Risk Assessment and Disaster Management Plan

1.1 Disaster Management, Risk Assessment & Mitigation Procedures

Risk assessment is a process that seeks to estimate the likelihood of occurrence of adverse effects as a result of major road mishaps, gas tanker explosions, fire hazards, floods, cyclones, earthquakes etc. at Highway projects. Fatality rate on Indian highways is very high mainly due to road accidents. The other adverse impacts due to gas tanker explosions, fire hazards, floods, cyclones, earthquakes etc. are nominal. Elimination of the risk (avoidance of accidents) is given prime importance and NHAI has introduced road safety provisions during the design of highway with the help of Road Safety Manual. Some of these are listed below:

- Safety barriers/delineators hard shoulders on main roads
- Traffic signs and pavement markings
- Underpasses and other grade separators at junctions
- Removal of junctions and direct access points on main roads
- Improved median openings with stacking lanes
- Separate provisions and direct access point
- Service roads in towns and villages for segregating local and highways traffic.

The contractors shall conduct Risk Assessment for all works to decide on priorities and to set objectives for eliminating hazards and reducing risks.

1.1.1 The Risk Assessment Process and Hazard Identification

A critical observation/study of the structure/process/site under consideration by the risk assessment team is an essential part of hazard identification as is consultation with the relevant section of the workforce. It is important that unsafe conditions are not confused with hazards, during hazard identification.

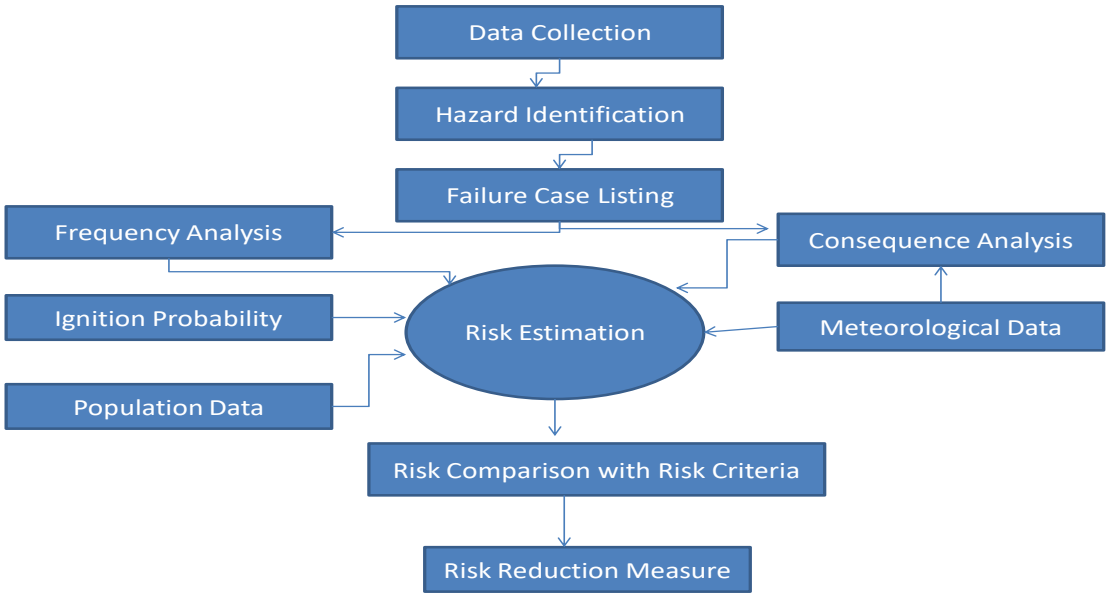
1.1.2 Person(s) at Risk

On a construction area, the persons at risk would be site operatives, supervisors, transport drivers, other visitors and the general public. The risk assessment includes any additional controls required due to mitigate vulnerability of any of these groups, perhaps caused by inexperience or disability.

1.1.3 Emergency Response Plan

Concessionaire / Contractor shall prepare Emergency Response Plans for all work sites as a part of the Safety procedures. The plan shall integrate the emergency response plans of the contractor and all other sub-contractors. Each Emergency Response Plan shall detail the procedures, including detailed communications arrangements, for dealing with all emergencies that could affect the site. This include where applicable, injury, sickness, evacuation, fire, chemical spillage, severe weather and rescue. Emergency plans and Fire Evacuation plans shall be prepared and issued. Mock drills shall be held on a regular basis to ensure the effectiveness of the arrangements and as a part of the programme, the telephone number of the local fire brigade should be prominently displayed near each telephone on site. The Emergency Response Plan is prepared to deal with emergencies arising out of:

Figure 1: Risk Assessment Process



1.1.3.1 Fire and Explosion

Fire Safety Procedures will be developed and shall be integrated into Emergency Response Plan.

1.1.3.2 Road Accident

In case of road accidents, the following contact no should be contacted.

Table 1: Emergency Contact Number

Help Line no	Description
100	Police
101	Fire
102	Ambulance
103	Traffic Police
1033	Emergency Relief Centre on National Highways
104	State level helpline for Health
104	Hospital On Wheels
1066	Anti-poison
1070	Central Relief Commissioner for Natural Calamities
1070	Relief Commissioners of Central/State/Union territory
1073	Road Accident
1073	Traffic Help Line
1077	Control room of District Collector/Magistrate
108	Disaster management
1090	Anti-terror Helpline/Alert All India
1091	Women in Distress
1092	Earth-quake Help line service
1096	Natural disaster control room
1099	Central Accident and Trauma Services

Help Line no	Description
1099	Catastrophe & Trauma service
112	General emergency Department of Telecommunications (DoT)
112	All in one Emergency Number
1910	Blood bank Information
1911	Dial a doctor
1913	Tourist Office (Govt. of India)

Source: http://www.newincept.com/helpline-numbers-all-over-in-india.html

1.1.4 Traffic Management

Hazards due to external traffic are as follows:

- Construction workers hit by external vehicles while working
- Injury to Pedestrians
- Due to fall in excavated trenches
- Hit by construction equipment / vehicle
- As they use carriageway due to blockage / absence of footpath
- Collision due to improper traffic management
- Between external vehicle and construction equipment / vehicle
- Between external vehicles
- External vehicle with other stationery objects in the side of the road

1.1.4.1 Traffic Control Plan

This plan gives the detailed guideline for traffic management in most of the common situations at our Projects. Traffic Control Plan for a specific road sections should be prepared based on this general guideline and applying the following variables, which may vary from project to project. The variables are:

- Average Vehicular Traffic Density in peak and non-peak hours.
- Maximum width of lane required for construction during various activities.
- Number and types of junctions in the road.
- Availability of standard footpath and its location and dimensions.
- Change in the lane width if any and its location.
- Regulatory and advisory speed limits etc.

1.1.4.2 Traffic Control Devices

Traffic control devices used to regulate the traffic in Road Construction Zones includes:

- Road Signs
- Delineators
- Barricades
- Cones

- Pylons
- Pavement markings
- Flashing lights

Table 2: Minimum Sightline Distance and the Minimum Size of the Signs

Average Speed (Km/h)	Distance of first sign in advance of the first channelizing device (m)	Size of Warning Sign (mm)	Minimum no of signs in advance of the hazard
Under 50	100	600	3
51 – 60	100 – 300	750	3
61 – 80	120 – 300	900	3 or 4
81 – 100	300 – 500	1200	4
Over 100	1000	1200 to 1500	4

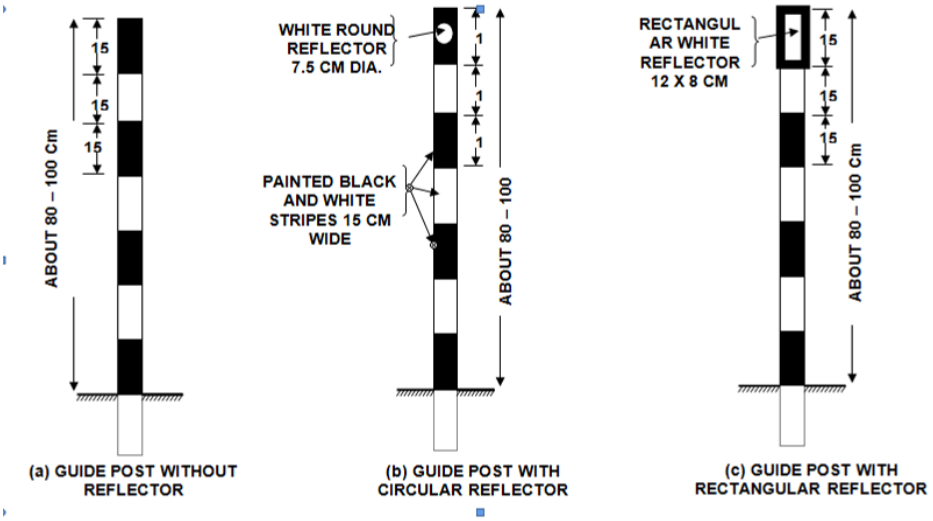
Cautionary / Warning Signs

In case of divided carriageways, the signs should be provided both adjacent to the shoulder and on the central median so as to be visible from all lanes.

Drums

Drums of height 800 mm to 1000 mm high and 300 mm in diameter can be used as either channelizing on warning devices. Both plastic and metallic drums (e.g. Bitumen drums) can be used for this purpose. Drums need to be filled up with earth or sand to increase its stability. Drums should be reflective and painted as shown in the figure below.

Figure 2: Drum Reflections



Delineators

Delineators are devices or treatment which outlines the roadway or portion thereof. They include Safety Cones, Traffic Cylinders, Tapes, Drums, Painted lines, Raised Pavement Markers, Guide Posts, and Post-mounted Reflectors etc. They are used in or adjacent to the roadway to control the flow of traffic. Delineators are basically driving aids and should not be regarded as a substitute for warning signs or barriers for out-of-control vehicles.

Guide Post

They are intended to delineate the edges of the midway so as to guide driven about the alignment ahead, particularly where it might be confusing. Guideposts can be of metal, concrete, cut stone, amber or plastic. The posts can be made of Circular, Rectangular or Triangular Cross-section but the side facing traffic should be at least 10 cm wide.

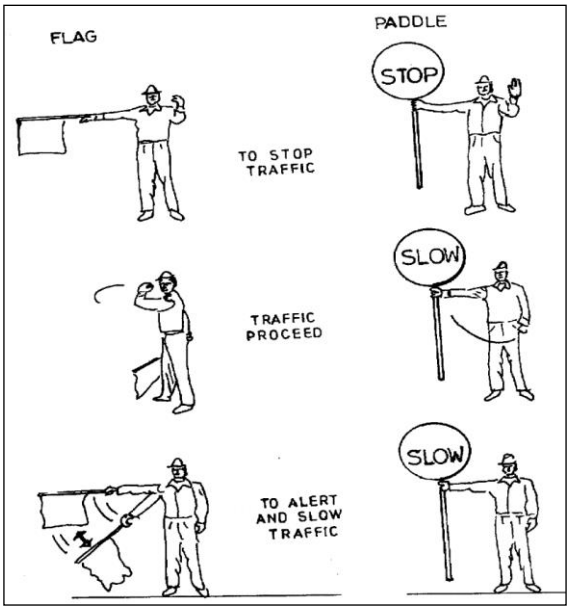
Barricades

Standard barricades shall be used.

Safety Cones

Safety cones are 500 mm, 750 mm and 1000 mm high and 300 mm to 500 mm in diameter. They are usually made of plastic, rubber, HDPE, PVC and have retro refectories red and white bands. Safety cones would be displaced or blown unless their bases are anchored or loaded with ballast. This can be avoided by, using sandbag rings to provide increased stability, heavier weighted cones, cones with special weighted bases & or doubling the cones to provide added weight.

Figure 3: Road Traffic Signals



Flagmen

- An authorised personnel at least average intelligence, be mentally alert and good in physical condition be selected, since flagmen are responsible for public and workmen safety.
- Flagmen should be equipped with yellow helmet with green reflective sticker fixed around and reflective jacket along with hand signalling devices such as flags and sign paddles. The typical specification are given below,
- Flagmen need to maintain the flow of traffic continuous past a work zone at relatively reduced speeds by suitably regulating the traffic. He shall stop the traffic for a short while whenever required (e.g. for entry and exit of construction equipment in to work zone).

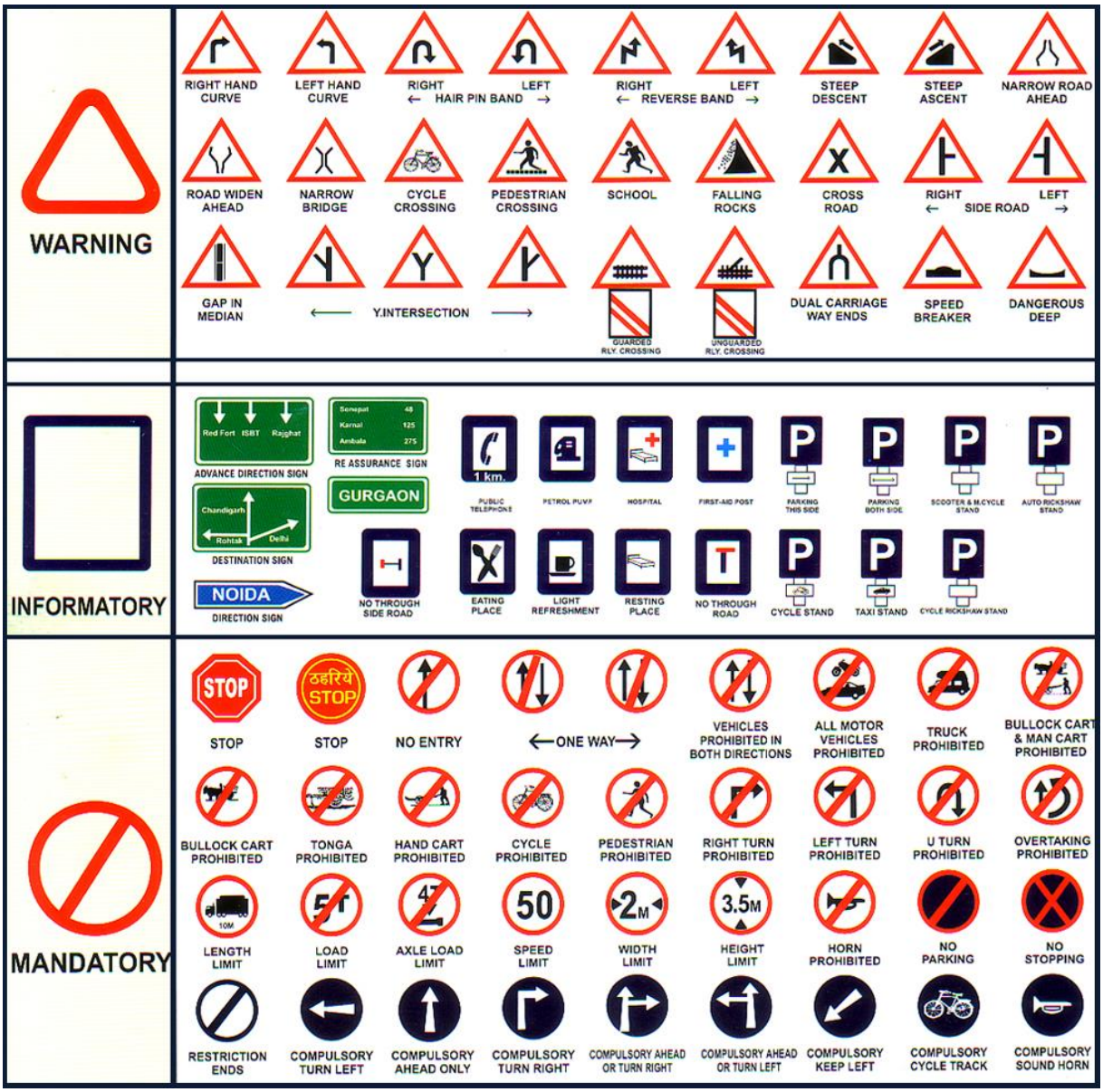
- Flagman should be positioned in a place where he is clearly visible to approaching traffic and at a sufficient distance to enable the drivers to respond for his flagging instructions. A flagman never leaves his post until properly relieved,
- The standard distance shall be maintained at 60 – 100 m but can be altered depending upon the approach speed and site conditions. In urban areas this distance shall be taken as 20 m to 50 m.

1.1.5 Traffic Management Practices

1.1.5.1 Definitions

Road traffic control involves directing vehicular and pedestrian traffic around a construction zone, accident or other road disruption, thus ensuring the safety of emergency response teams, construction workers and the general public.

Figure 4: Traffic Signages



1.1.5.2 Working zone

The Plant Site, construction zone of road *etc.* at which workmen will be working.

1.1.5.3 Working space

The space around the works area that will require storing tools, excavated material and other equipment. It is also the space to allow workmen, movement and operation of plant, (e.g. swing of jibs, excavator arms) to move around to do the job. Materials and equipment must not be placed in the zone either. Workmen will only need to enter the zone to maintain cones and other road sign.

1.1.5.4 Safety zone

The zone that is provided to protect workmen from the traffic and to protect from them.

1.1.5.5 Approach Transition Zone

This will vary with the speed limit and the width of the works.

1.1.5.6 Longitudinal buffer zone

This is the length between the end of the lead-in taper of cones (T) and the working space. It will vary with the speed limit.

1.1.5.7 Lateral buffer zone

This is the width between the working space and moving traffic. It will vary with the speed as given in table (Traffic Control zone). The lateral buffer zone safety clearance is measured from the outside edge of the working space to the bottom of conical sections of the cones on the side nearest to the traffic.

1.1.5.8 Works on Strengthening of Existing Carriageway

- The construction zone shall be barricaded with barricade.
- Approached diversion would be taken out of the works zone for the movement of construction supervision vehicles.
- The 'works traffic" shall be governed by the location of base camp where workmanship less than 20, a flagman shall be kept for controlling traffic, public and workmen safety or more than 20 in addition to that a safety steward shall be kept for continuous monitoring to identify and removal of unsafe acts and conditions.

1.1.6 Traffic Management on Road Junction

1.1.6.1 Construction Traffic meets Live Traffic from Quarry/Plant/Borrow Pit

- Where vehicles are more to the approach junction from the side road, permission shall be seek for providing speed breaker at junction from local traffic police and road-authority
- Flag man shall be kept in the peak time provided with the traffic circle painted with red and white at the corner at a height of 500 mm, clearly visible to approaching traffic for a distance provided with while gloves and STOP, GO Paddle and night time flagman should use LED Batons
- Spillage of earth / Gravel / Aggregates / Bituminous mix from the tipper shall be cleaned on regular basis, if required 2 labourers to be permanently posted for booming
- All Construction vehicles must follow lane discipline and road signs

1.1.6.2 Activities inside Median / Island

- The traffic would discontinue from plying temporarily on the carriageway; for 2 min for reversing & dumping earth / stones / etc. under the direction of helper and the flagman
- The construction zone shall be barricaded
- One Flagman shall be appointed at traffic coming side of the transition zone.
- No personnel shall be allowed to come out of the safety zone, unless under flagman guidance.

1.2 Disaster Management Manual

Primarily disasters are triggered by natural hazards or human-induced or result from a combination of both. In particular, human-induced factors can greatly aggravate the adverse impacts of a natural disaster. Even at a larger scale, globally, the UN Inter-Governmental Panel on Climate Change (IPCC) has shown that human-induced climate change has significantly increased both the frequency and intensity of extreme weather events. While heavy rains, cyclones, or earthquakes are all natural, the impacts may, and are usually, worsened by many factors related to human activity. The extensive industrialization and urbanization increase both the probability of human-induced disasters, and the extent of potential damage to life and property from both natural and human-induced disasters. The human society is also vulnerable to Chemical, Biological, Radiological, and Nuclear (CBRN) disasters.

1.2.1 Natural Hazards

The widely accepted classification system used by the Disaster Information Management System of DesInventar classified disasters arising from natural hazards into five major categories (DesInventar, 2016).

- **Geophysical:** Geological process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Hydro-meteorological factors are important contributors to some of these processes. Tsunamis are difficult to categorize; although they are triggered by undersea earthquakes, and other geological events, they are essentially an oceanic process that is manifested as a coastal water-related hazard.
- **Hydrological:** Events caused by deviations in the normal water cycle and/or overflow of bodies of water caused by wind set-up
- **Meteorological:** Events caused by short-lived/small to meso-scale atmospheric processes (in the spectrum from minutes to days)
- **Climatological:** Events caused by long-lived meso- to macro-scale processes (in the spectrum from intra-seasonal to multi-decadal climate variability)
- **Biological:** Process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

A brief description of these five major categories of the disasters arising from natural factors with the sub-categories is given in Table below. The below classification is not a water tight one. In real life situations, many disasters are a combination of different types of disasters. In addition, secondary disasters may occur after a disaster has occurred.

Table 3: Categories of Natural Hazards

Sl. No.	Family	Main Event	Short Description/ Secondary Disaster
1	Geophysical	Earthquake/Mass movement of earth materials	• Landslide following earthquake; • Urban fires triggered by earthquakes; • Liquefaction - the transformation of (partially) water-saturated soil from a solid state to a liquid state caused by an earthquake; • Mass movement of earth materials, usually down slopes; • Surface displacement of earthen materials due to ground shaking triggered by earthquakes.
		Tsunami	A series of waves (with long wavelengths when traveling across the deep ocean) that are generated by a displacement of massive amounts of water through underwater earthquakes, volcanic eruptions or landslides. Tsunami waves travel at very high speed across the ocean but as they begin to reach shallow water, they slow down and the wave grows steeper.
2	Hydrological	Flood, Landslides and Wave Action	• **Coastal Erosion-** The temporary or permanent loss of sediments or landmass in coastal margins due to the action of waves, winds, tides, or anthropogenic activities • **Coastal flood-** Higher-than-normal water levels along the coast caused by tidal changes or thunderstorms that result in flooding, which can last from days to weeks Flash Flood Hydrological - Heavy or excessive rainfall in a short period of time that produce immediate runoff, creating flooding conditions within minutes or a few hours during or after the rainfall • **Flood Hydrological-** A general term for the overflow of water from a stream channel onto normally dry land in the floodplain (riverine flooding), higher-than normal levels along the coast and in lakes or reservoirs (coastal flooding) as well as ponding of water at or near the point where the rain fell (flash floods) • **Wave Action-** Wind-generated surface waves that can occur on the surface of any open body of water such as oceans, rivers and lakes, etc. The size of the wave depends on the strength of the wind and the travelled distance (fetch).
3	Meteorological	Hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that may last for minutes to days	• Cyclone, Storm Surge, Tornado, Convective Storm, Extratropical Storm, Wind Lightning, Heavy Rain

Sl. No.	Family	Main Event	Short Description/ Secondary Disaster
4	Climatological	Unusual, extreme weather conditions related to long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal (long-term) climate variability	• Extreme hot/cold conditions • Subsidence
5	Biological	Exposure to germs and toxic substances	• Epidemics: viral, bacterial, parasitic, fungal, or prion infections • Insect infestations

1.2.2 Human-Induced Disasters

The NPDM (2009) notes that rise in population, rapid urbanization and industrialization, development within high-risk zones, environmental degradation, and climate change aggravates the vulnerabilities to various kinds of disasters. Due to inadequate disaster preparedness, communities, and animals are at increased risk from many kinds of human-induced hazards arising from accidents (industrial, road, air, rail, on river or sea, building collapse, fires, mine flooding, oil spills, etc.). Chemical, Biological, Radiological, and Nuclear (CBRN) hazards rank very high in among the human-induced risks. Terrorist activities and secondary incidents add to these risks and call for adequate preparedness and planning.

1.2.3 Levels of Disasters

The disaster management and its planning at various tiers must take into account the vulnerability of disaster-affected area, and the capacity of the authorities to deal with the situation. Using this approach, the High-Power Committee on Disaster Management, in its report of 2001, categorized disaster situations into three 'levels': L1, L2, and L3. The period of normalcy, L0, should be utilized for disaster risk reduction.

- **Level-L1:** The level of disaster that can be managed within the capabilities and resources at the District level. However, the state authorities will remain in readiness to provide assistance if needed.
- **Level-L2:** This signifies the disaster situations that require assistance and active mobilization of resources at the state level and deployment of state level agencies for disaster management. The central agencies must remain vigilant for immediate deployment if required by the state.
- **Level-L3:** This corresponds to a nearly catastrophic situation or a very large-scale disaster that overwhelms the State and District authorities.

The categorization of disaster situations into levels L0 to L3 finds no mention in DM Act 2005. Further, the DM Act does not have any provision for notifying any disaster as a national calamity or a national disaster.

1.2.4 Project Specific Provisions for Disaster Management Plan/provisions

1.2.4.1 Nodal Operation Control Rooms

Nodal Control Canters should be equipped with the latest Communication facilities and will be manned 24 x 7 during the Construction and Operations Phase. During the Construction Phase, these rooms will be manned by the Contractor's personnel along with the Supervisory staff of the Disaster Management Cell. These Nodal Operation Control Rooms will maintain effective communication at all times with the various agencies listed in Disaster Management Plan viz.

- Police Commissionerate
- Traffic Police
- Municipal Corporation
- Home Guards and Civil Defence
- District Collectorates (City & Suburban)
- Indian Meteorological Department (Regional Office)
- Railways (Central & Western)
- Fire Brigade
- Telecom Service Providers
- Hospitals
- Radio & TV Centre

1.2.4.2 Standard Operating Procedures during Road Construction

Standard Operating Procedures (SOPs) as stipulated in MORT&H Specifications – Revision 5, a document which is largely used in India for construction of Highways, shall be used during the Construction Phase. These also include precautions to be taken for safeguarding the environment. A summary of provisions is given below.

Table 4: SOP requirement

Sl. No.	Description	Reference Clause No. of MORT&H Specification
1	Borrow Pits for Embankment Construction	111.2
2	Quarry Operations	111.3
3	Control of Soil Erosion, Sedimentation & Water Pollution	111.4
4	Pollution from Plants and Batching Plants	111.5
5	Substances hazardous to health	111.6
6	Use of Nuclear Gauges	111.7
7	Environment Protection	111.8
8	Occupational Health and Safety of the Workforce	111.9
9	Control & Disposal of Waste	111.10
10	Transport of hazardous materials	111.11
11	Emergency Response	111.12

It is expected that the Contractor will prepare an exhaustive project specific Health & Safety Management Plan before commencement of Construction activities and implement the same rigorously.

1.2.5 Mitigation Measures Undertaken

Relief measures shall be taken with co-ordination of all Departments.

Table 5: **Role and Action Plan of Various Departments**

Sl. No.	Department	Disaster Specific Action Plan
1.	Disaster Management & Relief (DM&R)	• Ensure coordinated movement of all departments, officials and agencies for combating the disaster • Issue necessary directions and ensure effective and coordinated response of all departments. • Arrange regular meetings for updating the apex body on a daily basis. • Provide inputs to concerned departments for effective implementation of the rehabilitation plans. • Document the experiences and best practices.
2.	Animal Husbandry	• Prepare contingency plan • Constitute veterinary mobile teams with required resources like medicines, doctors, subordinate staff, laboratories, protective gears, antibiotics, vaccines and antitoxins, etc. in abundance. • Constitute technical groups at state, zone and district levels. • Identification of affected areas. • Safe disposal of dead carcasses. • Focused attention to veterinary health. • Mass vaccination programme of animals in affected areas Make arrangements for rescue and evacuation of stranded livestock. • Pool in sufficient doctors for treatment of sick animals/ poultry. • Control spread of animal disease. • Carry out epidemiological surveillance to evade biological disasters. • Promote awareness through IEC activities.
3.	Public Health Engineering Department (PHED)	• Prepare Contingency plan • Enforce ground water legislation • Strict monitoring and vigilance on water for drinking purpose only. • Identify additional sources of water for maintenance of regular supply. • Ensure supply of sufficient water through tankers for habitats and cattle camps. • Provide household water purification tablets. • Augmentation of existing Resources • Hiring of Private Wells • Hand Pump repair programme • Installation of New Hand Pumps and Tube wells • Transportation of water through road tankers and by Rail • Earmark water for drinking purpose available in the tanks and ensure no illegal pumping takes place.

Sl. No.	Department	Disaster Specific Action Plan
		• Provide adequate quantity of bleaching powder to PRI, especially Gram Panchayats to protect spread of water and vector borne diseases. • Promote awareness on safe hygienic practices and sanitation.
4.	Department of Health and Family Welfare	• Health and epidemiology surveillance • Constitute mobile teams with required resources like medicines, doctors, paramedics, subordinate staff, laboratories, protective gears, antibiotics, vaccines, etc. in abundance. • Mobile clinics for health check-ups • Organise regular rural health camps and keep public informed of such camps. • Check & monitor the nutritional status of affected people especially for women and children and give treatment. • Check samples of food grains, cooked food in community kitchens, etc. • Promote general awareness of health and hygiene • Manning of control room 24x7. • Maintain regular contact with EOC. • Keep all ambulances, mobile teams, specialists, blood, medicines, paramedics, etc. in a state of readiness. • Carry out triage. • Provide first aid to minor injuries. • Evacuate injured to hospitals. • Constitute and effectively deploy mobile teams having Doctors paramedical, • Set up health centres in relief camps and assure hygiene and sanitation. • Prevention/ control of epidemics and vaccination, availability of adequate x-ray machines and orthopaedic, neurology equipment. • Availability of stretchers, blood, medicines, ambulances. • Arrange additional beds and medical treatment in local and nearby hospitals as required. • Psychosocial counselling to distressed people. • Maintain continuous supply of medicines and emergency services till normalcy is restored.
5.	Disaster Management & Relief (DM& R)	• Ensure coordinated movement of all concerned departments, officials and agencies for combating Drought. • Make sufficient funds available for Drought response • Arrange regular meetings for updating the apex body and issue directions to all concerned departments regularly. • Document experiences and best practices
6.	Public Works Department (PWD)	• Listing of works that could be done as under relief programmes as per the priority • Carry out sudden checks and supervise the relief works. • Provide temporary employment opportunity to employable people from affected families • Manning of control room 24x7

Sl. No.	Department	Disaster Specific Action Plan
		• Maintain regular contact with EOCs at district / state levels • Keep all resources in the state of readiness • Assessment of damage to infrastructure, roads, bridges and buildings and commencement of restoration work. • Carry out search, rescue, evacuation, relief operation. • Clearance of roads and debris of collapsed infrastructures. • Identification and demolition of unsafe buildings/ infrastructures. • Barricade the disaster site and unsafe areas. • Identification and demarcation of safe areas and preparation of temporary shelters for relief camps. • Prepare temporary roads and bridges, helipads and air strips on the need basis for effective relief operations. • Deployment of heavy equipment like dozers, excavators, cranes, pulleys, power saws, gas cutters, L&Ts, JCBs and other specialist equipment and vehicles. • Restoration of buildings, roads, bridges and other Government buildings. • Ensure close monitoring of response and rehabilitation operations and relief camps.
7.	Civil Supplies and Public Distribution System (PDS)	• Distribution of food packets, dry rations, fuel, oil and other essential items • Take precautionary steps against hoarding and profit mongering and ensure normal prices of commodities in the market. • Adequate supply and reserves of FOL and coordinate with all the national agencies for smooth transportation of food and civil supplies. • Supply daily necessities of food items, stock position and ensure continuous supply, in relief camp too. • Coordination with FCI/ warehouses. • Make public aware through media about food distribution and about the availability of items at subsidized rates.
8.	Municipal Corporation	• Coordination and supply of safe drinking water using tankers, etc. • Manning of control room 24x7. • Issue warnings to all Fire Service stations. • Keep all resources in a State of readiness • Assist in evacuation, search and rescue operations. • Ensure availability of all types of extinguishers for fire following earthquakes. • Appoint labourers for excavation works; dismantle unsafe buildings, disposal of solid garbage and liquid waste, disposal of dead persons and carcasses. • Control other potential hazardous situations that might arise from oil, gas and hazardous material spills. • Organise relief camps wherever required; ensure pure drinking water, Sanitation, food, temporary shelters, basic relief materials as per requirements and needs. • Assist in post disaster response and rehabilitation work

Sl. No.	Department	Disaster Specific Action Plan
9.	District Administration	• Prepare Drought Contingency Plan. • Issue necessary directions/ instructions to all concerned departments to be proactive to combat the upcoming situation in an effective and coordinated manner. Ensure effective coordination with all departments, agencies, NGOs and stakeholders. • Arrange/mobilize equipment and resources like water tankers, trucks/ vehicles to transport food supply, fodder, mobile medical vehicles, ambulances, etc. • Arrange for disposal of dead carcasses. • Generate daily reports of relief activities and disseminate. • Organise relief camps wherever required; ensure pure drinking water, Sanitation, food, temporary shelters, basic relief materials as per requirements and need. • Media Management • Procure tents, sanitation block, essential materials, etc. for relief camps.
10.	Department of Information and Public Relation	• Information dissemination, issue periodic bulletins to media. • Ensure information given to media are facts and true to avoid rumours. Arrange visit for media personnel in affected areas. • Information dissemination, update public on various relief interventions. • Operate the Control Room round the clock. • Nodal person to be designated as spokesperson for the Government. • Information dissemination, issue periodic bulletins to media.
11.	Emergency Operation Centre (EOC)	• Coordinate and issue direction to all concerned stake holders/ departments regularly • Brief the Disaster Management & Relief Commissioner regularly. • Coordinate the relief and rescue operation. • EOC to function as control room where all SDMA members and experts from various departments are available and take charge for effective coordination monitoring and implementation of rescue operations. • Prepare, forward and compile reports and returns from time to time. • Brief media regularly about the situation' • Brief/ Update the Govt.
12.	Police	• Manning of control room 24x7. • Maintain regular state of readiness • Communication to EOC and stakeholders instantly. • As first responder assume command for security and law and order • Demarcate entries and exits for rescue and relief operation and proper traffic management. • Support SDRF, Civil Defence, Home Guard, Army, Sainik Kalyan and other first responders for search and rescue. • Take necessary actions to avoid rumours. • Ensure prevention of theft and loot. Deployment of lady police personnel in relief camps for Gender concerns.
13.	Electricity Board	• Issue direction to all officials/ staff.

Sl. No.	Department	Disaster Specific Action Plan
		• Manning of control room 24x7. • Keep all resources in a state of readiness • Immediately shut down the supply of electricity in the area • Start restoration work of the damaged lines • Simultaneously, make electricity arrangements at the rehabilitation, relief camp areas.
14.	Rural Development Department (RDD)	• Issue warnings to all officials/ staff. • Manning of control room 24x7. • Keep all resources in a state of readiness. • Distribution of relief materials • Relief equipment, tractors, labour, digging/ excavation tools, etc. to be arranged to mobilise and Support in organizing relief camps wherever required • Ensure pure drinking water, Sanitation, food, temporary shelters, basic relief materials as per requirements and needs. • Arrangement of Rural relief camps • Arrangement of community kitchens. • Assist in post disaster response and rehabilitation work
15.	India Meteorological Department	• Transmit updated information to EOC • Mass media publicity/ issue bulletins at regular intervals.
16.	Railways & Transport Department	• Manning of control room 24x7. • Alert officials/ staff and keep all resources in a state of readiness. • Search, rescue and evacuate injured persons to safer places. • Assess the situation for appropriate actions. • Regulate the movement of all trains and passenger buses • Carry out inspection of railway bridges and lines. • Deployment of equipment like generators sets, pump sets, cranes pulleys, dozers, gas cutters, earthmovers, labourers for clearance of fallen bogies, electricity Poles, damaged tracks, etc. • Transport and provide emergency tents, water, medicines, food, etc. to the accident site. • Adequate arrangement of specialized trains, truck and buses for transportation of rescue and relief material. • Restoration of damaged railway lines, electricity poles to restart services as soon as possible.
17.	NGOs	• Provide first aid, health services, arrangement and distribution of food and relief materials, assistance to authorities, financial assistance, etc.