RISK ASSESSMENT

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 from project construction and development. This assists in illustrating the guidelines for preparation of disaster management plan which will be executed to handle the situation if any emergency. Following are the risks that are identified in buildings.

7.1 FIRE RISK

Fire is mainly caused in residential complex due to negligence, short circuits and malfunctioning of gas regulator, tube and such related products.

At the proposed project, hazard occurrence may result in on-site implications like:

• Fire and/or explosion;
• Leakage of flammable material and leading to fire;
• Natural calamities like earthquake etc.

There are two worst-case scenarios for fires in buildings:

• If fire takes place at lower floors with high intensity such that even after it is being extinguished, it could damage the building structure on term point of view.
• A fire originating on the building’s lower floors is able to spread throughout all the levels of the structure.

In spite of the clear gravity of the above scenarios, these types of fire have happened rarely in tall buildings. More typically, fires in tall buildings yield only partial structural damage. However, losses of life and property can still be substantial.

Emergency prevention through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and consequential effect of such eventualities. However, it is not possible to totally eliminate such eventualities and random failures of equipment or human errors, omissions and unsafe acts cannot be ruled out. An essential part of major hazard control has therefore, to be concerned with mitigating the effects of such emergency and restoration to normalcy at the earliest.

The overall objective of a disaster management plan 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 or hazard on people and property;
3. Effect the rescue and medical treatment of casualties;
4. Safeguard other people;
5. Evacuate people to safe areas;
6. Informing and collaborating with statutory authorities;
7. Provide authoritative information to news media;
8. Initially contain and ultimately bring the incident under control;
9. Preserve relevant records and equipment for the subsequent enquiry into the cause and circumstances of the emergency; and
10. Investigating and taking steps to prevent reoccurrence

The DMP has therefore to be related to the identification of sources from which hazards can arise in the concerned area. The plan takes into account actions that can successfully mitigate the effects of losses/ Emergency need to be well planned so as they would require less effort and resources to control and terminate emergencies.

7.2 PUBLIC SAFETY

The incidence of fire or other disasters occurring in buildings often endangers the safety of the persons working in the structure, in the event of an emergency. People present in such structures often do not know proper emergency procedures, aggravating fire and/or causing injury and death.

The only way of reducing the damage to public life and property is by conducting fire safety drills and installing well equipped fire safety equipment's such as smoke detectors, heat sensors, sprinklers, hose reel, fire panels and fire alarms. The people working in building should be made well conversant with emergency procedures, such as closing doors when fleeing a fire, as well as staying in apartments, rather than attempting to escape.

It is recommended that mock-drills should be carried out at least once in six months.

7.3 TERRORISM

Very tall buildings, which often serve as corporate, municipal, or national symbols; they become the targets for terrorist attack. Appropriate security measures would be taken in and around to ensure limited access to key areas, such as attached parking garages where bombs can be easily placed. Building management would carry out surprise checks. The building management will have the record of all the visitors in the building.

7.4 EMERGENCY RESPONSE

7.4.1 Emergency Situations

These are defined as the following:
- Any fire or explosion in the premises
• Any smoke outside / inside premises
• Exercise fire drill

7.4.2 Emergency Response in Case of Emergency

Basic Actions:
• Immediate and prompt action is the most important factor in the emergency control
• Immediate steps to stop fire and raise alarm simultaneously.
• Personnel without any specific duties should assemble at the nominated place.
• All vehicles except those that are required for emergency use should be moved away from the operating area in an orderly manner at pre nominated route.
• Electrical system except the lighting and fire fighting system would be isolated and be kept separate in the proposed building.

If the feed to the fire cannot be cut off, the fire must be controlled and not extinguished. Some of the measures that could be followed are:
• Start water spray systems in the areas involved in or exposed to fire risks.
• Block all roads in the adjacent area and enlist support for the purpose, if warranted.

7.4.3 Actions in the Event of Fire:

Basic actions will be same as detailed above.

• **Extinguishing fires**: A small fire at a point of leakage should be extinguished by enveloping with a water spray or a suitable smothering agent such as CO₂ or DCP. However, fire should not, unless under exceptional circumstances, be extinguished until the escape or leakage of product (e.g. LPG) has been stopped.

• Fire fighting personnel working in or close to fire, must be protected continuously by water sprays. Fire fighters should advance towards the fire downwind if possible.

• In case the only valve that can be used to stop the leakage is surrounded by fire, it may be possible to close it manually. The person attempting the closure should be continuously protected by water sprays, fire entry suit, water jet blanket etc. The person must be equipped with a safety belt and a manned lifeline.

7.4.4 Leakage from a LPG cylinder (canteen area) without fire:

• Cordon off the area around 30 meters radius so that no vehicle or source of ignition approached the area. Attempt must be made to close the control/ manual valve.
Open all windows to increase ventilation and hence prevent build up of vapor cloud.

Avoid getting entrapped in the cloud vapor.

Warn the surrounding areas to put off all naked flames.

**7.4.5 Response sequence for dangerous situations:**

Person noticing the fire should attempt to isolate and extinguish the fire with the available equipment and inform or arrange to inform the security regarding the following:

- Location of the fire
- What is burning like material or clothes or structure or anything else
- The extent of fire

Security on duty coordinators will:

- Must respond accordingly and coordinate all the activities
- Arrange to send the necessary fire fighting equipment to the place of the incident
- Extinguish the fire with the available equipment.

**7.4 6 Post Emergency Follow Up**

- All cases of fire occurrence, no matter how small or big, must be reported promptly to the Coordinator for follow up.
- Under no circumstances should fire extinguishing equipment once used be returned to its fixed location before it is recharged/ certified fit by the Fire chief/ Safety Manager.
- Used fire extinguishers must be laid horizontally to indicate that they have been expended.

**7.5  MEDICAL AID**

First aid kit box must be maintained at each floor. It should at least have medicinal aid for burns and some asphyxiation. If needed, help from the nearby city hospitals should be obtained.

**7.6  RESPONSE EVALUATION, TESTING & UPDATING OF THE PLAN**

Formulation of a Disaster Management Plan cannot possibly be an end by itself. It needs to be amended by holding of periodical mock emergency simulation and drill. Any shortcomings revealed during such exercise should thereafter be corrected by amending the plan.
The plan should be reviewed at periodic intervals. The plan should be also reviewed and updated when:

- Major alteration or extension of existing structure is carried out.
- Major change in habitation or land use of the neighbourhoods takes place.
- Important telephone numbers used are altered or changed.

Mock drills activities should be conducted periodically for ensuring its efficiency during emergency as well as for refinement and upgradation. These drills based on the plan will help achieve its objectives of the disaster management plan.

Table 7.1: Building Emergency Plan

<table>
<thead>
<tr>
<th>Building Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Name</td>
</tr>
<tr>
<td>Building Coordinator Name</td>
</tr>
<tr>
<td>Audible and Visible Alarms</td>
</tr>
<tr>
<td>Emergency Assembly Area Location</td>
</tr>
<tr>
<td>Emergency Management Area Number</td>
</tr>
<tr>
<td>Emergency Management Area Assembly Area Location</td>
</tr>
<tr>
<td>Departments</td>
</tr>
<tr>
<td>Building Emergency Committee</td>
</tr>
<tr>
<td>Emergency Staff</td>
</tr>
<tr>
<td>Alternate BC Name</td>
</tr>
<tr>
<td>Potential Fire Hazards</td>
</tr>
<tr>
<td>Fire Prevention Procedures</td>
</tr>
<tr>
<td>Critical Operations Found in Building</td>
</tr>
<tr>
<td>Medical and Rescue Duties for Employees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPORTANT PHONE NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Numbers for Life-Threatening Emergencies</td>
</tr>
<tr>
<td>Where to Get Information During a Large-Scale Emergency</td>
</tr>
<tr>
<td>What to Do When You Hear Building Warning Sirens / Signs</td>
</tr>
<tr>
<td>Telephone Numbers for Non-Life Threatening Emergencies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMERGENCY PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Notification Procedures</td>
</tr>
</tbody>
</table>
## Risk Assessment

### Evacuation Procedures

### Fire Procedures

### Earthquake Procedures

### Demonstration/ Civil Disturbance Procedures

### Criminal or Violent Behavior

### Explosion or Bomb Threat Procedures

### Hazardous Materials Release Procedures

### Utility Failure

### Elevator Failure

### Flooding, Plumbing or Steam Line Failure

### Natural Gas Release or Leak

### Ventilation Problem

### Emergency Preparedness

### Supplies

### Training and Documentation

### Drills

### Securing Building Contents

### Appendices

**Appendix A**: Acronyms and Terms

**Appendix B**: Evacuation Policy for People with Disabilities

**Appendix C**: Emergency Preparedness Guidelines for People with Disabilities

**Appendix D**: Building Alerting and Warning System

**Appendix E**: Support Plans and Links

### 7.7 Building Emergency Plan

As the proposed residential complex will be of high rises, hence as the occupant, it is their responsibility to be familiar with this plan. If one has questions, they must consult Building Coordinator. As you read this document, pay particular attention to:

- Evacuation routes, exit points, and the location of your Emergency Assembly Area when and how to evacuate the building.
- Locations of emergency equipment, supplies, and materials, such as fire extinguishers, alarms, first aid kits, wheel-chairs, stretchers and all such relevant material.
- Proper procedures for notifying emergency responders about an emergency.
• Your emergency responsibilities, if you are assigned any, such as being a roll taker or floor or wing monitor
• Potential fire hazards in your building (e.g. parking floors)
• Potential exposure to hazardous materials or processes in and around your work area, and means of protecting yourself in the event of an emergency
• Each typical floor will be provided the fire escape path towards refuge floor. Each floor has the fire escape passages.
• As the typical floor will have one hence the area will be sufficient for emergency assembly. Fire fighting duct is going to provide on each floor to limit the spread of smoke and fire.

The fire tender movement is shown in figure below
Figure 7.1: Fire tender Movement Plan
7.7.1 BUILDING INFORMATION

1) Building Name:

2a) Co-Building Coordinator (BC) Name: Mr. _______ Address: _______ Phone No._______ Email: XXXXX@XXX.

2b) Co-Building Coordinator (BC) Name: Mr. _______ Address: _______ Phone No._______ Email: XXXXX@XXX.

3a) Alternate BC Name: _______________________ Address: ____________________ Phone No.____________________ Email: XXXX@XXX.XX

3b) Alternate BC Name: _______________________ Address: ____________________ Phone No.____________________ Email: XXXX@XXX.XX

4) Emergency Assembly Area (EAA) Location: _________________________________

5) Emergency Management Area (EMA) Number:

7.7.2 EMA Assembly Area Location:

Emergency Operation Centre (EOC) address and number:
Building Office address & Numbers to contact during emergency:

B. Floor Monitors:
One for each accessible floor.
A floor monitor is a building occupant assigned to assist with a building evacuation during an emergency by alerting other occupants on their way out of the building.

<table>
<thead>
<tr>
<th>FLOOR</th>
<th>WING</th>
<th>FLOOR MONITOR</th>
<th>Contact No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.7.3 Audible and Visible Alarm(s):

a) Fire Alarm Sound: Recess bell and flashing strobe light would be installed at each floor, at least at two different locations per floor

b) Elevator Alarm Sound: Recess bell. If you are trapped in the elevator, use the emergency telephone to call for assistance.

c) Burglar alarm: Low volume, high pitched beep at control panels.

7.7.4 Potential Fire Hazards:

The following are the potential fire hazards identified in this building:

1) High risk flammable liquid in form of fuel at common parking floors.
2) **Combustible materials (e.g. paper, cardboard, wood, etc.).**

There will be proper storage of the combustible material like paper, cardboards, and woods. Location mapping for the same would be carried out at the time of commissioning.

There will be proper segregation of such non biodegradable waste. Proper colour dust bin will be provided to collect such waste.

Fire extinguishers would be inspected and recharged periodically. Data for the same would be maintained by society manager and report would be submitted to nearby fire station.

8) **Fire Prevention Procedures:**

Measures would be taken and awareness would be spread among visitors / officers not to store flammable items in parking spaces.

Parking of vehicles would be controlled and monitored; parking lots would be provided with sprinkler system and they would be strictly no-smoking zone; vehicle identification & tagging system would be in place.

9) **Medical and Rescue Duties for Employees** No occupant has been assigned medical or rescue duties during an emergency situation in this building. There may be some occupants who have volunteered and been trained for building search and rescue or Disaster First Aid by any professional agency or by any government agencies for building disaster situations (e.g. a large earthquake). These volunteers will report to the Emergency Management teams in a disaster.

7.8 **IMPORTANT PHONE NUMBERS**

Copy this page and post it near your work phone for easy reference.

**Table 7.2: Building telephone numbers for life-threatening emergencies:**

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Brigade: (Fire Station, Balkum)</td>
<td>(022)-25363101</td>
</tr>
<tr>
<td><strong>Ambulance</strong></td>
<td></td>
</tr>
<tr>
<td>Jeevan Ambulance service</td>
<td>(022)-49175989</td>
</tr>
<tr>
<td>Pushpak Cardiac ambulance</td>
<td>(022)-25438499,</td>
</tr>
<tr>
<td><strong>Hospital</strong></td>
<td></td>
</tr>
<tr>
<td>Hiranadani Hospital</td>
<td>(022)-25458666</td>
</tr>
<tr>
<td>Jupiter Hospital</td>
<td>(022)-21725555</td>
</tr>
<tr>
<td>(TMC) Control Room</td>
<td></td>
</tr>
<tr>
<td>Emergency Operation Centre (EOC)</td>
<td></td>
</tr>
<tr>
<td>Thane Emergency Phone Numbers - Secretary</td>
<td></td>
</tr>
</tbody>
</table>
Table 7.3: Telephone numbers for non-life threatening emergencies:

<table>
<thead>
<tr>
<th>Service</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Police</td>
<td>+(91)-22-25330098</td>
</tr>
<tr>
<td>Society / Building Office</td>
<td></td>
</tr>
<tr>
<td>Facilities Services</td>
<td></td>
</tr>
<tr>
<td>Society / Property Manager</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>SPECIFIC SERVICE VENDORS:</td>
<td></td>
</tr>
<tr>
<td>* Security:</td>
<td></td>
</tr>
<tr>
<td>* Parking:</td>
<td></td>
</tr>
<tr>
<td>* Alarm: (fire)</td>
<td></td>
</tr>
<tr>
<td>* Alarm: (burglar alarm)</td>
<td></td>
</tr>
<tr>
<td>* Elevator:</td>
<td></td>
</tr>
<tr>
<td>* Electrician:</td>
<td></td>
</tr>
<tr>
<td>* HVAC (heating/air):</td>
<td></td>
</tr>
<tr>
<td>* Pest Control:</td>
<td></td>
</tr>
<tr>
<td>* Plumber: (primary)</td>
<td></td>
</tr>
<tr>
<td>(alternate)</td>
<td></td>
</tr>
<tr>
<td>* Roofer: Roof Management</td>
<td></td>
</tr>
<tr>
<td>* Water Removal:</td>
<td></td>
</tr>
<tr>
<td>* Locksmith:</td>
<td></td>
</tr>
</tbody>
</table>

a) Custodial Services through Property Manager, Mr. XXXXXXXXXX at mobile:_____

b) Medical Facilities:

c) Fire services:
d) Medical Care Centre (building’s or nearby – not for life threatening cases)

3. Where to Get Information during a Large-Scale Emergency:

Building emergency information line:

Building emergency web site http://

Thane emergency radio station: All India radio 1044 KHz

4. What to Do When You Hear Building Warning Sirens:

Sirens would be tested at noon on the first Wednesday of each month. If you hear the sirens at any other time

SHELTER: Go inside your room, or your car and shelter inside to avoid exposure.
SHUT: Shut doors and windows.
LISTEN: Go to one of the information sources listed above for Building emergency information.

7.9 EMERGENCY PROCEDURES

7.9.1 Emergency Notification Procedures:

When you call the emergency number to request emergency assistance, you will be connected mostly to the society’s office or Thane’s emergency cell. Call from a safe location, remain calm and be prepared to give them as much information about the emergency as you can (what the emergency is, where it is, if there are injuries and how serious, etc.) The receiver may ask questions so do not hang up until you are told to do so. The receiver may also give you instructions for your safety.

7.9.2 Evacuation Procedures:

A building occupant may be required by law to evacuate the building when the fire alarm starts. There may be instances where the building would be evacuated without a fire alarm sounding. For floors beyond 10, evacuation has to be done to the nearest refuge area through staircase exit only. All have to wait for further guidance / instruction / announcement from responsible person (Emergency coordinator, staff etc.) or through public address system before proceeding to emergency assembly area (EAA).

When evacuating your building or work area:

- The floor diagram will be provided to every floor which can show the entry and exist during evacuation.
- Proper sign showing the exit route towards the staircases would be provided.
• Primary evacuation routes leading to the designated assembly point (solid lines) would be provided.
• Secondary evacuation routes leading to the designated assembly point (dashed lines) would be provided.
• Proper assembly points will be fixed. The refuge floors are provided in the buildings as per the CFO NOC. The parts of the floors are refuge.
• Stay calm; do not rush or panic.
• Safely stop your work.
• If safe, gather your personal belongings.
• If safe, close door 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.
• Use the nearest stairs and proceed to the nearest exit. Do not use the elevator.
• Proceed to the designated refuge area and report to your roll taker.
• Proceed to the designated EAA and report to your roll taker.
• Wait for any instructions from emergency responders.
• Do not re-enter the building until the emergency responders instruct you.
• Location of all exit corridors, exit stairs, and exits serving the building would be marked and provided during commissioning stage.

7.9.3 Firefighting Procedures:
• A building occupant may be required by law to evacuate the building when the fire alarm begins.
• Immediately notify the fire department and sound alarm by pulling the alarm call lever. Call Thane emergency center from a safe location to provide details of the situation.
• If trained, able and safe (with a sure and safe exit), use a portable fire extinguisher to extinguish the fire. Evacuate if one extinguisher does not put out the fire.
• Evacuate the building as soon as the alarm sounds and proceed to the EAA.
• On your way out, warn others.
• Use stairs only; do not use elevators.
• Move away from fire and smoke. Close doors and windows if time permits.
• Touch closed doors. Do not open them if they are hot.
• Enter the building only when instructed to do so by emergency responders.

7.9.4 Earthquake Procedures:

During an earthquake:
Inside the Building:
Risk Assessment

- Duck under the nearest sturdy object and hold onto it until the shaking stops. If you are not near a sturdy object, make yourself as small as possible and cover your head and neck.
- If you stand in a doorway, brace yourself against the frame and watch out for a swinging door or other obstruction.
- Avoid windows, filing cabinets, bookcases, and other heavy objects that could fall or shatter.
- Stay under cover until the shaking stops, then leave the building and go to the EAA refuge area or another designated location. Report to your roll taker.
- If safe, before evacuating, neutralize / turn off any flammable source (cooking gas, electricity etc.) that could lead to further danger.

Outside the Building:

- Move away from trees, signs, buildings, electrical poles and wires, fires, and smoke.
- Protect your head with your arms from falling debris.
- Proceed to the EAA or a pre-designated alternate assembly area. Report to your roll taker.
- Stay alert for further instructions.

7.9.5 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 unbearable, or the crowd too large, feel free to close and lock your podium gate, doors and/or windows – 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.

7.9.6 Criminal or Violent Behavior:

Assist in making your work location a safe place by being alert to suspicious situations or persons and reporting them as outlined below.

If you are the victim of, are involved in, or a witness to any violation of the law such as assault, robbery, theft, overt sexual behavior, etc. call Police as soon as possible. If safe, wait for Police to provide them with more information.

7.9.7 Explosion or Bomb Threat Procedures:

A suspicious-looking box, package, object, or container in or near your area may be a bomb or explosive material. Do not handle or touch such object. Move to a safe area and call the Police immediately. Use a telephone from a safe area. Do not operate any power switches, and do not activate the fire alarm.
Risk Assessment

If there is an explosion:

- Take cover under sturdy furniture, or leave the building
- Stay away from windows.
- Do not light matches.
- Move away from the hazard site to a safe location.
- If instructed to evacuate, use the stairs only; do not use the elevators.

If you receive a bomb threat (via the telephone):

- Stay calm.
- Pay close attention to details. Talk to the caller to obtain as much information as possible.
- Take notes. Pay attention to details. Ask as many questions as possible:
  - When will it explode?
  - Where is it right now?
  - What does it look like?
  - What kind of bomb is it?
  - Where is it planted?
- Listen to the caller's voice. See if you can identify
  - Speech patterns (accent, tone)
  - Emotional state (angry, agitated, calm, etc.)
  - Background noise (traffic, people talking and accents, music and type, etc.)
  - Age and gender
- Write down other data:
  - How threat was received (letter, note, telephone)
- Call the Police and relay the information from the bomb threat telephone call or bomb threat letter. Follow the Police's instructions.
- Check your area for unfamiliar items. Do not touch suspicious items; report them to the Police.
- If you are told by emergency responders to evacuate the building, see "Evacuation Procedures".

7.9.8 Hazardous Materials Release Procedures:
If a hazardous material is released or spilled near you and you are not a user nor knowledgeable about hazardous materials, call Police immediately and move away from the release area. From a safe location, call the society Manager. List of hazardous materials would be provided at the time of commissioning and it would be amended from time to time.

7.9.9 Utility Failure:
In the event of a major utility failure, notify Facilities Services or the society Manager if you are off-Building in a leased space.
Evacuate the building if the fire alarm sounds and/or upon notification by Police. Do not panic; evacuate in an orderly manner, proceed to the EAA and wait for further instructions. In parking area do not operate during a power outage and vehicles should not be used until further instructions.

7.9.10 Flooding, Plumbing or related Failure:
If your building has a plumbing failure, a flood, or related failure: Cease using electrical equipment. Evacuate the building if necessary and proceed to the EAA. Call XXX Plumbing service or TMC. For water removal call XXXX Service.

7.9.11 Gas Release or Leak (PNG, LPG etc): If you smell natural gas: Cease all operations immediately. Do not operate light switches. Evacuate as soon as possible. Call the service providers emergency numbers Call Facilities Services or society Manager for leased space.

7.9.12 Ventilation Problem:
If you smell odors coming from the ventilation system: Immediately notify Facilities Services and service provider (if identified). Call society Manager and/or facilities manager / Services. If necessary, cease all operations immediately. If necessary, evacuate the building and proceed to the EAA. If smoke is detected, pull the fire alarm, and then call Police from a safe location.

7.10. EMERGENCY PREPAREDNESS

7.10.1 Supplies:
Be prepared for emergencies. The following supplies are recommended for your personal kit:
- Drinking water (4Litre a day; 3 days’ supply recommended)
- Food (keep airtight in pest-proof packaging)
- Flashlight and extra batteries
- Utility knife
- First aid kit with special personal needs such as prescription medication and glasses
- Sturdy, comfortable shoes and clean socks
Risk Assessment

- Space blanket or a standard blanket
- Light sticks
- Heavy duty work gloves
- Cash (with some change)
- Sanitation needs (such as tissue paper, small bottle of bleach, plastic bags, plastic bucket)
- Duct tape and barrier tape
- Paper, markers, pens and pencils
- Whistle
- Building & area map
- Antiseptics

Replace items when expired, or necessary.

7.10.2 Training and Documentation:
It is the responsibility of the occupant and inhabitants to become familiar with the BEP, to know evacuation routes and assembly areas, and to attend training(s) given by concerned authorities.

Other training recommended for building occupants includes CPR, first aid, and fire extinguisher training. Call TMC / Thane Disaster Management Cell for more information on CPR and first aid training, and for fire extinguisher training.

7.10.3 Drills:
Building evacuation drills are mandatory for all officers. Consult your Managing Committee if you wish to have an evacuation or fire drill in your building. The Managing Committee is responsible for conducting the drill and documenting it. Periodic report for the same would be submitted to nearest fire station and its officers.

7.10.4 Securing Building Contents:
Many earthquake-related injuries do not come from collapsing buildings, but from objects inside the building which fall on people, or from windows shattering and causing lacerations. Make sure that shelves, computers, wall hangings, and equipment are physically secured. You may conduct your own inspection of your office area. If there are concerns after your self-inspection, contact your managing committee.

The main things to look for are:

- Shelves or cabinets that are not bolted to the wall
- Computers on desks
- Objects on shelves which may fall or turn into projectiles
- Freestanding objects that do not have a high enough base: height ratio to be "fall proof" (e.g., a filing cabinet over 4 feet tall)
- Desks or seating areas directly under plate glass windows
- Heavy hanging pictures, mirrors, or plants
- Cupboards or cabinets without secure "automatic" latches
• Objects on wheels which are not locked in one position (e.g., an audiovisual cart)
• Heavy items which are above head height.
• Doorways that might be blocked by falling objects
• For more information about securing falling hazards, please contact your managing committee or Facilities Services.

7.11 APPENDICES

Appendix A:
Acronyms and Terms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEP</td>
<td>Building Emergency Plan</td>
</tr>
<tr>
<td>EAA</td>
<td>Emergency Assembly Area</td>
</tr>
<tr>
<td>EMA</td>
<td>Emergency Management Area</td>
</tr>
</tbody>
</table>

Building Emergency Plan: A document which consists of emergency information and procedures, activities for preparing for emergencies, and roles and responsibilities of building occupants.

Managing Committee: A team of people elected under Maharashtra Cooperative Society’s Act 1960 and relevant bye-laws thus entrusted with managing all the building and society’s affair.

Building Coordinator: The building who volunteers himself / herself for managing society’s affair under any and all circumstances including emergency.

Refuge Area: A pre-designated floor where members for select floors can be made to assemble for further action / movement or safety if deemed necessary. This is guided by law according to local fire authority.

EAA: A pre-designated safe location near a building where building occupants assemble and report to the roll taker(s) after evacuating the building.

EMA: EMAs are part of the overall Building disaster preparedness program activated and used by emergency responders in major disasters. The Building is divided into ___ (write nos.) EMAs. An EMA can be a section of Building, an off-Building area, or a satellite area. Each EMA has a designated location (signified by red dots and numbers on the Building map) that will be the site of an incident command post and focus of activity (e.g., dissemination of information, administration of first aid, etc.) in a major disaster.
EOC The Emergency Operation Centre - The headquarters for designated representatives of Building essential services, where Building response is coordinated and resources are allocated during a disaster.

Emergency Responder(s) Trained personnel who provide assistance in an emergency. They are not building occupants and may be from NGO’s, Police, local fire departments, Facilities Services, etc. In critical situations they may take charge of the building and have full authority over activities in and around the building.

Floor Monitor A building occupant assigned to assist with a building evacuation during an emergency by alerting other occupants on their way out of the building.

Roll Taker A building occupant assigned to take roll call at the EA after a building evacuation.

Appendix B:
For People with Disabilities

IN ALL EMERGENCIES, AFTER AN EVACUATION HAS BEEN ORDERED:

- Evacuate people with disabilities if possible.
- Do not use elevators, unless authorized to do so by police or fire personnel. Elevators could fail during a fire or a major earthquake.
- Check on people with special needs during an evacuation. A "buddy system", where people with disabilities arrange for volunteers (neighbors) to alert them and assist them in an emergency, is a good method.
- Attempt a rescue evacuation ONLY if you have experience of recuing a disable person or if you have been trained for the same.
- 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.

7.12 RESPONSES TO EMERGENCIES:

BLINDNESS OR VISUAL IMPAIRMENT Bomb Threat, Earthquake, Fire, Hazardous Materials Releases, and Power Outages:

- Give verbal instructions to them about the safest route or direction using compass directions, estimated distances, and directional terms.
- Do not grasp a visually impaired person’s arm. Ask if he or she would like to hold onto your arm as you exit, especially if there is debris or a crowd.
- Give other verbal instructions or information (i.e. elevators cannot be used).
7.13 DEAFNESS OR HEARING LOSS BOMB Threat, Earthquake, Fire, Hazardous Materials Releases, and Power Outages:

- Get the attention of a person with a hearing disability by touch and eye contact. Clearly state the problem. Gestures and pointing are helpful, but be prepared to write a brief statement if the person does not seem to understand.
- Offer visual instructions to advice of safest route or direction by pointing toward exits or evacuation maps.

MOBILITY IMPAIRMENT Bomb Threat, Earthquake, Fire, and Hazardous Materials Releases:

- It may be necessary to help clear the exit route of debris (if possible) so that the person with a disability can move out or to a safer area.
- If people with mobility impairments cannot exit, they should move to a safer area, e.g.
  - most enclosed stairwells
  - an area with the door shut which is a good distance from the hazard (and away from falling debris in the case of earthquakes)
- If you do not know the safer areas in your building, call the Building Facility services at XXXXXX or let building survey be done by professional agency.
- Notify police or fire personnel immediately about any people remaining in the building and their locations.
- If people are in immediate danger and cannot be moved to a safer area to wait for assistance, it may be necessary to evacuate them using an evacuation chair or a carry technique.

Power Outages:

- If power outage occurs during the day and people with disabilities choose to wait in the building for electricity to be restored, they can move near a window where there is natural light and access to a working telephone. During regular building hours, BCs should be notified so they can advise emergency personnel.
- If people would like to leave and an evacuation has been ordered, or if the outage occurs at night, call Police & emergency cell at XXX XXX from a Building telephone to request evacuation assistance from the Fire Department.
- Some multi-button Building telephones may not operate in a power outage, but single-line telephones and pay telephones are likely to be operating. As soon as information is available, the Building emergency information line (if any XXXXX) will have a recorded message stating when power is likely to be restored.

7.14 EMERGENCY EVACUATION OF PEOPLE WITH DISABILITIES:

Evacuating a disabled or injured person yourself is the last option. Consider your options and the risks of injuring yourself and others in an evacuation attempt. Do not make an
emergency situation worse. Evacuation is difficult and uncomfortable for both the rescuers and the people being assisted. Some people have conditions that can be aggravated or triggered if they are moved incorrectly. Remember that environmental conditions (smoke, debris, loss of electricity) will complicate evacuation efforts.

- Occupants should be invited to volunteer ahead of time to assist disabled people in an emergency. If a volunteer is not available, designate someone to assist who is willing to accept the responsibility.
- Volunteers should obtain evacuation training for certain types of lifting techniques if available.
- Two or more trained volunteers, if available, should conduct the evacuation.
- DO NOT evacuate disabled people in their wheelchairs. This is standard practice to ensure the safety of disabled people and volunteers. Wheelchairs will be evacuated later if possible.
- Always ASK disabled people how you can help BEFORE attempting any rescue technique or giving assistance. Ask how they can best be assisted or moved, and if there are any special considerations or items that need to come with them.
- Before attempting an evacuation, volunteers and the people being assisted should discuss how any lifting will be done and where they are going.
- Proper lifting techniques (e.g. bending the knees, keeping the back straight, holding the person close before lifting, and using leg muscles to lift) should be used to avoid injury to rescuers’ backs. Ask permission of the evacuee if an evacuation chair or similar device is being considered as an aid in an evacuation. When using such devices, make sure the person is secured properly. Be careful on stairs and rest at landings if necessary.
- Certain lifts may need to be modified depending on the person’s disabilities.

Summary: Prepare occupants in your building ahead of time for emergency evacuations. Know your building occupants. 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 occupants participate, and evaluate drills to identify areas that need improvement. Plans must cover regular working hours, after hours, and weekends. Everyone needs to take responsibility for preparing for emergencies. People with disabilities should consider what they would do and whether they need to take additional steps to prepare. "Emergency Guidelines for People with Disabilities" may be available from your BC.

Appendix C:
Emergency Preparedness Guidelines for People with Disabilities
Follow the guidelines on the "Emergency Info" poster or in the Evacuation Policy for People with Disabilities. In particular:

- Make your environment fire safe (do not place heavy objects above where you sit or sleep, bolt bookcases to the wall, make sure your exit route is clear).
Risk Assessment

- Keep sufficient emergency supplies to last for three days (include food, water, prescription medicines, torch, batteries and any other supplies you might need).
- Become familiar with alternate evacuation routes in buildings.
- Learn what may constitute a safe area in buildings.
- Protect your head as much as possible.
- Move away from windows, filing cabinets, bookcases, light fixtures, and heavy objects that could shatter, fall, or tip over.
- Engage the electronic brake or wheel locks on your wheelchair. Consider various disaster scenarios and decide ahead of time what you would do in different emergencies. For example, people with power wheelchairs should consider the following:
  - In evacuations, it is standard practice to evacuate disabled people without their wheelchairs. Where should you be located while waiting for your wheelchair?
  - Are there certain medications or support systems that you need?
  - Do you have access to another wheelchair if yours cannot be evacuated?
  - Know your limitations and be aware of your needs in different emergencies.
  - If you need assistance, ask for it. People may not be aware of your circumstances or know how they can help.
  - Consider arranging a buddy system with friends or colleagues so that someone will check with you, alert you as necessary, and see whether you need any assistance.
  - If you need to be evacuated, help yourself and rescuers by providing others with information about your needs and the best ways to assist you.

Appendix D:

Building Alerting and Warning System

The Alerting and Warning System (AWS) is a network of sirens and communication links that warn and inform the Building community of what to do in an emergency or disaster. This includes dangers resulting from natural or technical hazards such as flooding, fires, storms, power outages, transportation incidents, and other public safety incidents.

The Building has XXXXXX (mention numbers) hazard warning sirens strategically located to cover the main Building and adjacent Building facilities. Building facilities Management activates these sirens. Depending on the incident, sirens and/or public address announcements may be transmitted over this system.

What do you do when you hear a warning siren?

SHELTER: Go inside your office area, a nearby building, or your car and shelter inside to avoid exposure.

SHUT: Shut all doors and windows. Society managers should turn off ventilation systems, if available and feasible.

LISTEN: Access one the following sites to obtain Building emergency information, such as disaster type, evacuation routes, shelter and aid locations, special instructions, etc.

Emergency Information Line: XXXXXX. This out-of-area number allows recorded messages to be accessed by any standard, cell or pay phone, free of toll charges.
Information about the emergency is recorded as an outgoing message, and is updated as the situation evolves.

This above emergency web presence is reachable anytime, from anywhere.

Radio Station: XXXX The Building radio station, broadcasting at XXX watts, will be utilized to disseminate emergency information during critical incidents and disasters. XXXX normally broadcasts live 24 hours a day. YYY, ZZZ, and CCCC also carry emergency information.

DO NOT CALL THANE EMERGENCY HOTLINE IF YOU HEAR A WARNING SIREN. ONLY CALL THEM IF YOU HAVE A LIFE-THREATENING EMERGENCY.

Since disasters are unpredictable, one must be prepared for an emergency whether at home, at work, at school, or in the car. Think about places where you spend your time and how you can best prepare for an emergency at any given location and time. It is wise to keep a battery operated AM/FM radio and extra sets of batteries at home, at work, and in your car.

DMP Onsite Matrix (Construction Phase)

Following matrix table shall be used which will address all the possible scenario of the building.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Who is responsible</th>
<th>When to contact and how</th>
<th>Contact number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift failure</td>
<td>Facility manager/Security In-charge</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>Fire in building (limited area)</td>
<td>Security, Facility manager</td>
<td>Will be finalized after completion of the project.</td>
<td></td>
</tr>
<tr>
<td>Fire in large area (floor)</td>
<td>Security, Facility manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire in utility areas</td>
<td>Security, Facility manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical failure</td>
<td>Security, Maintenance &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event</td>
<td>Responsible Party</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water supply interruptions</td>
<td>Service manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building damage (minor)</td>
<td>Security, Maintenance &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building damage (major)</td>
<td>Building manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Security</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DISASTER MANAGEMENT PLAN

Onsite Emergency Plan

For the incident which could affect people inside the buildings

1. Display of emergency phone nos. (Includes phone number and address of nearby hospital, fire station, police station, Ambulance services, public help service etc.)
   - Fire Station: (022)-25363101,
   - Hiranandani Hospital: (022)-25458666
   - Jeevan Jyoti Ambulance: (022)-49175989
   - Kapurbavadi Police station: 022-25330098
   - Periodic maintenance and checking of all equipment
2. Training to Residents, security guards, housekeeping staff for different type of emergencies
3. Building emergencies manual
4. Evacuation plan, floor plan, site plan, elevation marked with refuge area etc.
5. Fire & other emergencies regular drill programs
6. Display of Posters showing emergencies preparedness for resident.
7. Periodic Evaluation of the plan to improve effectiveness.

Offsite Emergency Plan

For the incident which could affect people outside the buildings

1. Awareness program will be conducted with the help of local NGO's
2. Coordination with District Disaster Management Authority
3. Emergencies awareness program
Risk Assessment

Organization structure of the Disaster Management Committee

- Fire Protection System will based on CFO Guidelines.
- Separate Water Storage Tanks
- Wet Risers, Fire Hydrants
- Fire Pumps, booster pumps, Sprinkler pumps
- Independent Electric Supply
- Automatic Sprinklers System,
- Portable Fire Extinguisher of IS Specification
- Refuge Area provision as per CFO norms

- Rain Water harvesting through RWH Tanks
- All Storm Water drains have been designed to carry runoff generated from the rainfall intensity of 150 mm/hr

- The Structural design as per IS Code 875 and IS-1893-2002 for Seismic Zone -3 of Mumbai