DISASTER MANAGEMENT PLAN

OF

"PROPOSED IT PARK"

BY

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Report Prepared By:

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1 INTRODUCTION

The proposed commercial development is located at Survey No 20, Balewadi, Tal. Haveli, Dist. Pune 411057, Maharashtra. M/s Balewadi Tech Park Pvt. Ltd. is proposing an Information Technology Park

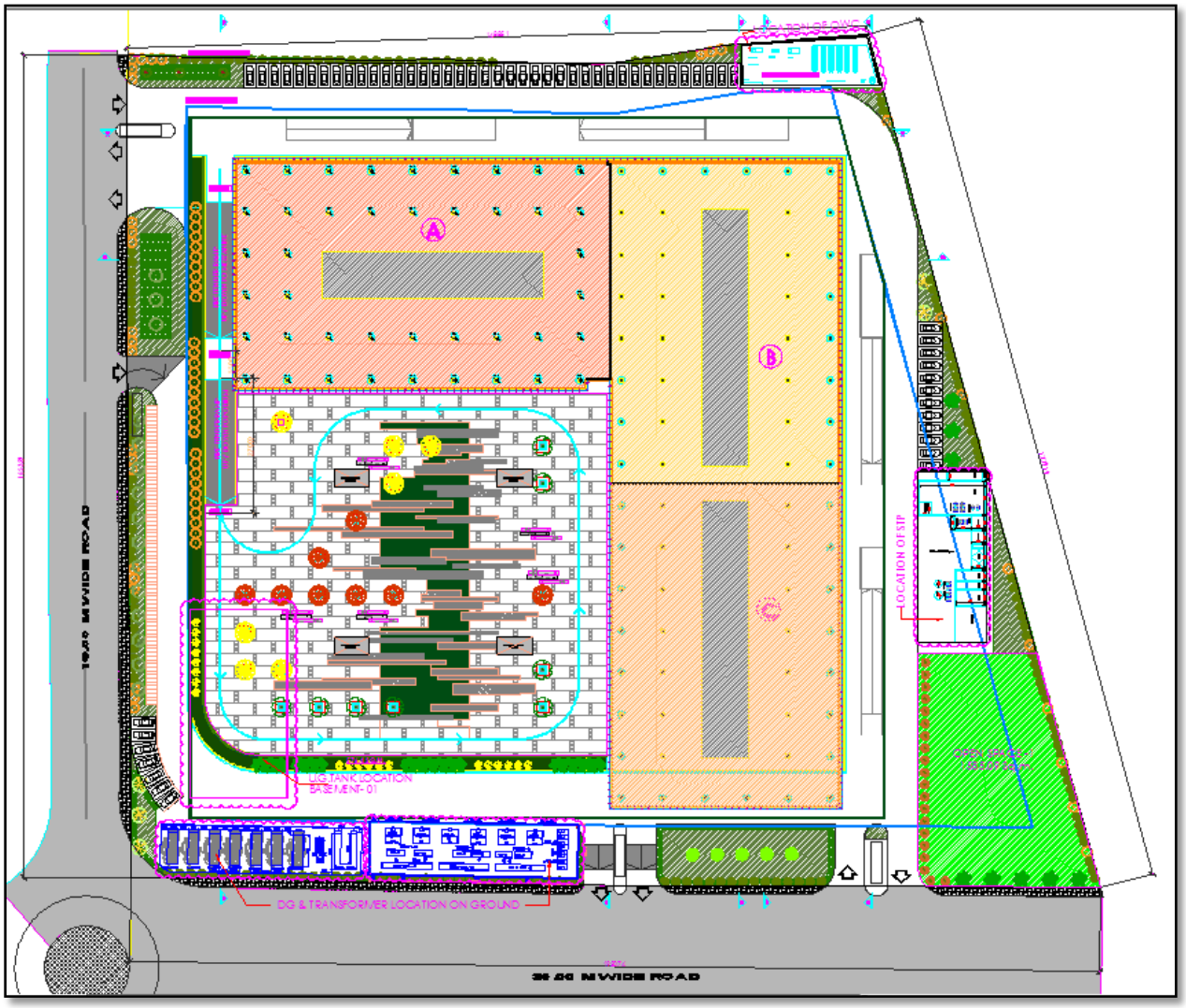

Figure 1: Master Layout

1.1 EMPLOYEES STRENGTH:

Total about 13,095 employees plus support & service staff are estimated in this project.

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.

1.2 SCOPE

Project proponent M/s Balewadi Tech Park Pvt.Ltd Management, construction contractor will take steps to asses, minimize and whenever feasible eliminate risks during operation and construction phase respectively. However, accident may still occur during material handling, working on height, tower crane application, RMC Pumps transfer, High rise slab centering work and Heavy material transfer.

1) Project proponent has considered element for mitigating the effects of a major accident /disaster.
2) Implementations of action plan by operating staff, the staff on various emergency teams and mutual help from nearby industry and local authorities.
3) Establish roll and responsibility and action to be taken by IT employees, service & support, security staff and local aid for prompt rescue, evacuation, rehabilitation and communication.
4) During operation and construction M/s.Balewadi Tech Park Pvt.Ltd. complex site will need to have a round- the- clock emergency duty team to manage disaster. The duty team will include several functions and members depending on size of the organization and would be headed by a technically qualified as well as a trained individual.

1.3 OBJECTIVE

The overall objective of a Disaster Management Plan (DMP) is to make use of the combined resources at the site and outside services to achieve the following:

1. To localize the emergency and if possible eliminate it.
2. To minimize the effects of the accident on people and property.
3. Effective rescue and medical treatment of casualties.
4. Safeguard valuable Software data storage and backup system.
5. Evacuate IT Employees working in cubical to safe areas
6. Informing and collaborating with statutory authorities;
7. Initially contain and ultimately bring the incident under control;
8. Preserve relevant records and equipment for the subsequent enquiry into the cause and circumstances of the emergency;
9. Investigating and taking steps to prevent reoccurrence

However, it is not always possible to totally eliminate such eventualities and random failures of equipment or human errors. An essential part of major hazard control has therefore, to be concerned with mitigating the effects of such emergency and restoration of normalcy at the earliest.

1.4 WHAT IS DISASTER MANAGEMENT?

Disaster is a serious emergency that arises by natural calamities or by Manmade sabotage incident, mostly without prior warning and cause wide spread loss of life, inflicts injuries, damage property, destroy materials, and in addition inflict negative impacts on the environment.

Figure 2: Disaster Management cycle

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 and mass decontamination. Disaster management has its own advantages. Some of these are:

- Reduces the effects of a disaster
- 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 the figure below;

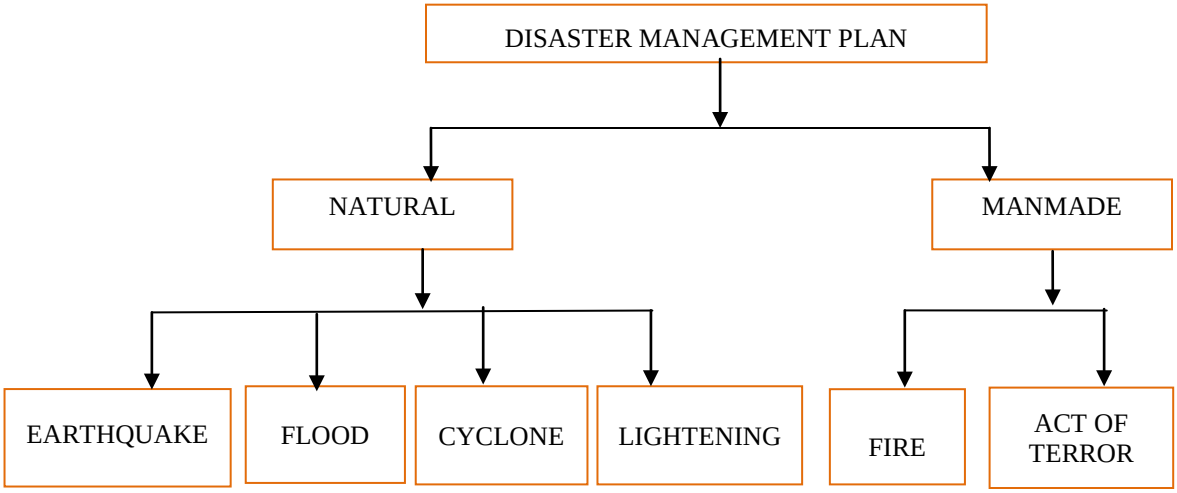

Figure 3: Basic Structure of DMP

2 CONSTRUCTION PHASE

2.1 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

- ***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
  [x] asbestos removal
  [√] welding
  [x **]** hazardous waste
  [√ **]** excavation / trenches (>1.5m)
  [√] working around electrical installations
  [x] working near traffic
  [√] working at a height (>3m)
  [√] working in isolation.
  [√**]**working in a confined space
  [√] manual handling
  [√] repetitive or awkward movements
  [√] lifting or moving awkward or heavy objects
  [x**]** demolition work

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

  [√] noise
  [√ **]**dust/fumes/vapours/gases
  [x **]**extremetemperatures
  [√**]** risk of fire/explosion
  [√] slippery surfaces/trip hazards
  [x **]** poor ventilation/air quality
  [x **]** a poorly designed work area for the project/task

Table No. 1: Vulnerability Analysis During Construction Phase

	Air Pollution	Water Pollution	Noise Pollution	Soil Pollution	Occupational Hazard
A. Material Handling:					
Cement	+M	-	-	+M	+M
Steel	-	-	+	-	+M
Sand/Fine Dust	**+H**	-	-	-	-
Stone	-	-	-	-	+L
Wood	-	-	--	-	-

	Air Pollution	Water Pollution	Noise Pollution	Soil Pollution	Occupational Hazard
Glass	-	-	-	-	+H
Hardware	-	-	-	-	-
Colour	-	+M	-	+M	-
B. Construction Machinery					
Rotary Driller	+L	-	+L	-	+L
Mixers	+M	-	+M	+L	+M
Excavator	+L	-	+L	-	+M
Material Lift	-	-	+M	-	+M

Risk Factor:

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

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. Keep the hazard and people apart
3. Change work methods
4. Use personal protection

- ***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 **[√]** confined spaces risk assessment
[√] test and tag electrical equipment **[√]** sound level test

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

[x] Demolition work
[√] Electrical wiring
[x **]** Pressure vessels
[x] Friable asbestos removal
[x] Ionizing radiation sources
[√] registers for chemicals, Personal protective Equipment, training, ladders, lifting gear

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

[√] Scaffolding
[x **]** Pesticide application

[√] Rigging
[√] Load shifting machinery operation
[√] Crane operation
[√] Hoist operation

- ***Note emergency systems required***

[√] first aid kit
[√] extended first aid kit
[√] emergency stop button
[√] additional emergency procedures
[√] Fire control
[x] remote communication mechanism
[x] others

Table No 2: Risk and mitigation measures

Sr. No.	Operations	Risk	Mitigation Measures
1.	Tower Crane	Injury. Fatal accident. Contact with High Voltage Live wires	Certified by Competent person Operated by trained personal. Preventive maintenance, Use work permit system. PPE/PPA use Safe operating procedures
2.	Construction/material Hoists	Personal injury Accidents	Only approved hoist to be used by trained employees With safe area demarcation Use PPA/PPE
3.	Passenger lifts	Fatal /major Accident	Certified/ approved passenger lift to be used by trained employees With safe area demarcation Use PPA/PPE
4.	Portable electrical equipment	Burn/fatal	To be checked before use by Approved Electrical safety official/use PPE/PPA
5.	Hazardous substances	Fire, explosion Toxic release Unhygienic Dust.	Storage of Bulk Fuel. Paints, Plastic Plywood Combustible, Store as per HAZMST Rules. PPE/PPA Training
6.	Scaffolding	Fall from Height Fatal accident	Introduction of Working on Height permit system. PPE/PPA/safety belt/Training
7.	Ladders	Accident, Injury	Proper selection. Inspection. PPE/PPA, Training
8.	Material Lifts 1 no.	Accidental, Injury Even Fetal	Inspection by competent person. Safe work instruction Correct Use, Training. Testing before use for SWL Use of PPE/PPA
9.	Hoists	Accidental, Injury	Inspection by competent person. Safe work instruction Correct Use, Training. Testing before use for SWL Use of PPE/PPA

Sr. No.	Operations	Risk	Mitigation Measures
			Fencing
10.	Using tools/equipment with moving part(s)	Nipping Injury to Hand Electrical Shocks Leg Injury	Proper selection of Hand tool. Periodic Inspection Use of proper hand glove PPE/PPA. Training. Safety guard in case of Grinder,
11.	• Using tools/equipment that vibrate • Electrical wiring • Asbestos removal • Welding	• Vibration hazard • Electrical shocks • Asbestosis • Eye, Body Burns Toxic gases inhalation	Inspection by competent person, Ergonomic training, Use of PPE/PPA, Safety Guards
12.	Working around electrical installations/ working near traffic / 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 by Authorized trained person, Indian electrical safety rules to be fallowed. Work permit system, Work environment in confined space, Use of PPE/PPA
13.	Work environment 1. Noise 2. Dust/fumes/vapours/gases 3. Extreme températures 4. Slippery surfaces/trip hazards 5. Poor ventilation/air quality 6. A poorly designed work area for the project/task	Accidental Injury, Occupational Hazards. Rashes Burn Skin deceases	Enclose noise source, Lubrication. Min time exposure. Use of PPE/PPA Good Housekeeping , Illumination survey, Trainings

In addition to the above, duty holders and workers should consider the following practices when working with or near cement or other potentially hazardous dusts:

- Have protective clothing available and wear masks where there is a risk of inhaling dust
- Clean the workplace regularly by vacuuming or wet sweeping
- Wear disposable or washable work clothes and shower if facilities are available
- Vacuum dust from work clothes and change into clean clothing before leaving the work site
- To avoid ingesting cement dust, do not eat, drink, smoke or apply cosmetics in areas where dust is present
- Wash hands and face outside of dusty areas before performing these activities
- Participate in training, exposure monitoring and health screening and surveillance programs to monitor any adverse health effects caused by cement or other potentially hazardous dusts

2.2 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

2.3 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
- Storage of LPG Cylinders & Oxygen Cylinders shall stored as per acts & rules
- Diesel & Petrol above 1000 litres or 32 litres shall be stored as per The Petroleum Act

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:

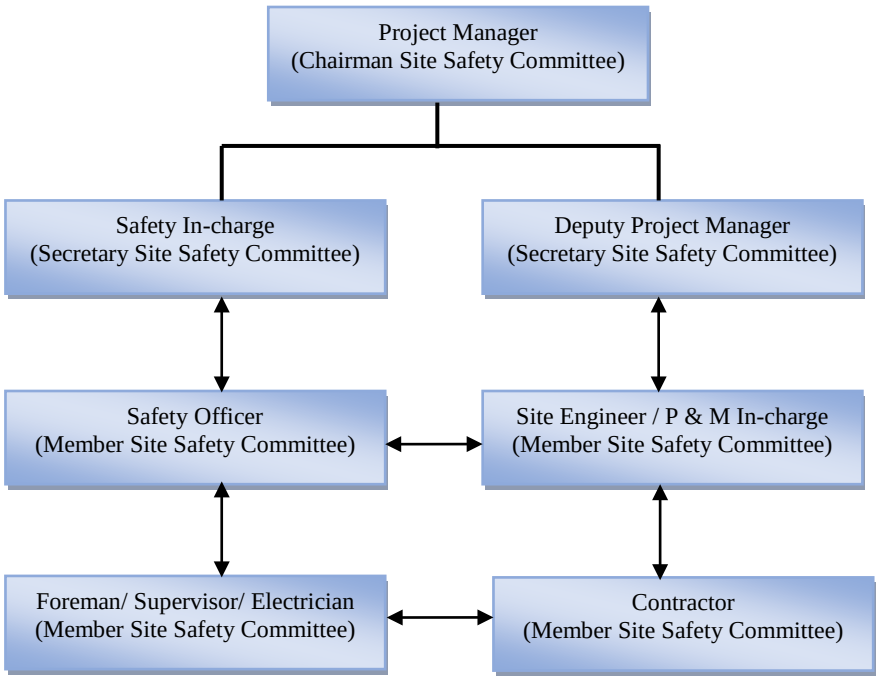

Figure 4: Organization chart of Safety Committee

- **The Safety plan has three functions:**
  - To establish the safety management structure for the project
  - To define the responsibility for each staff and labour of the mentioned agencies, visitors and general public
  - To identify arrangements to minimize risk and to prevent loss

- **The committee will function as mention below:**
  - Safety meeting will be held every first week of the month. However, they might convene at critical stages of project execution
  - Site safety performance will be reviewed and corrective measures will be taken to the implementation of safety at site
  - Minutes of meeting will be made and distributed to all the attendees
  - An even balance between client and contractor
  - Agenda agreed, distributed in advance and followed in the meeting

2.4 ROLES AND RESPONSIBILITIES

Position: Project manager (Chairman Site Safety committee)

Role & Responsibility:

- Ensure that site management teams are adequately staffed by suitably trained and experienced personnel
- Advising the site management of their specific responsibilities and duties for health and safety

- Promoting an interest and enthusiasm for health and safety
- Conducting regular safety meeting with site management

Position: Safety In-Charge (Secretary Site Safety committee)
Role & Responsibility:

- Monitoring the implementation and operation of the safety plan
- Responsible to the head safety on day to day basis
- Verifying the correct reporting procedures for accidents, dangerous occurrences
- Day-to- Day scrutiny of operations on site with regard to safe system of work
- Investigation of accident and dangerous occurrences, reporting and recommending corrective actions
- Ensure that all accident and dangerous occurrences are reported and any necessary remedial actions are taken
- Manage the site safety condition and relation with client in proper comportment

Position: Safety Officer (Member Site Safety committee)
Role & Responsibility:

- Ensure company safety procedures are followed on site
- Ensure that all statutory posters and notices are displayed together with the policy document
- Carry out formal weekly site inspection and inform in writing to the senior safety executive of any necessary improvement to ensure the activities are undertaken in a safe manner
- Daily inspection will be carried out and any dangerous condition reported
- Ensure that an adequate supply of protective clothing and equipment is available and issued to operatives
- Ensure that operatives are aware of their responsibilities regarding the wearing of such equipment
- Ensure that fire extinguishers are located in correct place and are fully charged. Provide weekly reports and monthly status

Position: Safety Supervisor (Member Site Safety committee)
Role and Responsibility:

- Regular safety inspection for slings, chain ropes, fire extinguishers, housekeeping, scaffolds, ladders etc.
- Correcting unsafe work practices on site
- Enforcing use of personal protective equipments
- Conducting safety inductions and safety tool box talks
- Training of banks men / signalmen
- Ensure that the location of medical facilities is made known to all employees
- Daily site safety inspection and report to the SO/SSE
- Ensure that an adequate supply of protective clothing and equipment is available and issued to operatives
- Ensure that operatives are aware of their responsibilities regarding the wearing of such equipment

Position: Site Workers
Role and Responsibility:

- To take reasonable care to safeguard their own health and safety and of other workers who may be affected by their work
- Never misuse anything provided in the interest of health and safety
- To use correct tools and equipment for the job
- Use personal protective equipment as required
- To warn new man to know hazard at work

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

- Only OHSAS 18000 Certified contractor will undertake work having 1) Safety policy 2) Standard operation procedures SOP 3) Emergency rescue equipment & resources such as Rescue cage (Basket), 4) Provision of stretcher at appropriate location ,4) Implementation of Work Permit system 5) All emergency contact details will be maintained in register.

c) Maintenance of systems/equipments necessary for tackling disasters

- Maintenance of systems/ equipments 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 Safety In-Charge (Secretary Site safety Committee).
- Provision of fire alarm switch at security room.

e) Organize extensive training for disaster managers and assistants

- Quarterly Training will be arranged by M/s. Balewadi Tech Park Pvt.Ltd. for disaster managers and assistants during construction stage

3. Response Plan

a) Identify site disaster manager for handling disasters with clearly enumerated functions:

- Project Manager (Chairman Site safety committee) will handle disaster with his safety team with clearly enumerated functions during construction phase
- Reliable Exports will allot an Project Manager (Chairman Site safety committee) for handling disaster by keeping in view of his English knowledge, fire safety exposure, communication skill and his contact with public & local NGO's

4. 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
  - Visitors to the Working staff

- Representatives of public bodies, couriers companies etc.
- The traffic could be mobile or pedestrian

The control is at the main entry gate.

Table No. 3: Control Room Entries

i)	Working Employees Pedestrian	•	Recognition
		•	Distinct identity card for each member
		•	ID through a card reader and pass thru' a turn style.
	Automobile	•	Recognition of car
		•	Car Pass
		•	Car Pass through a Authorized Entry stickers and boom gate.
		•	Car parked in the allotted slot in the car park.
ii)	Regular workers	•	Recognition
		•	Distinct ID Card
		•	ID through card & entry + exit recorded.
iii)	Vendors	•	Temporary pass with time validity (with the consent of Resident)
		•	Temporary ID card – entry + exit recorded
iv)	Visitors to the working staff		
	Pedestrians	•	Distinct ID card
		•	Temporary ID card entry + exit recorded.
	Automobile	•	Dedicated car park near the main gate
		•	Distinct ID card
		•	Temporary ID entry + exit recorded.
v)	Representatives of Public bodies, courier companies etc.	•	Temporary Pass with time validity
		•	Temporary ID card from Security in charge entry + exit recorded.

b) Display proper maps-Telephone nos. of disaster controlling authorities showing firefighting equipments

- Fire Brigade contact number shall be provided below in operation phase and all contact nos. will be displayed on site.

c) Display Evacuation Plan in times of Disaster

- Display of Evacuation plan during construction Phase at prominent location shall be don

5. On-Site of disaster

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

- Safety In-Charge (Secretary Site safety Committee) will take charge and give guidance over public address system

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

- Deputy Project Manager (Secretary Site Safety Committee) will call for outside assistance of fire brigade, Hospital, ambulance.

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

- Details are provided below in operation Phase

d) Ensure adequate warning before switching off power

- All announcements will be done with good quality equipments
- Safety In-Charge (Secretary Site safety Committee) will ensure with Safety Officer & Site Engineer that all worker are stopped working and shut downed the machines & equipments before switching off emergency control switch

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

- Project manager (Chairman Site Safety Committee) will do arrangement for 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.

h) Liaise with law and order machinery

- Deputy Project manager (Secretary Site safety Committee) will liaise with police Fire Brigade, Civil Defense & BEST etc

6. Preventive Maintenance

a) Regular maintenance of Equipments & Systems

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

3 OPERATION PHASE

3.1 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, cyclones, 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.

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

- Through survey of the building and surrounding area such as low lying area, nallah, pitch hill or any municipal tank etc.
- The areas which would cause problems in an earthquake, flood, cyclone, fire are identified.

Initially the Disaster Management Committee (Safety committee) will be formed by the developer. The Building Facility head / Safety & 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 will be strictly followed.

3.2 DISASTER RESPONSE TEAM

The building will have one Building Facility Head, one Safety & Security In-charge 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 6.3 demonstrates the structure of organization structure of the Disaster Management Committee (Safety committee).

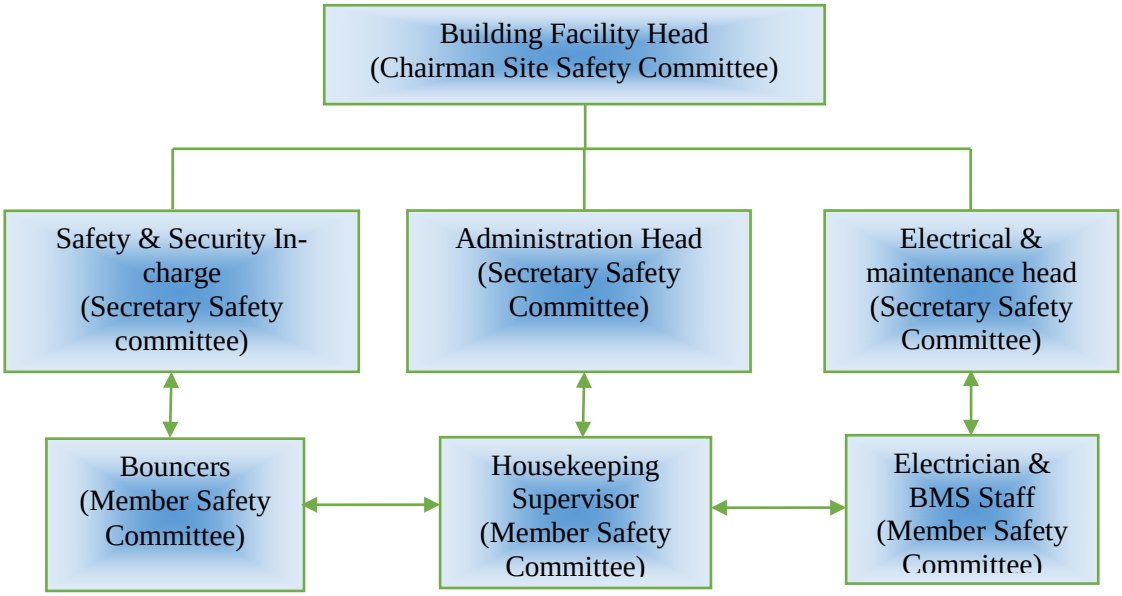

Figure 5: Organization Chart of the Disaster Management Committee

3.3 Roles And Responsibilities Of Disaster Management Committee (safety committee)

- Look into the structural safety requirements of the building for various hazards (earthquake, fire, floods, cyclone, 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
- Ensuring the safety of staff and volunteers at all times during an emergency
- 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

➢ **Building Facility Head**

- Ensures that the appropriate outside emergency agencies have been notified
- Coordinates the activities of all building emergency staff, bouncer, Housekeeping supervisors, electrician
- 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 and building emergency staff 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.

➢ **Administration Head**

- Administration Head will be in Contact with All Individual Floors Admin officer from different IT offices
- Will raise the emergency Alarm If in Case any disaster Happen on Individual floor and Let the Other Committee Members Know about the Situation, after that all the committee members will follow SOP accordingly.

Table No. 4: Scenario of the Building

Goal: To keep the disaster management plan up to date 24X7		
Objectives: To safeguard the employees and neighbors in the event of disaster		
Scenario	**Who is responsible**	**When to contact and how**
Lift failure	Building Facility Head/Safety & Security In-charge/lift man	Lift does not move. From the lift, use the alarm. If outside use phone (internal) or reverse alarm system (not running on electricity or battery backup
Fire in building	Safety & Security In-	Fire occurs in building. Press the nearby fire

Goal: To keep the disaster management plan up to date 24X7		
Objectives: To safeguard the employees and neighbors in the event of disaster		
Scenario	**Who is responsible**	**When to contact and how**
(limited area)	charge, Building Facility Head	alarm or call to control room
Fire in large area (floor)	Safety & Security In-charge, Building Facility Head	Fire occurs in floor. Press the on floor and down floor fire alarm or call to control room
Fire in utility areas	Safety & Security In-charge	Fire occurs in Utility areas. Press the utility area fire alarm or call to control room
Electrical failure	Electrical & Maintenance head/ Electrician	If power goes off only of your floor then call to the control room for electrician
Water supply interruptions	Electrical & Maintenance head/ BMS Staff	If water don't come to only your home then contact control room
Building damage (minor)	Safety & Security In-charge	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)	Building Facility Head	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	Building Facility Head	If alarm doesn't work during periodical checkup then call control room and note complaint
Emergency Staff	Safety & Security In-charge	If any disaster occurs then call control room for help

Mitigation & preparedness

Prepare SOP's for each disaster and for evacuation when necessary

- All SOP's for each Disaster and for evacuation will be prepared.

4 NATURAL DISASTERS:

4.1EARTHQUAKE: SEISMIC ENVIRONMENT & PRECAUTIONS

Mitigation measure:

- As per the Seismic Zoning Map of India, Pune region falls under Seismic Zone-III. The structural design shall be certified as per IS reference code 1893 – 1984 and IS 13920-1993 criteria for earthquake resistant design of structures.

4.2 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 employees 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.

4.3 FLOODS:

Particularly in Pune, 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
- Mapping the areas within or leading in or out of the building that will be water logged, flooded or isolated due to the flood. The areas will be marked after completion of the project (as final ground levels etc. will be available after completion)
- Vulnerability of basement should be mapped
- Dewatering pumps shall be installed at vulnerable locations
- Drain has been designed to carry runoff generated from the rainfall
- Self-cleansing velocity (velocity >0.80) has been maintained to prevent the deposition of silt in drains.
- Silt collecting pit at manhole has been proposed at regular interval for drains

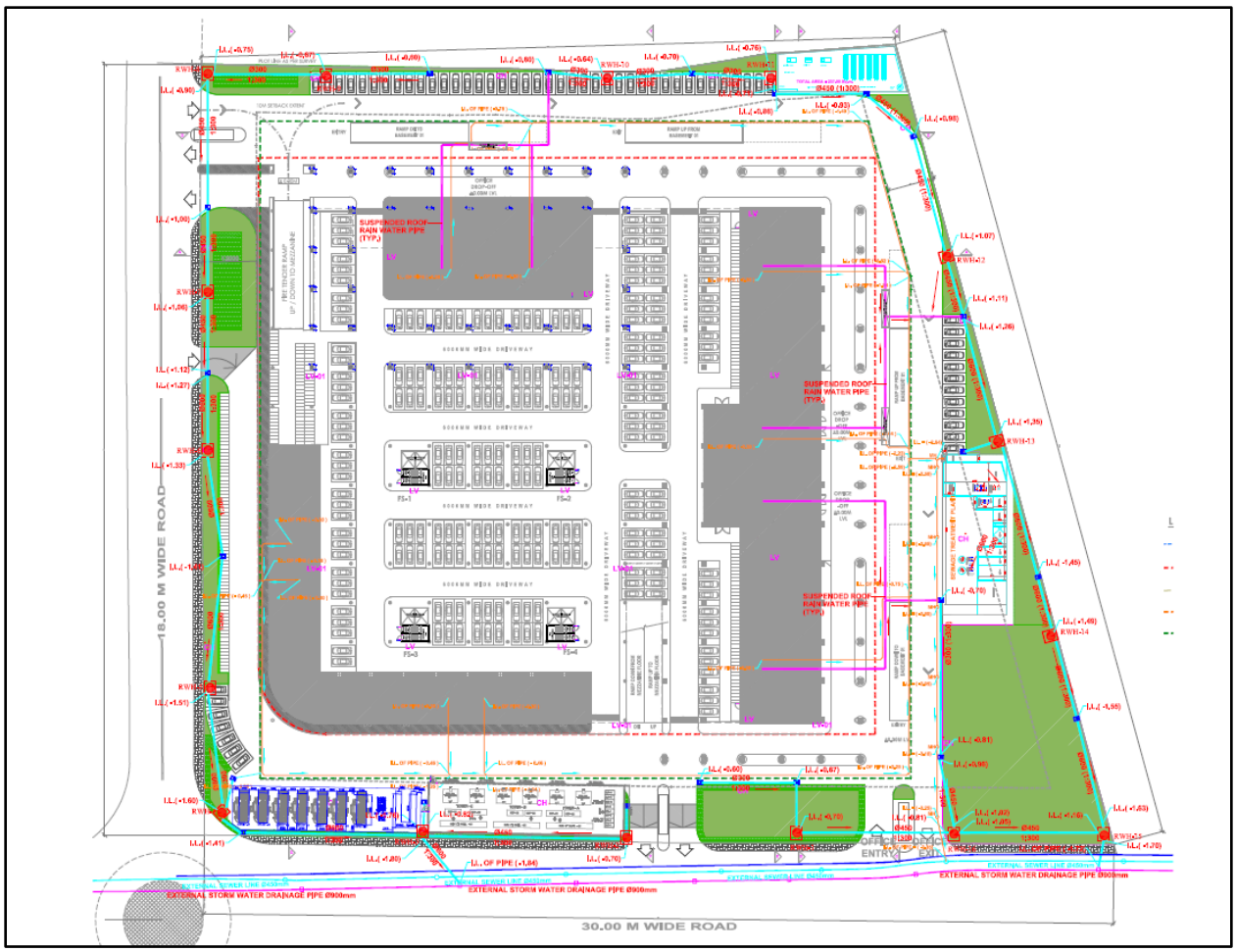

Figure 6: Storm water Layout

4.4 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 employees. It can also lead to short circuits, failure of power supply and fire.

Mitigation measure:

- Lightning arrestor systems is provided to abate the impact of lightning hazard.

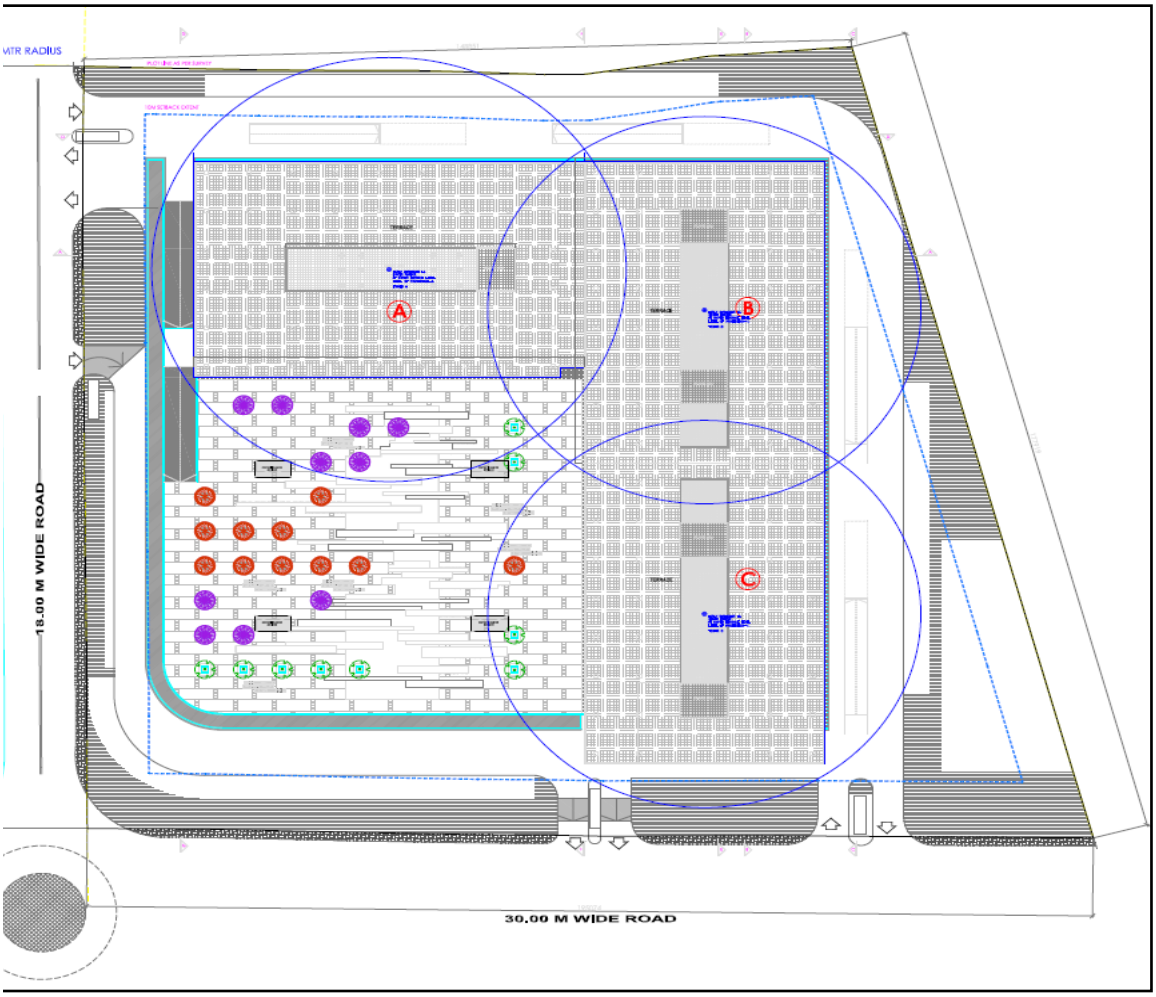

Figure 7: Lightning Arrestor Plan

5 MAN MADE DISASTER

5.1 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, trespass, damage, sabotage, or other illegal or criminal acts.

To carry out these plans, a definite chain of command must be established to achieve 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 Building Facility Head, Safety & 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, mailrooms, computer rooms, data centers, 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.
- Perhaps entrances and exits can be modified with a minimal expenditure to channel all visitors through someone at a reception desk. Individuals entering a building after normal business hours would be required to sign a register indicating the name and suite or floor number of the person they wish to visit. Employees at these reception desks could contact the person to be visited and advise him or her that a visitor, by name, is in the lobby.

➢ **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.

5.2 FIRE

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 No. 5 List of Inventory of Resources

Sr. No.	Description	Resource	Location
1.	Rescue Equipment	Steel ropes, ropes, chains, breathing apparatus, harness, torches, radium signal & symbol sign boards, walky talky, dust masks, tyres, Hammer, shovel, spade, mud pan etc.	At Disaster management control room
2.	Medical Equipments for emergencies	Wheel chairs, Stretchers, First aid box containing general medicines and equipments	At Disaster management control room First aid box also in security cabin at main entry gate
3.	Other emergency	Spare Fire extinguishers, hydraulic jacks,	At Disaster management control room

	tools	crab winch, pulleys	
4.	Other basic utilities and needs	Plastic bucket, plastic glass, plastic plates, blankets, some utensils and required food grains	At Disaster management control 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 control room for use during emergency. Appropriate signs and symbols will be displayed on each floor for evacuation & exit

- **Documental Inventory:**
  1) Safe work manual for electrical repairs 2) Periodic checks of Active fire protection systems 3) Ambulance, Hospitals and NGO's contacts nos. will be maintained in register

C) MAINTENANCE OF SYSTEMS/ EQUIPMENT NECESSARY FOR TACKLING DISASTER

- All the life saving appliance such as breathing apparatus, Fire extinguishers, Alarm & Public address system to be maintain properly and effectiveness of these should be checked during Mock Drill.

D) WARNING SYSTEM

- Building Admin Head will announce audio warning in case of fire, lightning, or likely flood situation from Disaster management control room of building. Each Office Security will be informed by Security section for preparation by telephone.
- In BMS room all the Area is monitored by the dedicated BMS personal & the client's Fire alarms are integrated with a common system to monitor/ identify the location of Fire. This person will raise an Alarm & inform the Security for further action.

➢ **Fires and Warning system & Mitigation measures**

- Fire is mainly caused in commercial complex/buildings 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 employees.

➢ **Fire Alarm & Detection System (warning System)**

- The fire alarm panel shall be located at the ground floor level with complete alarm and annunciation of the fire alarm and fire protection system. Repeater panel shall be located at designated locations as per requirement.

- Automatic fire detection and alarm system in the part basements, podium and lift lobby areas.
- Recess bell and flashing strobe light would be installed at each floor.

e) Devise system for two – way communication with the affected persons in the building especially in lifts and rooms

- Planned for 2 ways P.A System. In lift also P.A systems will be there.

f) Organize extensive training for disaster managers and assistants

- **Training Program:** Conduct regular mock drill and report to Disaster Management Committee

Table No. 6: Safety Drill 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	Safety & Security In-charge	Must report to Building Facility Head and maintain a log book
4	Lift security	3 months	Electrical & Maintenance head	Must report to Safety & Security In-charge and maintain a log book
5	Water management	3 months	Electrical & Maintenance head	Must report to Safety & Security In-charge
6	Safety kit check	6 months	Safety & Security In-charge	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; well trained staff will guarantee that these crucial steps are taken as quickly as possible. Drills and exercises are an extremely important part of the preparedness plan because they

- Teach the employees 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 employees 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

6 RESPONSE PLAN

Identify site disaster manager for handling disasters with clearly enumerated functions

- Building Facility Head will operate building with clearly enumerated functions during operation phase M/s. Balewadi Tech Park Pvt. Ltd will elect a Building Facility Head for handling disasters with clearly enumerated functions by keeping in view the following qualification

  - **Qualification required for Disaster Manager (Building In-charge) 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

6.1 CONTROL ROOM

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

- 24 x 7 fully functional Security control room at main entry gate .

Security Control Room during operation phase is at the main entry gate:

The traffic in the commercial area comprises

- Employees of the building
- Regular servants
- Vendors
- Visitors to the companies
- Representatives of public bodies, couriers companies etc.
- The traffic could be mobile or pedestrian

The Security control is at the main entry gate. Entries will be controlled as follows:

i)	Employee Members Pedestrian	•	Recognition
		•	Distinct identity card for each member
		•	ID through a card
	Automobile	•	Recognition of car
		•	Car Pass
		•	Car Pass through a Authorized Entry stickers and boom gate.
		•	Car parked in the allotted slot in the car park.
ii)	Regular Servants	•	Recognition
		•	Distinct ID Card
		•	ID through card and entry + exit recorded.
iii)	Vendors	•	Temporary pass with time validity (with the consent of Resident)
		•	Temporary ID card and entry + exit recorded
iv)	Visitors to the Residents		
	Pedestrians	•	Distinct ID card
		•	Temporary ID card and entry + exit recorded.
	Automobile	•	Dedicated car park near the main gate
		•	Distinct ID card
		•	Temporary ID card and entry + exit recorded.
v)	Representatives of Public bodies, courier companies etc.	•	Temporary Pass with time validity
		•	Temporary ID card and entry + exit recorded.

Surveillance Security System (SSS):

- CCTV at common areas, security cabin at main gate and common entrance of buildings with 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.

b) Display proper maps Telephone nos. of disaster controlling authorities showing fire fighting equipments, refuge floors, sprinklers system etc.

6.1 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 will be prepared and distributed to all members within the building and later for off-site plan to neighborhood. This information will be updated every six months before safety drills. The information thus updated should also be shared with employees.

6.2 FIRE FIGHTING EQUIPMENTS, REFUGE FLOORS, 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.
- Provision of External hydrant along building periphery
- Wet riser system in all staircases with one internal fire hydrant & hose reel for each building
- Automatic Sprinkler system in public areas such as car parks, lift lobbies in wings
- Fire extinguishers at dedicated location given by CFO received NOC
- Fire alarms & detection system with Digital voice evacuation system will be provided in Parking, room area & lift lobby at each floor
- Terrace Booster pump with hydrant & sprinkler jockey pump is provided .
- Underground & Overhead fire water storage tank of adequate capacity

System Description:

Hydrant System:-

- 150 mm wet riser cum down comer provided in each staircase.
- Landing valve, with hose reel drum and 2 nos. canvass hose of 15m length, on each landing floor of stair case.
- Ring main of 150mm dia.
- External Courtyard hydrants on ground floor and podium.

Pumping Machinery: -

- Main Hydrant Pump

– 2850 lpm at 120 mt head

- Jockey Pump (Common for Hydrant and Sprinkler)

– 180 lpm at 120 mt head

- Terrace Booster Pump

– 900 lpm at 35 mt head for each tower – 2 nos

Sprinkler System :-

150 mm wet riser

Sprinkler will be provided in entire premises including parking areas, lobbies and inside offices.

Pumping Machinery: -

- Main Sprinkler Pump

– 2850 lpm at 120 mt head

- Diesel pump

– 2850 lpm at 120 mt head

The pumps are alternately powered through D.G. set.

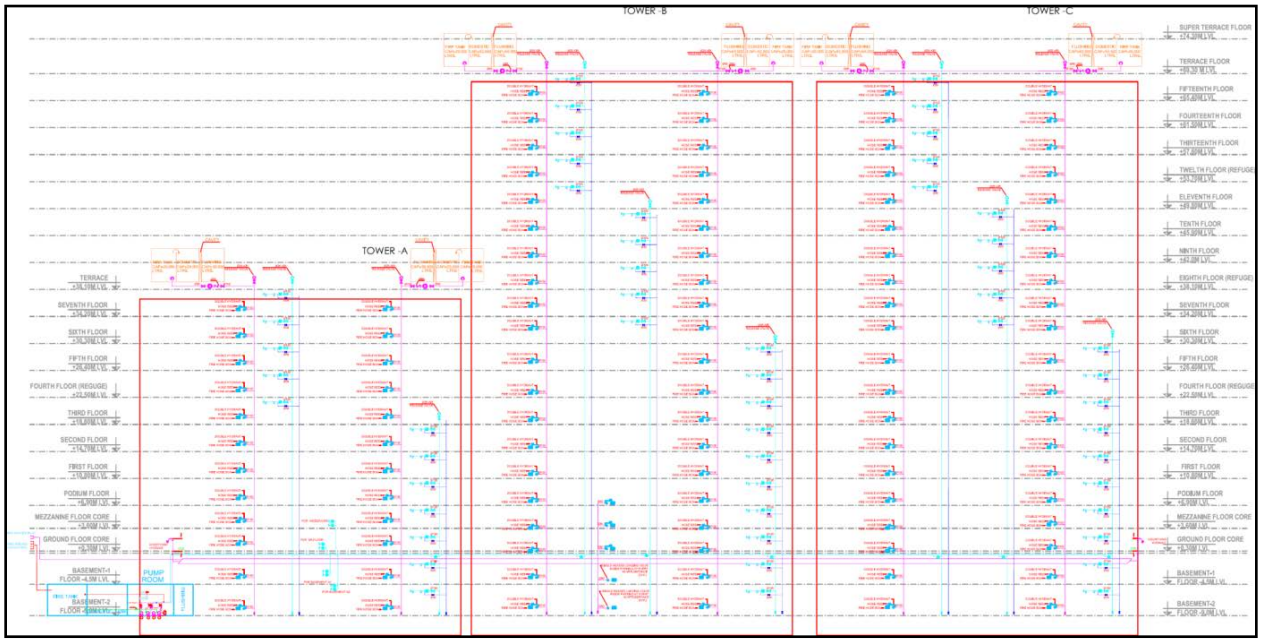

Figure 8: Fire Fighting Schematic Section

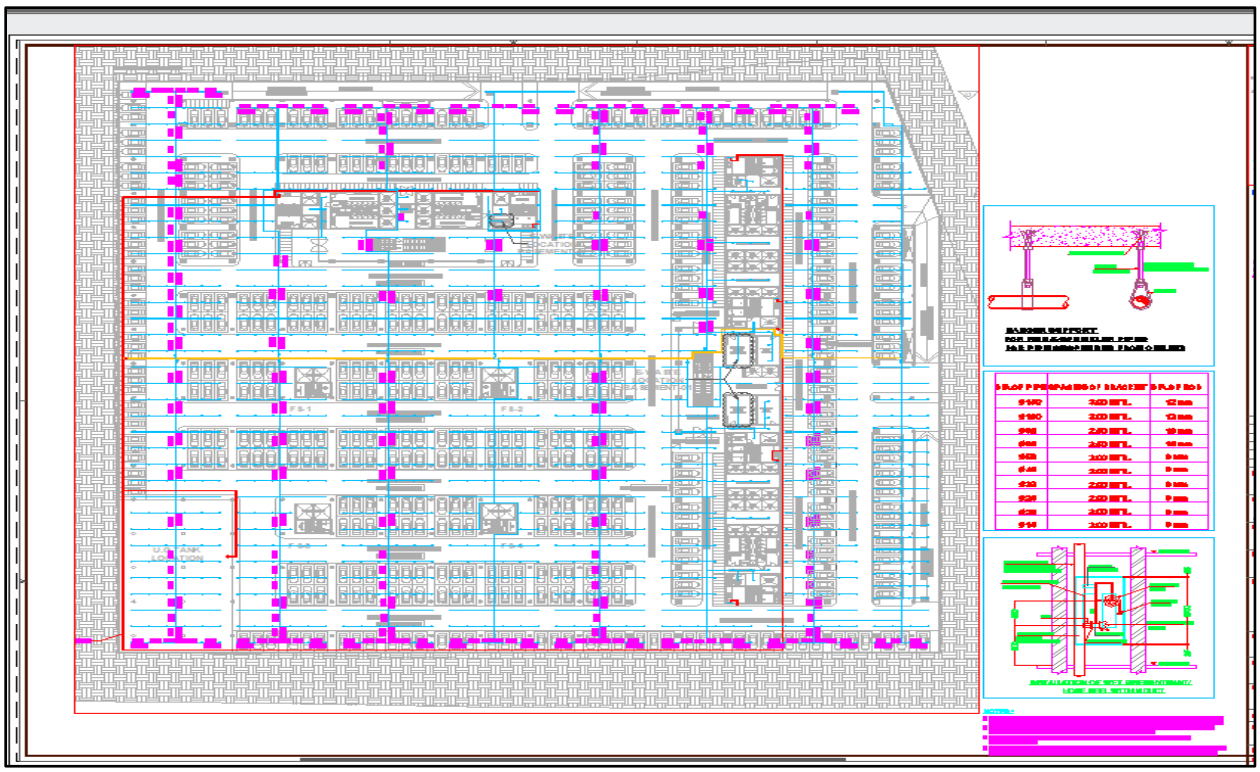

Figure 9: Basement Sprinkler Layout at Basement 1

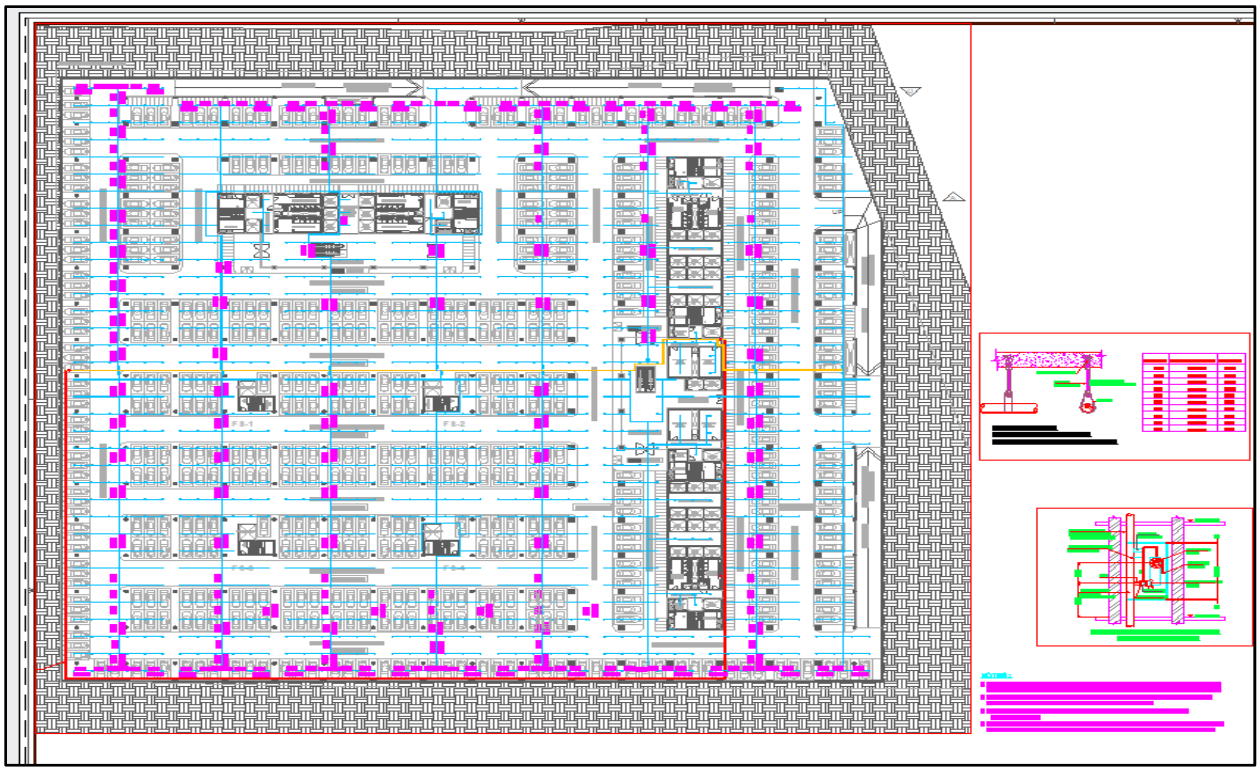

Figure 10: Basement Sprinkler Layout at Basement 2

- **Water curtain system:**
  - Automatic dry type water curtain system shall be provided on every floor from inside of the façade as requirement.

- **Sprinklers system:**
  - Sprinklers shall be distributed throughout the Parking areas, the office floors and common areas as requirement.
  - The sprinkler pump shall be suitable for automatic operation in case of a drop of pressure in the system. Sprinklers shall be provided throughout the building with a separate sprinkler riser. All the risers shall be provided with installation control valves. An electrical sensor switch shall be provided on each floor and connected to the fire control panel in the security room to make it possible to identify the location of effected floor immediately.

- **Portable Fire Extinguishers:**
  - Provision of ABC type, CO_2 type, Foam type and dry chemical type fire extinguisher throughout the building at parking areas, ground and each floor lobby and staircase at designated location as per requirement.
  - The appliance shall be so distributed over the entire floor area that one person has to travel not more than 15mtrs to reach the nearest appliance.

- **Emergency & Escape Lighting**

  Emergency Lighting shall be powered from a source independent of that supplying the normal lighting. The escape lighting shall be capable of:
  - Indicating clearly and unambiguously the escape routes
  - Providing adequate illumination along such routes to allow safe movement of persons towards and through the exit
  - Ensuring the fire alarm call points and fire fighting equipments providing along the escape routes can be readily located
  - Signs shall be provided at all exits, emergency exits and escape route
  -

Table No. 7: Staircase & Fire escape lifts

Building details	Nos. of staircases	Nos. of fire lifts
TOWER A	2	1
TOWER B	2	1

6.3 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 employees 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.
A diesel generator is the combination of a diesel engine with an electrical generator (often called an alternator) to generate electric energy. Diesel generating sets are used in places without connection to the power grid or as emergency power-supply if the grid fails. The packaged combination of a diesel engine, a generator and various ancillary devices (such as base, canopy, sound attenuation, control systems, circuit breakers, jacket water heaters and starting system) is referred to as a generating set or a genset for short.

- **Mitigation measures on Power failures:**

Provision of 7 Nos. of Diesel generators for Tower A,B,Cof withcapacities2000 kVAeach.

The diesel generator will backup common area lighting, fire fighting pumps, 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. Running of D.G sets in parallel with supply or parallel operation of D.G. sets / USS is not proposed.

- **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 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

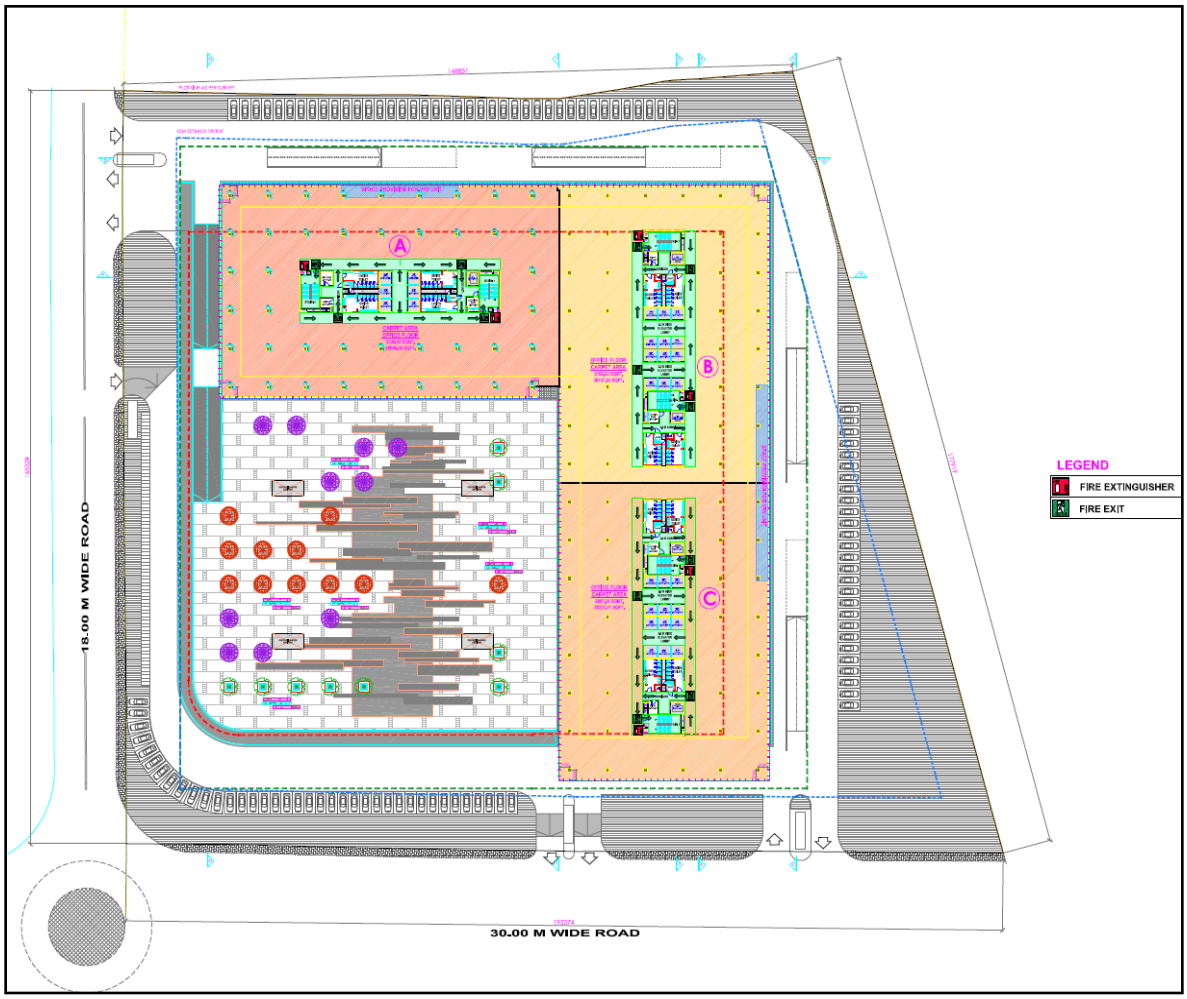

Figure 11: Typical Floor Evacuation Layout

6.4 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 Head, Bouncers, Safety & 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 employees 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, Safety & 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.
- Evacuation Plan will be displayed at 4 nos. on each floor in Lift Lobby and One Plan in each Refuge area.

Table No. 8: Refuge floors

Building No	Location of refuge areas
TOWER A	4^{TH} FLOOR
TOWER B	4^{TH} FLOOR, 8^{TH} FLOOR & 12^{TH} FLOOR
TOWER C	4^{TH} FLOOR, 8^{TH} FLOOR & 12^{TH} FLOOR

- **Fire Engine Movement**

The site layout & Fire Engine Movement has been shown, for the site.

An adequate space between the towers has been provided to limit the spread of fire, to provide escape and to provide access for fire-fighting equipment and vehicle

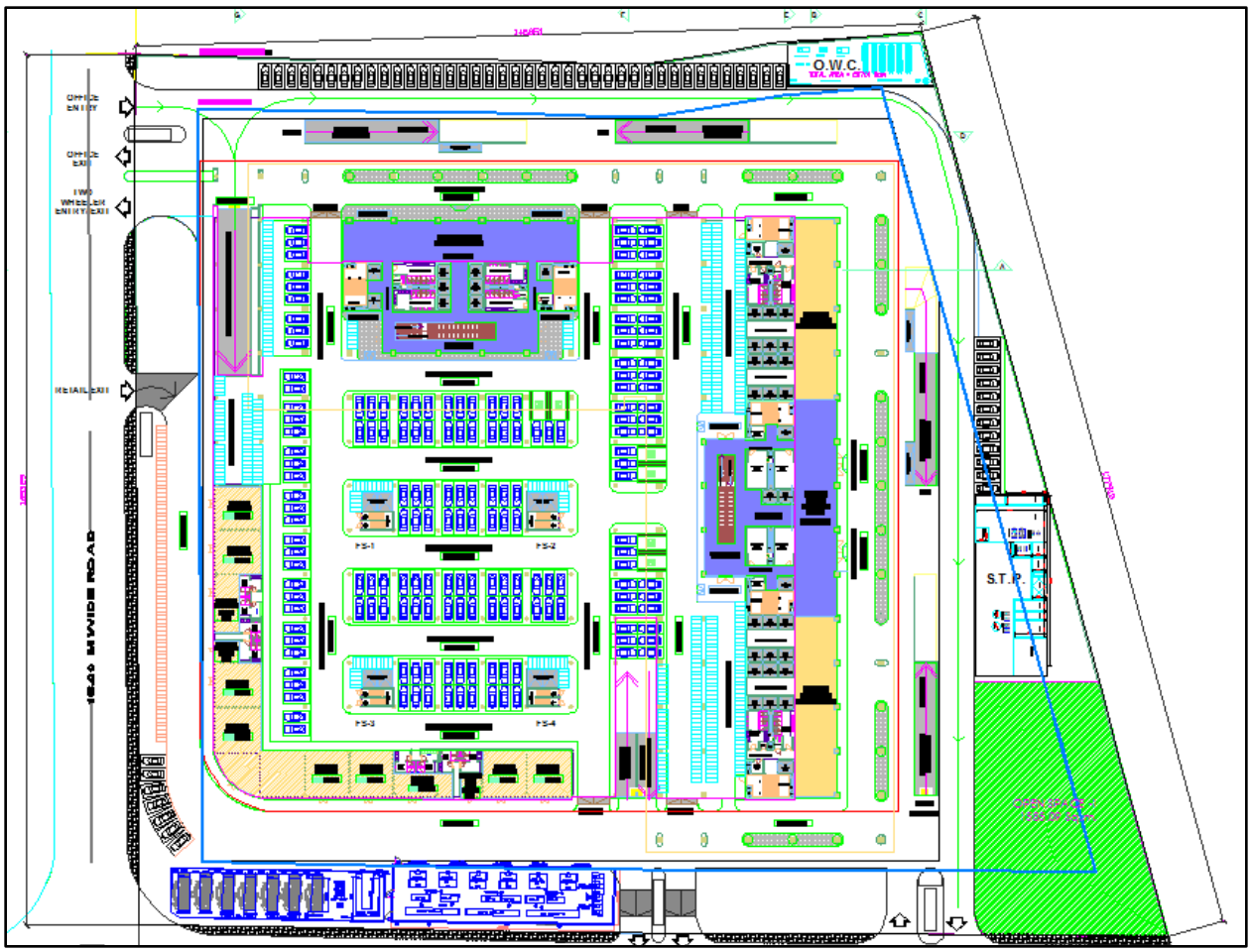

Figure 12: Fire Engine Movement Plan - Ground Floor

- **Demonstration/ Civil Disturbance Procedures**

Most demonstrations are peaceful and if one is conducted near or in your building, carry on business 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 business 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 employees 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

6.5 ON-SITE OF DISASTER

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

- Safety and security in charge along with BMS staff will take charge and give guidance over public address system during operation phase from BMS control room located at Basement level for proposed building 2 and ground level for existing building 1.

b) Call for outside assistance of fire brigade, Hospitals, ambulances
Emergency numbers of Fire Brigade, Hospitals & ambulances

Sr. No	Name / Location	Numbers	Approx. Distance
1	Police Station	100	5 KM
2	Fire Station	101	5 KM
3	Ambulance	102	5KM
4	Pune Police Control No.	020-26122880	
5	Chaturshingi Police Station	020-25655333	8 KM
6	Sancheti Hospital	020-28999876	12 KM
7	Ratna Hospital	020-25611032	10 KM
8	Fire Station Aundh	020-25851788	5 KM
9	Mr. Patudhkar Fire Station Officer	9689930009	5 KM
10	Hinjewadi police station	020-22934622/100	5 KM
11	Hinjewadi MIDC fire brigade	020-22933101/ 101	7 KM
12	Fire brigade PCMC Pimpri	020-27423333/101	12 KM
13	Fire brigade Aundh	020-25851788	5 KM
14	Aditya Birla Hospital Chinchwad	020-30717615/ 30717500	7 KM
15	Khadki Fire Station	020-25817510	15 KM
16	MSEDCL Balewadi Substation.	7875728457	1 KM

c) Ensure adequate warning before switching off power

- We do switch off the power only for maintenance & with prior intimation to the related employees. In case of sudden power failure we have DG power back up & all the DGs are synchronized & started automatically upon sensing the power failure & give the power back up through ATS. (Auto Transfer Switch)
- In case of emergency power shut down, lifts will come to nearest floor & open its doors as all the lifts are equipped with ARDS. (Auto Rescue Device).
- The respective floor admin will ensure for 100% evacuation as they have equipped with CCTV, smoke detection & auto opening of emergency doors at their floors.
- Bouncers on each floor will confirm with security guard of his floor offices and then will provide this info to the control room before getting emergency electrical switch off
- Emergency Electrical shutdown switch is provided at ground floor level in Sale Building will be operated by only authorized person under instruction of Safety & Security In-charge
- All announcements will be done with good quality equipments

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

- Periodical mock drill will be arranged by the Safety & Security In-charge
- Through training & info will to employees about the available rescue sources, rescue plans
- Assurance will be given to employees that evacuation will be done by trained volunteers, so employees will be trained that how to co-operate with volunteer during disaster
- All the Elevators are operated by trained attendants & available 24 X 7
- Comprehensive AMC is awarded to the Lift manufacturer who assures the proper & safe operations of the Lifts.
- Emergency 24 x 7 contact nos. & lift supervisors are displayed in the lifts

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

6.6 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 exist 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 you are 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

6.7 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
- If the situation is life threatening, call emergency hotline of Mumbai
- 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

g) Take steps to reduce/ eliminate panic

- Periodical training to internal volunteers & members.
- Periodical mock drills to all employees, members' volunteers and staff.
- Evacuation assurance to employees by trained personals or external force volunteers during emergency

h) Liaise with law and order machinery

- Building Facility Head after occupancy of project will liaise with police Fire Brigade, Civil Defense &MSEDCL etc.

7 PREVENTIVE MEASURE

- Arrangement of periodical training for each disaster & equipment
- Provided Fire detection & fighting systems
- Automation will be there for warning system
- Security staff full trained
- One Copy of SOP to all Offices
- 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 & plan wise evacuation training to volunteers for emergency.
- Provision of pressurized staircase
- Provision of separate in and out ramps for vehicle movement in parking podiums

a) Regular inspection of equipment and systems mandated by Chief Fire Officer in the NOC granted

- Preventive maintenance will be carried out monthly by trained and O&M employed contractors
- Preventive maintenance will also be carried out after checking equipments during and mock drills.

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 O & M person.
- Electrical and lift maintenance will be carried out by an in house electrician & maintenance person

d) Electricity safety measures proposed:

- Circuit breaker is proposed with earth fault and overcurrent relay for transformer & System protection.
- 22 KV grade rubber matting is proposed in substation along with 22 KV danger board sign on all high voltage equipment.
- 4.5 Kg. Co2 fire extinguishers proposed in substation and in all electrical rooms.
- Laminated first aid chart with frame & First aid box in Substation & in Electrical panel room proposed.
- 22 KV class hand glovesIn Substation & in Electrical panel room proposed.
- Earthing and lightening protection shall be provided as IE rules and IS 3043.
- Each 3 phase load shall be provided with two distinct earthing.
- ELCB protection is proposed in sub distribution board forprotection against any leakage current.

8 SUMMARY:

Prepare employees in your building ahead of time for emergency evacuations. Know your building employees. Train staff, faculty, and students to be aware of the needs of people with disabilities and to know how to offer assistance. Hold evacuation drills in which employees 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 BC.

9 CONCLUSION:

M/s. Balewadi Tech Park Pvt. Ltd. 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.)