire resistance of not less than one hour (solid wood of 45 mm thickness.)
- ii) An additional F.R.D. shall be provided next to lift on all floor in each tower.
- iii) The fire resistance rating for staircase F.R.D., Lift lobby / protected lobby & the lift doors shall be as per N.B.C. provisions.

11. ELECTRIC CABLE SHAFTS, SERVICES & METER ROOM: (For each sale tower & each rehab Wing)

- i) Electric cable shafts shall be exclusively used for electric cables and should not open in staircase enclosure.
- ii) Inspection doors for shafts at the each floor level shall have two hours fire resistance.
- iii) Electric shafts shall be sealed at each floor level with non-combustible materials such as vermiculite concrete. No storage of any kind shall be done in electric shaft.
- iv) Electric wiring/ cable shall be non-toxic, non-flammable, low smoke hazard having copper core / fire resistance for the entire building with provision of ELCB/MCB.
- v) Electric meter room shall be provided at the location shown in the plan. It shall be adequately ventilated & easily accessible.
- vi) Low and medium voltage wiring running in shaft and in false ceiling should run in separate conduits.
- vii) Water mains, telephone lines, intercom lines, gas pipes or any other service lines should not be laid in the duct for electrical cables; use of bus bar/solid rising mains instead of cables is preferred.
- viii) Preferably bus bar system shall be installed from ground to all upper floors main supply.
- ix) Separate circuits for fire-fighting pumps, lifts, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fuse in one circuit will not affect the others. Such circuits shall be protected at origin by an automatic circuit breaker with its no-volt coil removed.
- x) Automatic smoke detector system shall be provided in each electric shaft on each floor along with response indicator which shall be connected to main console panel board on ground floor level and each floor level.
- xi) Master switches controlling essential service circuits shall be clearly labeled and shall be placed at control room on ground floor.

12. FALSE CEILING (if provided): (For each sale tower & each rehab Wing)

False ceiling if provided in the building shall be of non-combustible material. Similarly, the suspenders of the false ceiling shall be of non-combustible materials.

13. MATERIALS FOR INTERIOR DECORATION/FURNISHING: (For each sale tower & each rehab Wing)

The use of materials which are combustible in nature and may spread toxic fumes/gases should not be used for interior decoration/furnishing, etc.

14. LIFT :- (For each sale tower & each rehab Wing)

A. PASSENGER LIFT :-

- i) Walls enclosing lift shaft shall have a fire resistance of not less than two hours.
- ii) Shafts shall have permanent vent of not less than 0.2 sq. mtrs in clear area immediately under the machine room.
- iii) Landing doors and lift car doors of the lifts shall be of steel shuttered with fire resistance of one hour. No collapsible shutter shall be permitted.
- iv) One lifts in each wing shall be converted into fire lift and shall be as per specifications laid down under the regulations, a toggle switch shall be provided to this lift for the use of Firemen.
- v) Threshold of non-combustible material shall be provided at the entrance of each landing door.
- vi) All lifts well shall be pressurized including fire lift.

B. FIRE LIFT :- (For each sale tower & each rehab Wing)

- a) Walls enclosing lift shafts shall have two hours fire resistance.
- b) The shafts shall have permanent vent equal 0.2 sq.mtr. clear area under the Lift Machine room.
- c) Landing doors and lift car doors shall be of steel shuttered type with one hour fire resistance. No collapsible shutters shall be provided.
- d) To enable fire services personnel to reach the upper floor with the minimum delay, one fire lift shall be provided and shall be available for the exclusive use of the firemen in an emergency and directly accessible to each floor.
- e) The lift shall have a floor area of not less than 1.4 sq. mtrs. with a minimum dimension of 1.12 mtrs. It shall have loading capacity of not less than 545 kg. (8persons lift) with automatic closing doors.
- f) There shall be an alternate electric supply of an adequate capacity apart from the normal electric supply of the building and the cables should run in a route safe from fire, i.e. within the lift shaft. In case of failure of normal electric supply, it shall automatically change over to alternate supply.
- g) The operation of fire lift should be by a simple toggle or two button switch situated in glass-fronted box adjacent to the lift at the entrance level. When the switch is on, landing call points will become inoperative and the lift will be on car control only or on priority control device. When the switch is off, the lift will return to normal working. This lift can be used by the occupants in normal times.
- h) The words 'Fire lift' shall be conspicuously displayed in florescent paint on the lift landing door at each floor level & Threshold of non-combustible material shall be provided at the entrance of each landing door.
- i) The fire lifts shown in the plan shall be pressurized with positive air pressure as per NBC.

15. FIRE FIGHTING REQUIREMENTS:-

A) UNDER GROUND WATER STORAGE TANKS: (Two separate tanks. One common for all sale towers & One common for all rehab wing)

A separate underground water storage tank one common for all sale towers having capacity of **4,00,000** liters & one common for all rehab wing having capacity of **3,00,000** liters, as per design specified in the rules with baffle wall and fire brigade collecting breaching. The layout of which shall be got approved from H.E.'s department prior to erection. The tanks shall be connected to sprinkler system.

B) OVERHEAD WATER STORAGE TANK : (For each sale tower & each rehab Wing)

A tank of 50,000 liters capacity shall be provided at the terrace level of each sale & rehab wing. The design shall be got approved form H.E.'s department prior to erection. The tank shall be connected to the wet riser through a booster pump through a non return valve and gate valve.

C) WET- RISER CUM DOWN COMER : (For each sale tower & each rehab Wing)

- i. Wet riser cum down comer of internal dia. of 15 cms. of G.I. 'C' Class pipe shall be provided in the duct adjoining the each lift lobby at each tower with double hydrant outlet & hose reel at each floor in such a way as not to reduce the width of the common corridor/staircase. Pressure reducing discs or orifices shall be provided at lower level, so as not to exceed the pressure of 5.5 kgs. per sq. cms.
- ii. Wet risers of internal dia. of 10 cms. of G.I. 'C' Class pipe shall be provided to each basements near additional staircase lobby as shown on the plan.
- iii. The wet risers shall be ground floor to topmost floor/terrace level. Wet riser outlet and hose reel at a distance of 100 ft. shall be provided in ground floor and on periphery of podium floors.

D) FIRE SERVICE INLET : (For each sale tower & each rehab Wing)

- i. A fire service inlet on the external face of the building near the tank directly fronting the courtyards shall be provided to connect the mobile pump of the fire service to the wet riser separately.
- ii. Breeching connection inlet shall be provided to refill U.G. fire tank,
- iii. Operating switches of fire pumps shall be also provided in glass fronted boxes at ground floor.

E) AUTOMATIC SPRINKLER SYSTEM (For each sale tower & each rehab Wing)

The Automatic sprinkler system shall be provided in each tower including all basements, show rooms, offices, in Party hall + coffee shop, toddler, meter room & banquet hall & car parking area at ground floor, Gymnasium + lounge + Ladies spa + Gents spa + Admin, 1st floor car parking area, society office, welfare center and in each habitable room of each flat, in lift lobby & common corridor at each floor level of each tower, as per the standards laid down by T.A.C. or relevant I.S. specifications.

F) DRENCHER SYSTEM (for 1st floor sale building):

Drencher system should be provided on the ceiling of (periphery of) 1st floor sale building and should be connected to the main sprinkler pump as per the standard laid down in relevant I.S. Specifications.

G) AUTOMATIC SMOKE DETECTION SYSTEM: (For each sale tower & each rehab Wing)

Automatic smoke detection system shall be provided in each tower including all basements smoke check lobby, pump room, show rooms, offices, in Party hall, kitchen, coffee shop, party hall, toddler, all electric meter room, LV & HV room, meter room, banquet hall, Gymnasium + lounge + Ladies spa + Gents spa + Admin, society office, welfare center, balwadi and in lift lobby & common corridor at each floor level of each tower, each lift machine room, fire Control room/ BMS Room and in electric shaft at every floor level with response indicator; same should be connected to main console panel on ground floor level in BMS Room, as per IS specification.

H) RATE OF RISE DETECTORS: (For each sale tower & each rehab Wing)

Rate of rise detectors shall be installed in the hot areas like kitchen etc. and same shall be connected to main console at ground floor level.

I) FIRE PUMP, SPRINKLER PUMP & JOCKEY PUMP (for one common set for sale Tower & one common set for rehab building) AND BOOSTER PUMP: (each Tower & each rehab wing)

- i) Wet-riser shall be connected to a fire pump at ground level of capacity of not less than 2800 liters/min. capable of giving a pressure of not less than 3.2 kgs/ sq. cms. at the top most hydrant.
- ii) Booster pump of 900 liters/min. capacity giving a pressure of not less than 3.2 kgs./ sq. cms. at the top most hydrant out let of the wet-riser shall be provided at the terrace level.
- iii) To maintain pressure not less than 3.2 Kg/ sq.cm. at any hydrant out let on any floor, break pressure tank with booster pump shall be provided if required.
- iv) Sprinkler pump of suitable capacity along with jockey pump shall be provided for automatic sprinkler system.
- v) Electric supply (normal) to these pumps shall be independent circuit.
- vi) Separate jockey pump shall be provided to Wet riser system to keep system pressurized.
- vii) Operating switches for booster pumps shall be also provided in glass fronted boxes in lift lobbies on each floor at prominent place.

- viii) Operating switches of fire pumps shall be also provided in glass fronted boxes at ground floor.
- ix) All above pumps should be surface mounted or vertical turbine type (submersible pump not permitted) pump along with adequate size of pump room pump shall be as per TAC norms or complies to NFPA 20.
- x) All the pumps shall be as per TAC norms OR complied to NFPA 20.

J) STAND BY PUMPS (one set common for all sale tower & one set common for all rehab Wing)

Diesel pump shall be provided as stand by pumps as per NBC.

K) EXTERNAL HYDRANTS: (For each sale tower & each rehab Wing)

Courtyard hydrants on ground and podium floor level shall be provided at distance of 30.00 mtrs around the building within the confines of the site of the wet riser. Hose box with two hose & branch shall be equally distributed on ground floor courtyard area, each podium floor of each wing.

L) ALTERNATE SOURCE OF POWER SUPPLY (one common for all sale tower & one common for all rehab building)

An alternate source of L.V. /H.V. supply from a separate sub-station as well as D.G. Set with appropriate change over switch shall be provided for fire pump, fire lift, staircase, corridor lighten circuits, sprinkler pump, jockey pump, fire alarm & fire detection system, integrated system, voice evacuation system, public address system etc. It shall be housed in a separate cabin.

M) PORTABLE FIRE EXTINGUISHERS : (For each sale tower & each rehab Wing)

- i) One dry chemical powder (ABC) type fire extinguisher of 09 kgs. capacity having B.I.S. certification mark and two sand buckets filled with dry cleaned sand shall be kept in each electric meter room as well as in each lift machine room.
- ii) One dry chemical powder (ABC) type fire extinguisher of 09 kgs capacity having B.I.S. certification mark and two sand buckets filled with dry cleaned sand shall be kept at ground & each level of basement for every 100 sq mtrs area for car parking.
- iii) One dry chemical powder (ABC) type fire extinguisher of 06 kgs. capacity having B.I.S. certification mark shall be kept pump room, show rooms, offices, in Party hall, kitchen, coffee shop, party hall, toddler, all electric meter room, LV & HV room, meter room, banquet hall, Gymnasium + lounge + Ladies spa + Gents spa + Admin, society office, welfare center, balwadi and in lift lobby, show room, shops & common corridor at each floor level of each tower, each lift machine room, fire Control room/ BMS Room & on each floor level at prominent place & every refuge area .
- iv) All above fire extinguishers should be placed on each floor as per IS:2190 of 1992.

N) FIRE ALARAM SYSTEM / FIRE DETECTION SYSTEM : (For each sale tower & each rehab Wing)

The building shall be provided with intelligent analog addressable fire alarm system with microprocessor based main control panel at ground floor level and addressable call points and hooters at each floor level. The design of fire alarm system shall be in accordance with I.S. specification and based on NFPA 72 guidelines (as per 2010 edition).

- i) The addressable fire alarm system shall be equipped with the latest evacuation features such as digital voice evacuation capabilities; fire fighters telephone system, directional sounders etc. The main entry / exit points shall be provided with fire fighters interactive touch screen interface to enable viewing of critical information in event of fire.

- ii) podium floors shall be provided with intelligent multi sensor detectors connected to the main fire alarm panel. This is to avoid nuisance alarm caused due to smoke emission from the vehicles of the car parking.
- iii) Appropriate fire detection system shall be installed in lift lobby & common corridor.
- iv) Access control system, close circuit cameras shall be installed in the entire building & connected to CCTV & security control at ground.
- v) Trained security staff & fire staff shall be posted on duty at strategic location around the clock.
- vi) Security / fire staff shall be trained in evacuation procedure & use of fire fighting equipment.
- vii) The entire building floors shall be provided with proper standard signage.

O) PUBLIC ADDRESS SYSTEM : (For each sale tower & each rehab Wing)

The entire building shall be provided with public address system as per the rules with main control operator at console panel at ground floor area.

P) BREATHING APPARATUS SETS : (For each sale tower & each rehab Wing)

Two Self-contained Compressed Air Breathing Apparatus sets of 45 minutes duration each shall be kept in the fire control room & each refuge area of each wing.

Q) VOICE EVACUATION SYSTEM : (For each sale tower & each rehab Wing)

The voice evacuation system shall be integrated to Fire Alarm system so as to facilitate the co-ordination activities in case of fire emergencies. The actuation of the fire alarm control panel shall automatically activate the Voice Evacuation system. A pre-recorded message shall be broadcast on the affected floor, one floor below & two floors above the affected floor.

R) INTEGRATED SYSTEM : (For each sale tower & each rehab Wing)

The entire firefighting system shall be of the type "Integrated Building Automation System" combining all the systems. Flasher light shall be installed at the top of the building which will be switched on in case of incident of fire in that building to indicate involvement of building in fire. It will also help the incoming fire brigade appliances to reach the spot in time without delay.

S) EMERGENCY ESCAPE ROUTE PLAN: (For each sale tower & each rehab Wing)

- i. Emergency exit route plan framed in glass shall be displayed in the common corridor, cross passages, staircase/lift lobbies of each floor level.
- ii. A set emergency exit route plan shall be kept in the each fire control room.

T) FIRE DRILLS / EVACUATION DRILLS : (For each sale tower & each rehab Wing)

Fire Drills and evacuation drills shall be conducted 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.

U) SERVICE DUCT : (For each sale tower & each rehab Wing)

- a) All service ducts shall have 2 hr. fire resistance.
- b) Inspection door of the service ducts shall have 2 hr. fire resistance.
- c) Duct for water service, drainage line, shall be separate from that of electrical cable duct.

16. FIRE EVACUATION LIFT: (for each sale tower & each rehab Wing)

Fire evacuation lift shall be provided as per I.S standard and concern C.F.O. authority.

- 17. Trained security supervisor or staff: (For each sale tower & each rehab Wing)**
The trained fire supervisor along with trained security or staff having basic knowledge of firefighting & fix firefighting installation shall be provided / posted in the building. They will be responsible for the following;
- i) Maintenance of all the first aid firefighting equipments, fixed installations & other firefighting equipments / appliance in good working condition at all times.
 - ii) Imparting training to the security or staff of the building in the use of firefighting equipment provided on the premises & kept them informed about the fire & other emergency evacuation procedures.
- 18. DISASTER MANAGEMENT PLAN: (For each sale tower & each rehab Wing)**
a) Disaster management plan for fire & other emergency shall be prepare and kept ready at the control room.
b) The mock drill with the designated fire marshal for any operation of disaster management plan shall be carried out regularly after occupation as per National building code.
- 19. FIRE CONTROL ROOM: (For each sale tower & each rehab Wing)**
i) Three Fire Control rooms as marked in plan, with well qualified man power shall be established on ground floor.
ii) Plan of each floors indicating means of egress as well escape shall be maintained.
iii) Control panel of fire safety system shall be located in the control room.
iv) The size of the control room shall be in accordance with the MEP consultant for the project.
v) The location map of control rooms shall be kept at the main entrance gate to direct fire appliances responding to any emergency.
- 20. BASEMENT: (common for sale tower & common for rehab building)**
i) Basement shall be separately ventilated. Vents with cross, sectional area (Aggregate) not less than 2.5 percent of the floor area of the basement shall be provided in the form of grills or breakable stall boards lights or pavement lights or by way of shafts. Alternatively, a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level.
ii) Basement has proposed 06.0 mtr. wide two way ramp shall gradient not less than 1:10
iii) The basement shall be used for designated purpose only as shown in the plan.
iv) The basement shall be provided with natural ventilations through the ventilators, open cut outs as shown in the plan.
v) The staircases of the basement shall be of enclosed type and entry to basement areas shall be through two hours fire resistance self-closing door provided in the enclosed wall of the staircase and through smoke check / cut off lobby. The smoke check / cut off lobby shall be mechanically pressurized.
vi) Mechanical ventilation shall be provided to the basement with 06 air changes per hour with an arrangement to accelerate the rate of air changes to 12 per hour in the event of a fire emergency.
vii) The basement shall be provided with fire curtain as shown on the plan.
viii) The ducts of the mechanical ventilations system shall be of substantial metal gauge as per the relevant I.S. standard.
ix) The operating switches of the mechanical ventilation shall be located in the fire control room with appropriate zonal indications.
x) Exhaust duct shall be provided to draw out exhaust at ground level of the basement.

- xi) Suitable signages shall be provided in the basement showing exit direction, way to exits etc.
- xii) Automatic sprinkler system shall be provided in entire basement .
- xiii) These systems shall be installed as per the standard laid down by T.A.C. and relevant I.S. specifications
- xiv) Staircases, common passages & escape routes of the entire building shall be painted with fire retardant paint.
- xv) One Dry Chemical Powder fire extinguisher ABC type of 09 kgs. Capacity shall be kept for every 100 sq. mtrs. area in basement.
- xvi) Staircase and lift lobby shall have illuminated by inverter operated exits signs with IP 54 enclosure. Luminance of the signages shall be such that they are visible from a distance of 12 to 16 meters.
- xvii) CO Detector with audible alarm system shall be provided to all the basement areas and the circuit of the same shall be given / connected to mechanical ventilation system to start automatically on actuation of CO detector and the other detectors provided in the basement.
- xviii) Ventilation system shall start automatically on actuation of detector provided in the basement area.
- xix) Exhaust duct, mechanical ventilation duct should not pass through exit or entry.
- xx) The ventilation and area of ventilation and compartmentation if required shall be checked by EEBP.
- xxi) The interconnectivity between (exit/entrance) between two compartments if any shall be protected by fire curtain having four hours fire resistance.

21. ACCESS RAMPS:(for basement sale)

- i) Two no. of two way access ramps of 06.00 Mtrs. width ramp shall be provided for entry and exit of cars.
- ii) The gradient of the ramp shall not be steeper than 1:10.
- iii) The access provided to the podium shall be kept unobstructed.

22. SIGNAGES : (For each sale tower & each rehab Wing)

Self-glowing/fluorescent exit signs in green color shall be provided showing the means of escape for each tower.

23. DETECTOR SYSTEM : (For each sale tower & each rehab Wing)

L.P.G. / P.N.G. detector system shall be installed in each kitchen area of each flat of each tower

24. REFUGE AREA : (For each sale tower & each rehab Wing)

- A. **Sale tower 1 & 2:** Refuge area provided on 7th, 14th, 21st, 28th, 35th floor.
- B. **Sale tower-3 & 4:** Refuge area provided on 6th, 13th, 20th, 27th, 34th floor.
- C. **Rehab Wing-A, B & C:** Refuge area provided on 8th, 15th, 22nd, 29th & 36th floor.

All the above proposed /provided refuge areas shall be conforming to the following requirements:

- i) The layout of the refuge area shall not be changed / modified at any time in future without prior permission of this department.
- ii) Refuge area shall be provided with railing / parapet of 1.10 meters height on external sides and shall be of sound construction.
- iii) Refuge area shall be segregated by brick masonry partition wall of 9" thickness or concrete block wall of 6" thickness and access to refuge area shall be gained through half an hour fire resistance self-closing door.
- iv) There shall not be any opening in to the refuge area from any portion of the occupied premises.

- v) Refuge area shall be earmarked exclusively used for the use of occupants as temporary shelter and for the use of Fire Brigade department or any other organization dealing with fire or other emergencies when they occur in the building and also for exercises / drills, if conducted by the Fire Brigade department.
- vi) Refuge area shall not be allowed to be used for any other purpose and it shall be the responsibility of the owner / occupier to maintain the same clean and free of the encumbrances and encroachments, at all times.
- vii) Entrance door to the refuge area shall be painted or fixed with a sign painted in luminous paint mentioning "**REFUGE AREA IN CASE OF EMERGENCY**".
- viii) Adequate drinking water facilities shall be provided in the refuge area.
- ix) Adequate emergency lighting facility connected to electric circuits of staircase / corridors lighting shall be provided in the refuge area.
- x) Excess refuge area shall be counted in FSI.

D. Terrace shall be treated as refuge area and shall be provided as under:

- i) The entrance door to the refuge area shall be painted or fixed with a sign painted in luminous paint mentioning "**REFUGE AREA IN CASE OF EMERGENCY**".
- ii) Adequate drinking water facility shall be provided in the refuge area.
- iii) Adequate emergency lighting facility connected to the electric circuit to the staircase, corridor / passage etc. lighting shall be provided

25. ELEVATION FEATURES AT TERRACE FLOOR: (for each sale tower & each rehab Wing)

To allow crown policy for elevation features for proposed building shall be as per circular u/no. CHE/DP/5440/Gen. dated 28.12.2016 & subject to approval of Hob'ble C.E.O.(S.R.A.) & High Rise Technical Committee.

26. Necessary permission shall be obtained for the licensable trade activity i.e. banquet hall, show room, swimming pool, to be carried out on the premises from competent authority & this office.

27. All the requirements of earlier NOC u/no. FB/HRC/R-II/09 dated 28.06.2018 & FB/HRC/R-II/10 dated 28.06.2018 & NOC u/no. FB/HRC/R-II/23 dated 20.10.2018 shall be treated as cancelled.

The width of the abutting road/access road, open spaces mentioned in this N.O.C. are as per the plan submitted by the Architect attached herewith. these parameter shall be verified by E.E.S.R.A.(WS) before granting any permission (IOD / C.C./Further C.C.). If found any contradiction, the proposal shall be referred to this department.

This NOC is issued for the proposed building from risk/fire safety point of view only. the plans approved along with this NOC are approved from fire risk/ fire safety point of view only. Approval of the plan does not mean of allowing the construction of the building. it is Architect/developers responsibility to take necessary prior approval from all concern competent authority for the proposed construction of the building.

Scrutiny fee statement

Area in Sq. Mtr. (A)	Area in Sq. mtr. (B)	Scrutiny fee amt. (C)	Receipt no. (D)	Sap. Doc. No. (E)	Paid date (F)
fresh	1,57,175.77	75,44,437	5823537/ 5823538/5823539	10033115996	12.06.2018
fresh	1,15,419.1	55,40,121	5823540/	1003316003	12.06.2018

	7		5823541/582 3542		
(A)	(B)	(C)	(D)	(E)	(F)
1 st amendment	Now, As per Architect vide his letter stated that there is no increase in the area, hence, no additional scrutiny fee to be levied.				
2 nd amendment	315060	36,13,622	1587879/158 7800/158788 1	1003577295	25.04.2019

However, E.E. (S.R.A) is requested to verify the total built up area & inform this Department if it is more for the purpose additional Scrutiny fee, if required.

Note:

1. The fire fighting installation shall be carried out by licensed approved agency.
2. The area calculation shown in the enclosed plan shall be checked by the E.E.(SRA)
3. E.E.(SRA) requested to scrutinized the plans as per amended DCPR 2034. If any requirements violets. Then this NOC shall be refer back to this department
4. The schematic drawings/plans of Sprinkler system, smoke detection System, Rate of rise detection system, Wet riser system, Public Address system etc. shall be got approved from CFO prior to installation.
5. There shall be no tree located in compulsory open spaces.
6. The area size to consult with MEP Consultant for the sprinkler system, detection system, fire alarm system, wet riser system, public address system, electrical duct, etc. to be verified & examine.
7. If any matter in this case, violets DCR 1991 then this proposal shall be referred back to this department for issuing fresh NOC.
8. This NOC is issued without prejudice to legal matters pending in court of law, if any.
9. This N.O.C. is issued from fire risk point of view only.
10. Architect has proposed Terrace on east & west of each towers & projected beyond the building line which is approved subject to approval of Hon'ble C.E.O.(S.R.A.) & high rise technical committee.
11. This NOC is approved subject to approval of Hon'ble C.E.O.(S.R.A.) & high rise technical committee.


Dy. Chief Fire Officer
Mumbai Fire Brigade

Copy to: 1. E.E.S.R.A (City)
2. M/S DOT Architect, Mumbai.


Dy. Chief Fire Officer
Mumbai Fire Brigade
