

MALDA



DIVISION

DISASTER MANAGEMENT PLAN



JANUARY-2020
PART-A

DISASTER MANAGEMENT PLAN



MALDA DIVISION

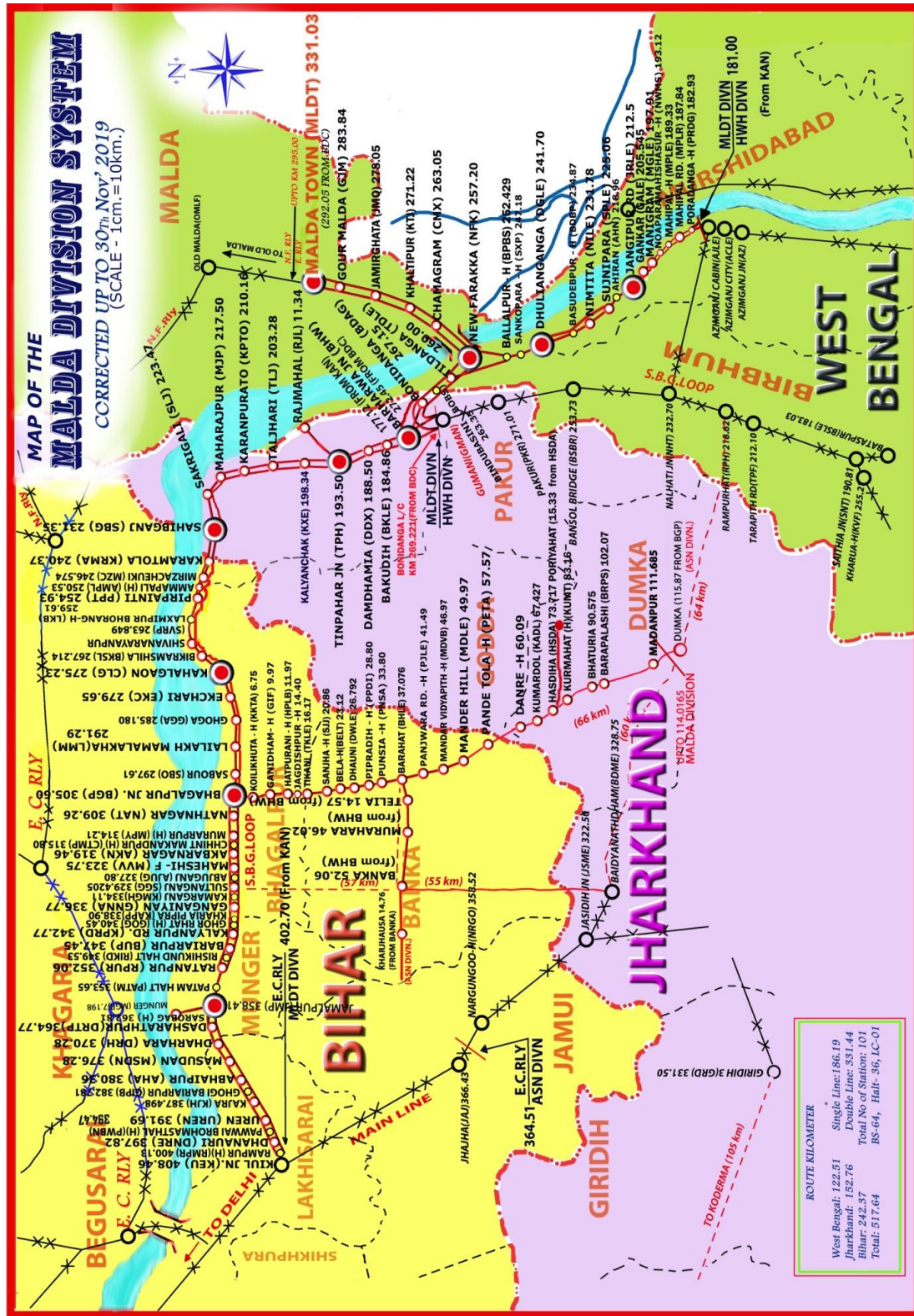
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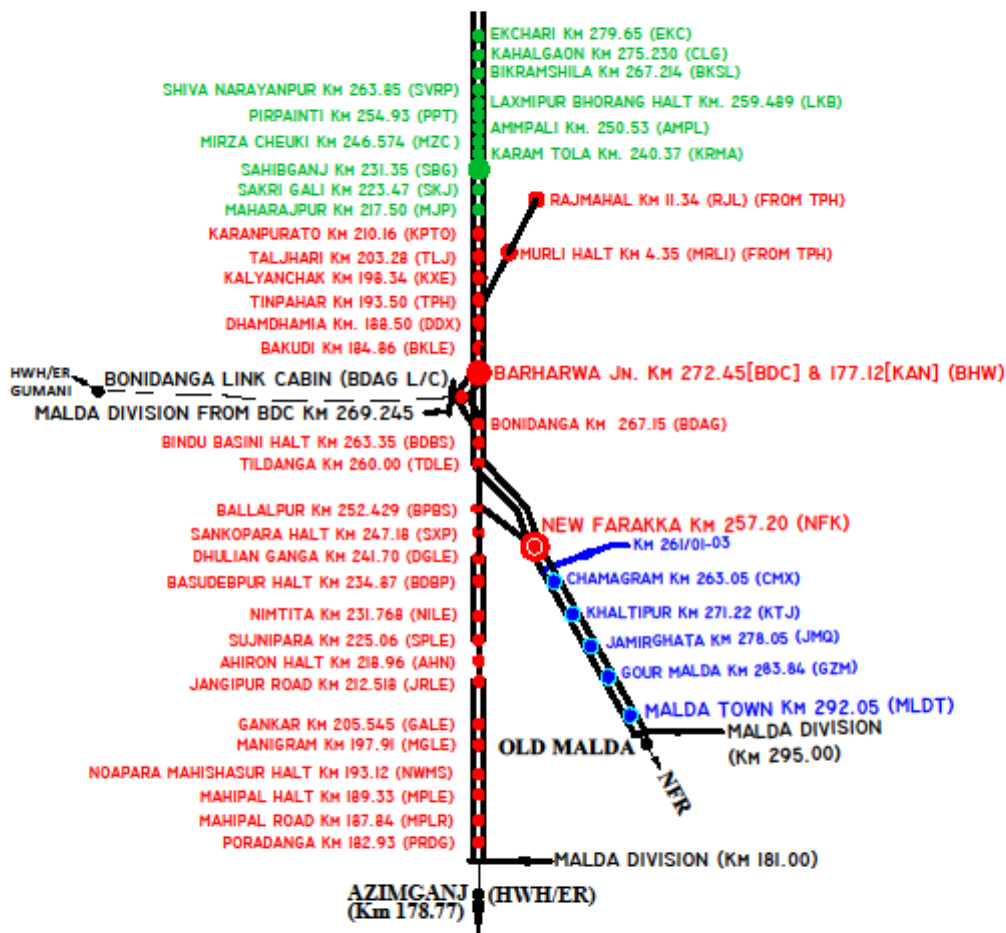
The information provided in this document is for the purpose of general guidance. Although all efforts have been made to ensure that it is authentic and accurate, however, in case of any conflict, the GR & SR /Accident Manual and other Codes would override.

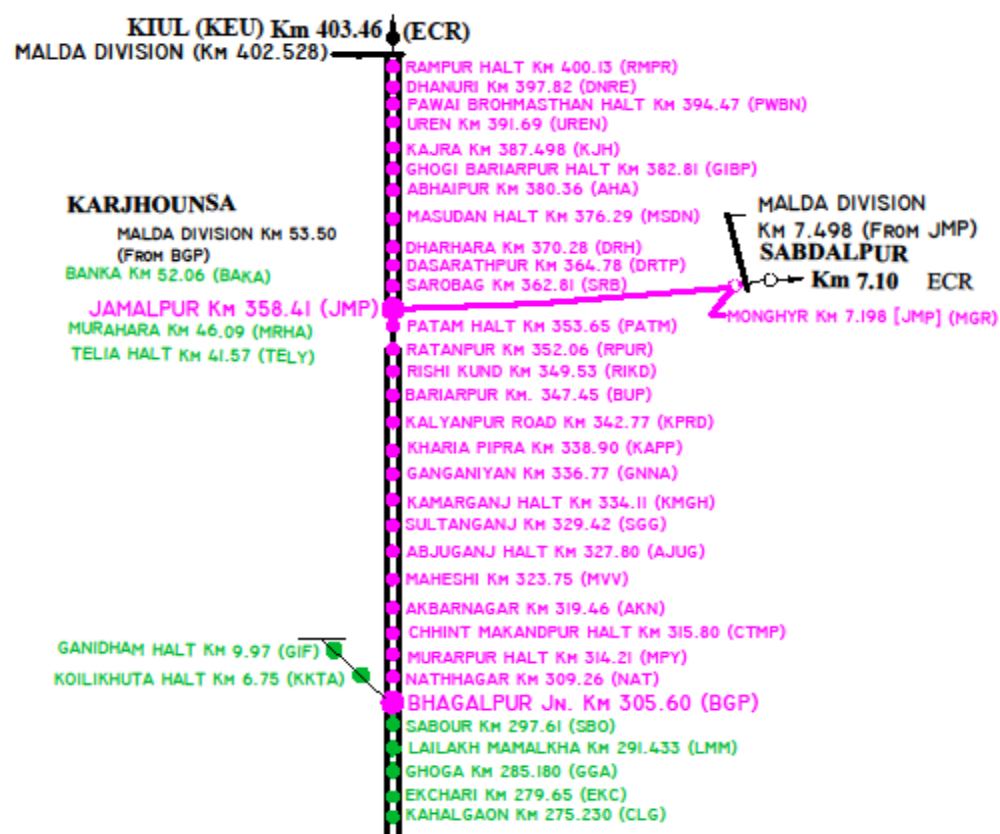
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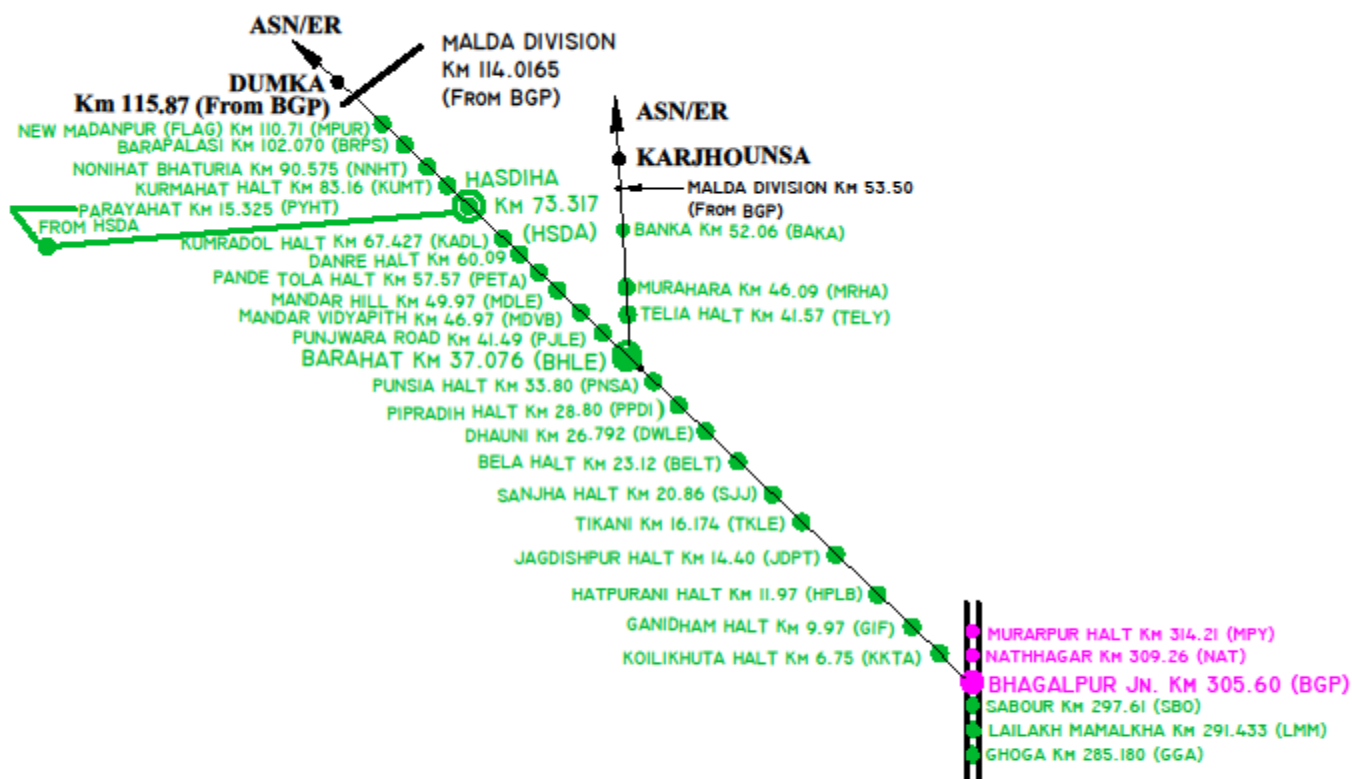






Route Map (KAHALGAON TO KIUL)

MALDA DIVISION



CHAPTER-1

DISASTER MANAGEMENT PLAN FOR MALDA DIVISION

1. **Definition** : Railway Disaster is a serious train accident or an untoward event of grave nature, either on the railway premises or arising out of railway activity in that area, due to natural or man-made causes, that may lead to loss of many lives and/or grievous injuries to a large number of people, and/or severe disruption of traffic, necessitating large scale help from other Government/Non-government and Private Organisations.
- 1.1 types of 'Disaster' may be as under –
 - Natural :: Flood, Cyclone, Earthquake, Drought.
 - Manmade :: Chemical/nuclear leaks, Accidents (Air, Rail, Road, Water)
- 1.2 Train accidents : The following classes of accidents normally cause disaster –
 - a) **Collision** :
Class A1 – Collisions involving a train carrying passengers resulting in loss of human life and / or grievous hurt and/or damage to property to the value of Rs. 2 Crore or over and / or interruption to any important through line of communication for at least 24 hours.
 - b) **Derailment** :
Class D1 – Derailment of a train carrying passengers resulting in loss of human life and / or grievous hurt and / or damage to property to the value of Rs. 2 Crore or above and / or interruption to any important through line of communication for at least 24 hours.
 - c) **Fire in train** :
Class B1 – Fire or explosion in a train carrying passengers resulting in (i) loss of human life and / or grievous hurt and / or (ii) damage to Railway property of the value exceeding Rs. 2 Crore and / or (iii) interruption of any important through line of communication for at least 24 hours.
 - d) **Level Crossing** :

Class C1 – Trains carrying passengers running into road traffic and / or road / traffic running into such trains at manned level crossings resulting in (i) loss of human life and / or grievous hurt and / or (ii) damage to Railway property and / or (iii) interruption to traffic is more than the threshold
- 1.3 In addition to what is laid down in the Accident Manual or any other Manuals, the concerned Hd. Qrs. as well as Divisional level officials will ensure that instructions given below are also followed strictly :

At Hd. Qrs level –

- 1.3.1 On receipt of information about an accident involving casualties, instructions will be given by CPTM immediately to form Hd. Qrs. Spl. at HWH.
- 1.3.2 **Following Officers will invariably accompany GM's Spl –**
CSO, CME, CSTE, PCE, CMD, CSTE, CEE, CSC, CCM(PS), CPO(A), PRO along with Photographer with digital camera and Video Camera. **CRS** (as per his decision): Any other Officers as per instructions.
- 1.3.3 The crack team from Hd. Qrtr. shall always accompany the GM's Spl. This should be organized by DGM(G) who is the leader of the team.
- 1.3.4 **Following arrangements will be made by PHODs for Hqrs. Spl –**
COMMERCIAL:
- CCM** Sufficient number of TTEs/TCs in uniform as are available be taken to site by CCM/PS along with the Spl.

PUBLIC RELATION :

CPRO/PRO will ensure that the official photographer takes along with him the digital camera as well as Video Camera.

TELECOMMUNICATION :

C.S.T.E Sufficient number of Satellite Phones & Other communication equipments e.g. Walkie-Talkie, VHF sets, Mega mikes etc. be taken along with telecom staff.

1.3.5 **HQRS. EMERGENCY CONTROL**

- i) AGM , DGM(G), COM, CPTM, CCE, CRSE, CELE, CPRO, CPO, Addl. CSC, DY. CMD, Dy. COM/Safety will direct the Divn. from the Hqrs.
 - ii) The Emergency Control which will be set up in CSO's Chamber. Hqrs. JAG Officers roster will be drawn up to man Emergency Control round the clock.
 - iii) A log register will be opened & maintained by these JAG Officers in which all relevant details of communication & conversations with site and other authorities, messages received & sent etc. will be maintained with time and date.
- 1.3.6 **AGM /DRM** will co-ordinate with Army/Air Force authorities for hiring of helicopter or passenger plane depending upon the place of accident. The arrangement should be kept ready so that it can be despatched as soon as required at site.

AT DIVISIONAL LEVEL :

- 1.3.7 DRM, CMS & Doctors, SR. DSO, Sr DEN/(C),Sr DME, Sr.DCM, Sr DEE/(G), Sr.DSTE, DSC/RPF, Sr DPO, with Photographer should reach the site by the quickest possible means but in any case not later than the Medical Relief Train (ARME). No ARME will be detained for any officer (except doctors) or on any other account. CWM/JMP Workahop & Sr. DME(Dsl.)/JMP may be informed in case of any serious accident in the beat of ART/ARME/SBG & JMP.
- 1.3.8 ADRM, SR.DOM, , Sr.DEN(2)/DEN-I, Sr DMO, AOM(Safety), ASTE, AME, ACM, APO, ASC/ RPF, AEE(G) will rush to the Divl. Control immediately on getting the first information and organize relief and rescue in best possible manner prior to arrival of ARME at site.
- 1.3.9 Nearest 4 to 5 even more ARMEs & ARTs should immediately be ordered irrespective of Divn./Rly. 140 T cranes should also be ordered in such a manner that at least 2 such cranes are available at site, one at each end, so that these may be utilized to tackle coaches/wagons to extract injured/dead persons.
- 1.3.10 Concerned Civil, Army, Air Force & Naval authorities including Fire Brigade & NGOs be intimated immediately by the divisional control for arranging rescue & relief of injured passengers.
- 1.3.11 The staff who are safe on the train (which is involved in accident) and nearest station staff be instructed to take immediate action at site for rescue and relief of passengers in the best possible manner taking assistance of the nearby people/villagers/local doctors etc. Each Stn. Master will have the list of doctors & important persons of the local area. These persons should be informed immediately for providing on the spot assistance in the best possible manner. The SM will also keep a list of availability of generators, petromaxes, cranes, bulldozers etc. so that the same are arranged quickly at the accident site.
- 1.3.12 Branch Officers will call their on line and Hqrs. supervisors/Inspectors to report at the place as instructed by the Branch Officer. Officers & Supervisors of the nearest stations be instructed to rush to site and render all possible assistance.

CHAPTER-2
DISASTER MANAGEMENT - ACTION PLAN
DEPARTMENT-WISE

ACTIVITY	ACTION
Operating Department	
1. Reporting of accident :	
a) i) Guard : Immediately after an accident to a train	Act as per rule No. 3.02 of Accident Manual.
ii) Engine Crew after an accident to a train	Act as per rule No. 3.03 of Accident Manual.
b) Station Manager of both sides of the affected section and Controlling Station Manager. Immediately after getting the information	Act as per rule 3.08 of Accident Manual.
c) Section Controller : On getting the information,	Act as per rule 3.15 of Accident Manual.
d) Chief Controller / Dy. Controller : On getting information from Section Controller,	Act as per rule No. 3.16 of Accident Manual.
e) Safety Officers of the Division : On getting an accident information,	Act as per rules 3.14 of Accident Manual.
f) Officer-in-Charge of Control Office :	Act as per rule 3.20 of Accident Manual.
g) Hd. Quarters Emergency Control	Act as per rule No. 3.24 of Accident Manual.
Electrical Department	
a) Traction Power Controller :	Act as per rule 3.18 of Accident Manual. Act as per rule 3.19 of Accident Manual.
b) Traction Loco Controller :	Act as per rule 3.21 of Accident Manual.
c) Divisional Electrical Officers :	Act as per rule 3.17, 5.10 and 5.18 of Accident Manual. Act as per rule 3.22 of Accident Manual.
Mechanical Department	
a) Power Control : On getting information of an accident.	Act as per rule No. 5.08 of Accident Manual. Act as per rule No. 5.09 of Accident Manual. Act as per rule No. 5.10 of Accident Manual.

b) Divisional Mech. Officers. : On getting information of an accident i) Calling of Relief Train ii) Assistance required iii) Despatch of R.T & M V ACCIDENT MANAGER : Seniormost railway personnel present at the site of the accident shall be designated as Accident Manager. A) Rescue Operation : Mechanical Officers Medical Officer B) Relief Operation : COMMERCIAL DEPARTMENT a) Divisional Commercial Officers and others MEDICAL DEPARTMENT a) Divisional Medical Officer : SECURITY a) Security Officers b) Crowd control : Divisional Security officers c) State Police Clearance and restoration : Security Dept. TELECOMMUNICATION DEPARTMENT a) Divisional Signalling and Telecom. Officers. PERSONNEL DEPARTMENT C) Restoration Operation Rolling Stock: (Mech. Department) a) Divisional Mech. Officers b) Fixed structure (OHE) (Elec. Dept.): Divisional Electrical Officers	Act as per rules 3.06 and 3.07 of the Accident Manual. Act as per rule 3.22 (v) of Accident Manual. Act as per rule 3.10 of Accident Manual. Act as per rule No. 3.11 of Accident Manual. Act as per rule 3.10 of Accident Manual. Act as per rule 3.09 of Accident Manual. Act as per rule 3.09 of Accident Manual. Act as per rules Nos. 3.09 and 5.23 of Accident Manual. Act as per rule 3.13 of Accident Manual. Act as per rule No. 3.12 of Accident Manual. Act as per rule 3.22 of Accident Manual. Act as per rule 3.21 of Accident Manual. Act as per rule 3.23 of Accident Manual. Act as per rule 3.13 of the Accident Manual. Act as per rule No. 5.21 of Accident Manual. Act as per rule 5.21 of the Accident Manual. Accident Manager shall be the chief spokesman at site. A) First Officer reaching the site of accident - (i) He will ensure protection to the line / lines. (ii) Attention to the injured should be on top priority. (iii) Sufficient number of First Aid Box in train and from the stations shall be arranged for rendering relief to the injured. (iv) He will arrange for security of luggage. (v) He will take steps for preservation of clues indicating cause of accident.
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c) Track : i) Divisional Engineering Officers d) Signalling System : i) Divisional Signalling and Telecom. Officer Maintenance of SPART / ART and ARMV Rolling Stock / BD Crane_including Rail cum road and road mobile emergency vehicle: Maintenance of equipments in SPART / ART / ARMV - Mechanical Dept., Medical Dept., Engineering . Dept., Electrical Dept., S&T Dept., MEDIA MANAGEMENT AT SITE : Check list of the Officers and Supervisors :	(B) Check list for senior-most Officer at site - At the site of the accident shall be designated as Site Manager and will act as per Accident Manual para 3.06 and 3.07. (C) (i) Headquarters Controlled Organisation - Headquarters controlled organization will act as per Rule No. 3.24. (ii) Division Controlled Organisation - Division controlled organization will act as per Accident Manual Rule No. 3.20. (D) Station Manager / Station Master - Station Manager / Station Master will act as per Accident Manual Rule No. 3.08.
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CHAPTER-3

3.1 Extracts of Accident Manual Rules as mentioned in the Disaster Management. Chapter of Accident Manual is appended below with relevant Para:

3.02 DUTIES OF GUARD -

Immediately an accident to a train takes place, the Guard of the train shall –

- i) Note the time of accident.
- ii) Arrange to protect adjacent line/lines, if necessary, and then the line on which the accident has taken place.
- iii) Send information through quickest means to Control / SMs on either side.
- iv) Take action to save lives, render first aid.
- v) Call for doctors on the train and seek their assistance.
- vi) Seek assistance of Railwaymen on the train for attending to the injured and for other relief operations.
- vii) Post Railway employee to man the field telephone to ensure regular flow of information to Control.
- viii) Make quick assessment of the assistance required and advise control or nearest Station Master.
- ix) Preserve and safe-guard all clues indicating cause of accident.
- x) Arrange protection of property of Passengers and Railway property with the assistance of RF, GRP and other Railway staff.
- xi) Take action as detailed in Paragraph 4.04 of Chapter IV in case of suspected sabotage.
- xii) Assist the Accident Manager in every possible way. He shall not leave the site of accident without the permission of the Accident Manager.

3.03 DUTIES OF ENGINE CREW -

Immediately after an accident takes place, the Engine crew shall -

- i) Protect the adjoining line/lines and the front portion of the train as prescribed in General and Subsidiary Rules 6.03 taking the assistance of any qualified staff, if available at site.

- ii) Take such technical precaution as may be necessary or as prescribed by special instructions to render his locomotive safe.
- iii) Render all possible assistance to the Accident Manager in relief measures to the injured and particularly in the assessment of damage to the Rolling Stock or locomotive and the nature of assistance required.
- iv) Take action as detailed in paragraph 4.04 of Chapter IV in case of a suspected sabotage.
- v) Take action to stop train passing on the other line by means of red hand signal, flasher light, fusee etc. in case of double / triple / quadruple section. `

3.06 DUTIES OF THE ACCIDENT MANAGER -

Relief operation will be organized immediately for which Accident Manager shall –

- i) Collect Railwaymen, Volunteers, Doctors and First-Aiders.
- ii) Allot duties to Railway staff, police, military and the security staff present at site and fix the priority of tasks.
- iii) Arrange rescue of passengers from the affected coaches and render First-aid and medical assistance.
- iv) Arrange for evacuation of the injured by the fastest available means to the nearest medical center, if necessary, by hiring private transport, the payment of which will be made from the station earnings.
- v) Ensure with the help of available staff and volunteers that belongings of the affected passengers are safely preserved for further disposal.
- vi) Ensure that authentic and correct information is passed on to the Control promptly to avoid any controversy.
- vii) Pay attention to the needs of passengers involved / stranded due to the accident such as, drinking water, tea, snacks, food / food packet etc. at Railway's cost to be paid from station earnings.
- viii) Maintain telephone contact with the Divisional Headquarters and depute necessary officers / staff for this purpose.

3.07 DUTIES OF THE SENIOR MOST OFFICER OF THE DIVISION –

On arrival of the Divisional Officers, the senior most Officers shall take over the responsibility of the Accident Manager. In addition to continuing the activities mentioned under 3.06, he shall –

- (i) Co-ordinate and supervise the work of staff of various Departments in relief and restoration activities. For this purpose a relief station should be started close to the site with walkie talkie communication facilities with the person in-charge of all the various functions, such as, Medical Civil Engg., Mechanical Engg. etc. at the site.

- (ii) Ensure that proper communication facility is set up by the seniormost officers of the Signal and Telecom. Department with the Control and arrange to relay all relevant information from time to time.
- (iii) Arrange to install a P&T Telephone with STD facilities, if possible, by the seniormost officer of the Signal and Telecom. Department from where the passengers are to be permitted freely to talk to their friends and relations. If that is not possible, message from passenger to their friends and relations should be communication through the Control office.
- (iv) Ensure that the Railway Doctors have taken over complete charge of treatment of the injured and have prepared the list of casualties indicating their names, addresses and nature of injury and have these information relayed to the Control. In case of any death, identity has to be established and the relatives are to be informed. If the entire picture is not available at a time, information may be relayed in instalments.
- (v) Arrange to shift quickly the injured to the nearby hospitals, health centers etc. The entire expenditure on transport and treatment is to be borne by the Railways.
- (vi) Make an assessment of the extent of damage, probable detention to traffic, assistance required, prima-facie cause of the accident and depute officers and staff for specific duties.
- (vii) Ensure that Officers / Supervisors of Commercial Department make all arrangements for instalments of passengers and their luggage in case of necessity and payments, if necessary, be made from station earnings. If road transport has to be used for instalments of passengers, payments will be made from the station earnings.

3.08 DUTIES OF STATION MASTERS OF BOTH THE SIDES OF THE AFFECTED SECTION /CONTROLLING STATION MASTER

Station Masters of both sides of the affected section/Controller Station Master shall.-

- (i) Ensure that no other train enters into the affected section. On double line, commutators of the block instruments controlling affected section should be locked in Train on Line position whenever possible.
- (ii) Advise the control immediately of the accident indicating the nature of medical aid and other assistance required and record the time of first information received in the Station Diary. If the station is not on controlled section or if the control telephone is inoperative, they must relay the information by any other means, such as, telegraph, if available at Station, P&T telephone, available either at station or nearby, message through the staff of outgoing train if any, or any light engine if available, or any other means.

- (iii) collect as many staff as possible (Except essential train passing staff) either on duty or off duty, local doctors including private practitioners on payment, non-railway porters, if available at the station on payment and rush to the site of accident for assisting in rescue operation. He will use any means of transport available including Push Trolleys or private road transport, on hire, a light engine, if available, or an engine detached from a train, etc. For the payment to the porters, private medical practitioners and also for the hiring of the vehicles, as mentioned above, he will withdraw cash from station earnings. He will collect and carry with him as much as drinking water as possible. He will distribute the Arm-bands for; identification to all the Railwaymen accompanying him to the site.
- (iv) Remain on duty at site for taking orders from the Control and the Accident Manager till relief and restoration work are completed or till the Accident Manager permits them to return to their Station.

3.09 DUTIES OF SECURITY OFFICERS -

- (a) DSC with ASC and RPF staff will rush to the site of accident. Instructions by designation with alternatives to cover the absence of any officer in this respect may be issued by DRM. At the site, the Security Officers are to report to the Accident Manager and shall -
 - i) Assist in the matter of relief and restoration work.
 - ii) Ensure that all wreckage and debris are untouched until the enquiry / investigation is completed. In the case of accident due to explosion, the materials should be kept intact except in so far as their removal maybe necessary for the rescue of injured persons and the recovery of dead bodies, until the Chief Inspector of explosives or his representative has completed his enquiry.
 - iii) Arrange to contact local GRP or Civil police to ensure that the accident has also been reported to them.
 - iv) Cordon the area from public to ensure that the relief operations are not interfered by the crowd.
 - v) Look after the luggage and belongings of the passengers of the ill-fated train. They should take control of the site for protecting unclaimed property and Railway property.
 - vi) Preserve all clues and obtain clearance from the Civil police for starting restoration work.
 - vii) Keep liaison with the GRP, Civil police and Medical Officers for disposal of dead body, if any, etc.

3.10 DUTIES OF MEDICAL OFFICERS-

DRM shall issue separate instructions nominating the Medical Officers visiting to the site of accident and those who shall remain at Divisional hospital as per priority list.

Medical Officers nominated for the site shall –

- i) Rush to the site of accident by quickest means. Accident Relief Medical Van / Road Medical Van is to be dispatched immediately as laid down in para 5.10 and 5.11.
- ii) Take over complete charge of treatment of the injured passengers. If non-railway doctors are already attending the injured at the site, co-ordinate their activities so as to ensure that the best medical treatment is given. Render First-Aid to as many injured passengers as possible immediately at the site with the help of other First Aiders trained persons available at site.
- iii) Set up a temporary field dressing room, if required, by making use of any accommodation belonging to the Railway, for example Refreshment room or Waiting room or Retiring room, etc.
- iv) Decide quickly the medical centers where the injured persons are to be shifted and co-ordinate with the Accident Manager to make arrangement for shifting.
- v) Assess the help or assistance required from Divisional Headquarters, neighbouring Divisions or Railway/non-Railway hospitals and arrange to inform them quickly about the assistance required.
- vi) Visit hospitals and other medical centers where the injured are admitted to see their progress and relay this information to Divisional Control as well as HQ Emergency Control. Cost of medicines for the victims taken to the hospitals (Railway or non-Railway) Medical Centres etc. is to be borne by the Railway.
- vii) Prepare a list of casualties indicating the name, age, sex, nature of injury, classification of injury i.e. grievous or minor etc. address, telephone numbers, if any. Regarding the death, the details, such as, name and address has to be established in co-ordination with the Commercial Officer at site.
- viii) Report in detail the progress of relief work to the Divisional Control as well as HQ from time to time.
- ix) Dead bodies at the site of accident should be handled with dignity and respect and proper arrangement should be made for keeping such bodies at the site covered with white sheets before their final disposal. Photograph of non-identified bodies should be taken. Dead bodies are to be shifted from the site and handed over to the Civil Police authorities as quickly as possible with a memo. All assistance to be provided to the police including the cost for shifting the dead bodies from the site of accident.

3.11 DUTIES OF COMMERCIAL OFFICERS –

- a) On getting the information of a serious accident, Sr.DCM with nominated Commercial Officers and Commercial Inspectors will rush to the site and ACM will remain posted in Control Office. Instructions by designation with alternatives to cover absence of any officer in this respect may be issued by DRMs.
- b) The Commercial Officer at the site shall –
 - (i) Render all assistance to the Accident Manager in rescue and relief operation to the injured persons and look after the needs of all passengers. The duties of the Commercial Inspectors and other Commercial staff available at site will also be allotted by him.
 - (ii) arrange supply and distribute food, snacks, beverage, etc. free of cost to all the passengers. These items are to be rushed from various stations and for ensuring timely and adequate supplies, he should liaise with the Commercial Officers deployed at the Control Office.
 - (iii) Watch that the catering staff travelling in the train or working at the site of accident or any other person supplying food, beverage etc, do not exploit the stranded passengers taking advantages of the situation.
 - (iv) co-ordinate with the Railway doctors and compile the list of casualties indicating their names, addresses, nature of injury, age, sex etc., and have the information relayed to the Commercial Officer deployed at the Control for onward dispatch.
 - (v) Arrange to send immediate messages to the relatives of those killed as also the injured either directly, if possible, or through the Control, and receive messages from the relatives and friends of passengers killed/injured.
 - (vi) Ensure withdrawal from station earnings for meeting expenses at the site of accident.
 - (vii) Arrange for ex-gratia payment to the injured passengers and relatives of dead passengers.
 - (viii) Arrange adequate transport, porters and Commercial staff to tranship the luggage of the marooned passengers. Similar arrangement for transhipment of parcel which have been unloaded should be recorded with full details and arrangement of safe custody made.
 - (ix) Inform Commercial Officer in Control for necessary liaison with Transport Authority in case of the marooned passengers are to be transported by bus.
- c) Commercial Officer deployed at the Control shall –
 - (i) Arrange to send drinking water, food snacks, beverage, etc., at the site from other situation.

- (ii) Arrange to relay the list of casualties including the names, addresses, age, sex, nature of injury, etc. as received from the Commercial Officer at site to the Emergency Control at HQRS, adjoining Division/Railway over which the train was scheduled to run, the terminals and the stations where the train was scheduled to stop.
- (iii) Co-ordinate with the Commercial Officer at site and arrange any other assistance required.
- (iv) Co-ordinate with the Chief Public Relation Officer and supply all information required by him.
- (v) Arrange for opening of Enquiry Offices at terminal station as well as at important stations enroute manned by additional staff to
 - (a) announce details of train(s) cancelled/diverted terminated short of destination.
 - (b) exhibit the list of injured and dead passengers and hospitals to which they have been admitted.
 - (c) arrange for transport of marooned passengers, if asked for.
- (v) Arrange for opening of counters at important stations for refund.
- (vi) Arrange for ex-gratia payment to the injured passengers and relatives of dead passengers who have not been paid by the Commercial officer at site.

3.12 DUTIES OF PERSONEL OFFICERS –

- (a) On getting information of a serious passenger train accident, the Sr.DPO with nominated Personnel Officers and Welfare Inspectors of the division will rush to the site. The nominated APO will go to the control office. Instructions by designation with alternative arrangements to cover the absence of any officer may be issued by the DRM.
- (b) **Personnel Officers at the site shall**
 - (i) Render all possible assistance to the Accident Manager in rescue and relief operation of the injured persons and look after the need of passengers, as directed by the Accident Manager.
 - (ii) Try to obtain written statement with names and addresses of independent witnesses, who may volunteer to give the same on their own regarding the accident and then pass on the information to the Accident Manager. This action, however, should not interfere with (i) above,
 - (iii) Keep liaison with the Commercial officers at the site and assist them for collection of names, addresses, nature of injury of the casualty and communication of the details to the control office. From the control office the relatives of the affected passengers, who are Railwaymen, should be advised by the DPO/APO, if necessary, by deputing Welfare Inspectors. As regards non-railway passengers affected in the accident, the Personnel officers will give necessary assistance to the Commercial officers in advising the relatives, etc.

- (iv) Assist doctors in the hospitals for arranging medicine etc., to the injured passengers as per request made by the doctor-in-charge, till the injured persons are discharged from the hospital,
- (v) Assist officers of the Commercial department for payment of ex-gratia to the injured and relatives of the dead passengers and will also keep an account of all payments made,
- (vi) Make arrangements for issue of necessary passes as per rules mentioned in 5.34 to the relatives of the dead/injured passengers.

3.13 DUTIES OF SIGNAL AND TELECOMMUNICATION OFFICER.

- (a) On receipt of information of a serious accident, the DSTE with his Inspectors will rush to the site of accident and a ASTE will go to the Control Office. Instructions by designations with alternative arrangements to cover absence of any Officer may be issued by DRM.
- (b) The Telecommunication Officer visiting the site shall-
 - (i) Render all assistance to the Accident Manager in rescue operation.
 - (ii) Ensure installation of a Railway 'phone and a P&T telephone if possible with STD facilities. A register should be opened to log the nature of calls made, duration, etc. in case of installation of a P&T 'phone with STD facilities.
 - (iii) Depute one inspector for manning the telephones till full restoration has been achieved.
 - (iv) Arrange to ensure connection with the required person.

3.14 DUTIES OF THE SAFETY OFFICERS OF THE DIVISION -

- (A) SR. DSO with Safety Counsellors and TIs will rush to the site of accident. DRM shall issue separate instructions as per priority list in case SR. DSO is out of station. They are to report to the Accident Manager and shall -
 - (i) Assist in the matter of relief and restoration work.
 - (ii) Try to find out the cause of accident and should also preserve the clues, if available on the accident for future enquiry.
 - (iii) Keep constant touch with all other Departmental officers at the site and relay progress report frequently to the Divisional Control office for onward dispatch to HQ and Railway Board.
 - (iv) Collect the following important information with the assistance of other inspectors present
 - (a) The condition of the track, with special reference to alignment, gauge cross-levels, curvature, super elevation and rail head wear.
 - (b) The condition of rolling stock with special reference to brake power.
 - (c) The position of block instruments, signals, points, point levers, indicators and keys.

NOTE - Any signal, Brake-van or disc signal lamps, if not alight during darkness, should, when possible, be opened to ascertain if there is a burner and kerosene oil inside and the temperature felt by hand to ascertain if it was alight shortly before.

- (d) Mark on sleepers and rails.
- (e) Position of derailed vehicle. A rough sketch showing the position of derailed vehicles, marks on sleepers etc. should be made where possible.
- (v) Seize the Train Signal Register, Private Number Sheet, the Line Admission / Departure Book and relevant records, if the accident has occurred within a station yard, also record the names of persons in whose possession each Line-badge, if in use, and obtain statements of station staff concerned, if necessary.
- (vi) Note the position of detached or broken parts of permanent way or rolling stock and secure these parts for production at the enquiry and preserve similarly sleepers and rails bearing marks of wheels, specially between points of mount and drop. If, however, the accident is suspected to be the result of sabotage, none of these objects must be disturbed until a thorough examination by police (please see Chapter - iv) containing instructions in case of sabotage).
- (vii) Arrange taking of photographs of important features in all cases of very serious accidents specially when sabotage is suspected. Photographs showing the position of derailed vehicles, loose permanent way and engine fittings, dents on rails, etc. are very useful in facilitating the Enquiry Committee to arrive at the cause of the accident.
- (B) AOM(S) of the Division should rush to the Control and shall -
 - (i) collect the detailed report of the accident and relay the same to the Headquarters.
 - (ii) keep constant touch with Sr.DSO/Accident Manager at site and relay the progress report whenever available to the Headquarters.
 - (iii) open a Log Book in the Control Office for keeping the details of the accident and progress report.
 - (iv) chase the assistance required from the site in consultation with other Departments.

3.15 DUTIES OF SECTION CONTROLLER –

When a Section Controller is informed of a serious accident on his section, he shall -

- (i) Apprise the Deputy Controller of the available particulars of the accident and the nature of assistance required.
- (ii) Arrange for a clear passage of the Medical Van or Break down train giving them precedence over all other trains.
- (iii) Advise the Transportation Inspector and the Controlling Station Master to proceed by first means to the site of the accident.

- (iv) Obtain further details with regard to the extent of damage so that necessary permanent way fittings etc. can be arranged to be transported to the site of the accident.
- (v) Obtain from a responsible official at site the time that is likely to be taken for clearing and repairing the permanent way so that time by which the line will be available for traffic can be assessed.
- (vi) Regulate trains on the section as required, keeping loop lines clear on either side of the affected section for breakdown and evacuation operations.
- (vii) Arrange for quick passage of the Tower Wagon / Motor Trolley with similar preference like the breakdown train in the event of their being required at the site of accident.

3.16 DUTIES OF CHIEF CONTROLLER / DEPUTY CONTROLLERS –

Each Division will specifically define the duties of the Chief Controller/Dy. Chief Controller by designation so that all the activities mentioned below are done simultaneously without any loss of time. The Chief Controller/Dy. Chief Controller on duty on receipt of information of a serious accident, shall –

- (a) Order Medical van and the Accident Relief Train. In case the site of accident is close to the jurisdiction of adjoining Division, Medical Van and ART of that particular Division should be requisitioned immediately.
- (b) Inform immediately the Medical Supdt. and also the on duty officer of the Emergency ward of the hospital.
- (c) arrange for dispatch of the Medical Van within 15 minutes on receipt of the information directly from a double exit siding (within 25 minutes from a suitable running line in case of single-exit siding), reckoning these targets from the time the Medical Van is ordered, and shall also ensure that the Relief Train is called for immediately and that it leaves the shed within the target time of 30 minutes during day and 45 minutes during night.
- (d) Ensure that the Accident Relief Train and the Medical Van is given precedence over all other trains.
- (ii) Take assistance from other Controllers/ Dy. Controllers for relaying the information quickly and simultaneously to the following officers in order of priority.

(a) DRM (b) ADRM (c) SR. DSO (d) Sr.DOM (e) AOM(S) (f) AOM (G) /AOM(Chg.) (g) Sr. DEE(G) (h) TI Emergency)/H.qrs. (i) Safety Counsellors (j) Power Controller (k) Carriage Controller (l) Engineering Control (m) Commercial Control (n) Security Control (o) GRP (p) Local Administration (Civil and Police).

CWM/JMP Workahop & Sr. DME(Dsl.)/JMP may be informed in case of any serious accident in the beat of ART/ARME/SBG & JMP.

The Control of the concerned Department will in turn inform their officers immediately. In case of non-availability of any Departmental Controller, the information to the officers of that branch should be given by Chief Controller or Dy. Chief Controller. In case the site of accident is closed to the Hd. Q.R.S. of other Division's ART Depot or ARME Depot, DRM, ADRM, Chief Controller of that Division should be informed of the fact of the accident and the assistance required immediately.

- (iii) Advise the Transportation Inspector and the Controlling Station Master to proceed to the site of accident by first available means.
- (iv) Regulate the traffic correctly in either side of the site of accident. Goods trains are to be stabled as far as possible and Passenger Trains are to be detained at stations having facilities for supply of food and drinking water.
- (v) Inform the passengers at the starting station through Public Address System timely regarding all changes in train timings and diversion or cancellation of trains, if any.
- (vi) Intimate timely to the adjacent Divisions and concerned Railways regarding the accident and the change in traffic pattern.
- (vii) Advise RMS authorities in the event of train carrying Mail involved in accident.
- (viii) Assist the Sr. DOM or the officer who takes charge of the Control Office.

3.17 DUTIES OF POWER CONTROLLER:

Power Controller on receipt of the information of an accident, shall -

- (i) Inform departmental Divisional Officers immediately.
- (ii) Ensure turning out of the Medical Van and Relief Train promptly within the target time.
- (iii) Inform subordinate staff concerned in time to proceed to the site of accident by the Medical Van/Relief Train.
- (iv) Arrange/regulate the power of trains judiciously and systematically to avoid unnecessary detention.
- (v) Arrange relief to the running crew engaged in relief operation at the site of accident.

3.20 DUTIES OF THE OFFICER-IN-CHARGE OF THE CONTROL OFFICE -

The Sr. DOM , AOM(G) and AOM(Chg.) will rush to the Control office immediately on being informed of the accident. Sr. DOM or in his absence the AOM(G)/AOM(Chg.) will become incharge of the Control office who shall -

- (i) Set up immediately an Emergency Control manned by at least an Asstt. Officer in each shift. A Chronological Log Book will be opened. For proper maintenance of the Chronological Log Book, please see note below.-
- (ii) Keep in touch with the Accident Manager at the site of accident, ascertain any assistance that is required at the site and making arrangement for it.
- (iii) Pass on any supplementary information regarding the accident or clearing operations to the Emergency Control of Headquarters
- (iv) Regulate traffic by diverting or cancelling the trains, running duplicate trains or restricting booking or arranging for transshipment or diversion, as circumstances may require, after obtaining reliable information from the site about the probable detention of traffic.
- (v) Assist SR. DSO at the site by sending AOM(G) / AOM(Chg.) to control train movement.
- (vi) Keep in touch with COM/CSO/CPTM regarding progress made at the site of accident.

NOTE - Regarding maintenance of Log Book -

In the log book left side of the pages should be ear-marked for incoming message / information, the right side for outgoing message. For the incoming messages / information, Sl. No. Time, Message received from (both name and designation) recorded by (both name and designation) are to be recorded. It should be specially noted that information received from the site will not be in form of messages; however, while recording them care should be taken about the details as out going messages may be formed on the basis of such incoming information. For the outgoing messages, similarly, Sl. No., Time, relayed to (both by name and designation) and message given by (both by name and designation) should be carefully recorded. If the same message received from some sources has to be repeated to some other, the entire text of the message need not be copied on the outgoing side; only a reference to be made, such as, Item No. so and so of incoming message. This procedure should be carefully observed particularly in giving messages to other Railways and the Railway Board to whom all information communicated shall be in message form only.

3.21 DUTIES OF THE OFFICERS OF ELECTRICAL DEPARTMENT -

- (i) Sr. DEE(G) should rush immediately to the site of accident with their Inspectors and report to the Accident Manager and assist him in all respects. AEE(G) will remain in the Control Office to maintain co-ordination with the site. Instructions by designation with alternate arrangements to cover absence if any officer will be issued by DRM. Sr. DEE(G) should ensure that proper lighting arrangements, if required, are made at the site of accident.

3.22 DUTIES OF THE OFFICERS OF MECHANICAL DEPARTMENT -

- (i) Sr. DME should rush to the site of accident and report to the Accident Manager and assist him in all respects.
- (ii) DME(P)/AME will go to the Control Office. Instruction by designation with alternative arrangements to cover absence of any officer will be issued by DRM.
- (iii) Senior Officer of the Power Branch should note down his observations regarding the measurements and other details of the loco and supervise the working of crane.
- (iv) Senior Officer of the C&W Department should record the details regarding the brake power and other aspects of Rolling Stock and note down the measurements of the Rolling Stock as well as the track jointly with the Engineering Department and ensure the fitness of stock to be moved out of accident site.
- (v) Seniormost officer of Mechanical Department is responsible for working at ART and crane(s) at the site of accident for re-railing and restoration work.

3.23 DUTIES OF THE OFFICERS OF ENGINEERING DEPARTMENT -

- (i) Sr. DEN(C) should rush to the site of accident with his staff and report to the Accident Manager and render all possible assistance to him in rescue and relief operation. He will be responsible to mobilize man-power as may be required at the site of accident as well as of track materials which may be required. Sr.DEN(II)/DEN(I) should remain in Control Office for co-ordination. Instructions by designation with alternative arrangements to cover the absence of any officer will be issued by DRM.
- (ii) They will take the measurements of the track as well as Rolling Stock jointly with the Mechanical and Electrical Departments.
- (iii) In the event of line being breached or permanent way being damaged, it is the responsibility of the Engineering Department to restore the track to safety and to take such precautions as may be necessary, for safety of the section where such repair works are proceeding. The P. Way materials required at the site should be collected and sent to the site for speedy restoration work.
- (iv) The time likely to be taken for restoration should be assessed and reported to the Control.
- (v) the line is not to be reopened for traffic until a Permanent Way Inspector or an official of Engineering Department intimates in writing to the Station Master or Senior Traffic Official present that the line is safe for the passage of trains.

CHAPTER-4

4.01 On reaching site, following action will be taken by the respective Branch Officers/Officials quickly within GOLDEN HOURS which should be understood as given below –

“If a critical trauma patient is not given definite medical care within one hour from the time of accident, chances of his ultimate recovery reduce drastically, even with the best of Medical attention thereafter. This one-hour period is generally known as The Golden Hour.”

During this Golden Hour period every effort should be made to:

- i. Render definite medical care to the extent possible preferably by qualified medical practitioners.
- ii. Stop bleeding and restore Blood Pressure.
- iii. Persons under shock should be relieved of shock immediately.
- iv. Transport casualties to the nearest hospital so as to reach within this Golden Hour period. For being effective, any Disaster Management System should aim at recovering as many critical patients as possible and rushing them to hospital within this period.

Duties of Divisional Railway Manager

- i) Ensure that functionaries of different branches at the accident site carry out duties assigned to them as per Zonal and Divisional DM Plan.
- ii) Co-ordinate with Divisional Emergency Cell regarding assistance required.
- iii) Co-ordinate with Civil Authorities especially with regard to:
 - Requisitioning of buses from State Transport Authorities, with drivers for round the clock duty.
 - Waving off of post Mortom formalities.
 - Positioning of Municipal Officials in the CAC for issuing of Official Death Certificate.
- iv) Ensure that proper assistance is rendered by each department.
- v) Ensure that in addition to one vehicle available in control Office round the clock, sufficient numbers of vehicles are available along with particulars of the Drivers.
- vi) Immediately decide which officer should go by road/ART/ARME.
- vii) Nominate the officer to man control Office.
- viii) Depute ADRM as in charge in control office if proceeding to the site.
- ix) Arrange to advise the Home Secretary/Chief Secretary or other Officers of the State in case of sabotage for prompt attendance of the S.P.
- x) Function as the senior most officer and as “Accident Manager”.

- xi) Arrange a preliminary enquiry by Divisional Officers, in cases where an enquiry by the CRS/SAG Officers is to be held but immediate investigation of certain matters is necessary.
- xii) Appoint two officers as reporters of serious accidents.
- xiii) Arrange for taking joint observation/reading by supervisors.

Duties of Additional Divisional Railway Manager

- i) Undertake making of announcements over local TV channel and Cable network for all supervisory staff to rush to the accident site.
- ii) Ensure that functionaries of different departments in Divisional Emergency Cell carry out duties assigned to them as per Divisional DM Plan.
- iii) Monitor movement of assistance from other division/zones.
- iv) Co-ordinate with State Govt.
- v) Co-ordinate with Defence and Para Military authorities.
- vi) Monitor various important media channels to keep track of media reporting. Suitable corrections/clarifications may also be issued, if required.

Medical :

Doctors on reaching site will take immediate action for rescue & relief of injured/dead persons as per their Medical Manual. They will also ensure keeping full details of the injured/dead persons e.g. time, coach & berth numbers from where taken out, time of dispatch to hospital, details of hospital, nature of injuries etc. Photographs of injured & dead persons should also be taken.

Mechanical :

All necessary assistance be immediately provided to medical team for rescue and relief work through cold/gas cutting, lifting of coaches with jack/crane or any other help asked for. ART should be well equipped for rescue and relief operations to meet fundamental requirement including tents in required numbers.

Commercial :

All commercial staff will concentrate on the following two most important aspects :-

- i) Assisting doctors & para medical staff in taking care of injured persons.
- ii) In taking care of unhurt passengers, following aspects be specially taken care of -
 - a) assisting passengers in informing their relatives,
 - b) getting their luggage taken out from coaches and shifting it to the relief passenger special through porters & other staff available at site.
 - c) providing them water tea/coffee, snacks etc.,

- d) get the tents installed with sufficient chairs etc. for the passengers by the Engg. Dept.
 - e) getting the passengers photographed & transmitted through the PC to Divisional & Hqrs. controls.
- iii) For performing the above duties, lady staff from TC/BC etc. should be deployed, as required, to deal with lady passengers.

Sr.DCM will nominate staff separately for the above mentioned aspects (i) and (ii).

1. Divisional Control to make arrangements for drinking water, tea/ coffee, snacks, food etc. from Departmental /outside catering services. This should be done by the Divl. Control even before the arrival of ARME.
2. The Divl. Control should rush the first available passenger rakes to site as Pass. Relief Spl. One Officer or Inspector should be deputed on each of the special trains to co-ordinate & for taking care of passengers' needs. Maximum No. of Commercial & Engg. staff available should come to site with the relief special to assist in shifting of passengers and their luggage.
3. Arrangements be made at intermediate stations to provide water, tea, food etc. on the Passenger Relief Special.
4. Divl. Control should order on priority for arranging Ice, Coffins for dead bodies. Coffins will be arranged by Divl. control through Engg. branch on written memo of Sr. DCM/ SR.DOM
5. Divl. control will arrange for opening of the Public STD booths available nearby the site if these are closed.
6. Ex-gratia payments be arranged in time.

PUBLIC RELATIONS

1. Media Camp will be set up by the Divl. PRO/PRI immediately after the arrival of ARME/ART.
2. Any information to the media should be given with approval of the officer in charge of site.
3. Extensive photography be undertaken (through the Digital as well as Video Camera) of the passengers both injured and unhurt so that the same can be relayed through e-mail to Divl. Control & Hqrs. Emergency Control for putting the same on the TV channels.

ELECTRICAL

1. The whole area be lighted immediately on arrival of ARME if it is night time.
2. Electrical plugs be provided by Sr.DEE/G for installing PCs & FAX machines at site by Sr.DSTE.

SECURITY

- 1) DSC will immediately get the site cordoned off and protect the passengers luggage and personal belongings.
- 2) On-looking crowd be kept away from the work spot so that there is no obstruction in the rescue & relief work. For this extensive use of red and white tape be made.
- 3) RPF staff should also use mega mikes for controlling.
- 4) RPF will keep unclaimed luggage in their safe custody or deposit with Civil authorities with proper record.
- 5) Lady RPF constables should be nominated to attend sites of accidents for dealing with lady passengers and their lady relatives.

SIGNAL & TELECOM

- 1) Sufficient No. of Mega Mikes & Walkie Talkie, VHF sets be provided immediately on arrival for rescue and relief work.
- 2) All clues of accident including the lever/panel position be preserved & recorded.
- 3) Rly. & DOT (with STD) phones in maximum possible number be arranged at site and at adjacent stations by coordinating with DOT authorities. Sufficient cables should be brought along with ARME & ART for this purpose. Site STD booth be set up in the least possible time. DRM will ensure that the communication center at site is regularly manned by an Asstt. Officer & TCI.
- 4) Maximum number of satellite/cellular phones be arranged even from adjoining divisions.
- 5) Centralised mike system be installed as early as possible with speakers provided at required locations (As per scheme given in Engg. item - 3).
- 6) FAX & PCs will be installed at site as early as practicable. Arrangements will be made to put the names of safe, injured & dead persons on Rly. website for information of the public.

- 7) STD equipped telephone should be made available to passengers to communicate with their relatives (Rly. Bd.'s letter No. 93/Safety-I/6/1 dt. 02-11-93).
- 8) Station Masters can hire a few cellular phones in case of passenger train accidents to meet the needs of stranded passengers, wherever cellular phone connectivity is available. The stranded passengers should be permitted to use these phone free of charge. (Rly. Bd.'s letter No. 2002/Tele/TN/1 dt. 12-5-03).
- 9) Sr.DSTE should prepare a map of the Division showing the areas where cell phone is operative / available.
- 10) Sr.DSTE should set up machinery to hire sufficient number of cell phones for emergencies.
- 11) These cell phones should be used to convey information regarding the safety of passengers to their friends and relatives.

ENGINEERING

1. Assist Medical & Commercial teams in rescue and relief operation and in transportation of passengers & their luggage in passenger relief special.
2. Ensure preservation of all the clues regarding track, bridge or any aspect concerning the engineering branch.
3. On arrival of ARME/ART, tents available therein, and arrangement of tents to be provided as under :-
 - a) For passengers
 - b) For Command Central
 - c) For Relatives
 - d) For Catering staff
 - e) For STD booth
 - f) For Medical First Aid
 - g) For communication center
 - h) For Media Centre.Later on bigger tents from outside sources should also be arranged for staff etc. if the site operation is expected to extend for more than 24 hours or so.
4. To assess the Engineering material required for restoration and inform control for arranging the same.

D. SITE MANAGEMENT PLAN:

There are 2 aspects of Disaster Management work at an accident site, Firstly rescue, relief and restoration operation, which is carried out by one set of functionaries, Second aspect pertains to rehabilitation of accident involved passengers taking care of dead bodies, dealing with their relatives etc. for which a different set of functionaries are required. For managing these 2 distinct aspects of DM work that are required to be discharged by railways, two separate establishment should be setup at an accident site. The outline schematic plan of accident site is given at annexure-1.

1. UNIFIED COMMAND CENTRE(UCC)

- i. Unified Command Centre (UCC) should be set up at the accident site.
- ii. This will be some kind of a control office to be located near the centre of the accident site.
- iii. This is basically meant for catering to operational needs of railway in rescue, relief and restoration work.
- iv. Detail schematic plan of UCC is given at Annexure-2
- v. UCC is to be manned by staff of relevant departments such as :
 - ✓ Medical
 - ✓ Commercial
 - ✓ Operating
 - ✓ Safety
 - ✓ Security
 - ✓ Public relations
 - ✓ Mechanical
 - ✓ Electrical
 - ✓ S&T
 - ✓ Civil Engineering
- vi. UCC will be provided with all facilities similar to a control office.
- vii. Adequate lighting with generator back up should be provided in the UCC.
- viii. Adequate number of telephone links to Divisional Emergency Cell and Hqrs. Emergency cell should be provided. Preferably each department in the UCC should be given an independent telephone.
- ix. Satellite telephone should be installed in the UCC.

- x. UCC should be provided with FAX, loudspeakers, PA system with conference facility for press briefing to be arranged by S&T Deptt. Mechanical Deptt. should arrange photocopier and PCs in consultation with Sr. EDPM.
- xi. PC/Laptop should be connected to Internet (if feasible) for E-mailing of details update to all concerned, including Divisional Emergency Cell, Hqrs. Emergency Cell and Helpline Enquiry Booths.
- xii. A big banner displaying 'UNIFIED COMMAND CENTER' should be put up at a prominent place at the entry to the *samyana*.
- xiii. Similarly, there should be sufficient number of signages indicating the way to UCC or approach roads etc.
- xiv. UCC at the site will be manned by Sr. Supervisors on round the clock basis in 12 Hrs. shift duty.
- xv. Officers will not permanently station in UCC. They will move about the entire accident site supervising and monitoring working of their department at different activity centres. However, they will keep coming to the UCC off and on and will keep in touch with their departmental functionaries in UCC.
- xvi. Various functionaries in the UCC will monitor and coordinate the working of their departments and assistance required by them, if any.
- xvii. Each functionary at the UCC will maintain a logbook. Flow of information both incoming and outgoing would be recorded along with the time and names of officers/staff who were given the message.
- xviii. UCC will basically supervise the working of 2 LCCs and coordinate with Divisional and Hqrs. Emergency Cell.
- xix. Functionaries of different departments in LCCs should provide updated information regarding progress of work to their counterparts in UCC.
- xx. This updated information should be provided once every 3 hours as per the following timings:
 - ✓ 1 hour
 - ✓ 4 hours
 - ✓ 7 hours
 - ✓ 10 hours
 - ✓ 13 hours
 - ✓ 16 hours
 - ✓ 19 hours
 - ✓ 22 hours

2. **Local Command Centres (LCC):**

- i. Depending on the spread of the accident site, Local Command Centres (LCC) on the same pattern as the UCC should be set up.
- ii. If the site is spread out over 300-400 metres 2 LCCs should be set up.
- iii. Detail schematic plan of LCCs would be similar to that of UCCs as given at Annex.-2.
- iv. Representatives of same departments as in UCC should be present in LCCs also. However, they should be either one or at most 2 men per department.

- v. LCCs will serve as co-ordination centres for various teams that are working spread out over different geographical locations.
- vi. Each LCC will oversee the working of DM Teams and one end of the accident site.
- vii. Jurisdiction of each LCC will extent to all men and materials belonging to 2 ARMEs, BD special and 1 ART at that end of the accident site.
- viii. One SAG Officer of Mechanical Department will be overall in-charge of each LCC.
- ix. LCCs should be provided with loudspeakers for making announcements.
- x. LCCs should be provided with direct telephone links to UCC.
- xi. However, LCCs should not be provided with telephone links to either Divisional Emergency Cell or Hqrs. Emergency Cell. This will ensure that there is minimum telephonic disturbance from outside to teams which are actually working at the accident site. It will also ensure that outflow of information from accident site goes out from UCC only.
- xii. Members of different teams of each department working at the accident site in rescue, relief and restoration work should provide updated information regarding progress of work to their respective functionaries at the LCC.
- xiii. This updated information should be provided once every 3 hours as detailed at 1(xx) above.

3. **Combined Assistance Centre (CAC) :- Single Window Clearance for passengers and their relatives**
 3.1 **Need for setting up of Combined Assistance Centre:**

- i. Relatives of passengers who arrive at an accident site are already traumatised by the tragedy.
- ii. They arrive at an unknown location with no place to stay, no friend or acquaintances and not knowing whom to turn to.
- iii. The problem is made even more challenging since many relatives and next to kin come from far-flung areas in some other state.
- iv. Being semi-literate and from different parts of the country some of them are not even familiar with the local language. For them even communicating becomes a problem.
- v. In addition to above, complex legal formalities and multiplicity of paper work is required to be completed before dead bodies are handed over to their next to kin.
- vi. For taking care of relatives of passengers, providing them with succour in their hour of agony and for guiding them sympathetically, some kind of an assistance centre is required.

3.2 **Formalities required to be completed by relatives of passengers:**

- (a) Sequence of formalities that are required to be completed by relatives of injured passengers includes:
 - i. Locating the name of the passenger on reservation charts, in case passenger was travelling in reserved accommodation.
 - ii. Going through the list of injured and dead passengers to find out whether the name appears.
 - iii. In case the name is not available in the list, then taking a round of different hospitals to find out whether their relative has been admitted in one of them in an unconscious state.
 - iv. Hospitals are generally at separate locations, sometimes even in different towns; and commuting becomes a problem.

- v. In case the passenger can be located in one of the hospitals, they have to find out the severity of injuries, likely period of hospitalization, etc.
 - vi. Collect the ex-gratia paid by railways.
 - vii. Try and locate missing luggage of the injured passenger. For this they have to take a round of the building where all unclaimed luggage have been kept.
 - viii. Next they have to arrange for a place for them to stay.
 - ix. Arrange for medicines/diet etc. and payment of hospital bills, if required.
 - x. Thereafter, they have to keep in touch with the hospital and get their relative released.
- (b) Additional formalities that are required to be completed by next of kind of dead passengers include:
- i. In case the passenger could not be located in any of the hospitals, then they have to go to the building where unidentified dead bodies have been kept.
 - ii. Take a round of various rooms where bodies have been kept, examine each body and try and locate their near and dear one.
 - iii. Identify the dead body, if the same has been extracted by them.
 - iv. Otherwise wait for all bodies to be extracted and try and identify their relative.
 - v. In case they fail to identify the same then they have to go through photographs of unidentified bodies taken at site.
 - vi. After the body is finally identified, they have to produce proof of relationship for railways to entertain their claim.
 - vii. Obtain medical death certificate from the railway doctor.
 - viii. Obtain post mortem report, from the Govt. Doctor who had performed post mortem on the body.
 - ix. Obtain official death certificate from the local municipality.
 - x. Accept of ex-gratia payment from railway.
 - xi. Collect forms for lodging claim for compensation in RCTs.
 - xii. Take over custody of dead body from the local police.
 - xiii. Perform last rites at the same place or take back the body to their native place, depending on circumstances.
 - xiv. Make arrangements for their return journey back to their native place.

3.3

Problem encountered by relatives:

- i. Each of these formalities are under the jurisdiction of a different agency, either railway or police or civil administration or local administration.
- ii. In such a situation the level of coordination between these various agencies leaves much to be desired.
- iii. Sometimes, it even takes up to 48 hours before these entire documentary formalities can be completed.
- iv. In most cases relatives have to run from pillar to post for completing all these formalities and the bitter experiences leaves them permanently antagonised towards railways.
- v. For this purpose a single window clearance system should be available for relatives and next of kin.

Combined Assistance Centre (CAC) : Details

- i. The UCC should have a Combined Assistance Centre (CAC) located towards the rear side, away from the track, for rendering help to passengers and their relatives. Outline schematic plan of UCC/CAC is given at Annexure-1.
- ii. This is basically meant for catering to requirements of passengers and their relatives/next of kin and for providing a single window clearance for all types of formalities.
- iii. Combined Assistance Centre (CAC) should be separate from the UCC so that it does not interfere with normal rescue and relief work.
- iv. Details schematic plan of CAC is given at Annexure-3.
- v. CAC will be manned by staff of relevant departments such as :
 - ✓ Operating
 - ✓ Medical
 - ✓ Commercial
 - ✓ Security
 - ✓ Personnel.
- vi. There should be only one such CAC, and all railway resources should be pooled into it.
- vii. LCCs should not have any small CAC located in the rear. It is likely to create logistic problems.
- viii. A big banner display "COMBINED ASSISTANCE CENTRE" should be put up at a prominent place at the entry to the samiyana.
- ix. Similarly, there should be sufficient number of signages indicating the way to CAC on approach roads etc.
- x. Railway staff fluent in the language of relatives should be posted for doing work of interpreters.
- xi. Post mortem formalities should be waived off so that one reduces number of formalities.
- xii. Different counters should be provided in sequence for each of these formalities, so that the entire exercise can be completed in about an hour.
- xiii. Functionary concerned from the local Municipality who issues Official Death Certificate should be made to come and sit in the CAC so that these certificates can be issued immediately without any delay.
- xiv. CAC should have different counters for various purposes in following sequence:
 - a) Reservation Chart for locating the name.
 - b) List of dead and injured along with name of hospital. The name of passenger involved should be checked up from the list of dead or injured if available, and their current status informed.
 - c) Counter for providing Commercial Supervisor or WLI as escort along with a vehicle, for accompanying the relative and going to hospital or mortuary.
 - d) Railway doctor for issue of Medical Death Certificate.
 - e) Govt Doctor for issue of Post Mortem Certificate, in case the same is necessary.
 - f) Municipality official for issue of Official Death Certificate.
 - g) Local police for issue of authority for handing over of dead body.
 - h) Claims counter-payment of ex-gratia and issue of Claims Compensation form.
 - i) Counter for helping performance of last rites in case relatives decided to cremate the body there itself.
 - j) Pass counter for issue of return journey pass.

k) Return journey facilitation counter for making arrangements for return journey.

4. **First Aid Posts:**

- i. Medical Posts should be provided in both UCC and CAC.
- ii. Medical Post in UCC will provide first aid to injured passengers after extrication, assess their injuries and make arrangements for sending them to nearby hospitals.
- iii. Medical Post in CAC will keep all records of injured and dead passengers, names of hospitals where they have been admitted etc.
- iv. First Aid posts should be provided in LCCs.
- v. This will be meant for treating passengers and classifying their injuries before they are sent for admission to various hospitals.

5. **Setting up of UCC, LCC and CAC:**

- i. One SSE /Works shall be exclusively responsible for setting up of these facilities. He shall undertake the following:
 - ✓ Move along with sufficient staff for setting up of these facilities.
 - ✓ Immediately start setting up of the tentage accommodation after taking out tents and samyanas provided in ARTs.
 - ✓ In addition, he should also requisition agencies, which provide tentage accommodation on contract. Details of such agencies have been given in Divisional Disaster Management Plan.
- ii. Bridge Line staff will assist in setting up tentage and above mentioned facilities. Dy. CE/Bridge will also move to the site and in case, bridge is not involved, he will take full charge of tentage arrangements.
- iii. Bridge Unit will take with them sufficient Manila ropes, wire ropes, survey instruments, binoculars, helmets, life jackets, ladders and other equipment. Nylon ropes should be sufficient in length to ensure barricading at sites and camping areas.
- iv. Sufficient facilities for erecting temporary stage/scaffolding etc. should also be organised, if required at site.
- v. Adequate temporary toilets should be provided at one location in addition to number of urinals at 3 or 4 places.
- vi. Water Tankers will be ordered for supplying water at site and arrangements shall also be made for drinking water.
- vii. Temporary kitchen in tents/samyanas is to be set up so that catering unit or IRCTC can provide cooked food to staff working at the accident site.
- viii. About 100 folding chairs should also be arranged.
- ix. Bridge line staff will have list of divers who in case of emergency can be hired for rescue or restoration operations wherever site is surrounded by deep water.
- x. Signages for both UCC and CAC should be provided at prominent locations.

6. **Collection and Dissemination of Information – Channel of Communication:**

The following would be the responsibility and channel both for collection as also dissemination of information. Before each shift goes off duty, details of work done should be updated in the LCC.

The LCC should in turn update the UCC regarding the latest progress. This updated information would be conveyed to Divisional Emergency Cell every 3 hours.

a) **Number of dead and injured – Medical Department:**

- i. Medical department at site should confirm the number of dead.

- ii. Doctors in charge of various teams working on different coaches should give 3 hourly report to Medical counter in LCC who in turn will inform UCC.
 - iii. Number of injured passengers.
 - iv. Type of injuries, whether grievous, minor or trivial.
 - v. Names of injured and names of various hospitals where injured have been sent.
- b) **Identification of dead bodies – Commercial Department:**
- i. Ex-gratia paid to injured.
 - ii. Number of dead bodies identified.
 - iii. Ex-gratia paid to dead.
 - iv. No. of bodies handed over to relatives
- c) **Number of coaches dealt with – Mechanical Department:**
- i. No. of coaches thoroughly searched.
 - ii. No. of coaches made off track
 - iii. No. of coaches yet to be dealt with.

OUTLINE SCHEMATIC PLAN OF UCC/CAC/LCCs



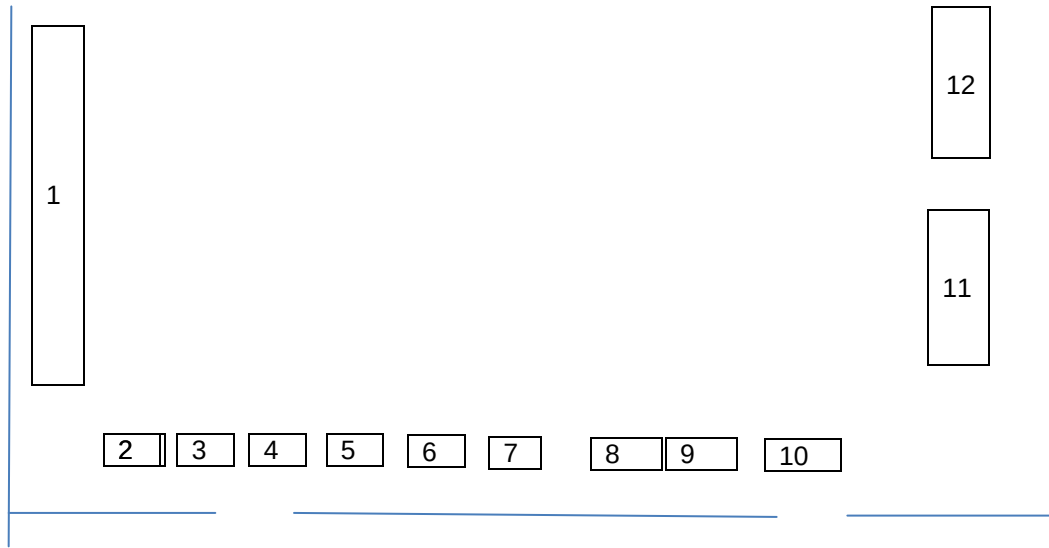
UCC : Unified Command Centre

CAC : Combined Assistance Centre

LCC-1 : Local Command Centre-1

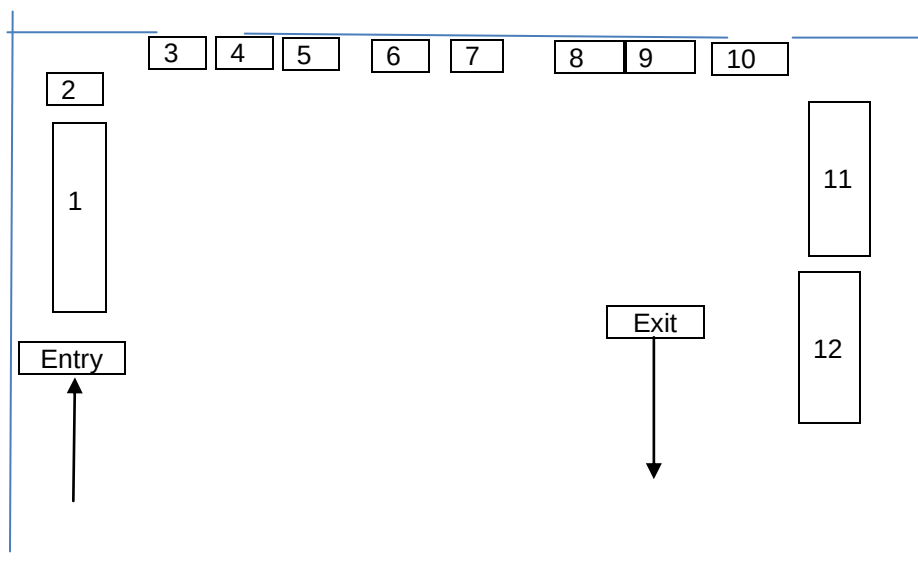
LCC-2 : Local Command Centre-2

DETAIL SCHEMATIC PLAN OF UCC/LCC



1	Medical	7	OC Site and Officers
2	Commercial	8	Mechanical
3	Operating	9	Electrical
4	Safety	10	S&T
5	Security	11	Civil
6	Public Relations	12	Spare

DETAIL SCHEMATIC PLAN OF CAC



- | | |
|--|---|
| 1 Commercial- Reservation Chart | 7 Municipality Official – Issue of Official Death Certificate |
| 2 Medical- List of dead and injured | 8 RPF/Local Police – Issue of authority for handing over dead body. |
| 3 Commercial – Provision of escort and vehicle | 9 Commercial – Payment of Ex-gratia, Issue of Claims Forms. |
| 4 Railway Doctor – Issue of Medical Death Certificate. | 10 Commercial –Assistance for performing of last cities. |
| 5 Govt. Doctor – Issue of Post Mortem Report | 11 Personal – issue of Return Journey Pass. |

GENERAL

1. It is important that all ART, SPARMV/ARMV, Engg. Group 'D' staff, Commercial staff at site are in full uniform. All doctors should also wear their dress as per laid down instructions.
2. Sufficient No. of orange coloured jackets & hats with Railway and Division inscribed on it should be stocked in ART which should be given to staff working at site so that Railwaymen are visible at site all over.
3. Special train/Trains should be started from division for transport of relatives. Special Train/Trains starting from any Division should invariably be under the charge of an Officer of that Division with sufficient number of staff/supervisors. The Officer will contact the relatives and co-ordinate with site & hospital officials on their behalf. He will also make arrangements for their food etc. both on run as well as at site. For this he may take the help of site officials or any other source.
4. No special train carrying injured passengers will be detained anywhere and will take precedence over other trains.
5. CPRO will arrange to issue updated bulletins for Press and Channels every 4 to 6 hours or even more frequently if required.
6. Any adverse publicity in media should immediately be brought to the notice of site in charge by CPRO for taking further action in respect of such items.
7. The details of passengers involved in Reserved coaches be taken out from the Reservations Charts/Reservation Slips/Computers/Mobile App/TV & Radio, from various Reservation offices concerned or any other confirmed sources etc., immediately after the accident by commercial Control (Sr.DCM) for intimation to the relatives of affected persons.
8. 'P' Branch Officers & Inspectors at division should assist the Commercial Branch in ex-gratia payments as well as in the activity of informing the relatives of the passengers and other works as needed by the Commercial Branch (Sr.DCM).

IMMEDIATE MEASURES FOR ENHANCING ARME/ART CAPABILITY

1. Each ART will have a cold cutting equipment as ARME has already been provided with this equipment.
2. Each ARMV/SPARMV will have a laptop which will be kept with DRM or any incharge Officers/Supervisors.
3. ART will have a more effective site illumination system which will be procured by the electrical branch on urgent basis.
4. Sr.DSTE will ensure that at least one Km long telecom cable is available in the ART all the time.

INSTRUCTIONS OF THE BOARD

- A. **Board's letter No.89/Safety-1/4/3 dt.4.3.89**
2. All Railwaymen travelling in a train involved in accident should report immediately to the guard.
 3. All staff at accident site should wear arm bands. Accordingly all passenger carrying train should be provided with 10 arm bands, to be kept with guard.
 4. A permanent check-list to be displayed in all SLRs regarding duties of guard during an accident.
 5. Division should nominate controlling stations in each section of their jurisdiction. SMs of these controlling stations on receiving information of accidents will rush to the site of accident with his staff.
 6. Every Railway should have fully equipped road ambulance vans in identified areas where a good road infrastructure has developed.
 7. A minimum No. of two telephones with STD facility should be provided in the control. Facsimile facilities should also be provided in the division.
 8. All ARME, scale I should be provided with cold cutting equipment and should be periodically tested, as also staff in sufficient number should be trained in handling this equipment.
 9. Relief train should be given over riding priority with stranded passengers.
- B. **CLEARANCE BY STATE POLICE IN CASE OF RAILWAY ACCIDENTS DUE TO SUSPECTED SABOTAGE** (Director/Crime Prevention /Railway Board's letter No.2002/ SEC(CR)/ 45 /47 dated 27-3-2003 to all General Managers.)

Ref : Ministry of Home Affairs' letter No. VI-24022/11/2002-PM-1 dated 24-12-2002 addressed to Home Secretaries of all States.

1. The issue of expeditious clearance by the State Policy in case of Railway Accidents where sabotage is suspected, has been engaging of Ministry of Railway's attention for a long time. It is noticed that sometimes rescue operations are hampered due to delayed and reluctant clearance by the State Police.
2. It is pertinent to mention that there are two different tasks to be accomplished on war-footing after a Railway accident involving human lives is concerned i.e. (a) Quick rescue operation & (b) Restoration of Rail traffic. It is clarified that in case of Railway accident, permission of State Government or clearance of the Police is not required for launching rescue operation for the purpose of saving human lives which inter-alia may also involve handling/shifting the rolling stock (locomotives, wagon and coaches) for extricating the trapped passenger. However, Police clearance is required for restoration work at the site of accident, if sabotage is suspected.

3. To avoid any delay in launching the rescue operation for saving as many human lives as possible and for early restoration of Rail traffic, the above issue have been taken up with the Ministry of Home Affairs. Consequently, Ministry of Home Affairs vide their IBID have directed the Home Secretaries of all States of issue suitable instructions to concerned authorities for taking prompt action and to expedite clearance certificate in the event of a Railway accident, when sabotage is suspected.
4. The contains of this letter may be widely published among the Railway Officers/staff and displayed in all ARTs/ARMEs so that a general awareness created amongst all those engaged in rescue activities.
5. The letter supercedes the Railway Board's letter of even No. dated 07-2-2003.

C. Empowering General Managers/Divisional Railway Managers to requisition helicopter/ aeroplane to reach the site of serious accident.

(Ref. Board's letter No.2002/Safety-I/6/6 dated 13/15-6-04)

Zonal Railways have been delegated powers to requisition helicopter/aeroplane for expeditious action in the event of serious accidents vide Railway Board's letter under reference. The subject matter has been reviewed by the Board and the following revised powers are delegated to the Zonal Railways.

- (i) GMs/DRMs have been delegated the powers to rescue helicopter/aeroplane to reach the site of serious accident for rescue operation expeditiously. In addition, powers are also delegated to requisition air support to dispatch the rescue teams to the site of the accident.

It is difficult to stipulate exactly the circumstances under which they may exercise these powers, it has been decided to leave this to the discretion of GMs/DRMs. However, broadly these may cover the following type of cases –

- (a) Where more than 10 casualties (deaths-cum-serious injuries) are feared and it is difficult for these officers to reach the site within reasonable time.
- (b) Where heavy damage is caused to railway installations in sensitive and tension filled areas (e.g. wreckage of track, bridges etc. through bomb blast, other means of sabotage etc.)
- (c) Where public reaction in case of late arrival of senior officers at site is likely to be highly adverse.

Normally, in case of an accident only, one helicopter should be requisitioned by a Zonal Railway except when there is a serious passenger train accident

involving several casualties when it is essential for both the General Manager and the Divisional Railway Manager to reach the site at once to satisfy the public and the Press. However, for dispatching the rescue teams to the site of the accident, separate helicopter/Aeroplane may be requisitioned, if so needed.

The GMs/DRMs may exercise the above powers personally and may delegate these powers.

- (ii) Zonal Railways are further empowered to requisition helicopter/aeroplane to evacuate injured and dead in the event of serious accident. GM may personally exercise these powers and may not delegate these further.

CHAPTER-5

PREScribed CODE OF HOOTER/SIREN FOR ART/ARME/BD CRANE/TOWER WAGON

SN.	Location	Hooter/Siren Code	
1.	Loco Yard	One long & one short	
2.	Traffic Yard	One long & two short blasts	
3.	M/L not blocked	One long & three short blasts.	
4.	M/L blocked	One long & four short blasts.	
5.	ARME required	Two long & four short blasts.	
6.	BD Crane	Two long blasts.	
7.	Tower wagon	Testing	

NB: Long blast () : 20 seconds, Short blast () : 5 seconds,

Gap between two blasts : 5 seconds.

Entire code to be repeated twice after one minute interval.

CHAPTER-6

LIST OF ARME/ART OF MALDA DIVISION.

DIVISION	ART	ARME
MLDT	MLDT	MLDT
	SBG with 140 ton crane	SBG
	JMP	JMP (SPARMV)

LIST OF ARME/ART OF ADJACENT DIVISIONS/ZONES.

DIVISION	ART	STATION
HWH		HWH, BWN, RPH
DNR, E. C. RLY.	JAJ, DNR with 85 ton crane	JAJ, DNR
KIR N. F. RLY.	KIR with 75 ton crane NJP with 165 ton crane	KIR NJP

COMPOSITION OF ARME/ART OF MALDA.

ARME/MLDT (Double exit)

SL NO	CRANE/COACH/WAGON NO	REMARKS
1.	ER RH 92512	MEDICAL VAN
2.	ER RH 92493	AUXILIARY MEDICAL VAN

ART/MLDT (Double exit)

SL NO	CRANE/COACH/WAGON NO	REMARKS
1.	ER RT 94916	OFFICERS + STAFF VAN
2.	ER RT 94999	HALF ELECTRIC (GENERATOR ETC.) AND HALF C&W (WOODEN SLEEPER JACK)
3.	ER RT 93887	LUKAS VAN
4.	NF BCNHS 300594-18396	ENGINEERING MATERIALS
5.	SEC BRNHS 55140313794	ENGINEERING RAIL LOADED

COMPOSITION OF ARME/ART OF SAHIBGANJ.

ARME/SBG (Double exit)

SL NO.	CRANE/COACH/WAGON NO.	REMARKS
1.	ER RH 97906	MEDICAL VAN
2.	ER RHV 92887	MECHANICAL PORTION/AUX. VAN
3.	ER RH 92884	Medical Van

ART/SBG (Double exit)

SL. NO.	CRANE/COACH/WAGON NO.	REMARKS
1.	ER RT 88887	MFD VAN LUKAS VAN
2.	ER RT 94924	STAFF VAN
3.	ER RT 89886	GENERATOR VAN / MATERIAL VAN
4.	SC BCNAHSM1 3009939/5558	PWI MATERIAL VAN
5.	SE BRNAHSM 160087	PWI RAIL WAGON

BD CRANE/SBG (Double Exit)

SL. NO.	CRANE/COACH/WAGONNO.	REMARKS
1.	ER 143004 DSL CRANE(140 T) with MT	BD CRANE
2.	ER RT 88888	MATERIAL VAN
3.	ER RT 94915	STAFF VAN
4.	NF BCN AHS 30050160157	TOOLS VAN/AUX. MATERIAL VAN

COMPOSITION OF SPARMV/ART OF JAMALPUR

SPARMV/JMP

(SPARMV will run in place of ARMV given in Accident Manual)

SL NO.	CRANE/COACH/WAGON NO.	REMARKS
1.	ER RT 13901	SUPERVISOR VAN
2.	ER RH 13905	MEDICAL VAN
3.	ER RT 13903	MATERIALS VAN/TOOL VAN

ART/JMP

SL NO	CRANE/COACH/WAGON NO.	REMARKS
1.	ER RT 98901	HYDRAULIC JACK/LUKAS VAN, STAFF VAN
2.	ER RT 93895	MATERIAL VAN
3.	ER RT 88885	GENERATER VAN
4.	SC BRNAHSN 56090360012	PWI/RAIL LOADED
5.	NR BCNAHS 114363	P.WAY MATERIAL VAN

Full Scale Mock Drill

Disaster Management essentially necessitates a state of preparedness under all circumstances and the efficacy of arrangements therein can be assessed only by conducting periodical full scale mock drills.

Objective of the full scale mockdrill would be to

- Gauge the preparedness of DM system including detailed planning and keeping of all equipment in good fettle.
- Integrate the operational response to measure overall performance of the exercise.
- Measure performance with regard to accident restoration.
- On a division, the first mock drill should be conducted within 3 months of issue of the Zonal DM Plan.
- On a division, the second mock drill should be conducted 3 months after the first one, in order to correct all shortcomings noticed during the first mock drill.
- Thereafter, mock drills shall be conducted once every year after the new DRM takes over. (Vide Railway Board Letter No. 2010/Safety(DM)/6/23, Dated: 09.3.2017.)
- It should be conducted during the day and in a branch line section.
- 6 hrs. traffic block shall be taken if needed and the ARMV/ART run out to the accident site.
- UCC and CAC should be set up and each department will post their functionaries in the control office and also in UCC and CAC.
- All facilities should be provided in UCC and CAC by departments concerned.

**DEPUTATION OF STAFF WITH JURISDICTION FOR MANNING OF ENQUIRY-CUM-
INFORMATION CENTRE AT THE SITE IN CASE OF SERIOUS ACCIDENT IN MALDA DIVISION**

JURISDICTION	COMMERCIAL DEPTT	MEDICAL DEPTT	SECURITY DEPTT
MLDT-NFK(Including)	CTI/MLDT	HI or Chief Pharmacist/MLDT	IPF/MLDT
NFK(Excluding)-MPLR (AZ excl.)	CTI/MLDT	HI or Chief Pharmacist /MLDT	IPF/BHW
NFK(Excl.) - BHW(Excl.)	CTI/MLDT	HI or Chief Pharmacist /MLDT	IPF/BHW
BDAC-BHW	CTI/BHW	HI or Chief Pharmacist /SBG	IPF/BHW
BHW-SBG	CTI/BHW	HI or Chief Pharmacist /SBG	IPF/SBG
TPH(Excl) – RJL	CTI/BHW	HI or Chief Pharmacist /SBG	IPF/SBG
SBG(Excl)-PPT	CTI/BHW	HI or Chief Pharmacist /SBG	IPF/SBG
SVRP -BGP	CTI/BGP	HI or Chief Pharmacist /BGP	IPF/CLG
BGP-BANKA BHLB(Excl) - MDLE	CTI/BGP	HI or Chief Pharmacist /BGP	IPF/BGP
BGP(Excl) – AKN	CTI/BGP	HI or Chief Pharmacist /JMP	IPF/BGP
SGG-JMP	CTI/JMP	HI or Chief Pharmacist /JMP	IPF/JMP
JMP – DNRE(KIUL excluding)	CTI/JMP	HI or Chief Pharmacist /JMP	IPF/JMP

LOCATION AND BEAT OF ART, ARME, MEDICAL VAN AND CRANE

Bhagalpur	Jamalpur	Sahibganj	Malda	Station of ART
	B	A	B	Class of Relief Train
--	Mech. Jacks	MFD	Lukas	Type of HRE
--	100	100	100	Max. Permissible Speed (in KM/PH)
No MVan , ARME-II Chest	Yes, ARME-I	Yes, ARME-I	Yes, ARME-I	Provision of Medical van
--	100	100	100	Max. Permissible Speed (in KM/PH)
--	JMP-BGP(Exclu), JMP-KEU, JMP-MGR, JMP-MDLE, JMP-BGP-BHLB-BANKA(Excl u BGP), Quarry Siding, JMP Shop & Traffic	SBG-BHW-NFK, SBG-BGP(Inclu), RJL-TPH Br.	MLDT-NFK-JRLE & NTPC Yd, MLDT-KIR after permission	ART
		SBG-KEU=167.33	MLDT-JRLE=79.23	
BGP Station	CLG-Keu, MGR-JMP,	SBG-CLG, CLG-BHW-NFK, RJL-	MLDT-NFK-JRLE	ARME
	JMP-MDLE=103	CLG-BHW-NFK=111.82	MLDT-JRLE=79.23	

Location of 140 T BD Crane

Location	Sectional Jurisdiction	Distance
Sahibganj	SBG-KEU(Excluding)	172 K.M.
	SBG-GMAN (Excluding)	62 K.M.
	SBG-BHW-AZ (Excluding)	176 K.M.
	SBG-MLDT	133 K.M.
	SBG-BGP-MDLE	124 K.M.
	SBG-JMP-MGR	136 K.M.
	SBG-RJL	49 K.M.

CHAPTER-7

Delegation of Power for Disaster Management to be exercised for rescue and relief operations

Sl. No.	Reference to Code / Rule order	Nature of Power	DRMs	Remarks
1.	USOP, Part-C, Item No. 97 (A).	Powers for procurement of additional life saving drugs from the market by Medical Officers at the site.	DRM- CMS Full Powers	1. Full Powers if he is the only Medical Officer available on site. 2. Medical Officers to draw money from station collection. 3. Finance concurrence not required. Authority: Recommendation of High Level Committee on Disaster Management Item No. 31.
2.	USOP, Part-C, Item No. 97 (B).	On the spot payment to private Hospitals for treatment of injured.	DRM/ADRM/ Branch Officers –Full Powers.	1. Full Powers if he is the only Medical Officer available on site. 2. Medical Officers to draw money from station collection. 3. Finance concurrence not required. Authority: Recommendation of High Level Committee on Disaster Management Item No. 32.
3.	USOP, Part-C, Item No. 97 (C).	Cash imprest for ARMV in charges- for expeditious procurement of small items like fuel, food, materials etc. at accident site.	DRM/ADRM- Full Powers	1. Full Powers if he is the only Medical Officer available on site. 2. This power to be implemented when the ARMV has to remain at the accident site for a longer period during exigencies. 3. Up to Rs. 5000/- for food materials, fuel etc. Authority: Recommendation of High Level Committee on Disaster Management Item No. 41.
4.	USOP, Part-C, Item No. 97 (D).	Purchase of items for ARME including First	DRM/ADRM- Full Powers	1. Only for emergency purchases and not for

Sl. No.	Reference to Code / Rule order	Nature of Power	DRMs	Remarks
		Aid Articles.		normal day to day requirements. Authority: Recommendation of High Level Committee on Disaster Management Item No. 36.
5.	USOP, Part-C, Item No. 97 (F).	Hiring of Vehicles for rescue & relief operations	DRM/ADRM-Full Power Branch Officers of Medical, Mechanical, Operating, Safety and Commercial dept. Full Powers.	1. The expenditure can be met from cash imprest/station earnings without any limitation. 2. Efforts may be made to pool the utilization wherever possible. 3. Finance concurrence not required. Authority: Recommendation of High Level Committee on Disaster Management Item No. 30.
6.	USOP, Part-C, Item No. 97 (G).	Sanction of expenditure incurred during relief and rescue operations.	DRM/ADRM-Full Power All Medical, Mechanical, Operating, Safety, and Commercial dept. Full Powers.	1. Vouchers/Bills should be submitted within a week's time. 2. Finance concurrence required at the time of post facto sanction. Authority: Recommendation of High Level Committee on Disaster Management Item No. 35.
7.	USOP, Part-C, Item No. 97 (H).	Procurement of ART/ARMV equipment.	PCME- Full Powers.	1. No items/equipment shall be banned while being purchased for ART/ARMV/Break down Crane. No circulars/Orders restricting the purchase procedures/Powers for ART/ARMV /Crane equipment shall be applicable unless issued by Railway Board (MM&FC). Authority: Recommendation of High Level Committee on Disaster Management Item No. 37.

Sl. No.	Reference to Code / Rule order	Nature of Power	DRMs	Remarks
8.	USOP, Part-C, Item No. 97 (I).	Sanction of cash imprest for maintaining ART/ARMV/Cranes.	PCME- Full Powers.	1. Finance concurrence is necessary. Authority: Recommendation of High Level Committee on Disaster Management Item No. 39.
9.	USOP, Part-C, Item No. 97 (J).	Purchase of ART/ARMV /Crane material through imprest cash.	JAG/Sr. Scale/Jr. Scale in Divisions: Full powers to ART incharge Officer up to Rs. 10,000/ per item.	1. Finance concurrence is not required.
10.	USOP, Part-C, Item No. 97 (i).	(i) Requisition of Helicopter/Airplane to reach the site of serious accident or to evacuate injured and dead in the event of serious accident. (ii) Requisition of Air support to dispatch the rescue teams to the site of accident.		1. These powers are left to the discretion of GM. The circumstances under which GM exercise these powers, broadly cover the following types of cases: (i) Where more than 10 casualties (death-cum-serious injuries) are feared and it is difficult for these officers to reach the site within reasonable time. (ii) Where heavy damage is caused to Railway installations in sensitive and tension filled areas (e.g. wreckage of track, bridges etc. through bomb blast, other means of sabotage, etc.) (iii) Where public reaction in case of late arrival of senior officers at site is likely to be highly adverse. (iv) Normally, in case of an accident, only one helicopter should be requisitioned by a Zonal Railway, except when there is a serious passenger train accident involving several casualties

Sl. No.	Reference to Code / Rule order	Nature of Power	DRMs	Remarks
				when it is essential for both the General Manager and the Divisional Railway Manager to reach the site at once to satisfy the public and the Press. However, for dispatching the rescue teams to the site of the accident, separate helicopter/ airplane may be requisitioned, if so needed.

CHATER-8

ASSISTANCE FROM DEFENCE ORGANISATION IN CASE OF RAILWAY DISASTER.

ARMY/NAVY/AIR FORCE HELP CENTRES.

- (1) Director Operational Logistics/HQrs.,
Brigadier –
Telephone No. – 011- 23017897, 25686071.
Mobile No. – 9810856633.
- (2) Nodal Point – Naval HQrs./War Room/Navel Operation, 011-23017616.
Duty Officer – Mari-Time Operation Centre, HQrs./EBC/Vizag.
Telephone No. 0891-2577240.

AIRBASES.

- (a) Helipad Centre – Chunarpur, Purnea,
Telephone No. – 06454-222716,
222717.
- (b) Army Helipad Centre – Sirsa Army Camp, Katihar,
- (c) Telephone No. – 06452-222230.
- (d) Air Force Station – Singharsi, Pakur,
Telephone No. – 06423-242203.

Assistance for Helicopter from Defence during Major Railway Disasters.

The following Officers may be contacted during Railway Disasters as per 3 of the letter No. 0035/2/GS (Ops), Dated: 30.9.2006, issued by Colonel, Colonel General Staff , Headquarters Bengal Area, 246, AJC Bose Road, Alipore, Kolkata-27.

- 1. Deputy GOC, Headquarters Bengal Area,
Telephone No. 033-22226103(O),
033-22226104(R)
- 2. Colonel General Staff (Col GS), Headquarters Bengal Area,
Telephone No. 033-22226105(O),
033-22226106(R)
- 3. GS01 (Ops), Headquarters Bengal Area,
Telephone No. 033-22226107(O),
033-22226108(R)

The verbal request will be simultaneously accompanied by a Fax message on Telephone No. 2222-2440. It must be followed immediately by an ink signed letter by the highest Railway authority making the request and delivered by hand to the Co. GS, HQ Bengal Area.

(Authority CSO/ER/Kolkata's letter No. TA-5/46/Pt.VIII, 01.11.2006)

The important contact numbers of NDMA/NDRF
DG/NDRF

Sl. No.	Name & Designation	Office	Mobile
1.	Sri Rajiv, IPS DG /NDRF	011-26712851	09818916161
2.	Sri Radha Raman, PS DG/NDRF	011-26712851	
3.	Sri Mukul Goel, IG/NDRF	011-26160252	09871115726
4.	Sri J.K.S.Rawat, DIG/NDRF	011-26105910	09968262466
5.	Sri Keshav Kumar, DC/ADMN/NDRF	011-26107934	09015243611
6.	Sri J.K.Singh, DC/PROC/NDRF	011-26107921	09540600181
7.	Sri R.K.Srivastava, DC/TRG/OPS/NDRF	011-26107934	09990572600
8.	Control Room(HQ DG NDRF)	011-26105912(FAX) 011-26107953(Tele)	09818916161

NDMA

Sl. No.	Name & Designation	Office	Mobile
1.	Sri M.S.Reddy, Vice Chairman, NDMA	011-26701704 011-26701706 (Fax)	
2.	Ret. Maj. Gen. Sri J.K.Bansal, Member/ NDMA	011-26701773 011-2670744 (Fax)	09910062437
3.	Ms Sujata Sounik, IAS, Joint Sec/ Advisor/ NDMA	011-26705910	09819198853
4.	Sri P.K.Tripathi, Joint Secy (MIT)/NDMA	011-267-1816	09868871125
5.	Col. Seshi Bhushan, Joint Advisor, NDMA	011-26701815	-
6.	Sri Niraj Sharma, (PA of Miss Sujata Sounik) NDMA	011-26701867	-
7.	Sri Shivajee Singh, Sr. Specialist, NDRF	011-26701745	09810429290
8.	NDMA Control Room	011-26701723 011-26701729 (Fax) 011-26701728 011-26701730(Fax)	

NDRF BNs

Sl.	Name & Rank	Unit/Location	ControlRoom Numbers
	Hd. Qrs.	DG/NDRFCGO Complex, Lodhi Road, New Delhi-110003	011-24369278 24369280 011- 24363261 (FAX)
1.	Control Room	Commandant, 1st Bn NDRF Patgoan PO Azara, Distt. Kamrup Metro, Guwahati-781017.	0361-2840284(Control) 0361- 2840027 (Office) 09401048790 09435117246
2.	Control Room	Commandant, 2nd BN NDRF, Near RRI Camp. Haringhata, Mohanpur, Nadia, West Bengal Pin - 741246	033-25875032(Control) 033-25875032(Fax) 09474061104 09474116775
3.	Control Room	Commandant 3rd BN NDRF PO- Mundali,Cuttack, Odisha Pin - 754013	0671-2879710(Office) 0671-2879711(Contol) 09437581614
4.	Control Room	Commandant 4th BN NDRF PO Suraksha Campus Arrakonam, Distt. Vellore, Tamilnadu - 631152	04177-246594 (Control) 04177- 246269 (Office) 09442140269
5.	Control Room	Commandant 5th Bn NDRF, Sudumbare Taluka, Distt – Maval Pune (Maharashtra) Pin. 412109	02114- 247010 (Office) 02114-247000 (Control) 09422315628
6.	Control Room	Commandant, 6th Bn NDRF Chilora Road, Gandhinagar Pin - 382042	079-23202540 (Office) 079-23201551 (Control) 09723632166
7.	Control Room	Commandant 7th Bn NDRF Bibiwala Road, Bhatinda (Punjab) Pin - 151001	01164-2246570 (Control) 01164-2246193 (Control) 01164-2246193 (Office)
8.	Control Room	Commandant 8th Bn NDRF Kamla Nehru Nagar, Ghaziabad, (UP) Pin - 201002	0120- 2766013 (Office) 0120- 27666012 (Fax) 09968610014
9.	Control Room	Commandant 9th Bn NDRF, Bihata Patna, Bihar, Pin - 801103	06115-253939 (Control) 06115-253942 (Office) 08544415050 09525752125
10.	Control Room	Commandant 10 th Bn NDRF ANU campus, Nagarjuna Nagar, Guntur (AP) Pin - 522510	0863- 2293178 (Office) 2293050 (Control) 2293050 (FAX) 08333068559
11.	Control Room	Commandant 11th Bn NDRF, Sanskritik Sankul, Maqboolalam road, Varanasi, U.P. Pin - 221002	0542-2501201 (Office) 2501101 (Control) 08004931410
12.	Control Room	Commandant 12th Bn NDRF, Itanagar, Arunachal Pradesh. Pin ; 791112.	03621-242940 (Office) 2277106 (Control) 2277104

Chapter-9

THE GUIDELINES OF FIRST AID

DEFINATION: First Aid may be defined as the assistance rendered before definitive treatment can be carried out, it is usually performed at the scene of the accident .Before medical aid is available, the responsibility for such treatment may rest upon non-medical personal.

- i. Help injured persons to achieve normal breathing conditions.
- ii. Bleeding should be tackled on a priority basis starting from profuse bleeding, the continuance of which would endanger life.
- iii. The injuries should be supported and secured by simple methods.
- iv. Any person who is, or has been entrapped under the debris must be treated on the assumption that the severest injuries have been received, which might include fracture of the thigh or pelvis or spine.
- v. A person who is wholly or partly unconscious or one who is suspected of suffering from internal injury should not to be given anything to eat or drink.
- vi. All injured persons suffer from primary shock. They should be treated carefully. Secondary shock should not be allowed to come on.
- vii. Chill must be prevented by covering with suitable clothing or blanket. Similarly during summer injured to be shifted to a cooler place, avoiding direct hot sunbeam.
- viii. Care, gentleness, assurance and good behavior are necessary except for the hysteria patients, who require firm handling.

HAEMORRHAGE (SEVERE BLEEDING)

Bleeding may be—

- i. Arterial (from an artery)
- ii. Venous (from a vein)
- iii. Capillary (from a capillary)
- iv. Mixed (from a combination of the above vessels)

Guidelines for the signs and symptoms of severe bleeding either external or internal are as follows:-

- i. Rapid loss of strength accompanied by faintness especially if the patient is raised to sitting or standing position.
- ii. Face and lips become pale and the skin cold.
- iii. Breathing becomes hurried and may be accompanied by swing sighting.
- iv. Pulse becomes progressively faster and weaker and become so feeble be felt at the wrist.
- v. He becomes thrusty.
- vi. He may become restless and throws his arms about or tug at clothing round the neck.
- vii. Finally the patient may become unconscious. If these signs are observed but external cause is not apparent, the case should be regarded as one of internal haemorrhage and dealt with as a matter of urgency by immediate removal of the casualty to hospital.

EXTERNAL HAEMORRHAGE

The following should be kept in mind while attending to the external haemorrhage.

- i. Firm pressure applied to a wound will always nearly stop bleeding and should be done with a clean pad and firmly applied Elastoplasts bandage. If this method fails, extra pressure with the flat of the hand over the Elastoplasts will usually succeed.
- ii. Where possible, raise the bleeding point above the level of the heart. For instance, in bleeding from the leg, lay the patient down, raise his leg into the air and support it in that posture.
- iii. The above method will nearly arrest bleeding completely. If, however, the flow of blood is still brisk, additional pressure may be applied to the appropriate pressure points with the fingers.

Bleeding from the Head:

Press backward and inward with the thumb on a point half way up the neck just in front of the strap like muscle, running vertically at the side of the neck and thereby compressing the carotid artery.

Bleeding from the arm:

Press behind the middle of the collar bone in a downward direction in order to compress the Sub-clavian artery on to the first rib.

Bleeding from the leg:

Press firmly with the thumbs onto one third of the distance from the inner to the outer side of the thigh in the groin area.

Bleeding from the socket:

Plug the socket firmly with cotton wool and place over this a larger plug, instructs the patient to grip firmly on to the large plug with the teeth.

Bleeding from the palm of the hand:

Place a firm pad of gauze over the bleeding point and instruct the patient to close his hand over it. Then put bandage firmly over the closed fist.

Bleeding from the finger:

Apply a pad of lint or gauze over the wound and secure firmly in position with Elastoplast plaster (The Elastoplast finger dress is very effective for this purpose). This always controls the haemorrhage.

Bleeding from the wounds of chest and abdomen

Lay the patient on stretcher; apply a firm pad and Elastoplasts bandage to the wound and shift the patient to a hospital as quickly as possible. If the wound runs across the abdomen, keep the knees slightly bent by means of cushion or pillow placed under knees as this would keep the wound closed. If the wound runs lengthwise, keep the knees straight for the same reason.

Note – We should avoid use of a tourniquet as far as possible. It can be dangerous in the hands of a novice and if adequate care is not taken. Only trained people should use tourniquet.

SHOCK

- i. Shock is the sudden depression of the nervous system, mostly due to physical injuries haemorrhage. In case of shock, there may be partial/complete insensibility.
- ii. Following treatment will help the patient to recover from shock
- iii. Raise the patient with the head lower than the body and limbs; this position will ensure blood supply to the brain and prevent any collection in the mouth and throat from getting into the air passage.
- iv. Keep the patient warm, if his body is cold and clammy. The latter will aggravate the shock.
- v. Give the patient continuous sips of a warm sweet drink like tea, cocoa or coffee to stimulate the depressed system.

FRACTURE

Fracture may be classified as –

- i. Simple or closed fracture where the skin is not broken.
- ii. Compound or open fracture i.e. there is wound over the fracture.

General treatment of a simple fracture:

Methods of treatment vary with the bones but in general this treatment consists of making the patient comfortable and warm splinting the broken bone as far as possible with the materials at hand applying a sling to the arm or putting the patient on a stretcher in case of a broken leg and sending him to hospital as quickly as possible.

General treatment of a Compound fracture

The compound fracture is a much more serious injury than a simple fracture because although the wound may be quite small, there is ample room for entry of bacteria which might cause infection and there of. It is important to apply a dry sterile dressing or clean pad over the wound at once. This seals the wound.

LOSS OF CONSCIOUSNESS

Loss of consciousness can be of two types -

- i. Unconsciousness where breathing is grossly interfered with.
- ii. Unconsciousness with breathing present and usually normal.

The causes are many and vary.

- Injury
- Medical causes -
 - Apoplexy (haemorrhage in the brain)
 - Alcohol
 - Epilepsy
 - Diabetes
 - Heat-stroke
 - Poisoning
 - Fainting
 - Shock
 - Exposure to cold

Many of these conditions stimulate one another closely and to distinguish one from the other requires expert knowledge. A patient suffering from cerebral haemorrhage may adjudge to be drunk because his breath smells off alcohol.

It is dangerous to lead to conclusions in conditions of unconsciousness. Rather, try to sort out the signs and symptoms to arrive at a definite and accurate diagnosis. It is better to seek medical advice immediately.

Treatment for loss of consciousness:

A - AIRWAY

- i. Keep a clear air way.
- ii. Prevent the patient from damaging himself.
- iii. Apply artificial respiration, if necessary.
- iv. Give nothing by the mouth.
- v. Send to hospital.

B – BREATHING:

Check for breathing. Keep the back of your fingers near the nose of the patient. You can feel the warm air (or) keep your ear near the nose and look for the movement of chest, listen to the sound from the throat and feel the warm air from the nose.

C – CIRCULATION:

Check the pulse. Normally we check the pulse at the wrist; however, sometimes it is not felt because of severe bleeding. So it is better to check the pulse at neck. (Carotid Pulse).

After checking A-B-C, there may be two possibilities:

- If the patient is breathing, has circulation but in unconsciousness, immediately turn him to Recovery position and transport to hospital.
- If the patient has failure of breathing and circulation, then immediately start CPR (CARDIO PULMONARY RESUSCITATION), the important life saving technique in First Aid.

To revive the lungs, you have to give artificial respiration by mouth to mouth (Kiss of Life) method. Lift the Chin forward and press the jaw to open the mouth with one hand and close the nose with other hand. Keep your mouth on the casualty's mouth and blow.

To revive the heart you have to give external chest compression. The casualty should be made to lie down on a hard surface. Keep heel of the palm on the chest (Pit of stomach) of the casualty and keep the other palm over that hand and compress.

Mouth to mouth ventilation and external chest compression should be given in the ratio of 2:15. This should be continued up to the revival of life or till reaching the hospital. Once life starts, immediately turn the casualty into recovery position and transport to hospital. (Recovery position or three quarter prone position means turn to one side, better to right side).

Recovery position: Recovery position is the safest position for unconscious patients. Normally we keep the patient in a supine position. However, in case of unconscious patients, it is a very dangerous position because the tongue can fall back and close the airway or saliva and other secretions may get into windpipe. To avoid that, turn the casualty into recovery position and transport to hospital.

Sometimes, you may not be in a position to do First Aid due to tense situation. In this situation, at least turn the casualty to Recovery Position, that would help to save many precious lives.

Chapter-10

GUIDELINES FOR DISASTER DURING EARTHQUAKE

Disaster Management Plans of the Divisions should be dovetailed with the Disaster Management Plan of the Districts of the State. Disaster Management Plan Booklet – 2003-04 of the Government of West Bengal indicates that the control room will be opened in districts, sub-divisions and block levels under the district administrative authorities and panchayat functionaries at various manners.

EARTHQUAKE PRONE ZONE OF STATE OF WEST BENGAL

A Very high damage risk zone (MSK IX or more).

- | | |
|---------------------------|---------------------------|
| 1 East Part of Jalpaiguri | 2 EastPart of Cooch Behar |
|---------------------------|---------------------------|

B High damage risk zone (MSK VIII)

- | | |
|----------------------------------|----------------------------------|
| 1 West part of North 24-Parganas | 2 West part of South 24-Parganas |
| 3 North part of Malda | 4 Dakshin Dinajpur |
| 5 Uttar Dinajpur | 6 Darjeeling |
| 7 West Part of Cooch Behar | |

C Moderate damage risk zone (MSK VII)

- | | |
|--|----------------------------------|
| 1 West and North part of South 24-Parganas | 2 Medinipur |
| 3 Howrah | 4 Hoogly |
| 5 Bankura | 6 East and North Part of Purulia |
| 7 Barddhaman | 8 Nadia |
| 9 Birbhum | 10 Murshidabad |
| 11 South part of Malda | |

D Low damage risk zone (MSK VI)

- | | |
|--------------------------------|------------------------------|
| 1 South West part of Purulia | 2 South West part of Bankura |
| 3 North West part of Medinipur | |

**IMPLEMENTATION OF NDMA'S (I) GUIDELINES ON MANAGEMENT OF EARTH
QUAKES (APRIL, 2007) (II) GUIDELINES ON MANAGEMENT OF FLOODS (JAN. 2008)**

Summary of NDMA Guidelines on Earthquakes and Floods

Railway Infrastructure	Earthquake Proneness Review	Flood Proneness Review
- Railway Track Formation (including station Yards, bridges/culverts, ROB's/RUBs etc) - Buildings housing signaling gears like RRI, SSI etc. - Buildings in Open line maintenance work centers like loco sheds Coaching depots etc. - Station buildings - Control room, other important toffice buildings, etc. - High-rise residential buildings, other important residential buildings - Railway hospitals	New Construction: Must be earthquake resistant. Existing Infrastructure: Identify existing railway infrastructure falling under various seismic zones. Review for earthquake resistant adequacy based on age, foundation and other details. Retrofit/rebuild to make it earthquake resistant. Training of Engineers (at various levels) Associated with design and construction of railway infrastructure.	New Construction: Railway Station buildings should be located in such a fashion that they are above the levels corresponding to a 100 year frequency or the maximum observed flood levels. Similarly they should also be above the levels corresponding to a 50 year rain fall and the likely subversion due to drainage congestion. Government offices buildings should be above a level corresponding to a 25 year flood or a 10 year rainfall with stipulation that all buildings in vulnerable zones should be constructed on columns or stilts. Railway Track at levels well above the likely flood levels. Existing Infrastructure: Co-ordination with flood/rain forecasting agencies to get early warning so as to introduce patrolling. Speed restriction etc. as per the provisions in Railway's SR. Inspections of Railway Affecting Works – to be streamlined and timely ensured. Review of water ways for adequacy and alignment and measures to modify, if needed. Status Note on the lessons learnt from the previous flood situations in the past 5 years. Bye-laws for buildings in flood prone plains. Making existing and new buildings and infrastructure capable of withstanding fury of floods.

ACTION TO BE TAKEN BY EASTERN RAILWAY IN CASE OF EARTHQUAKES –

NDMA'S GUIDELINES

- Repair deep plaster cracks in ceilings and foundations. Get expert advice if there are signs of structural defects.
- Anchor over head lighting fixtures to the ceiling.
- Follow BIS codes relevant to your area for building standards.
- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass, and china in low closed cabinets with latches.
- Hang heavy items such as pictures and mirrors away from beds, settees and any where people sit.
- Put Brace over headlight and fan fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks.
- Secure a water heater, LPG cylinder etc., by strapping it to the wall stud and bolting it to the floor.
- Store weed killers, pesticides, and flammable products securely in closed cabinets with latches and on bottom shelves.
- Identify safe places both indoors and outdoors.
 - Under strong dining table, bed
 - Against an inside wall.
 - Away from where glass could shatter around windows, mirrors, pictures, or where heavy book cases or other heavy furniture could fall over.
 - In the open, away from buildings, trees, telephone and electrical lines, flyovers, bridges.
- Educate yourself and family members.
- Know emergency telephone numbers (doctor, hospital, police etc.)
- Have a disaster emergency kit ready
 - Battery operated torch
 - Extra batteries
 - Battery operated radio
 - First aid kit and manual
 - Emergency food (dry items) and water (packed and sealed)
 - Candles and matches in a water proof container
 - Knife
 - Chlorine tablets or powdered water purifiers
 - Can opener.
 - Essential medicines
 - Cash and credit cards
 - Thick ropes and cords
 - Sturdy shoes
- Develop an emergency communication plan
 - In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
 - Family contacts after a disaster it's often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

- Help your community get ready
 - Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices and hospitals.
 - Conduct a week-long series on locating hazards in the home.
 - Work with local emergency services and officials to prepare special reports for people with mobility impairments on what to do during an earthquake.
 - Provide tips on conducting earthquake drills in the home.
 - Interview representatives of the gas, electric, and water companies about shutting off utilities.

What to Do during an Earthquake

Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur. Minimize your movements to a few steps to a nearby safe place and stay indoors until the shaking has stopped and you are sure existence is safe.

If Indoors

- **DROP** to the ground; take **COVER** by getting under a study table or other piece of furniture; and **HOLD ON** until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load bearing doorway.
- Stay inside until the shaking stops and it is safe to go outside if exit is very close go to open spaces.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

After an earthquake

- Do not use the elevators.
- If trapped under debris, do not light a match.
- Do not move about or kick up dust.
- Do not smoke and do not light matches or use a cigarette lighter.
- Do not turn on switches. There may be gas leaks or short-circuits.
- If people are seriously injured, Call ambulance & expert immediately for rescue and relief.

- If you know if people have been buried under buildings, tell the rescue teams. Do not Panic of injured persons . Make arrangement of rescue.
- Do not touch any metal object in contact with electric wire.
- Do not drink water from open containers without having examined it and filtered it through a sieve, a filter or an ordinary clean cloth.
- Do not re-enter badly damaged buildings and do not go near damaged structures.

Chapter-11

GUIDELINES FOR DISASTER DURING FLOOD

FLOOD PRONE AREA OF WEST BENGAL

1 Jalpaiguri 2 Cooch Bihar 3 DakshinDinajpur 4 Malda 5 Barddhaman
6 Nadia 7 Medinipur

Statement Showing the List of Nodal Officers during the Flood Season

Sl No	Station District/Place	Name & Address of the Co-ordinating Officers/Officers working in absence of the co-ordinating Officer	Telephone No.	
			Office	Residence
1	State Head Quarters	i) Superintending Engineer & P. A to Chief Engineer- I, I & W Department, Jalasampad Bhawan, Salt Lake, Kolkata -91	2321-5749 FAX 2334-6245 2321-8341	2464-3564
		CONTROL ROOM	2321-5749	2494-3428
		ii) Executive Engineer& T. A to Chief Engineer – I, I & W Department, Jalasampad Bhawan, Salt Lake, Kolkata – 91	2337-8489	2435-9583
		iii) Executive Engineer ,Chief Engineer's Drawing Branch		
2	North 24-Parganas	Executive Engineer, Bidyadhari Drainage Division, Taki Road, P.O. Barasat, District : North 24-Parganas.	2562-4520	2562-6308
3	Hooghly	Executive Engineer, Hooghly Irrigation Division Peara Bagan Road, P.O.: Chinsurah, District: Hooghly.	2680-2735	2681-9519
4	Burdwan	i) Executive Engineer, Damodar Canal Division, Court Compound, District: Burdwan	95342-2562496 FAX 95342-2550166	95342-2521150
		Res: Sadhanpur near Burdwan Polytechnic, Burdwan.	Control Room 95342-2545672 95342-2545672	
		ii) S.D.O., Damodar Canal Hd Quarters.		95342-2544611
5	Durgapur	Executive Engineer, Damodar Head Works Division, Durgapur – 2, District – Burdwan	95343-2555640	95343-2555534/2557268

		Res: Attached to Office		(Bungalow) 95342-2557268 (Barrage)
6	Bankura	Executive Engineer, Bankura (I) Division, Kangsabati Circle, Kenduadihi, P.O.: & District: Bankura	953242-254934 FAX 953242-250322	953242-250506
7	Khatra, Bankura	i) Executive Engineer, Kangsabati Canal Divn. No. II, Khatra, Bankura Res: Attached to Office ii) S.D.O., K.L.B., Sub-Division-II (Mukutmanipur)	953243-255236 FAX 953243-255262 953243-253233	953243-255272
8	PaschimMedinipur	i) Executive Engineer, West Medinipur Division, P.O. & District-Medinipur	953222-275373 FAX	953222-275466
9	PurbaMedinipur	i) Executive Engineer, East Medinipur Division, P.O.: Tamluk, District: Medinipur Res: Attached to Office ii) Executive Engineer, Contai Irrigation Divison	953228-266779 953220-255162 FAX 953220-256436	953228-66367 953220-257862
10	Nadia	Executive Engineer, Nadia Irrigation Division, P.O.: Krishnanagar, Dist.: Nadia.	953472-252451	953472-252643
11	Murshidabad	Executive Engineer, Berhampore (I) Division, P.O.: Berhampore, District – Murhsidabad	953482-250845 FAX 953482-250434	953482-250505
12	Birbhum	Executive Engineer, Mayurakshi Head Quarters, Division: Suri, Birbhum	953462-255229 FAX 953462-255191	953463-262507
13	Bolepur	Executive Engineer, Mayurakshi South Canals Division, Shyambati, Shantiniketan, Birbhum Res: Attached to Office	953463-252256 FAX 953463-253166	953463-262507
14	Rampurhat	Executive Engineer, Mayurakshi North Canals Division, P.O.: Rampurhat, District – Birbhum	953461-255039 Control Room FAX 953461-256265	953461-255079
15	Malda	Executive Engineer, Malda (I) Division, GreenPark, Malda	953512-252395 FAX 953512-254350 Control Room	953512-252278
16	Raigunj	Executive Engineer, North Dinajpur Irrigation Division, Raiganj, North Dinajpur	953523-252008 FAX 953523-253327	953523-252424

17	Balurghat	i) Executive Engineer, South Dinajpur Irrigation, Division, Balurghat, South Dinajpur (ii) Assistant Engineer, Balurghat(I) Sub-Division, Balurghat, South Dinajpur	953522-255113 FAX(PWD) 953522-255265 953522-255265	953522-255057
18	Alipurduar	Executive Engineer, Alipurduar Irrigation Division, Alipurduar, Jalpaiguri	953564-255305	
19	Siliguri	Executive Engineer, Alipurduar Irrigation Division, Alipurduar, Jalpaiguri	953564-255305	
20	Jalpaiguri	FloodCellNorth Bengal i) Executive Engineer, Jalpaiguri Irrigation, Division Club, Road Jalpaiguri Res: Attached to Office	953561-230153 FAX 953561-230789 953561-230249	953561-230409
21	Cooch Bihar	Executive Engineer, Cooch Bihar Irrigation Division, P.O.: & District: Kooch Bihar	953582-228305 ControlRoom	953582-228557
22	Purulia	Executive Engineer, Purulya Irrigation Division, Ranchi Road, Bhatbandh Irrigation Colony, P.O.: & District – Purulia, Purulia – 723 101	953252-222407 FAX 953252-222720	

ACTION PLAN:

- Flood/Weather forecasting in consultation with IMD and other agencies like CWC, State Government, Local bodies etc
- Development of system of collecting data using modern techniques. Monitoring of land slides, flood danger to bridges, bridge approaches causing interruption to traffic.
- Identification of flood prone areas, RAT, RAW and formation prone to erosion and marking them on railway system map. Monitoring of behaviour of rivers which pose danger to railway embankment.
- Documentation of records of floods and breaches.
- Flood insurance of railway properties – A pilot project to be taken by each Railway through the help of suitable consultant.
- Mechanism for co-ordination with State Government and other Central agencies on flood control and erosion etc.
- Sanction of execution of Anti-erosion works of track formation and bridges etc.

- Improvement to waterways of Railway Bridges and track formation (if necessary) including sanction and execution of works.
- Development of flood shelters for staff and passengers at suitable locations in the areas prone to repeated floods.
- Implementation of Bye-laws for building in flood prone areas including modification of works manual.
- Training on flood management to officials in various Railway training schools and Institutions by devising suitable syllabus.
- Emergency response team on flood
- Emergency equipment and relief logistic
- Medical Preparedness Plan

Chapter-12

GUIDELINES DURING CHEMICAL DISASTERS

Indian Railway's Rules for carrying dangerous (hazardous goods) by rail have been legislated in the Railway Red Tariff Rule 2000 as per which dangerous goods have been classified into following 8 classes:

- I Explosives
- II Gases, compressed, liquefied or dissolved under pressure.
- III Petroleum & other inflammable liquids.
- IV Inflammable solids.
- V Oxidising substance
- VI Poisonous (Toxic substances)
- VII Radio-active substances
- VIII Acids & other Corrosives.

Out of the above 8 classes of dangerous goods, class II (Gases, compressed, liquefied or dissolved under pressure), III (Petroleum and other inflammable liquids) and VIII (Acids and other corrosive) are dealt in bulk on the railways whereas other classes of dangerous goods are dealt in piecemeal/small quantities in parcel vans/SLRs. Railways may refer to the specific paras pertaining to all these classes of dangerous goods. However, important relevant details of the popular classes (II, III and VIII) of dangerous goods are detailed as under:

CLASS II (GASES, COMPRESSED, LIQUIFIED OR DISSOLVED UNDER PRESSURE)

Gases compressed, liquefied or dissolved under pressure, which have been permitted for their carriage by rail, as per Red Tariff No. 20 is given below:

Dissolved Gases:

- Acetylene (compressed into porous substances).

Compressed Gases:

- Air Compressed
- Argon
- Coal Gas
- Hydrogen
- Methane
- Neon
- Nitrogen
- Oxygen
- Sulphur Hexa flouride

Liquefied Gases:

- Ammonia (Anhydrous)
- Chlorine
- Liquefied petroleum Gas(Commercial Butane or Propane)

- Carbon dioxide (Carbonic Acid Gas)
- Cyclopropane gas
- Ethyl Chloride
- Freon, Arctonor Genetron
- Hydro-cyanic Acid
- Medical Mixtures (Oxygen and Carbon di oxide & Oxygen and Helium mixture)
- Methyl Bromide
- Methyl Chlorine (Chloromethane)
- Nitrous Oxide
- Sulphur Dioxide Toxic (Sulphurous Acid Gas)
- Liquid Air
- Liquid Nitrogen
- Liquid Helium

General Rules regarding acceptance of above commodities for carriage by rail are given in Rules 202, 203, 204, 205 & 206 of Red Tariff No. 20.

Packing

Before the above commodities are transported by rail, it must be packed as per rules 207.1 & 207.2 of Ref Tariff No. 20.

However, Rule 207.2 i.e. rule for protection of cylinder valves during transport shall not apply to cylinders containing oxygen or nitrous oxide for medical purposes having water capacity less than 5 litres.

Marking & labeling of Cylinders or Containers

Rules for Marking & Labeling of cylinders are given in rules 208 & 209 of Red Tariff No. 20. It must be ensured that the date of the last hydrostatic test or hydrostatic stretch test with the code mark of recognized testing station is marked on every cylinder. In the case of liquefied petroleum gas cylinders, the quarter and the year of test shall be given additionally in a neck ring or on a shoulder plate.

Storage (Refer Rule No. 211 of Ref Tariff No. 20)

Following points must be ensured:

- Thin wall cylinders such as liquefied petroleum gas cylinders and dissolved gas cylinders shall not be stacked in a horizontal position.
- Cylinders containing flammable gases, other toxic gases shall be kept away from cylinders containing other type of gases.
- Cylinders shall not be stored along with any combustible material.

Precautions in handling & storing gas cylinders or containers: (Refer Rule No. 212 of Red Tariff No. 20)

Commodities mentioned in this chapter, shall not be stored or handled with or near explosives or other dangerous goods. Smoking and carrying any type of fire must not be allowed near these commodities.

Modes of Transportation

Regarding modes of transportation, refer rules 213, 214, 215, 216, 217 & 218 of Red Tariff No. 20.

Storage and Carriage

Storage & carriage rules of Gases, compressed, liquefied or dissolved under pressure are discussed in rules 219, 220, 221, 226, 227 & 228 of Red Tariff No. 20

Additional Rules

Exceptional or Additional Rules regarding packing, marking and labeling, carriage by Goods/Mixed/Parcel train and storage and Carriage rules have been specified in Table II, Chapter II of Red Tariff No. 20. Characteristic property of gas & pictorial level indicating main characteristics of the gas is also indicated in column 2 & column 3 of table II.

CLASS – III (PETROLEUM & OTHER INFLAMMABLE LIQUIDS)

Petroleum and other inflammable liquids i.e. mixture of liquids & liquids containing solids in solution which give off inflammable vapour and is capable of ignition in suitable concentration of air when exposed to a source of ignition. Petroleum and other inflammable liquids are considered dangerous as per Railways Act 1989 (24 of 1989) and have been classified in three classes i.e. Class – ‘A’, Class ‘B’ & Class ‘C’.

- a. Class A: Petroleum and other inflammable liquids, the vapour of which having flash point below 23°C.
- b. Class B: Petroleum and other inflammable liquids, the vapour of which having flash point above 23°C but below 65°C.
- c. Class C: Petroleum and other inflammable liquids, the vapour of which having flash point at 65°C.

A list of items included under above three classes is given in table III, Chapter III of Red Tariff No. 20.

Rules regarding general restrictions on conveyance and acceptance of petroleum and other inflammable liquids have been detailed in rules 302, 303, 304, 305 & 306 of Red Tariff No. 20.

Packing, Marking & Labeling

It is to be ensured that the words “Highly inflammable” and “Inflammable” as the case may be, is marked on every package containing petroleum and other inflammable liquids. Every tank vehicle used for transportation of petroleum must be marked on each side, and rear thereof in letters at least 7 cms high on a background of sharply contrasting colour the word “ FLAMMALE ” and the common name of the liquid being transported e.g. “ MOTOR SPIRIT”, “ KEROSENE” etc. For method of packing, marking and labeling of petroleum and other inflammable liquids, Rules 308, 309 & 310 of Red Tariff No. 20 may be referred.

Time of Loading and Unloading: All operations of loading, unloading and handling of petroleum and other inflammable liquids shall be conducted between sunrise and sunset.

Prohibition of smoking, fires etc.: Smoking, taking fire, naked light matches or other articles of inflammable nature is strictly prohibited near petroleum and other inflammable liquids.

Transportation

- a) Petroleum and other inflammable liquids, Class ‘A’, shall be transported by goods trains only.
- b) Petroleum and other inflammable liquids, Class ‘B’ and ‘C’ may be transported in wagons by all trains except passenger trains.

Conveyance in tank wagons

Tank wagons used for the conveyance of petroleum and other inflammable liquids shall be of a design approved by the Chief Controller of explosives.

Stick warning in wagons

A 'DANGEROUS' label must be affixed to both sides of every wagon.

CLASS – VIII: ACIDS AND OTHER CORROSIVES

A List of Acids and other corrosives which have been considered dangerous goods are given in Chapter VIII, table VIII of Red Tariff No. 20.

Packing, Marking and Labeling:

More precautions need to be taken by Railway Officials that it is packed strictly in the manner laid down in column 2 of table VIII and as per rules 807 of Red Tariff No. 20.

Handling and Storage**Time of loading and unloading:**

All operations of loading, unloading and handling of petroleum and other inflammable liquids shall be conducted between sunrise and sunset.

Transportation:

- I. Acids and other corrosives in wagons may be transported by all trains including passenger trains, but not to be transported in the brake van of trains.
- II. Acids and other corrosives shall be carried in covered iron wagon and tank wagons. End opening carriages or wagons shall not be used. For transport of Inflammable, corrosive and all other dangerous goods relevant para of Red Tariff rule 20 should be referred & guidelines to be followed strictly.

Storing , Labeling, Sealing and Locking of Wagons

A 'DANGEROUS' label shall be affixed on both sides of every wagon in which acids and other corrosives are stored for dispatch or delivery or while in transit.

Precautions to be taken during shunting

Shunting of wagons containing acids and other corrosives shall not be carried out, except under the superintendence of a duly authorized officer who shall ensure that during shunting operations:

- (a) The speed of all movements does not exceed 8 KMPH
- (b) No rough hump, fly or loose shunting takes place.

Stationary Storage of Dangerous Goods

Some of the dangerous goods like HSD oil, lubricants etc. are also stored by the railways for their own consumption in diesel loco sheds, RCDs at stations, store depots etc. These places of storage of dangerous goods must have sufficient fire fighting equipments and trained man power to deal with initial phases of fire. All such locations of storage must also have the road access so that fire tenders can approach in the event of any major fire. Adequate security arrangements should be made at these locations to prevent any outside interference which may cause any

untoward incident. The facilities for storage of petroleum products by the Railways should conform to the Petroleum Rules 2002 notified in the Gazette of India.

In addition to the railways own storage; there are major storage points of dangerous goods adjacent to the railway infrastructure under the private ownership. Railways should liaise with such private owners to ensure that adequate safety precautions are taken and locations are suitably guarded by them to obviate any untoward incident that might affect railway system.

Rescue, Relief and Restoration Operations

Railway's expertise in dealing with the mishappenings like spillage, catching fire etc. of these type of dangerous goods is very limited. It is, therefore, imperative that the respective zonal railways will develop and nurture coordination with those agencies and organisations on their system that have expertise in dealing with the hazardous material being handled and transported on the respective zonal railways. Contact details e.g. Name, Designation, Telephone Nos., Mobile Nos. etc. of such agencies should be available in the divisional and zonal Railway Disaster Management Plan so that these agencies can be called for without any delay during any untoward incident. Mention the list of nominated staff of ARMVs, ARTs and few of the staff maintaining the rolling stock which is used for transportation of hazardous material may be trained and equipped with the equipment used for dealing with such material in the eventualities.

Chapter-13

GUIDELINES DURING BIOLOGICAL DISASTERS

Causes of Biological Disasters:-

Biological disasters might be caused by epidemics, accidental release of virulent micro organism(s) or Bioterrorism (BT) with the use of biological agents such as anthrax, smallpox, etc. The existences of infectious diseases have been known among human communities and civilizations since the dawn of history.

In recent times traveling has become easier for which Railways have made a significant contribution. More and more people are traveling all over the world which exposes the whole world to epidemics. As our society is in a state of flux, novel pathogens emerge to pose challenges not only at the point of primary contact but in far removed locations. The Marburg virus illustrates this. The increased interaction between humans and animals has increased the possibilities of zoonotic diseases emerging in epidemic form.

Biological Warfare (BW) and Bio-Terrorism (BT):-

The historical association between military action and outbreaks of infections suggest a strategic role for biological agents. The advances in bacteriology, virology and immunology in the late 19th century and early 20th century enabled nations to develop biological weapons. The Biological and Toxin Weapons Convention, however, resolved to eliminate these weapons of mass destruction. Despite considerable enthusiasm, the convention has been a non-starter.

Mitigation:-

The essential protection against natural and artificial outbreaks of disease (bio-terrorism) will include the development of mechanisms for prompt detection of incipient outbreaks, isolation of the infected persons and the people they have been in contact with and mobilisation of investigational and therapeutic countermeasures. In the case of deliberately generated outbreaks (bio-terrorism) the spectrum of possible pathogens is narrow, while natural outbreaks can have a wide range of organisms including recent threat of Corona virus. The mechanisms required however, to face both can be similar if the service providers are adequately sensitized.

Nodal Ministry and support of other Ministries:-

The response to these challenges will be coordinated by the nodal ministry- Ministry of Health and Family Welfare (MOH&FW) with inputs from the Ministry of Agriculture for agents affecting animals and crops. The support and input of other ministries like Ministry of Home Affairs, Ministry of Defence, Ministry of Railways and Ministry of labour and Employment, who have their own medical care infrastructure with capability of casualty evacuation and treatment, have an important role to play. With a proper surveillance mechanism and response system in place, epidemics can be detected at the beginning stage of their outbreak and controlled.

Handling Chemical, Biological, Radiological, Nuclear (CBRN) Disaster – Training:

For handling and to provide medical relief for all CBRN Disaster which (include a Biological Disasters) and mitigation of BW and BT affected Railway staff, need to be incorporated in the Hospital DM Plan. Training of a skeleton number of Medical Doctors in each Divisional Railway Hospital to manage CBRN casualties is to be planned.

Comments on the Indian railways Disaster Management Plan by NDMA

Training of medical fraternity should be given out in a phased manner, with time lines and ultimate numbers to be trained.

Chapter-14

GUIDELINES FOR DISASTERS IN TUNNELS

In Eastern Railway there is only one tunnel in Malda Division. The salient details are shown below:-

1	Length	891' (271.5 m)
2	Location	At Km 355/11-356/1
3	Between Station	Ratanpur-Jamalpur
4	Alignment	Straight
5	Numbers of Track	Single
6	Line/Unlined	Brick masonry, HWH end: 372 feet DLI end: 106 feet
7	Gradient	1 in 600, Rising towards HWH
8	Year of construction	1861
9	Ventilation System	Not available,

For effective Disaster Management inside the tunnel, the following action should be taken by the Division:-

- a. Continuous lighting during day and night for speedy evacuations of passengers/restoration of work. Permanent lighting is to be provided round the clock..
- b. Provision of telephone communication socket at both the ends of tunnels and also at trolley refuges.
- c. Fire fighting arrangements are to be kept in Jamalpur for speedy deployment in case of need.
- d. Tunnel should be clear of all material and obstructions.
- e. Provision of at least 5 trolley/ refuges inside the tunnel is must.
- f. Provision of suitable public address system in the tunnel.
- g. Watchman at tunnel should be provided.
- h. All other provision of safety in tunnel should be followed.
- i. Good fire fighting system, emergency response system, explosion handling system & ventilation facilities are required to be installed.
- j. Consequential risk assessment approaches should be developed & implemented by division.

Chapter-15

GUIDELINES FOR DISASTER DURING FIRE ACCIDENTS

In the event of a vehicle on a train caught fire, on run.

- a) The train shall be stopped, immediately.
- b) Efforts shall be made to save the lives and RMS first.
- c) Information should be given to the nearest SM/control quickly.
- d) The burning vehicle shall be isolated a distance of not less than 45 meters being left between it and the other vehicle of the train.
- e) The train shall be protected in accordance with GR. 6.03, if not protected by fixed signals.
- f) Every effort shall be made to extinguish the fire and to save the wagon labels, seals and the contents of the vehicle.
- g) Earth or sand, if available shall also be used to extinguish fire in addition to fire Extinguisher and fire balls and water bucket as per training imparted to the staff. Call Fire extinguisher immediately. Refer relevant page of Part-B of Disaster Management Plan-2020-
- h) Ordinary Fire extinguisher or water from a hose pipe shall on no account be used to extinguish fire on live wire or electrical equipment. If the services of the Fire Brigades are required, the brigade shall not be allowed to commence operation until all electrical equipment in the vicinity of the fire has been made dead and earthed.
- i) If the fire is suspected to be due to electrical short circuit, the electric couplers at both the ends shall be disconnected & fuses from the battery from boxes shall be removed.
- j) In case the fire is near a tank, the Guard and Driver shall use their discretion to proceed there, but no such attempt shall be made until the portion of the train in rear of the vehicle has been detached.
- k) All available help should be mobilized to extinguish the fire.

Chapter 16

GUIDELINES FOR DISASTER DURING CYCLONE MANAGEMENT

SCOPE

The coastal areas of Eastern India come under the influence of South West monsoons and are situated along the Bay of Bengal. A large area of Eastern Railway are prone to storms, cyclones and heavy intensity of rainfall which affect the safety of travelling public and also result in disruption to traffic and communication.

DEFINITION AND CLASSIFICATION OF CYCLONES

The following are the definitions of the terms and meaning of abbreviations used in this manual -

- **I.M.D (India Meteorological Department):** It is the department under Govt. Of India responsible for, inter-alia, issue of weather warnings.
- **Regional Meteorological Centers:** These are the centers under the administrative control of the India Meteorological Department, who directly issue the weather warning telegrams on the basis of forecasts. On ER system, Regional Meteorological centre is situated at Alipore, Kolkata.
- **Cyclone warning Centres (C.W.C):** It is a special establishment under the India Meteorological Department. It specializes in forecasting of development, movement and progress of cyclone on the Bay of Bengal. It is the main source of cyclone related information not only to the Railway and such other organisations, but also the Regional Meteorological Centers under the India Meteorological Department situated elsewhere.
- **First Stage Warning by CWC:** It is the warnings issued by CWC as soon as a cyclonic storm is located at such a distance from the coast that it is expected to cause bad weather during next 48 hours.
- **Second Stage Warning by CWC:** Following the first stage warning, the second stage warning is issued as soon as actual threat of cyclone over the coastal area.
- **Severe Cyclonic Storm:** When the wind speed on the strike of cyclone on land is expected to be 120 Kmph.
- **Very Severe Cyclonic Storm:** When the wind speed on the strike of cyclone on land is expected to be 180 Kmph.
- **Super Cyclonic:** When the wind speeds on the strike of cyclone on land is expected to be 220 Kmph.
- **De warning Message:** A message is issued by CWC after the cyclonic storm has adequately weakened or passed fully.

INFORMATION DISSEMINATION & CYCLONE INTENSITY MONITORING SYSTEM

Arrangements exist with the Meteorological Dept., Govt. of India for issuing telegrams of warning whenever storms, gales and heavy rainfall occur. The conditions under which warnings are issued are detailed below

- i. Amount of rainfall considered dangerous: 75 mm and above in 24 hours.
- ii. Wind velocity considered dangerous: 60 Kmph and above. If track is not good the speed of wind above 40 kmph. is also dangerous when train speed is 100 kmph or high.
- iii. Period when warnings will be given: throughout the year.

PRE-CYCLONE SEASON PREPARATION BY RAILWAYS

Since the time available between initial warning up to the actual occurrence of cyclone and its damages/ disruptions is often very short, pre-emptive action is essential to ensure adequate preparedness in terms of stores and equipments necessary to deal with the disruptions/damages.

Pre-cyclone preparation essentially involves ensuring of adequate inventory of necessary stores and equipments as per the checklist prepared by the respective department

STORES DEPARTMENT

The Stores Department will ensure stock of items with quantities. The locations for stocking of these materials shall be at Stores Depots of Eastern Railway which are accessible by rail as well as road.

ENGINEERING DEPARTMENT

The **anemometers** should be installed by the Engineering Dept. at strategic stations along the Eastern Railway route. These are the devices used for measuring wind speed at specified height from the ground level. The list of materials which should be kept at strategic locations on the Eastern Railway at all times is available.

Standing arrangements on whenever-required basis should exist for the supply of adequate rake loaded with steel plants slag and quarry dust with ballast contractors.

As restoration of traffic often requires heavy handling of earth, availability of heavy earth moving machinery viz. Poclains, JCBs, Pay-loaders etc should be identified in the city/towns along with firms/owners names, addresses and telephone numbers so as to hire and mobilize them as the necessity arises.

Standing contracts with 100% option clause may be entered into on annual basis from strategic quarry dust and boulder supply locations.

ELECTRICAL DEPARTMENT

The necessary items, quantity and locations of electrical materials to be kept as pre-cyclone measure should be available. In addition to these materials, the locations of additional generator cars should be identified in advance so that they can be requisitioned from other Divisions/Railways in case of necessity.

There should be provision of adequate quantity of HSD in case Rajdhani, Shatabdi and Duronto are stranded in the section for a considerable long time. HSD should be well segregated.

As per intensity of cyclone, Divisional authority will order the Running staff to lower the pantograph to avoid the damage of panto and OHE in terms SR 2.11(a) (i) and SR 2.11(a) (ii)

MECHANICAL DEPARTMENT

In case all other arrangement fails to provide potable water and engg department makes an request for Tank Wagon for supply of water to affected areas, Mechanical Dept after due cleaning should make available eight wheeler tank wagon suitable for drinking water supply. These tanks shall be identified with necessary painting and made available at suitable locations for loading and movement of drinking water.

SIGNAL AND TELECOM (S&T) DEPARTMENT

The experience has shown that the communication links including terrestrial, under ground and microwave sever off at the onset of cyclone. In such cases, VHF sets for short distance communication and satellite phones for long distance communication are the only means available for exchange of vital information. However, following pre-cyclone arrangements should be made:

Availability of emergency generator sets for charging of VHF equipments at all nominated stations with adequate fuel. The satellite phones of ARTs and Control Offices shall be kept in fully charged condition so that these can be transported to any site on short notice.

Spare 25 W VHF set complete with Battery and Antenna to the extent of 25% of total sets provided in the Divisions should be available with Sectional Telecom Supervisors.

One extra DG set along with 2 numbers of 20- litre jerrican full with fuel should be stored on each of the locations, namely MLDT, NFK, BKLE, TPH, BHW, CLG, AHA, BAKA, BGP, RAJMAHAL, SBG, JMP and other important locations at the Signal/Telecom or any other Supervisors' store.

MEDICAL DEPARTMENT

Zonal hospital i.e B.R.Singh Hospital/Sealdah, Howrah Orthopedic Hospital, Howrah, Divisional Hospital Asansol and Divisional hospital Malda are primarily pin pointed to keep the items which are necessary for attending diseases/victims of cyclone hit area.

The disaster management team already nominated in each division will keep themselves alert as soon as they receive weather forecast regarding cyclone.

Medical Dept will keep adequate suitable items in stock for Medicines, Medical aids & other relevant medical items at suitable locations in all the divisions as preparedness for cyclone even during the pre-cyclone season.

These materials will be kept with CMD/CMS stores in the respective main hospitals. These are listed as below:

Sl	Name of medicines/item	Quantity
1	Injection T. Toxoid	100 ample
2	Injection Zofer	100 ample
3	Disposable 2 ml syringe	200
4	Tablet Azithromycin 500 mg	5000 nos
5	Tab. Metrogyl 400 mg	5000nos
6	Tab. Paracetamol	5000nos
7	Syrup Metrogyl	500 bottles
8	Syrup Augmentin	500 bottles
9	Syrup Paracetamol	500 bottles
10	Tab. Cetzine	2000 nos
11	Tab. Domstal	2000 nos
12	Tab. Buscopan	2000 nos
13	ORS Pouch	5000 nos
14	Cotton 25 gm	1000 packets
15	Bandage 2 inches	500 nos
16	Bandage 4 inches	500 nos
17	Bandaids	2000 nos
18	Mupirocin Ointment 5 mg	500nos
19	Chlorine tablet (or Zeoline drop of equivalent quantity)	100000 nos
20	Bleaching Powder	5000 kgs
21	Tab Famocid 20 mg.	5000 nos
22	Tab Voveran 50 mg.	5000 nos.
23	Cifram 500 mg.	5000 nos.
24	Syp. Augmentin 30 ml.	500nos.
25	Oint. Silverex	1000 nos.

Above materials should be kept ready along with necessary carriers so that same may be transported easily to the cyclone affected area by road/train or other means. Any other items may be added based on the demand of the situation & requirements of the experts at site of incident.

ACTION TO BE TAKEN IN 48 HOURS IN ADVANCE OF HITTING CYCLONE

Formation of low pressure area, its development into cyclonic storm and its tentative direction of propagation becomes known much before (well above 48 hours) the estimated time for its striking the coast. A broad assessment of anticipated severity of cyclone becomes known at least 48 hours before its strike to the coast. From this point of time, prompt action to combat the cyclone is warranted.

CHECK ON THE INVENTORIES AND EQUIPMENTS OF STORES

Inventories/Stores is to be maintained by each Department on specified locations as already detailed out after initial warnings of cyclones have been received from the I.M.D/C.W.C. Each dept will conduct checks of physical availability of items with quantities and locations as per the checklist given. The following actions are required by each Dept:

STORES DEPARTMENT

Reviewing the stock position of items and arranging transportation of some of the relief materials to the likely affected areas before natural calamity strikes

ENGINEERING DEPARTMENT

The engineering material as stocked should be cross checked for its physical availability in full. The fitness of vehicles on which the materials have been loaded on wheel should be obtained.

Apart from this, the following action need to be taken:

Based on the anticipated severity and warnings, the modalities for movement of materials should be planned.

The firms/owners having heavy earth moving machinery should be contacted, alerted and asked to be in readiness to hire the machines to the Railway. Movement of such machine including loading and unloading arrangements should be planned in consultation with the Traffic Branch.

A review of availability of the GI wires, Asbestos sheets, GI sheets, Tents, Service girder along with CC cribs and other incidental materials should be done by stock holders to know the availability position.

A stipulated quantity of Monsoon reserve materials is to be maintained as below:

SL	ITEM	HOWRAH	SEALDAH	ASANSOL	MALDA
1	StoneDust (On Wheel)	30 BCx at Azimganj/Katwa 30 BCX at Nalhati/Rampurhat 30 BCX at PKR	20 BCX at Naihati	20 BCX at Sitarampur	20 BCX at Malda 20 BCX at Bhagalpur 20 BCX at Barharwa
2	StoneDust (on ground)	-	-	-	-
3	Stone Dust (in Contract)	15000 cum	10000 cum	10000 cum	10000 cum
4	Wooden Ballah (on ground)	2500 RM at Azimganj	1000 RM at Ranaghat 1500 RM at	1000 RM at Madhupur	1500 RM at Bhagalpur

SL	ITEM	HOWRAH	SEALDAH	ASANSOL	MALDA
			Beldanga		
5	Wooden Ballah Piles (Running Contract)	5000 RM	3000 RM	3000 RM	2000 RM
6	Rail Piles (on Wheel)	500 RM at Bandel	500 RM at Ranaghat	500 RM at Andal	1000 RM at Barharwa.
7	Rail Piles (on Ground)	2000 RM at Suitable Location.	1000 RM at Ranaghat	2000 RM at Sitarampur	2000 RM at Malda
8	Rail Piles (in Contract)	5000 RM	2000 RM	2000 RM	5000 RM
9	Scrap rails for Piling	2000 RM	2000 RM	2000 RM	2000 RM
10	Stone Boulder (on Ground)	5000 cum at Azimganj 5000 cum at Rampurhat	2000 cum at Barrackpore 5000 cum at Krishnanagar	2500 cum at Madhupur 2500 cum at Andal	5000 cum at Rajmahal 5000 cum at Barharwa. 5000 cum at Ratanpur
11	Stone Boulder (in Contract)	10000 cum	10000 cum	10000 cum	15000 cum
12	Stone Boulder (On wheel)	15 BCX at Azimganj/Katwa 15 BCX at Nalhati/Rampurhat	20 BCX at Nalhati/ Krishnanagar	20 BCX at Simultala/ Joramow	20 BCX at Malda 20 BCX at Bhagalpur 20 BCX at Barharwa/Taljhari
13	EC Bag	40000 Nos.	40000 Nos.	40000 Nos.	40000 Nos.
14	Gunny Bags/Synthetic cement Bags filled with stone dust/sand (on Ground)	10000 Nos at Suitable Location	10000 Nos at Suitable Location	10000 Nos at Suitable Location	10000 Nos at Suitable Location
15	Gunny Bags/Synthetic cement Bags filled with stone dust/sand (in contract)	10000 Nos	10000 Nos	10000 Nos	10000 Nos
16	Relieving girders (on wheel)	2 Nos at Nalhati/Rampurhat (45' span)	1 No at BRI siding at Swaldah and 1 No. at BGA/Track depot (45' span)	1 No.at Sitarampur/ BRI siding 1 No.at Andal	2 Nos at Sahibganj (45' span)

SL	ITEM	HOWRAH	SEALDAH	ASANSOL	MALDA
17	Relieving girders (on ground)	65'-1 No 45'-3 Nos. 32'-1 No. 26''-1 No. at suitable loadable location.	454'-6 Nos. at suitable loadable location.	45'-6 Nos. 26'-1 No. at suitable loadable location.	6 Nos. at suitable loadable location.
18	CC Cribs (on wheel)	200 Nos at Nalhati/Rampurhat	200 at Sealdah BRI siding	200 at Sitarampur / BRI siding	200 at Sahibganj
19	CC Cribs (on Ground)	200 Nos at BRI/Howrah office 200 Nos near Howrah Railway station.	200 Nos at BRI/Sealdah office 200 Nos at Engg. Workshop, BGA	200 Nos. at BRI/Sitarampur office	400 Nos. at Malda 400 Nos. at Bhagalpur

Ref: Monsoon Booklet for the year 2014 issued by Dy.CE/BRL's letter No.W (4) 432/2 Vol.XIII dated 20.5.2013

ELECTRICAL DEPARTMENT

Check working of DG sets, stock position of HSD oil, K-Oil, position of light fittings and other materials so as to ensure that they are available in working condition at nominated depots. This should be ensured by DEE/G/AEE/G/Supervisor in-charge of their respective jurisdiction. Any shortage should be made goods. HQs control should be informed for assistance if required. Complete list of vital equipments and consumables should be available in division controls.

MECHANICAL DEPARTMENT

The fitness of rolling stock for transportation of drinking water as well as those of ARTs, ARMEs, and ARMVs should be checked and ensured.

S&T DEPARTMENT

Communication:

- i. Check that 25 W VHF set provided at each station is functioning properly and battery is in fully charged condition.
- ii. Check that emergency generator set is functioning properly with adequate fuel.
- iii. Check that fuel supply tanks of the generator sets have been full filled and adequate fuel for 72 hrs has been stocked.
- iv. BSNL/RailTel/Airtel authority's to be alerted and close liaisoning to be made for proper working of their systems for Railway circuits.
- v. Satellite phones with personnel competent to use, handle and troubleshoot shall be deputed to strategic stations.
- vi. Communication equipment in ART should be tested for proper working order.

Block working:

- i. Check all the Block Instruments and their Batteries.
- ii. Extend power supply from emergency generator set to Block Battery charger.

MEDICAL DEPARTMENT

Medical Dept will check the availability of stock as already detailed out.

OPERATING DEPARTMENT

Sr.DOM of the concerned division's will make a rough assessment of staff and area of deployment and advice HQs and Emergency Control/Fairlie Place. The Divisional Control will also obtain the status of functioning of VHF sets and batteries/generators from each station and bring the discrepancies to the notice of Sr.DSTE.

SM of the area with the assistance of Sr.DOM of the division which is likely to be affected will ensure storage of adequate drinking water, functioning of hurricane lamps, match box, adequate availability of fuel for generator sets, functioning of VHF sets, charging of standby batteries and adequacy of first aid equipment.

ACTIVATION OF ALARMS TO STAFF & COLONY**Action by Central Control COMs Office**

- i. At the HQs Office the Central Control Unit who is the recipient of the weather warning telegrams will arrange for the distribution of the message to CE, CBE, CTE, COM, CSO, CME, CEE and CSTE through their concerned departmental counter parts in central control.
- ii. Central Control should also verify with the Divisional Control that such weather warnings, telegrams / messages have been received by the Chief Controller of the concerned Division to enable them to take prompt action at field level.

Action by the Division Control Office

The Chief Controller or in his absence the Dy. Controller should immediately arrange for the weather warning telegram to be repeated verbatim to the Divisional Officers as well as AENs concerned and all SMs on the section likely to be affected on the control telephone. The Controller repeating the telegram should record the name of the SM to whom the telegram has been repeated.

PREPARATION OF ACTIVITIES FOR STATIONS LIKELY TO BE AFFECTED BY CYCLONES

Diversion of Trains: Divisional/HQ Emergency Control will remain in touch and take action for diversion of trains based on the ground situation. All diversions ordered shall be advised through a bulletin to all concerned including CPRO for publicity.

In order to avoid any mishaps or damage to the passenger trains and to avoid marooning of passengers, COM or an officer acting on his behalf will issue instructions to all concerned for either cancellation or regulating the trains in time so as to avoid running through likely affected areas by cyclone.

NOMINATION OF OFFICERS TO MAN THE EMERGENCY CONTROL AND WAY-SIDE STATIONS

In addition to the action taken as per the above Para by various departments, each PHOD/concerned DRM will identify and nominate the officers for opening up and manning the emergency control at short notice at HQ/Division.

Two light motor trolleys should be arranged and kept in readiness at strategic stations which should fall away from the likely affected zone. At least one officer and a few staff should be nominated for each. They should be provided with VHF sets and 1 satellite phone each so that they can accomplish the mission of physically covering the entire affected zone and give First information on damage through these equipment to the control after passage of the cyclone.

ACTIVATION OF EMERGENCY CONTROL AND NOMINATION OF STAFF OR VARIOUS DUTIES

Emergency Controls

- i. Emergency offices shall be opened in the HQ Control, Divisional Control (affected division) and important junction stations in all case of warning of super cyclone or very severe cyclone storm.
- ii. The Divisional and HQ Emergency control shall obtain every two hourly position from Meteorological Office for up to 12 hrs before the likely time of cyclone hitting and there after every hour.
- iii. The SM shall inform Local Revenue Officers, Sub-Collectors of the area regarding the holding of trains in his station.

Relief Train

Any available rake of preferably 6 coaches of any type to be nominated and kept ready at suitable locations of all the divisions at least 24 hrs before the cyclone is likely to hit for carrying staff, Doctor, Food, medicines and Relief materials.

Action by Commercial Department

Enquiry offices should be opened by CCM at important stations with public address system and information about running of trains, arrangements made for supply of food, transshipment of passengers, etc. should be repeatedly given over the public address system for the benefit of the passengers.

Engineering Department

- i. The ongoing patrolling of track shall be intensified 24 hrs before anticipated strike of the cyclone, the position of coastal location likely to be affected by it is to be clearly identified. The trains loaded with the monsoon reserve materials (cinders, boulders, quarry dust, empty cement bags filled with earth/sand etc.) will be ordered to run-in consultation with traffic department to the stations near to the last likely affected stations.
- ii. Empty flat wagons (BRH/BRN) will be placed at suitable sidings (preferably goods platform line with ramps) to enable quick loading of earthmoving machinery.

Mechanical Department

- i. The ART/ARV/ARME/ARMV staff and crane driver will be kept alert to rush to duties at minimum notice.
- ii. The drinking water, food items (including biscuits and ration) shall be provided ready on ARTs/ARMVs. ARTs will be equipped with fuel patromax/ gas lamps & portable generator with adequate provisions for 72 hours.

READINESS OF RELIEF MATERIALS, ROAD VEHICLES & EQUIPMENT

Road Vehicles

All road vehicles including jeeps, cars, light and heavy material carrying vehicles shall be kept in readiness at the nominated Stations/Divisional offices with adequate fuel and two (roster duty) drivers' to move men/ materials /equipments at minimum notice.

Communication Equipment

As soon as the coastal areas likely to be affected becomes clear, Satellite phones with personnel competent to use, handle and troubleshoot, shall be dispatched to a strategic stations (larger among those likely to be affected).

Stores Department Items

- i. Preparations for packing, transportation & distribution of materials shall be started. The packing shall be done with water proof packing materials and easy to handle crates (manually).
- ii. Nominations of Stores Officer in HQs for coordinating the material supply activities with officer-in-charge at site/nominated officers of user department in HQs.

SECURITY

The Security personnel will be nominated by DSCs/Sr.DSCs at following positions:

- i. To accompany relief material carrying trains when ordered
- ii. To help commercial and station staff of major stations to handle public enquiries etc
- iii. At each station where any passenger carrying train is regulated
- iv. On heavy vehicles carrying relief materials
- v. At major restoration sites after cyclone recedes & work commences

COORDINATION AT HQ, DIVISIONAL AND BOARDS LEVEL

A complete fluidity of inflow of information between HQ, Division and Board level will be the objective.

The HQs cell will keep the Rly Board cell informed and update periodically and ask for assistance from the neighbouring Railways as required. It will watch inter-divisional movement of relief trains, restoration materials and equipments and guide the Division in marking a plan of action for rescue, relief and restoration. It will also be responsible for documenting the developments.

The monitoring cell of the adjacent division will be responsible to ensure a complete compliance of HQ instructions as per the disaster management plan worked from their end requiring resources of the affected division. It will ensure that top priority is accorded to the relief and restoration work in the neighbouring affected divisions.

ACTIONS DURING CYCLONE

Heavy devastation is often caused by the cyclonic winds and heavy downpour during the cyclone.

RELIEF AND RESCUE

The first priority, during cyclonic storm, is therefore to protect the travelling passengers in trains passing through/near to the cyclone affected zone.

Action by Traffic Department

Coaching trains should be controlled / diverted so that the trains do not enter the cyclone affected area, suitable publicity to be arranged. The controlling of trains should, as far as possible, be done where adequate water supply, lighting, catering and medical facilities are available.

Action by Commercial Department

- i. All Commercial staff should guide the passengers, whether they are on a running train or at a station when the cyclone actually strikes, regarding taking adequate measures for ensuring their personal safety.
- ii. If a train is stranded in the block section, the conductor/TTEs manning the train should take a census of the passengers, and try to pass on the information to the station at either end through the walkie-talkie sets available with the Guard/Driver of the train so that the information can be passed on to the Divisional Control Office in case no communication is available.
- iii. If any passenger is found to have injured during the cyclone, first aid should be provided by the Guard/TTEs/station staff, as the case may be. In case of injured passengers at a station, medical aid as locally available should be arranged. Wherever possible, details of such cases should be passed on to the Divisional Commercial Control.

FIRST ASSESSMENT OF DAMAGE

Motor Trolley Survey

- i. The cyclones and consequent floods, if any, if they have not damaged the continuity of track frame a light motor trolley can pass through the entire cyclone affected zone (on its own power or augmented manually) without much difficulty except if the track frame itself is submerged in water.
- ii. The Officer(s) and staff nominated and in readiness, should proceed immediately after the cyclone has passed off the affected zone. Equipped with satellite phone and VHF sets, the two trolleys from either end of the affected zone should proceed through the affected zone and give precise information to control regarding the following:
 - Nature of damage/obstruction to track with location.
 - Possible method/system for restoration.
 - Resources required for restoration.
 - Whether or not a light vehicle (e.g. Tower Wagon) or light engine or full relief train can pass.
 - Likely time to clear the location by repairing the damage/removing the obstruction.

Manual Damage assessment

This will be carried out concurrently and independently with motor trolley survey and will not be called till completed, to give corroborative information.

By Boats

In circumstances when substantial portion of track gets inundated under water, boats shall be hired locally to navigate across the water body and assess the damage.

MOVEMENT OF RELIEF TRAIN FOR RESCUE, RELIEF AND RESTORATION

On receipt of first information of super cyclone having passed the coast, after assessment of the damaged railway property or assistance required, all the relief trains on the section must be ordered and should be started with full complement of men, equipment and materials. The movement of relief train shall not wait for receipt of detailed report from site. The staff required to move on these trains shall be accommodated on the train itself and should not be allowed to come back home. This may involve organizing supply of food from local sources for staff that has to remain on the relief trains for long hours.

These trains will move up to the neck of the affected zone in normal course. Thereafter, the trains will move forward in such a way that the section in the rear is cleared of all physical obstructions to the moving dimensions. It will leave each station after confirming on VHF by the SM with the adjacent station that no breaches/washouts have occurred on that section.

MOVEMENT OF RELIEF MATERIALS AND RESTORATION

Engineering Department

Based on damage report and restoration strategy, priority and sequencing of movement of available materials on wheels (e.g. boulder fillers, earth moving machinery, bridge girder etc.) and labour should be quickly chalked out by Engg. Dept. and conveyed to the traffic personnel at Central Control and respective divisional controls.

Electrical Department

- i. Restoration Work: The damage caused to electrical installations is to be assessed location-wise. For this purpose, competent officials shall be deputed to obtain detailed assessment of the damages. Supervisors and staff should be deputed with necessary materials and tools either by Rail or by Road for immediate restoration work.
- ii. In case of power failure at stations where trains are controlled, temporary lighting may be arranged with portable DG sets or through patromax lights.

CHAPTER-17

List of Manned LC of MLDT Division

Sl	Major Section	Block Section	LC No.	Location (KM/TP)	Rly Route	Controlling Station	Classification of gate As Per SWR	Normal position of Gate	Engineering (E) Traffic (T)	Train Vehicle Unit (TVU)	Month/Year of Census	Inter Locked
1	NFK-MLDT	NFK-CMX	40	261/0-1	B	CMX	B1	O	E	21889	10/2018	YES
2	NFK-MLDT	CMX-KTJ	49	270/6-7	B	KTJ	Spl	O	T	826472	09/2018	YES
3	NFK-MLDT	KTJ-JMQ	17	272/3-4	B	KTJ	B ₁	O	T	10561	10/2018	YES
4	NFK-MLDT	KTJ-JMQ	57	277/0-1	B	JMQ	A	O	T	59118	09/2018	YES
5	NFK-MLDT	GZM -MLDT	62	286/7-8	B	GZM	A	O	E	139476	09/2018	NO
6	NFK-MLDT	GZM -MLDT	63	287/1-2	B	GZM	A	O	E	153046	09/2018	NO
7	NFK-MLDT	GZM -MLDT	64	285/7-8	B	GZM	Spl	O	E	427396	09/2018	YES
8	NFK-MLDT	GZM -MLDT	2	289/3-4	B	MLDT	Spl	O	E	106624	09/2018	YES
9	NFK-MLDT	GZM -MLDT	60	290/7-8	B	MLDT	A	O	T	146527	09/2018	YES
10	AZ-NFK	AJLE-PRDG	1	181/3-4	E	PRDG	C	C	E	2684	01/2019	NO
11	AZ-NFK	PRDG-MPLR	2	182/9-10	E	PRDG	C	O	T	16833	01/2019	YES
12	AZ-NFK	MPLR-MGLE	5	188/4-5	E	MPLR	C	O	T	61404	01/2019	YES
13	AZ-NFK	MPLR-MGLE	6	189/6-7	E	MPLR	C	C	E	12878	01/2019	NO
14	AZ-NFK	MPLR-MGLE	8	193/01-02	E	MGLE	C	C	E	13415	01/2019	NO
15	AZ-NFK	MPLR-MGLE	11	197/2-3	E	MGLE	C	O	T	46327	01/2019	YES
16	AZ-NFK	GALE-JRLE	20	206/6-7	E	GALE	C	O	T	53168	01/2019	YES
17	AZ-NFK	GALE-JRLE	21	209/7-8	E	JRLE	C	C	E	6237	01/2019	NO
18	AZ-NFK	GALE-JRLE	22	210/9-10	E	JRLE	C	C	E	3656	01/2019	NO
19	AZ-NFK	JRLE-SPLE	26	218/9-10	E	SPLE	C	C	E	30170	01/2019	NO
20	AZ-NFK	SPLE-NILE	27	225/3-4	E	SPLE	A	O	T	70156	01/2019	YES
21	AZ-NFK	SPLE-NILE	32	231/4-5	E	NILE	A	O	T	176499	01/2019	YES
22	AZ-NFK	NILE-	35	233/5-	E	NILE	C	O	E	14688	01/20	N

		DGLE		6							19	O
23	AZ-NFK	NILE-DGLE	36	234/5-6	E	NILE	Spl	O	E	95968	06/2018	YES
24	AZ-NFK	NILE-DGLE	37	234/7-8	E	NILE	C	C	E	57696	06/2018	NO
25	AZ-NFK	NILE-DGLE	38	235/2-3	E	NILE	C	C	E	31167	06/2018	NO
26	AZ-NFK	NILE-DGLE	38	235/8-9	E	NILE	C	C	E	21887	06/2018	NO
27	AZ-NFK	NILE-DGLE	39	237/7-8	E	DGLE	C	O	E	45263	06/2018	YES
28	AZ-NFK	NILE-DGLE	41	238/6-7	E	DGLE	C	C	E	10382	06/2018	NO
29	AZ-NFK	NILE-DGLE	42	239/7-8	E	DGLE	C	C	E	48385	06/2018	NO
30	AZ-NFK	NILE-DGLE	43	239/9-10	E	DGLE	A	O	E	227030	07/2018	YES
31	AZ-NFK	NILE-DGLE	44	240/5-6	E	DGLE	A	O	T	54707	01/2019	YES
32	AZ-NFK	NILE-DGLE	45	241/0-1	E	DGLE	C	O	T	24897	01/2019	YES
33	AZ-NFK	DGLE-NFK	47	243/0-1	E	DGLE	C	C	E	45106	6/2018	NO
34	AZ-NFK	DGLE-NFK	50	245/3-2	E	DGLE	C	O	E	19200	12/2018	NO
35	AZ-NFK	DGLE-NFK	53	247/4-5	E	DGLE	Spl	O	E	58339	12/2018	yes
36	AZ-NFK	DGLE-NFK	58	251/5-6	E	BPBS	Spl	O	E	325969	01/2019	yes
37	NFK-BHW	NFK-TDLE	60	259/2-1	B	TDLE	Spl	O	T	184171	02/2019	YES
38	NFK-BHW	TDLE-BDAG	61	260/6-7	B	TDLE	C	O	T	13050	02/2019	YES
39	NFK-BHW	TDLE-BDAG	62	262/3-2	B	TDLE	C	C	E	10304	01/2019	YES
40	NFK-BHW	TDLE-BDAG	63	263/1-2	B	TDLE	C	O	E	30760	01/2019	NO
41	NFK-BHW	BDAG-BHW	65	268/4-3	B	BDAG	C	O	T	57113	02/2019	YES
42	BDAG-BDLC	BDAG-BDLC	67	267/14-15 (0/2-3)	B	BDAG	B ₂	O	T	58248	02/2019	YES
43	BDLC-BWH	BDLC-BHW	45	173/8-9	B	BDAC	C	C	E	17519	01/2019	YES
44	BDLC-BWH	BDLC-BHW	19	176/13-14	B	BHW	Spl	O	T	71450	01/2019	YES
45	BHW-SBG	BHW-BKLE	44	180/8-9	B	BKLE	A	O	E	70546	02/2019	YES
46	BHW-SBG	BKLE-DDX	45	185/4-5	B	BKLE	C	O	T	24640	02/2019	YES
47	BHW-SBG	DDX-TPH	46	189/12-13	B	DDX	C	C	E	23450	01/2019	NO
48	BHW-SBG	DDX-TPH	47	192/9-10	B	TPH	C	O	T	10951	10/2018	YES
49	BHW-	TPH-KXE	48	197/3-	B	UM	C	O	T	6492	12/20	YES

	SBG			4							18	S
50	BHW-SBG	KXE-TLJ	50	199/9-10	B	KXE	C	C	E	21127	02/2019	YES
51	BHW-SBG	KXE-TLJ	51	202/8-9	B	TLJ	A	O	T	47627	02/2019	YES
52	BHW-SBG	KPTO-MJP	52	217/5-6	B	KPTO	C	O	T	21507	02/2019	YES
53	TPH-RJL	TPH-RJL	48	3/12-13	E	TPH	C	C	E	6887	03/2019	No
54	TPH-RJL	TPH-RJL	49	7/14-15	E	RJL	C	C	E	6123	03/2019	No
55	TPH-RJL	TPH-RJL	50	8/13-14	E	RJL	C	C	E	6067	03/2019	No
56	BHW-SBG	KPTO-MJP	52	217/1-0	B	MJP	A	O	T	88034	10/2018	YES
57	BHW-SBG	MJP-SLJ	53	222/2-3	B	SLJ	B ₂	C	T	97538	12/2018	YES
58	BHW-SBG	SLJ-SBG	54	224/1-2	B	SLJ	B ₂	O	T	56268	01/2019	YES
59	BHW-SBG	SLJ-SBG	55	226/5-6	B	SLJ	B ₂	O	E	50885	01/2019	No
60	BHW-SBG	SBG Yard	119	231/4-5		SBG	B2	O	T	66326	10/2018	No
61	BHW-SBG	SLJ-SBG	56	230/5-6	B	SBG	SPL	O	T	193955	12/2018	YES
62	SBG-BGP	SBG Yard	82	231/9-232/0	B	SBG	SPL	O	T	85668	01/2019	YES
63	SBG-BGP	SBG-KRMA	1	237/1-2	B	KRMA	B ₁	O	E	90059	12/2018	YES
64	SBG-BGP	MZC-AMPL	2	246/8-9	B	MZC	Spl	O	T	89222	12/2018	YES
65	SBG-BGP	PPT-SVRP	5	263/6-7	B	SVRP	Spl	O	T	120373	01/2019	YES
66	SBG-BGP	SVRP-BKSL	5	266/4-5	B	SVRP	A	O	E	35478	12/2018	YES
67	SBG-BGP	EKC-GGA	6	279/9-280/0	B	EKC	Spl	O	T	125915	10/2018	YES
68	SBG-BGP	EKC-GGA	7	284/7-8	B	GGA	A	O	T	90138	10/2018	YES
69	SBG-BGP	GGA-LLM	8	286/5-6	B	GGA	B ₂	O	E	32406	10/2018	YES
70	SBG-BGP	LLM-SBO	9	296/9-10	B	SBO	C	O	T	33787	10/2018	YES
71	SBG-BGP	LLM-SBO	10	297/3-4	B	SBO	B ₂	O	T	30083	10/2018	YES
72	SBG-BGP	SBO-BGP	11	298/3-4	B	BGP	B ₁	O	T	65538	10/2018	YES
73	SBG-BGP	SBO-BGP	12	303/6-7	B	BGP	Spl	O	E	7024	10/2018	YES
74	BGP-MDLE	BGP-KKTA	1	2/5-6	E	East pannel Cabin BGP	C	O	E	6210	10/2018	No
75	BGP-MDLE	BGP-KKTA	2	3/1-2	E	East pannel	C	O	E	2355	10/2018	No

						Cabin BGP						
76	BGP- MDLE	BGP- KKTA	3	5/1-2	E	East pannel Cabin BGP	C	O	E	2728	10/20 18	N o
77	BGP- MDLE	BGP- KKTA	4	6/7-8	E	BGP	C	C	E	515	10/20 18	N O
78	BGP- MDLE	KKTA- GIF	5	8/5-6	E	BGP	C	C	E	1103	10/20 18	N O
79	BGP- MDLE	KKTA- GIF	6	9/7-8	E	TKLE	C	C	E	5524	10/20 18	N o
80	BGP- MDLE	GIF- HPLB	7	10/8-9	E	BGP	C	C	E	4132	10/20 18	N o
81	BGP- MDLE	GIF- HPLB	8	11/9- 12/0	E	BGP	C	C	E	1110	10/20 18	N O
82	BGP- MDLE	HPLB- TKLE	9	13/5-6	E	TKLE	C	O	E	2257	10/20 18	N o
83	BGP- MDLE	HPLB- TKLE	10	15/5-6	E	TKLE	C	O	T	84162	10/20 18	YE S
84	BGP- MDLE	TKLE-SJJ	12	18/6-7	E	TKLE	C	O	E	7024	10/20 18	N o
85	BGP- MDLE	SJJ-BELE	16	24/1-2	E	DWLE	C	O	E	55089	10/20 18	N o
86	BGP- MDLE	BELE- DWLB	17	25/1-2	E	DWLE	C	O	E	4766	10/20 18	N o
87	BGP- MDLE	BELE- DWLB	18	25/7-8	E	DWLE	C	O	E	16658	10/20 18	Ye s
88	BGP- MDLE	BELE- DWLB	19	27/3-4	E	TKLE	C	C	T	2902	10/20 18	Ye s
89	BGP- MDLE	BELE- DWLB	20	29/3-4	E	DWLB	C	C	E	3344	10/20 18	N O
90	BGP- MDLE	PNSA- BHLB	22	33/4-5	E	BHLE	B ₁	O	E	88486	10/20 18	N o
91	BGP- MDLE	BHLB- PJLE	26	37/14- 15	E	BHLE	C	O	T	25281	02/20 19	YE S
92	BGP- MDLE	BHLB- PJLE	28	40/7-8	E	BHLE	C	O	E	4700	02/20 19	N o
93	BGP- MDLE	BHLB- PJLE	29	41/14- 15	E	BHLE	B ₂	O	E	27003	02/20 19	N o
94	BGP- MDLE	BHLB- PJLE	30	44/9- 10	E	MDLE	C	O	E	2909	03/20 19	N o
95	BGP- MDLE	PJLE- MDLE	31	46/12- 13	E	MDLE	B ₂	O	E	11157	02/20 19	N o
96	BGP- MDLE	PJLE- MDLE	32	48/11- 12	E	MDLE	C	O	T	11855	01/20 19	YE S
97	BGP- MDLE	PJLE- MDLE	33	50/3-4	E	MDLE	B ₂	O	T	26766	02/20 19	YE S
98	BGP-JMP	BGP- NAT	1	306/0- 1	E	NAT	B1	O	T	12768 4	10/20 18	YE S
99	BGP-JMP	NAT Yard	1	309/1- 2	B	NAT	Spl	O	T	14794 2	02/20 19	YE S
10 0	BGP-JMP	NAT- AKN	2	316/7- 8	B	AKN	C	O	E	12455 6	02/20 19	N o
10	BGP-JMP	NAT-	2	314/9-	B	NAT	C	O	E	65617	02/20	N

1		AKN		315/0							19	o
102	BGP-JMP	NAT-AKN	3	318/0-1	B	AKN	C	O	T	51057	02/2019	YES
103	BGP-JMP	NAT-AKN	4	318/8-9	B	AKN	C	O	T	77258	02/2019	YES
104	BGP-JMP	AKN-SGG	5	319/6-7	B	AKN	B1	O	T	213309	02/2019	YES
105	BGP-JMP	AKN-SGG	7	325/6-7	B	SGG	C	O	E	23695	02/2019	No
106	BGP-JMP	AKN-SGG	8	327/5-6	B	SGG	B	O	E	349099	02/2019	YES
107	BGP-JMP	AKN-SGG	9	328/8-9	B	SGG	Spl	O	T	175792	03/2019	YES
108	BGP-JMP	SGG-GNNA	11	331/6-7	B	GNNA	C	O	E	32259	02/2019	No
109	BGP-JMP	GNNA-KPRD	12	338/8-9	B	KPRD	C	O	E	91263	02/2019	No
110	BGP-JMP	KPRD-BUP	14	345/4-5	B	BUP	C	O	E	13760	02/2019	No
111	BGP-JMP	BUP-RPUR	15	347/5-6	B	BUP	Spl	O	T	38969	02/2019	YES
112	BGP-JMP	RPUR Yard	16	351/8-9	B	RPUR	C	O	T	18094	03/2019	YES
113	BGP-JMP	JMP-DRTP	16	361/6-7	B	DRTP	C	C	E	54830	02/2019	NO
114	JMP-KEU	JMP-DRTP	17	362/7-8	B	JMP	B1	C	E	65977	01/2019	YES
115	JMP-KEU	DRTP-DRH	18	365/1-2	B	DRTP	B	O	T	79591	01/2019	YES
116	JMP-KEU	DRH-MSDN	19	370/7-8	B	DRH	C	O	T	63651	01/2019	YES
117	JMP-KEU	DRH-MSDN	20	372/4-5	B	DRH	C	C	E	11959	01/2019	No
118	JMP-KEU	MSDN-AHA	23	377/9-378/0	B	MSDN	C	C	E	7229	01/2019	No
119	JMP-KEU	MSDN-AHA	24	379/2-3	B	AHA	A	O	E	61833	01/2019	YES
120	JMP-KEU	AHA-KJH	25	380/7-8	B	AHA	C	O	T	57576	01/2019	YES
121	JMP-KEU	AHA-KJH	26	382/6-7	B	AHA	C	C	E	59611	01/2019	No
122	JMP-KEU	AHA-KJH	27	386/4-5	B	KJH	A	O	T	67729	01/2019	YES
123	JMP-KEU	KJH-UXN	28	388/2-3	B	KJH	A	O	T	79703	01/2019	YES
124	JMP-KEU	KJH-UXN	31	391/2-3	B	UXN	C	O	T	13750	02/2019	YES
125	JMP-KEU	UXN-DNRE	33	397/6-7	B	DNRE	C	O	T	13856	01/2019	YES
126	JMP-KEU	DNRE-KEU	34	400/0-1	B	KEU	B ₁	O	E	65330	01/2019	No
127	BHLB-BANKA	TELA-MAHA	4	41/8-9	E	BHLE	C	C	E	5911	02/2019	NO

12 8	BHLB- BANKA	TELA- MAHA	10	45/9- 10	E	UM	C	C	T	1973	02/20 19	YE S
12 9	BHLB- BANKA	MAHA- BAKA	13	50/1-2	E	Banka	C	C	E	10997	02/20 19	N o
13 0	BHLB- BANKA	MAHA- BAKA	16	52/2-3	E	Banka	C	C	T	4485	01/20 19	YE S
13 1	BHLB- BANKA	MAHA- BAKA	3	53/3-4	E	Banka	C	C	T	1319	2/201 9	YE S
13 2	HSDA- DUMK	MPJ- BRPS	41	106/5- 6	E	Madanpu r	C	C	E	3537	11/20 18	N o
13 3	HSDA- DUMK	MPJ- BRPS	42	107/0- 1	E	Madanpu r	C	C	E	930	02/20 19	N o
13 4	JMP- MGR	JMP- MGR	1	3/0-1	E	JMP	A	O	E	98855	02/20 19	YE S
13 5	JMP- MGR	JMP- MGR	2	5/6-7	E	JMP	C	O	E	65882	02/20 19	YE S
13 6	HSDA- DUMK	HSDA- BRPS	34	74/6-7	E	HSDA	C	O	T	47229	03/20 19	YE S
13 7	HSDA- DUMK	HSDA- BRPS	35	74/9- 75/0	E	HSDA	C	O	E	2226	11/20 18	N O
13 8	HSDA- DUMK	HSDA- BRPS	36	77/3-4	E	HSDA	C	O	E	3192	11/20 18	N O
13 9	HSDA- DUMK	HSDA- BRPS	37	79/7-8	E	HSDA	C	O	E	2484	11/20 18	N O
14 0	HSDA- DUMK	HSDA- BRPS	38	86/1-2	E	Baraplas	C	O	E	921	11/20 18	N O
14 1	HSDA- DUMK	HSDA- BRPS	39	87/8-9	E	Baraplas	C	O	E	3687	11/20 18	N O
14 2	HSDA- DUMK	HSDA- BRPS	40	89/6-7	E	Baraplas	C	O	E	1959	11/20 18	N O

CHAPTER-18
List of Bridges - Malda Division

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
4	OMLF-MLDT	294/6-7	1	6.10	MIN	RCC SLAB
			1	6.10	MIN	RCC SLAB
5	OMLF-MLDT	294/4-5	2	1.829	MIN	BOXCUL
			1	3.96	MIN	BOXCUL
6	OMLF-MLDT	293/15-16	2	1.83	MIN	BOXCUL
			1	3.66	MIN	BOXCUL
7	MLDT-GZM	292/16-17	2	1.83	MIN	RCC BOX
			2	1.83	MIN	RCC BOX
8 A	MLDT-GZM	290/13-14	1	3.66	MIN	RCC RUB
			1	3.66	MIN	RCC RUB
9	MLDT-GZM	290/8-9	1	1.83	MIN	RCC BOX
			1	1.83	MIN	RCC BOX
9/A	MLDT-GZM	289/15-290/1	1	3.66	MIN	RCC SLAB
			1	3.66	MIN	RCC SLAB
10	MLDT-GZM	289/10-11	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
11	MLDT-GZM	288/14-15	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
12	MLDT-GZM	288/5-6	2	6.1	MIN	GIRDER
			2	6.1	MIN	GIRDER
13	MLDT-GZM	286/4-5	1	6.1	MIN	PSC SLAB
			1	6.1	MIN	PSC SLAB
14	MLDT-GZM	285/10-11	1	3.66	MIN	RCC SLAB
			1	3.66	MIN	RCC SLAB
15	MLDT-GZM	284/13-14	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
16	MLDT-GZM	284/7-8	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
17	MLDT-GZM	282/12-13	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
18	GZM-JMQ	282/8-9	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
19	GZM-JMQ	281/4-5	3	18.3	MAJ	COMPG
			3	18.3	MAJ	GIRDER
20	GZM-JMQ	279/13-14	1	6.1	MIN	RCCSLAB
			1	6.1	MIN	RCCSLAB
21	GZM-JMQ	279/ 7-8	1	6.1	MIN	BOXCUL
			1	6.1	MIN	BOXCUL
22	JMQ-KTJ	277/7-8	1	6.1	MIN	RCC SLAB
			1	6.1	MIN	RCC SLAB
21	GZM-JMQ	279/ 7-8	1	6.1	MIN	BOXCUL
			1	6.1	MIN	BOXCUL
22	JMQ-KTJ	277/7-8	1	6.1	MIN	RCC SLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
			1	6.1	MIN	RCC SLAB
23	JMQ-KTJ	276/12-13	1	6.1	MIN	BOXCUL
			1	6.1	MIN	BOXCUL
24	JMQ-KTJ	276/4-5	1	6.1	MIN	R.C.Slab
			1	6.1	MIN	R.C.Slab
25	JMQ-KTJ	276/4-5	1	6.1	MIN	RCC SLAB
			1	6.1	MIN	RCC SLAB
26	JMQ-KTJ	276/4-5	2	1.83	MIN	RCC SLAB
			2	1.83	MIN	RCC SLAB
27	JMQ-KTJ	275/14-15	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
28	JMQ-KTJ	275/6-7	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
29	JMQ-KTJ	274/14-15	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
30	JMQ-KTJ	274/4-5	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
31	JMQ-KTJ	273/14-15	2	3.66	MIN	RCC SLAB
			2	3.66	MIN	RCC SLAB
32	JMQ-KTJ	273/4-5	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
33	JMQ-KTJ	272/13-14	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
34	JMQ-KTJ	272/9-10	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
35	JMQ-KTJ	272/2-3	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
36	JMQ-KTJ	271/14-15	1	1.83	MIN	BOXCUL
			1	1.83	MIN	BOXCUL
37	KTJ-CMX	270/11-12	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
38	KTJ-CMX	270/1-2	3	2X20'-0" + 1X40' -0"	MAJ	SLAB + GIRDER
			1	24.4 m	MAJ	TH.GIRDER
40	KTJ-CMX	268/2-3	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
41	KTJ-CMX	267/10-12	4	45.75	MAJ	GIRDER
			4	45.75	MAJ	GIRDER *
42	KTJ-CMX	267/1-2	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
43	KTJ-CMX	265/3-4	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
44	KTJ-CMX	263/10-11	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL
45	CMX-NFK	262/6-7	2	1.83	MIN	BOXCUL
			2	1.83	MIN	BOXCUL

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
45 A	CMX-NFK	261/ 0-1	2			BOX RUB
			2			BOX RUB
46 D	CMX-NFK	258/0-260/5	109	106x18.3+ 1x 19.36+ 2x18.5	IMP	PSC GIRDER
			109	106x18.3+ 1x 19.36+ 2x18.5	IMP	PSC GIRDER
47D	CMX-NFK	257/3-4	2	4.8	MIN	RCC RUB
			2	4.8	MIN	RCC RUB
288	ACLE-MPLR	181/4-5	1	0.61	MIN	RCC SLAB
289	ACLE-MPLR	181/13-14	1	1.52	MIN	ARCH
290	ACLE-MPLR	182/4-5	1	0.61	MIN	RCC SLAB
291	ACLE-MPLR	183/2-3	1	0.91	MIN	ARCH
292	ACLE-MPLR	183/14-184/1	1	3.66	MIN	RCC SLAB
293	ACLE-MPLR	184/10-11	1	9.15	MIN	RIVTPLG
294	ACLE-MPLR	185/13-14	1	1.22	MIN	T/Plate
295	ACLE-MPLR	186/5-6	1	0.91	MIN	ARCH
296	ACLE-MPLR	186/12-13	1	3.66	MIN	RCC SLAB
297	MPLR-MGLE	188/11-12	1	0.61	MIN	RCC SLAB
298	MPLR-MGLE	189/4-5	1	2.44	MIN	ARCH
299	MPLR-MGLE	190/5-6	1	4.57	MIN	RCC SLAB
300	MPLR-MGLE	191/7-8	2	3.66	MIN	RSJ
301	MPLR-MGLE	191/12-13	1	1.52	MIN	ARCH
302	MPLR-MGLE	192/9-10	1	1.22	MIN	T/Plate
303	MPLR-MGLE	193/5-6	1	1.83	MIN	ARCH
304	MPLR-MGLE	193/13-14	1	0.61	MIN	RCC SLAB
305	MPLR-MGLE	194/8-9	1	3.66	MIN	ARCH
306	MPLR-MGLE	194/15-195/0	2	3.66	MIN	ARCH
307	MPLR-MGLE	195/15-196/0	1	0.61	MIN	RCC SLAB
308	MPLR-MGLE	196/11-12	1	0.91	MIN	ARCH
309	MPLR-MGLE	197/1-2	1	2.44	MIN	RCC SLAB
310	MPLR-MGLE	197/10-11	1	0.91	MIN	ARCH
311	MPLR-MGLE	198/14-15	1	1.22	MIN	RSJ
312	MGLE-GALE	200/2-3	1	1.22	MIN	RCC SLAB
313	MGLE-GALE	200/14-15	2	0.61	MIN	RCC SLAB
314	MGLE-GALE	201/8-9	1	0.61	MIN	ARCH
315	MGLE-GALE	201/15-202/0	1	1.22	MIN	T/Plate
316	MGLE-GALE	202/7-8	1	1.22	MIN	T/Plate
317	MGLE-GALE	203/1-2	1	1.83	MIN	RCC SLAB
318	MGLE-GALE	204/5-6	1	0.6	MIN	RCC SLAB
319	MGLE-GALE	205/1-2	1	1.52	MIN	ARCH
320	MGLE-GALE	205/10-11	1	1.52	MIN	ARCH
321	GALE-JRLE	206/0-1	1	0.61	MIN	ARCH
322	GALE-JRLE	206/7-8	1	0.61	MIN	ARCH

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
323	GALE-JRLE	207/7-8	1	6.1	MAJ	RSJ
324	GALE-JRLE	207/13-14	2	6.1	MAJ	RCC SLAB
325	GALE-JRLE	209/1-2	1	3.05	MIN	ARCH
326	GALE-JRLE	209/1-2	3	3.05	MIN	RCC SLAB
327	GALE-JRLE	209/10-11	1	0.11	MIN	PIPE
328	GALE-JRLE	210/4-5	1	3.05	MIN	RCC SLAB
329	GALE-JRLE	211/4-5	1	1.83	MIN	ARCH
330	JRLE-SPLE	212/14-15	1	1.22	MIN	T/Plate
331	JRLE-SPLE	212/16-17	1	1.22	MIN	T/Plate
332	JRLE-SPLE	214/2-3	1	3.66	MIN	GIRDER
333	JRLE-SPLE	214/6-7	4	12.19	MAJ	RIVTPLG
334	JRLE-SPLE	215/4-5	3	9.14	MAJ	RIVTPLG
335	JRLE-SPLE	216/13-14	1	3.05	MIN	ARCH
336	JRLE-SPLE	217/2-3	3	18.29	MAJ	RIVTPLG
337	JRLE-SPLE	217/9-10	1	3.66	MIN	ARCH
338	JRLE-SPLE	218/11-12	1	0.91	MIN	ARCH
339A`	JRLE-SPLE	219/5-6	1	3.66	MIN	RCC BOX
340A	JRLE-SPLE	221/7-10	5	3X76.2+2X18.3	IMP	Open web GIRDER, & rivetted girder.
341A	JRLE-SPLE	221/14-15	1	1.83	MIN	RCC BOX
341B	JRLE-SPLE	223/5-6	1	3.66	MIN	RCCBOX
342	JRLE-SPLE	223/17, 224/1	1	1.83	MIN	ARCH
343	JRLE-SPLE	224/10-11	1	0.61	MIN	ARCH
344	SPLE-NILE	225/9-10	1	1.83	MIN	ARCH
345	SPLE-NILE	226/2-3	1	3.66	MIN	RSJ
346	SPLE-NILE	227/12-13	1	1.83	MIN	ARCH
347	SPLE-NILE	228/9-10	1	0.91	MIN	ARCH
348	SPLE-NILE	229/13-14	1	0.91	MIN	ARCH
349	SPLE-NILE	230/7-8	1	1.83	MIN	ARCH
350	SPLE-NILE	231/3-4	1	3.66	MIN	ARCH
351	NILE-DGLE	232/2-3	1	0.91	MIN	ARCH
352	NILE-DGLE	232/12-13	2	0.91	MIN	RCCSLAB
352A	NILE-DGLE	233/5-6	2	0.91	MIN	RCCSLAB
353	NILE-DGLE	234/3-4	2	0.91	MIN	RCCSLAB
354	NILE-DGLE	234/12-13	1	1.83	MIN	RCCSLAB
354A	NILE-DGLE	235/2-3	1	0.91	MIN	RCCSLAB
355A	NILE-DGLE	235/7-8	1	0.91	MIN	RCCSLAB
356	NILE-DGLE	235/14-15	3	1.83	MIN	RCCSLAB
356A	NILE-DGLE	236/7-8	1	0.91	MIN	RCCSLAB
357	NILE-DGLE	236/11-12	1	1.83	MIN	RCCSLAB
357A	NILE-DGLE	237/5-6	2	1.22	MIN	RCCSLAB
358	NILE-DGLE	237/14-15	1	0.91	MIN	RCCSLAB
358A	NILE-DGLE	238/4-5	1	0.91	MIN	RCCSLAB
359	NILE-DGLE	238/11-12	1	6.1	MIN	RSJ

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
359A	NILE-DGLE	239/6-7	1	0.91	MIN	RCCSLAB
360	NILE-DGLE	239/12-13	1	1.83	MIN	RCCSLAB
360A	NILE-DGLE	240/6-7	2	0.91	MIN	RCCSLAB
361	NILE-DGLE	240/10-11	1	1.22	MIN	RCCSLAB
361A	NILE-DGLE	240/15-16	2	0.91	MIN	RCCSLAB
362	NILE-DGLE	241/7-8	1	1.83	MIN	RCCSLAB
363	DGLE-NFK	241/14-15	2	1.83	MIN	RCCSLAB
364	DGLE-NFK	242/1-2	1	1.22	MIN	RCCSLAB
365	DGLE-NFK	242/1213	1	1.83	MIN	RCCSLAB
366	DGLE-NFK	243/4-5	1	1.22	MIN	RCCSLAB
367	DGLE-NFK	243/7-8	1	3.66	MIN	RCCSLAB
368	DGLE-NFK	243-9-10	4	12.19	MAJ	RIVTPLG
368A	DGLE-NFK	243/12-13	1	1.83	MIN	RCCSLAB
369A	DGLE-NFK	244/3-4	1	1.22	MIN	RCCSLAB
370	DGLE-NFK	245/3-4	2	0.91	MIN	RCCSLAB
370A	DGLE-NFK	245/5-6	2	0.91	MIN	RCCSLAB
371	DGLE-NFK	246/3-4	1	0.91	MIN	RCCSLAB
371A	DGLE-NFK	246/10-11	2	1.83	MIN	RCCSLAB
372	DGLE-NFK	247/6-7	5	6.096	MAJ	F.C.Slab
373	DGLE-NFK	248/8-9	1	3.66	MIN	F.C.Slab
374	DGLE-NFK	248/12-13	3	1.83	MIN	GIRDER
375	DGLE-NFK	249/9-10	1	3.66	MIN	F.C.Slab
376	DGLE-NFK	250/4-5	3	1.83	MIN	GIRDER
378D	DGLE-NFK	254/12-13	1	1.83	MIN	RCC BOX
379D	DGLE-NFK	255/7-8	1	1.66	MIN	RCC BOX
380D	DGLE-NFK	255/8-9	1	4.57	MIN	RCC BOX
381D	DGLE-NFK	255/16-265/1	1	0.91	MIN	HUMPIPE
382D	DGLE-NFK	256/3-4	1	3.66	MIN	RCC BOX
383D	NFK – TDLE	256/10-12	5	3X76.2+2X18.3	MAJ	OPEWG
			5	3X76.2+2X18.3	MAJ	OPEWG
384	NFK – TDLE	257/11-12	1	4.57	MIN	RCC BOX
			1	4.57	MIN	RCCSLAB
385	NFK – TDLE	257/12-13	1	6.09.	MIN	RCC BOX
			1	6.09.	MIN	RCCSLAB
386	NFK – TDLE	258/11-12	16	4.58	MAJ	RCCSLAB
			16	4.58	MAJ	GIRDER
387	NFK – TDLE	259/7-8	4	6.1	MAJ	RCCSLAB
			4	6.1	MAJ	RVTG
388	TDLE-BDAG	260/9-10	5	3.4	MAJ	PSCSLAB
			5	3.5	MAJ	RVTG
388A	TDLE-BDAG	260/9-11	2	2.4	MIN	RCC BOX
389	TDLE-BDAG	260/12-13	2	3.66	MIN	PSCSLAB
			2	3.66	MIN	PSCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
390	TDLE-BDAG	260/17	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	RCCSLAB
391	TDLE-BDAG	261/4-5	4	3.66	MIN	RCCSLAB
			4	3.66	MIN	RCCSLAB
391'A'	TDLE-BDAG	261/6-8	20	3.66	MAJ	RCCSLAB
			20	3.66	MAJ	RCCSLAB
392	TDLE-BDAG	261/10-11	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	RCCSLAB
393	TDLE-BDAG	262/9-10	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	RCCSLAB
394	TDLE-BDAG	263/1-2	1	3.6	MIN	RCCSLAB
			1	3.6	MIN	RCCSLAB
395	TDLE-BDAG	263/8-9	2	2	MIN	RCCBOX
			2	2	MIN	RCCSLAB
396	TDLE-BDAG	263/19	1	4.57	MIN	RCCSLAB
			1	3.6	MIN	PSCSLAB
397	TDLE-BDAG	264/15-16	3	18.3	MAJ	COMPG
			3	18.3	MAJ	RIVPLG
398	TDLE-BDAG	265/9-10	3	8.54	MAJ	RIVPLG
			3	8.54	MAJ	RIVPLG
399	TDLE-BDAG	266/4-5	1	1	MIN	RCCBOX
			1	0.66	MIN	RCCSLAB
400	TDLE-BDAG	266/9-10	2	3.66	MIN	PSCSLAB
			2	3.66	MIN	RCCBOX
401	BDAG-BHW	266/17-18	2	3.66	MIN	RCCSLAB
			2	3.66	MIN	RCCSLAB
402	BDAG-BHW	267/11-12	1	0.6	MIN	RCCSLAB
			1	0.6	MIN	RCCSLAB
403	BDAG-BHW	269/18-19	4	3.6	MIN	RSJ
404	BDAG-BHW	270/10-11	1	3.6	MIN	RCCSLAB
267	LINK-BHW	172/2-4	8	5.85	MAJ	ARCH
			8	5.85	MAJ	RSJ
268	LINK-BHW	174/2-3	1	2.48	MIN	ARCH
			1	2.48	MIN	RCCSLAB
269	LINK-BHW	174/13-14	8	3.66	MAJ	ARCH
			8	3.66	MAJ	ARCH
270	LINK-BHW	175/6-7	5	2.13	MIN	ARCH
			5	2.13	MIN	ARCH
271	LINK-BHW	175/15-16	3	2.44	MIN	ARCH
			3	2.44	MIN	ARCH
			3	2.44	MIN	RCCSLAB
272	LINK-BHW	176/11-12	5	2.44	MIN	RCCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
			5	2.44	MIN	Sp 1& 2 Slab, 3-5 Arch
			5	2.44	MIN	
273	BHW -BKLE	177/8-9	4	1.22	MIN	ARCH
			4	1.22	MIN	ARCH
			4	1.22	MIN	GIRDER
			4	1.22	MIN	GIRDER
274	BHW -BKLE	177/15-16	1	3.05	MIN	RCCSLAB
275	BHW -BKLE	178/7-8	5	3.66	MAJ	ARCH
276	BHW -BKLE	178/15-16	1	3.05	MIN	RCCSLAB
277	BHW -BKLE	179/5-6	5	3.66	MAJ	ARCH
278	BHW -BKLE	179/13-14	4	3.6	MIN	ARCH
279	BHW -BKLE	180/5-6	1	2.4	MIN	ARCH
280	BHW -BKLE	181/3-4	1	1.2	MIN	ARCH
281	BHW -BKLE	181/12-13	7	3.66	MAJ	ARCH
282	BHW -BKLE	182/4-5	3	2.4	MIN	ARCH
283	BHW -BKLE	182/14-15	2	2.4	MIN	ARCH
284	BHW -BKLE	183/8-9	4	1.83	MIN	RCCBOX
284A	BKLE-DDX	184/9-10	1	0.9	MIN	OPENTOP
284B	BKLE-DDX	184/14-15	1	0.9	MIN	OPENTOP
285	BKLE-DDX	185/5-6	3	2.4	MIN	RCCBOX
286	BKLE-DDX	186/3-4	4	2.4	MIN	ARCH
287	BKLE-DDX	186/11-12	3	2.4	MIN	ARCH
288	BKLE-DDX	187/7-8	13	8.5	MAJ	RCCBOX
289	DDX-TPH	189/1-2	3	8.54	MAJ	RCCBOX
290	DDX-TPH	190/15-16	10	8.54	MAJ	RCCBOX
291	DDX-TPH	192/3-4	4	8.54	MAJ	RCCBOX
291A	DDX-TPH	193/1-2	1	1.83	MIN	RCCSLAB
292	DDX-TPH	193/5-6	1	2.4	MIN	ARCH
			1	2.4	MIN	F.C.Slab
293	TPH-KXE	193/14-15	5	3.66	MAJ	ARCH
294	TPH-KXE	194/11-12	5	8.54	MAJ	RCCBOX
295	TPH-KXE	194/17-18	1	1.2	MIN	ARCH
296	TPH-KXE	195/9-10	2	8.54	MIN	RCCBOX
297	TPH-KXE	196/11-12	1	3	MIN	ARCH
298	TPH-KXE	197/17	1	0.6	MIN	RCCSLAB
299	KXE-TLJ	199/1-2	5	3.66	MAJ	RCCSLAB
300	KXE-TLJ	200/8-9	1	1.5	MIN	ARCH
301	KXE-TLJ	201/2-3	1	3.0	MIN	ARCH
302	KXE-TLJ	202/1-2	1	0.6	MIN	ARCH
303	KXE-TLJ	202/12-13	3	8.54	MAJ	RCCBOX
304	KXE-TLJ	202/15-16	1	3.0	MIN	ARCH
305	TLJ-KPTO	203/11-12	1	3.0	MIN	ARCH
			1	3.0	MIN	RCCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
306	TLJ-KPTO	204/6-7	3	8.54	MAJ	RIVTPG
307	TLJ-KPTO	205/2-3	5	1.5	MIN	RCCSLAB
308	TLJ-KPTO	205/15-16	3	3.6	MIN	ARCH
309	TLJ-KPTO	206/10-11	3	3.6	MIN	ARCH
310	TLJ-KPTO	206/16-207/1	7	1.5	MIN	RCCSLAB
311	TLJ-KPTO	207/6-7	4	1.83	MIN	RCCSLAB
312	TLJ-KPTO	207/10	1	1.52	MIN	RCCSLAB
313	TLJ-KPTO	107/10-11	1	2.44	MIN	ARCH
314	TLJ-KPTO	208/2-3	1	3.05	MIN	RCCSLAB
315	TLJ-KPTO	209/6-7	3	3.05	MIN	ARCH
316	TLJ-KPTO	209/6-7	2	1x3.05+2x3.66	MIN	RCCSLAB
317	TLJ-KPTO	210/0	1	3.0	MIN	GIRDER
318	KPTO-MJP	210/8-9	3	2.4	MIN	RCCSLAB
319	KPTO-MJP	211/4-5	5	1.5	MIN	RCCSLAB
320	KPTO-MJP	211/4-5	5	1.5	MIN	RCCSLAB
321	KPTO-MJP	211/8-9	1	0.6	MIN	RCCSLAB
322	KPTO-MJP	211/12-13	1	1.83	MIN	ARCH
323	KPTO-MJP	211/14-15	1	2.1	MIN	closed
324	KPTO-MJP	212/9-10	1	0.9	MIN	ARCH
325	KPTO-MJP	212/13-14	1	3.0	MIN	ARCH
326	KPTO-MJP	213/2-3	1	3.6	MIN	ARCH
327	KPTO-MJP	213/7-8	1	2.4	MIN	ARCH
328	KPTO-MJP	213/13-14	3	3.0	MIN	RCCSLAB
329	KPTO-MJP	214/2-3	1	0.9	MIN	ARCH
330	KPTO-MJP	214/5-6	1	3.6	MIN	ARCH
331	KPTO-MJP	214/16-215/0	1	2.4	MIN	RCCSLAB
332	KPTO-MJP	215/3-4	1	2.4	MIN	RCCSLAB
294	TPH-RJL	0/9-10	13	3.66	MAJ	ARCH
295	TPH-RJL	1/1-2	2	8.54	MIN	RIVTPG
296	TPH-RJL	1/9-10	1	0.66	MIN	PIPE
297	TPH-RJL	2/2-3	1	0.66	MIN	RLCL
298	TPH-RJL	2/5-6	1	2.0	MIN	ARCH
299	TPH-RJL	3/2-3	1	3.66	MIN	ARCH
300	TPH-RJL	3/7-8	1	2.4	MIN	RCCSLAB
301	TPH-RJL	5/2-3	5	3.66	MAJ	2, R/Girder
						RCCSLAB
302	TPH-RJL	5/8-9	3	3.66	MIN	R/GIRDER
303	TPH-RJL	5/13-14	1	3.0	MIN	BOX
304	TPH-RJL	6/16-17	1	2.0	MIN	ARCH
305	TPH-RJL	8/6-7	1	0.9	MIN	ARCH
306	TPH-RJL	9/5-6	1	0.9	MIN	ARCH
307	TPH-RJL	10/1-2	1	0.9	MIN	ARCH
1	LINK-BDAG	0/12-13	1	3.66	MIN	RCCSLAB
2	LINK-BDAG	0/15-16	1	3.66	MIN	RCCSLAB
333	KPTO-MJP	215/13-14	3	3	MINOR	ARCH

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
334	KPTO-MJP	216/16-17	3	3.7	MINOR	ARCH
335	KPTO-MJP	218/0-1	1	0.91	MINOR	ARCH
336	MJP-SLJ	218/3-4	5	8.54	MAJOR	RIVTPG
336A	MJP-SLJ	219/12-13	1	1.22	MINOR	ARCH
336B	MJP-SLJ	219/15-16	1	1.22	MINOR	ARCH
337	MJP-SLJ	220/3-4	1	4.05	MINOR	RCCSLAB
337A	MJP-SLJ	220/5-6	2	1.83	MINOR	ARCH
338	MJP-SLJ	220/14-15	1	1.83	MINOR	ARCH
338A	MJP-SLJ	221/01-02	1	1.83	MINOR	ARCH
339	MJP-SLJ	221/12-13	1	2.45	MINOR	ARCH
339A	MJP-SLJ	222/ 0-1	2	0.91	MINOR	ARCH
340	MJP-SLJ	222/8-9	5	3.05	MINOR	ARCH
340A	MJP-SLJ	222/12-13	3	3.05	MINOR	ARCH
341	SLJ-SBG	224/4-5	7	1.22	MINOR	ARCH
			7	1.22	MINOR	RCCSLAB
342	SLJ-SBG	225/13-14	7	2.8	MAJOR	RCCSLAB
343	SLJ-SBG	227/10-11	1	3.2	MINOR	RCCSLAB
344	SLJ-SBG	228/2-3	7	1x3.66 + 6x3.06	MAJOR	RCCSLAB + Arch
345	SLJ-SBG	228/9-10	3	2.55	MINOR	ARCH JKD
346	SLJ-SBG	229/2-3	1	3.05	MINOR	RCCSLAB
347	SLJ-SBG	229/5-6	1	0.91	MINOR	ARCH
348	SLJ-SBG	230/1-2	2	1.52	MINOR	ARCH
349	SLJ-SBG	230/11-12	1	3.05	MINOR	RCCSLAB
350	SLJ-SBG	231/1	5	3x3.05 + 2x 3.05	MINOR	RCCSLAB Arch (Blocked)
350A	SBG-KRMA	231/15	1	0.6	MINOR	RLCL
55	SBG-KRMA	232/5-6	3	3.05	MINOR	ARCH
56	SBG-KRMA	233/4-5	5	2.55	MINOR	ARCH
57	SBG-KRMA	234/8-9	3	8.54	MAJOR	RIVTPLG
58	SBG-KRMA	234/15-16	5	3.66	MAJOR	ARCH
59	SBG-KRMA	235/6-7	1	1.22	MINOR	ARCH
60	SBG-KRMA	235/13-14	1	3.65	MINOR	FCSLAB
61	SBG-KRMA	236/2-3	3	8.54	MAJOR	ARCH
62	SBG-KRMA	236/8-9	1	1.22	MINOR	ARCH
63	SBG-KRMA	238/8-9	5	2.82	MINOR	ARCH
64	SBG-KRMA	239/14-15	5	3.05	MINOR	ARCH
65	KRMA-MJC	240/14-15	1	1.83	MINOR	ARCH
66	KRMA-MJC	241/2-3	2	3.05	MINOR	ARCH
67	KRMA-MJC	241/12-13	1	0.9	MINOR	ARCH
68	KRMA-MJC	242/1-2	1	1.82	MINOR	ARCH
69	KRMA-MJC	242/3-4	1	1.82	MINOR	ARCH
70	KRMA-MJC	242/16-243/1	3	8.54	MAJOR	GIRDER
71	KRMA-MJC	243/15-244/1	7	3.66	MAJOR	ARCH
72	KRMA-MJC	244/12-13	1	3.8	MIN	R/GIRDER

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
73	KRMA-MJC	245/11-12	3	3.05	MIN	ARCH
74	MJC-PPT	246/17-247/1	2	1.22	MIN	ARCH
75	MJC-PPT	247/7-8	1	1.22	MIN	ARCH
76	MJC-PPT	248/3-4	1	1.05	MIN	ARCH
77	MJC-PPT	248/12-13	1	4.5	MIN	RC BOX
78	MJC-PPT	249/1-2	8	3.05	MAJ	S-1,7,8 R/girder S-2-6 ARCH JKD
79	MJC-PPT	249/6-7	3	3.06	MIN	ARCH JKD
80	MJC-PPT	249/10-11	5	3.66	MAJ	F.C.Slab
81	MJC-PPT	251/2-3	3	3.05	MIN	ARCH
82	MJC-PPT	251/11-12	1	1.22	MIN	ARCH
83	MJC-PPT	252/1-2	1	1.22	MIN	ARCH
84	MJC-PPT	252/6-7	1	1.22	MIN	ARCH
85	MJC-PPT	252/9-10	1	1.22	MIN	ARCH
86	MJC-PPT	252/11-12	1	1.22	MIN	ARCH
87	MJC-PPT	253/8-9	5	2.25	MIN	ARCH JKD
88	MJC-PPT	254/1-2	1	1.22	MIN	ARCH
89	MJC-PPT	254/10-11	1	1.25	MIN	ARCH
90	PPT-SVRP	255/1-2	1	1.22	MIN	F.C.Slab
91	PPT-SVRP	255/5-6	3	8.54	MIN	ARCH ROB
92	PPT-SVRP	256/6-7	1	0.45	MIN	ARCH
93	PPT-SVRP	257/2-3	1	1.22	MIN	ARCH
94	PPT-SVRP	257/5-6	1	2.83	MIN	ARCH
95	PPT-SVRP	258/4-5	5	5.1	MAJ	ARCH JKD
96	PPT-SVRP	258/15-16	5	4.54	MAJ	RIVTPLG
97	PPT-SVRP	259/4-5	1	3.05	MIN	ARCH RUB
98	PPT-SVRP	260/0-1	2	1.15	MIN	ARCH
99	PPT-SVRP	260/3-4	3	8.47	MAJ	ARCH
100	PPT-SVRP	260/14-15	1	3.05	MIN	ARCH
101	PPT-SVRP	261/8-9	2	0.93	MIN	ARCH
102	PPT-SVRP	261/15-16	1	3.65	MIN	ARCH
103	PPT-SVRP	262/6-7	9	3.06	MAJ	ARCH JKD
104	PPT-SVRP	262/14-15	11	3.66	MAJ	ARCH
105	PPT-SVRP	263/3-4	3	4.58	MIN	ARCH RUB
106	SVRP-BKSL	264/7-8	1	3.68	MIN	ARCH RUB
107	SVRP-BKSL	264/18-265/1	1	3.66	MIN	ARCH
108	SVRP-BKSL	265/11-12	1	3.66	MIN	ARCH
109	SVRP-BKSL	266/3-4	1	0.91	MIN	RCC SLAB
110	SVRP-BKSL	266/9-10	1	0.91	MIN	ARCH
111	SVRP-BKSL	266/16-17	3	8.54	MIN	ARCH ROB
112	SVRP-BKSL	267/9-10	1	1.83	MIN	ARCH
113	SVRP-BKSL	267/16-17	3	1x8.54,2x7.32	MIN	ARCH ROB
114	SVRP-BKSL	268/12-13	1	2.44	MIN	RCC SLAB
115	SVRP-BKSL	269/3-4	1	0.38	MIN	RCC SLAB
116	SVRP-BKSL	269/5-6	2	3.66	MIN	RCC SLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
117	SVRP-BKSL	269/6-7	1	0.5	MIN	ARCH
118	BKSL-CLG	269/9-10	1	0.5	MIN	ARCH
119	BKSL-CLG	269/9-10	1	0.5	MIN	ARCH
120	BKSL-CLG	270/7-8	5	7.64	MAJ	ARCH
121	BKSL-CLG	271/6-7	1	3.66	MIN	ARCH
122	BKSL-CLG	271/15-16	1	3.66	MIN	ARCH RUB
123	BKSL-CLG	272/9-10	3	8.54	MIN	ARCH ROB
124	BKSL-CLG	273/7-8	1	3.66	MIN	ARCH
125	BKSL-CLG	273/11-12	1	3.66	MIN	ARCH
126	BKSL-CLG	274/6-7	1	3.05	MIN	ARCH RUB
127	BKSL-CLG	275/1-2	3	8.54	MIN	ARCH ROB
128	BKSL-CLG	275/3-4	1		MIN	CLOSED
129	CLG-EKC	275/13-14	2	3.55	MIN	RCC SLAB
130	CLG-EKC	276/8-9	3	1x 76.3 + 2 x 24.4	MAJ	OPWG
131	CLG-EKC	278/10-11	1	3.66	MIN	RCC SLAB
132	EKC-GGA	279/17-280/01	30	4.6	MAJ	ARCH
133	EKC-GGA	282/1-3	5	18.2	MAJ	GIRDER
134	EKC-GGA	282/13-15	8	4.43	MAJ	ARCH
135	CLG-EKC	282/16-283/3	15	7.07	MAJ	R.C.BOX
136	EKC-GGA	283/8-9	1	3.66	MIN	RCC SLAB
137	EKC-GGA	284/1-2	1	4.62	MIN	GIRDER
138	GGA-SBO	185/16-286/1	3	3.05	MIN	ARCH
139	GGA-SBO	286/8-9	1	1.07	MIN	ARCH
140	GGA-SBO	288/5-6	10	4.58	MAJ	ARCH
141	GGA-SBO	289/3-4	3	18.2	MAJ	RIVTPG
142	GGA-SBO	289/17-290/1	10	4.07	MAJ	ARCH JKD
143	GGA-SBO	290/15-16	8	4.58	MAJ	ARCH
						RCC SLAB
144	GGA-SBO	291/11-12	5	18.3	MAJ	RIVTPG
145	GGA-SBO	294/5-6	1	2.0	MIN	ARCH
146	GGA-SBO	295/5-6	1	3.66	MIN	RCC SLAB
147	SBO-BGP	299/7-8	1	3.05	MIN	ARCH
148	SBO-BGP	299/15-300/1	1	3.61	MIN	RCC SLAB
149	SBO-BGP	300/12-13	1	9.1	MIN	ARCH ROB
150	SBO-BGP	301/13-14	3	4.58	MIN	ARCH
151	SBO-BGP	302/4-5	3	4.58	MIN	ARCH RUB
152	SBO-BGP	304/7-8	1	8.35	MIN	RIVTPG
1	BGP-HPLE	0/7-8	1	9.1	MIN	RIVTPG
2	BGP-HPLE	1/8-9	1	6.1	MIN	RIVTPG
3	BGP-HPLE	2/2-3	1	6.1	MIN	RIVTPG
4	BGP-HPLE	2/5-6	1	3.66	MIN	RCC SLAB
5	BGP-HPLE	3/4-5	1	1.83	MIN	ARCH
6	BGP-HPLE	3/9-10	6	6.1	MAJ	RC SLAB
7	BGP-HPLE	4/3-4	1	0.91	MIN	ARCH
8	BGP-HPLE	5/1-2	1	0.91	MIN	ARCH

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
9	BGP-HPLE	5/6-7	1	0.91	MIN	ARCH
10	BGP-HPLE	5/12-13	1	3.66	MIN	RC SLAB
11	BGP-HPLE	6/5-6	1	0.91	MIN	ARCH
12	BGP-HPLE	7/6-7	2	0.91	MIN	ARCH
13	BGP-HPLE	7/9-10	2	0.91	MIN	ARCH
14	BGP-HPLE	8/4-5	4	0.91	MIN	ARCH
15	BGP-HPLE	8/10-11	6	6.1	MAJ	RIVTPG
16	BGP-HPLE	9/2-3	1	3.66	MIN	RC SLAB
16A	BGP-HPLE	9/6-7	3	3.66	MIN	RC SLAB
17	BGP-HPLE	9/7-8	2	0.91	MIN	ARCH
18	BGP-HPLE	9/9-10	1	0.91	MIN	ARCH
19	BGP-HPLE	10/1-2	1	0.61	MIN	RC SLAB
20	BGP-HPLE	10/5-6	5	6.1	MAJ	RIVTPG
21	BGP-HPLE	10/8-9	1	0.61	MIN	RC SLAB
22	BGP-HPLE	10/10-11	1	0.91	MIN	ARCH
23	BGP-HPLE	10/13-14	1	3.66	MIN	RC SLAB
24	BGP-HPLE	11/2-3	3	3.66	MIN	RSJ
25	BGP-HPLE	11/10-11	1	0.61	MIN	RC SLAB
26	HPLE-TKLE	12/4-5	5	6.1	MAJ	RIVTPG
27	HPLE-TKLE	12/8-9	12	6.1	MAJ	RIVTPG
28	HPLE-TKLE	12/10-11	1	0.61	MIN	RC SLAB
29	HPLE-TKLE	13/1-2	1	0.91	MIN	ARCH
30	HPLE-TKLE	13/3-4	6	6.1	MAJ	RIVTPG
31	HPLE-TKLE	13/8-9	1	0.91	MIN	ARCH
32	HPLE-TKLE	14/0-1	1	0.91	MIN	ARCH
33	HPLE-TKLE	14/7-8	3	6.1	MAJ	RIVTPG
34	HPLE-TKLE	15/0-6	1	0.91	MIN	ARCH
35	HPLE-TKLE	15/7-8	1	0.91	MIN	ARCH
36	HPLE-TKLE	16/2-3	2	0.91	MIN	ARCH
37	TKLE-DWLE	16/12-13	1	0.55	MIN	RC SLAB
38	TKLE-DWLE	16/14-15	1	0.55	MIN	RC SLAB
39	TKLE-DWLE	17/1-2	1	0.55	MIN	RC SLAB
40	TKLE-DWLE	17/4-5	1	0.61	MIN	RC SLAB
41	TKLE-DWLE	17/13-14	1	0.91	MIN	RC SLAB
42	TKLE-DWLE	18/2-3	1	0.83	MIN	RC SLAB
43	TKLE-DWLE	18/4-5	1	0.91	MIN	RC SLAB
44	TKLE-DWLE	18/11-12	1	0.61	MIN	RC SLAB
45	TKLE-DWLE	19/0-1	1	0.61	MIN	RC SLAB
46	TKLE-DWLE	19/6-7	1	0.61	MIN	RC SLAB
47	TKLE-DWLE	19/13-14	1	0.61	MIN	RC SLAB
48	TKLE-DWLE	20/4-5	1	0.61	MIN	RC SLAB
49	TKLE-DWLE	20/8-9	1	0.91	MIN	ARCH
50	TKLE-DWLE	20/13-14	1	0.61	MIN	RC SLAB
51	TKLE-DWLE	21/1-2	1	0.61	MIN	RC SLAB

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52	TKLE-DWLE	21/11-12	1	0.91	MIN	RC SLAB
53	TKLE-DWLE	22/2-3	1	0.91	MIN	RC SLAB
54	TKLE-DWLE	22/9-10	1	0.61	MIN	RC SLAB
55	TKLE-DWLE	22/14-15	1	0.61	MIN	RC SLAB
56	TKLE-DWLE	23/2-3	1	0.61	MIN	RC SLAB
57	TKLE-DWLE	23/5-6	1	0.91	MIN	RC SLAB
58	TKLE-DWLE	23/9-10	1	0.91	MIN	ARCH
59	TKLE-DWLE	23/13-14	1	0.61	MIN	RC SLAB
60	TKLE-DWLE	24/0-1	1	0.61	MIN	RC SLAB
61	TKLE-DWLE	24/5-6	1	0.91	MIN	RC SLAB
62	TKLE-DWLE	24/9-10	1	0.45	MIN	ARCH
63	TKLE-DWLE	25/2-3	1	0.61	MIN	RC SLAB
64	TKLE-DWLE	25/5-6	1	0.61	MIN	RC SLAB
65	TKLE-DWLE	25/7-8	1	0.61	MIN	RC SLAB
66	TKLE-DWLE	25/7-8	1	0.91	MIN	ARCH
67	TKLE-DWLE	25/11-12	1	0.61	MIN	RC SLAB
68	TKLE-DWLE	26/3-4	1	0.61	MIN	ARCH
69	DWLE-BHLF	26/14-15	1	0.61	MIN	RC SLAB
70	DWLE-BHLF	27/2-3	1	0.91	MIN	ARCH
71	DWLE-BHLF	27/8-9	1	0.61	MIN	RC SLAB
72	DWLE-BHLF	27/12-13	1	0.61	MIN	RC SLAB
72A	DWLE-BHLF	28/2-3	1	3.66	MIN	RSJ
73	DWLE-BHLF	28/3-4	1	1.83	MIN	ARCH
74	DWLE-BHLF	28/12-13	7	6.1	MAJ	RIVTPG
75	DWLE-BHLF	29/2-3	1	3.66	MIN	RCC SLAB
76	DWLE-BHLF	29/11-12	1	0.61	MIN	RCC SLAB
77	DWLE-BHLF	29/12-13	1	0.61	MIN	RCC SLAB
78	DWLE-BHLF	30/2-3	1	0.61	MIN	RCC SLAB
79	DWLE-BHLF	30/7-8	1	0.91	MIN	ARCH
80	DWLE-BHLF	30/13-14	1	1.83	MIN	ARCH
81	DWLE-BHLF	31/5-6	4	2.14	MIN	ARCH
82	DWLE-BHLF	31/10-11	1	0.91	MIN	RCC SLAB
83	DWLE-BHLF	31/10-11	1	0.91	MIN	RCC SLAB
84	DWLE-BHLF	32/3-4	1	0.91	MIN	RCC SLAB
85	DWLE-BHLF	32/10-11	2	0.91	MIN	RCC SLAB
86	DWLE-BHLF	33/1-2	1	0.91	MIN	ARCH
87	DWLE-BHLF	33/4-5	1	0.61	MIN	RCC SLAB
88	DWLE-BHLF	33/11-12	1	1x9.1+ 2x3.65	MIN	RIVTPG
89	DWLE-BHLF	34/5-6	1	1.22	MIN	ARCH
90	DWLE-BHLF	34/12-13	1	0.91	MIN	ARCH
91	DWLE-BHLF	34/12-13	1	0.91	MIN	ARCH
92	DWLE-BHLF	35/0-1	1	1.83	MIN	ARCH

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
93	DWLE-BHLF	35/3-4	1	0.91	MIN	ARCH
94	DWLE-BHLF	35/6-7	1	0.91	MIN	ARCH
95	DWLE-BHLF	35/10-11	1	0.91	MIN	ARCH
96	DWLE-BHLF	35/15-36/1	1	1.83	MIN	ARCH
97	DWLE-BHLF	36/7-8	1	0.61	MIN	RCC BOX
98	DWLE-BHLF	36/14-15	1	0.61	MIN	RCC BOX
99	DWLE-BHLF	37/3-4	1	1.21	MIN	RCC BOX
100	DWLE-BHLF	38/3-4	3	6.1	MAJ	RIVTPG
101	DWLE-BHLF	38/8-9	1	1.21	MIN	ARCH
102	DWLE-BHLF	38/14-15	1	1.83	MIN	ARCH
103	BHLF-PJLE	39/3-4	1	0.91	MIN	ARCH
104	BHLF-PJLE	39/14-40/1	1	0.91	MIN	RCC SLAB
105	BHLF-PJLE	40/7-8	1	0.61	MIN	RCC SLAB
106	BHLF-PJLE	41/2-3	1	0.91	MIN	ARCH
107	BHLF-PJLE	41/13-14	1	0.91	MIN	ARCH
108	PJLE-MDLE	42/3-4	1	6.1	MIN	GIRDER
109	PJLE-MDLE	42/7-8	1	0.91	MIN	ARCH
110	PJLE-MDLE	42/12-13	1	0.91	MIN	ARCH
111	PJLE-MDLE	43/1-2	1	0.91	MIN	ARCH
112	PJLE-MDLE	43/5-6	1	0.91	MIN	ARCH
112A	PJLE-MDLE	43/8-9	3	1.22	MIN	Hume pipe
113	PJLE-MDLE	43/14-15	3	1.83	MIN	ARCH
114	PJLE-MDLE	44/5-6	2	1.83	MIN	ARCH
115	PJLE-MDLE	44/10-11	2	0.91	MIN	ARCH
116	PJLE-MDLE	45/8-9	4	0.91	MIN	ARCH
117	PJLE-MDLE	47/8-9	1	6.1	MIN	GIRDER
118	PJLE-MDLE	48/6-7	1	0.61	MIN	RCC SLAB
119	PJLE-MDLE	48/8-9	1	0.91	MIN	ARCH
120	PJLE-MDLE	48/10-11	1	0.61	MIN	RCC SLAB
121	PJLE-MDLE	48/11-12	1	0.61	MIN	OPWG
122	PJLE-MDLE	49/5-6	1	0.61	MIN	Flat Top
123	PJLE-MDLE	49/8-9	2	3.66	MIN	ARCH
124	PJLE-MDLE	49/9-10	1	0.61	MIN	Flat Top
125	MDLE-HSDA	50.62	1	2.0	MIN	RCC Box
126	MDLE-HSDA	51.179	1	6.0	MIN	RCC Box
127	MDLE-HSDA	51.879	1	4.0	MIN	RCC Box
128	MDLE-HSDA	52.186	10	8x6.0+1x5.5+1x3.475	MAJ	RCC Portal
129	MDLE-HSDA	52.365	1	1.2	MIN	Hume pipe
130	MDLE-HSDA	52.569	1	2.0	MIN	RCC BOX
131	MDLE-HSDA	52.72	5	30.5	MAJ	Steel Through type Girder
132	MDLE-HSDA	52.878	1	4.5	RUB	RCC BOX
133	MDLE-HSDA	53.061	4	4.0	MIN	RCC Box
134	MDLE-HSDA	54.435	1	1.2	M/Syphon	Hume pipe
135	MDLE-HSDA	55.147	1	6.65	ROB	RCC Box

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
136	MDLE-HSDA	55.17	1	1.2	M/Syphon	Hume pipe
137	MDLE-HSDA	55.364	1	2.0	MIN	RCC Box
138	MDLE-HSDA	55.882	1	1.2	M/Syphon	Hume pipe
139	MDLE-HSDA	55.904	1	6.65	ROB	RCC Box
140	MDLE-HSDA	56.656	1	2	MIN	RCC Box
141	MDLE-HSDA	56.923	1	2	MIN	RCC Box
142	MDLE-HSDA	57.122	1	4.5	RUB	RCC Box
143	MDLE-HSDA	57.321	1	3	MIN	RCC Box
144	MDLE-HSDA	57.552	1	2	Minor	RCC Box
145	MDLE-HSDA	57.811	1	2	Minor	RCC Box
146	MDLE-HSDA	57.904	1	4.5	RUB	RCC Box
147	MDLE-HSDA	58.191	1	4	Minor	RCC Box
148	MDLE-HSDA	58.281	1	2	Minor	RCC Box
149	MDLE-HSDA	58.436	2	4	Minor	RCC Box
150	MDLE-HSDA	58.796	1	2	Minor	RCC Box
151	MDLE-HSDA	58.809	1	4.5	RUB	RCC Box
152	MDLE-HSDA	59.077	1	2	MIN	RCC Box
153	MDLE-HSDA	59.315	10	18.3	MAJOR	Steel com. Girder
154	MDLE-HSDA	59.538	1	2	MIN	RCC Box
155	MDLE-HSDA	60.314	1	2	MIN	RCC Box
156	MDLE-HSDA	60.455	1	4.5	RUB	RCC Box
157	MDLE-HSDA	60.674	1	3	MIN	RCC Box
158	MDLE-HSDA	61.282	1	3	MIN	RCC Box
159	MDLE-HSDA	61.846	1	2	MIN	RCC Box
160	MDLE-HSDA	62.18	1	2	MIN	RCC Box
161	MDLE-HSDA	62.41	1	3	MIN	RCC Box
162	MDLE-HSDA	62.736	1	6.65	ROB	RCC Box
163	MDLE-HSDA	63.458	2	2	MIN	RCC Box
164	MDLE-HSDA	63.644	1	3	MIN	RCC Box
165	MDLE-HSDA	65.14	1	1.2	M/Syphon	HUME PIPE
166	MDLE-HSDA	65.578	1	1.2	M/Syphon	HUME PIPE
167	MDLE-HSDA	65.82	3	2	MIN	RCC Box
168	MDLE-HSDA	66.082	1	2	MIN	RCC Box
169	MDLE-HSDA	66.334	1	6.5	RUB	RCC Box
170	MDLE-HSDA	66.704	1	4	Minor	RCC Box
171	MDLE-HSDA	67.441	1	2	Minor	RCC Box
172	MDLE-HSDA	67.708	1	6.5	ROB	RCC Box
173	MDLE-HSDA	68.12	1	4	Minor	RCC Box
174	MDLE-HSDA	68.475	1	6.5	ROB	RCC Box
175	MDLE-HSDA	69.979	1	6.5	ROB	RCC Box
176	MDLE-HSDA	70.075	1	1.2	M/Syphon	HUME PIPE

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
177	MDLE-HSDA	70.424	2	2	Minor	RCC Box
178	MDLE-HSDA	70.64	1	6.5	ROB	RCC Box
179	MDLE-HSDA	7.959	1	6	Minor	RCC Box
180	MDLE-HSDA	71.682	2	2	Minor	RCC Box
181	MDLE-HSDA	72.842	1	6.5	ROB	RCC Box
182	MDLE-HSDA	74.261	4	3	Minor	RCC Box
154	BGP-NAT	306/10	1	6.1	MIN	RCC SLAB
			1	6.1	MIN	RCC SLAB
155	BGP-NAT	307/1	1	4.83	MIN	ARCH
			1	4.83	MIN	RCC SLAB
156	BGP-NAT	307/4	1	3.1	MIN	RCC SLAB
			1	3.1	MIN	ARCH
157	BGP-NAT	308/2	1	9.1	MIN	RCC SLAB
			1	9.1	MIN	RCC SLAB
158	BGP-NAT	308/7-8	1	1.22	MIN	RCC SLAB
			1	1.22	MIN	ARCH
159	BGP-NAT	308/13-14	1	1.83	MIN	RCC SLAB
			1	1.83	MIN	ARCH
160	NAT-MPY	309/9-10	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	PSC SLAB
161	NAT-MPY	310/1	1	4.58	MIN	PSC SLAB
			1	4.58	MIN	ARCH
162	NAT-MPY	310/8-9	1	4.58	MIN	PSC SLAB
			1	4.58	MIN	ARCH
163	NAT-MPY	310/12-13	10	6.1	MAJ	PSC SLAB
			10	6.1	MAJ	ARCH
164	NAT-MPY	310/15-16	7	18.3	MAJ	RIVTPG
			7	18.3	MAJ	RIVTPG
165	NAT-MPY	311/13-14	10	6.1	MAJ	ARCH
			10	6.1	MAJ	ARCH
166	NAT-MPY	313/7-8	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	ARCH
167	MPY-AKN	314/7-8	1	3.05	MIN	PSC SLAB
			1	3.05	MIN	PSC SLAB
168	MPY-AKN	318/9-10	1	0.91	MIN	PSC SLAB
			1	0.91	MIN	ARCH
169	AKN-MVV	321/5-6	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	PSC SLAB
170	AKN-MVV	323/4-5	3	2.53	MIN	PSC SLAB
			3	2.53	MIN	ARCH
171	MVV-SGG	326/14-15	1	1.83	MIN	PSC SLAB
			1	1.83	MIN	ARCH
172	MVV-SGG	329/7-8	1	1.83	MIN	PSC SLAB
			1	1.83	MIN	ARCH
173	SGG-GNNA	329/12-13	1	0.91	MIN	PSC SLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
			1	0.91	MIN	ARCH
174	SGG-GNNA	331/2-3	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	ARCH
175	SGG-GNNA	331/11-12	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	ARCH
176	SGG-GNNA	332/6-7	3	2.43	MIN	PSC SLAB
			3	2.43	MIN	ARCH
177	SGG-GNNA	333/3-4	3	3.05	MIN	PSC SLAB
			3	3.05	MIN	PSC SLAB
178	SGG-GNNA	333/13-14	3	3.05	MIN	PSC SLAB
			3	3.05	MIN	ARCH
179	SGG-GNNA	334/6-7	3	1.83	MIN	PSC SLAB
			3	1.83	MIN	ARCH
180	SGG-GNNA	334/12-13	1	3.66	MIN	PSC SLAB
			1	3.66	MIN	ARCH
181	SGG-GNNA	335/10-11	5	3.05	MIN	PSC SLAB
			5	3.05	MIN	ARCH
182	GNNA-KPRD	337/7-8	10	3.66	MAJ	ARCH
			10	3.66	MAJ	ARCH
183	GNNA-KPRD	338/9-10	10	6.1	MAJ	ARCH
			10	6.1	MAJ	ARCH
184	GNNA-KPRD	339/0-1	3	18.3	MAJ	RIVTPG
			3	18.3	MAJ	RIVTPG
185	GNNA-KPRD	339/8-9	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	ARCH
186	GNNA-KPRD	340/1-2	5	18.3	MAJ	WLDPLG
			5	18.3	MAJ	RIVTPG
187	GNNA-KPRD	340/15-16	10	3.66	MAJ	ARCH
			10	3.66	MAJ	ARCH
188	GNNA-KPRD	341/5-6	10	3.04	MAJ	ARCH
				3.04	MAJ	ARCH
189	KPRD-BUP	343/8-9	1	3.66	MIN	RCCSLAB
			1	3.66	MIN	RCCSLAB
190	KPRD-BUP	344/11-12	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	ARCH
191	KPRD-BUP	345/2-3	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	ARCH
192	KPRD-BUP	346/2-3	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
193	KPRD-BUP	347/1-2	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
194	BUP-RPUR	347/12-13	1	3.66	MIN	RCCSLAB
			1	3.66	MIN	RCCSLAB
195	BUP-RPUR	348/2	3	18.3	MAJ	WLDPLG
			3	18.3	MAJ	WLDPLG

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
196	BUP-RPUR	349/12-13	1	1.83	MIN	RCCSLAB
			1	1.83	MIN	ARCH
197	BUP-RPUR	349/10-11	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	ARCH
198	BUP-RPUR	350/8-9	3	3.66	MIN	RCCSLAB
			3	3.66	MIN	ARCH
199	BUP-RPUR	350/13-14	1	3.66	MIN	RCCSLAB
			1	3.66	MIN	ARCH
200	BUP-RPUR	351/16-17	2	1.83	MIN	RCCSLAB
			2	1.83	MIN	ARCH
201	BUP-RPUR	352/3-4	3	1.83	MIN	ARCH
			3	1.83	MIN	ARCH
202	RPUR-JMP	352/11-12	3	3.50	MIN	ARCH
203	RPUR-JMP	352/15-16	1	3.66	MIN	F. C. Slab
204	RPUR-JMP	353/2-3	3	3.66	MIN	ARCH-R/G
205	RPUR-JMP	353/8-9	4	4.58	MAJ	ARCH
206	RPUR-JMP	354/4-5	3	1.83	MIN	ARCH
207	RPUR-JMP	354/14-15	7	1.22	MIN	ARCH
208	RPUR-JMP	355/6-7	1	1.22	MIN	F. C. Slab
209	RPUR-JMP	356/2-3	2	2.11	MIN	RSJ
210	RPUR-JMP	356/11-12	2	3.66	MIN	ARCH
211	RPUR-JMP	357/1-2	3	3.66	MIN	ARCH
212	RPUR-JMP	357/3-4	1	3.66	MIN	ARCH
213	RPUR-JMP	357/8-9	1	3.66	MIN	Slab top
214	RPUR-JMP	358/1-2	1	1.22	MIN	Slab top
215	RPUR-JMP	358/0-1	2	24.3	MAJ	RIVTPG(ROB)
			2	24.3	MAJ	RIVTPG(ROB)
22	JMP-DRTP	359/3-4	2	5.18	MIN	PSC.Slab
			2	5.18	MIN	PSC.Slab
22A	JMP-DRTP	359/9-10	1	0.91	MIN	ARCH
			1	0.91	MIN	ARCH
23	JMP-DRTP	359/11-12	1	2.43	MIN	ARCH
			1	2.43	MIN	RCCSLAB
24	JMP-DRTP	360/12-13	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
25	JMP-DRTP	360/15-16	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
26	JMP-DRTP	361/11-12	5	2.43	MIN	ARCH
			5	2.43	MIN	RCCSLAB
27	JMP-DRTP	361/13-14	1	1.83	MIN	PSCSLAB
			1	1.83	MIN	PSCSLAB
28	JMP-DRTP	362/4-5	1	1.83	MIN	PSCSLAB
			1	1.83	MIN	PSCSLAB
29	JMP-DRTP	362/4-5	1	1.83	MIN	PSCSLAB
			1	1.83	MIN	PSCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
30	JMP-DRTP	362/8-9	1	1.22	MIN	ARCH
			1	1.22	MIN	PSCSLAB
31	JMP-DRTP	362/8-9	1	1.22	MIN	ARCH
			1	1.22	MIN	PSCSLAB
32	JMP-DRTP	362/11-12	1	1.83	MIN	ARCH
			1	1.83	MIN	PSCSLAB
33	JMP-DRTP	362/15-16	3	1.22	MIN	RCCSLAB
			3	1.22	MIN	RCCSLAB
34	JMP-DRTP	363/6-7	3	1.83	MIN	ARCH
			3	1.83	MIN	RCCSLAB
35	JMP-DRTP	363/14-15	3	2.43	MIN	ARCH
			3	2.43	MIN	RCCSLAB
36	JMP-DRTP	364/5-6	5	1.83	MIN	RCCSLAB
			5	1.83	MIN	ARCH
37	JMP-DRTP	364/10-11	1	1.22	MIN	RCCSLAB
			1	1.22	MIN	RCCSLAB
38	JMP-DRTP	364/12-13	1	1.22	MIN	RCCSLAB
			1	1.22	MIN	RCCSLAB
39	DRTP-DRH	365/4-5	1	1.83	MIN	ARCH
			1	1.83	MIN	RCCSLAB
40	DRTP-DRH	365/6-7	2	1.83	MIN	ARCH
			2	1.83	MIN	RCCSLAB
41	DRTP-DRH	365/8-9	3	1.83	MIN	ARCH
			3	1.83	MIN	RCCSLAB
42	DRTP-DRH	365/16-366/1	3	1.83	MIN	ARCH
			3	1.83	MIN	RCCSLAB
43	DRTP-DRH	366/5-6	2	1.83	MIN	ARCH
			2	1.83	MIN	RCCSLAB
44	DRTP-DRH	366/13-14	2	2.43	MIN	ARCH
			2	2.43	MIN	RCCSLAB
45	DRTP-DRH	367/3-4	5	3.05	MIN	ARCH
			5	3.05	MIN	RCCSLAB
46	DRTP-DRH	367/5-6	1	3.05	MIN	ARCH
			1	3.05	MIN	RCCSLAB
47	DRTP-DRH	367/14-15	5	2.43	MIN	ARCH
			5	2.43	MIN	RCCSLAB
48	DRTP-DRH	368/4-5	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
49	DRTP-DRH	368/10-11	5	3.05	MIN	ARCH
			5	3.05	MIN	RCCSLAB
50	DRTP-DRH	368/14-15	5	3.05	MIN	ARCH
			5	3.05	MIN	RCCSLAB
51	DRTP-DRH	369/5-6	1	3.66	MIN	ARCH
			1	3.66	MIN	RCCSLAB
52	DRTP-DRH	369/15-370/1	3	1.83	MIN	RCCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
			3	1.83	MIN	ARCH
53	DRH-MSDN	370/10-11	1	1.83	MIN	Girder
			1	1.83	MIN	RCCSLAB
54	DRH-MSDN	371/5-6	1	3.66 +2X2.44	MIN	ARCH
			1	3.66 +2X2.44	MIN	RCCSLAB
55	DRH-MSDN	371/13-14	2	3.66	MIN	F.C. slab
			2	3.66	MIN	F.C. slab
56	DRH-MSDN	373/3-4	4	3.66	MAJ	ARCH
			4	3.66	MAJ	RCCSLAB
57	DRH-MSDN	373/8-9	7	3.66	MAJ	RCCSLAB
			7	3.66	MAJ	ARCH
58	DRH-MSDN	373/12-13	9	3.66	MAJ	RCCSLAB
			9	3.66	MAJ	ARCH
59	DRH-MSDN	374/9-10	5	3.66	MAJ	RCCSLAB
			5	3.66	MAJ	ARCH
60	DRH-MSDN	375/2-3	5	3.66	MAJ	RCCSLAB
			5	3.66	MAJ	ARCH
61	DRH-MSDN	375/10-11	3	3.66	MIN	ARCH
			3	3.66	MIN	RCCSLAB
62	MSDN-AHA	376/1-2	2	3.66	MIN	ARCH
			2	3.66	MIN	RCCSLAB
63	MSDN-AHA	376/13-14	1	3.66	MIN	RCCSLAB
			1	3.66	MIN	RCCSLAB
64	MSDN-AHA	378/2-3	3	1.83	MIN	ARCH
			3	1.83	MIN	RCCSLAB
65	MSDN-AHA	378/6-7	1	1.83	MIN	ARCH
			1	1.83	MIN	RCCSLAB
66	MSDN-AHA	378/9-10	1	1.83	MIN	ARCH
			1	1.83	MIN	RCCSLAB
67	MSDN-AHA	378/11-12	1	1.22	MIN	ARCH
			1	1.22	MIN	RCCSLAB
68	MSDN-AHA	378/15	1	1.22	MIN	ARCH
			1	1.22	MIN	RCCSLAB
69	MSDN-AHA	379/1-2	1	1.22	MIN	ARCH
			1	1.22	MIN	RCCSLAB
70	MSDN-AHA	379/4-5	2	2.43	MIN	PSCSLAB
			2	2.43	MIN	PSCSLAB
71	MSDN-AHA	379/11-12	3	1.22	MIN	ARCH
			3	1.22	MIN	PSCSLAB
72	AHA-KJH	380/7-8	1	1.22	MIN	ARCH
			1	1.22	MIN	PSCSLAB
73	AHA-KJH	380/12-13	3	2.43	MIN	ARCH
			3	2.43	MIN	PSCSLAB
74	AHA-KJH	380/14-15	1	1.22	MIN	ARCH
			1	1.22	MIN	PSCSLAB

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
75	AHA-KJH	381/11-12	5	3.66	MAJ	ARCH
			5	3.66	MAJ	PSCSLAB
76	AHA-KJH	381/5-6	3	3.66	MIN	ARCH
			3	3.66	MIN	PSCSLAB
77	AHA-KJH	381/12-13	5	2.33	MIN	ARCH
			5	2.33	MIN	PSCSLAB
78	AHA-KJH	382/11-12	5	1.83	MIN	ARCH
			5	1.83	MIN	PSCSLAB
79	AHA-KJH	383/3-4	1	1.83	MIN	ARCH
			1	1.83	MIN	PSCSLAB
80	AHA-KJH	383/10-11	2	3.66	MIN	ARCH
			2	3.66	MIN	PSCSLAB
81	AHA-KJH	384/11-12	2	3.66	MIN	ARCH
			2	3.66	MIN	PSCSLAB
82	AHA-KJH	385/3-4	2	3.66	MIN	ARCH
			2	3.66	MIN	PSCSLAB
83	AHA-KJH	385/14-15	1	3.66	MIN	ARCH
			1	3.66	MIN	PSCSLAB
84	AHA-KJH	386/4-5	1	3.66	MIN	ARCH
			1	3.66	MIN	PSCSLAB
85	AHA-KJH	386/9-10	1	3.66	MIN	ARCH
			1	3.66	MIN	PSCSLAB
86	AHA-KJH	386/15-16	1	1.83	MIN	ARCH
			1	1.83	MIN	PSCSLAB
87	KJH-UXN	387/7-8	2	1.83	MIN	ARCH
87A	KJH-UXN	387/11-12	2	1.83	MIN	PSCSLAB
88	KJH-UXN	387/13-14	1	1.83	MIN	ARCH
89	KJH-UXN	388/5-6	2	1.83	MIN	ARCH
90	KJH-UXN	388/6-7	1	1.22	MIN	ARCH
91	KJH-UXN	388/10-11	1	1.22	MIN	ARCH
92	KJH-UXN	388/17-18	1	1.52	MIN	ARCH
93	KJH-UXN	389/7	2	1.83	MIN	ARCH
94	KJH-UXN	389/12-13	1	0.5	MIN	RAILCLUS
95	KJH-UXN	390/9-10	1	1.22	MIN	ARCH
96	KJH-UXN	391/3-4	1	2.5	MIN	RCCSLAB
97	KJH-UXN	391/7-8	3	1.22	MIN	ARCH
98	KJH-UXN	391/12-13	1	0.61	MIN	ARCH
99	UXN-DNRE	392/5-6	1	2.43	MIN	RCCSLAB
100	UXN-DNRE	392/5-6	1	2.43	MIN	RCCSLAB
101	UXN-DNRE	392/12-13	1	2.43	MIN	ARCH
102	UXN-DNRE	393/3-4	2	2.43	MIN	RCCSLAB
103	UXN-DNRE	393/11-12	2	3.66	MIN	ARCH
104	UXN-DNRE	394/3-4	1	3.66	MIN	ARCH
105	UXN-DNRE	395/2-3	2	3.66	MIN	ARCH
106	UXN-DNRE	396/1	1	3.66	MIN	ARCH

BR. No	BETWEEN STATION	LOCATION	NO OF SPAN	SPAN (M)	CLASSIFICATION	Type of Br.
107	UXN-DNRE	396/3-4	1	2.43	MIN	ARCH
108	UXN-DNRE	396/15-16	1	1.83	MIN	ARCH
109	UXN-DNRE	397/5	1	1.83	MIN	ARCH
110	UXN-DNRE	397/8-9	1	1.24	MIN	ARCH
111	UXN-DNRE	397/10-11	1	1.22	MIN	ARCH
112	UXN-DNRE	397/13-14	1	2.43	MIN	RCCSLAB
113	DNRE-KEU	398/3-4	1	2.4	MIN	RCCSLAB
114	DNRE-KEU	398/10-11	1	1.83	MIN	ARCH
115	DNRE-KEU	398/12-13	3	3	MIN	RCCSLAB
116	DNRE-KEU	399/4-5	1	1.83	MIN	ARCH
117	DNRE-KEU	399/8-9	1	1.83	MIN	ARCH
118	DNRE-KEU	399/13-14	1	1.83	MIN	RCCSLAB
119	DNRE-KEU	400/1-2	1	0.91	MIN	ARCH
120	DNRE-KEU	400/8-9	1	1.85	MIN	ARCH
121	DNRE-KEU	400/12	2	2.43	MIN	ARCH
122	DNRE-KEU	400/14-15	1	3.05	MIN	RCCSLAB
123	DNRE-KEU	401/2-3	2	4.7	MIN	RCCSLAB
124	DNRE-KEU	401/5-6	1	2.4	MIN	RCCSLAB
125	DNRE-KEU	401/10/11	1	1.83	MIN	ARCH
126	DNRE-KEU	401/12-13	1	1.9	MIN	RCCSLAB
127	DNRE-KEU	401/14-15	1	3.66	MIN	RCCSLAB
128	DNRE-KEU	402/2-3	1	2.0	MIN	RCCSLAB
129	DNRE-KEU	402/5-6	1	3.66	MIN	RCCSLAB
A-1	JMP-MGR	9/1-2	1	0.3	MIN	C.I. Pipe
1	JMP-MGR	8/16-17	1	1.83	MIN	RCCSLAB
2	JMP-MGR	8/8-9	1	3.05	MIN	RSJ
3	JMP-MGR	8/7-8	1	3.66	MIN	C.I Pipe
4	JMP-MGR	8/1-2	1	1.83	MIN	RCCSLAB
5	JMP-MGR	7/15-16	1	1.22	MIN	ARCH
6	JMP-MGR	7/12-13	1	0.9	MIN	ARCH
6A	JMP-MGR	6/11-12	1	3.75	MIN	ARCH
7	JMP-MGR	6/11-12	1	1.83	MIN	ARCH
8	JMP-MGR	6/7-8	1	0.6	MIN	ARCH
9	JMP-MGR	5/8-9	1	0.6	MIN	ARCH
10	JMP-MGR	4/11-12	1	1.83	MIN	ARCH
11	JMP-MGR	4/8-9	2	3.05	MIN	RCCSLAB
12	JMP-MGR	3/5-6	1	3.66	MIN	ARCH
13	JMP-MGR	2/12-13	1	1.22	MIN	ARCH
14	JMP-MGR	2/9-10	6	1.83	MIN	S.GIRG,ARCH
15	JMP-MGR	1/12-13	2	3.66	MIN	RCCSLAB
16	JMP-MGR	1/9-10	1	0.305	MIN	C.I Pipe
17	JMP-MGR	1/7-8	1	1.83	MIN	RCCSLAB
18	JMP-MGR	0/9-10	1	3.66	MIN	E.W Pipe

- ❖ NEVER ADOPT SHORT CUT METHODS.
- ❖ SAFETY IS THE ENGINE, AND YOU ARE THE KEY THAT STARTS IT.
- ❖ ALWAYS ASSESS THE RISKS AND REMEMBER THAT ALL ACCIDENTS ARE PREVENTABLE.
- ❖ PREVENT THE WORST PUT SAFETY FIRST.
- ❖ TEACH SAFETY TO YOUR TEAM AND WORK SAFELY.

