ग्राहक सेवा में......

"अग्रगामी से अग्रणी, उत्कृष्ट से सर्वोत्कृष्ट"

पश्चिम मध्य रेल
WEST CENTRAL RAILWAY

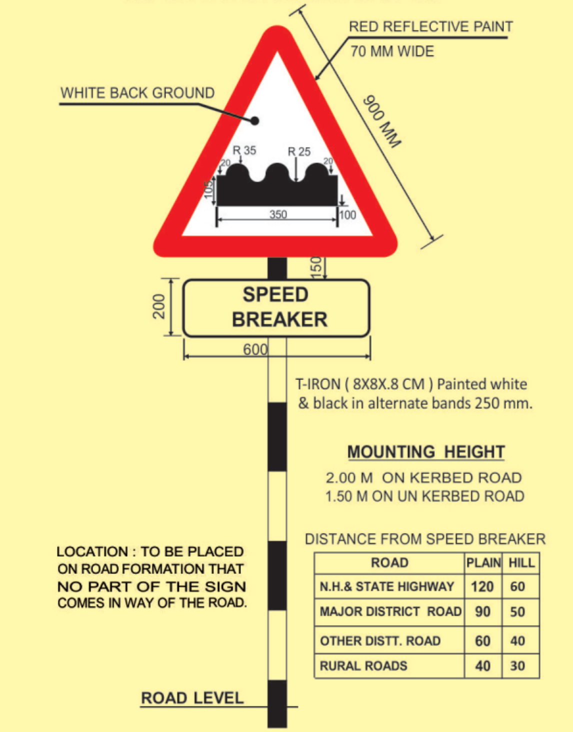
भोपाल मंडल
BHOPAL DIVISION

Guidelines For Maintenance Of Level Crossing

इंजीनियरिंग विभाग
पश्चिम मध्य रेल्वे। भोपाल मण्डल द्वारा जारी।

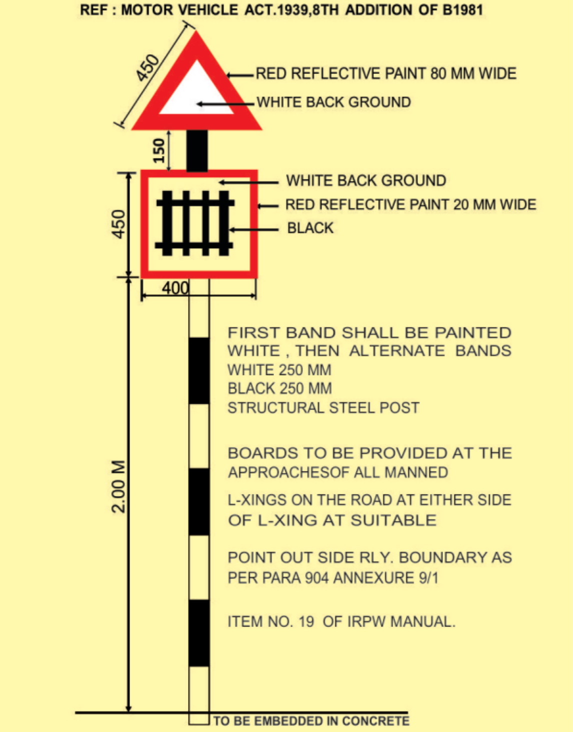
WARNING SIGN BOARD FOR SPEED BREAKER

REF C.S. 50 DATE 13.04.2000 TO IRPWM

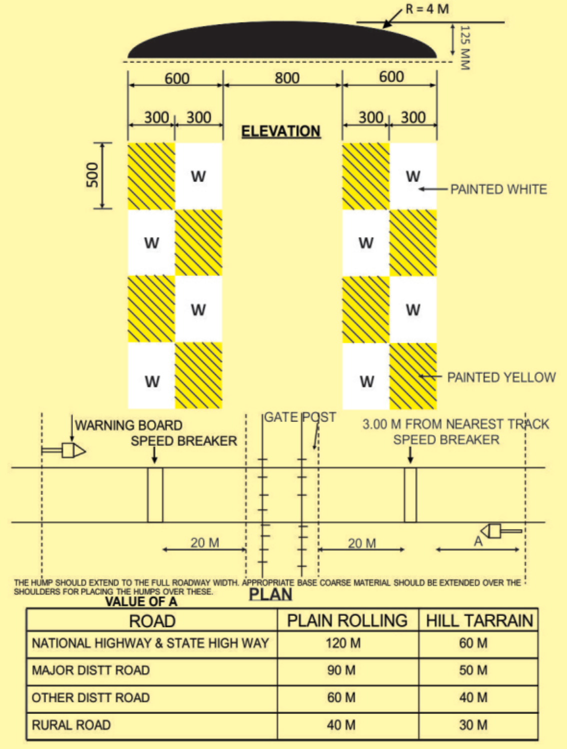


CAUTION BOARD FOR GUARDED L - XING ON APPROACH ROAD FOR ROAD USERS

REF : MOTOR VEHICLE ACT.1939,8TH ADDITION OF B1981

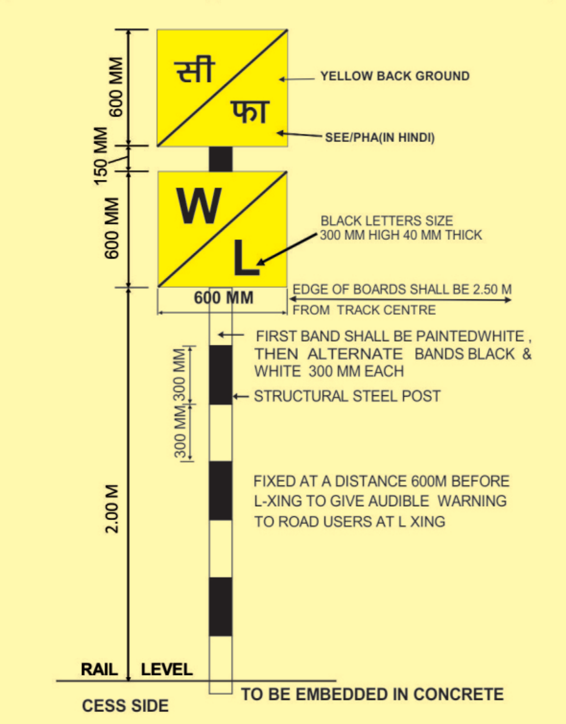


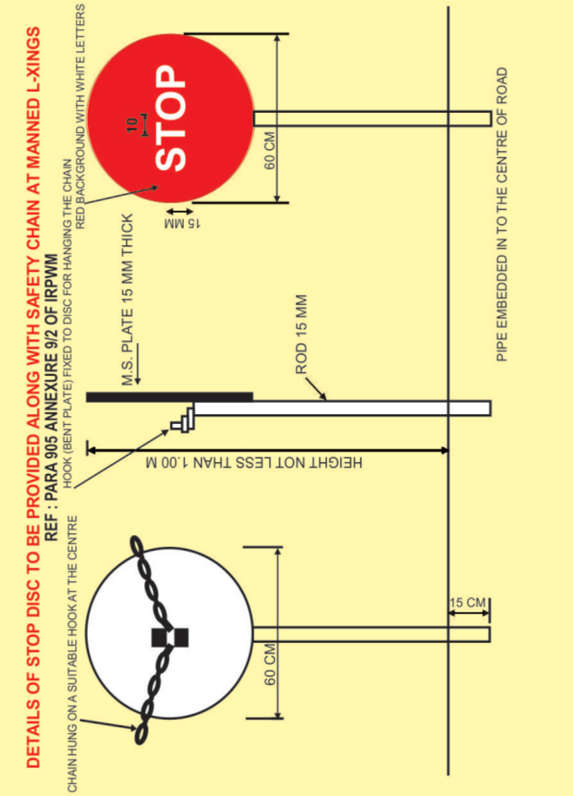
STANDARD SPEED BREAKER

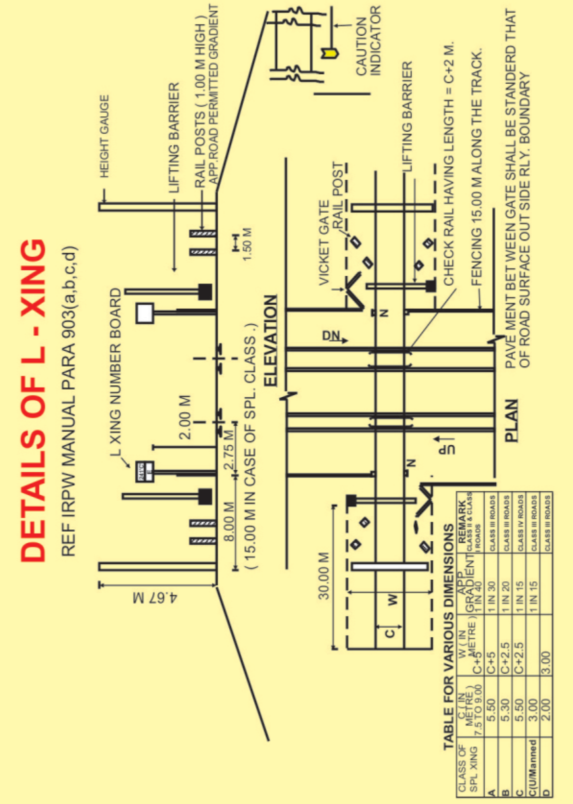


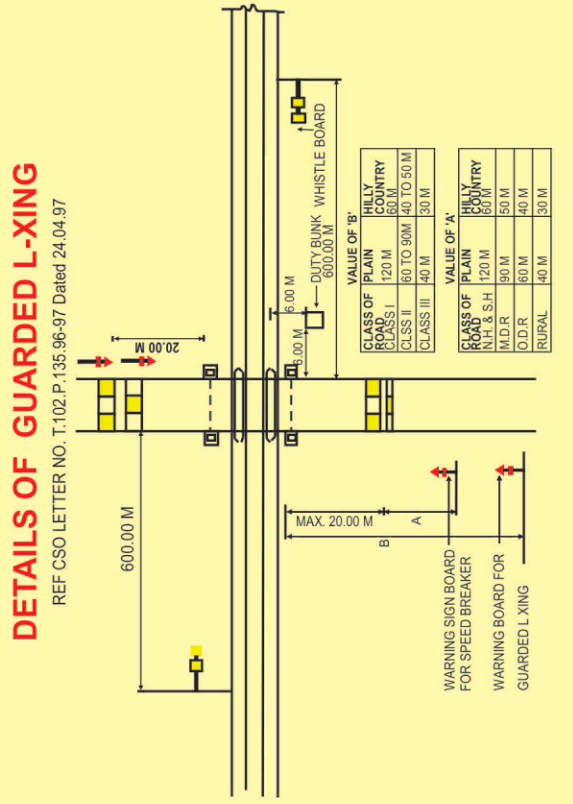
WHISTLE BOARD FOR L - XING

(AS PER ANNEXURE 9/5-PARA 916(1) OF INDIAN RAILWAYS PERMANENT WAY MANUAL 1986)

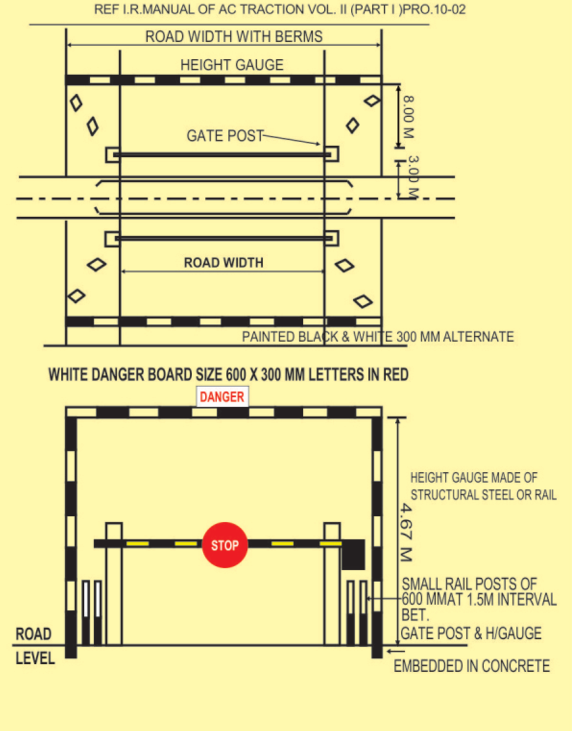




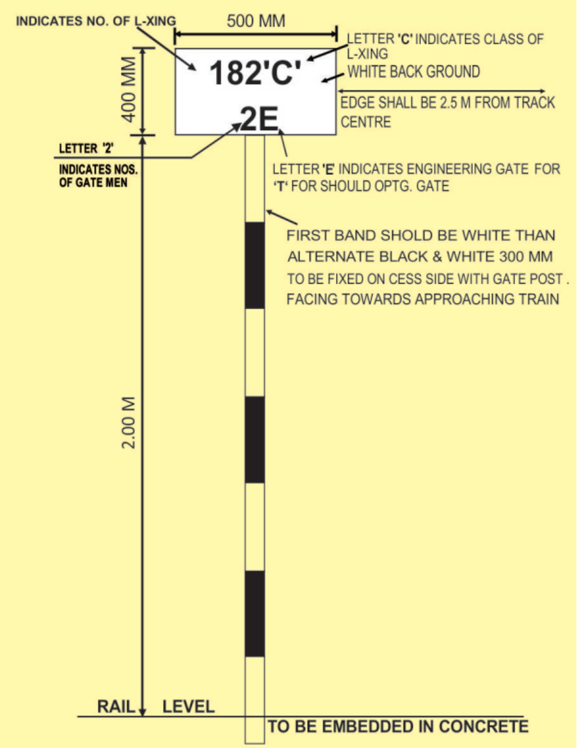




DETAILED LAY OUT OF HEIGHT GAUGE AT L- XING HAVING 25 KV AC TRACTION



L-XING NUMBER BOARD



Classification of Level Crossings

Based on the volume of rail and road traffic and visibility conditions, classification of level crossings shall be as under:

Class	Criteria
(a) Special	for roads TVUs greater than 50,000
(b) A class	for roads TVUs between 50,000 & 30,000 Or Line capacity utilization 80% (onsingleline) and number of road vehicles greater than 1000
© B class	for roads TVUs between 30,000 and 20,000 and number of road vehicles greater than 750

B Class is further subdivided as following :

B1 class	for roads TVUs between 30,000 and 25,000
B2 class	for roads TVUs between 25,000 and 20,000
(d) C class	for roads All other level crossings for road not covered in above classes
(e) D class	for cattle crossings

Main Features of Manned Level Crossing Minimum width of gates at right angles to the centre line of the road

Across Class I roads - 9 M or X+2.5M. whichever is more.
Across Class II roads - 7.5 M or X+2 M, whichever is more.
Across Class III roads - 5.0 M or X+1.25 M. whichever is more.
Across Class IV roads - suitable width subject to 2 M. being the minimum
Where X = width of carriage way

Minimum length of guard rail (for a square crossing)

2 metres more than width of gate.
Not to be provided in D class

Angle of crossing between gates

Not less than 45° between centre line of road and Railway At right angles to the centre line of Railway in D class

(In the case of skew crossing the length of the guardrail must be increased in accordance with the formula : X = L / sin A
Where X = required length,
L = Minimum length measured at right angles to the centre line of the road
A = Angle between the centre line of the Road and Railway).

Minimum distance of gate posts from centre

line of track. = 3 metres for BG routes

Minimum distance of gate lodge from

(a) Centre line of nearest track - 6 metres (If the line of approach road is on a curve at or near a level crossing, the gate lodge must be built on the outside of curve.)
(b) Edge of Road metalling - 6 metres

Fencing on lines which are not fenced throughout their length

(a) Minimum length of 15 m. from each gate post parallel to track
(b) C class - Minimum length of 15 m. for manned gate level crossing outside station limits and level crossing within station limits provided gates / chains.
© D class - Fencing should be provided for level crossings if manned with gates/chains within station limits for 15M length.

Width of metalling

(a) Between gates - Same as that of the width of gates.
(For C & D Class - same as that of the width of gates or the width between gate posts where gate leaves are not provided.)
(b)Outside gates -Minimum width of metalling immediately outside gates (but tapering off to the existing carriage way width within a distance of 30M from the gate) shall be as follows depending on the class of road over which the L.C.is situated

Special-Class I road: 7 M or the width of existing carriage way whichever is greater.

A Class-Class II Road : 5.5 M or the width of existing carriage way whichever is greater

B Class-Class III road: 3.78 M or the width existing of carriage way whichever is greater.

C Class-Class IV road: suitable width subject to 2M being the minimum

Type of pavement between and outside of gates

Same standard as that of the road surface outside the Railway Boundary.

(If the surface outside is cement concrete, blacktop surface may be provided For class I and II roads, it is desirable to have black topped surface for a distance of at least 30 M beyond each gate.)

Minimum width of road formation outside the gates for a distance of 30 M beyond the gate

Special - Class I roads: C+5M.
A Class - Class II roads: C+5M.
B Class - Class III roads: C+5M
C Class - Class IV roads, suitable width 3 metres being the minimum

C = width of metalling just outside the gate.

Level length and gradients

(a) Between gates – Level
(b) Outside gates

Class	level up to	gradient beyond level not steeper than
Special-Class I roads	15 metres	1 in 40
A Class-Class II roads	8 metres	1 in 30
B Class-Class III roads	8 metres	1 in 20
C Class-Class IV roads		1 in 15

Minimum and desirable straight length of road outside the gate.

Special - Class I Desirable 30.00 M Minimum 15.00 M
A Class - Class II Desirable 22.50 M Minimum 9.00 M
B Class - Class III Desirable 15.00 M Minimum 4.50 M

Minimum sight distance of level crossing gate from road in the vicinity of level crossing

Class	Plain or rolling country	Hillycountry
Special - Class I	120 M	60M
A Class Class II	60 to 90	40 to 50 M
B Class Class III	40 M	30 M

Warning to road traffic of proximity of level crossing

Class	Plain or rolling country	Hillycountry
Special - Class I	120 M	60M
A Class Class II	60 to 90	40 to 50 M
B Class Class III	40 M	30 M

Height gauge in Electrified section

Should be provided at a minimum distance of 8 metres from gate post.
Height of height gauge should be 4.57 metres from road surface.

Speed Breaker on approaches

At a distance of about 20m from the gate post on either side.
It should cover full width of the road including berms.

Periodical census of traffic

Up to 75000 TVU – Every 3 years
More than 75000 TVU- Every 2½ years.

Flange way clearance

It should be between 51mm to 57mm.

Lifting barrier boom

Height of lifting barrier from top of road should be 80-100 cm

Boom shall be painted with 300mm bands of alternate black and yellow colour or provided with approved type of retro-reflective strips.

Long chains provided are of correct length and proper hooks at either ends for immediate use with locking arrangement with stop disc size of 600mm diameter.

When gate is kept "Open to Road traffic", red banner flag by day time and red light (preferably LED based) during night is displayed towards approaching trains on either side of the LC. Periodicity of A-3 Medical examination for Gate keeper
Up to age of 45 years- Once in 4 years.
Age between 45 to 55years-Once in 2 years
Age more than 55years -Every year.
Refresher for Gateman – Every 3 years

Whistle indicator board shall be provided at approaches of level crossing on either side for a distance of 600 M and its height shall be 2100 mm from the rail level. Size of board 600x600 and painted with 300mm high bands. At present retro reflective, boards are used.

Painting of Gates and disc should bedone at regular intervals. Level crossing laid with PSC sleepers should be overhauled with each cycle of machine packing or more frequently as warranted by conditions and no case shall opening be delayed by more than 2 years.

Equipment at level crossings

1. 2 hand signal lamps, tri colour provided with bright reflectors,
2. 1 hand signal flag, green
3. 2 hand signal flags, red
4. 1 staff suitable for exhibition of red lamp or flag
5. 2 long spare chains with "stop" marked disc attachment
6. 2 spare small chains and padlocks for locking gates
7. 10 No. detonators in tin case
8. 1 Tin case for flags
9. 2 no. banner
10. 1 canister for muster sheet
11. 1 can for oil
12. 1 tommy bar
13. 1 water pot or bucket
14. 1 mortar pan
15. 1 powrah
16. 1 rammer
17. 1 pick - axe
18. 1 tool list
19. 1 book of safety rules in hindi or regional language
20. Duty roster
21. Complaint book for road users
22. Inspection register
23. level crossing working instructions
24. Two gate lamps
25. protection Diagram
27. Wall clocks in gate

Miscellaneous items

Ensure private number sheet of different series with that available with ASM controlling the Gate. At Non - interlocked manned L.C gates,ensure depiction of following instructions In Gumti near the phone.

"गेट बंद होने पर ही प्राइवेट नंबर स्टेशन मास्टर को दें"