

## 7. DMP FOR ONSITE AND OFFSITE

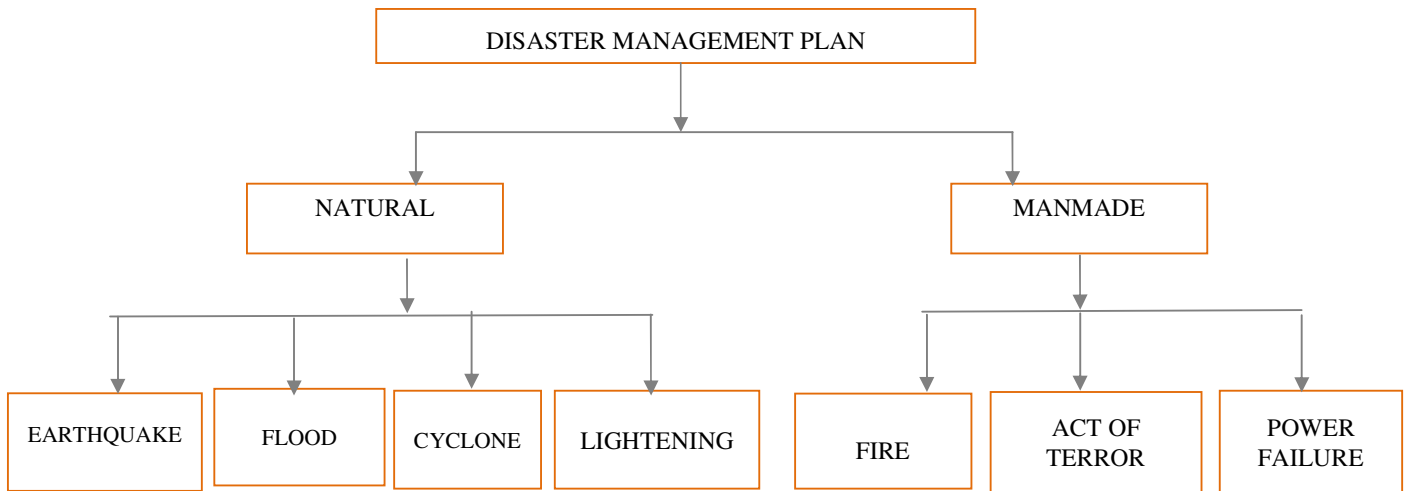
Disaster is a threat to Environment and Society. Disaster Management Plan (DMP) deals with the preparations to reduce the impacts of Natural and Man-made disasters. Recent rise in the incidence of disasters has alerted us regarding the need of pre-planned DMP which will aim at providing effective and timely relief during disaster through organized manner.

Emergency prevention through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and also making the occupiers aware of what to do in case of any emergency. The overall objective of a disaster management plan is to make use of the combined resources created or available at the site and/or off-site services to achieve the following:

- Prevent Disasters;
- Minimize the effects of the accident on people and property;
- Initiate the rescue and medical treatment of casualties;
- Safeguard other people
- Evacuate people to safe areas with care
- Inform and collaborate with statutory local and state authorities;
- Provide credible information to news media;
- 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.

DMP follows the Basic structure as shown in Figure 7.1

**FIGURE 7.1: BASIC STRUCTURE OF DMP**



## **I. NATURAL DISASTER**

### **A. EARTHQUAKE**

#### **SEISMIC ENVIRONMENT & PRECAUTIONS**

As per the Seismic Zoning Map of India, Mumbai region falls under Seismic Zone-III. The structural design shall be certified as per IS code 875 and IS- 1893-2002 for Seismic Zone – III of Mumbai

### **B. FLOODS**

Particularly in Mumbai, areas having poor drainage characteristic get flooded by accumulation of water from heavy rainfall. Following precautions would be taken by M/s. Saumya Buildcon Pvt. Ltd. to manage flood disasters:

Saumya Buildcon Pvt. Ltd. Proposes:

- a. Storm water system would be checked and cleaned periodically.
- b. 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).
- c. Dewatering pumps shall be installed at vulnerable locations.

### **C. CYCLONES**

Cyclones are caused by atmospheric disturbances around a low-pressure area distinguished by swift and often destructive air circulation. They are usually accompanied by violent storms and bad weather. There is no history of any cyclone in this area. However in such an instance the occupants should be advised to stay in the shelter in tightly secured windows and doors. The glass of windows etc. should be covered with paper/cardboards to avoid glass breaking due to flying objects outside.

### **D. LIGHTNING**

Lightning is an atmospheric electrostatic discharge accompanied by thunder which typically occurs during thunderstorms and sometimes during volcanic eruptions or dust storms. It often leads to physical damage to the building and occupants. It can also lead to short circuits, failure of power supply and fire. Lightning arrestor systems is provided to abate the impact of lightning hazard.

## **II. MAN-MADE DISASTER**

### **A. FIRE**

Fire could take place through various means; one of them is through electrical fire. Hence, all the electrical works and material of the building would adhere to the standards. Regular maintenance and audit of the electrical systems would be carried out by external auditors.

Fire alarm would be installed. The functioning of these fire alarms would be checked periodically by security manager. A report of the same would be submitted to safety manager. The same report would be submitted to Safety manager. The same report must be submitted to M/s. Saumya Buildcon Pvt. Ltd. for necessary action. The occupants of the proposed building would undergo mock fire drills. These mock drills would be conducted by qualified staff (e.g. fire brigade). Fire extinguishers would be placed in every floor. All occupants would be given training on how to use these fire extinguishers. 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. Proper evacuation plan would be checked for the building. The map for the evacuation plan would be provided to all the occupants.

The Emergency Preparedness programme shall comprise the following elements:

#### **a. Fire Safety System**

- Refuge areas as per CFO Norms
- Proper Fire Escape routes
- Adequate underground of capacity 200 cum.
- Wet risers
- Fire pumps, booster pumps, sprinkler pumps & jockey pump.
- Sprinkler system including tenant areas
- Pressurized hydrant lines and yard hydrants around the building
- Portable fire extinguishers of IS specification.
- Alternate source of power supply
- External & internal Hydrant are also provided.
- The Main Line from the pump room is Laid in the ring main system & also connected with Fire Brigade inlet connection post.

#### **a. Response Sequence during Fire**

##### **i. 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:**

- Location of the fire
- Material of burning
- Extent of fire
- Callers name and number

“A proper code of communication shall be maintained wherein the caller makes sure that the message has been conveyed to the right person”.

##### **ii. Security or the coordinators will**

- Respond to the scene of the incident.
- Arrange to send the necessary firefighting equipment to the scene of the incident.
- Extinguish the fire with the available equipment.
- Ensure closure of gates immediately to regulate traffic in such a way that free movement of outside assistance like fire tenders, ambulance etc is available.

- Security will cordon off the area and local city fire fighting staff should be notified for further assistance.
- All the occupants will need to stop their operations/ work, switch off lights, fans, machines etc. All persons should assemble to refuge or designated area for fire and hazardous situation.

### iii. Reporting and Follow up System

- All cases of fire occurrence, no matter how small, must be reported promptly to the Security for further action to avoid such incident.
- Fire extinguishing equipment once used, should not be returned to its location without it is being recharged/ certified fit by the security.
- All fire extinguishers after use should be laid horizontally to indicate that they have been exhausted.

### iv. Refuge Area

The Refuge Area will have the following resources available:

- Copies of the Disaster Management Plan.
- Layout Plan of the complex.
- Information regarding Safety Equipment, Fire Fighting material.
- A list of important telephone numbers like those of neighbouring police station, Fire Brigade, Hospitals etc.
- First - Aid Kit.
- Communication equipment - Internal and External telephones and other communication equipment.
- Drinking water facility.

In addition to many of the above measures an attempt will be made to add any site specific steps and manpower based instruction. Instruction should be in multiple languages including “Marathi and Hindi”. The communication equipment will be checked periodically to ensure that they are functional.

## B. ACT OF TERROR

The project site is situated in Mumbai region. Hence act of terror can occur. An explosive device assimilated into an object which will be left to explode once its owner has withdrawn from the area of the explosion after placing it.

An Explosive device is known more as a "bomb-bag" or an "unidentified object".

### a. Suspicious Signs List

- The vehicle is not in the right place
- The vehicle has breaching signs
- The vehicle has been altered
- The vehicle is extremely heavy (is sunk)
- The vehicle has flammable materials and is not coordinated to come to the Hotel
- The vehicle has irregular smell of gasoline, solar, etc.
- The vehicle plates have irregularities: not synchronized, number changed by hand, new vehicle with old plate, no plates
- The vehicle has bulges, wires, etc. that do not seem to be part of the vehicle
- The identification papers look fake, altered, not proper, no papers. Also regarding delivery-invoices.
- The driver is not cooperating, nervous

- xi. The vehicle is abandoned in a hastily manner near a crowded area
- xii. Weight does not fit the size.
- xiii. External oily signs.
- xiv. Kept extremely close to the owner.
- xv. Left without care
- xvi. Does not want it to be checked.
- xvii. Does not look like it fits the owner.

The suspicious sign list will be obtained from local police station such as names, sketches of persons, photos etc. Such person shall be denied entry or detained at security checking, it will be informed to local police station.

#### **b. Hostage Situation**

A hostage situation is a situation where one or more suspects are holding one or more people in confinement in a closed area and threatening their life. The main aim of the Proposed building Security is to safeguard the situation until a professional police force will step in to negotiate and terminate the event. The declaration of a hostage situation will be done by the Security. Hosted situation will be handled by police department.

### **C. POWER FAILURE**

Power failure is a short- or long-term loss of the electric power to an area. Failure of electrical power to a 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. Causes Of Power Failure**

There are many causes of power failures in an electricity network which are caused by either of the following faults:

- i. Manmade / Technical Fault
  - Faults at power stations,
  - Damage to electric transmission lines, substations or other parts of the distribution system,
  - Short circuit,
  - Overloading of electricity mains.
  - Collision of person or object with utility poles or power transformers,
  - Human error in operating equipment within the building or outside (such as at the utility company supplying the power), or malicious tampering.
- ii. Natural Events.
  - Natural events include storms, floods, and earthquakes, Lightning.

#### **b. Types Of Power Failure**

Power failures are categorized into three different phenomena, relating to the duration and effect of the failures:

- i. A transient fault is a momentary (a few seconds) loss of power typically caused by a temporary fault on a power line. Power is automatically restored once the fault is cleared.
- ii. A brownout or sag is a drop in voltage in an electrical power supply.
- iii. A blackout refers to the total loss of power to an area and is the most severe form of power outage that can occur.

**c. Effects Of Power Failure**

- i. Loss of visibility
- ii. Safety is at risk.
- iii. Stoppage of elevators.
- iv. Computer memory loss and equipment damage.
- v. Stoppage of working of Fire fighting system.
- vi. Stoppage of working of building utilities like water pumps, Sewage treatment plants etc.
- vii. Loss of comfort.

**d. Mitigation plan**

Buildings have emergency and standby power systems to provide safety and comfort to building occupants during interruptions in their normal power supply.

**i. Diesel Generators**

A diesel generator is the combination of a diesel engine with an electrical generator (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.

In case of emergency these diesel generators will backup for electric supply for the common area lighting and utilities like elevators, water pumps, fire lifts, fire pumps & Sewage Treatment plant etc.

**ii. Provision of Independent electrical circuits for critical equipments as per Norms**

Also as per specific requirement of Fire fighting department the Electric supply for Fire pumps, booster pumps, sprinkler pumps will be on independent circuit.

**iii. Uninterruptible power supply (UPS)**

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.

Even if DG sets are provided as power backup a UPS is typically used to protect computers, data centers, telecommunication equipment or other electrical equipment where an unexpected power disruption could cause injuries, fatalities, serious business disruption or data loss.

**iv. Power Outage Tips :**

- Check to see if others are without power. If your flat is the only one without electricity, check your fuse box and if needed call an electrician.
- Turn off appliances that were running before the outage to protect the motor.
- Turn off the Television, computers, air-conditioning system, and refrigerator.
- If stucked in elevator, Please be patient, it only takes a few minutes to get out of the elevator once the backup system is on.

### III. ONSITE AND OFFSITE EMERGENCY PREPAREDNESS PLAN

#### A. On Site Emergency Preparedness plan :

- a. Mitigative measures in the Construction phase / O & M of Equipments and facilities:
- i. Regular health check up of construction workers
  - ii. Adequate safety instructions to given to all employees.
  - iii. Provide necessary protective equipment, safety appliances e.g. safety helmet, goggles ,welder’s equipment for eye and face protection, earplugs, safety belt, hand gloves, safety shoes and clothing, and to ensure their proper use.
  - iv. Create awareness of employees about materials, equipment or processes used in their work, which are known to be potentially hazardous to health or safety
  - v. Keep all operations and methods of work under regular review for making necessary changes from the point of view of safety in the light of experience and up-to-date knowledge.
  - vi. Provide appropriate facilities for first aid and prompt treatment of injuries and illness.
  - vii. Proper implementation of fire prevention methods and an appropriate fire fighting service.
  - viii. Maintain collection of data on accidents with a view to take corrective, remedial and preventive action.
  - ix. Regular safety inspection by a competent person at suitable intervals of all buildings, equipment.
  - x. The working personnel will be given the following appropriate personal protective safety gears.
  - xi. Display of Emergency phone nos. (E.g. nearby hospitals, fire station, police stations, etc.) at following places :
    - At security cabin
    - At the entrance
    - Near the lift doors on all the floors and at every staircase landing on every floor
    - All occupants shall be provided the copy of these documents and shall be asked to keep handy.
  - xii. Training to all occupiers for different type of emergencies.
  - xiii. Periodic maintenance and checking of all equipments.

#### B. **Offsite Disaster management plan:**

##### a. **Safeguard Requirements for Natural and Manmade Disasters**

List of Nearest Clinics and Hospitals shall be maintained for medical emergency as also any other Eventuality. The table below will be ready and will be distributed to all members within the building and later for off-site plan to neighbourhood. These information need to be updated every six months before safety drills. The information thus updated should also be shared with occupants.

**Table 8.1: Emergency Situation Clinics and Hospitals**

Sr. No.	Names and Area of specialization	Location	Distance from site (Km)	Phone numbers
1.	Poddar Hospital	Worli	Approx. : 2.04 Km	(022)-24933533
2.	KEM Hospital	Parel	Within : 2.32 Km	24131763 / 24136051 / 24134977
3.	Tata Memorial Hospital	Parel	Within : 2.57 Km	24146750 / 24177000 / 7290 / 24154379
4.	Wadia Hospital (Children)	Parel	Approx.: 2.44 Km	24129787

**Table 8.2: Emergency Situation Government Agencies and Offices**

Sr. No.	Names and Area response	Location	Distance	Phone numbers
1.	Police (Law and Order)	DCP, Zone II,	Approx. : 2.25 Km  Approx. : 1.58 Km	<b>Worli Police Station</b> 022-24940303 <b>Parel Police Sattion</b> +91-22-24185618, +91-22-24184375
2.	Fire Brigade	Station Officers, Gowali Tank Fire Brigade	Within : 1.75 Km  Within 1.1Km (safex fire services ltd, lower parel)  Within 1.71 Km: Mumbai fire brigade head quarters, Nagpada	<b>Fire Brigade Control Room - 101</b> 23085991 23085992 23085993 23085994
3.	Railways	Station Masters of Grant Road and Churni Road	Within : 2.84 Km (grant road)  Within : 4.05 Km (Churni road)	<b>Railway Protection Force Control Room – 22697133</b>
4.	BEST (Transport)	Assistant Traffic Superintendent of Nepean Sea Road	Within :2.58 Km	Transport: 4143611 <b>Accidental Information:</b> 4146162
5.	MSRTC	Depot Manager, Mumbai Central Depot	Within :0.14 Km	<b>Worli Bus Station</b> 022 24227686/ 022 24224420
6.	Government Hospitals	Medical Officer casualty ward, Nair Hospital	Within : 1.88 Km	24131763 / 24136051 / 24134977  24146750 / 24177000 / 7290 / 24154379
7.	MTNL	Area Manager, Dadar (West) Exchange	Within : 3.87 Km	<b>Emergency Attention:</b> 4307080/4308070
8.	Reliance power receiving station	Station Engineer	Within : 12.25 Km	4954242/4953363
9.	Police (Law and Order)	DCP, Zone II,	Approx. : 2.25 Km  Approx. : 1.58 Km	<b>Worli Police Station</b> 022-24940303 <b>Parel Police Station</b> +91-22-24185618, +91-22-

			Km	24184375
10.	Fire Brigade	Station Officers, Gowali Tank Fire Brigade	Within : 1.75 Km  Within 1.1Km (safex fire services ltd, lower parel)  Within 1.71 Km: Mumbai fire brigade head quarters, Nagpada	<b>Fire Brigade Control Room - 101</b> 23085991 23085992 23085993 23085994

**Source: MCGM**

➤ **Off-Site emergency coverage**

When the disaster situation is localised at ward level and can be managed locally, the ‘G-South’ ward plan will come into operation. However, a disaster situation may cover the entire city which would call for co-ordination of activities not only at the city level but also at the ward level.

The response structure given in the ward plan essentially limits itself to micro-level intervention. When more than one ward are affected, BMC control room which is the co-ordinating authority, would expect the ward officers to co-ordinate the activities at the ward level with the line agencies such as Fire Brigade, Police etc. The responsibilities for all the ward level functionaries have been identified by M.C.G.M. Details of ‘G-South’ ward officer’s responsibilities will be available on the following link: [http://www.karmayog.com/floods/mumbai\\_g-s\\_ward\\_plan.htm](http://www.karmayog.com/floods/mumbai_g-s_ward_plan.htm)

**Conclusion**

M/s. Saumya Buildcon 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